SEL MAR 2017

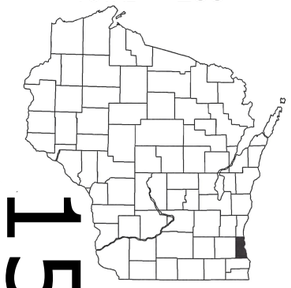
PROJECT ID: 2504-00-71
WITH: N/A

COUNTY: MILWAUKEE

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 258



15

DESIGN DESIGNATION

A.D.T. (2017)	=	14,700 VPD
A.D.T. (2037)	=	16,900 VPD
D.H.V.	=	1,700
D.	=	53/47
T.	=	3.95%
DESIGN SPEED	=	45 M.P.H.
ESALS	=	906,000

CONVENTIONAL SYMBOLS

PLAN

- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- CORPORATE OR CITY LIMITS
- PROPERTY LINE — P.L.
- STANDARD BENCH MARK
- EXISTING RIGHT OF WAY LINE — R/W
- SLOPE INTERCEPT
- PROPOSED SEWER LATERAL — (SIZE)
- REFERENCE LINE
- COMBUSTIBLE FLUIDS — CAUTION
- RAILROADS
- FENCE — (TYPE)
- CATCH BASIN OR INLET — EXISTING — PROPOSED

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- GRADE ELEVATION — 95.36

UTILITIES

CITY UNDERGROUND CONDUIT	CUC
MILWAUKEE COUNTY	MCO
WISCONSIN DEPT. OF TRANS.	WISDOT
ELECTRIC	E
FIBER OPTIC	FO
GAS	G
SANITARY SEWER	SAN
STORM SEWER	STO
TELEPHONE	T
WATER	W
TRAFFIC & ELECTRICAL SERVICES	TE&ES
MILWAUKEE METRO SEWERAGE DIST	MMSD
CABLE TELEVISION	TV
FIRE & POLICE CALL BOX	
LIGHT POLE	
POWER POLE	
TELEPHONE OR TELEGRAPH POLE	
TRAFFIC SIGNAL	
TRAFFIC SIGNAL CONTROL BOX	
HYDRANT	
GAS OR WATER GATE VALVE	
MANHOLES - SEWER ○ UTILITY (TYPE) □	
TREES - EXISTING ◑ TO BE REMOVED	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

NORTH 91ST STREET

WEST MILL ROAD TO WEST GOOD HOPE ROAD

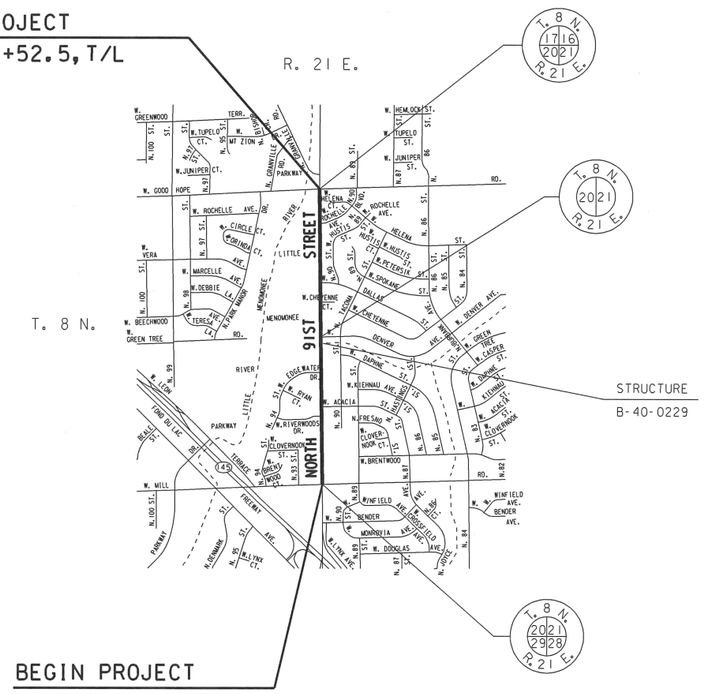
LOCAL STREET

MILWAUKEE COUNTY

STATE PROJECT NUMBER
2504-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2504-00-71	WISC 2017104	1

END PROJECT
STA. 53+52.5, T/L



STRUCTURE
B-40-0229

BEGIN PROJECT
STA. 01+35.5, T/L
Y. = 419,597.190
X. = 2,527,046.000

LAYOUT

SCALE 1/2 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.988 MI. (URBAN)

THE COORDINATES ON THIS PLAN ARE BASED ON THE WISCONSIN STATE PLANE COORDINATE SYSTEM, MILWAUKEE COUNTY, NAD 27 SOUTH ZONE.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE CITY OF MILWAUKEE DATUM.

TO CONVERT ELEVATIONS SHOWN ON THIS PLAN TO NATIONAL GEODEDIC VERTICAL DATUM OF 1929, ADD 580.603 TO ELEVATIONS SHOWN ON THIS PLAN.

Accepted For
City of Milwaukee

10/25/16 Commissioner of Public Works
(Date)

Original Plans Prepared By

WISCONSIN
JEFFREY S. POLENSKE
E-33528
MILWAUKEE WIS.
PROFESSIONAL ENGINEER

10/19/16 City Engineer
(Date)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor City of Milwaukee
Designer City of Milwaukee
Management Consultant DAAR Engineering, INC.
C.O. Examiner

APPROVED FOR THE DEPARTMENT

DATE: 10/28/16 (Management Consultant Signature)

E

FILE NAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\MISC\TITLE.DGN

PLOT DATE:

GENERAL NOTES

1. ALL OPENINGS BELOW SUBGRADE, RESULTING FROM REMOVALS OR ABANDONMENTS, SHALL BE BACKFILLED WITH BASE AGGREGATE DENSE 1-1/4". BACKFILL MATERIAL SHALL BE INCIDENTAL TO THE ASSOCIATED REMOVAL OR ABANDON PAY ITEM.

2. ALL DISTURBED AREAS, NOT SURFACED, ARE TO BE COVERED WITH 4" OF TOPSOIL, SODDED AND FERTILIZED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. TOPSOILED AREAS SHALL BE SODDED AND FERTILIZED WITHIN 5 CALENDAR DAYS.

3. NO TREES OR SHRUBS SHALL BE REMOVED UNLESS DESIGNATED FOR REMOVAL BY THE ENGINEER.

4. TRANSVERSE JOINTS IN THE CONCRETE WALK SHALL BE CONSTRUCTED AT INTERVALS EQUAL TO THE WIDTH OF THE CONCRETE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

5. ALL LONGITUDINAL AND TRANSVERSE JOINTS REQUIRING SEALING SHALL BE SEALED IN ACCORDANCE WITH THE DETAIL.

6. "PAVEMENT TIES" AS SHOWN ON STANDARD DETAIL DRAWING "CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES" ARE REQUIRED TO TIE EXISTING CONCRETE TO NEW CONCRETE CURB AND GUTTER.

7. 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.

8. EBS TO BE REMOVED AS SHOWN IN THE TYPICAL SECTIONS OR AS DIRECTED BY THE ENGINEER.

9. INLET SCREENS ARE TO BE PLACED BETWEEN THE FRAME AND GRATE OF CATCH BASINS / INLETS TO PREVENT SOIL FROM ENTERING THE SEWERS.

10. ALL CURB AND GUTTER SHALL HAVE A FLANGE THICKNESS OF 8-INCH.

11. ALL STATION AND OFFSET OF CURB REFERENCED IN THE PLANS ARE TO THE FACE OF THE CURB.

12. THE CONTRACTOR SHALL GIVE THE PROJECT ENGINEER AT LEAST TWO WEEKS NOTICE PRIOR TO ANY CONSTRUCTION ACTIVITIES THAT MAY DISTURB ANY PUBLIC SURVEY MONUMENTS.

13. IMMEDIATELY AFTER CONSTRUCTION OF ANY INLET, CONTRACTOR SHALL INSTALL THE INLET PROTECTION TO MINIMIZE SEDIMENTATION IN THE INLET AND STORM SEWER.

14. EXISTING DRIVEWAYS AND FIELD ENTRANCES SHALL BE RESTORED IN KIND AS DIRECTED BY THE ENGINEER IN THE FIELD AND AT THE LOCATION DETERMINED BY THE ENGINEER.

15. TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS.

16. TRAFFIC CONTROL DEVICES TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

17. EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL RADIUS POINTS IN CURB AND GUTTER.

18. THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

19. THE ENGINEER SHALL ADJUST THE LOCATIONS OF SIGNAL AND LANDSCAPING ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH THE EXISTING UTILITY FACILITIES.

20. SAWCUT ASPHALT AND CONCRETE DRIVEWAYS AND/OR PARKING LOTS AT THE MATCHLINE AS SHOWN ON THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER.

STANDARD ABBREVIATIONS

ASPH.	- ASPHALT
B.M.	- BENCH MARK
CTR.	- CENTER
C/L	- CENTER LINE
COMB.	- COMBINED
CONC.	- CONCRETE
C.W.	- CONCRETE WALK
COR.	- CORNER
C	- CURB
ELEV.	- ELEVATION
ENT.	- ENTRANCE
EXIST.	- EXISTING
F	- FLANGE
G	- GUTTER, OR GAS
HYD.	- HYDRANT
LT	- LEFT
MMSD	- MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
NB	- NORTHBOUND
P/L	- PROPERTY LINE
PGL	- PROPOSED GRADE LINE
R OR RAD.	- RADIUS
RET.	- RETAINING
RT	- RIGHT
R/W	- RIGHT OF WAY
SB	- SOUTHBOUND
TEL	- AMERITECH
TES	- TRAFFIC ENGINEERING, AND ELECTRICAL SERVICES
T/L	- TRANSIT LINE
V.T. OR VT	- VARIABLE THICKNESS
WEP	- WISCONSIN ELECTRIC POWER

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
UTILITY CONTACTS
PROJECT OVERVIEW
TYPICAL SECTION
CONSTRUCTION DETAILS
REMOVAL PLAN
CURB RAMP DETAILS
PLAN DETAIL
EROSION CONTROL
UTILITIES & DRAINAGE
LANDSCAPE PLANS
BIO-SWALE DESIGN
STREET LIGHTING AND TRAFFIC SIGNAL
PAVEMENT MARKING
TRAFFIC CONTROL & CONSTRUCTION STAGING
ALIGNMENT

2

UTILITY CONTACTS

AT&T

JEFF OLDENBURG
2005 PEWAUKEE RD.
WAUKESHA, WI 53188
PHONE: 262-896-7522
CELL: 414-412-7047
jo2376@att.com

CITY OF MILWAUKEE, UTILITY COORDINATOR

MUSA ABU-KHADER
841 N. BROADWAY
MILWAUKEE, WI 53202
PHONE: 414-286-2432
musa.abu-khader@milwaukee.gov

CITY OF MILWAUKEE, COMMUNICATIONS

COMMUNICATIONS DISPATCH
1440 WEST CANAL STREET
MILWAUKEE, WI 53233
PHONE: 414-286-3686

CITY OF MILWAUKEE, CUC

KAREN ROGNEY
841 N. BROADWAY
MILWAUKEE, WI 53202
PHONE: 414-286-3243

CITY OF MILWAUKEE, SEWERS

ZAFAR YOUSUF
841 N. BROADWAY
MILWAUKEE, WI 53202
PHONE: 414-286-2467

CITY OF MILWAUKEE, STREET LIGHTING

DENNIS MILLER
1540 W. CANAL ST.
MILWAUKEE, WI 53233
PHONE: 414-286-5942

CITY OF MILWAUKEE, TRAFFIC SIGNALS

AL NICHOLS
1540 W. CANAL ST.
MILWAUKEE, WI 53233
PHONE: 414-286-5941

CITY OF MILWAUKEE, WATER WORKS

DAVE GOLDAPP
841 N. BROADWAY, ROOM 409
MILWAUKEE, WI 53202
PHONE: 414-286-6301

MIDWEST FIBER NETWORKS

PATRICK GRAHAM
6070 N. FLINT RD.
GLENDALE, WI 53209
PHONE: 414-672-5606
pgraham@midwestfibernetworks.com

MILWAUKEE COUNTY

STANLEY JACKSON
10320 W. WATERTOWN PLANK RD.
WAUWATOSA, WI 53226
PHONE: 414-257-6593

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT

LARRY ANDERSON
260 W. SEEBOTH AVE.
MILWAUKEE, WI 53204-1446
PHONE: 414-225-2241

TIME WARNER CABLE

STEVE STORM
1320 N. DR. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212
PHONE: 414-908-4789
wis.engineering@twcable.com

WE ENERGIES - ELECTRIC

JOSH MOUNT
500 S. 116TH ST.
WEST ALLIS, WI 53214
PHONE: 414-218-2053
josh.mount@we-energies.com

WE ENERGIES - GAS

PAUL HEBEIN
333 W. EVERETT ST.
MILWAUKEE, WI 53203
PHONE: 414-688-7257
paul.hebein@we-energies.com

WISDOT - STOC

JEFF MADSON
433 W. ST. PAUL AVE., STE. 300
MILWAUKEE, WI 53203-3007
PHONE: 414-225-3723
CELL: 414-303-8098
jeffrey.madson@dot.wi.gov

OTHER CONTACTS

WISCONSIN DEPT. OF NATURAL RESOURCES

KRISTINA BETZOLD
2300 N. DR. MARTIN LUTHER KING, JR. DR.
MILWAUKEE, WI 53212
PHONE: 414-263-8517
kristina.betzold@wisconsin.gov

MILWAUKEE COUNTY TRANSIT SYSTEM

MELANIE FLYNN
1942 N. 17TH ST.
MILWAUKEE, WI 53205
PHONE: 414-343-1764
mflynn@mcts.org

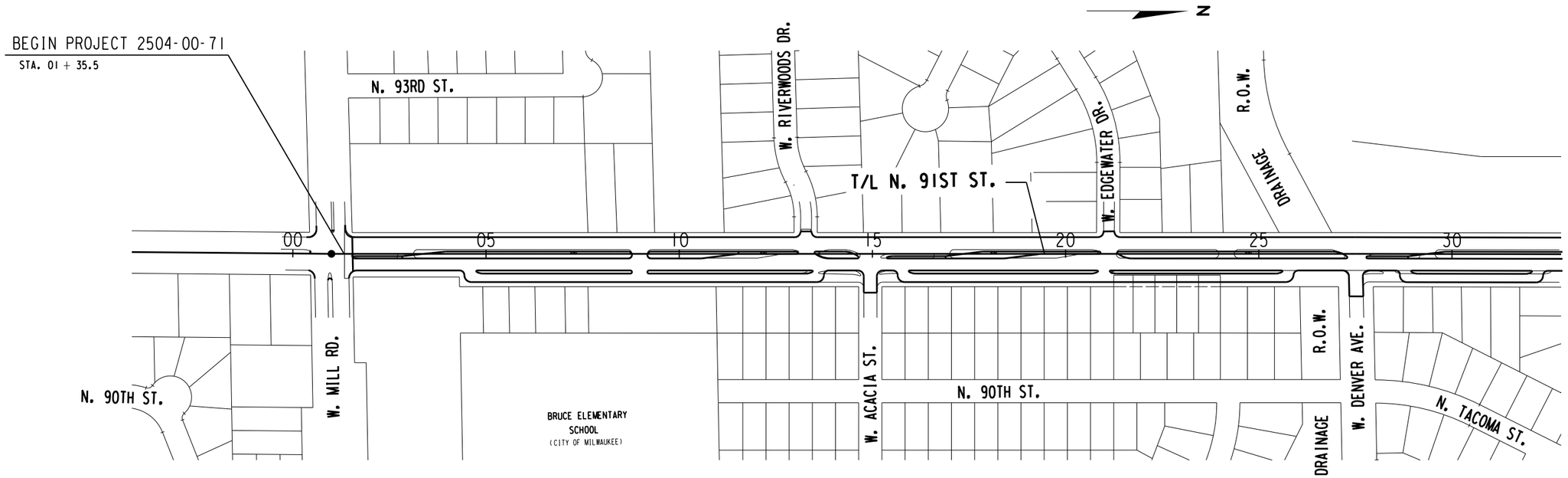
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

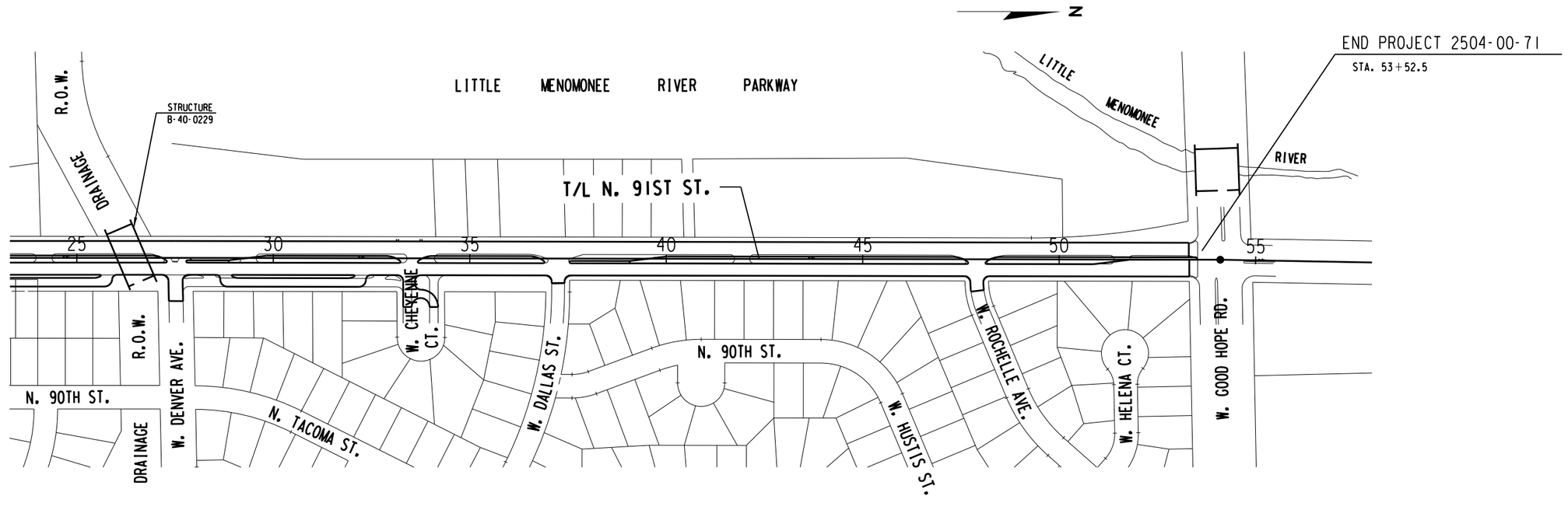
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REVISED DATE: 10-26-2016 BY SB

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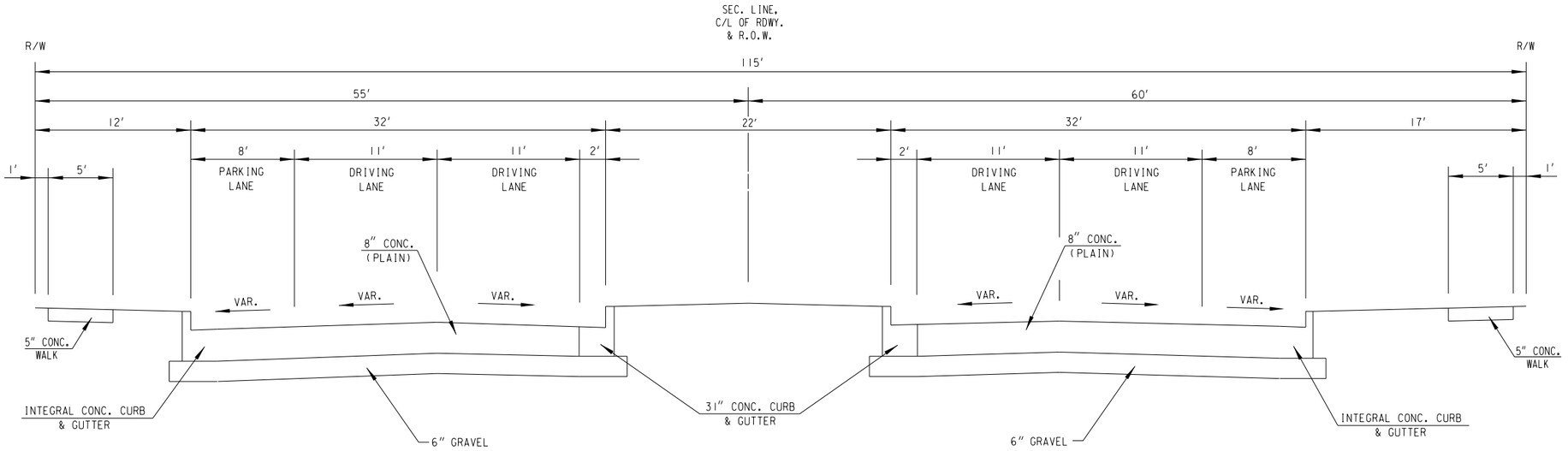




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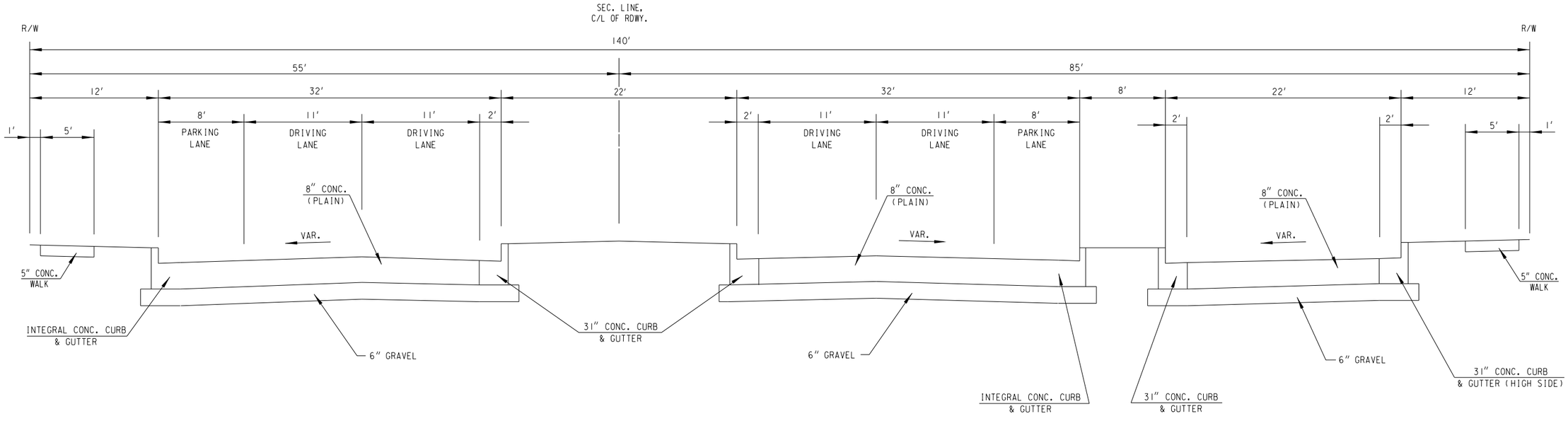
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REVISED DATE: 07-26-2016 BY SB



TYPICAL EXISTING SECTION

STA. 01+35.5 TO STA. 04+50.0



TYPICAL EXISTING SECTION

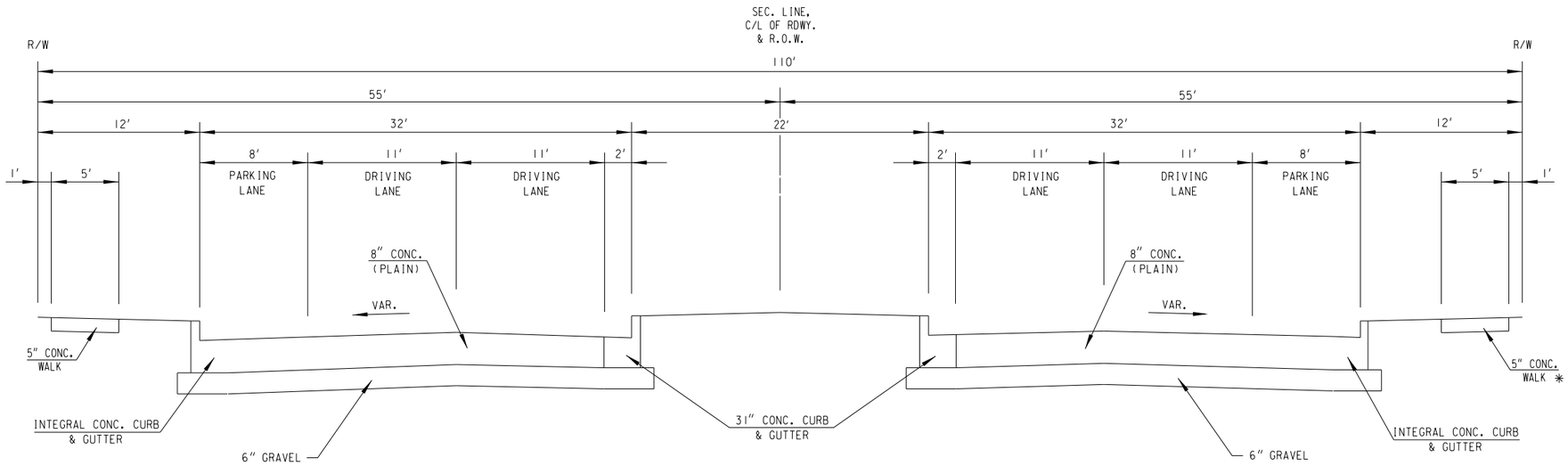
STA. 04+50.0 TO STA. 21+25.0
STA. 27+50.0 TO STA. 33+25.0

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SCALE FEET 0' 40'	SHEET NO: 5	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\TYPSEC.DGN

REVISED DATE: 2-5-2016 BY

2



* STA. 33+25 - STA. 53+52.5 ONLY

TYPICAL EXISTING SECTION

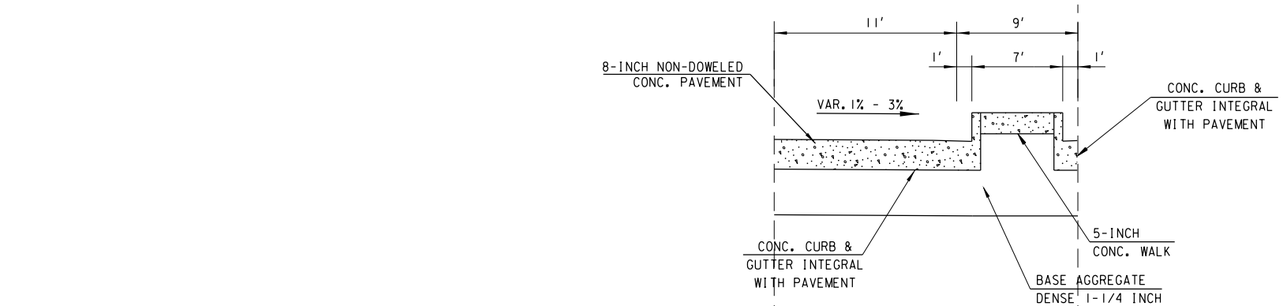
STA. 21+25.0 TO STA. 27+50.0
STA. 33+25.0 TO STA. 53+52.5

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SCALE FEET 0' 40'	SHEET NO: 6	E

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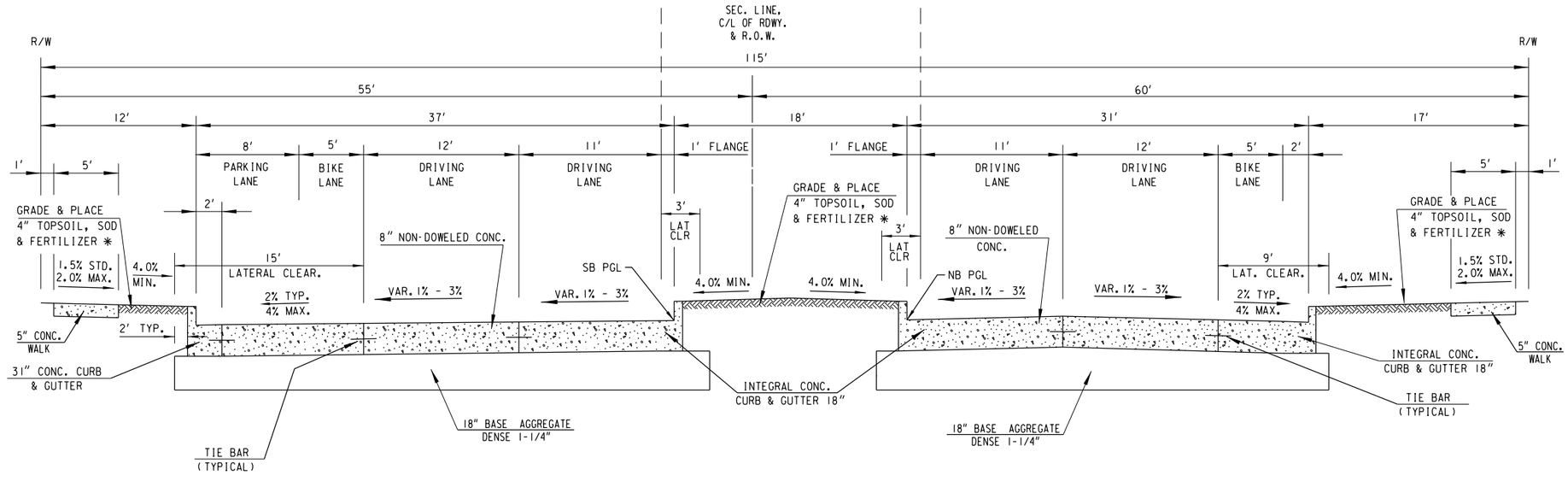
REVISED DATE: 2-5-2016 BY

2



SOUTHBOUND LEFT TURN LANE

STA. 01+60.0 TO STA. 02+83.0



* WHERE INDICATED ON PLAN
SB PGL = POINT REFERRED TO ON SOUTHBOUND PROFILE
NB PGL = POINT REFERRED TO ON NORTHBOUND PROFILE

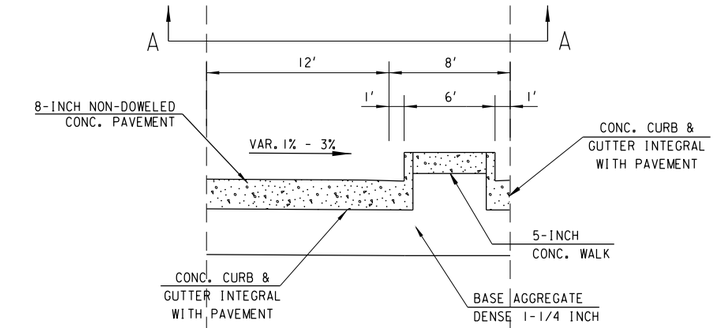
TYPICAL FINISHED SECTION

STA. 01+35.5 TO STA. 04+50.0

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SCALE FEET	SHEET NO: 7	E

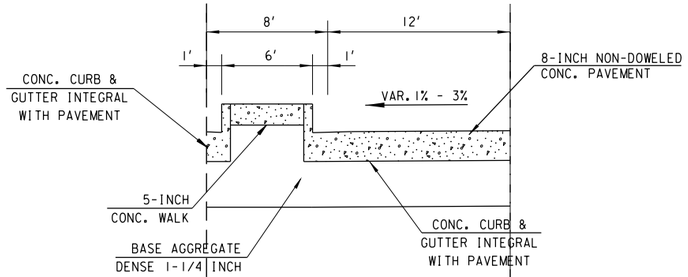
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REVISED DATE: 12-06-2016 BY SB



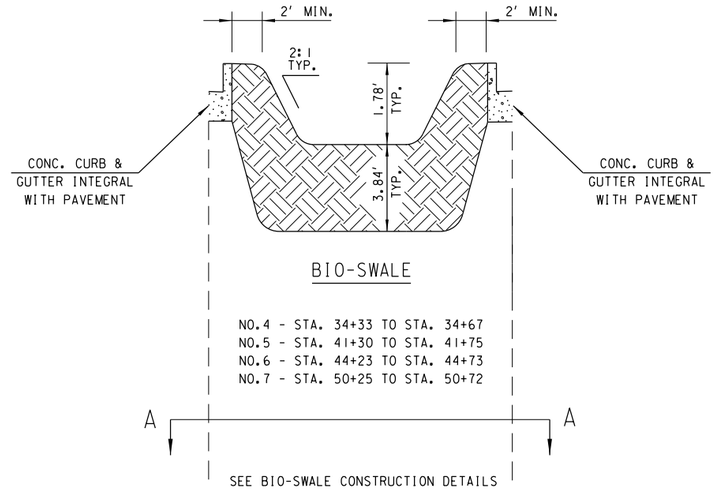
SOUTHBOUND LEFT TURN LANE

STA. 37+57.0 TO STA. 39+7.0



NORTHBOUND LEFT TURN LANE

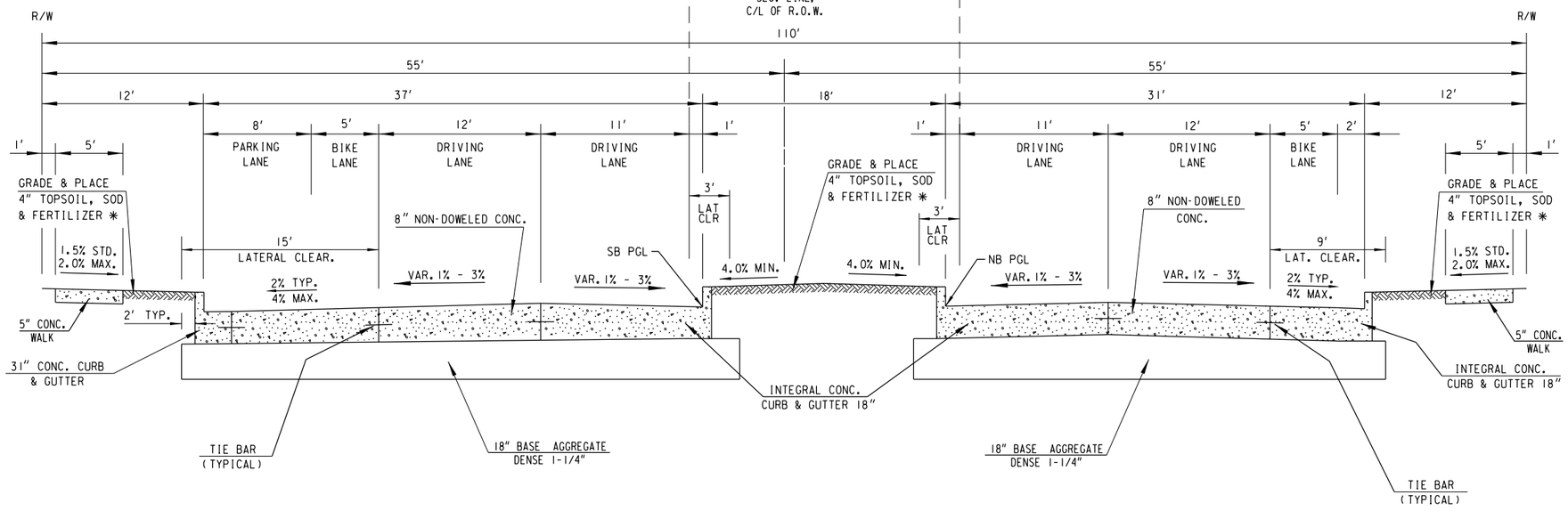
STA. 51+83.0 TO STA. 53+47.0



BIO-SWALE

NO.4 - STA. 34+33 TO STA. 34+67
NO.5 - STA. 41+30 TO STA. 41+75
NO.6 - STA. 44+23 TO STA. 44+73
NO.7 - STA. 50+25 TO STA. 50+72

SEE BIO-SWALE CONSTRUCTION DETAILS



TYPICAL FINISHED SECTION

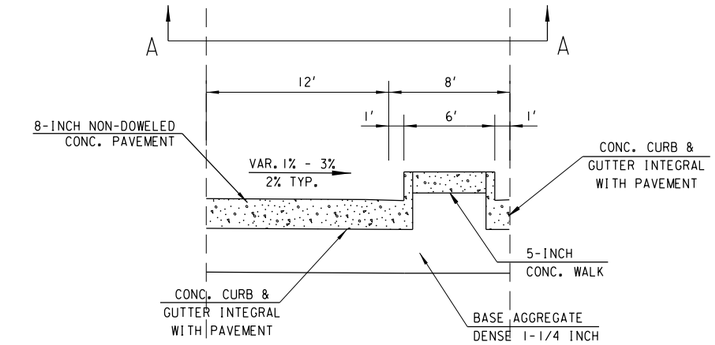
STA. 21+25.0 TO STA. 27+50.0
STA. 33+25.0 TO STA. 53+52.5

* WHERE INDICATED ON PLAN
SB PGL = POINT REFERRED TO ON SOUTHBOUND PROFILE
NB PGL = POINT REFERRED TO ON NORTHBOUND PROFILE

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SCALE FEET	SHEET NO: 8	E

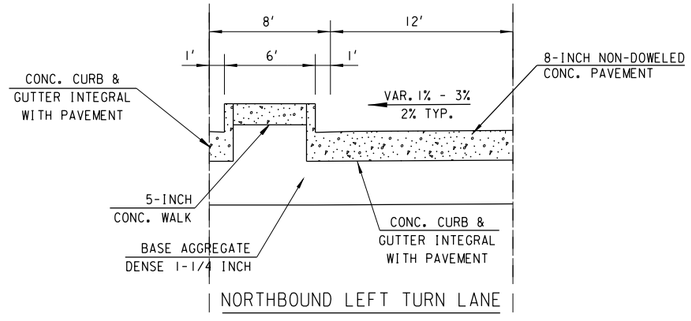
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REVISED DATE: 12-06-2016 BY SB



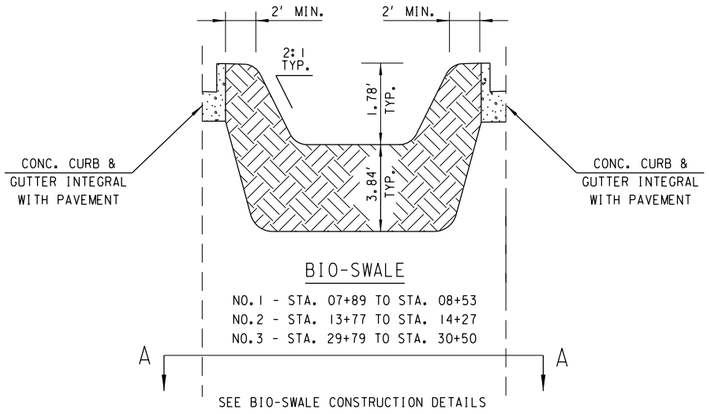
SOUTHBOUND LEFT TURN LANE

STA. 15+40.0 TO STA. 16+90.0
STA. 27+81.0 TO STA. 28+86.0



NORTHBOUND LEFT TURN LANE

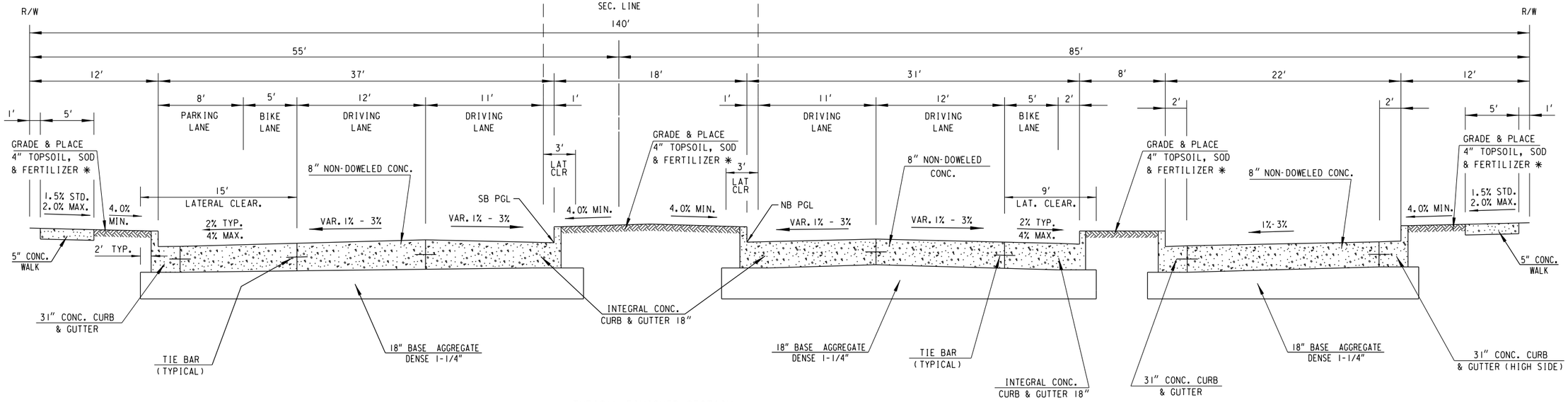
STA. 11+53.0 TO STA. 13+3.0
STA. 19+37.0 TO STA. 20+87.0



BIO-SWALE

NO. 1 - STA. 07+89 TO STA. 08+53
NO. 2 - STA. 13+77 TO STA. 14+27
NO. 3 - STA. 29+79 TO STA. 30+50

SEE BIO-SWALE CONSTRUCTION DETAILS



TYPICAL FINISHED SECTION

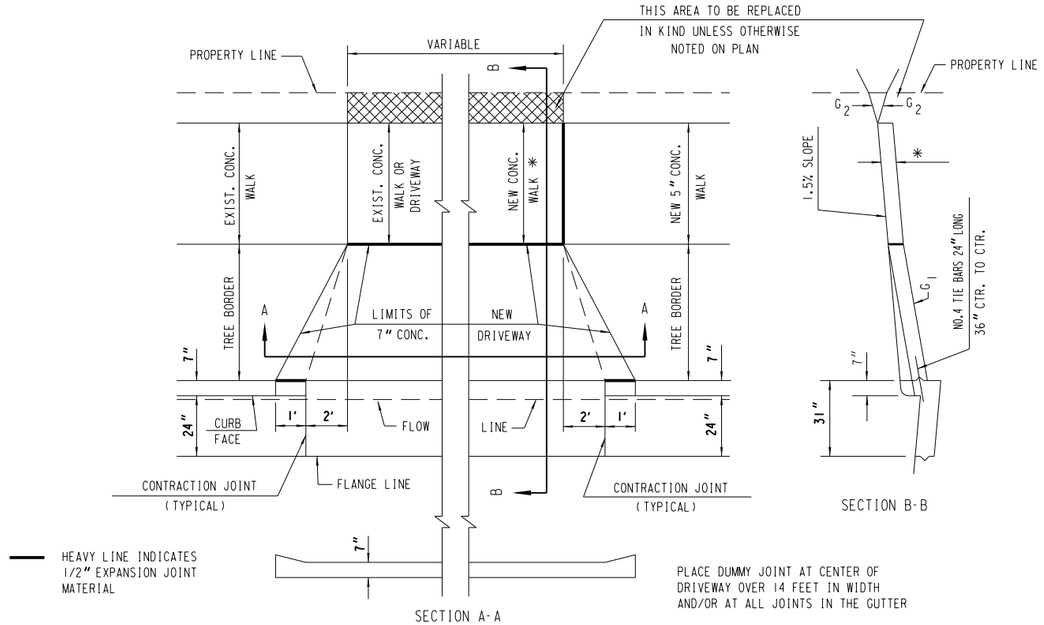
STA. 04+50.0 TO STA. 21+25.0
STA. 27+50.0 TO STA. 33+25.0

* WHERE INDICATED ON PLAN
SB PGL = POINT REFERRED TO ON SOUTHBOUND PROFILE
NB PGL = POINT REFERRED TO ON NORTHBOUND PROFILE

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SCALE FEET	SHEET NO: 9	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\TYPSEC.DGN

REVISED DATE: 12-06-2016 BY SB



— HEAVY LINE INDICATES 1/2" EXPANSION JOINT MATERIAL

PLACE DUMMY JOINTS AT CENTER OF DRIVEWAY AND/OR AT ALL JOINTS IN THE GUTTER

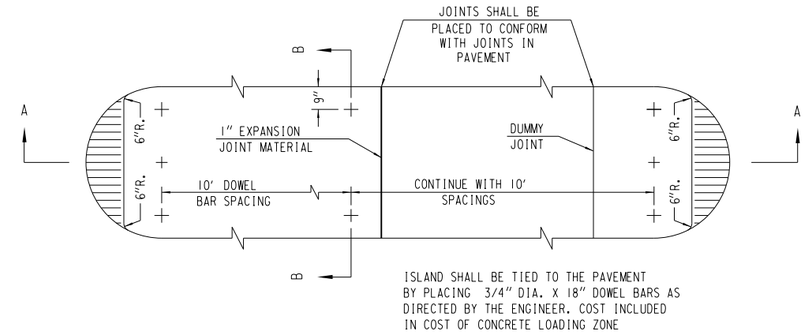
PLACE DUMMY JOINT AT CENTER OF DRIVEWAY OVER 14 FEET IN WIDTH AND/OR AT ALL JOINTS IN THE GUTTER

FLARED CONCRETE DRIVEWAY

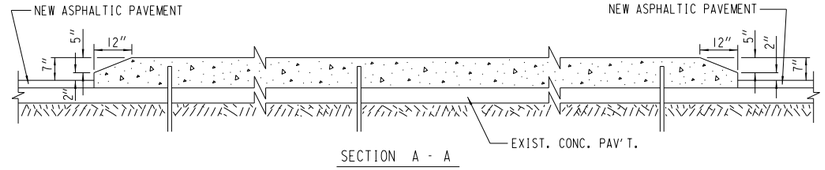
MAXIMUM DIFFERENCE BETWEEN G_1 & G_2 NOT TO EXCEED 15%
DESIRABLE MAXIMUM = 10%

MAXIMUM DIFFERENCE BETWEEN G_1 & G_2 IN FILL = 14%

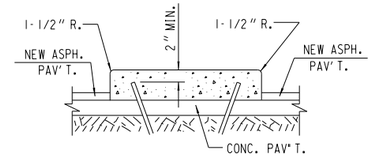
* LOCATIONS PER PLAN: USE 7" CONC. FOR BUSINESS PROPERTY AND 5" CONC. FOR RESIDENTIAL PROPERTY.



ISLAND SHALL BE TIED TO THE PAVEMENT BY PLACING 3/4" DIA. X 18" DOWEL BARS AS DIRECTED BY THE ENGINEER. COST INCLUDED IN COST OF CONCRETE LOADING ZONE



SECTION A - A

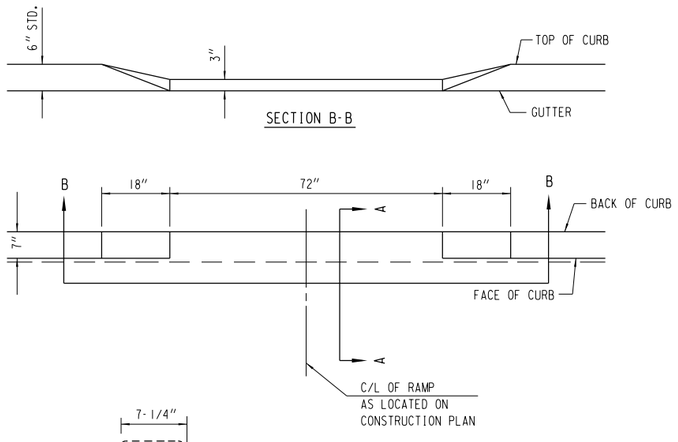


SECTION B - B

NOTE :
SIZE AND LOCATION OF CITY OF MILWAUKEE ELECTRICAL SERVICES BOXOUTS IN CONCRETE ISLANDS ON BASE TO BE DETERMINED IN FIELD AT THE TIME OF CONSTRUCTION

CONCRETE LOADING ZONE

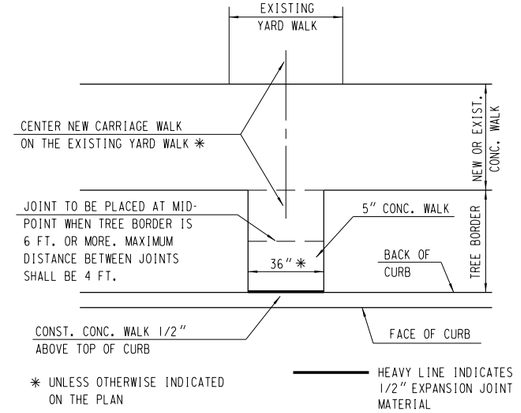
WITH CONCRETE MEDIAN SLOPE NOSE



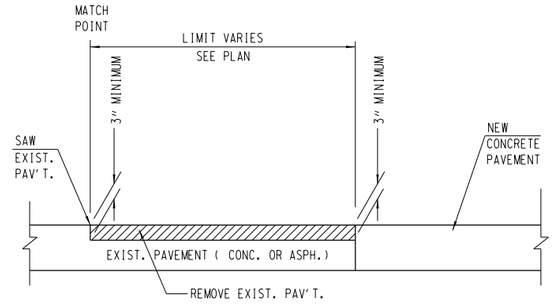
SECTION A-A

MAINTENANCE RAMP

CONCRETE CURB & GUTTER INTEGRAL 18-INCH MODIFIED

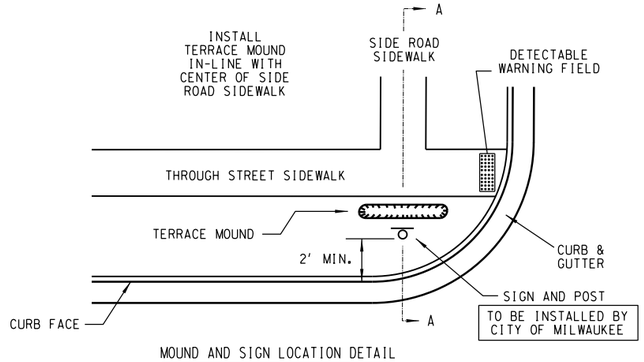


CARRIAGE WALK

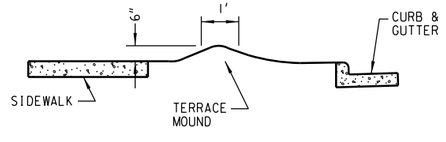


REMOVING ASPHALTIC SURFACE BUTT JOINTS

IN ROADWAY AT INTERSECTIONS AND ABUTTING PAVEMENT



MOUND AND SIGN LOCATION DETAIL

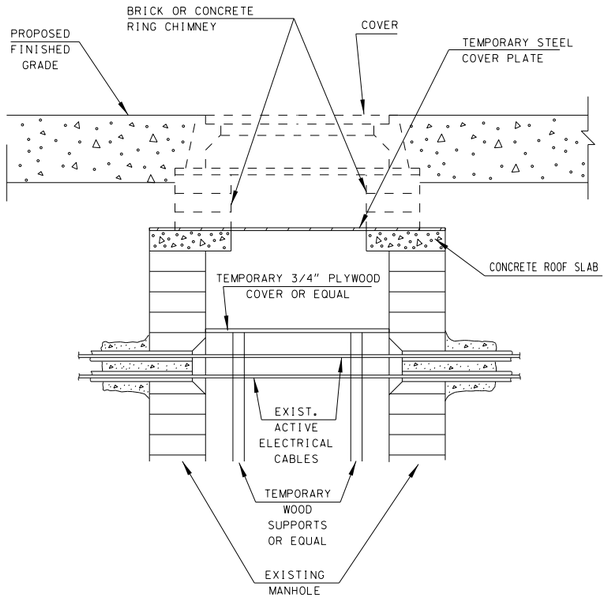


TERRACE MOUND DETAIL

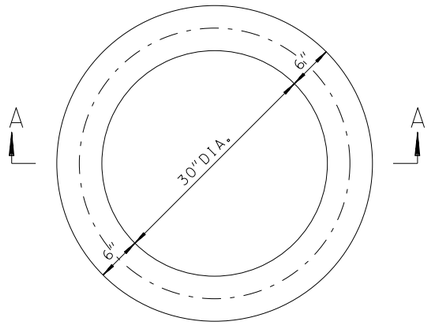
SECTION A-A

CROSSWALK CLOSURE DETAILS

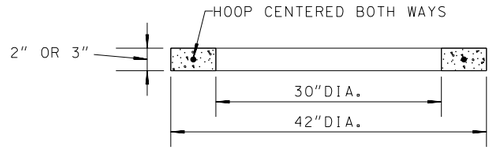
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SCALE FEET	SHEET NO: 11	E



BLOCK OR PRECAST MANHOLE



PLAN



SECTION A-A

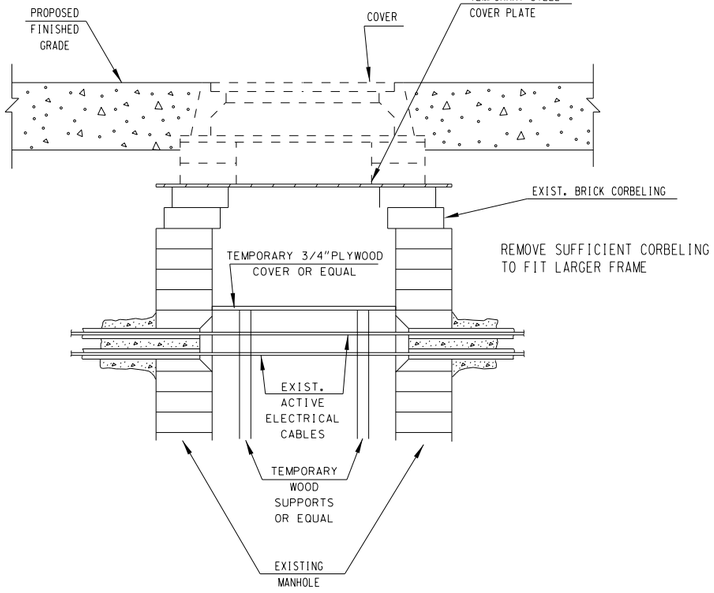
THE ADJUSTING RING SHALL BE 2" OR 3" IN HEIGHT.

THE CIRCUMFERENTIAL STEEL SHALL BE CENTERED WITHIN THE RING.

AREA OF CIRCUMFERENTIAL STEEL = 0.07 SQ. INCH PER VERTICAL FOOT WITH A MINIMUM OF .024 SQ. INCH IN ANY ONE RING.

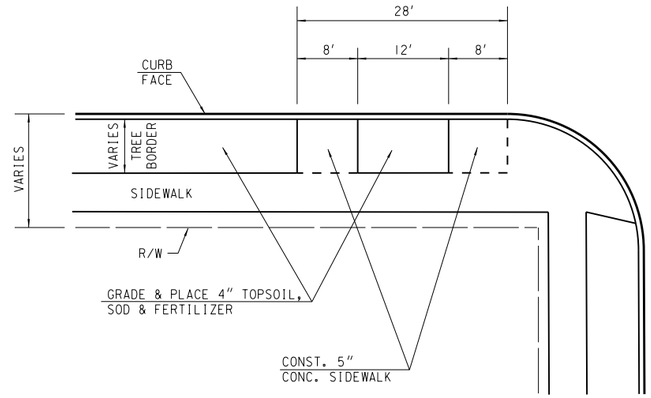
THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE CORE SHALL BE 4000 P.S.I.

CONCRETE ADJUSTING RING



BRICK ROUND MANHOLE

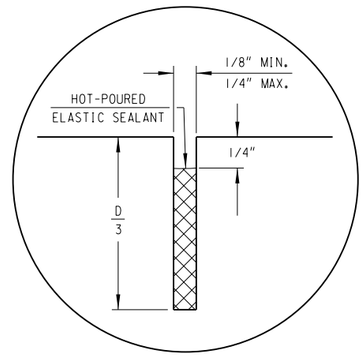
ADJUSTING TES MANHOLES



BUS STOP WALK DETAIL

GENERAL NOTES

1.5% (NOM.) CROSS SLOPE AT PASSENGER BOARDING AREAS



JOINT SEALING DETAIL

PAVEMENT DEPTH AND JOINT SPACING TABLE	
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6"	12'
7"	14'
8"	15'
9"	15'
10" & ABOVE	18'

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SCALE FEET	SHEET NO: 12	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\CONDET.DGN

REVISED DATE: 10-26-2016 SB

GENERAL NOTES

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

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE CITY OF MILWAUKEE, INFRASTRUCTURE SERVICES DIVISION, CONSTRUCTION SECTION.

INSTALLATION OF PRECAST MONUMENT TO BE SUPERVISED BY CITY OF MILWAUKEE, INFRASTRUCTURE SERVICES DIVISION, CONSTRUCTION SECTION FOR ACCURACY OF LOCATION.

BRASS MONUMENT MARKER TO BE CENTERED ON CONCRETE MONUMENT. TOP OF MONUMENT TO BE ONE INCH BELOW THE FINISHED PAVEMENT.

LANDMARK REFERENCE MONUMENTS TO BE REPLACED

LOCATION	MONUMENTS	STATION	REMARKS
N. 91ST ST.			
AT W. DENVER AVE.	1	27+49.95 ON T/L	SEE SPECIAL PROVISIONS FOR INFORMATION ON RESTORATION OF MONUMENTS

WISCONSIN REGIONAL PLANNING COMMISSION S.E. LINE FOR T.,R.,SEC. 21 28 22 27 DISTURBING THIS MARK WITHOUT PERMIT IS PROHIBITED BY LAW

MONUMENT MARKER LOGO
(TO BE FURNISHED BY OTHERS)

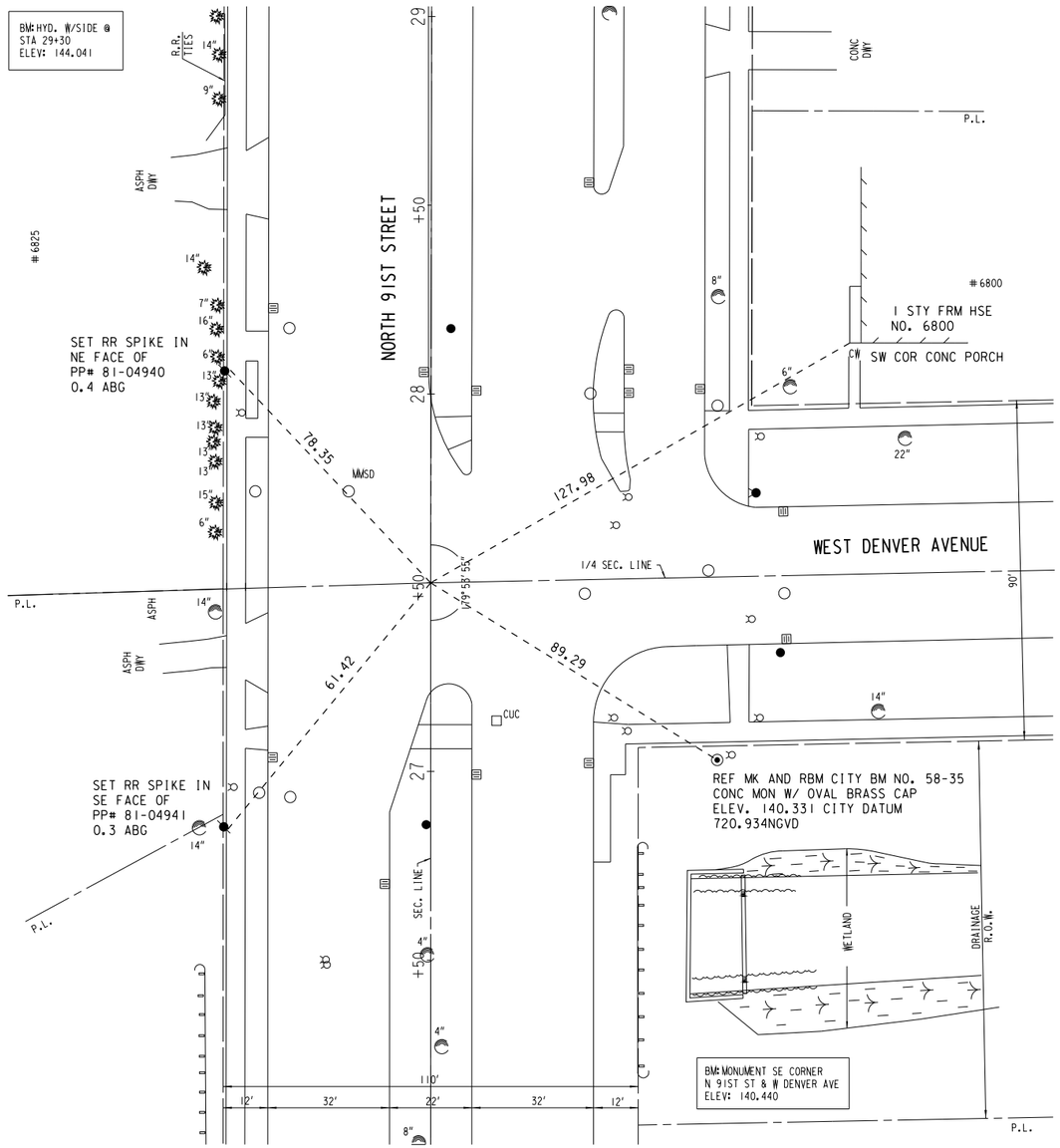
LANDMARK REFERENCE MONUMENT

T. 8 N. R. 21 E. 2021 2021

TOWNSHIP 8 NORTH, RANGE 21 EAST
MILWAUKEE COUNTY
CONCRETE MONUMENT W/ ALUMINUM CAP

STATE PLANE COORDINATES OF QUARTER SECTION CORNER
NORTH: 422,211.39
EAST: 2,527,015.33

SURVEY DATE: AUGUST, 1988

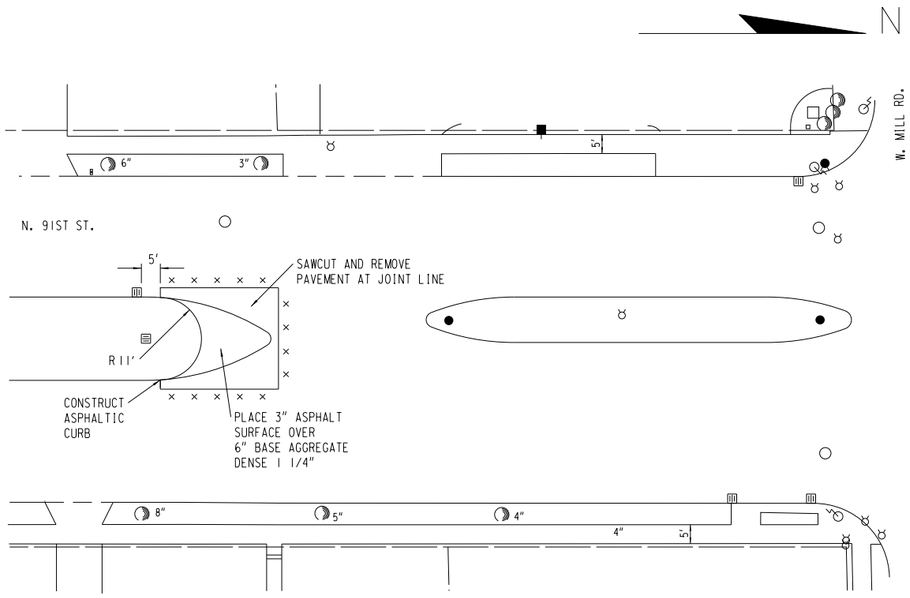


STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SCALE FEET 0' 40'	SHEET NO: 13	E

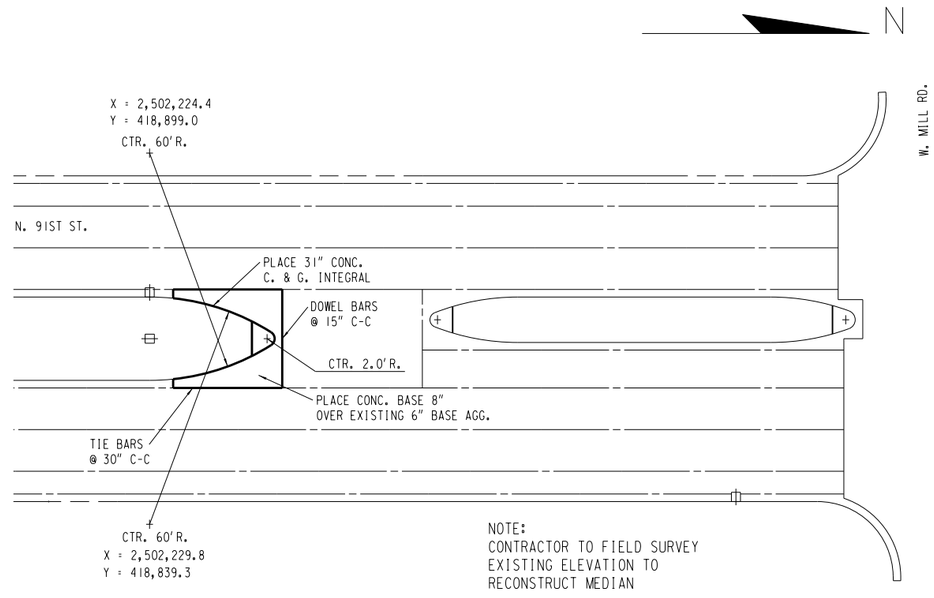
FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\CONDET.DGN

REVISED DATE: 12-06-2016 BY SB

2



CONSTRUCT CROSSOVER OPENING



RECONSTRUCT MEDIAN

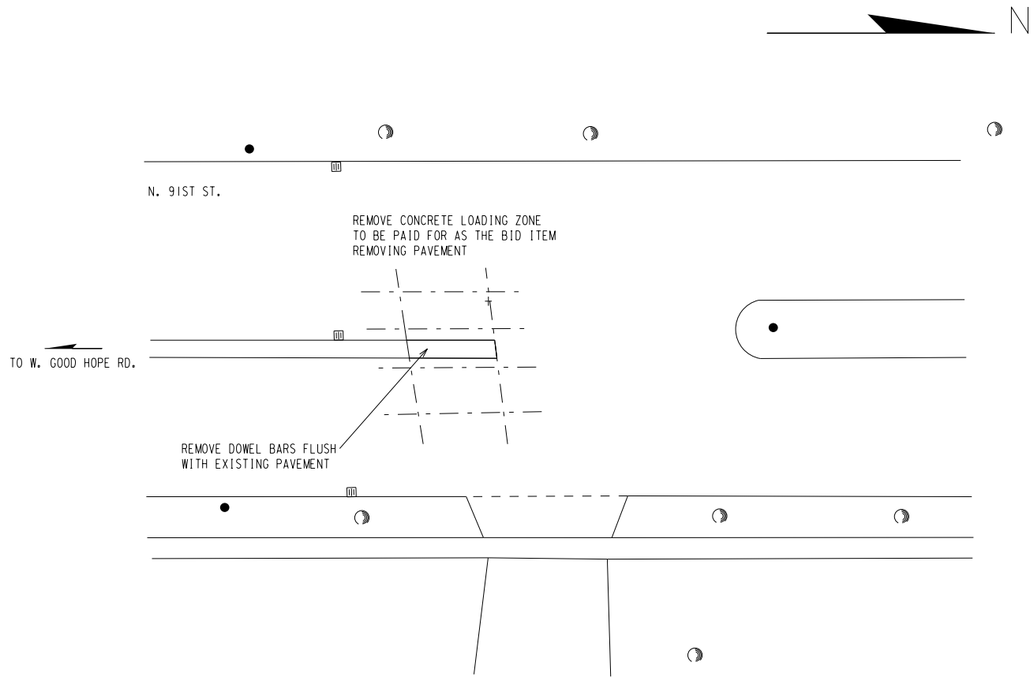
MEDIAN CROSSOVER
SOUTH OF W. MILL RD.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SCALE FEET 0' 40'	SHEET NO: 14	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\CONDET.DGN

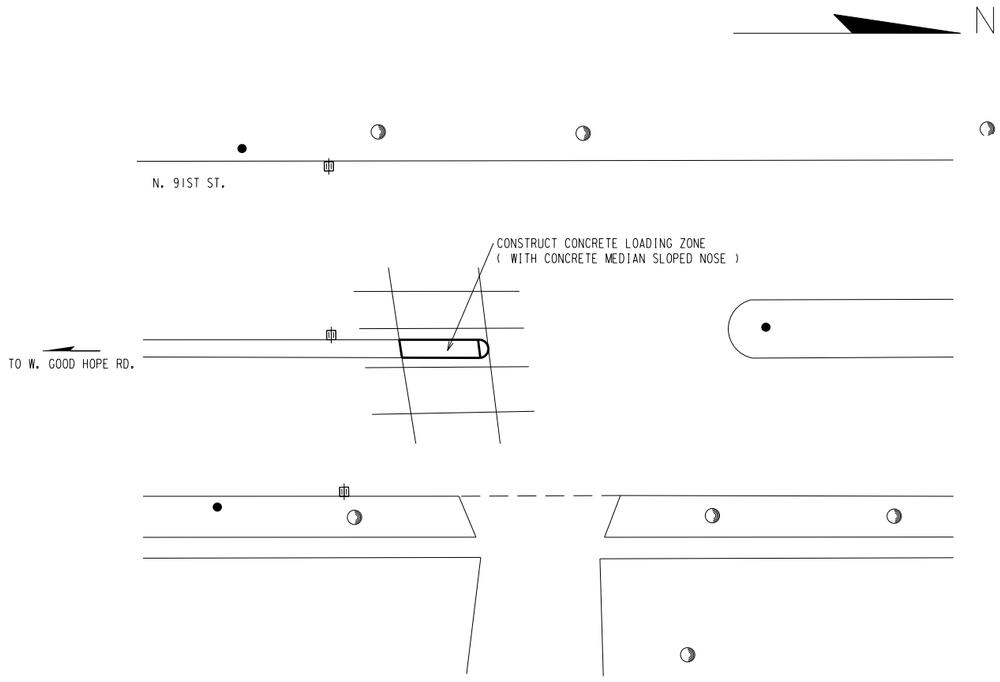
REVISED DATE: 9-28-2016 BY SB

2



CONSTRUCT CROSSOVER OPENING

PT *390 FT NORTH OF THE INTERSECTION
BETWEEN N. 91ST ST. AND W. GOOD HOPE RD.



RECONSTRUCT MEDIAN

PT *390 FT NORTH OF THE INTERSECTION
BETWEEN N. 91ST ST. AND W. GOOD HOPE RD.

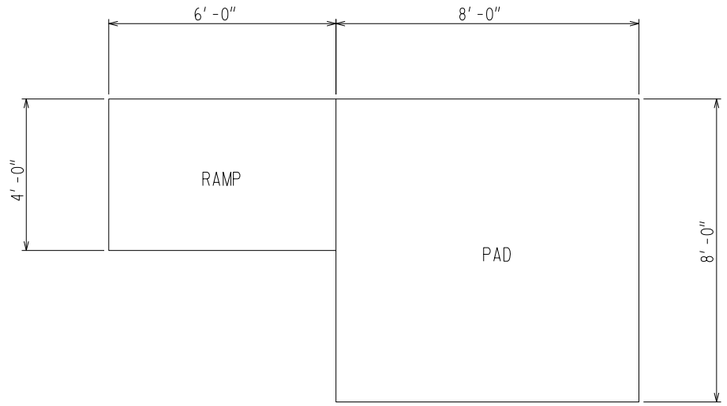
MEDIAN CROSSOVER
NORTH OF W. GOOD HOPE RD.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SCALE FEET 0' 40'	SHEET NO: 15	E

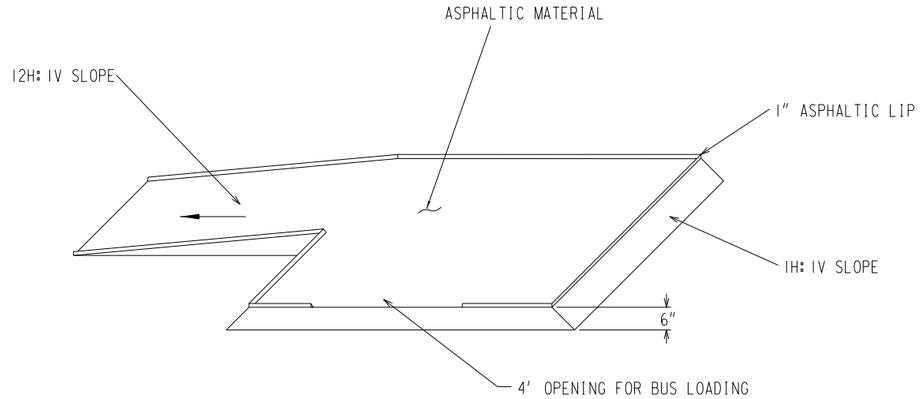
FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\CONDET.DGN

REVISED DATE: 7-26-2016 BY SB

2



NOTE:
RAMP MAY BE LONGER
IF ROADWAY SLOPE REQUIRES



NOTE:
RAMP SHALL BE PLACED TO FACE
TOWARDS PEDESTRIAN CROSSING

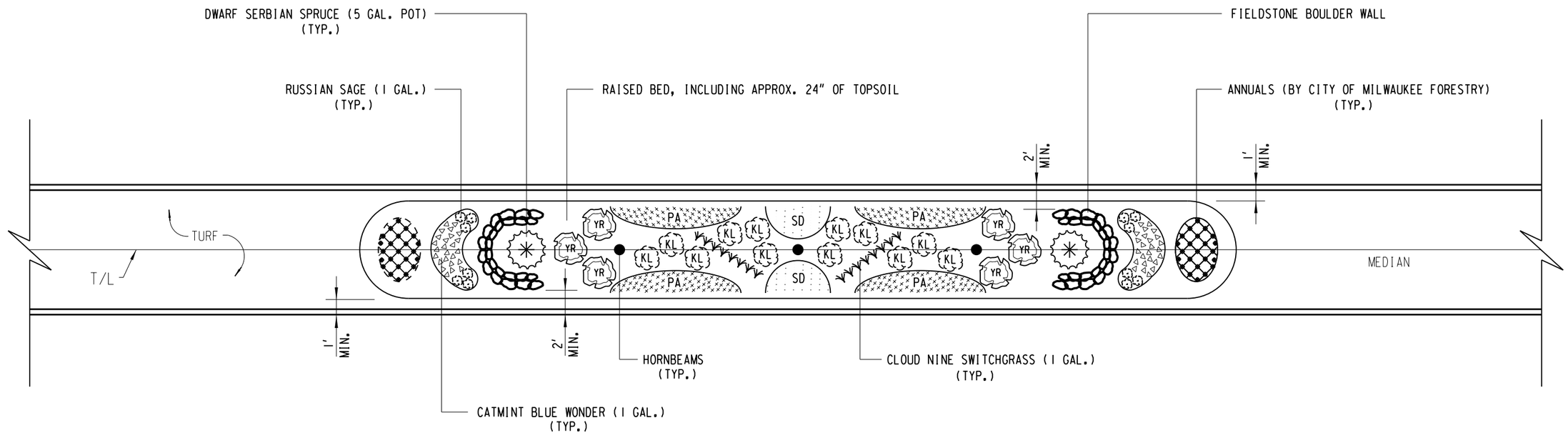
TEMPORARY BUS LOADING ZONE

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SCALE FEET 0' 40'	SHEET NO: 16	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\CONDET.DGN

REVISED DATE: 9-24-2016 BY DB

SIGNATURE BED DETAIL



NO.	LOCATIONS
1.	04 + 00 TO 05 + 00
2.	48 + 50 TO 49 + 50

LEGEND

YR	YELLOW KNOCKOUT ROSE (3 GAL.)
KL	DWARF KOREAN LILAC (3 GAL.)
SD	SHASTA DAISYS 'BECKY' (1 GAL.)
PA	WOODS PURPLE ASTER

NOTE:

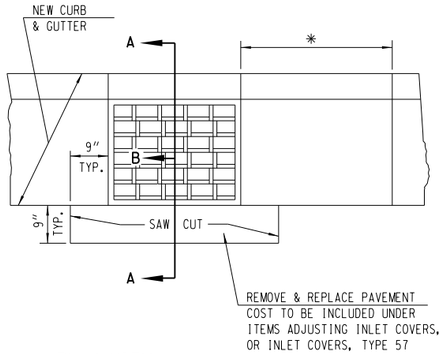
SHREDDED BARK MULCH AROUND ALL TREES AND IN BED 3-4" DEPTH. SHOVEL CUT BED EDGE.

ESTIMATE OF QUANTITIES

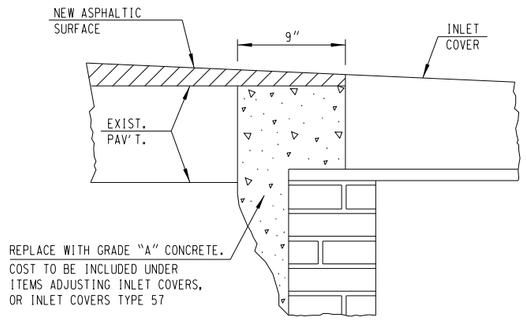
ITEM	UNIT	TOTAL
DWARF SERBIAN SPRUCE	EACH	2
RUSSIAN SAGE	EACH	12
CATMINT BLUE WONDER	EACH	24
CLOUD NINE SWITCHGRASS	EACH	14
YELLOW KNOCKOUT ROSE	EACH	6
DWARF KOREAN LILAC	EACH	12
SHASTA DAISYS 'BECKY'	EACH	24
WOODS PURPLE ASTER	EACH	72
HORNBEAMS	EACH	3

2

* REMOVE 3'-0" CURB & GUTTER MIN. OR TO THE NEAREST JOINT, 6'-0" MAX. UNLESS OTHERWISE DIRECTED ON THE PLAN.

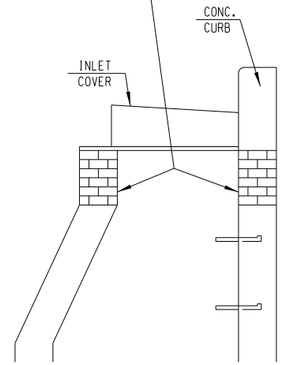


PLAN VIEW



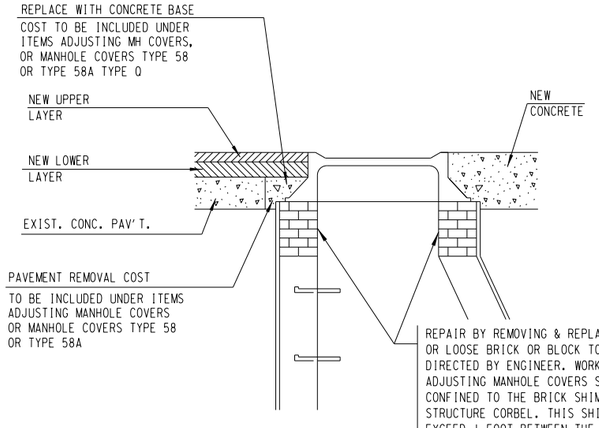
SECTION A-B

REPAIR BY REMOVING & REPLACING DAMAGED OR LOOSE BRICK OR BLOCK TO DEPTH AS DIRECTED BY ENGINEER. WORK UNDER ADJUSTING CATCH BASIN COVERS SHALL BE CONFINED TO THE BRICK SHIMMING ABOVE THE STRUCTURE CORBEL. THIS SHIMMING SHALL NOT EXCEED 1 FOOT BETWEEN THE TOP OF THE CORBEL AND THE FRAME BOTTOM. ANY WORK MORE EXTENSIVE THAN DESCRIBED IMMEDIATELY ABOVE SHALL BE CONSTRUED AS WORK UNDER RECONSTRUCTING CATCH BASINS. DEPTHS OF BRICKWORK TO BE REPAIRED, AS INDICATED ON THE PLAN, ARE ESTIMATES ONLY AND MAY VARY AT TIME OF CONSTRUCTION.



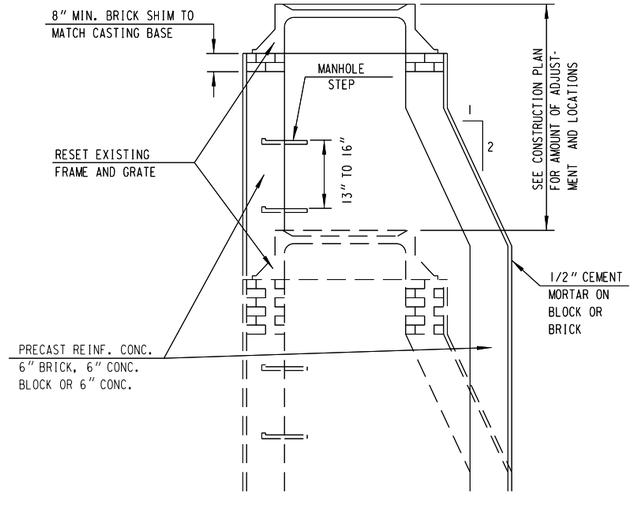
SECTION A-A

ADJUSTING INLET COVERS



ADJUSTING MANHOLE COVERS

OR MANHOLE COVERS TYPE 58A



CORBEL MAY BE REVERSED STRAIGHT SIDE LEANED SLIGHTLY TO CLEAR CURB HEAD.

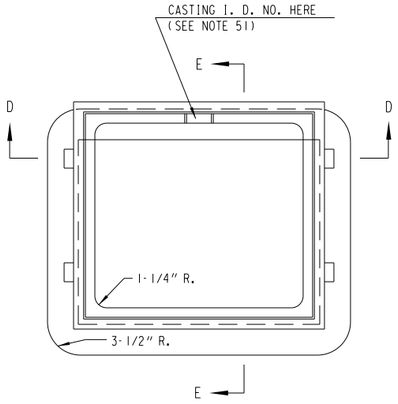
REPAIR BY REMOVING AND REPLACING DAMAGED OR LOOSE BRICK OR BLOCK TO THE DEPTH AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER. DEPTHS AS INDICATED ON PLAN ARE ESTIMATES ONLY AND MAY VARY AT TIME OF CONSTRUCTION.

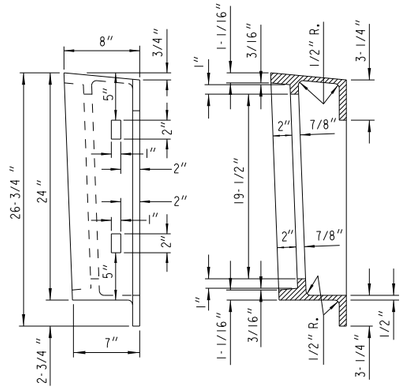
RECONSTRUCTING MANHOLES

AND INLETS

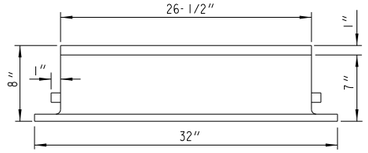
CONSTRUCTION NOTES

1. LOCATIONS OF STRUCTURES IN CURB & GUTTER SECTIONS REFER TO FACE OF CURB.
2. LOCATIONS OF STRUCTURES NOT IN CURB AND GUTTER SECTIONS REFER TO CENTERLINE OF STRUCTURE.
3. PIPE LENGTHS GIVEN ARE APPROXIMATE OUT TO OUT OF STRUCTURE.
4. GRATE & RIM ELEVATIONS ARE GIVEN AT FLOW LINE OF INLET COVER OR AT CENTER-LINE OF MANHOLE COVER.
5. WHEN NEW COVERS ARE PLACED, THE FIRST 12" OF ADJUSTMENT OR REPAIRING SHALL BE INCLUDED IN THE COST OF THE NEW COVER. ANY ADJUSTMENT OR REPAIR OF BRICKWORK 12" OR LESS WILL BE PAID AS ADJUSTING COVERS WHEN RESETTING EXISTING COVERS, ANY ADJUSTMENT OR REPAIR OF BRICKWORK MORE THAN 12" WILL BE PAID AS A RECONSTRUCT.
6. MANHOLE ADJUSTMENTS IN ASPHALTIC PAVEMENT WILL BE MADE AFTER THE LOWER LAYER IS PLACED.
7. WHEN CONSTRUCTING CONCRETE CURB ADJACENT TO INLET COVER TYPE 57, TWO (2) DEFORMED TIE BARS SHALL BE PLACED LONGITUDINALLY THROUGH THE CURB SECTION AND EXTENDED ONE (1) FOOT BEYOND EACH SIDE OF THE FRAME. A DUMMY JOINT SHALL BE CUT IN THE CURB AT EACH SIDE OF THE FRAME.

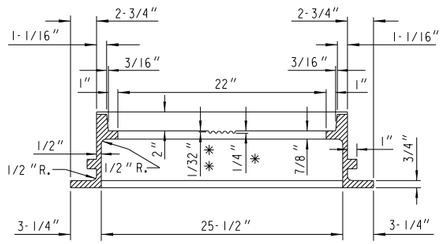




SECTION E-E



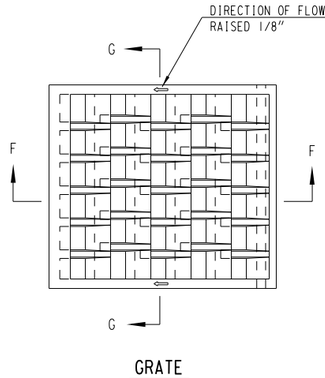
FRAME



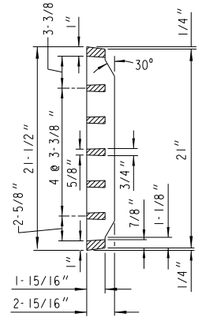
SECTION D-D

* DEPRESSION FOR LETTERS

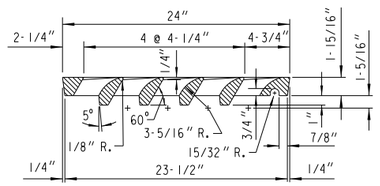
** CLEARANCE FROM TOP OF LETTERS TO FACE OF SEAT



GRATE



SECTION G-G



SECTION F-F

INLET COVER - TYPE 57

LID-145 LBS., FRAME-204 LBS.

GENERAL NOTES

ALL EDGES ARE TO BE GROUND

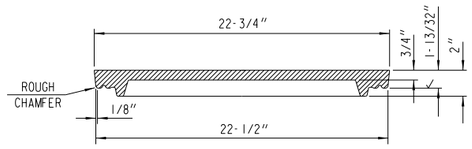
ALL CASTINGS SHALL BEAR THE FOLLOWING IDENTIFICATION MARKS IN THE FORM OF LEGIBLE LETTERS OR NUMERALS RAISED 1/8"

ON THE FRAME

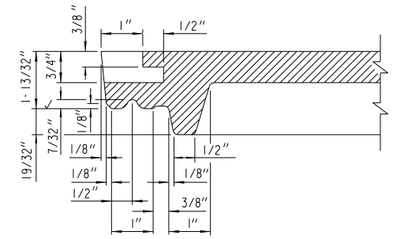
1. ON THE UPPER FACE OF THE FLANGE IN 1 INCH HIGH LETTERS THE INITIALS OR MONOGRAM OF THE FOUNDRY, THE YEAR MADE AND THE SERIAL NUMBER OF THE INDIVIDUAL CASTING.
2. ON THE SEAT OF THE FRAME IN 1 INCH HIGH LETTERS, THE CASTING IDENTIFICATION NUMBER (51).

ON THE GRATE

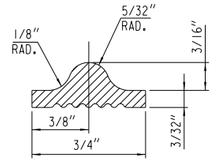
1. ON THE UPPER SIDE OF THE GRATE IN 1 INCH HIGH LETTERS, THE INITIALS OR MONOGRAM OF THE FOUNDRY, THE YEAR MADE, THE CASTING IDENTIFICATION NUMBER (57) AND THE SERIAL NUMBER OF THE INDIVIDUAL CASTING.



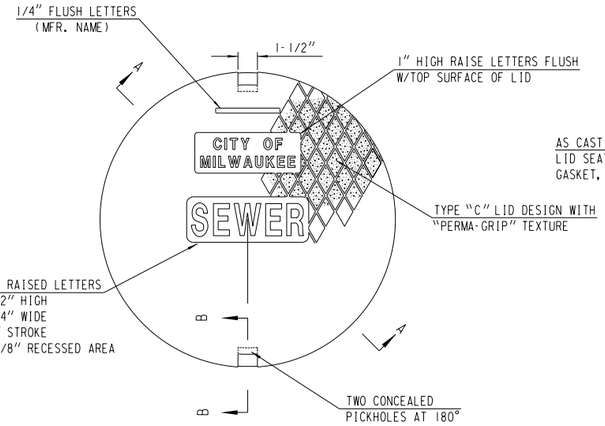
SECTION A-A



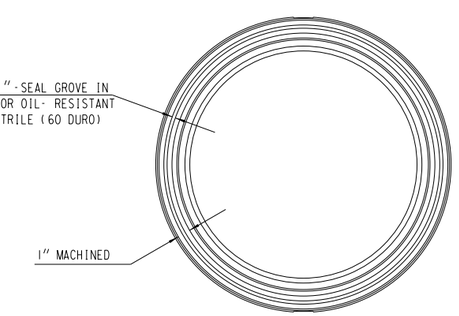
SECTION B-B



"T" GASKET DETAIL



TOP VIEW



BOTTOM VIEW

MANHOLE COVER - TYPE 58-A

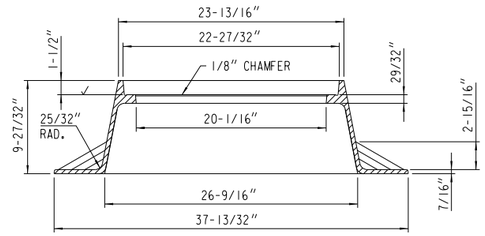
LID - 107 LBS.

NOTE:

ALL CASTINGS SHALL BEAR THE FOLLOWING IDENTIFICATION MARKS IN THE FORM OF LEGIBLE LETTERS OR NUMERALS RAISED 1/8" HAVING A DIGIT OR LETTER HEIGHT OF ONE INCH ON LOWER FACE OF LID:

1. THE INITIALS OR MONOGRAM OF THE FOUNDRY.
2. THE CONTRACT NUMBER AND YEAR MADE.
3. THE CASTING IDENTIFICATION NUMBER.
4. THE SERIAL NUMBER OF THE INDIVIDUAL CASTING.

NOTE: ALL EXTERIOR EDGES SHALL BE GROUND.



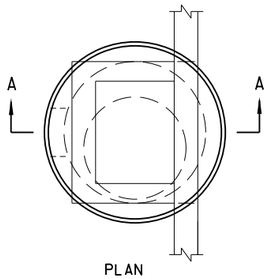
MANHOLE FRAME - TYPE MS21

FRAME - 182 LBS.

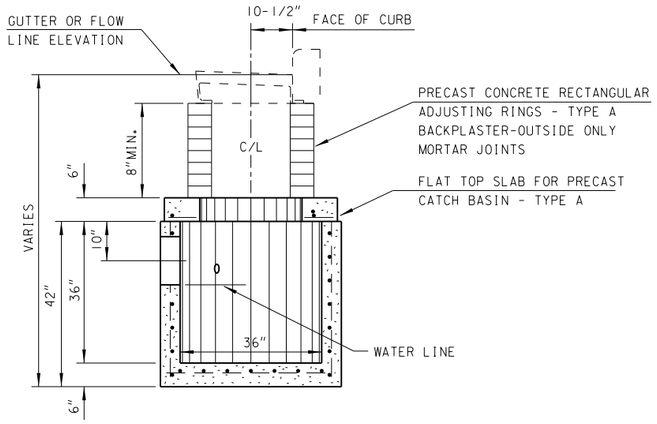
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SCALE FEET 0' 40'	SHEET NO: 19	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\DRAINDET.DGN

REVISED DATE: 10-13-2016 SB



PLAN



SECTION A-A

CATCH BASIN - TYPE 45A

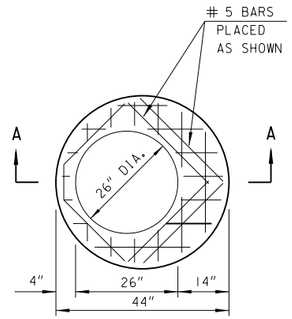
GENERAL NOTES

1. PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199 AND ASTM DESIGNATION C-478 AND THESE DETAILED REQUIREMENTS WHICH SHALL GOVERN WHERE THEY ALTER THE AASHTO AND ASTM STANDARDS.

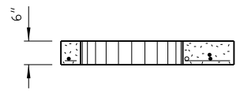
2. ALL REINFORCEMENT STEEL SHALL BE GRADE 60 OR GREATER AND EMBEDDED AT LEAST 1" CLEAR.

3. PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 4 IN DEPTH WHICH MEETS REQUIREMENTS FOR GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

4. SET FRAME ELEVATION 0.03 FT. LOWER THAN ELEVATION INDICATED ON PLAN.



PLAN



SECTION A-A

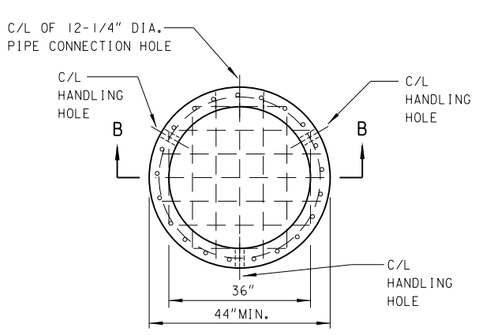
TOP SLAB - TYPE A

FLAT TOP SLAB SHALL BE 6" THICK REINFORCED WITH ONE LAYER OF STEEL WITH A MINIMUM AREA OF 0.32 SQ. IN. PER LINEAL FOOT IN BOTH DIRECTIONS, PLACED NEAR THE BOTTOM OF THE SLAB WITH 1" CLEAR COVER.

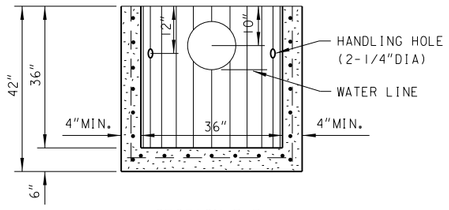
ADDITIONALLY, NO. 5 BARS SHALL BE PLACED AROUND TOP SLAB OPENING AS SHOWN.

REINFORCEMENT SHALL BE TIED OR WELDED TOGETHER.

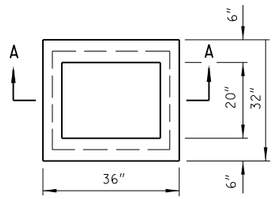
THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 4000 P.S.I.



RISER SECTION WITH INTEGRAL BASE PLAN



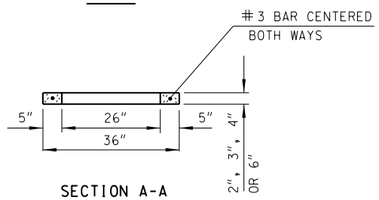
SECTION B-B



PLAN

THE ADJUSTING RINGS SHALL BE 2", 3", 4" OR 6" IN HEIGHT.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 3300 P.S.I.



SECTION A-A

RECTANGULAR ADJUSTING RING - TYPE A

CIRCUMFERENTIAL AND LONGITUDINAL REINFORCEMENT IN THE RISER SECTON SHALL EACH CONSIST OF ONE LAYER OF STEEL NOT LESS THAN 0.12 SQ. IN. PER FOOT AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.

THE BASE SLAB SHALL BE REINFORCED WITH ONE LAYER OF STEEL WITH A MINIMUM AREA OF 0.32 SQ. IN. PER FOOT IN BOTH DIRECTIONS, PLACED ABOVE THE MIDPOINT OF THE SLAB.

RISER SECTION AND BASE SLAB REINFORCEMENT SHALL BE TIED OR WELDED TOGETHER.

TWO TO THREE HANDLING HOLES 2-1/4" IN DIAMETER AND A PIPE CONNECTION HOLE 12-1/4" IN DIAMETER SHALL BE CAST OR CORED IN THE RISER SECTION AT THE LOCATIONS SHOWN. LIFTING DEVICES MAY BE SUBSTITUTED FOR HANDLING HOLES.

NO JOINTS OR HOLES SHALL BE BELOW THE WATERLINE.

THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 4000 P.S.I.

RISER SECTION MAY TAPER TO A 33" INTERNAL DIAMETER AT IT'S BOTTOM PROVIDED A 44" MINIMUM OUTSIDE DIAMETER IS MAINTAINED.

2

N

NORTH 91ST STREET

#6415 #6457

110'
41'
8"
92.2' LT
74.0' LT
SEC. LINE
+47.2
+52.3
P.L.
ASPH DWY
CW
+48.8
+13.7
+99.7
+63.7
+83.8
+98.9
R/W
32'
2"
CONC.
+54.6
+56.5
+62.9
+76.7
+84.7
+16.2
+22.5
+55.0
+63.0
12"
4"
6"
5"
T/L
00 +50 01 +50 02 +50 03 +50 04 +50 05
ASPH. ON CONC.
115'
22'
17'
7"
10"
16"
23"
14"
22"
+11.0
FENCE
69.0' RT.
BEGIN PROJECT
STA. 01+35.5 T/L
LAWN
+46.3
+55.9
64.1' RT.
CONC. BUS PAD
42'
W. MILL RD.
#6408 #6420 #6442
ASPH

LEGEND:

- REMOVE TREE
- REMOVING SIDEWALK, DRIVEWAY

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	SIDEWALK, DWY AND TREE REMOVALS	SCALE FEET 0' 40'	SHEET NO: 21	E

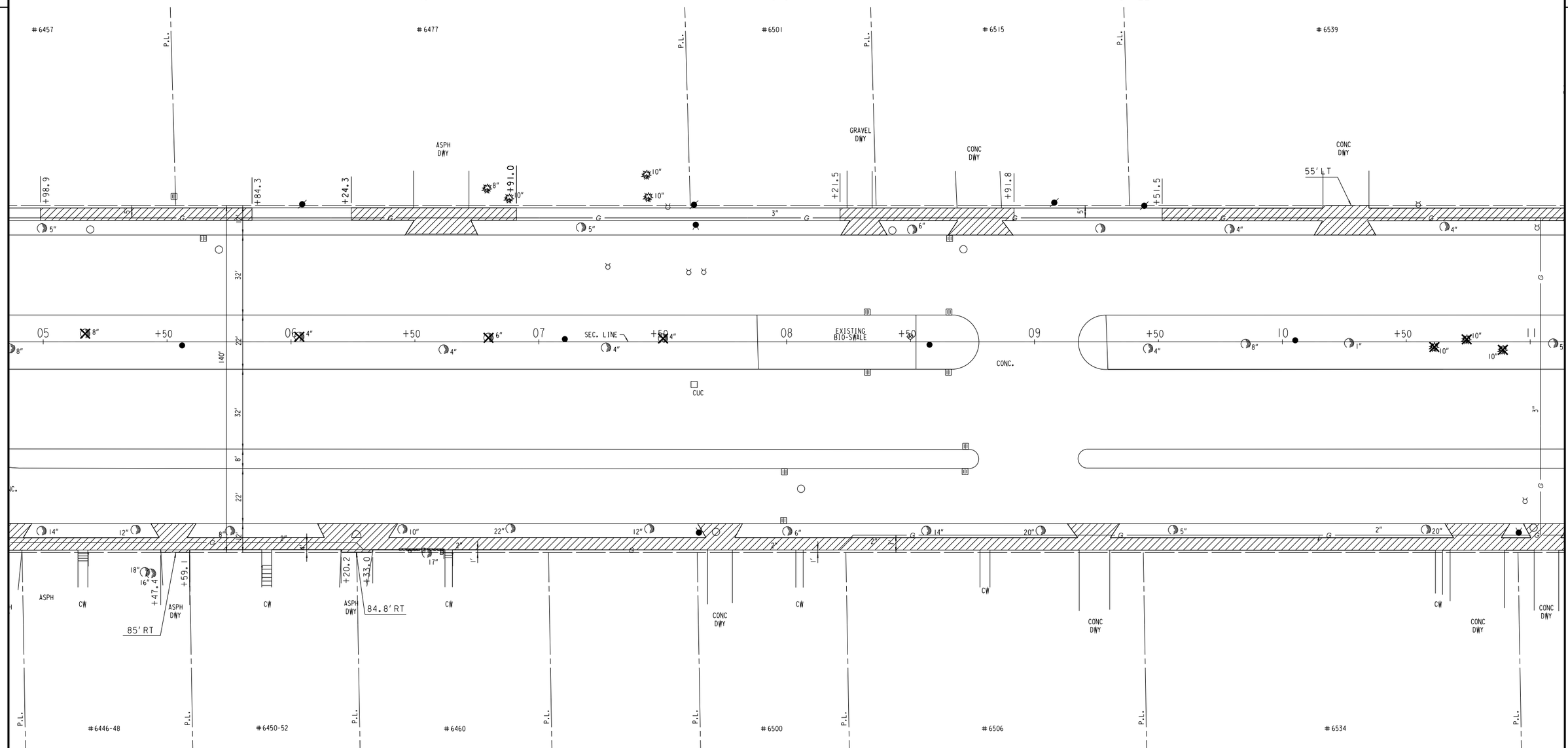
FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\REM_00_05.DGN

REVISED DATE: 9-26-2016 BY SB

2

N

NORTH 91ST STREET



LEGEND:

⊠ - REMOVE TREE

▨ - REMOVING SIDEWALK, DRIVEWAY

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	SIDEWALK, DWY AND TREE REMOVALS	SCALE FEET 0' 40'	SHEET NO: 22	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\REM_05_11.DGN

REVISED DATE: 9-26-2016 BY SB

2

N

NORTH

91ST

STREET

#9105 W. RIVERWOODS DR.

W. RIVERWOODS DR.

P.L.

ASPH.

10'

61.5 RT

+55.6

#6601

#6611

CONC DWY

ASPH DWY

11 12 13 14 15 16 17

+50

SEC. LINE

EXISTING BIO-SWALE

CONC.

CUC

140'

+13.9

+54.3

+97.9

+38.6

+74.4

+76.4

105.1 RT

113.9 RT CW

W. ACACIA ST.

#6540 #6548 #6556 #6564 #6572 #6580 #6612 #6618 #6626

LEGEND:

- REMOVE TREE

- REMOVING SIDEWALK, DRIVEWAY

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	SIDEWALK, DWY AND TREE REMOVALS	SCALE FEET 0' 40'	SHEET NO: 23	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\REM_11_17.DGN

REVISED DATE: 9-26-2016 BY SB

NORTH 91ST STREET

N

6639

W. EDGEWATER DR.

9108 W. EDGEWATER DR.

CONC DWY

P.L.

ASPH.

CW

R/W

+9.9 +82.7 +39.3 +1.6

17 18 19 20 21 22 23

+50

SEC. LINE

EXISTING BIO-SWALE

CUC

CONC.

RESERVATION FOR STREET PURPOSES 30'

PATIO STONES

6636 # 6644 # 6650 # 6658 # 6666 # 6674 # 6682 # 6702 # 6712 # 6720

LEGEND:

- REMOVE TREE

- REMOVING SIDEWALK, DRIVEWAY

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	SIDEWALK, DWY AND TREE REMOVALS	SCALE FEET 0' 40'	SHEET NO: 24	E

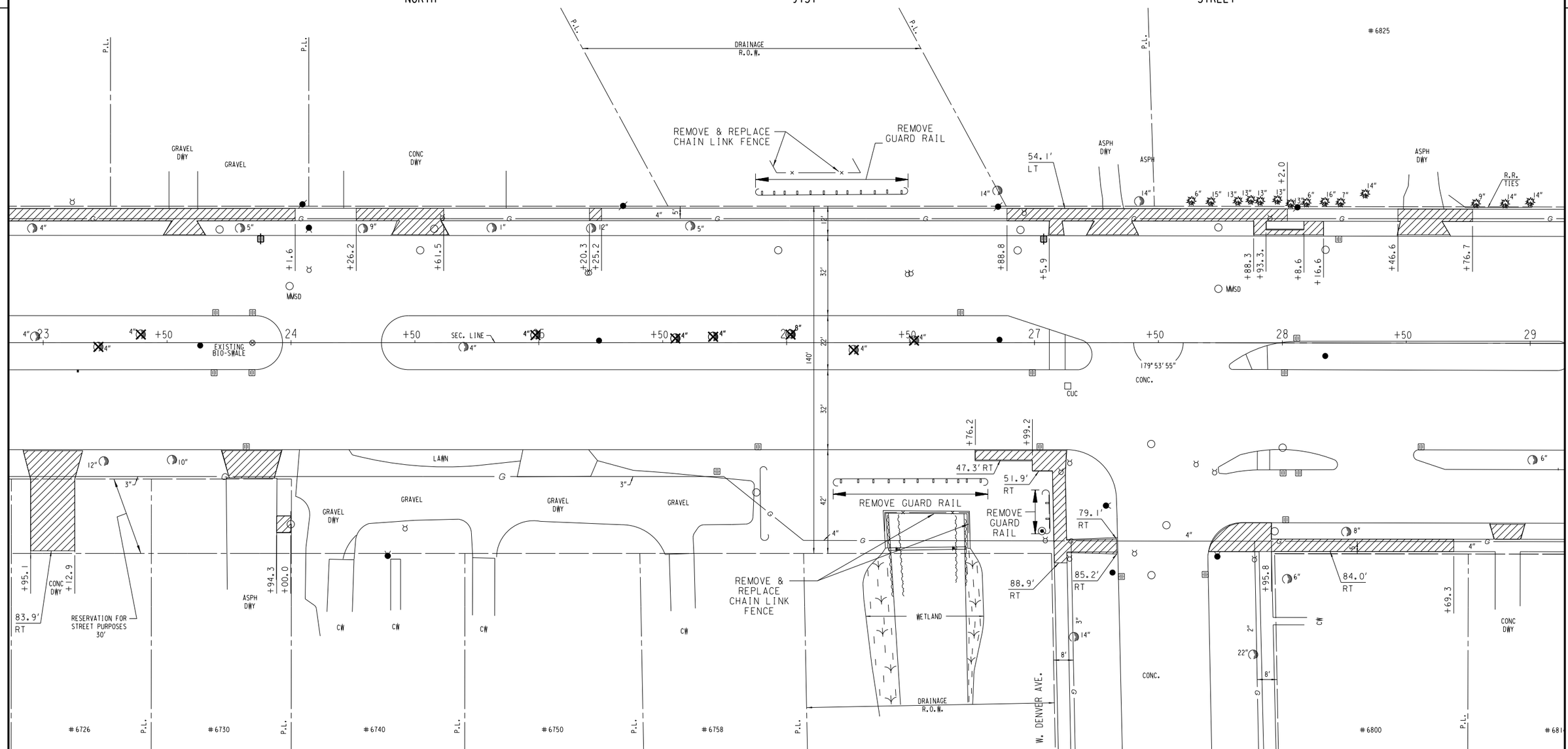
FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\REM_17_23.DGN

REVISED DATE: 9-26-2016 BY SB

2

N

NORTH 91ST STREET



LEGEND:

⊠ - REMOVE TREE

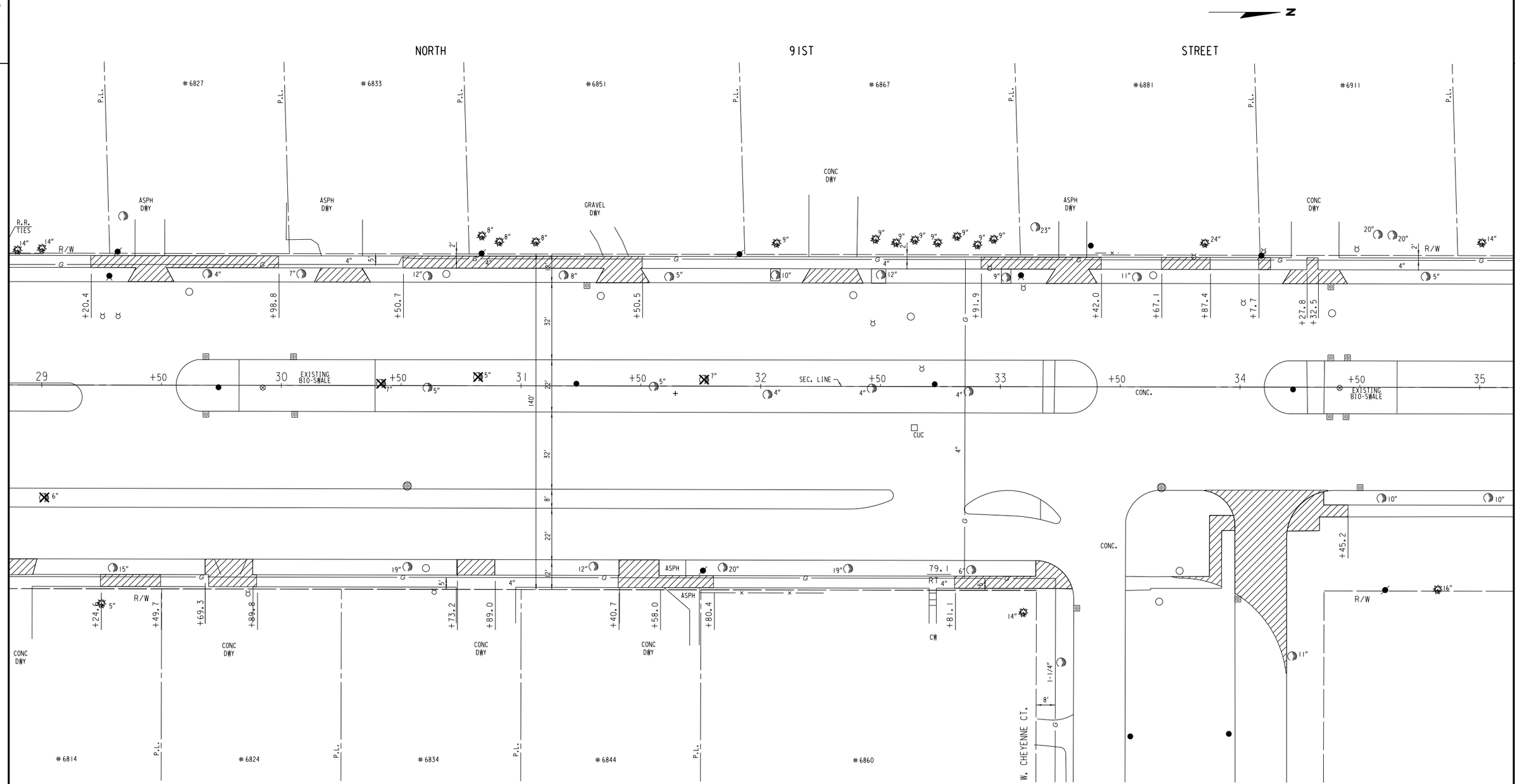
▨ - REMOVING SIDEWALK, DRIVEWAY

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	SIDEWALK, DWY AND TREE REMOVALS	SCALE FEET 0' 40'	SHEET NO: 25	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\REM_23_29.DGN

REVISED DATE: 9-26-2016 BY SB

2



LEGEND:

- REMOVE TREE
- REMOVING SIDEWALK, DRIVEWAY

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	SIDEWALK, DWY AND TREE REMOVALS	SCALE FEET 0' 40'	SHEET NO: 26	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\REM_29_35.DGN

REVISED DATE: 9-26-2016 BY SB

2

N

NORTH 91ST STREET

#6919 #6927 #6945 #6955 #6965 #6975

P.L. P.L. P.L. P.L. P.L. P.L. P.L.

CONC DWY CONC DWY CONC DWY GRAVEL DWY CONC DWY CONC DWY ASPH DWY

ASPH

43.1' LT 43.1' LT

14" 15" 4" 4" STONE 9" 11" 12" 10" 10" 4" 5" 5" 8" 4" 8"

+27.7 +73.3 +73.9 +95.6 +0.5 +9.0 +13.9 +29.1 +36.8 +47.5 +52.3

CAUTION

MMSD

G G G

2

N

NORTH 91ST STREET

#7011 #7019 #7025 #7031 #7059 #7101-03

P.L. P.L. P.L. P.L. P.L. P.L.

ASPH DWY ASPH DWY GRAVEL DWY CONC DWY CONC DWY CW

5" 14" 18" 10" 4" 14"

10" 5" 7" 8" 10" 14" 4" 4" 14" 14" 12" 16" 15"

+11.6 +76.1 +2.1 +71.9 +1.7 +70.8 +90.9 +56.4 +76.4

32' 4" 32' 12'

G G G G G G G G

WMSD

4" 41 +50 4" EXISTING BIO-SWALE 42 4" +50 43 4" 6" +50 6" SEC. LINE 5" 44 WEP BOX EXISTING BIO-SWALE +50 7" 45 4" 5" 110' 22' +50 46 4" +50 4" 4" 47 EXISTING BIO-SWALE

CUC

32' 12'

9" 14" 10" 7" 4" 6" 5" 7" 9" 4" 10" 8" 4" 9"

+97.0 +02.1 +11.6 +16.5 +31.9 +47.4 +23.7 +28.4 +30.9 +38.8 +43.2 +52.9 +53.9 +58.8 +85.0 +97.1 +02.8

8" 7" 14" 8" 4" 6" 6" 6" 6"

FENCE FENCE

P.L. P.L. P.L. P.L. P.L. P.L. P.L.

LEGEND:

⊠ - REMOVE TREE

▨ - REMOVING SIDEWALK, DRIVEWAY

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	SIDEWALK, DWY AND TREE REMOVALS	SCALE FEET 0' 40'	SHEET NO: 28	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\REM_41_47.DGN

REVISED DATE: 9-28-2016 BY SB

2

N

NORTH 91ST STREET

#7109

#7117

P.L.

P.L.

P.L.

ASPH DWY

ASPH DWY

ASPH DWY

CURB

+65.6

OAK LEAF

ASPH

15" 11" 12" 14" 15" 12" 14" 19" 15" 12" 14" 12" 14" 8" 5"

+96.5 +57.9 +64.4 +10.3 +18.1 +23.1 +65.5 +90.0 +00.0 +15.1 +0.5

32' 4" 12' 32' 4"

G G G G G G G G G

CONC.

MMSD

47 +50 48 +50 49 +50 SEC. LINE 50 +50 51 +50 52 +50 53

EXISTING BIO-SWALE

EXISTING BIO-SWALE

CONC.

CONC.

1" 6" 4" 1" 4" 1" 1"

110'

22'

2"

32'

CUC

TEL

TEL

9" 4" 10" 7" 12' 4" 4" 12" 14" 4" 14"

8" 12" 12" 12" 8" 12" 12" 16" 6" 14" 14"

+25.9 +46.7 +61.7 +73.3 +8.2 +19.1 +25.3 +32.5 +6.2 +25.7 +49.7 +73.5 +99

WOOD RAILS

WEP BOX

FENCE

FENCE

CONC.

12" 9" 8' 2" 5" 5"

W. ROCHELLE AVE.

P.L. P.L. P.L. P.L. P.L. P.L.

6"

LEGEND:

- REMOVE TREE

- REMOVING SIDEWALK, DRIVEWAY

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	SIDEWALK, DWY AND TREE REMOVALS	SCALE FEET 0' 40'	SHEET NO: 29	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\REM_47_53.DGN

REVISED DATE: 9-26-2016 BY SB

2

N

NORTH

91ST

STREET

END PROJECT
STA. 53+52.5 T/L

OAK LEAF

ASPH TRAIL

COMM. PED.

12"

5"

WALK SIGNAL

+23.5

+35.5

6"

CONC.

SEC. LINE

CUC

CW

FO

GRASS

ASPH

MMSD

52

53

54

+50

4"

1"

ASPH. ON CONC.

SEC. LINE

+23.4

TEL

14"

+73.5

WOOD RAILS

+99.0

+33.0

WEP BOX

W. GOOD HOPE RD.

P.I.

18"

2"

6"

LEGEND:

- REMOVE TREE

- REMOVING SIDEWALK, DRIVEWAY

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	SIDEWALK, DWY AND TREE REMOVALS	SCALE FEET 0' 40'	SHEET NO: 30	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\REM_53_59.DGN

REVISED DATE: 9-26-2016 BY SB

BM: HYD. SWC N 91ST ST. & W. MILL RD. ELEV: 173.636

BM: RR SPIKE WOOD POLE #73-32016 W/SIDE STA 2+15 ELEV: 169.556

N

N. 91ST ST.

W. MILL RD.

SEC. LINE

0+44.72.1' LT 171.34

0+49.5,54.4' LT 171.14

CTR. 20.0' R= +41.2-63.1' LT

0+60.9,73.6' LT 171.06C (E) 170.58G (E) 170.68F (E)

0+44.5,54.4' LT 171.22

0+44.5,49.4' LT 171.14

0+30.6,54.4' LT 171.76(E)

0+61.2,63.6' LT 171.08C 170.75G 170.79F

CURB RAMP TYPE 2 - ℄ - 51.9' LT

0+55.4,49' LT 171.19C 170.94G

0+49.5,49.4' LT 171.09

0+34.1,43.2' LT 171.44C (E) 170.97G (E) 171.00F (E)

0+40.9,43.1' LT 171.40C 171.03G

CURB RAMP TYPE 2 ℄ +46.6

32'

2"

CONC.

TEL

1+36,62.5' LT 170.72C 170.22G 170.26F

1+47.9,57.6' LT 170.46

1+47.9,53.8' LT 170.16

1+52.8,58.8' LT 170.46

CTR. 20.0' R= +55.9-63.0' LT

1+52.9,53.6' LT 170.23

1+52.9,48.6' LT 170.15

1+59.5,53.8' LT 170.25

CURB RAMP TYPE 2 ℄ 51.2' LT

3"

5'

12"

1+42,48.7' LT 170.16C 169.99G

1+47.9,48.8' LT 170.08

CURB RAMP TYPE 2 ℄ +50.4

1+55.9,43' LT 170.26C 169.76G 169.80F

CONC.

SEC. LINE 00 +50 01 +50 02 +50

CUC

ASPH. ON CONC.

MONOTUBE

EXISTING BIO-SWALE

0+40.6,42.4' RT 170.01G(E)

0+38.5,48.5' RT 170.44

0+38.5,53.5' RT 170.49

CURB RAMP TYPE 2M ℄ +47.8

0+48.7,46' RT 170.26C 170.09G

0+52.2,53.6' RT 170.09

0+54.5,52.7' RT 170.17C 170.00G

4"

CURB RAMP TYPE 2M - ℄ - 56.1' RT

0+24.5.0,53.4' RT 170.68

0+47.25,54' RT 170.14

CTR. 20.0' R= +36.8-62.1' RT

0+56.8,61.7' RT 170.16C 169.91G 169.95F

0+47.3,58.6' RT 170.01

0+52.3,58.6' RT 169.96

0+47.5,68.6' RT 170.49(E)

0+52.5,68.5' RT 170.40(E)

FENCE

℄W

14"

8"

1+51.1,49' RT 170.09C 169.92G

CURB RAMP TYPE 2 ℄ +53.2

1+65.4,43' RT 170.20C 169.70G 169.74F

1+55.6,54' RT 169.94

1+75,54' RT 170.37

1+50.6,54' RT 169.89

CURB RAMP TYPE 2 ℄ 56.6' RT

16"

12"

2"

7'

1+75,59' RT 170.45

CTR. 20.0' R= +65.4-63.0' RT

1+50.6,59' RT 169.94

1+55.6,59' RT 170.01

1+55.7,63' RT 170.29

1+50.7,63' RT 170.21

CW

NOTE: 2M = CONSTRUCT CURB RAMP TYPE 2 WITH DETECTABLE WARNING FIELD (MODIFIED LANDING AREA) SEE S.D.D. CURB RAMP TYPE 2 FOR MORE INFORMATION

DETECTABLE WARNING FIELD

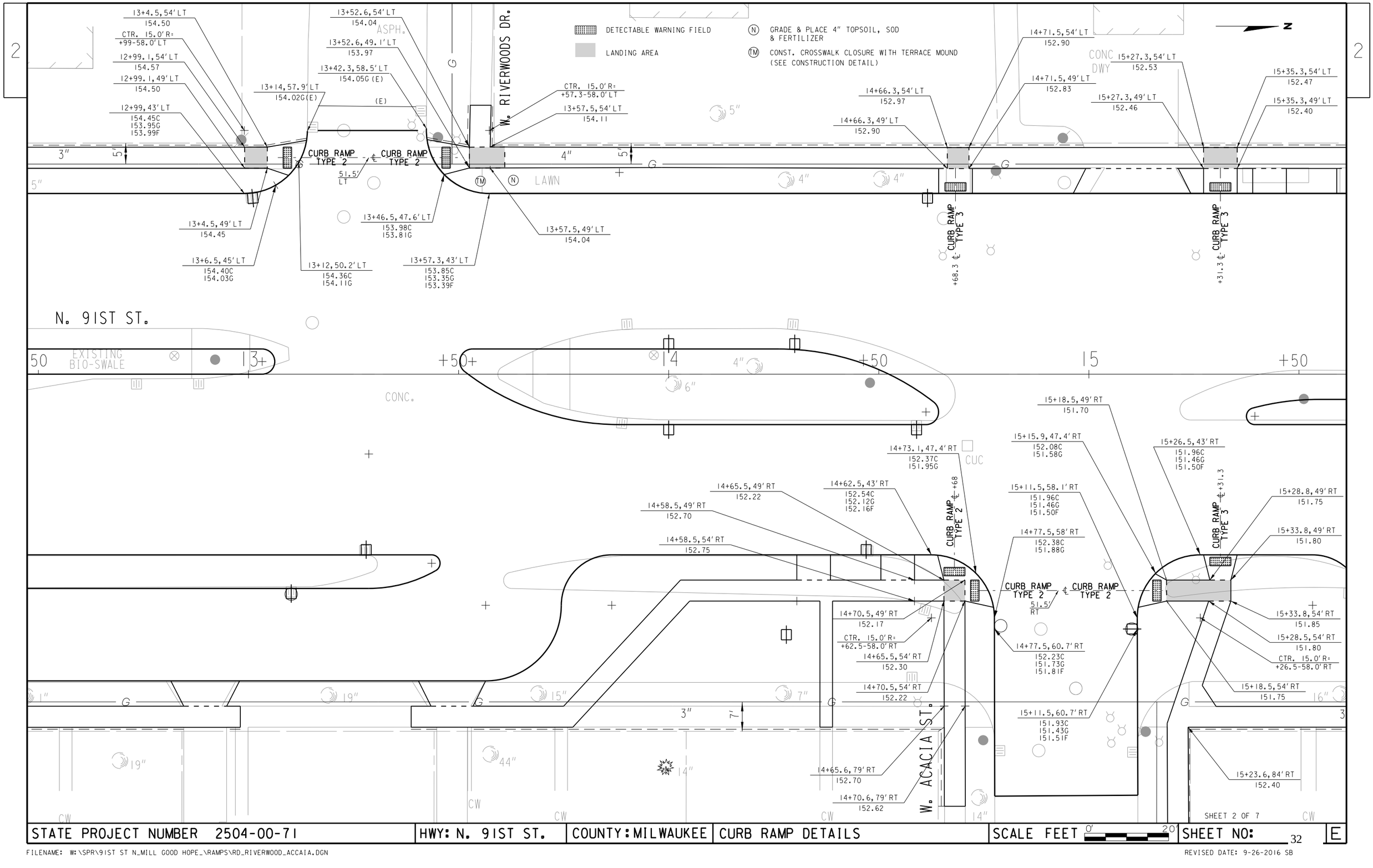
LANDING AREA

SHEET 1 OF 7

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CURB RAMP DETAILS	SCALE FEET 0' 20'	SHEET NO: 31	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\RAMPS\RD_MILL.DGN

REVISED DATE: 9-26-2016 SB



STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CURB RAMP DETAILS	SCALE FEET 0' 20'	SHEET NO: 32	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\RAMPS\RD_RIVERWOOD_ACCAIA.DGN

REVISED DATE: 9-26-2016 SB

DETECTABLE WARNING FIELD

LANDING AREA

(N) GRADE & PLACE 4" TOPSOIL, SOD & FERTILIZER

(TM) CONST. CROSSWALK CLOSURE WITH TERRACE MOUND (SEE CONSTRUCTION DETAIL)

N

W. EDGEWATER DR.

ASPH.

CW

20+82.8, 54.1'LT
145.24(E)

20+87.7, 49'LT
145.12

20+82.7, 49.1'LT
145.20(E)

20+83.3, 43'LT
145.14C
144.83G
144.92F

CTR. 15.0'R=
+83.3-58.0'LT

20+87.7, 54.1'LT
145.19

21+36.8, 54.1'LT
145.06(E)

51.5'
LT

50.5'
LT

CURB RAMP TYPE 2

CURB RAMP TYPE 2

CTR. 15.0'R=
+41.1-58.0'LT

21+43.8, 54.1'LT
145.06(E)

21+43.8, 48.9'LT
144.94(E)

10"

4"

5'

G

4"

4"

4"

(N)

(TM) (N) LAWN

5"

4"

5'

G

5"

12'

G

20+90.8, 45'LT
145.15C
144.90G

20+96.3, 50.5'LT
145.16C
144.82G

21+30.5, 47.4'LT
144.00C
144.54G

21+36.8, 48.9'LT
144.98

21+41.1, 43'LT
144.70C
144.20G
144.24F

32'

N. 91ST ST.

5"

5"

5"

20

EXISTING BIO-SWALE

+50

21

+

+50

4"

4"

22

110'

22'

4"

5"

+50

4"

CONC.

CUC

32'

12"

G

3"

G

21"

G

1"

32"

3"

7'

G

PATIO STONES

SHEET 3 OF 7

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CURB RAMP DETAILS	SCALE FEET 0' 20'	SHEET NO: 33	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\RAMPS\RD_EDGEWATER.DGN

REVISED DATE: 9-26-2016 SB

DETECTABLE WARNING FIELD

LANDING AREA

(BS) CONST. BUS STOP WALK

(N) GRADE & PLACE 4" TOPSOIL, SOD & FERTILIZER

ELEV: 144.041

N

27+6, 54.1' LT
139.62

27+14, 54.1' LT
139.66

27+6, 49.1' LT
139.55

27+14, 49.1' LT
139.59

27+90.5, 54' LT
140.07

27+95.5, 54' LT
140.10

27+90.5, 49' LT
140.00

27+95.5, 49' LT
140.03

ASPH DWY

ASPH

R.R. TIES

CURB RAMP TYPE 3

CURB RAMP TYPE 5

CURB RAMP TYPE 2

MMSD

N. 91ST ST.

W. DENVER AVE.

26+90, 6.1' LT
140.01C
139.43G
139.47F

27+10.5, 2.8' LT
139.51G

27+28.1, 6.8' RT
140.28C
139.70G

27+81.4, 6' RT
140.43C
139.85G

28+3, 6' RT
140.34C
139.76G
139.80F

26+99, 12' RT
140.00C
139.42G
139.50F

27+6, 7.8' RT
139.61

27+14, 7.8' RT
139.65

27+26.0, 12' RT
140.13C
139.55G
139.57F

27+81.4, 12' RT
140.43C
139.85G
139.87F

28+1, 12' RT
140.55C
139.97G

179° 53' 55"

27+12.5, 49' RT
139.58

27+7.5, 49' RT
139.65

27+18.2, 43' RT
139.67C
139.34G
139.38F

27+28.7, 47.3' RT
139.55C
139.22G

27+73.6, 47.5' RT
139.92C
139.42G

27+84.3, 43' RT
140.09C
139.59G
139.67F

27+95.6, 49' RT
139.97

27+1.0, 49' RT
139.85

27+1.0, 54' RT
139.90

27+7.5, 54' RT
139.72

27+12.5, 54' RT
139.65

27+69.3, 58.4' RT
140.27C
139.24G
139.36F

27+33.2, 57.7' RT
139.84C
139.10G
139.18F

27+90.6, 49' RT
139.90

27+95.6, 54' RT
140.04

27+90.6, 54' RT
139.97

CTR. 15.0' R=
+18.2-58.0' RT

CTR. 15.0' R=
+84.3-58.0' RT

27+7.8, 76.4' RT
140.13

51.5' RT

SHEET 4 OF 7

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CURB RAMP DETAILS	SCALE FEET 0' 20'	SHEET NO: 34 E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\RAMPS\RD_DENVER.DGN

REVISED DATE: 9-26-2016 SB

N. 91ST ST.

W. CHEYENNE CT.

SEC. LINE

32 33 34 35

+50

33+11,54.1'LT
148.29

33+19,54.1'LT
148.41

33+19,49.1'LT
148.34

33+11,49.1'LT
148.22

33+82.3,54.1'LT
149.65

33+74.3,54.1'LT
149.51

33+74.4,49.1'LT
149.44

33+82.4,49.1'LT
149.58

33+5.3,2.8'LT
148.44C
147.86G

33+22.6,6.6'RT
148.94C
148.36G
148.38F

33+69,6.6'RT
150.08C
149.48G
149.50F

33+86.3,2.8'LT
150.28C
149.70G

33+00,12'RT
148.58C
148.00G

33+15.8,43'RT
148.72C
148.22G
148.26F

33+17.3,49'RT
148.63

33+20.8,12'RT
149.03C
148.45G
148.47F

33+70.8,12'RT
150.13C
149.55G
149.57F

34+00,12'RT
150.77C
150.19G

33+12.3,49'RT
148.56

33+17.3,54'RT
148.70

33+26.4,47.4'RT
148.59

33+75.8,43'RT
150.17C
149.53G
149.57F

33+00,43'RT
150.50C
150.05G

33+12.3,54'RT
148.63

33+65.2,47.4'RT
149.62

33+00,43'RT
148.37C
147.87G

CTR. 15.0'R=
+15.8-58.0'RT

33+30.8,58'RT
149.45C
148.95G
148.99F

34+00,54.1'RT
150.80

33+60.8,58'RT
150.21C
149.71G
149.67F

33+82.3,49.1'RT
150.05

33+74.3,49.1'RT
149.93

33+82.3,54.1'RT
150.12

33+74.3,54.1'RT
150.00

CTR. 15.0'R=
+75.8-58.0'RT

CURB RAMP TYPE 3 ℄ +15
CURB RAMP TYPE 5 ℄ +11
CURB RAMP TYPE 5 ℄ +78.3
CURB RAMP TYPE 3 ℄ +14.8
CURB RAMP TYPE 3 ℄ +78.3
CURB RAMP TYPE 5
CURB RAMP TYPE 2 ℄ CURB RAMP TYPE 2 51.5' RT

EXISTING BIO-SWALE

ASPH DWY
CONC DWY
CONC.
CUC
CW

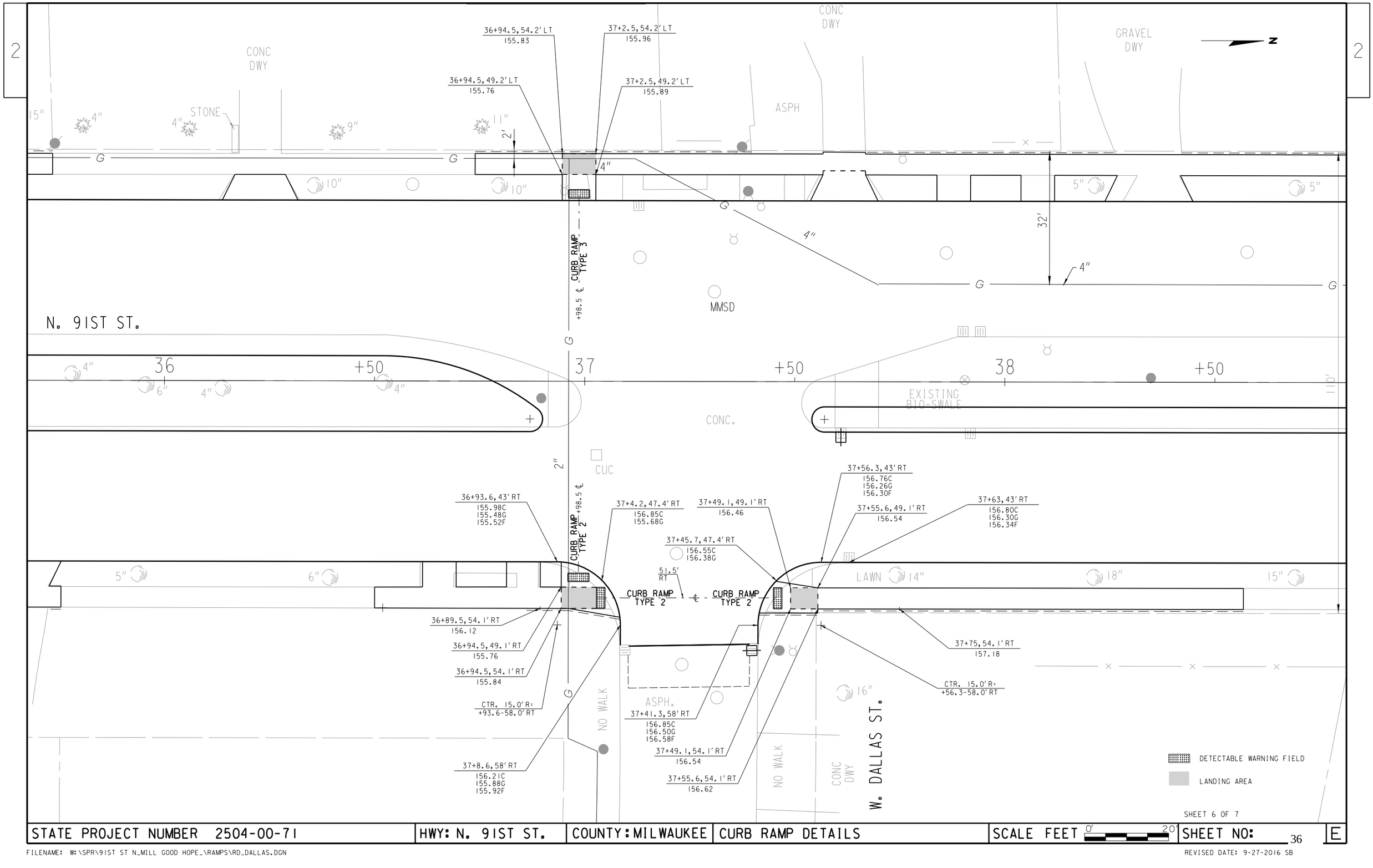
DETECTABLE WARNING FIELD
LANDING AREA

SHEET 5 OF 7

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CURB RAMP DETAILS	SCALE FEET 0' 20'	SHEET NO: 35	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\RAMPS\RD_CHEYENNE.DGN

REVISED DATE: 9-26-2016 SB



SHEET 6 OF 7

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CURB RAMP DETAILS	SCALE FEET 0' 20'	SHEET NO: 36	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\RAMPS\RD_DALLAS.DGN

REVISED DATE: 9-27-2016 SB

N. 91ST ST.

W. ROCHELLE AVE.

47+62.54' LT
145.23

47+54.54' LT
145.38

47+62.49.1' LT
145.16

47+54.49.1' LT
145.31

48+19.54' LT
143.82

48+27.54' LT
143.60

48+19.49.1' LT
143.75

48+27.49.1' LT
143.53

48+32.53.9' LT
143.69

48+32.49.1' LT
143.62

CURB RAMP TYPE 3 ℄ +58

CURB RAMP TYPE 3 ℄ +23

CURB RAMP TYPE 5 ℄ +58

CURB RAMP TYPE 5 ℄ +23

CURB RAMP TYPE 3 ℄ +58

CURB RAMP TYPE 3 ℄ +23

CURB RAMP TYPE 2 ℄ 51.4' RT

CURB RAMP TYPE 2

47+50.1, 2.6' LT
146.03C
145.45G

47+67.4, 6.6' RT
145.87C
145.29G

48+13.7, 6.6' RT
144.92C
144.34G

48+31.1, 2.8' LT
144.16C
143.58G

47+25.1, 12' RT
147.07C
146.49G

47+65.5, 12' RT
146.26C
145.68G
145.70F

48+15.6, 12' RT
145.02C
144.44G
144.46F

48+50, 12.1' RT
143.72G

47+59.1, 43' RT
146.18C
145.68G
145.72F

47+69.6, 47.3' RT
145.81C
145.56G

48+11.4, 47.5' RT
144.83C
144.49G

48+22.1, 43' RT
144.67C
144.17G
144.21F

47+46.7, 49.1' RT
146.33

48+32.5, 48.9' RT
144.75

47+46.7, 53.9' RT
146.45(E)

47+54, 49.1' RT
146.13

47+54, 53.9' RT
146.20

47+62.1, 49.1' RT
146.01

CTR. 15.0' R=
+59.1-58.0' RT

47+62.1, 53.9' RT
146.08

47+74.1, 57.8' RT
145.94C
145.44G
145.48F

48+7.1, 58.3' RT
145.31C
144.81G
144.85F

48+27.0, 49.1' RT
144.47

48+27.0, 53.9' RT
144.54

48+19, 48.9' RT
144.59

CTR. 15.0' R=
+22.1-58.0' RT

48+19, 53.9' RT
144.66

48+32.5, 53.9' RT
144.83

ASPH DWY

CW

CURB

CONC.

EXISTING BIO-SWALE

FENCE

32'

12'

11'

2"

4"

DETECTABLE WARNING FIELD

LANDING AREA

(N) GRADE & PLACE 4" TOPSOIL, SOD & FERTILIZER

(BS) CONST. BUS STOP WALK

SHEET 7 OF 7

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CURB RAMP DETAILS	SCALE FEET 0' 20'	SHEET NO: 37	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\RAMPS\RD_ROCHELLE.DGN

REVISED DATE: 9-27-2016 SB

2

N

NORTH 91ST STREET

BEGIN PROJECT
STA. 01+35.5 T/L

BM: HYD. SWC N 91ST ST. & W. MILL RD.
ELEV: 173.636

BM: RR SPIKE WOOD POLE
#73-32016 W/SIDE STA 2+15
ELEV: 169.556

BM: HYD. E/SIDE
@ STA 4+30
ELEV: 168.010

CTR. 20.0' R=
+41.2-63.1' LT

CTR. 2.7 ' R=
+3.9-62.4LT

CTR. 4.3 ' R=
+38.6-5.0' LT

CTR. 20.0' R=
+37.4-62.1' RT

CTR. 5.2' R=
+96.7-68.5' RT

CTR. 20.0' R=
+56.0-63.0' LT

CTR. 3.5' R=
+59.9-8.5' RT

CTR. 20.0' R=
+65.4-63.0' RT

∠PT. +83.1
5.0' RT

∠PT. +96.2
6.0' LT

P.T. +91.8
51.0' RT

CTR. 2.0 ' R=
+76.9-45.0' RT

CTR. 12.0' R=
+32-55.0' RT

P.R.C. +44
55.0' RT

P.T. +62
73.0' RT

CTR. 18.0' R=
+62-55.0' RT

00 01 02 03 04 05

SEC. LINE

T/L

W. MILL RD.

R/W

CONC.

ASPH. ON CONC.

ASPH DWY

CONC. BUS PAD

LAWN

MONOTUBE

EXISTING BIO-SWALE

CUC

TEL

CW

FENCE

6415

6457

6408

6420

6442

P.L.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN LAYOUT DETAILS	SCALE FEET 0' 40'	SHEET NO: 38	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\PDET_00_05.DGN

REVISED DATE: 2-18-2016 BY SB

2

N

NORTH 91ST STREET

6457 | # 6477 | # 6501 | # 6515 | # 6539

P.L. P.L. P.L. P.L. P.L.

BM: RR SPIKE WOOD POLE
#96-00061 W/SIDE STA 9+35
ELEV: 159.483

ASPH DWY | GRAVEL DWY | CONC DWY | CONC DWY

05 +50 06 +50 07 SEC. LINE +50 08 +50 09 +50 10 +50 11

EXISTING BIO-SWALE

CONC.

CTR. 9.0' R= +68.6-3.0' RT

CTR. 9.0' R= +26.6-3.0' RT

℄PT.+57.2 12.0' RT

CTR. 4.0' R= +73.6-47.0' RT

CTR. 4.0' R= +21.6-47.0' RT

CUC

140' 32' 22' 32' 86' 2' 11' 12' 12' 12' 7' 8' 22' 8' 18' 18' 8'

BM: HYD. E/SIDE
@ STA 7+50
ELEV: 163.083

ASPH DWY | CONC DWY | CONC DWY | CONC DWY

6446-48 | # 6450-52 | # 6460 | # 6500 | # 6506 | # 6534

P.L. P.L. P.L. P.L. P.L. P.L. P.L. P.L.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN LAYOUT DETAILS	SCALE FEET 0' 40'	SHEET NO: 39	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\PDET05_11.DGN

REVISED DATE: 2-25-2016 BY ML

2

N

NORTH 91ST STREET

#9105 W. RIVERWOODS DR.

BM: RR SPIKE WOOD POLE
#72-2055 SWC W. RIVERWOODS
ELEV: 155.919

W. RIVERWOODS DR.

#6601 #6611

P.L.

CONC DWY

ASPH DWY

63.7' LT. ASPH.

58.1' LT.

CTR. 15.0' R= +99-58.0' LT

CTR. 15.0' R= +57.3-58.0' LT

CTR. 60' R= +88.3-48.0' LT

CTR. 3.0' R= +53.3-3.0' LT

P.C. 3.0' R. +26.2-6.0' LT

P.T. +54.6 6.0' RT

∠PT. +89.5 6.0' RT

CTR. 32' R= +11.1-19.0' RT

∠PT. +53.2 0.0' RT

SEC. LINE

EXISTING BIO-SWALE

CTR. 3.0' R= +3.2-3.0' LT

P.T. +88.3 12.0' RT

CTR. 3.0' R= +61.2-9.0' RT

CTR. 3.0' R= +39.5-10.0' RT

P.R.C. +65.2 55.0' RT

CTR. 32' R= +28.6-19.0' RT

CTR. 18.0' R= +56.4-55.0' RT

CTR. 60' R= +26.25-54' RT

CTR. 12.0' R= +53.2-55.0' RT

CTR. 2.0' R= +96.1-45.0' RT

P.C. 2.0' R. +28.6-51.0' RT

CTR. 2.0' R= +43.6-45.0' RT

CTR. 12.0' R= +86.4-55.0' RT

CTR. 15.0' R= +26.5-58.0' RT

P.T. +11.1 51.0' RT

P.R.C. +74.4 55.0' RT

CTR. 15.0' R= +62.5-58.0' RT

CTR. 18.0' R= +83.2-55.0' RT

100.3' RT. CONC.

W. ACACIA ST.

#6540 #6548 #6556 #6564 #6572 #6580 #6612 #6618 #6626

BM: HYD. NEC
W. ACACIA ST.
ELEV: 155.011

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN LAYOUT DETAIL	SCALE FEET 0' 40'	SHEET NO: 40	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\PDET11_17.DGN

REVISED DATE: 2-25-2016 BY ML

NORTH 91ST STREET

N

BM: RR SPIKE WOOD POLE
#01-15101 SWC EDGEWATER
ELEV: 146.110

W. EDGEWATER DR.

#6639 | #9108 W. EDGEWATER DR.

P.L. | CONC DWY | ASPH. | CW | R/W | 4" | 5' | G | 5" | 4" | 10"

CTR. 15.0' R=
+83.3-58.0' LT

58' LT.

CTR. 15.0' R=
+41.1-58.0' LT

CTR. 60' R=
+72.2-48.0' LT

∠PT. +89.5
6.0' RT

∠PT. +85.5
6.0' LT

17 | +50 | 18 | SEC. LINE | +50 | 19 | +50 | 20 | +50 | 21 | +50 | 22 | +50 | 23

EXISTING BIO-SWALE

CTR. 3.0' R=
+37.2-3.0' LT

CONC CUP

CTR. 3.0' R=
+87.2-3.0' LT

P.T. +72.2
12.0' RT

∠PT. +41.2
12.0' RT

∠PT. +37.2
0.0' RT

P.C. 32.0' R.
+66.4-51.0' RT

CTR. 32' R=
+31.3-19.0' RT

CTR. 2.0' R=
+16.4-45.0' RT

CTR. 2.0' R=
+81.4-45.0' RT

P.T. +31.3
51.0' RT

RESERVATION FOR STREET PURPOSES 30'

PATIO STONES

BM: IST CONC STEP NWC PORCH #6650 N. 91ST ST.
ELEV: 150.872

#6636 | #6644 | #6650 | #6658 | #6666 | #6674 | #6682 | #6702 | #6712 | #6720

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN LAYOUT DETAILS	SCALE FEET 0' 40'	SHEET NO: 41	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\PDET17_23.DGN

REVISED DATE: 2-25-2016 BY ML

2

2

N

NORTH 91ST STREET

BM: HYD. W/SIDE @ STA 24+00 ELEV: 144.047

BM: HYD. W/SIDE @ STA 29+30 ELEV: 144.041

DRAINAGE R.O.W.

P.L.

6825

GRAVEL DWY

GRAVEL

CONC DWY

ASPH DWY

ASPH

R.R. TIES

R/W

MMSD

EXISTING BIO-SWALE

SEC. LINE

CTR. 32' R= +44.2-19.0' RT

CTR. 3.0' R= +26.1-9.0' RT

CTR. 3.0' R= +81.5-8.9' RT

℄ PT. +86.3 5.8' RT

P.C. 60.0' R. +91.1-6.0' LT

179°53'55"

CONC.

CUC

P.T. +11.4 50.7' RT

CTR. 2.0' R= +59.1-45.0' RT

P.R.C. +90 54.3' RT

CTR. 60' R= +91.1-54.0' RT

CTR. 10.0' R= +55.2-53.0' RT

CTR. 18.0' R= +83.1-55.0' RT

CTR. 15.0' R= +18.2-58.0' RT

CTR. 15.0' R= +84.3-58.0' RT

LAWN

RESERVATION FOR STREET PURPOSES 30'

P.C. 32.0' R. +44.1-51.0' RT

CTR. 20' R= +70-53.0' RT

CTR. 12.0' R= +1.9-55.0' RT

WETLAND

88.8' RT

110' RT'

P.R.C. +65.2 53.3' RT

CTR. 2.0' R= +96.5-44.7' RT

W. DENVER AVE.

BM: MONUMENT SE CORNER N 91ST ST & W DENVER AVE ELEV: 140.440

6726 # 6730 # 6740 # 6750 # 6758 # 6800 # 681

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN LAYOUT DETAIL	SCALE FEET 0' 40'	SHEET NO: 42	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\PDET23_29.DGN

REVISED DATE: 2-4-2016 BY ML

2

N

NORTH 91ST STREET

BM: HYD. W/SIDE @ STA 29+30 ELEV: 144.041

BM: RR SPIKE WOOD POLE #81-04937 W/SIDE STA 31+90 ELEV: 146.088

BM: RR SPIKE WOOD POLE #81-04936 W/SIDE STA 34+15 ELEV: 151.342

#6827 #6833 #6851 #6867 #6881 #6911

P.I. P.I. P.I. P.I. P.I. P.I.

ASPH DWY ASPH DWY GRAVEL DWY CONC DWY ASPH DWY CONC DWY

R.R. TIES R/W R/W

∠PT. +82.3 6.0' LT

CTR. 32' R= +11.3-19.0' RT

P.C. 60.0' R. +85.8-6.0' LT

P.T. +5.8 6.0' LT

29 +50 30 EXISTING BIO-SWALE +50 31 +50 32 SEC. LINE +50 33 +50 34 +50 EXISTING BIO-SWALE 35

CONC.

CTR. 32' R= +90.0-19.0' RT

CTR. 3.0' R= +20.8-9.0' RT

CTR. 3.0' R= +70.8-9.0' RT

CTR. 2.0' R= +96.4-45.0' RT

CTR. 2.0' R= +5.0-45.0' RT

P.R.C. +35.9 53.9' RT

CTR. 60' R= +85.8-54.0' RT

CTR. 15.0' R= +15.8-58.0' RT

CTR. 15.0' R= +75.8-58.0' RT

CTR. 60.0' R= +5.8-54.0' RT

P.T. +11.4 51.0' RT

P.C. 32.0' R. +90.1-51.0' RT

CTR. 18.0' R= +17.8-55.0' RT

CTR. 10' & 15' R= +2.3-69.1' RT

CTR. 15.0' R= +75.8-64.8' RT

P.R.C. +75.8 78.4' RT

CTR. 12.0' R= +47.8-55.0' RT

124.0' R.T. 124.0' R.T.

CTR. 22.9' & 44.4' R= +75.2-124.2' RT

W. CHEYENNE CT.

#6814 #6824 #6834 #6844 #6860

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN LAYOUT DETAIL	SCALE FEET 0' 40'	SHEET NO: 43	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\PDET29_35.DGN

REVISED DATE: 2-5-2016 BY

2

N

NORTH 91ST STREET

#6919 #6927 #6945 #6955 #6965 #6975

BM: RR SPIKE WOOD POLE
#81-04934 W/SIDE STA 37+00
ELEV: 157.612

BM: RR SPIKE WOOD POLE
#-------- W/SIDE STA 40+50
ELEV: 156.377

CAUTION

CONC DWY

GRAVEL DWY

ASPH DWY

STONE

ASPH

R/W

P.L.

P.C. 60.0' R.
+52.0-6.0' LT

CTR. 3.0' R=
+87.0-9.0' RT

CTR. 3.0' R=
+57.1-9.0' RT

∠PT. +7.1
6.0' RT

∠PT. +2.8
6.0' LT

SEC. LINE

MMSD

EXISTING BIO-SWALE

CONC.

CUC

CTR. 60' R=
+52.0-54.0' RT

CTR. 15.0' R=
+93.6-58.0' RT

CTR. 15.0' R=
+56.3-58.0' RT

62.7'
RT.

72.7'
RT.

W. DALLAS ST.

#9011 W. DALLAS ST.

#9014 W. DALLAS ST.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN LAYOUT DETAIL	SCALE FEET 0' 40'	SHEET NO: 44	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\PDET35_41.DGN

REVISED DATE: 2-5-2016 BY

2

N

NORTH 91ST STREET

#7011 #7019 #7025 #7031 #7059 #7101-03

P.L.

BM: RR SPIKE WOOD POLE
#93-10345 W/SIDE STA 43+00
ELEV: 154.603

BM: RR SPIKE WOOD POLE
#81-04929 W/SIDE STA 45+50
ELEV: 149.409

ASPH DWY
ASPH DWY
GRAVEL DWY
CONC DWY
CONC DWY
CW

R/W
R/W

32'
4"
G

41 +50 42 +50 43 +50 SEC. LINE 44 +50 45 +50 46 +50 47

EXISTING BIO-SWALE
EXISTING BIO-SWALE
MASD
WEP BOX
CUC

11' 12' 12' 18' 12' 12' 7'
86'
32'

FENCE
FENCE

R/W
R/W

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN LAYOUT DETAIL	SCALE FEET 0' 40'	SHEET NO: 45	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\PDET41_47.DGN

REVISED DATE: 2-11-2016 BY

2

N

NORTH 91ST STREET

#7109

#7117

BM: RR SPIKE WOOD POLE
#81-04927 W/SIDE STA 48+75
ELEV: 145.133

BM: RR SPIKE WOOD POLE
#81-03875 W/SIDE STA 51+50
ELEV: 141.391

P.C. 60.0' R.
+30.6-06.0' LT

P.T. +50.6
6.0' LT

CTR. 3.0' R
+65.5-9.0' RT

CTR. 3.0' R
+15.6-9.0' RT

CTR. 60' R=
+30.6-54.0' RT

CTR. 60' R=
+50.6-54.0' RT

CTR. 15.0' R=
+59.1-58.0' RT

CTR. 15.0' R=
+22.1-58.0' RT

∠PT. +87.1
12.0' RT

∠PT. +83.1
0.0' RT

47 48 49 50 51 52 53

SEC. LINE

EXISTING BIO-SWALE

CONC.

CUC

MMSD

FENCE

WOOD RAILS

WEP BOX

W. ROCHELLE AVE.

OAK LEAF

ASPH

ASPH DWY

CURB

P.L.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN LAYOUT DETAIL	SCALE FEET 0' 40'	SHEET NO: 46	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\PDET47_53.DGN

REVISED DATE: 2-8-2016 BY WAS

2

N

NORTH

91ST STREET

CAUTION

FIBER OPTIC

BM: RR SPIKE WOOD POLE
≡81-03875 W/SIDE STA 51+50
ELEV: 141.391

BM: CHIST NEC CONC BASE NWC
@ N 91ST & W GOOD HOPE RD.
ELEV: 142.373

END PROJECT
STA. 53+52.5 T/L

OAK LEAF

ASPH TRAIL

COMM. PED.

WALK SIGNAL

SEC. LINE

CUC

CW

FO

GRASS

ASPH

MMSD

+52.5
43' LT.

+52.5
43' RT.

CONC.

CTR. 3.0' R=
+47.5-3.0' LT

52 +50 53 +50 54 +50

SEC. LINE

ASPH. ON CONC.

TEL

WOOD RAILS

WEP BOX

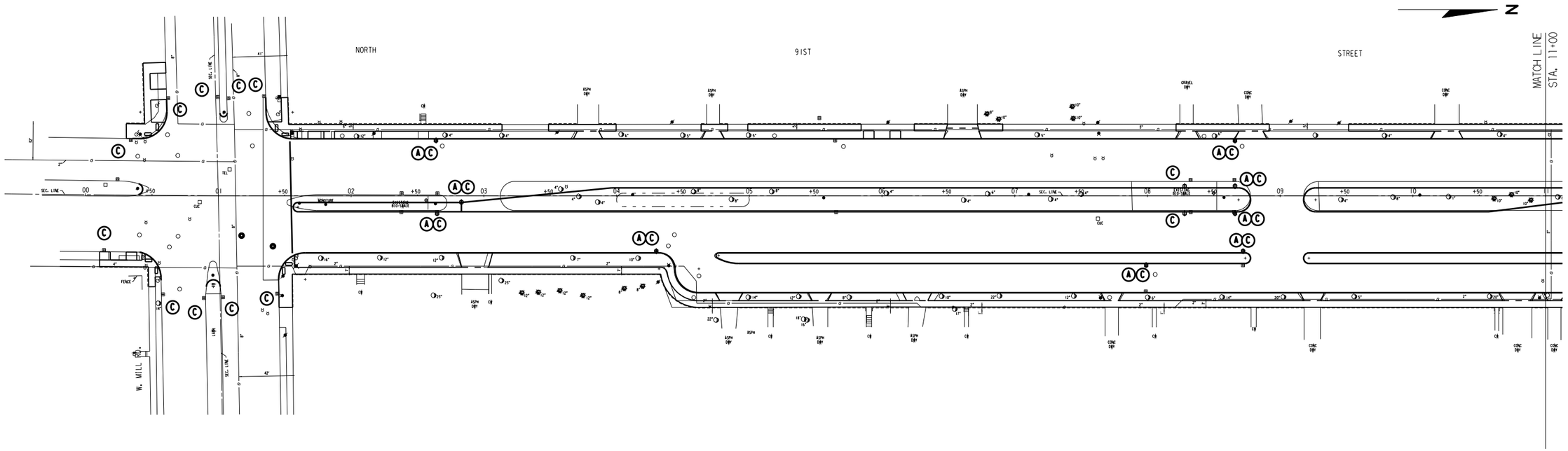
W. GOOD HOPE RD.

P.I.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN LAYOUT DETAIL	SCALE FEET 0' 40'	SHEET NO: 47	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\PDET53_59.DGN

REVISED DATE: 2-25-2016 BY ML



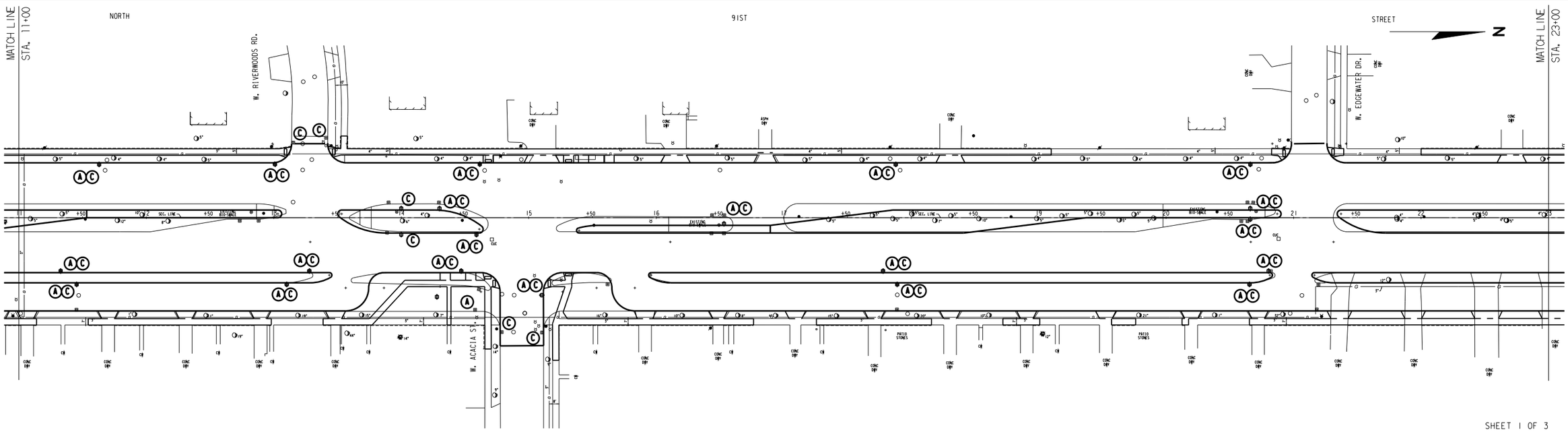
LEGEND:

- (A) INLET PROTECTION TYPE A
- (C) INLET PROTECTION TYPE C
- SILT FENCE
- TOPSOIL, SOD, EROSION MATERIAL CLASS II TYPE B

NOTE:

TOPSOIL (4"), SOD, FERTILIZER TO BE PLACED BETWEEN SIDEWALK AND CURB & GUTTER AND IN MEDIAN EXCEPT WHERE CONCRETE WALK AND BIO-SWALES ARE CONSTRUCTED

IN AREAS WITH NO SIDEWALK BEHIND CURB & GUTTER, PLACE TOPSOIL, SOD, FERTILIZER 18" BEHIND CURB (MIN.)

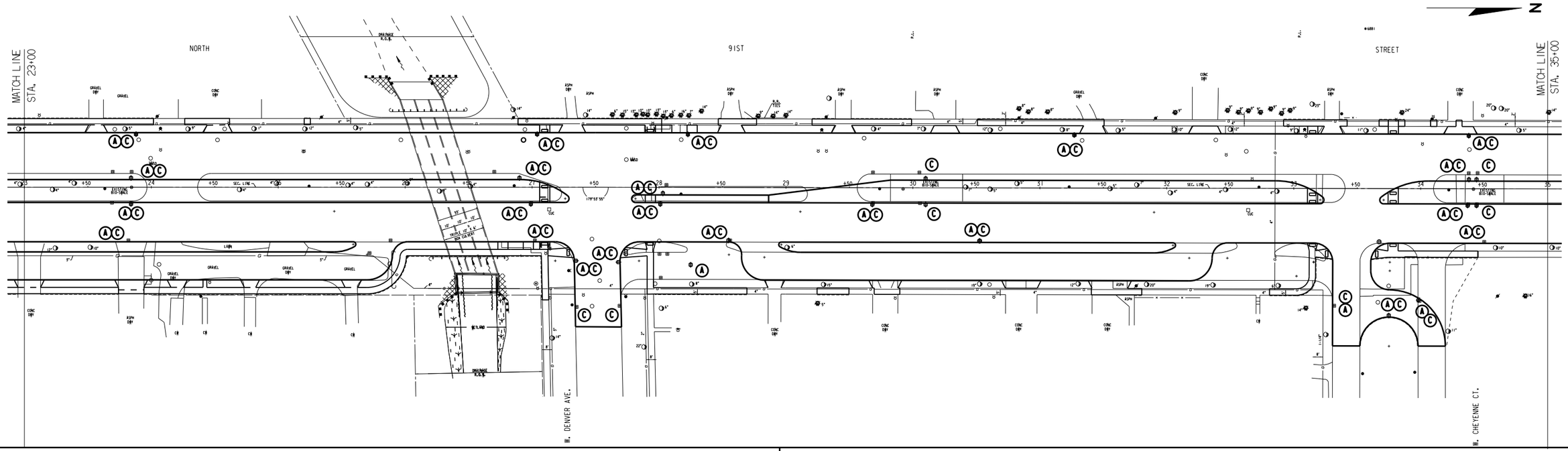


SHEET 1 OF 3

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	EROSION CONTROL	SCALE FEET 0' 80'	SHEET NO: 48	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\EROSION.DGN

REVISED DATE: 7-27-2016 BY TK



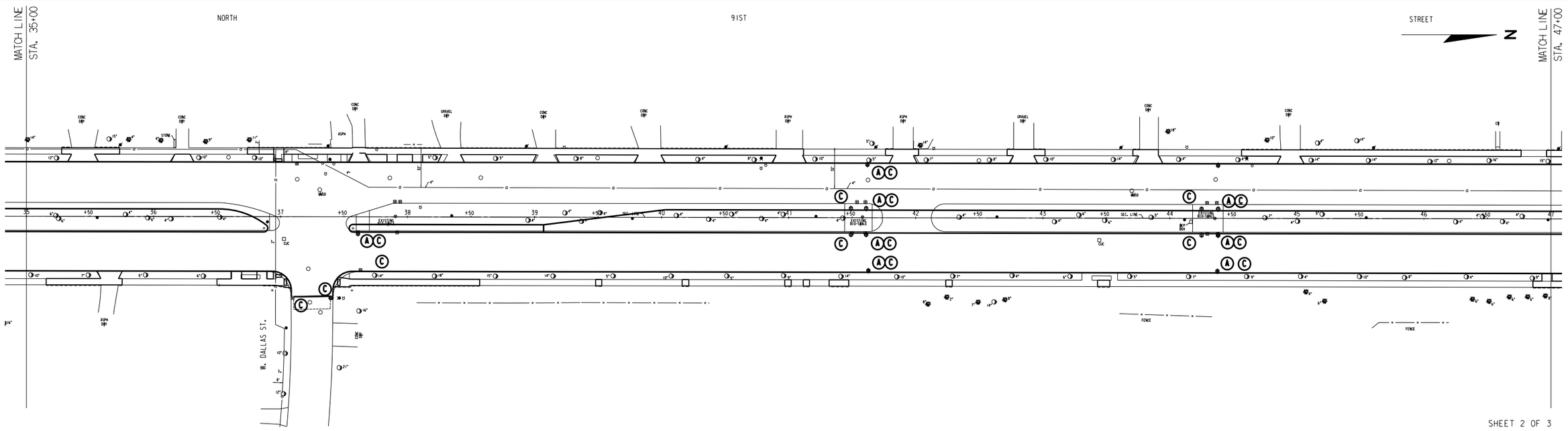
LEGEND:

- (A) INLET PROTECTION TYPE A
- (C) INLET PROTECTION TYPE C
- SILT FENCE
- TOPSOIL, SOD, EROSION MATERIAL CLASS II TYPE B

NOTE:

TOPSOIL (4"), SOD, FERTILIZER TO BE PLACED BETWEEN SIDEWALK AND CURB & GUTTER AND IN MEDIAN EXCEPT WHERE CONCRETE WALK AND BIO-SWALES ARE CONSTRUCTED

IN AREAS WITH NO SIDEWALK BEHIND CURB & GUTTER, PLACE TOPSOIL, SOD, FERTILIZER 18" BEHIND CURB (MIN.)

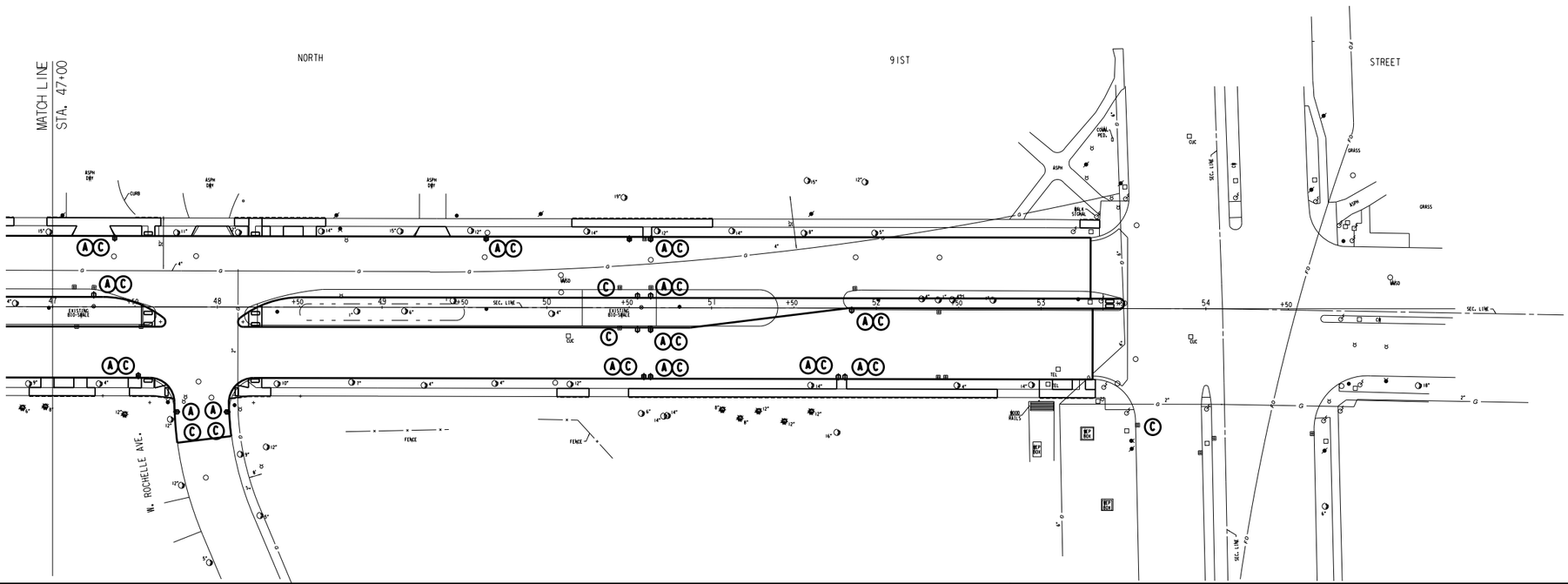


SHEET 2 OF 3

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	EROSION CONTROL	SCALE FEET 0' 80'	SHEET NO: 49	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\EROSION.DGN

REVISED DATE: 7-29-2016 BY SB



LEGEND:

- (A) INLET PROTECTION TYPE A
- (C) INLET PROTECTION TYPE C
- SILT FENCE
- TOPSOIL, SOD, EROSION MATERIAL CLASS II TYPE B

NOTE:

TOPSOIL (4"), SOD, FERTILIZER TO BE PLACED BETWEEN SIDEWALK AND CURB & GUTTER AND IN MEDIAN EXCEPT WHERE CONCRETE WALK AND BIO-SWALES ARE CONSTRUCTED

IN AREAS WITH NO SIDEWALK BEHIND CURB & GUTTER, PLACE TOPSOIL, SOD, FERTILIZER 18" BEHIND CURB (MIN.)

SHEET 3 OF 3

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	EROSION CONTROL	SCALE FEET 0' 80'	SHEET NO: 50	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\EROSION.DGN

REVISED DATE: 7-27-2016 BY TK

2

N

NORTH 91ST STREET

BM: HYD. SWC N 91ST ST. & W. MILL RD. ELEV: 173.636

BM: RR SPIKE WOOD POLE #73-32016 W/SIDE STA 2+15 ELEV: 169.556

SIGNATURE BED NO. 1 (SEE CONSTRUCTION DETAIL)

BEGIN PROJECT STA. 01+35.5 T/L

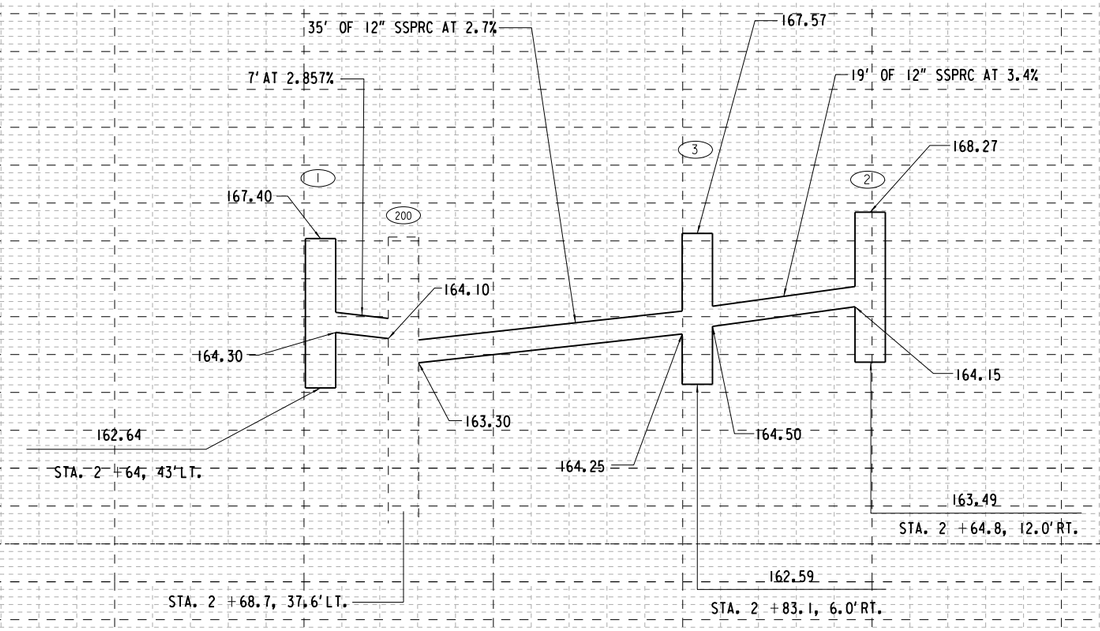
THESE PLANS SHOW UTILITY FACILITIES EXISTING AT THE TIME OF THE ORIGINAL SURVEY IN MAY OF 2015. CONTRACTOR IS ENCOURAGED TO CONTACT CITY OF MILWAUKEE PLANNING AND PERMITS SECTION AT (414) 286- 2487 TO IDENTIFY ANY UTILITY FACILITIES INSTALLED AFTER THIS DATE.

BM: HYD. E/SIDE @ STA 4+30 ELEV: 168.010

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET 0' 40'	SHEET NO: 51	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 00_05.DGN

REVISED DATE: 7-26-2016 BY WAS



+50 +50 +50 +50 +50 +50

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET	SHEET NO: 52	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 00_05.DGN

REVISED DATE: 07-26-2016 BY WAS

NORTH 91ST STREET

N

BIO-SWALE NO. 1
(SEE BIO-SWALE PLAN)

BM: RR SPIKE WOOD POLE
#96-00061 W/SIDE STA 9+35
ELEV: 159.483

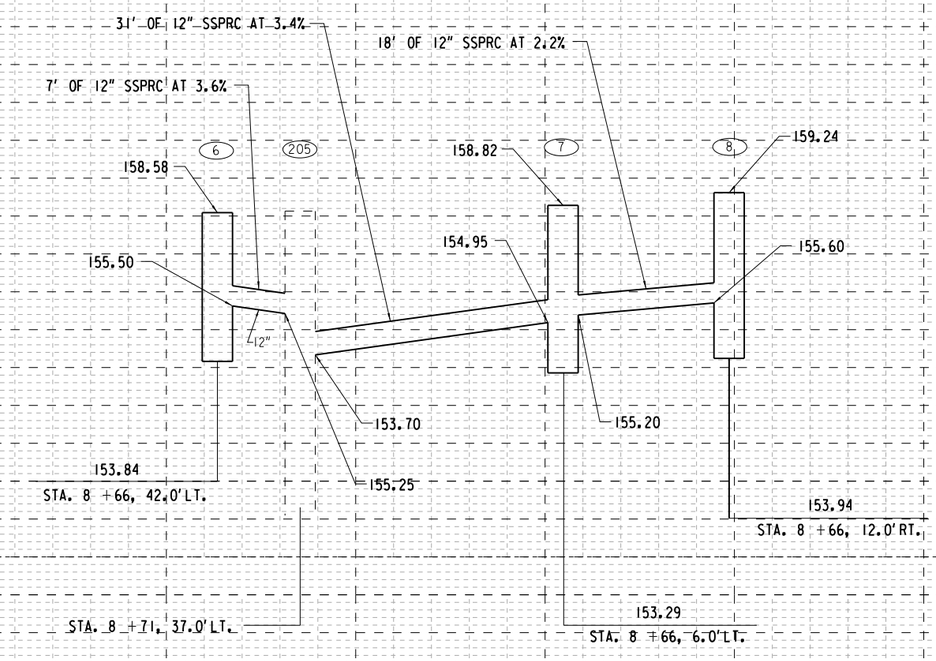
BM: HYD. E/SIDE
@ STA 7+50
ELEV: 163.083

THESE PLANS SHOW UTILITY FACILITIES EXISTING AT THE TIME OF THE ORIGINAL SURVEY IN MAY OF 2015. CONTRACTOR IS ENCOURAGED TO CONTACT CITY OF MILWAUKEE PLANNING AND PERMITS SECTION AT (414) 286- 2487 TO IDENTIFY ANY UTILITY FACILITIES INSTALLED AFTER THIS DATE.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET 0' 40'	SHEET NO: 53	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 05_11.DGN

REVISED DATE: 10-14-2016 BY SB



+50 +50 +50 +50 +50 +50

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET	SHEET NO: 54	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 05_11.DGN

REVISED DATE: 09-26-2016 BY ML

2

N

NORTH

9IST

STREET

W. RIVERWOODS DR.

W. ACACIA ST.

#9105 W. RIVERWOODS DR.

#6601

#6611

#6540

#6548

#6556

#6564

#6572

#6580

#6612

#6618

#6626

CAUTION

BM: RR SPIKE WOOD POLE
#72-2055 SWC W. RIVERWOODS
ELEV: 155.919

BM: HYD. NEC
W. ACACIA ST.
ELEV: 155.011

BIO-SWALE NO.2
(SEE BIO-SWALE PLAN)

EXISTING BIO-SWALE

SEC. LINE

T/L

CONC DWY

ASPH DWY

P.L.

R/W

TE&ES

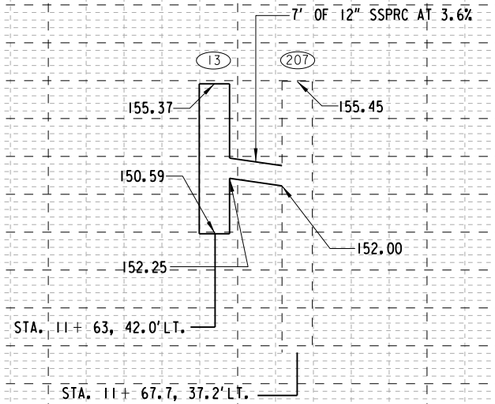
CUC

THESE PLANS SHOW UTILITY FACILITIES EXISTING AT THE TIME OF THE ORIGINAL SURVEY IN MAY OF 2015. CONTRACTOR IS ENCOURAGED TO CONTACT CITY OF MILWAUKEE PLANNING AND PERMITS SECTION AT (414) 286- 2487 TO IDENTIFY ANY UTILITY FACILITIES INSTALLED AFTER THIS DATE.

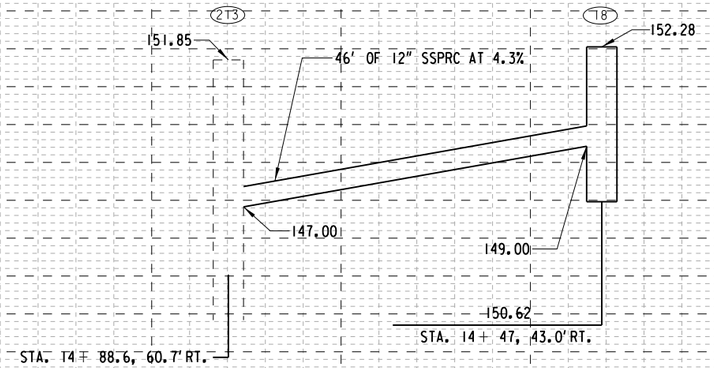
STATE PROJECT NUMBER 2504-00-71	HWY: N. 9IST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET 0' 40	SHEET NO: 55	E

FILENAME: W:\SPR\9IST ST N_MILL GOOD HOPE_\EXISTING\UTIL 11_17.DGN

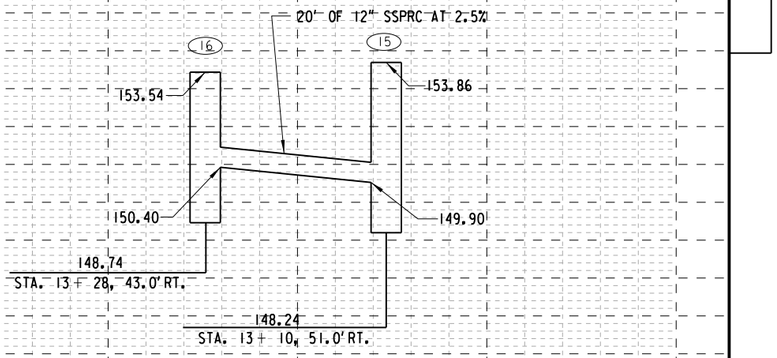
REVISED DATE: 10-14-2016 BY SB



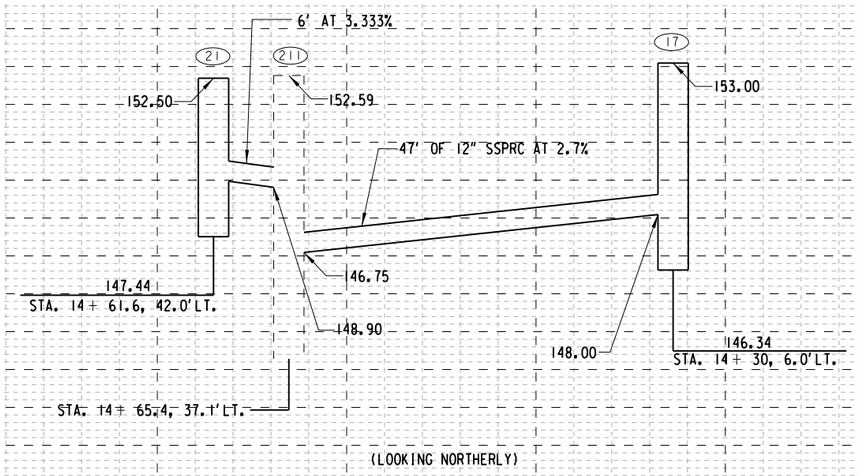
(LOOKING NORTHERLY)



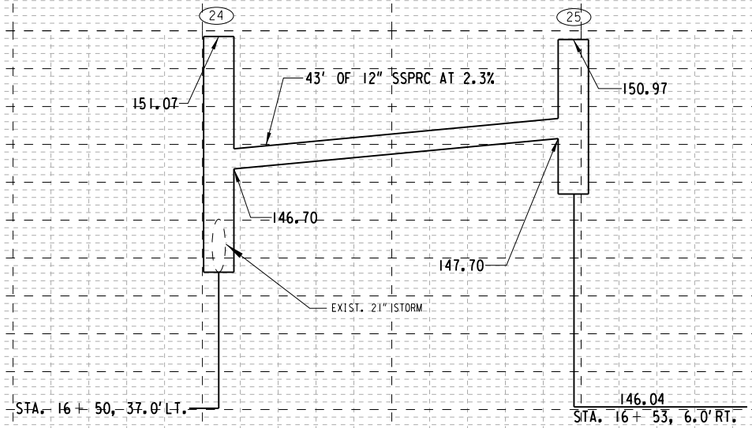
(LOOKING EASTERLY)



(LOOKING NORTHEASTERLY)



(LOOKING NORTHERLY)



(LOOKING NORTHERLY)

+50 +50 +50 +50 +50 +50

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET	SHEET NO: 56	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 11_17.DGN

REVISED DATE: 09-26-2016 BY ML

2

N

NORTH 91ST STREET

BM: RR SPIKE WOOD POLE
#01-15101 SWC EDGEWATER
ELEV: 146.110

W. EDGEWATER DR.

9108 W. EDGEWATER DR.

CAUTION

6636 # 6644 # 6650 # 6658 # 6666 # 6674 # 6682 # 6702 # 6712 # 6720

BM: 1ST CONC STEP NWC
PORCH #6650 N. 91ST ST.
ELEV: 150.872

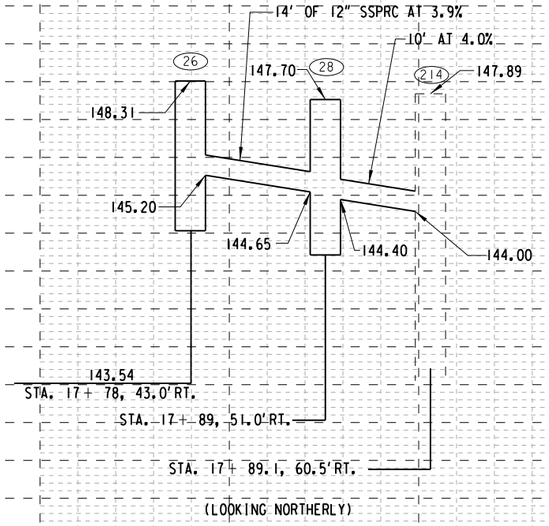
RESERVATION FOR STREET PURPOSES 30'

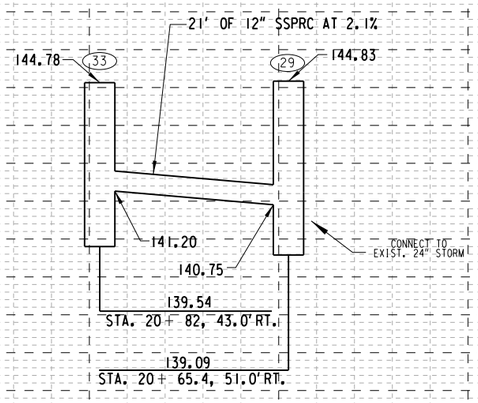
THESE PLANS SHOW UTILITY FACILITIES EXISTING AT THE TIME OF THE ORIGINAL SURVEY IN MAY OF 2015. CONTRACTOR IS ENCOURAGED TO CONTACT CITY OF MILWAUKEE PLANNING AND PERMITS SECTION AT (414) 286- 2487 TO IDENTIFY ANY UTILITY FACILITIES INSTALLED AFTER THIS DATE.

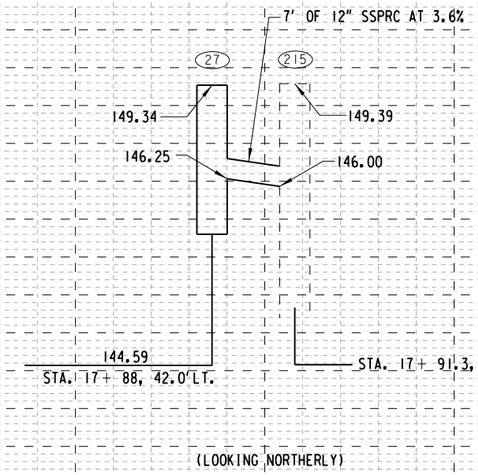
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET 0' 40'	SHEET NO: 57	E

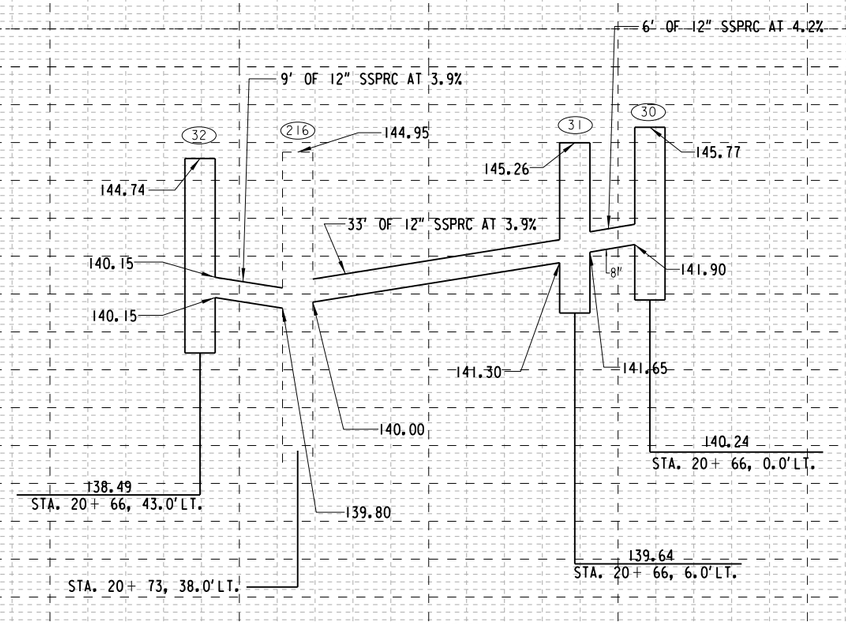
FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 17_23.DGN

REVISED DATE: 7-26-2016 BY WS









+50 +50 +50 +50 +50 +50

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET	SHEET NO: 58	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 17_23.DGN

REVISED DATE: 09-26-2016 BY ML

NORTH 91ST STREET

N

BM: HYD. W/SIDE @ STA 24+00 ELEV: 144.047

BM: HYD. W/SIDE @ STA 29+30 ELEV: 144.041

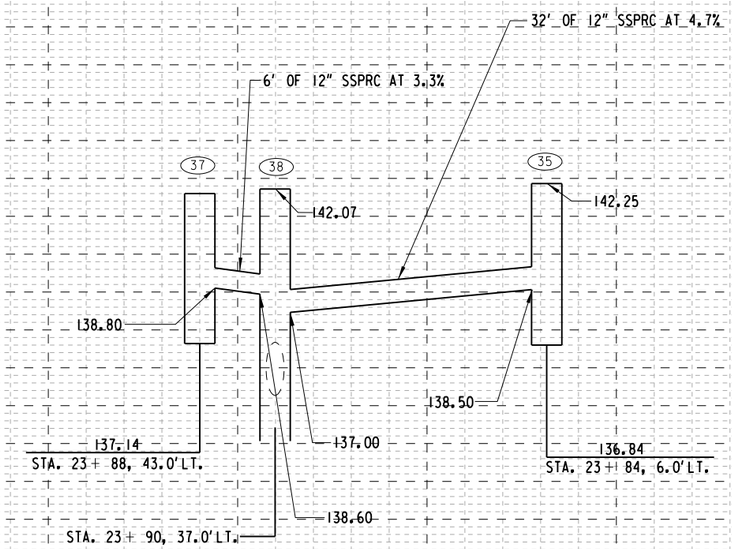
BM: MONUMENT SE CORNER N 91ST ST & W DENVER AVE ELEV: 140.440

THESE PLANS SHOW UTILITY FACILITIES EXISTING AT THE TIME OF THE ORIGINAL SURVEY IN MAY OF 2015. CONTRACTOR IS ENCOURAGED TO CONTACT CITY OF MILWAUKEE PLANNING AND PERMITS SECTION AT (414) 286- 2487 TO IDENTIFY ANY UTILITY FACILITIES INSTALLED AFTER THIS DATE.

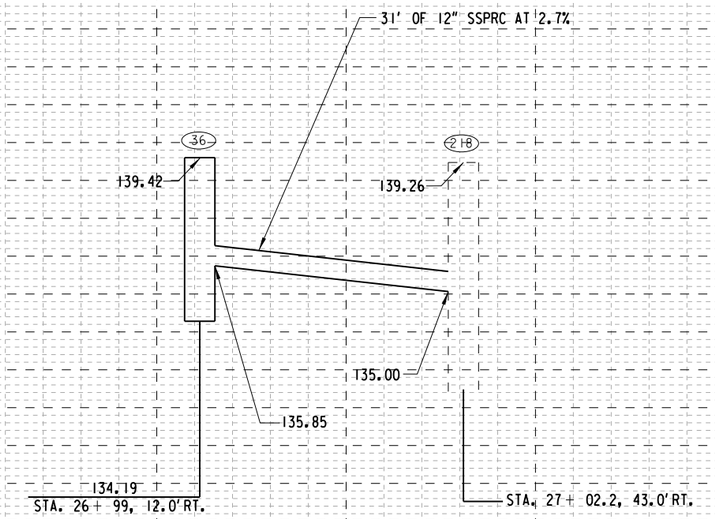
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET 0' 40'	SHEET NO: 59	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 23_29.DGN

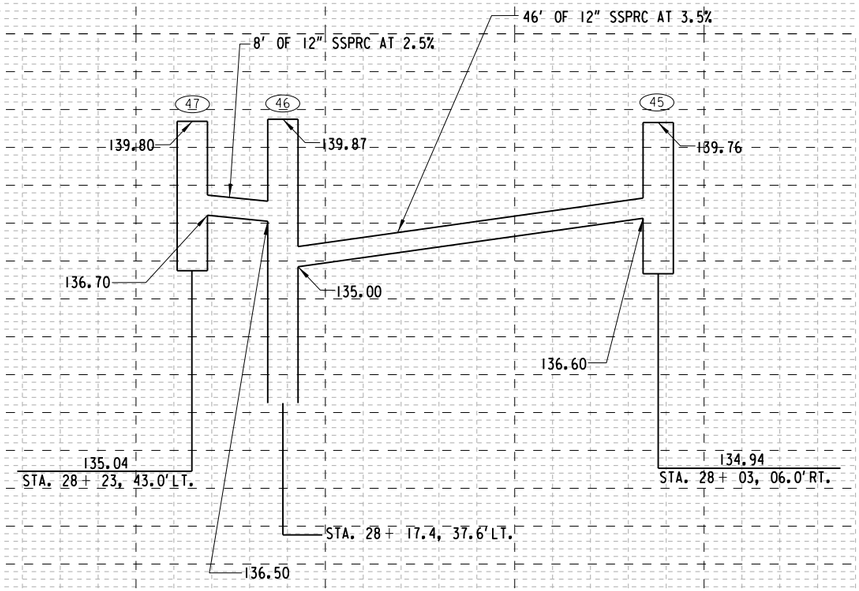
REVISED DATE: 10-14-2016 BY SB



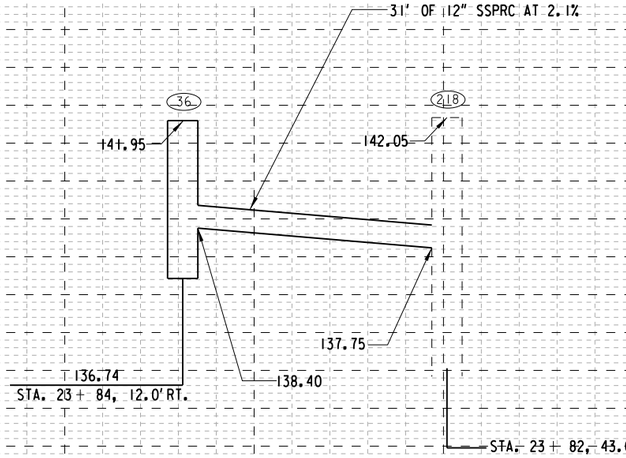
(LOOKING NORTHERLY)



(LOOKING NORTHERLY)



(LOOKING NORTHERLY)



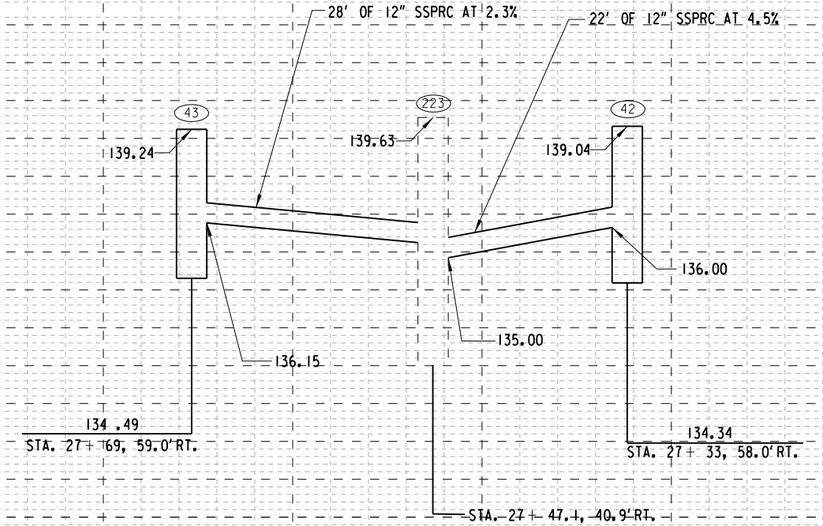
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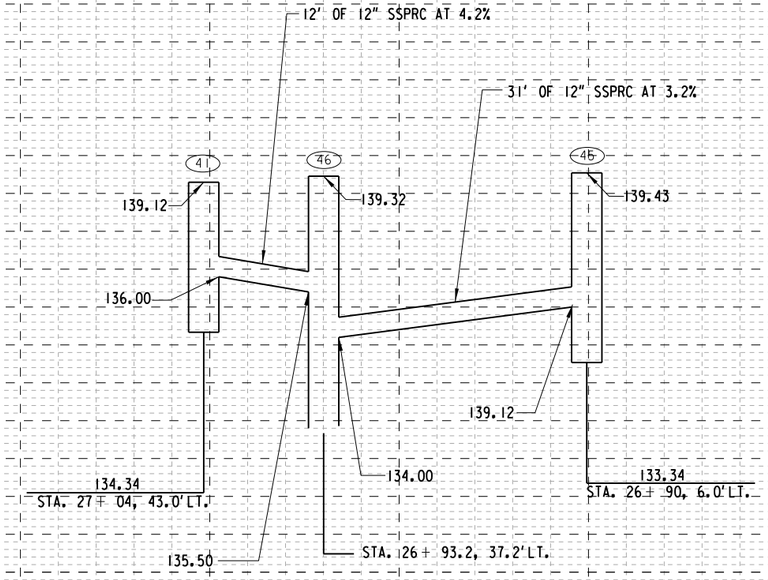
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET	SHEET NO: 60	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 23_29.DGN

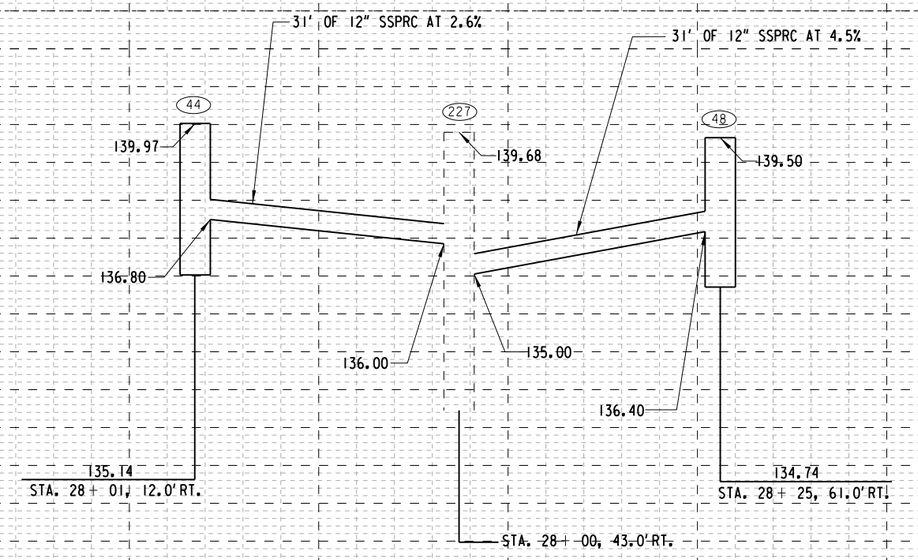
REVISED DATE: 09-26-2016 BY ML



(LOOKING EASTERLY)



(LOOKING NORTHERLY)



(LOOKING NORTHERLY)

+50 +50 +50 +50 +50 +50

STATE PROJECT NUMBER 2504-00-71 - -	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET	SHEET NO: 61	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 23_29.DGN

REVISED DATE: 09-26-2016 BY ML

2

N

NORTH 91ST STREET

BM: HYD. W/SIDE
@ STA 29+30
ELEV: 144.041

BM: RR SPIKE WOOD POLE
#81-04937 W/SIDE STA 31+90
ELEV: 146.088

BM: RR SPIKE WOOD POLE
#81-04936 W/SIDE STA 34+15
ELEV: 151.342

BIO-SWALE NO.3
(SEE BIO-SWALE PLAN)

BIO-SWALE NO.4
(SEE BIO-SWALE PLAN)

#6827 #6833 #6851 #6867 #6881 #6911

#6814 #6824 #6834 #6844 #6860

P.L. CAUTION R.R. TIES ASPH DWY GRAVEL DWY CONC DWY CONC. R/W T G SAN STO W CUC TE&ES CW

29 T/L +50 30 +50 31 +50 32 SEC. LINE +50 33 +50 34 +50 35 T/L

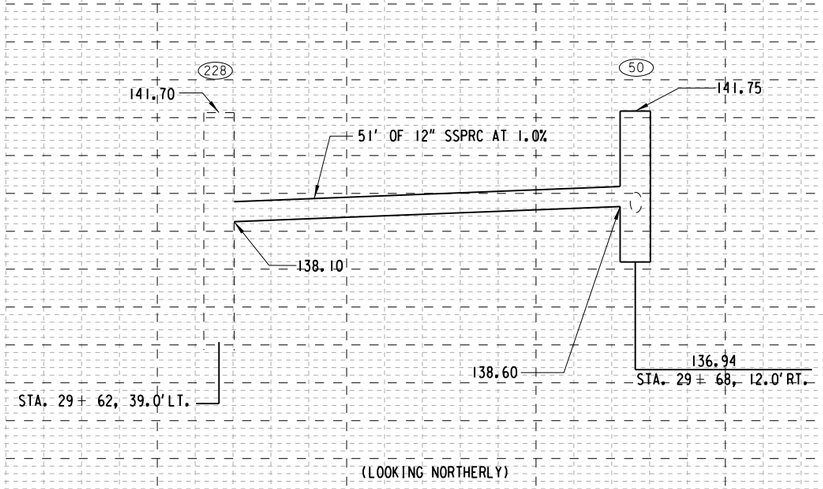
W. CHEYENNE CT.

THESE PLANS SHOW UTILITY FACILITIES EXISTING AT THE TIME OF THE ORIGINAL SURVEY IN MAY OF 2015. CONTRACTOR IS ENCOURAGED TO CONTACT CITY OF MILWAUKEE PLANNING AND PERMITS SECTION AT (414) 286- 2487 TO IDENTIFY ANY UTILITY FACILITIES INSTALLED AFTER THIS DATE.

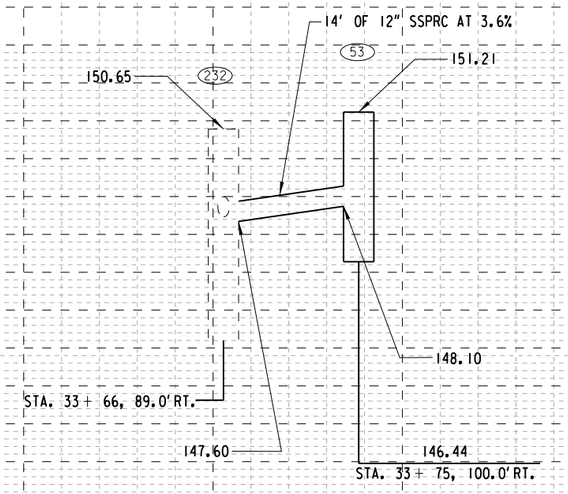
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET 0' 40'	SHEET NO: 62	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 29_35.DGN

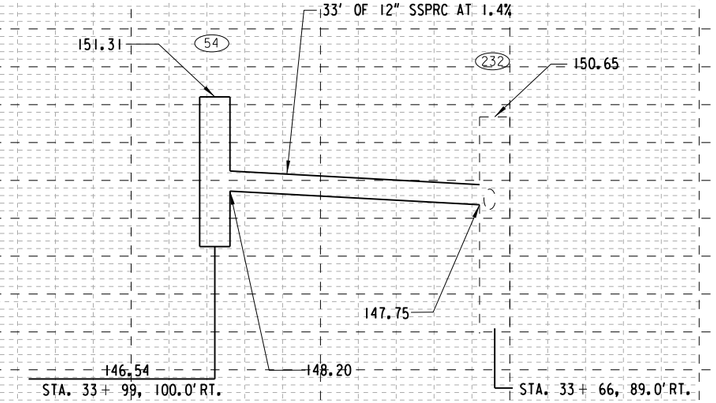
REVISED DATE: 10-17-2016 BY SB



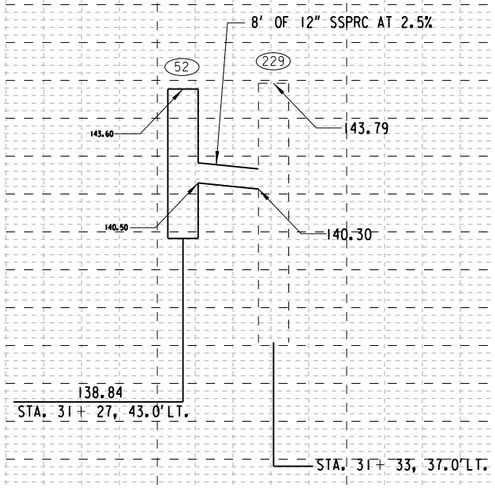
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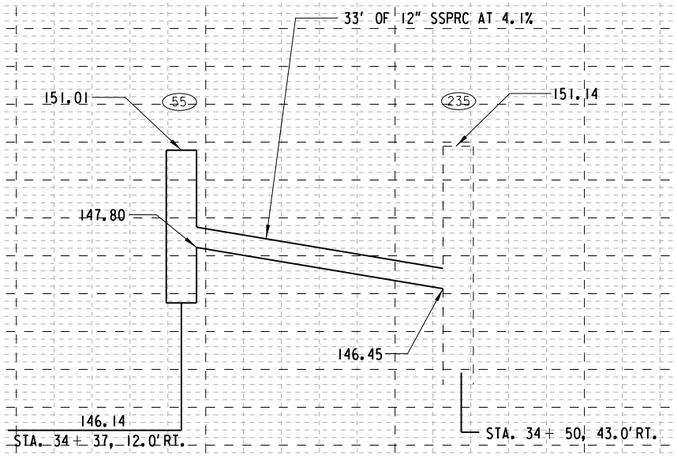
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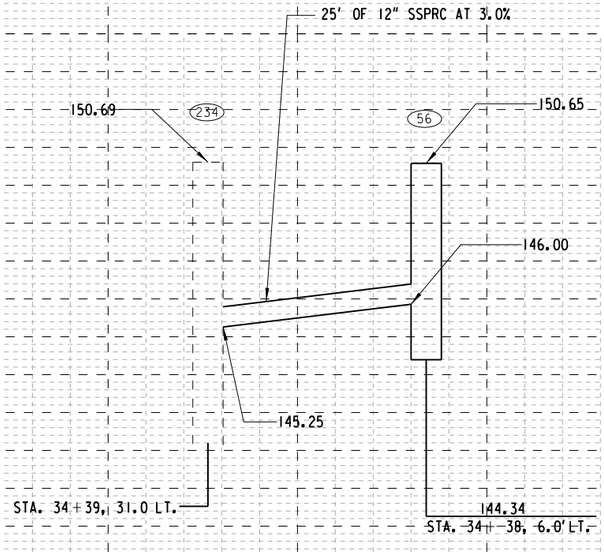
(LOOKING EASTERLY)



(LOOKING NORTHERLY)



(LOOKING NORTHERLY)



(LOOKING NORTHERLY)

+50 +50 +50 +50 +50 +50

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET	SHEET NO: 63	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 29_35.DGN

REVISED DATE: 09-26-2016 BY ML

NORTH 91ST STREET

BM: RR SPIKE WOOD POLE
#81-04934 W/SIDE STA 37+00
ELEV: 157.612

BM: RR SPIKE WOOD POLE
#-------- W/SIDE STA 40+50
ELEV: 156.377

#6919 #6927 #6945 #6955 #6965 #6975

CONC DWY · GRAVEL DWY · ASPH DWY · STONE · ASPH

R/W · P.L. · T · G · SAN · W · STO · CUC · TE&ES · CONC. · EXISTING BIO-SWALE · SEC. LINE

72" WMSD

35 T/L +50 36 +50 37 +50 38 +50 39 +50 40 +50 41 T/L

58 · 236 · 239 · 240 · 155A · S630 · 60 · 155 · S629 · 238 · 237 · 154 · 59 · 414

W. DALLAS ST.

#9011 W. DALLAS ST. #9014 W. DALLAS ST.

CAUTION

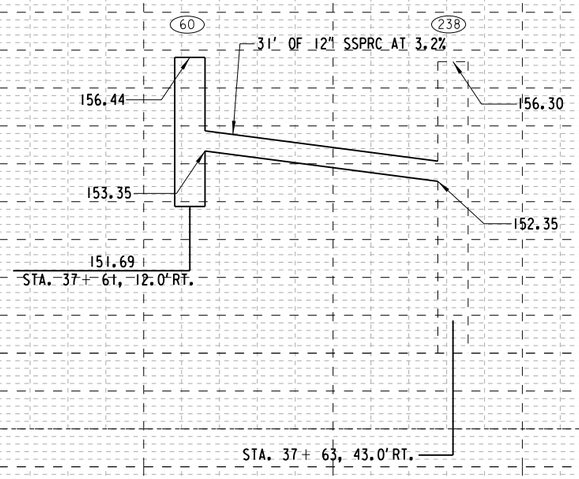
THESE PLANS SHOW UTILITY FACILITIES EXISTING AT THE TIME OF THE ORIGINAL SURVEY IN MAY OF 2015. CONTRACTOR IS ENCOURAGED TO CONTACT CITY OF MILWAUKEE PLANNING AND PERMITS SECTION AT (414) 286- 2487 TO IDENTIFY ANY UTILITY FACILITIES INSTALLED AFTER THIS DATE.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET 0' 40'	SHEET NO: 64	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 35_41.DGN

REVISED DATE: 2-25-2016 BY ML

2



(LOOKING NORTHERLY)

+50 +50 +50 +50 +50 +50

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET	SHEET NO: 65	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 35_41.DGN

REVISED DATE: 09-26-2016 BY ML

2

N

NORTH 91ST STREET

BM: RR SPIKE WOOD POLE
#93-10345 W/SIDE STA 43+00
ELEV: 154.603

BM: RR SPIKE WOOD POLE
#81-04929 W/SIDE STA 45+50
ELEV: 149.409

#7011 #7019 #7025 #7031 #7059 #7101-03

P.L.

CAUTION

ASPH DWY

GRAVEL DWY

CONC DWY

CW

R/W

SAN

W

STO

G

72" WMSD

CUC

TE&ES

EXISTING BIO-SWALE

WCP BOX

SEC. LINE

T/L

41 42 43 44 45 46 47

+50

+30 +75 +23 +73

14' 10' 32'

12" 15" 16" 18" 24"

4" 5" 6" 7" 8" 9" 10" 14" 16" 18"

BIO-SWALE NO.5
(SEE BIO-SWALE PLAN)

BIO-SWALE NO.6
(SEE BIO-SWALE PLAN)

FENCE

TV

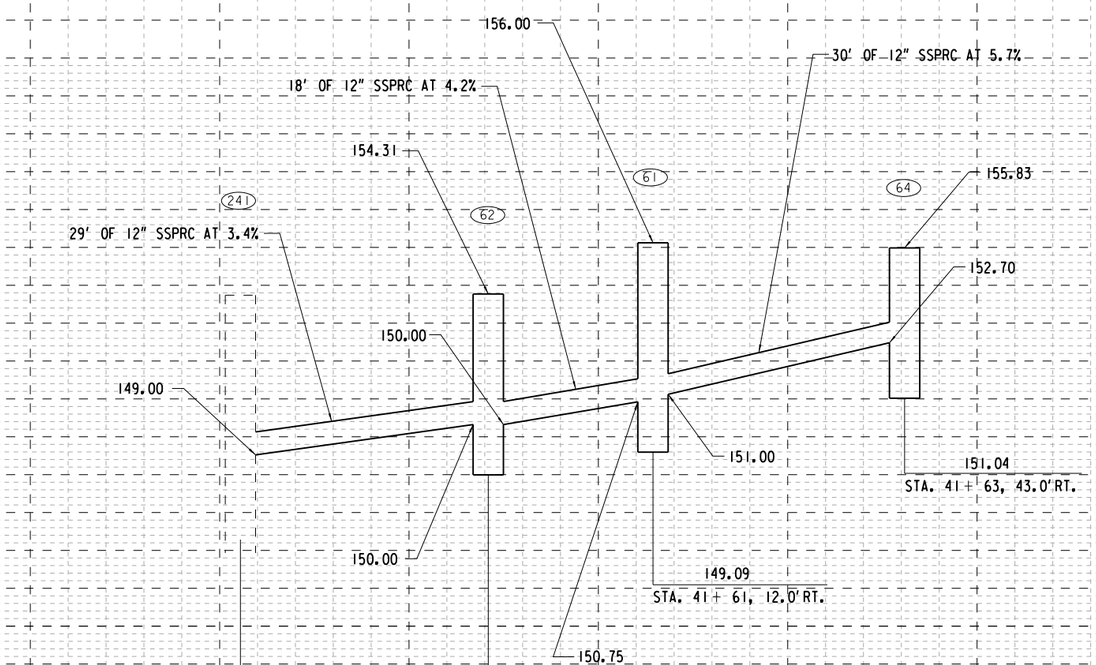
THESE PLANS SHOW UTILITY FACILITIES EXISTING AT THE TIME OF THE ORIGINAL SURVEY IN MAY OF 2015. CONTRACTOR IS ENCOURAGED TO CONTACT CITY OF MILWAUKEE PLANNING AND PERMITS SECTION AT (414) 286- 2487 TO IDENTIFY ANY UTILITY FACILITIES INSTALLED AFTER THIS DATE.

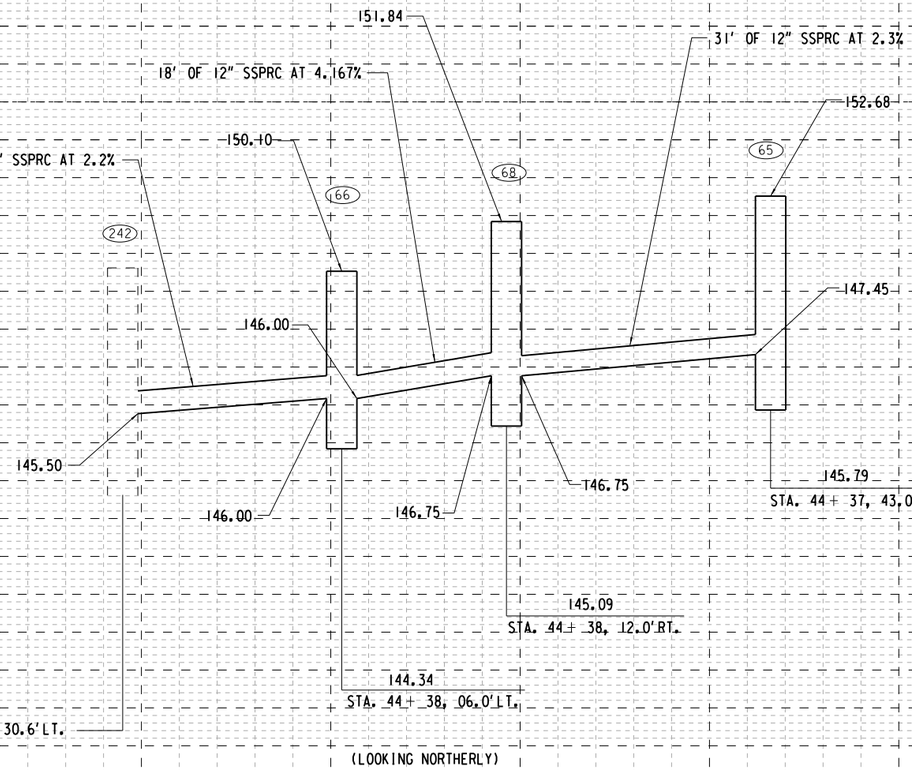
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET 0' 40'	SHEET NO: 66	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 41_47.DGN

REVISED DATE: 2-25-2016 BY ML

2





+50 +50 +50 +50 +50 +50

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET	SHEET NO: 67	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 41_47.DGN

REVISED DATE: 06-04-2016 BY SB

2

N

NORTH 91ST STREET

CAUTION

BM: RR SPIKE WOOD POLE
#81-04927 W/SIDE STA 48+75
ELEV: 145.133

BM: RR SPIKE WOOD POLE
#81-03875 W/SIDE STA 51+50
ELEV: 141.391

SIGNATURE BED NO. 2
(SEE CONSTRUCTION DETAIL)

BIO-SWALE NO.7
(SEE BIO-SWALE PLAN)

7109

7117

P.L.

ASPH DWY

CURB

R/W

OAK LEAF

20'

EXISTING BIO-SWALE

T/L

TE&ES

CONC.

SEC. LINE

47 48 49 50 51 52 53

+50

+25

72" WMSD

57" WMSD

ABANDONED

TEL

WOOD RAILS

WEP BOX

FENCE

N. ROCHELLE AVE.

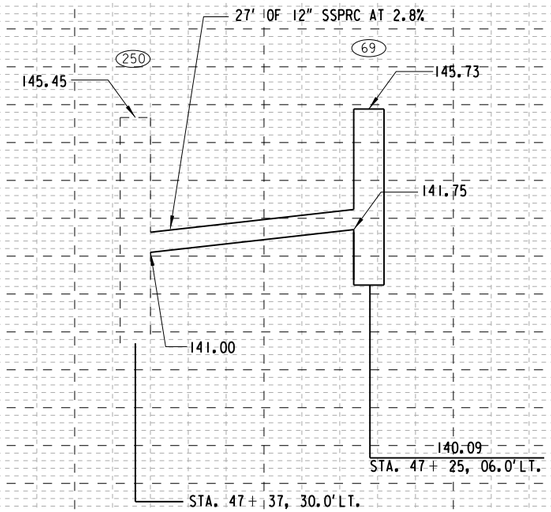
P.L.

THESE PLANS SHOW UTILITY FACILITIES EXISTING AT THE TIME OF THE ORIGINAL SURVEY IN MAY OF 2015. CONTRACTOR IS ENCOURAGED TO CONTACT CITY OF MILWAUKEE PLANNING AND PERMITS SECTION AT (414) 286- 2487 TO IDENTIFY ANY UTILITY FACILITIES INSTALLED AFTER THIS DATE.

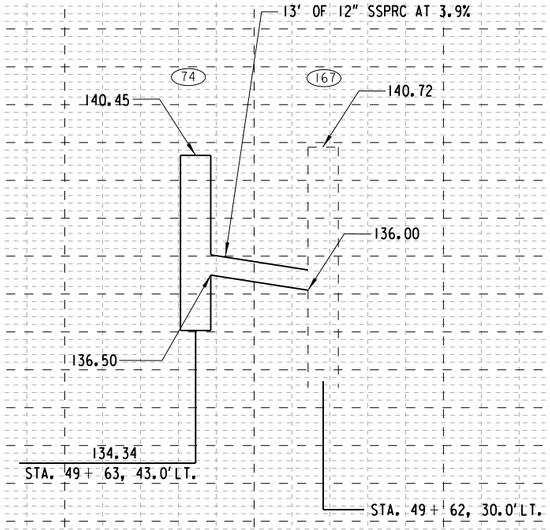
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET 0' 40'	SHEET NO: 68	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 47_53.DGN

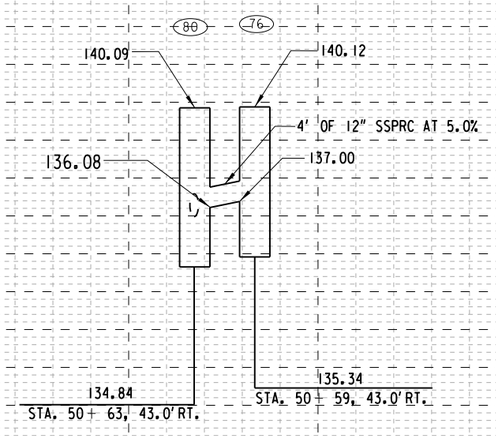
REVISED DATE: 10-14-2016 BY SB



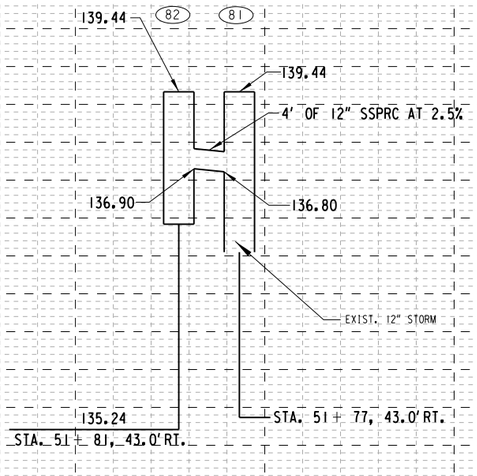
(LOOKING NORTHERLY)



(LOOKING NORTHERLY)



(LOOKING EASTERLY)



(LOOKING EASTERLY)

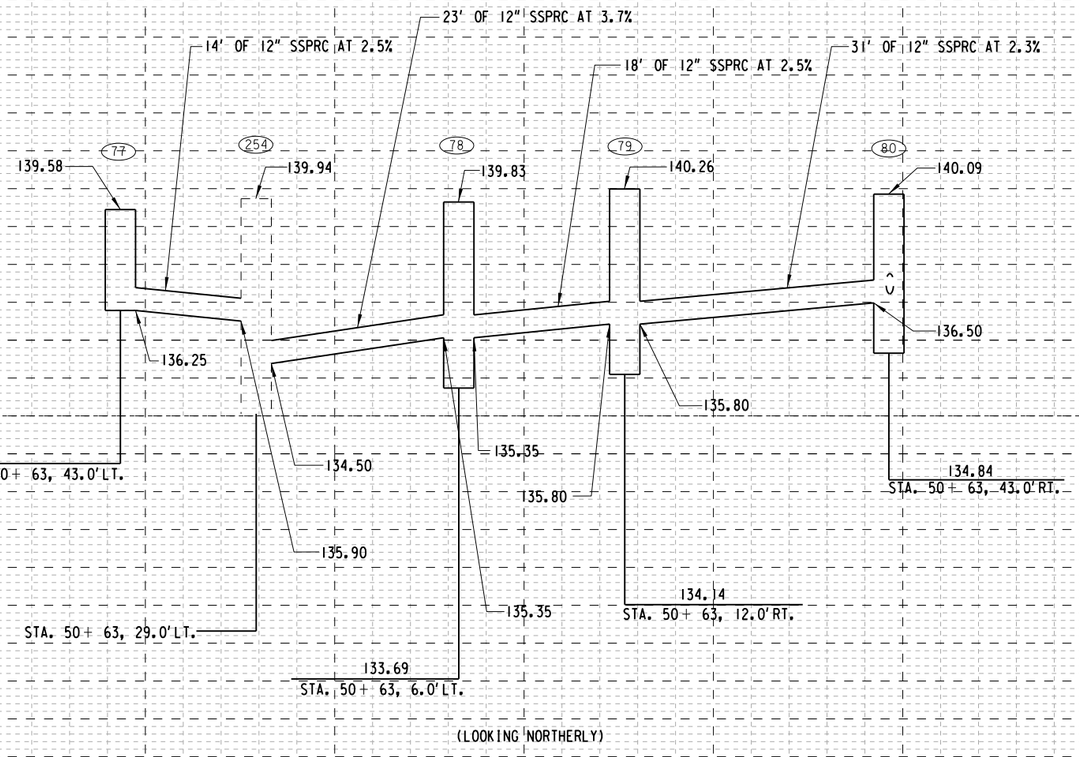
+50 +50 +50 +50 +50 +50

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET	SHEET NO: 69	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\UTIL 47_53.DGN

REVISED DATE: 09-26-2016 BY ML

2



+50 +50 +50 +50 +50 +50

STATE PROJECT NUMBER 2504-00-71 - -	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET	SHEET NO: 70	E

2

N

NORTH

9IST

STREET

CAUTION

FIBER OPTIC

BM: CHIST NEC CONC BASE NWC @ N 9IST & W GOOD HOPE RD. ELEV: 142.373

END PROJECT
STA. 53+52.5 T/L

ABANDONED

R/W

W. GOOD HOPE RD.

SEC. LINE

T/L

53

54

+50

CUC

CONC.

STO

SAN

MCO

TE&ES

STATE

GRASS

ASPH

WALK SIGNAL

COMM. PED.

OAK LEAF

TRAIL

WEP BOX

WOOD RAILS

TEL

P.L.

57" MMSD

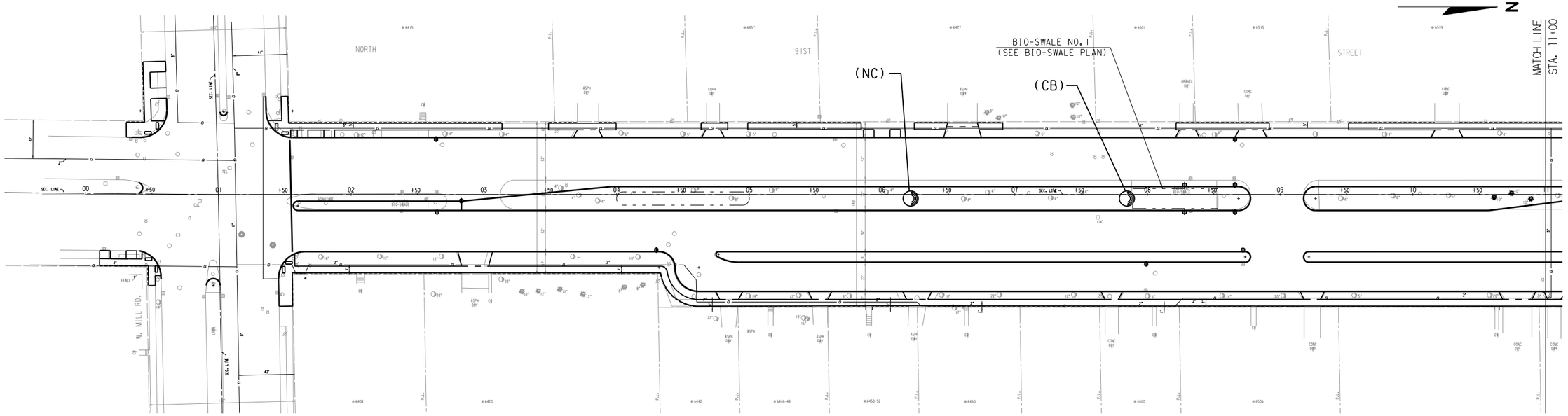
W 156ST

THESE PLANS SHOW UTILITY FACILITIES EXISTING AT THE TIME OF THE ORIGINAL SURVEY IN MAY OF 2015. CONTRACTOR IS ENCOURAGED TO CONTACT CITY OF MILWAUKEE PLANNING AND PERMITS SECTION AT (414) 286- 2487 TO IDENTIFY ANY UTILITY FACILITIES INSTALLED AFTER THIS DATE.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 9IST ST.	COUNTY: MILWAUKEE	UTILITIES & DRAINAGE	SCALE FEET 0' 40	SHEET NO: 71	E

FILENAME: W:\SPR\9IST ST N_MILL GOOD HOPE_\EXISTING\UTIL 53_59.DGN

REVISED DATE: 02-25-2016 BY ML



LEGEND:

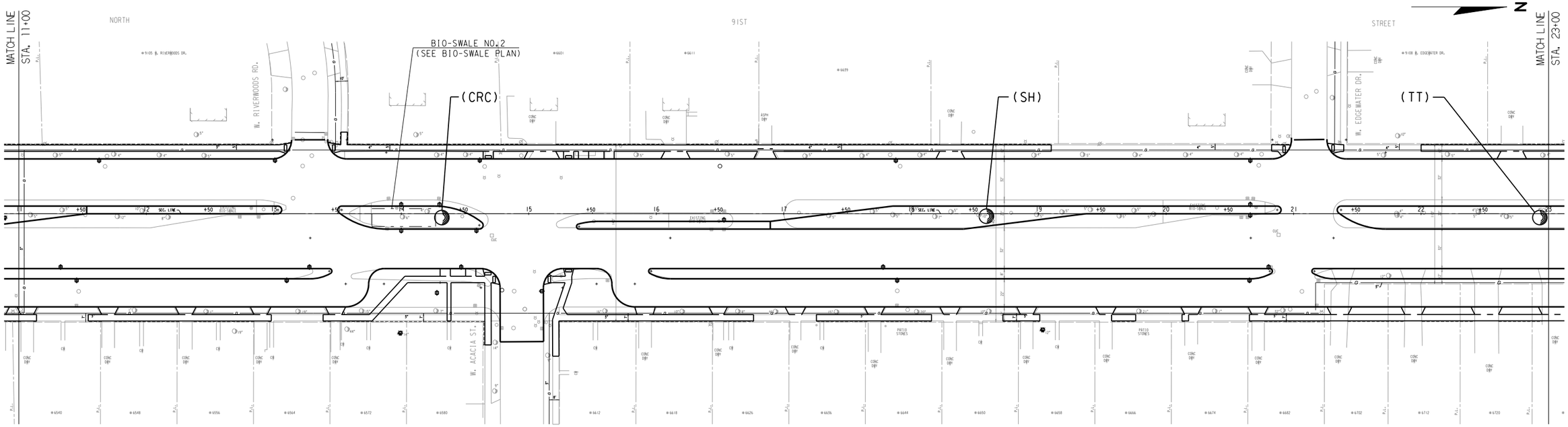
- PLANT NEW TREE (TYPE) SEE KEY
( )

PLANT KEY:

NORTHERN CATALPA (NC)	YELLOW RIVER BIRCH (YRB)
COMMON BALDCYPRESS (CB)	RED BUD (RB)
CANADA RED CHOKECHERRY (CRC)	JAPANESE TREE LILAC (JL)
SUNBURST HONEYLOCUST (SH)	AMERICAN SWEETGUM 'MORAINE' (SM)
TULIP TREE (TT)	AMUR CORKTREE (AC)
CALLERY PEAR (CP)	BUTTERNUT (B)

NOTES:

1. ADJUST PLANTING LOCATION MIN. 2'-0" LATERAL CLEARANCE FROM ALL MARKED UTILITY LINES AND FACE OF CURB.
2. CONTRACTOR SHALL MARK TREE LOCATIONS. PLANTING SHALL NOT PROCEED WITHOUT APPROVAL OF THE ENGINEER.
3. MULCH IS INCIDENTAL TO TREE PLANTING, SEE PLANT DATA CHART.

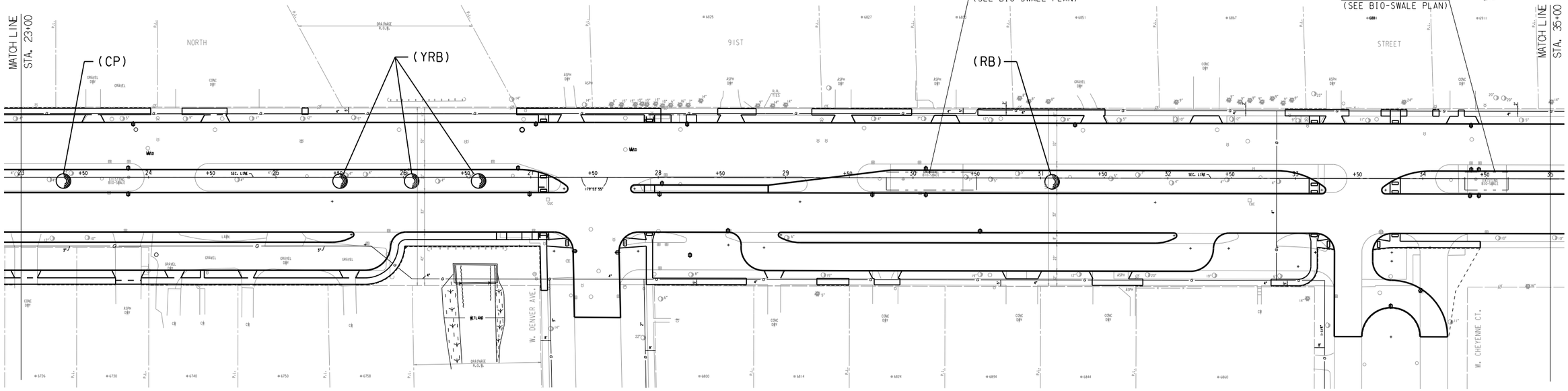


SHEET 1 OF 3

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	LANDSCAPE PLANS	SCALE FEET	SHEET NO: 72	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\TREE PLANTING.DGN

REVISED DATE: 7-29-2016 BY SB



LEGEND:

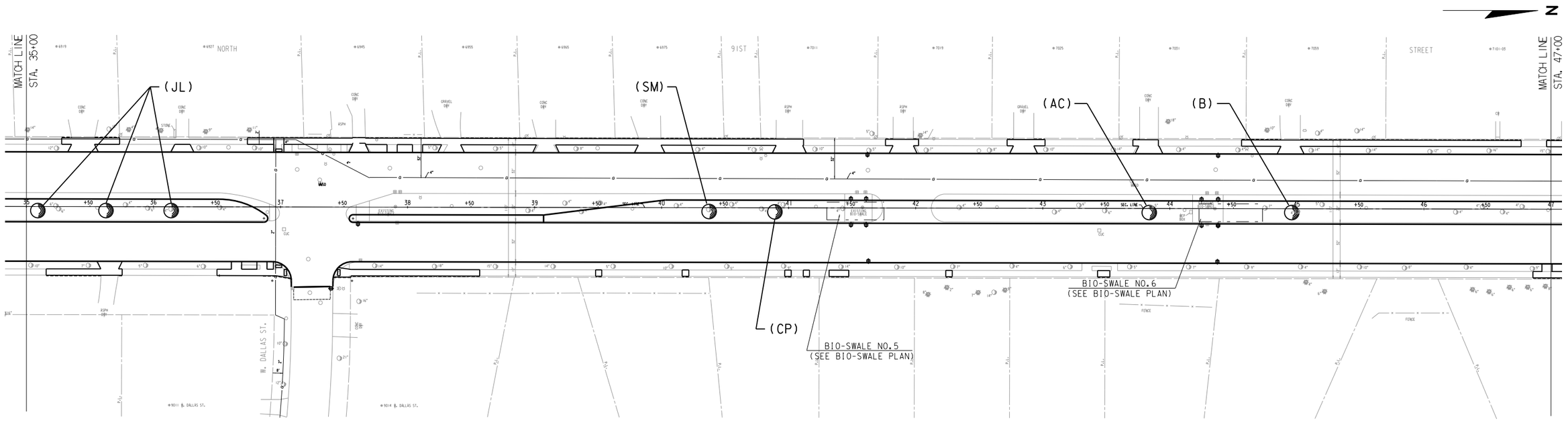
- PLANT NEW TREE (TYPE) SEE KEY
( )

PLANT KEY:

NORTHERN CATALPA (NC)	YELLOW RIVER BIRCH (YRB)
COMMON BALDCYPRESS (CB)	RED BUD (RB)
CANADA RED CHOKECHERRY (CRC)	JAPANESE TREE LILAC (JL)
SUNBURST HONEYLOCUST (SH)	AMERICAN SWEETGUM 'MORAINE' (SM)
TULIP TREE (TT)	AMUR CORKTREE (AC)
CALLERY PEAR (CP)	BUTTERNUT (B)

NOTES:

1. ADJUST PLANTING LOCATION MIN. 2'-0" LATERAL CLEARANCE FROM ALL MARKED UTILITY LINES AND FACE OF CURB.
2. CONTRACTOR SHALL MARK TREE LOCATIONS. PLANTING SHALL NOT PROCEED WITHOUT APPROVAL OF THE ENGINEER.
3. MULCH IS INCIDENTAL TO TREE PLANTING, SEE PLANT DATA CHART.



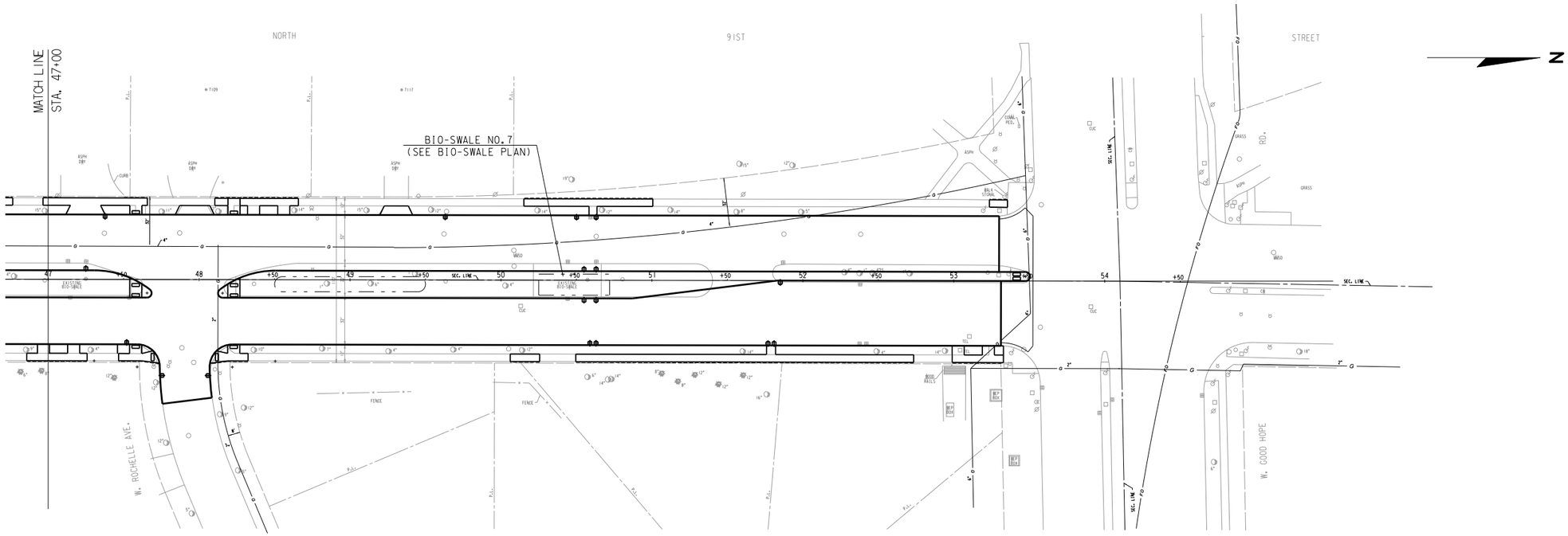
SHEET 2 OF 3

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	LANDSCAPE PLANS	SCALE FEET	SHEET NO: 73	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\TREE PLANTING.DGN

REVISED DATE: 7-29-2016 BY SB

2



SHEET 3 OF 3

LEGEND:

- PLANT NEW TREE (TYPE) SEE KEY
( )

PLANT KEY:

NORTHERN CATALPA (NC)	YELLOW RIVER BIRCH (YRB)
COMMON BALDCYPRESS (CB)	RED BUD (RB)
CANADA RED CHOKECHERRY (CRC)	JAPANESE TREE LILAC (JL)
SUNBURST HONEYLOCUST (SH)	AMERICAN SWEETGUM 'MORAINE' (SM)
TULIP TREE (TT)	AMUR CORKTREE (AC)
CALLERY PEAR (CP)	BUTTERNUT (B)

NOTES:

1. ADJUST PLANTING LOCATION MIN. 2'-0" LATERAL CLEARANCE FROM ALL MARKED UTILITY LINES AND FACE OF CURB.
2. CONTRACTOR SHALL MARK TREE LOCATIONS. PLANTING SHALL NOT PROCEED WITHOUT APPROVAL OF THE ENGINEER.
3. MULCH IS INCIDENTAL TO TREE PLANTING, SEE PLANT DATA CHART.

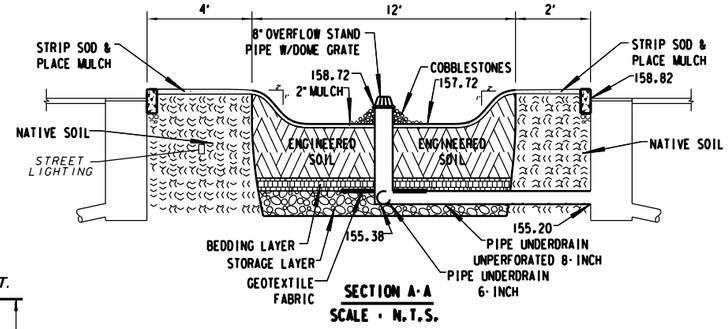
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	LANDSCAPE PLANS	SCALE FEET	SHEET NO: 74	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\TREE PLANTING.DGN

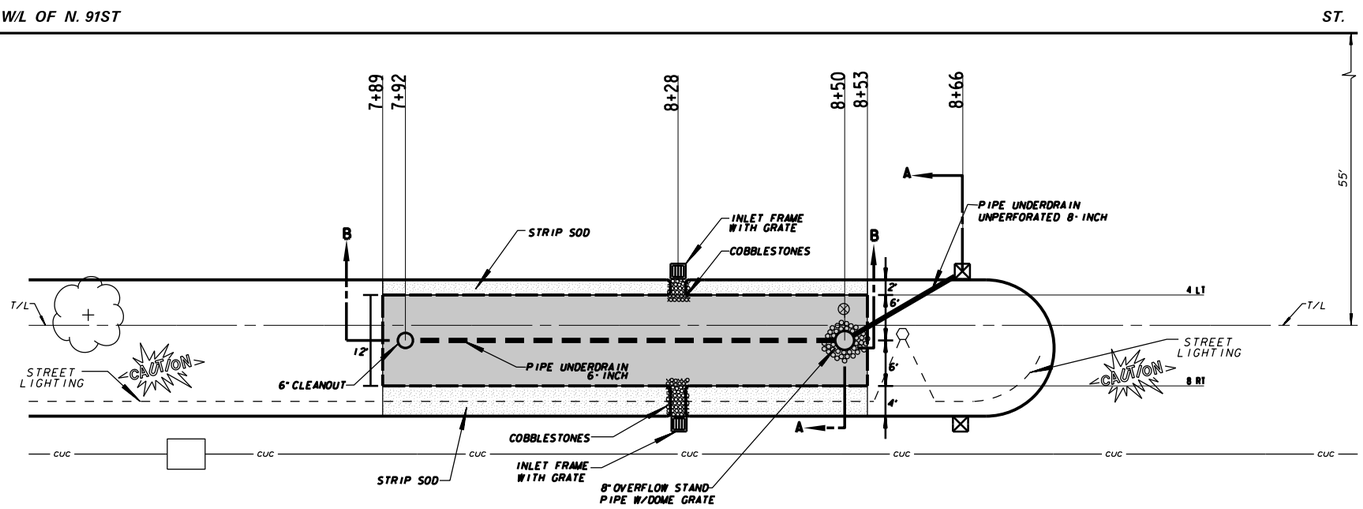
REVISED DATE: 7-29-2016 BY SB

2

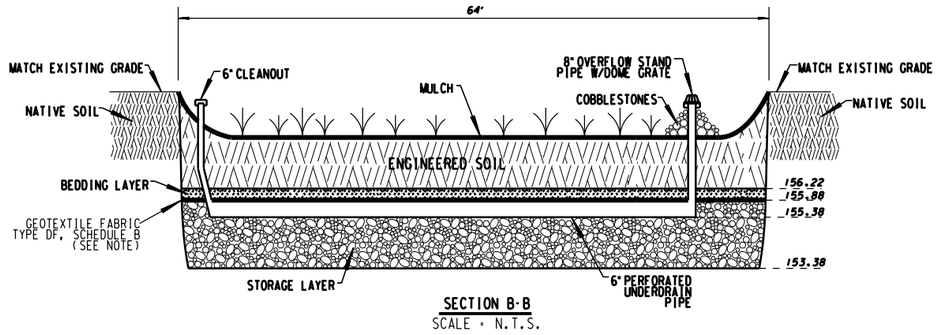
BIO-SWALE NO. 1



SECTION A-A
SCALE - N.T.S.







SECTION B-B
SCALE - N.T.S.

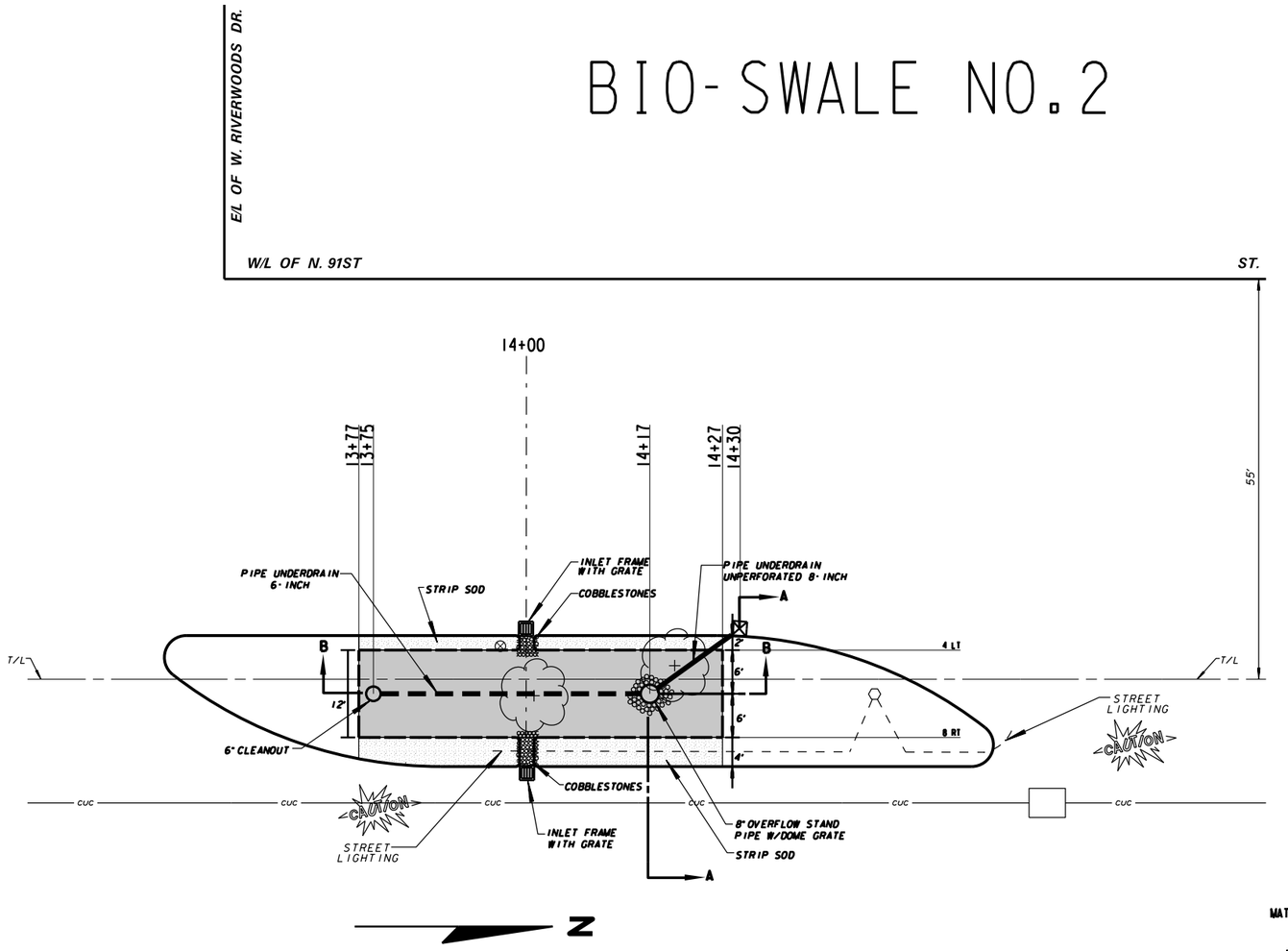
NOTE: ALL AREAS WITH SOD STRIPPING SHALL BE PLANTED AND MULCHED ACCORDING TO THE BIOSWALE PLANS.

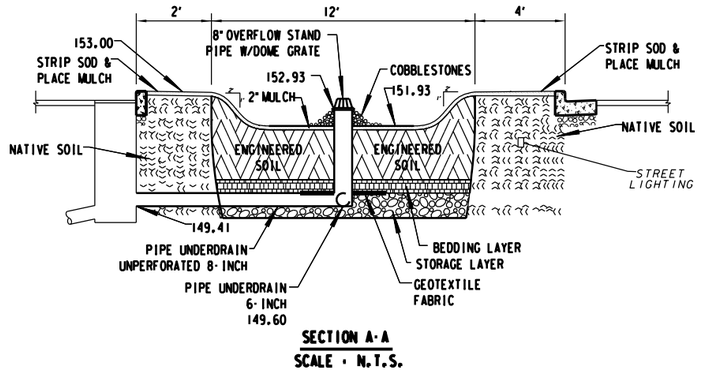
NOTE: DO NOT WRAP FILTER FABRIC AROUND PERFORATED UNDERDRAINS, EXTEND FABRIC 1' ON EITHER SIDE.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 20'	SHEET NO: 75	E

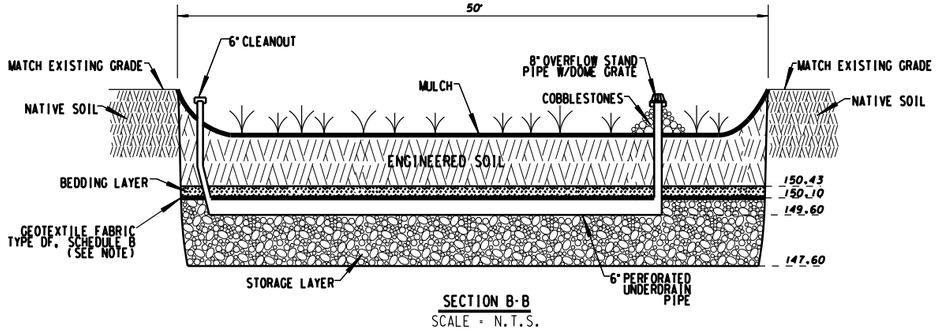
FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

BIO-SWALE NO.2





SECTION A-A
SCALE - N.T.S.



SECTION B-B
SCALE - N.T.S.

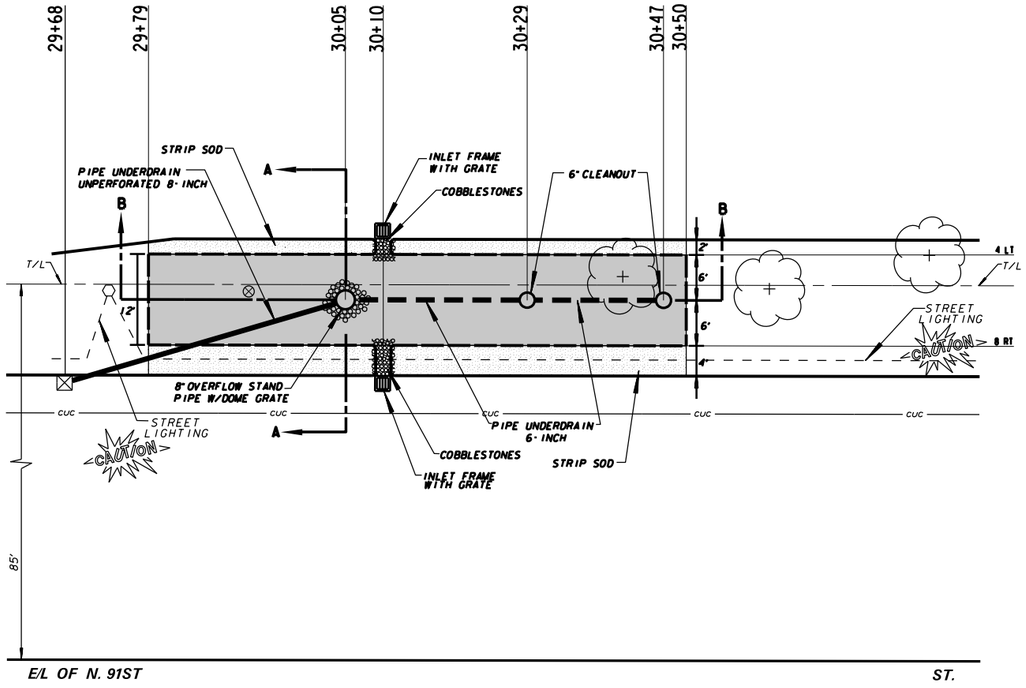
NOTE: ALL AREAS WITH SOD STRIPPING SHALL BE PLANTED AND MULCHED ACCORDING TO THE BIOSWALE PLANS.

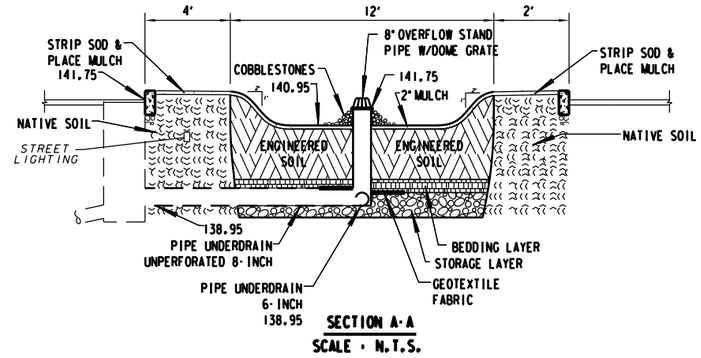
NOTE: DO NOT WRAP FILTER FABRIC AROUND PERFORATED UNDERDRAINS, EXTEND FABRIC 1' ON EITHER SIDE.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 20'	SHEET NO: 76	E

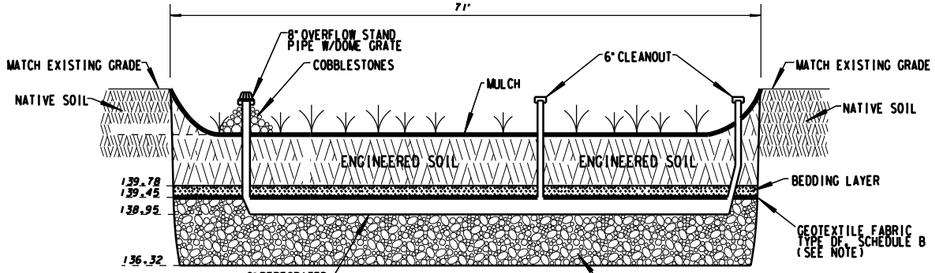
FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

BIO-SWALE NO.3





SECTION A-A
SCALE - N.T.S.



SECTION B-B
SCALE - N.T.S.

N

NOTE: ALL AREAS WITH SOD STRIPPING SHALL BE PLANTED AND MULCHED ACCORDING TO THE BIOSWALE PLANS.

NOTE: DO NOT WRAP FILTER FABRIC AROUND PERFORATED UNDERDRAINS, EXTEND FABRIC 1' ON EITHER SIDE.

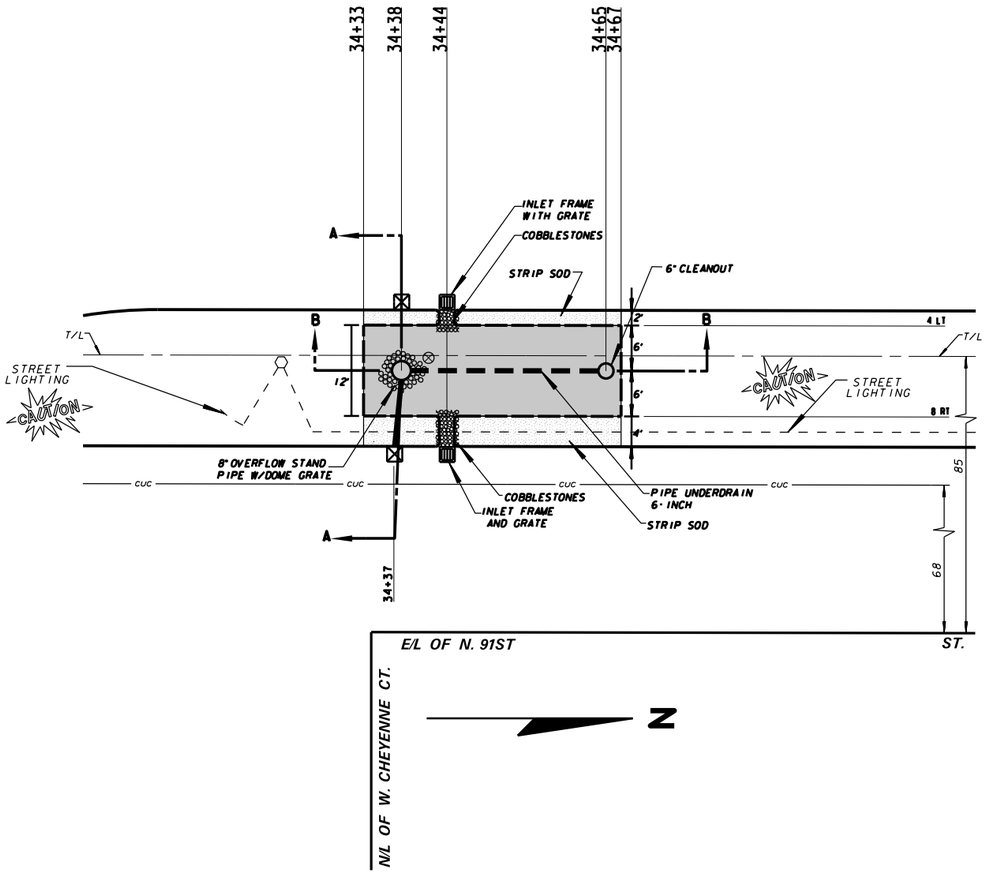
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 20'	SHEET NO: 77	E

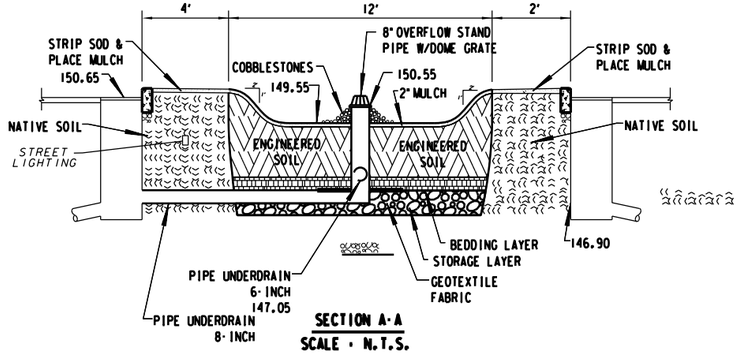
FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

2

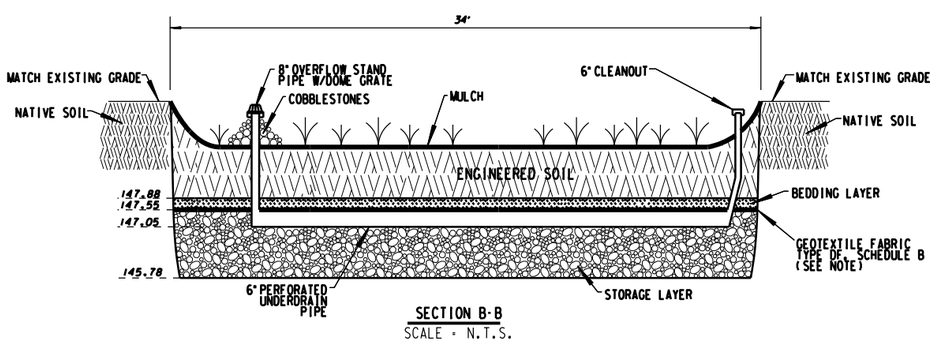
2

BIO-SWALE NO.4





SECTION A-A
SCALE - N.T.S.



SECTION B-B
SCALE - N.T.S.

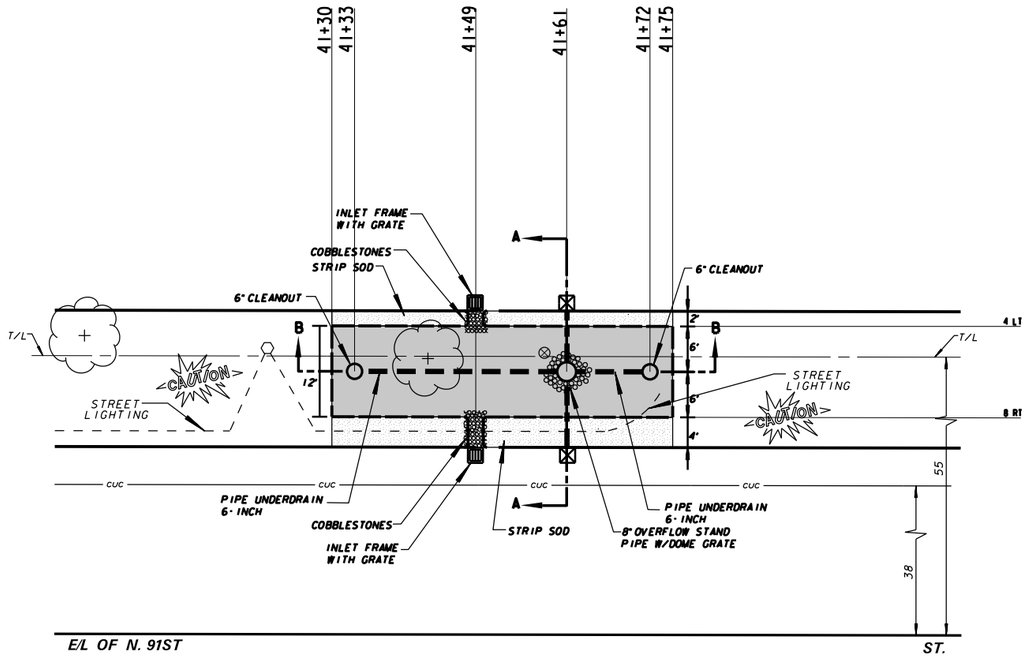
NOTE: ALL AREAS WITH SOD STRIPPING SHALL BE PLANTED AND MULCHED ACCORDING TO THE BIOSWALE PLANS.

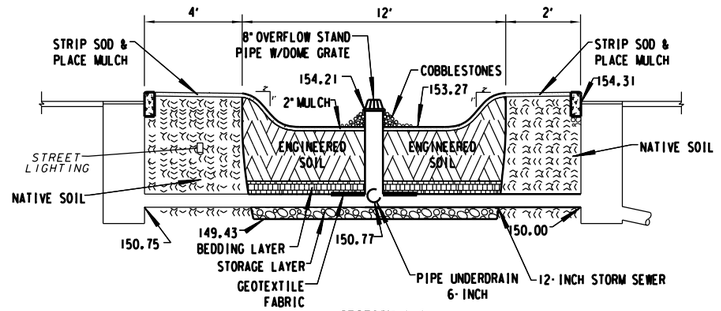
NOTE: DO NOT WRAP FILTER FABRIC AROUND PERFORATED UNDERDRAINS, EXTEND FABRIC 1' ON EITHER SIDE.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 20'	SHEET NO: 78	E

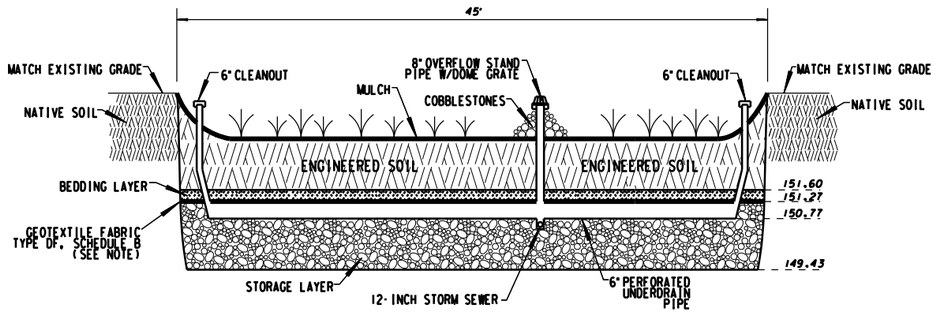
FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

BIO-SWALE NO.5





SECTION A-A
SCALE - N.T.S.



SECTION B-B
SCALE - N.T.S.

NOTE: ALL AREAS WITH SOD STRIPPING SHALL BE PLANTED AND MULCHED ACCORDING TO THE BIOSWALE PLANS.

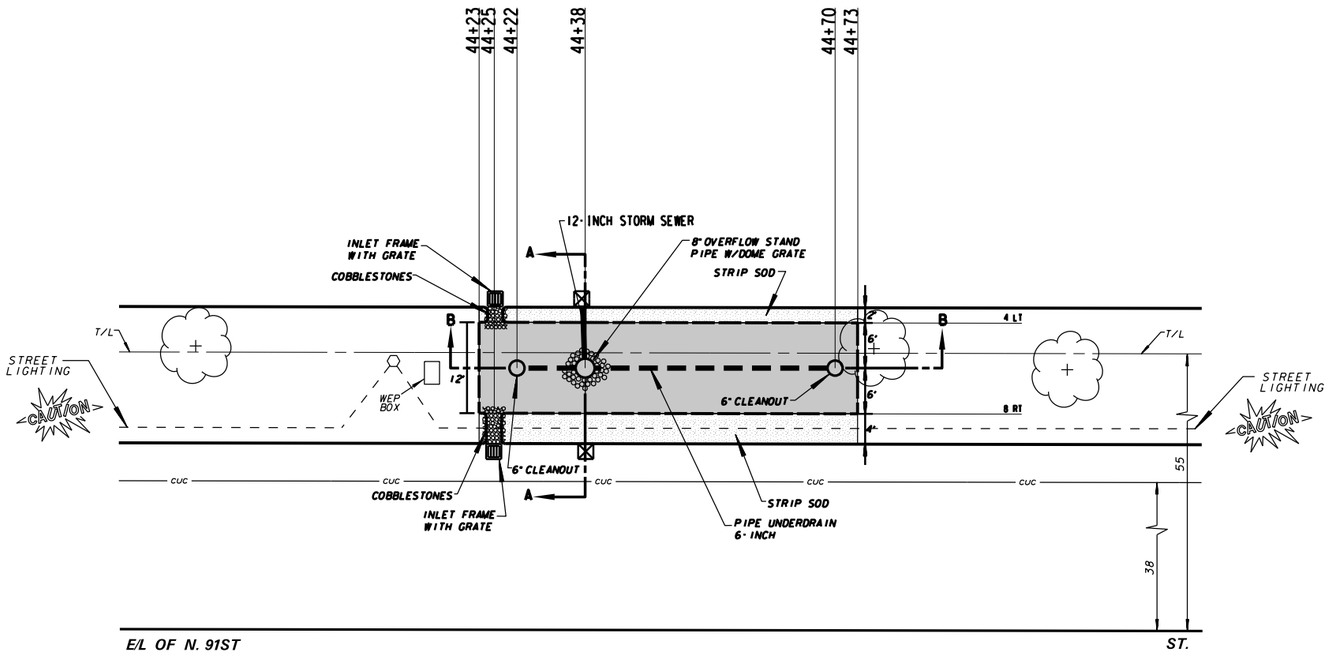
NOTE: DO NOT WRAP FILTER FABRIC AROUND PERFORATED UNDERDRAINS, EXTEND FABRIC 1' ON EITHER SIDE.

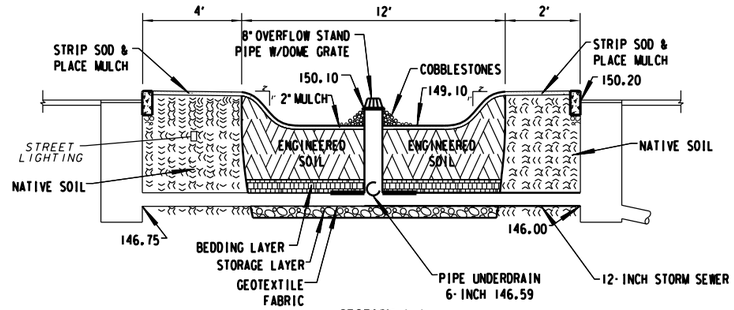
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 20'	SHEET NO: 79 E

FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

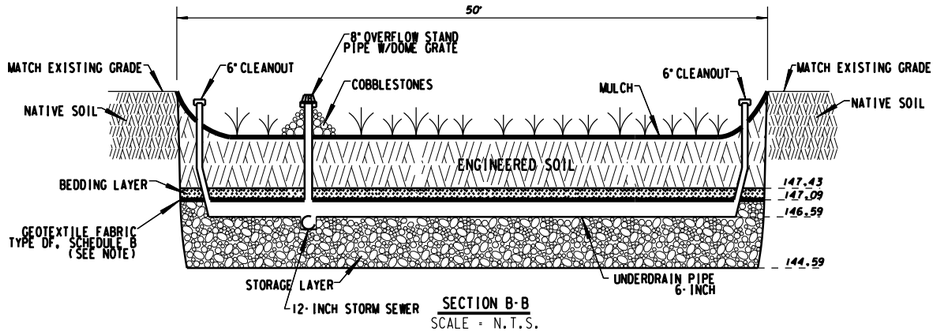
2

BIO-SWALE NO.6





SECTION A-A
SCALE - N.T.S.



SECTION B-B
SCALE - N.T.S.

NOTE: DO NOT WRAP FILTER FABRIC AROUND PERFORATED UNDERDRAINS. EXTEND FABRIC 1' ON EITHER SIDE.

N

NOTE: ALL AREAS WITH SOD STRIPPING SHALL BE PLANTED AND MULCHED ACCORDING TO THE BIOSWALE PLANS.

NOTE: ALL AREAS WITH SOD STRIPPING SHALL BE PLANTED AND MULCHED ACCORDING TO THE BIOSWALE PLANS.

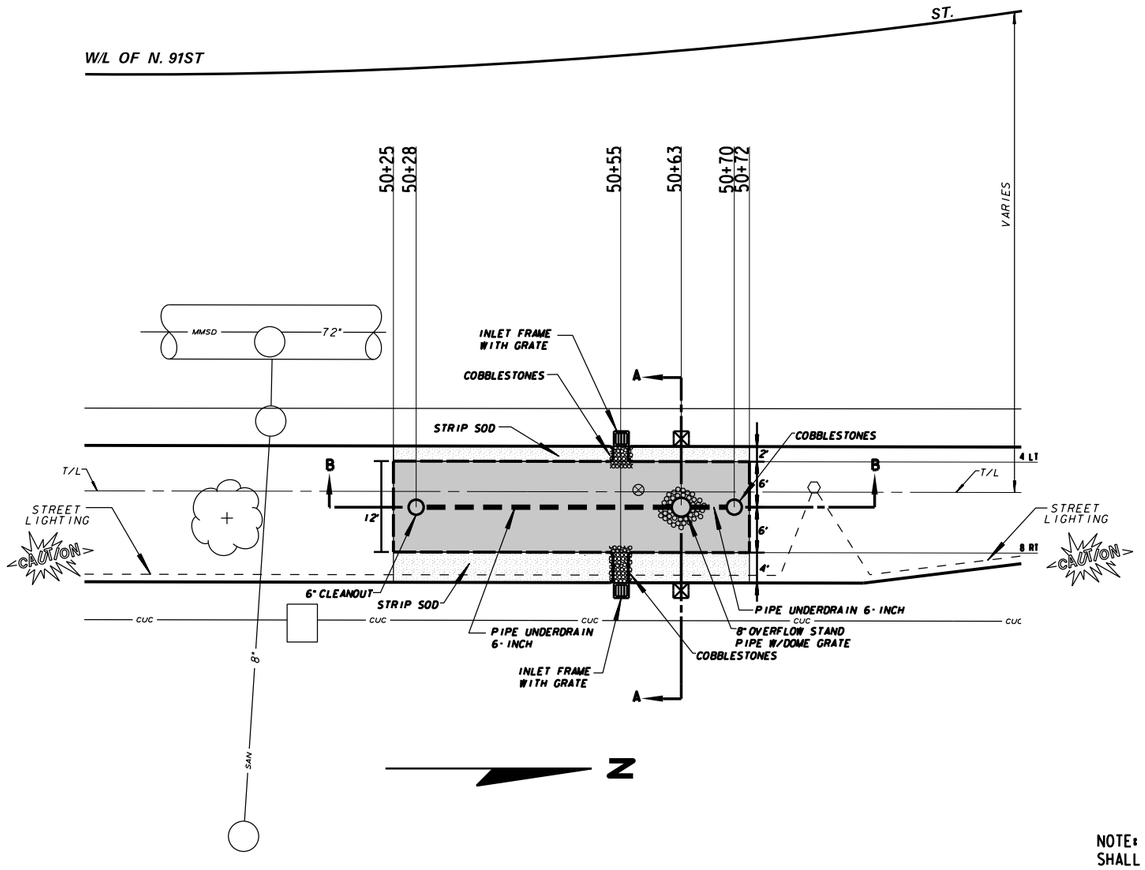
NOTE: DO NOT WRAP FILTER FABRIC AROUND PERFORATED UNDERDRAINS, EXTEND FABRIC 1' ON EITHER SIDE.

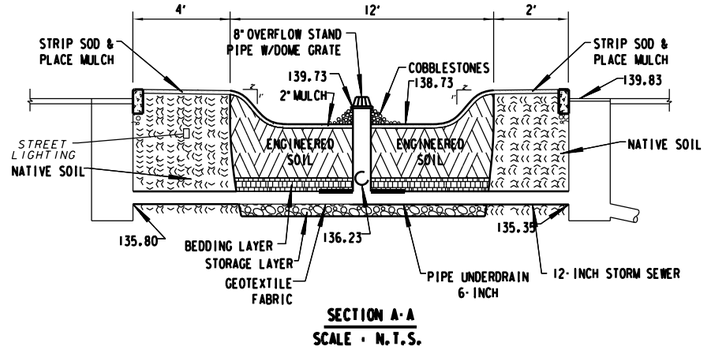
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 20'	SHEET NO: 80	E

FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

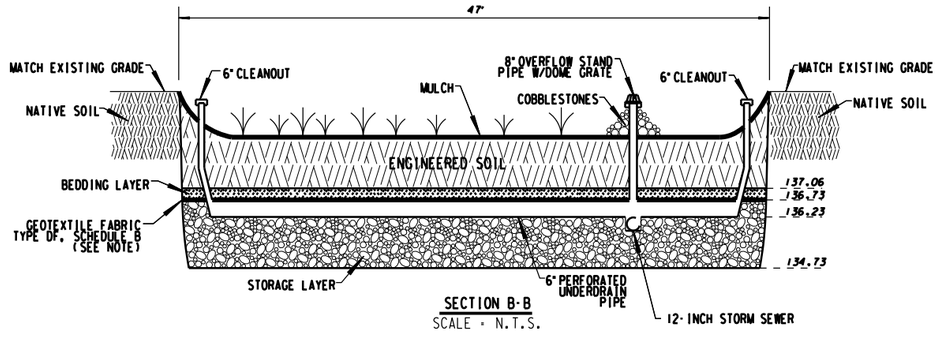
2

BIO-SWALE NO.7





SECTION A-A
SCALE - N.T.S.



SECTION B-B
SCALE - N.T.S.

NOTE: ALL AREAS WITH SOD STRIPPING SHALL BE PLANTED AND MULCHED ACCORDING TO THE BIOSWALE PLANS.

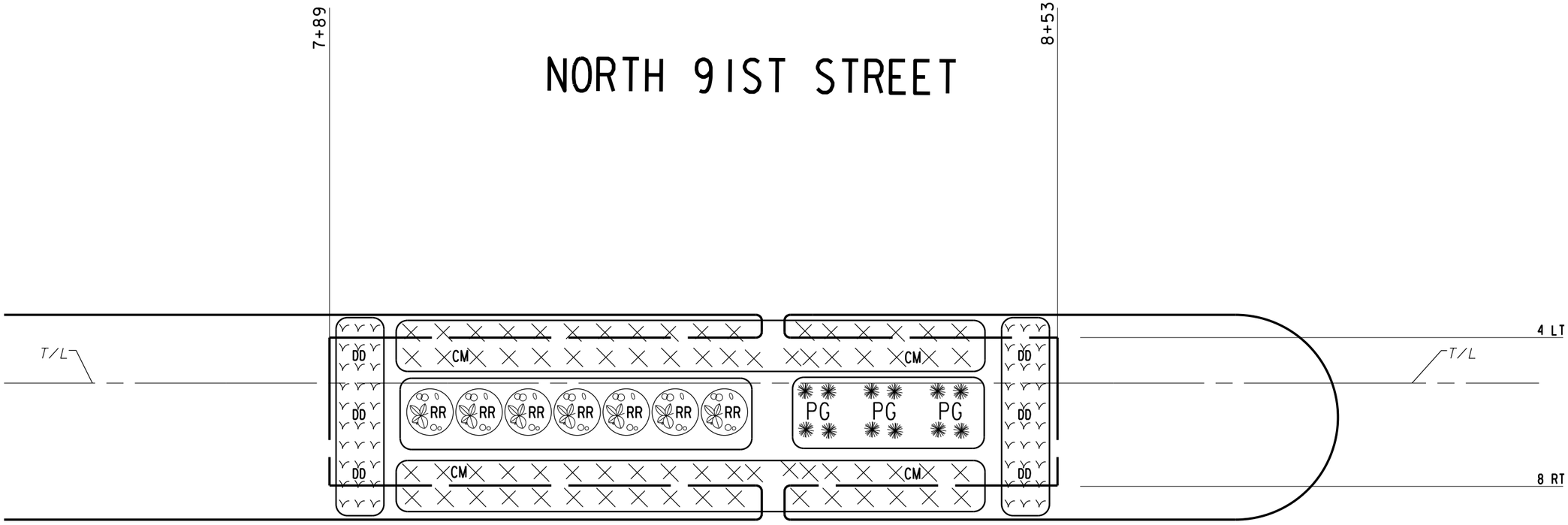
NOTE: DO NOT WRAP FILTER FABRIC AROUND PERFORATED UNDERDRAINS. EXTEND FABRIC 1' ON EITHER SIDE.

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 20'	SHEET NO: 81	E

FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

BIO-SWALE NO. 1

NORTH 91ST STREET



SHRUBS

(7)	RR	RUGOSA ROSES

PERENNIALS, GRASS, AND BULBS

(72)	CM	CATMINT
(60)	DD	DWARF DAYLILIES
(12)	PG	PANICUM GRASS

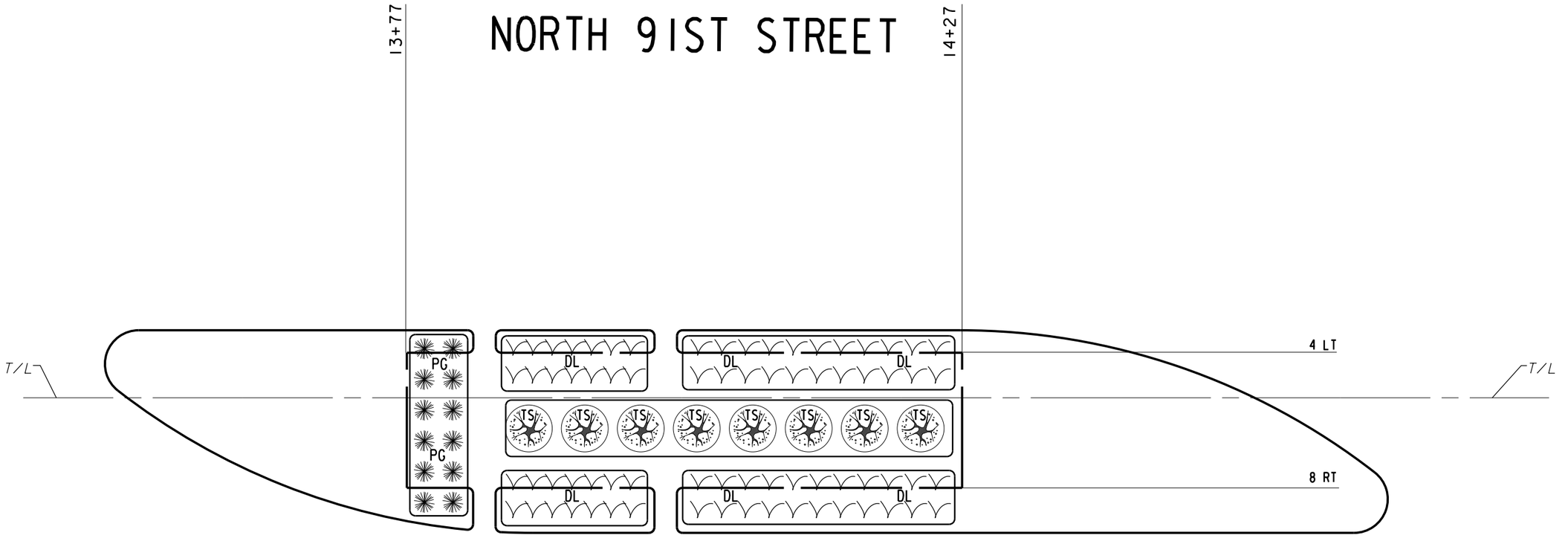
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 10'	SHEET NO: 82	E

FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

2

BIO-SWALE NO. 2

NORTH 91ST STREET



SHRUBS

(8)	TS	TIGERS EYE SUMAC

PERENNIALS, GRASS, AND BULBS

(12)	PG	PANICUM GRASS
(72)	DL	DAYLILIES

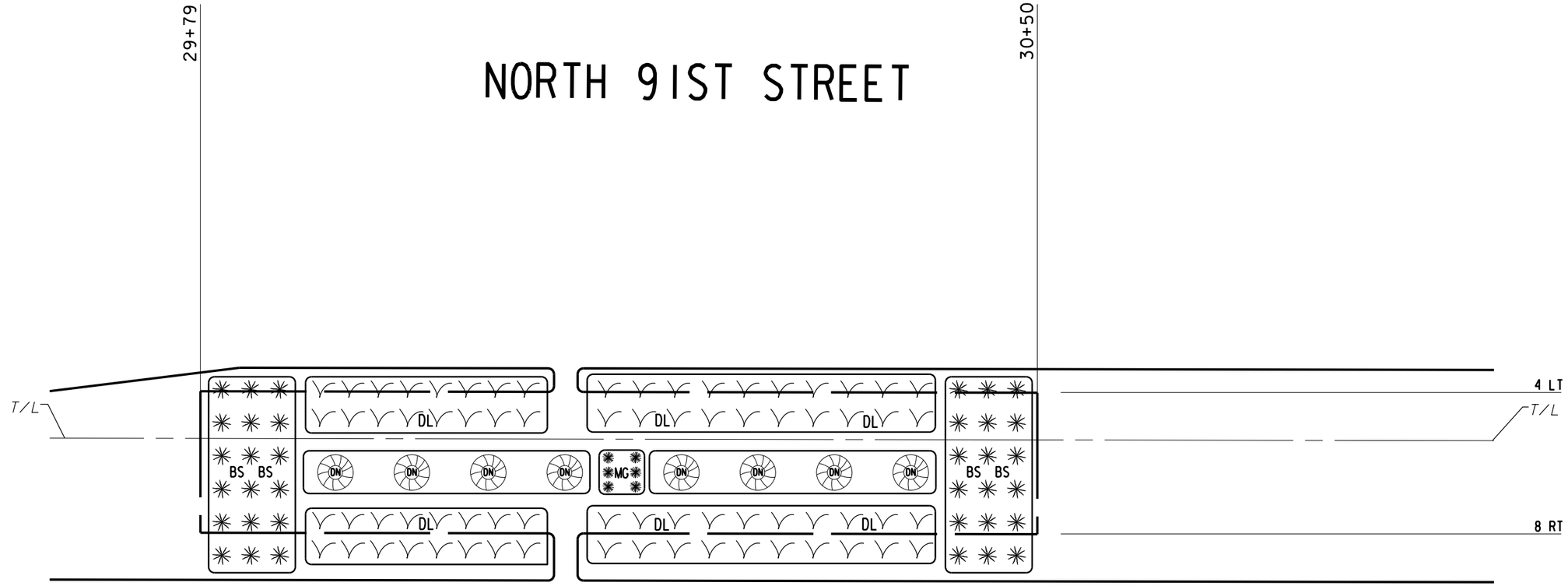
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 10'	SHEET NO: 83	E

FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

2

BIO-SWALE NO. 3

NORTH 91ST STREET



SHRUBS

(8)	DN	DIABLO NINEBARK

PERENNIALS, GRASS, AND BULBS

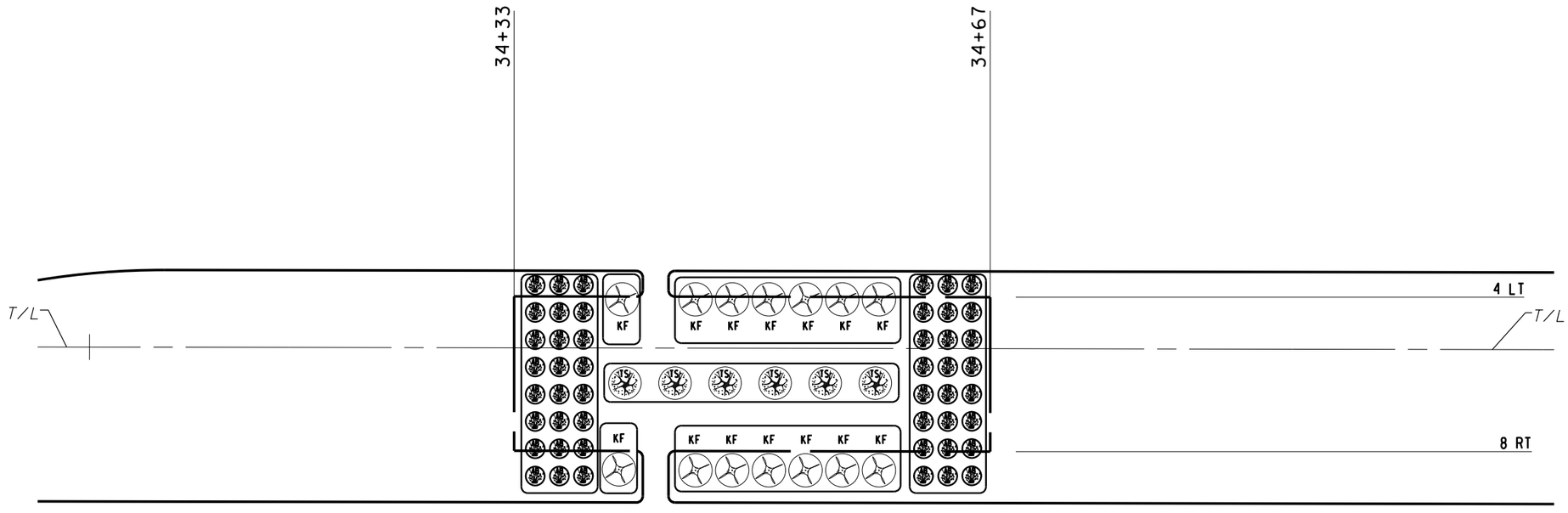
(6)	MG	MISCANTHUS GRASS
(36)	BS	BLACK EYED SUSANS
(72)	DL	DAYLILIES

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 10'	SHEET NO: 84	E

FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

BIO-SWALE NO. 4

NORTH 91ST STREET



SHRUBS

(6)	TE	TIGER EYE SUMMAC

PERENNIALS, GRASS, AND BULBS

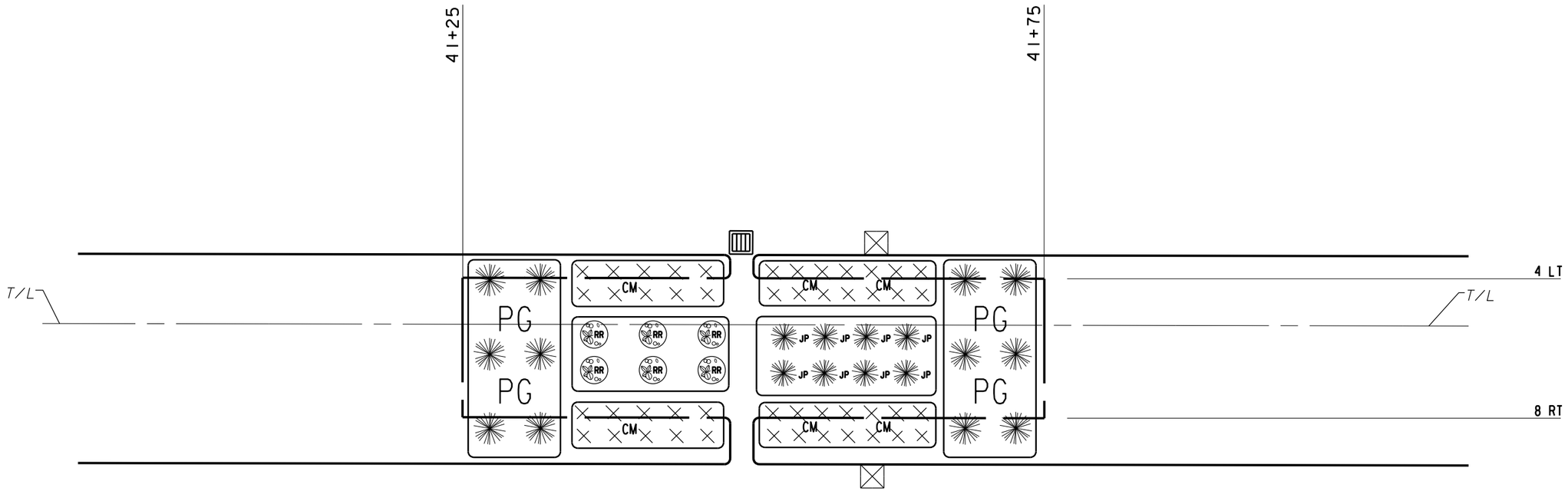
(14)	KF	KARL FOERSTER GRASS
(24)	AB	AGASTACHE BLUE FORTUNE

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 10'	SHEET NO: 85	E

FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

BIO-SWALE NO. 5

NORTH 91ST STREET



SHRUBS

(6)	RR	RUGOSA ROSES

PERENNIALS, GRASS, AND BULBS

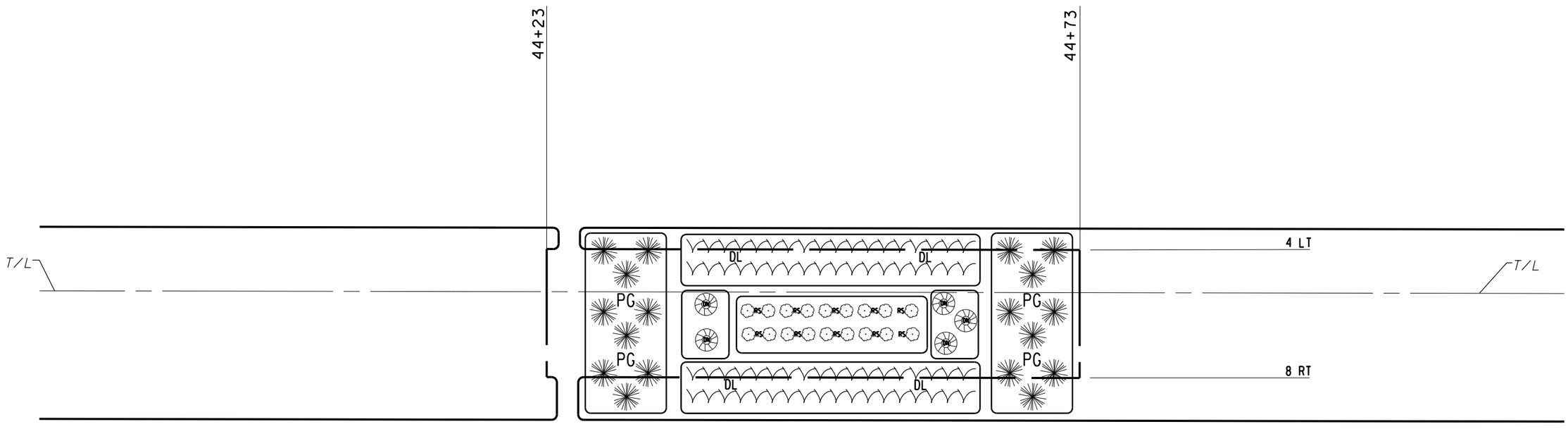
(12)	PG	PANICUM GRASS
(48)	CM	BLUE WONDER CATMINT
(8)	JP	JOE PYE WEED

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 10'	SHEET NO: 86	E

FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

BIO-SWALE NO. 6

NORTH 91ST STREET



SHRUBS

(5)	DN	DIABLO NINEBARK

PERENNIALS, GRASS, AND BULBS

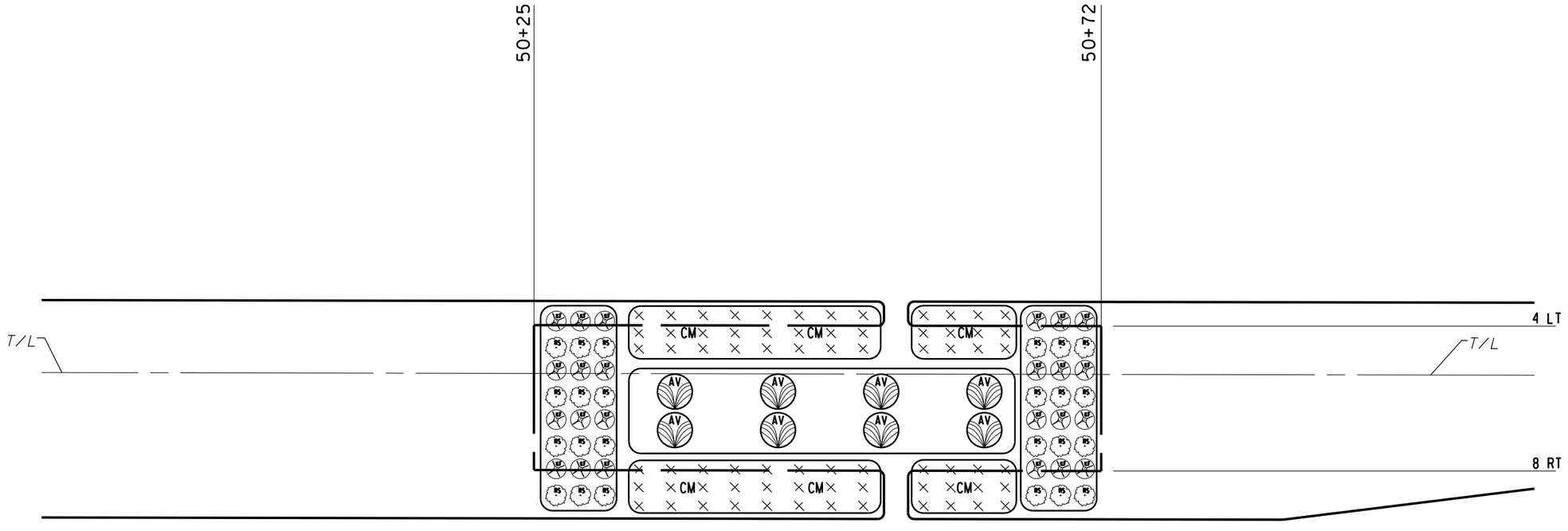
(18)	PG	PANICUM GRASS
(18)	RS	RUSSIAN SAGE
(72)	DL	DAYLILIES

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 10'	SHEET NO: 87	E

FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

BIO-SWALE NO. 7

NORTH 91ST STREET



SHRUBS

(8)	AV	ARROWWOD VIBURNUM

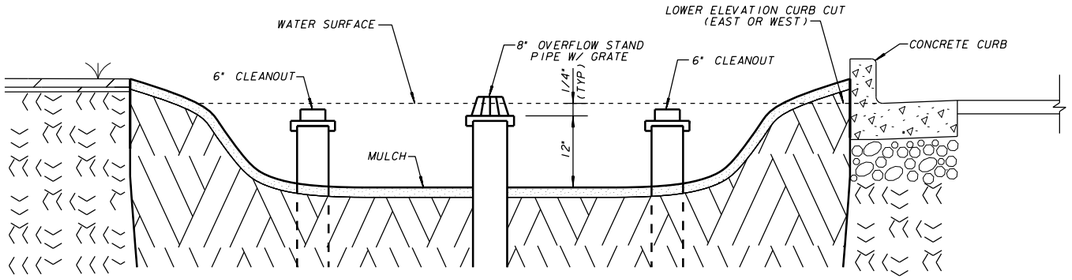
PERENNIALS, GRASS, AND BULBS

(12)	KF	KARL FOESTER GRASS
(72)	CM	BLUE WONDER CATMINT
(12)	RS	RUSSIAN SAGE

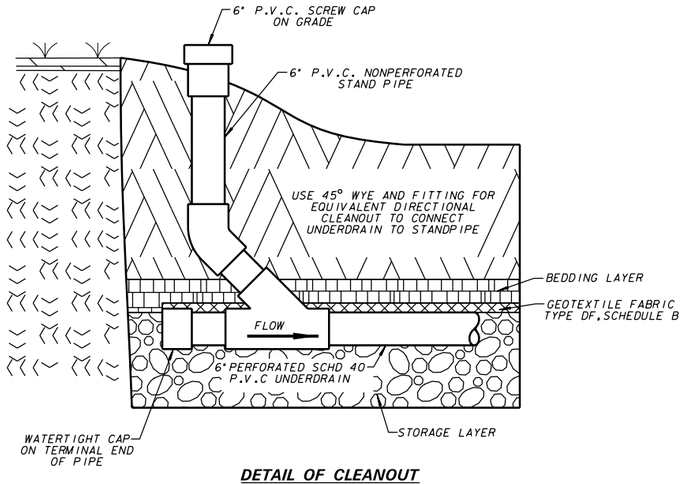
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE PLAN	SCALE FEET 0' 10'	SHEET NO: 88	E

FILE NAME: W:\SEW\SNDRAFT\BIOSWALES\N.91ST\N91ST.SMP

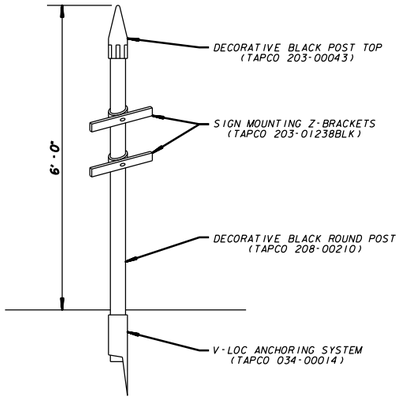
BIO-SWALE DETAILS



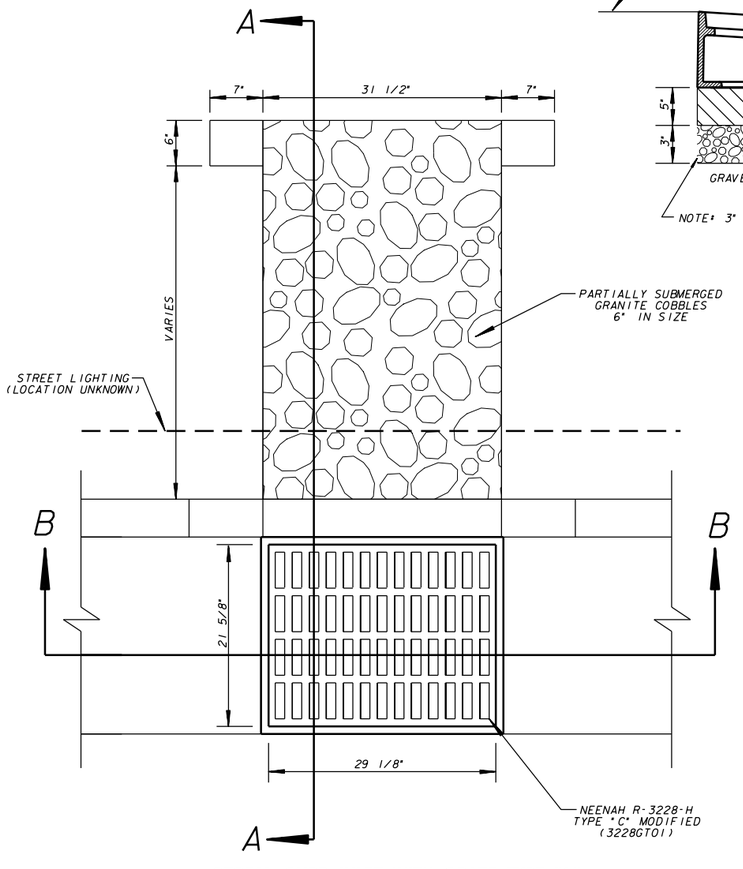
DETAIL OF 8" OVERFLOW STAND PIPE
SCALE • N.T.S.



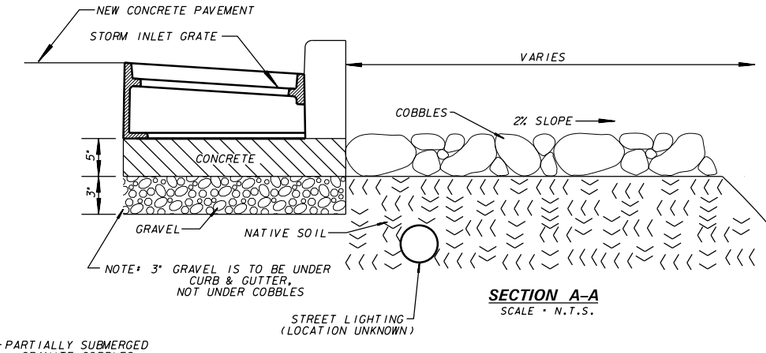
DETAIL OF CLEANOUT
SCALE • N.T.S.



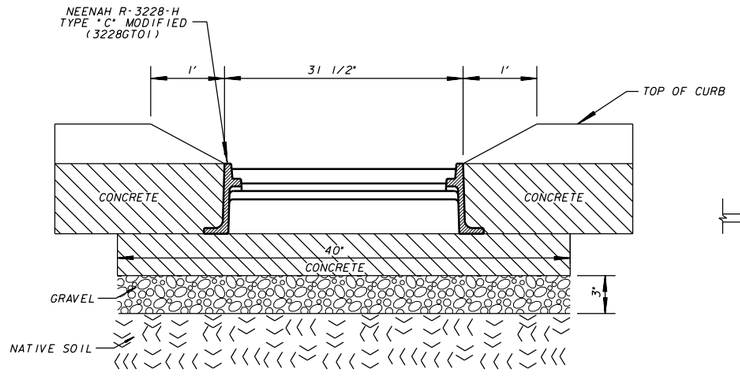
DETAIL OF INFORMATIONAL SIGN
SCALE • N.T.S.



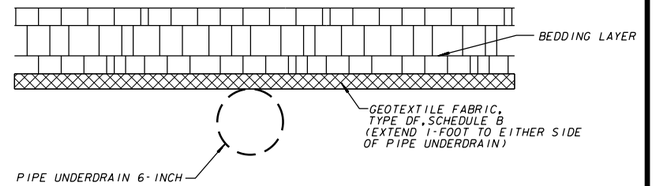
STORM CURB INLET WITH GRATE TYPE "A"
SCALE • N.T.S.



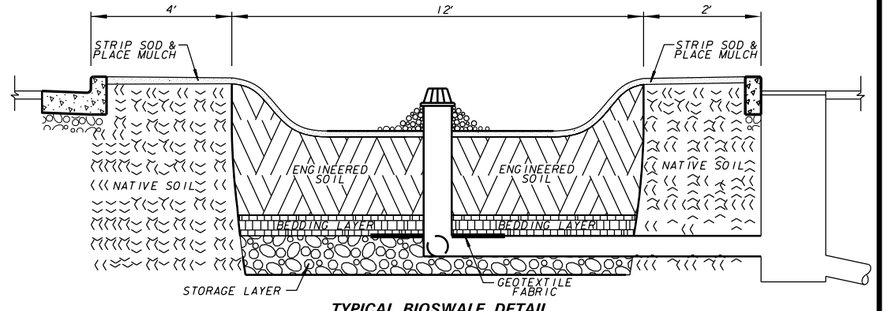
SECTION A-A
SCALE • N.T.S.



SECTION B-B
SCALE • N.T.S.



DETAIL OF GEOTEXTILE FABRIC
SCALE • N.T.S.



TYPICAL BIOSWALE DETAIL
SCALE • N.T.S.

NOTE: STRIP SOD & PLACE MULCH TO BE PAID AS PART OF THE BIOSWALE CONSTRUCTION

NOTE: MULCH IS INCIDENTAL TO THE BIOSWALE PLANTINGS. SEE BIOSWALE PLANS

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	BIO-SWALE DETAIL	SCALE FEET 0' 20'	SHEET NO: 89 E

FILE NAME: W:\

2

TRAFFIC & STREET LIGHTING GENERAL NOTES:

PRIOR TO CONSTRUCTION, THE LOCATION OF UNDERGROUND UTILITIES SHALL BE DETERMINED IN THE FIELD BY CONTACTING "DIGGERS HOTLINE."

STREET LIGHTING & TRAFFIC SIGNALS SHALL BE INSTALLED IN COMPLIANCE WITH WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 652 EXCEPT:

THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INCLUDING REPAIRS, REPLACEMENT OR RELOCATION ETC. OF STREET LIGHTING OR TRAFFIC SIGNAL FACILITIES IF THE CONTRACTOR DOES ANY DEVIATION FROM THE STREET LIGHTING OR TRAFFIC SIGNAL DESIGN WITHOUT THE STREET LIGHTING ENGINEERS SIGNED PERMISSION.

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

2 LOCATIONS OF THE PVC CONDUITS WHERE THEY ARE REQUIRED ARE IDENTIFIED IN THE PRINTS. HOWEVER, INSTALLATION MAY REQUIRE INTEGRATION WITH EXISTING FIELD CONDITIONS. APPROPRIATE ADJUSTMENT ON CONDUIT LOCATIONS MAY BE MADE IF THE FIELD CONDITIONS ARE SUCH THAT THE CONDUIT CANNOT BE INSTALLED AT THE SPECIFIED LOCATIONS. ANY RELOCATIONS MUST BE APPROVED BY THE ENGINEER. FIELD MARK EACH CONDUIT LOCATION BY STAMPING AND PAINTING WITH RED PAINT ON TOP AND BACKSIDE OF CURB.

3 TYPICAL CONDUIT INSTALLED UP TO DIRECT BURIED STREET LIGHT POLES IS AS FOLLOWS 3-INCH OR 2.5-INCH (AS NOTED) SCHEDULE 40 RIGID PVC TO STREET LIGHTING METAL HOUSING (PEDESTAL), THE 1.5-INCH SCHEDULE 40 RIGID PVC TO STREET LIGHT POLE CABLE SLOT, AND THE 2-INCH SCHEDULE 40 RIGID PVC TO SIGNAL STANDARD BASE AND RISER FOR TRAFFIC SIGNAL ON STREET LIGHT POLE.

4 DEPTH OF CONDUIT INSTALLED BELOW THE STREETS, HIGHWAYS, ROADS, AND ALLEYS SHALL BE 24-INCHES MINIMUM AND 36-INCHES MAXIMUM. (MEASURED FROM FINISHED FLANGE LINE)

5 CONDUIT INSTALLED BEHIND CURB, AND UNDER DRIVEWAYS SHALL BE INSTALLED AT A DISTANCE OF 6 INCHES AWAY FROM THE BACK OF CURB TO THE CENTER LINE OF CONDUIT, AND 18 INCHES DOWN MEASURED FROM THE TOP OF CURB OR FINISHED GRADE TO THE TOP OF CONDUIT.

6 WHEN THERE IS MORE THAN ONE CONDUIT TO BE INSTALLED, PLACE ALL CONDUITS IN THE SAME TRENCH.

7 ANY EXCEPTION TO THE MINIMUM OR MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

8 THE CONTRACTOR OR HIS SUBCONTRACTOR MUST MAKE SURE THE AREA BEHIND CURB AND/OR TRENCH SHALL BE FREE OF DEBRIS AND OVERPOUR AND SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

9 BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

10 ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON ALL CONDUITS. (SEE NEC 352.28 2008 CODE)

11 PRIOR TO CONDUIT ACCEPTANCE, ALL CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND BE CAPPED IMMEDIATELY AFTER INSTALLATION WITH THE APPROPRIATE CAST PLASTIC CAP WHICH FITS SNUGGLY ON THE CONDUIT, BUT EASILY REMOVED IN THE FUTURE. DUCT TAPE OR ANY OTHER CAPPING METHOD IS NOT ACCEPTABLE.

12 ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

13 CONDUIT RUNS SHALL BE THE SAME SIZE PIPE FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX OR JUNCTION BOX OR BASE TO BASE, ETC.).

14 PULL ROPE (3/8-INCH NYLON) SHALL BE INSTALLED IN ALL NEW CONDUIT.

15 ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS UNLESS OTHERWISE APPROVED BY THE STREET LIGHTING ENGINEER.

16 WHEN ENDS OF CONDUIT DO NOT CONNECT TO A PULL BOX / VAULT AND WILL END UP UNDER CONCRETE WALK. THE CONTRACTOR IS REQUIRED TO LEAVE A 24" X 24" BOX FORM CENTERED OVER THE END OF CONDUIT AND FILL THE BOXFORM WITH CRUSHED GRAVEL. (PER WISDOT SPEC 209.2.1(1) GRANULAR BACKFILL)

17 ALL PIPE CROSSINGS AND PULL BOXES / VAULTS SHALL BE AT LEAST SIX (6) FEET AWAY FROM FIRE HYDRANTS, UNLESS NOTED OTHERWISE, OR APPROVED BY THE STREET LIGHTING ENGINEER.

18 ALL POLES AND TRAFFIC STANDARDS IN CONCRETE ARE REQUIRED TO HAVE A 30"X30" BOX SHAPED JOINT PLACED AROUND THEM USING AN EXPANSION JOINT FILLER. UNLESS NOTED OTHERWISE (SEE DETAIL 122)

19 TYPICAL RECTANGULAR PULL BOXES / VAULTS SHOULD BE INSTALLED AS SHOWN ON PLANS, BUT WHEN IT IS NOT POSSIBLE, A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS AND FIRE HYDRANTS SHOULD BE USED, OTHERWISE APPROVED BY THE STREET LIGHTING ENGINEER.

TRAFFIC & STREET LIGHTING GENERAL NOTES:

20 COORDINATE NEW CONDUIT CONNECTIONS WITH EXISTING CONDUIT, DUCT PACKAGES, AND PULL BOXES/ VAULTS/ MANHOLES WITH CITY OF MILWAUKEE STREET LIGHTING. THE CITY REQUIRES THREE WORKING DAYS ADVANCED NOTICE. CONTACT ELECTRICAL SUPERVISOR
STREET LIGHTING - DENNIS MILLER (OFFICE) 414-286-5942 (CELL) 414-708-4251 OR DISPATCHER @ 414-286-5944
TRAFFIC SIGNALS - AL NICHOLS (OFFICE) 414-286-3687 (CELL) 414-708-5148 OR DISPATCHER @ 414-286-3687

21 IMMEDIATELY AFTER THE CONTRACTOR HAS COMPLETED ALL THE ELECTRICAL PULL BOXES / VAULTS, CONDUIT AND CONDUIT CONNECTIONS, AND JUST BEFORE ELECTRICAL WORK IS COVERED UP WITH CONRETE, SOIL, OR ETC. THE CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SHOP SUPERVISORS FOR FINAL INSPECTION AND APPROVAL OF ALL WORK.
STREET LIGHTING - DENNIS MILLER (OFFICE) 414-286-5942 (CELL) 414-708-4251
STREET LIGHTING - GEORGE BERDINE (OFFICE) 414-286-5943 (CELL) 414-708-4245
STREET LIGHTING - THOMAS HUGHES (OFFICE) 414-286-3457 (CELL) 414-708-3175
STREET LIGHTING - DISPATCHER @ 414-286-5944
TRAFFIC SIGNALS - AL NICHOLS (OFFICE) 414-286-5941 (CELL) 414-708-5148
TRAFFIC SIGNALS - DISPATCHER @ 414-286-3687

22 CONDUIT WILL ONLY BE INSTALLED AFTER THE CURB IS POURED, UNLESS APPROVED BY BOTH THE ENGINEER & STREET LIGHTING SHOP SUPERVISOR.

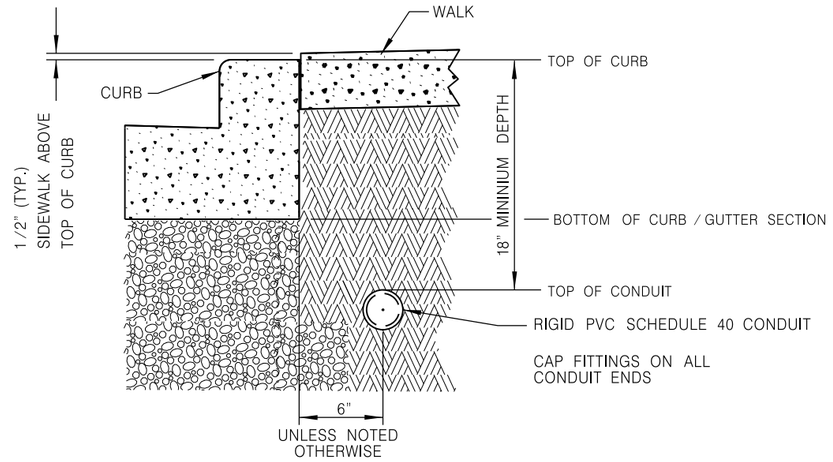
2

SHEET 1 OF 7

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS	SHEET 90	E

FILE NAME : W:\bes\pavings\2017work\n91 St – Mill to Good Hope (2504–00–71)\n91st St – Mill to Good Hope (Contr Installation).dgn PLOT DATE : 28–OCT–2016 08:25 PLOT BY : dkozel PLOT NAME : PLOT SCALE : 20.000000:1.000000
WISDOT/CADDS SHEET 42

NOTE: 1.) KEEP AREA BEHIND CURB FREE OF DEBRIS AND CONCRETE OVERPOUR.
2.) CONDUIT TO BE PLACED 6 INCHES ON CENTER DIRECTLY BEHIND CURB, UNLESS NOTED OR APPROVED BY ENGINEER.



DETAIL "A"

100

TYPICAL CONDUIT INSTALLATION BEHIND CURB

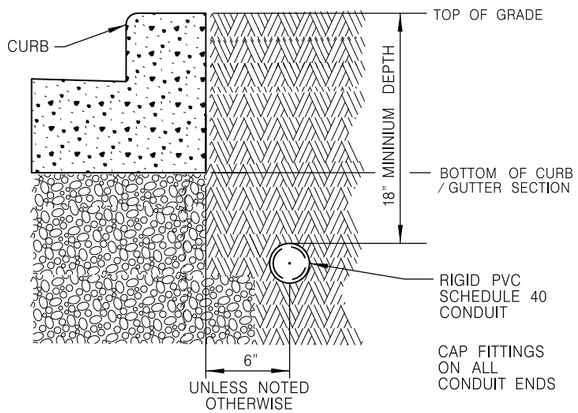
NOT TO SCALE

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286–5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

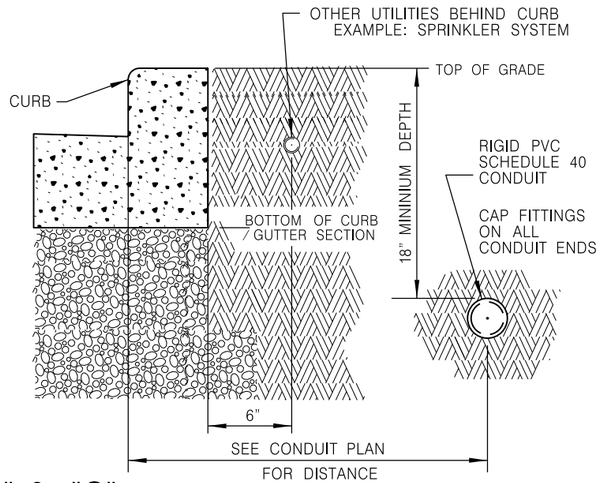
NOTE: 1.) KEEP AREA BEHIND CURB FREE OF DEBRIS AND CONCRETE OVERPOUR.

DETAIL "B"

CONDUIT TO BE PLACED 6" ON CENTER DIRECTLY BEHIND CURB, UNLESS NOTED OR APPROVED BY ENGINEER.



DETAIL "C"



DETAIL "B" & "C"

100

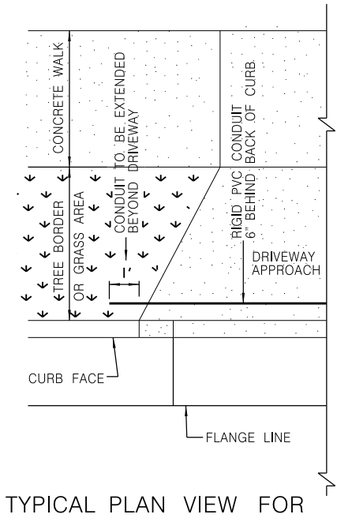
TYPICAL CONDUIT INSTALLATION BEHIND CURB

NOT TO SCALE

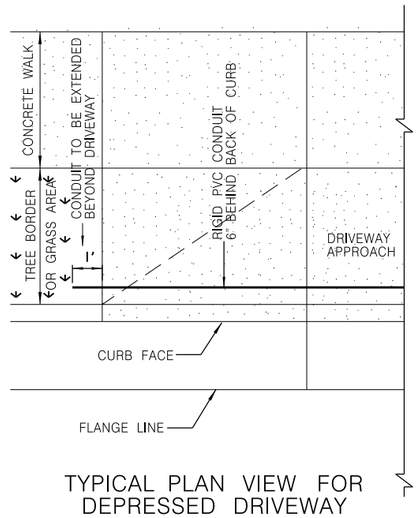
SHEET 2 OF 7

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS	SHEET 91	E

FILE NAME : W:\bes\pavings\2017work\n91 St – Mill to Good Hope (2504–00–71)\n91st St – Mill to Good Hope (Contr Installation).dgn
PLOT DATE : 28–OCT–2016 08:25
PLOT BY : dkozel
PLOT NAME :
PLOT SCALE : 20.000000:1.000000
WISDOT/CADDS SHEET 42

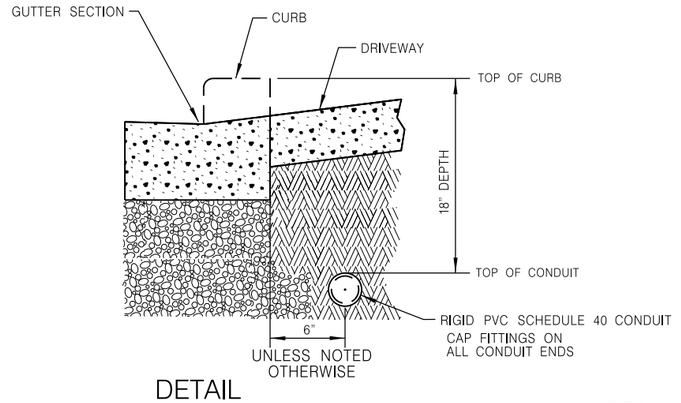


TYPICAL PLAN VIEW FOR FLARED DRIVEWAY



TYPICAL PLAN VIEW FOR DEPRESSED DRIVEWAY

NOTE: 1.) KEEP AREA BEHIND CURB FREE OF DEBRIS AND CONCRETE OVERPOUR.
2.) CONDUIT TO BE PLACED 6 INCHES ON CENTER DIRECTLY BEHIND CURB, UNLESS NOTED OR APPROVED BY ENGINEER.



101 DETAIL — NOT TO SCALE

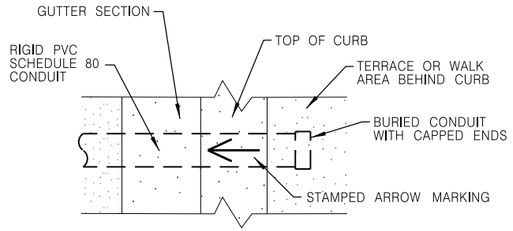
TYPICAL CONDUIT INSTALLATION UNDER DRIVEWAYS OR PEDESTRIAN RAMPS

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286–5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

SHEET 3 OF 7

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS	SHEET 92	E

FILE NAME : W:\bes\pavings\2017work\n91 St – Mill to Good Hope (2504–00–71)\n91st St – Mill to Good Hope (Contr Installation).dgn PLOT DATE : 28–OCT–2016 08:26 PLOT BY : dkozel PLOT NAME : PLOT SCALE : 20.000000:1.000000
WISDOT/CADDS SHEET 42

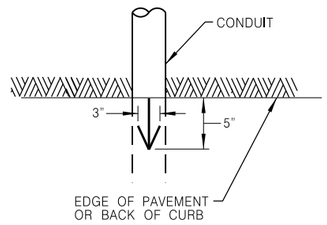


TOP VIEW OF CURB STAMPING

NOT TO SCALE

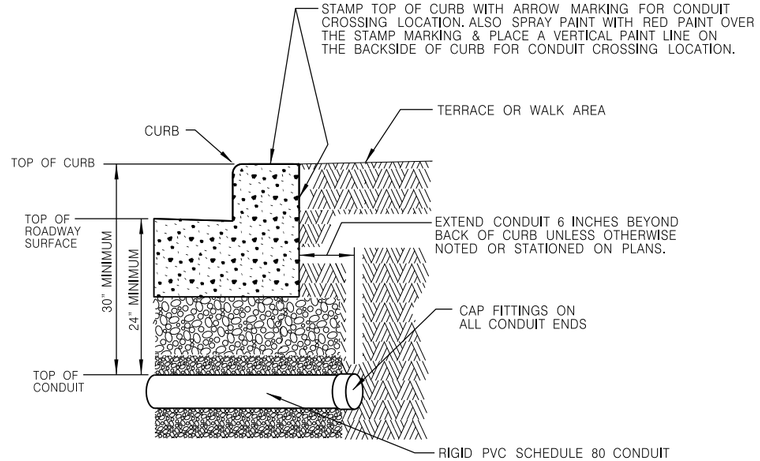
NOTE:

ARROW MARK SHALL BE INSCRIBED IN PAVEMENT SURFACE 1/4-INCH TO 3/8-INCH DEEP AT EACH LOCATION WHERE CONDUITS ARE PLACED UNDER THE PAVEMENT.



ARROW MARK

NOT TO SCALE



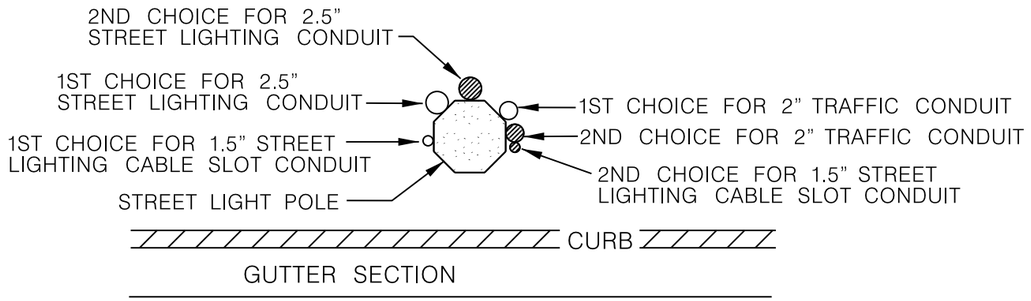
102 DETAIL VERSION #1

TYPICAL CONDUIT INSTALLATION FOR CROSSING ROADWAYS

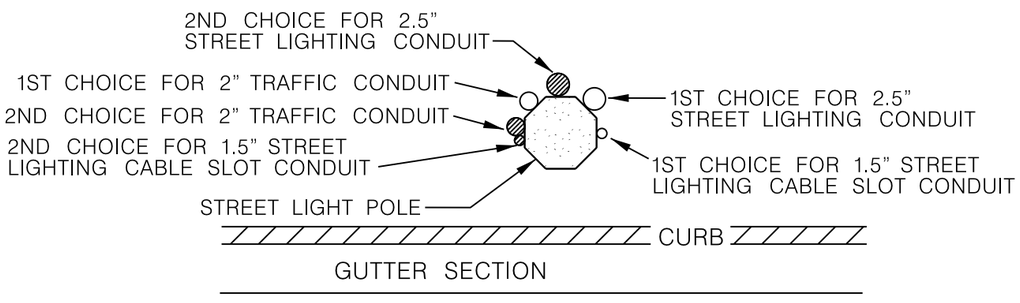
NOT TO SCALE

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES. CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

NOTE: CAP FITTINGS ON CONDUIT ENDS



DIRECTION OF TRAFFIC AT CURB



DIRECTION OF TRAFFIC AT CURB

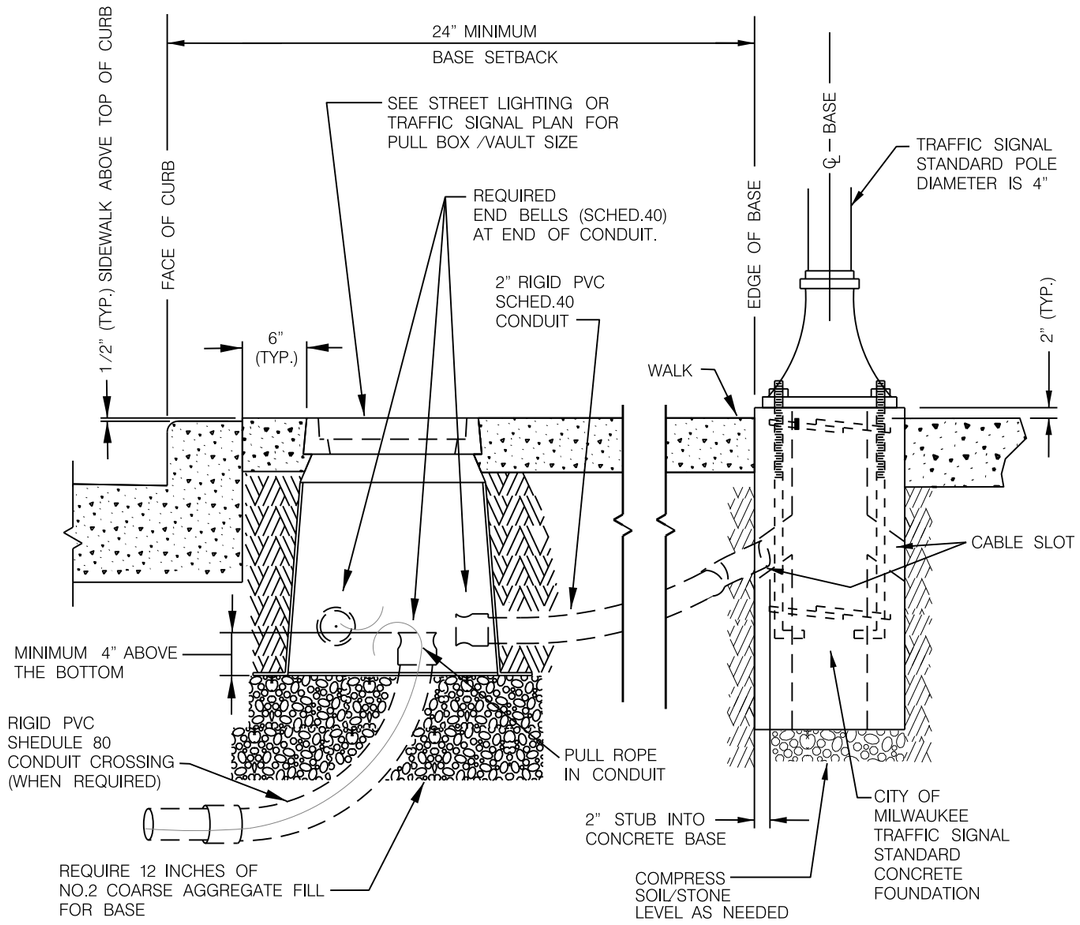
104 DETAIL

TYPICAL TRAFFIC SIGNAL RISER AND STREET LIGHTING CONDUIT LOCATIONS ON LIGHT POLES DEPENDING ON DIRECTION OF TRAFFIC AT CURB

NOT TO SCALE

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM TRAFFIC / STREET LIGHTING FORCES. CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

2



109 DETAIL

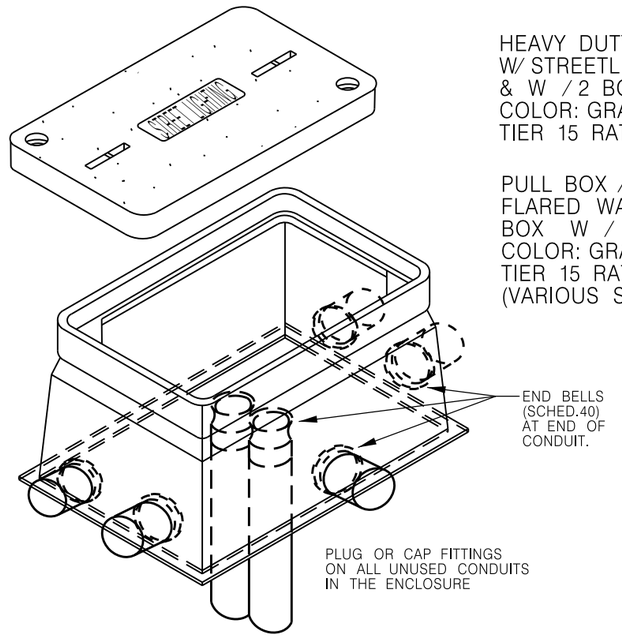
TYPICAL CONDUIT INSTALLATION FROM PULL BOX / VAULT TO SIGNAL STANDARD AND TYPICAL BASE INSTALLATION

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

NOT TO SCALE

SHEET 6 OF 7

PROJECT NO: 2504-00-71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS	SHEET 95	E

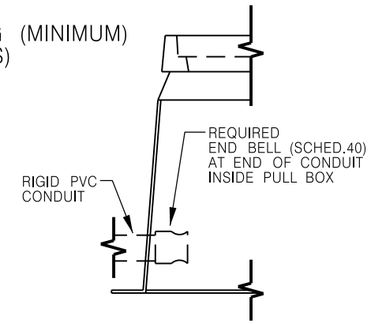


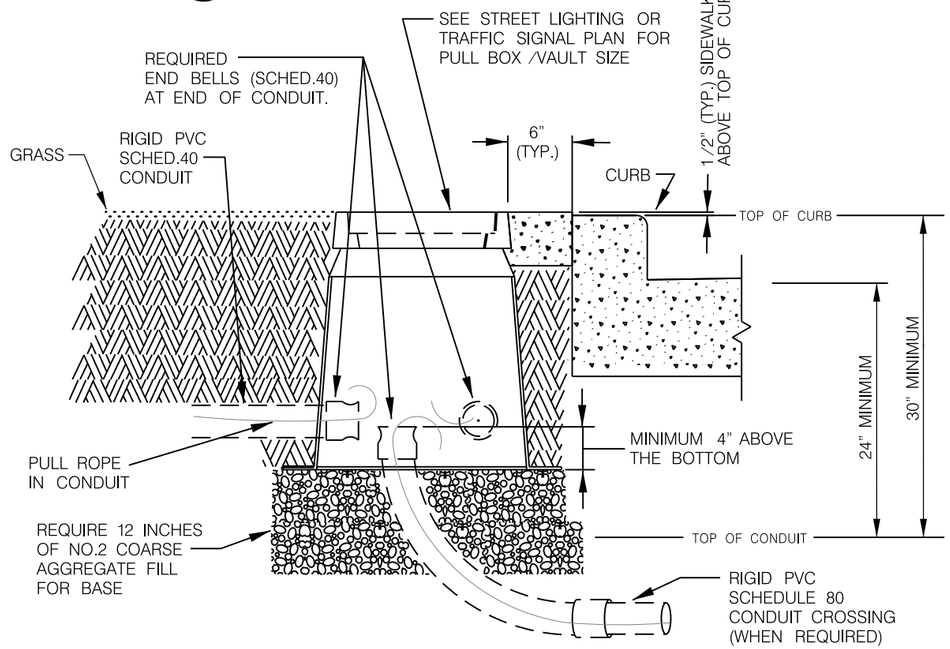
HEAVY DUTY COVER
W/ STREETLIGHTING LOGO
& W / 2 BOLTS
COLOR: GRAY
TIER 15 RATING (MINIMUM)

PULL BOX /VAULT
FLARED WALL
BOX W / NO BASE
COLOR: GRAY
TIER 15 RATING (MINIMUM)
(VARIOUS SIZES)

END BELLS
(SCHED.40)
AT END OF
CONDUIT.

PLUG OR CAP FITTINGS
ON ALL UNUSED CONDUITS
IN THE ENCLOSURE





112 DETAIL

TYPICAL PULL BOX /VAULT INSTALLATION
IN EITHER PAVEMENT OR GRASS AREAS

NOT TO SCALE

ANY DEVIATIONS FROM DETAIL WILL REQUIRE PERMISSION FROM STREET LIGHTING FORCES.
CONTACT DISPATCHER AT (414) 286-5944 FOR THE APPROPRIATE SHOP SUPERVISOR.

SHEET 7 OF 7

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS	SHEET 96	E

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

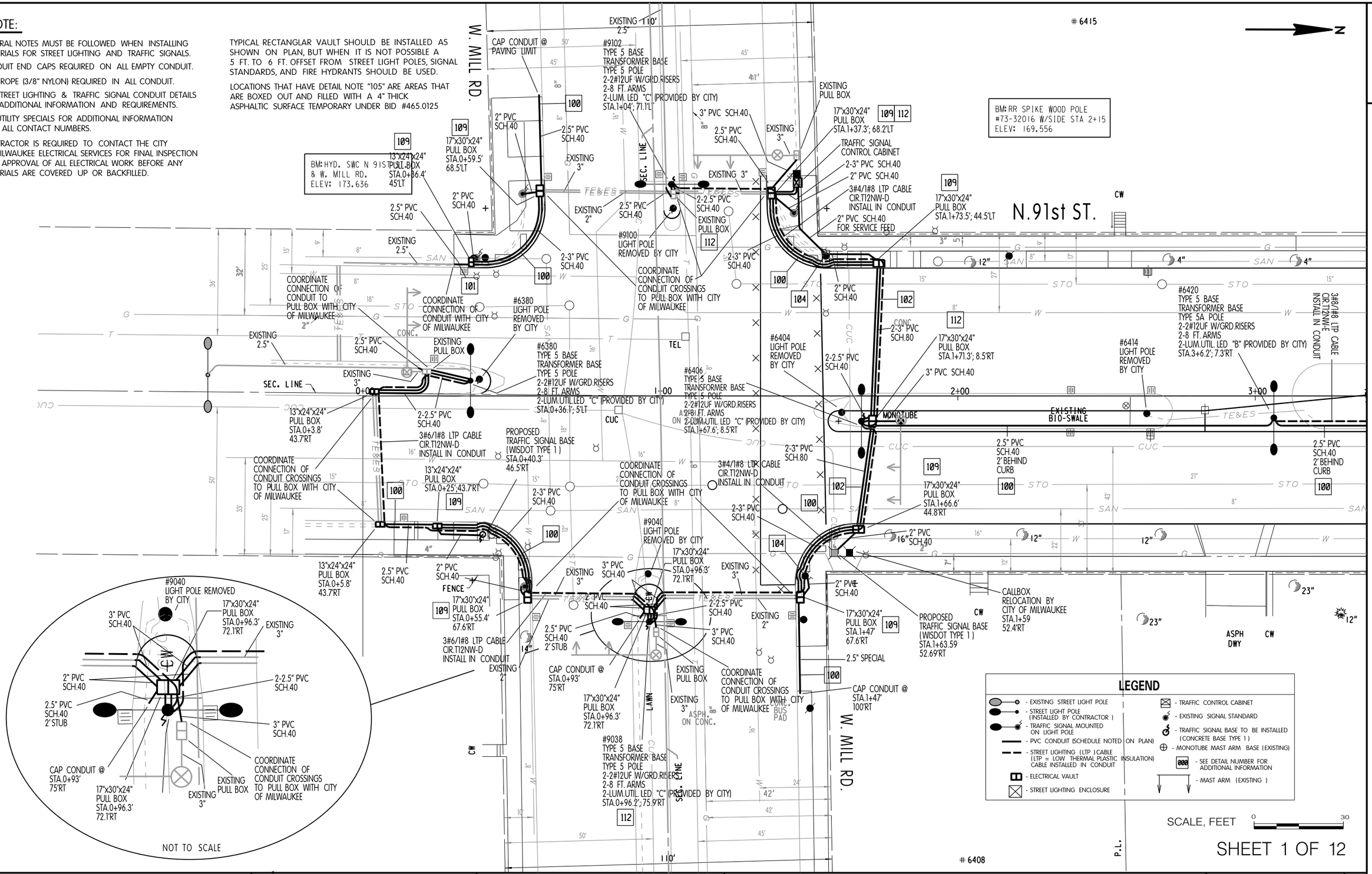
SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

TYPICAL RECTANGLAR VAULT SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS, AND FIRE HYDRANTS SHOULD BE USED.

LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125



PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 97	E

FILE NAME : W:\bes\pavings\2017work\n91 St – Mill to Good Hope (2504–00–71)\n91st St – Mill to Good Hope (Contr Installation).dgn
PLOT DATE : 28–OCT–2016 08:15
PLOT BY : dkozel
PLOT NAME :
PLOT SCALE : 30.000000:1.000000
WISDOT/CADDS SHEET 42

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

TYPICAL RECTANGLAR VAULT SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS, AND FIRE HYDRANTS SHOULD BE USED.

LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125

6457 # 6477 # 6501

N

N.91st ST.

P.L. P.L. P.L. P.L.

ASPH DWY ASPH DWY ASPH DWY

#6436 LIGHT POLE REMOVED BY CITY

#6440 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL. LED "B" (PROVIDED BY CITY) STA.4+44.8'; 3'RT

#6450 LIGHT POLE REMOVED BY CITY

#6454 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL. LED "B" (PROVIDED BY CITY) STA.5+83.4'; 3'RT

#6466 LIGHT POLE REMOVED BY CITY

#6470 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL. LED "B" (PROVIDED BY CITY) STA.7+22'; 3'RT

3#8/1#8 LTP CABLE CIR.IT2NW-E INSTALL IN CONDUIT

4+00 5+00 6+00 7+00 8+00 SEC. LINE

2.5" PVC SCH.40 2' BEHIND CURB 100

BM: HYD. E/SIDE @ STA 4+30 ELEV: 168.010

BM: HYD. E/SIDE @ STA 7+50 ELEV: 163.083

ASPH DWY CONC DWY CW

LEGEND

- EXISTING STREET LIGHT POLE
- STREET LIGHT POLE (INSTALLED BY CONTRACTOR)
- TRAFFIC SIGNAL MOUNTED ON LIGHT POLE
- PVC CONDUIT (SCHEDULE NOTED ON PLAN)
- STREET LIGHTING (LTP) CABLE (LTP = LOW THERMAL PLASTIC INSULATION) CABLE INSTALLED IN CONDUIT
- ELECTRICAL VAULT
- STREET LIGHTING ENCLOSURE
- TRAFFIC CONTROL CABINET
- EXISTING SIGNAL STANDARD
- TRAFFIC SIGNAL BASE TO BE INSTALLED (CONCRETE BASE TYPE 1)
- MONOTUBE MAST ARM BASE (EXISTING)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- MAST ARM (EXISTING)

SCALE, FEET 0 30

6442 # 6446-48 # 6450-52 # 6460

SHEET 2 OF 12

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 98	E

FILE NAME : W:\bes\pavings\2017work\n91 St – Mill to Good Hope (2504–00–71)\n91st St – Mill to Good Hope (Contr Installation).dgn PLOT DATE : 28–OCT–2016 08:15 PLOT BY : dkozel PLOT NAME : PLOT SCALE : 30.000000:1.000000

WISDOT/CADDS SHEET 42

2

2

6515

6539

P.L.

P.L.

P.L.

BM: RR SPIKE WOOD POLE
#96-00061 W/SIDE STA 9+35
ELEV: 159.483

GRAVEL DWY

CONC DWY

CONC DWY

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

TYPICAL RECTANGLAR VAULT SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS, AND FIRE HYDRANTS SHOULD BE USED.

LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125

N

9105 W. RIVERWOODS DR.

BM: RR SPIKE WOOD POLE
#72-2055 SWC W. RIVERWOODS
ELEV: 155.919

N.91st ST.

3#6/1#8 LTP CABLE CIR.1T2NW-E INSTALL IN CONDUIT

#6504
LIGHT POLE
REMOVED
BY CITY

#6504
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.8+60.6', 3'RT

2.5" PVC SCH.40

EXISTING BIO-SWALE

BIOSWALE

9+00

TE&ES

CONC

#6530
LIGHT POLE
REMOVED
BY CITY

#6530
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.10+8.2', 3'RT

10+00

11+00

#6544
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.11+49.2', 2.7'LT

12+00

SEC. LINE

EXISTING BIO-SWALE

2.5" PVC SCH.40 2' BEHIND CURB 100

13"x24"x24" PULL BOX STA.8+63.6' 10'RT 112

2.5" PVC SCH.80 102

13"x24"x24" PULL BOX STA.9+34.7' 10'RT 112

2.5" PVC SCH.40 2' BEHIND CURB 100

2.5" PVC SCH.40 2' BEHIND CURB 100

#6544
LIGHT POLE
REMOVED
BY CITY

2.5" PVC SCH.40 2' BEHIND CURB 100

CUC

CW

CONC DWY

LEGEND

- EXISTING STREET LIGHT POLE
- STREET LIGHT POLE (INSTALLED BY CONTRACTOR)
- TRAFFIC SIGNAL MOUNTED ON LIGHT POLE
- PVC CONDUIT (SCHEDULE NOTED ON PLAN)
- STREET LIGHTING (LTP) CABLE (LTP = LOW THERMAL PLASTIC INSULATION) CABLE INSTALLED IN CONDUIT
- ELECTRICAL VAULT
- STREET LIGHTING ENCLOSURE
- TRAFFIC CONTROL CABINET
- EXISTING SIGNAL STANDARD
- TRAFFIC SIGNAL BASE TO BE INSTALLED (CONCRETE BASE TYPE 1)
- MONOTUBE MAST ARM BASE (EXISTING)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- MAST ARM (EXISTING)

SCALE, FEET 0 30

SHEET 3 OF 12

P.L. # 6506 P.L. # 6534 P.L. # 6540 P.L. # 6548

PROJECT NO: 2504-00-71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 99	E

FILE NAME : W:\bes\pavings\2017work\n91 St – Mill to Good Hope (2504-00-71)\n91st St – Mill to Good Hope (Contr Installation).dgn PLOT DATE : 28-OCT-2016 08:15 PLOT BY : dkozel PLOT NAME : PLOT SCALE : 30.000000:1.000000

WISDOT/CADDS SHEET 42

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

TYPICAL RECTANGLAR VAULT SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS, AND FIRE HYDRANTS SHOULD BE USED.

LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125

W. RIVERWOODS DR.

N.91st ST.

CAP CONDUIT @ STA.12+90' 44'LT

#6564 LIGHT POLE REMOVED BY CITY

#6564 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL LED "B" (PROVIDED BY CITY) STA.12+95'; 3'LT

#6582 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL LED "B" (PROVIDED BY CITY) STA.14+40.1'; 3.8'RT

#6584 LIGHT POLE REMOVED BY CITY

#6612 LIGHT POLE REMOVED BY CITY

#6618 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL LED "B" (PROVIDED BY CITY) STA.15+79.5'; 9'LT

#6632 LIGHT POLE REMOVED BY CITY

#6634 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL LED "B" (PROVIDED BY CITY) STA.17+18.9'; 7.1'RT

3#4/1#8 LTP CABLE CIR.T12NW-E INSTALL IN CONDUIT

2.5" PVC SCH.40

2.5" PVC SCH.80

13"x24"x24" PULL BOX STA.12+90' 2'LT

13"x24"x24" PULL BOX STA.13+80.6' 9.4'RT

13"x24"x24" PULL BOX STA.14+53.3' 44'RT

13"x24"x24" PULL BOX STA.14+74.1' 64.9'RT

13"x24"x24" PULL BOX STA.15+12.5' 64.9'RT

13"x24"x24" PULL BOX STA.15+46' 10'RT

13"x24"x24" PULL BOX STA.15+46' 44'RT

2.5" PVC SCH.40 2' BEHIND CURB

#9031 TYPE 5 BASE TRANSFORMER BASE 22' FT. ALPOLE (PROVIDED BY CITY) 2#12UF W/GRD.RISER 6 FT. ARM (PROVIDED BY CITY) LUM.UTIL LED "A" (PROVIDED BY CITY) STA.14+75'; 69.9'RT

#9029 LIGHT POLE REMOVED BY CITY

CAP CONDUIT @ PAVING LIMIT

BIOSWALE

EXISTING BIO-SWALE

W. ACACIA ST.

CONC DWY

ASPH DWY

ASPH.

BM: HYD. NEC W. ACACIA ST. ELEV: 155.011

LEGEND

- EXISTING STREET LIGHT POLE
- STREET LIGHT POLE (INSTALLED BY CONTRACTOR)
- TRAFFIC SIGNAL MOUNTED ON LIGHT POLE
- PVC CONDUIT (SCHEDULE NOTED ON PLAN)
- STREET LIGHTING (LTP) CABLE (LTP = LOW THERMAL PLASTIC INSULATION) CABLE INSTALLED IN CONDUIT
- ELECTRICAL VAULT
- STREET LIGHTING ENCLOSURE
- TRAFFIC CONTROL CABINET
- EXISTING SIGNAL STANDARD
- TRAFFIC SIGNAL BASE TO BE INSTALLED (CONCRETE BASE TYPE 1)
- MONOTUBE MAST ARM BASE (EXISTING)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- MAST ARM (EXISTING)

SCALE, FEET 0 30

SHEET 4 OF 12

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 100	E

FILE NAME : W:\bes\pavings\2017work\n91 St – Mill to Good Hope (2504–00–71)\n91st St – Mill to Good Hope (Contr Installation).dgn PLOT DATE : 28–OCT–2016 08:15 PLOT BY : dkozel PLOT NAME : PLOT SCALE : 30.000000:1.000000

WISDOT/CADDS SHEET 42

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

TYPICAL RECTANGLAR VAULT SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS, AND FIRE HYDRANTS SHOULD BE USED.

LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125

BM: RR SPIKE WOOD POLE
#01-15101 SWC EDGEWATER
ELEV: 146.110

#9108 W. EDGEWATER DR.

N.91st ST.

W. EDGEWATER DR.

CAP CONDUIT @ STA.20+79.3' 44'LT

#6654 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL. LED "B" (PROVIDED BY CITY) STA.18+63.2'; 1.6'RT

#6656 LIGHT POLE REMOVED BY CITY

#6668 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL. LED "B" (PROVIDED BY CITY) STA.20+2.6'; 3'LT

#6674 LIGHT POLE REMOVED BY CITY

#6704 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL. LED "B" (PROVIDED BY CITY) STA.21+45.5'; 1'LT

#6716 LIGHT POLE REMOVED BY CITY

3#4/1#8 LTP CABLE CIR.T12NW-E INSTALL IN CONDUIT

2.5" PVC SCH.40 2' BEHIND CURB

2.5" PVC SCH.80

2.5" PVC SCH.80 CONC.

13"x24"x24" PULL BOX STA.20+75.8' 2'LT

13"x24"x24" PULL BOX STA.21+43.5' 2.4'RT

EXISTING BIO-SWALE

BIO-SWALE

18+00 19+00 20+00 21+00 22+00

5" SEC. LINE

BM: 1ST CONC STEP NWC
PORCH #6650 N. 91ST ST.
ELEV: 150.872

PATIO STONES

CONC DWY

ASPH.

CW

LEGEND

- EXISTING STREET LIGHT POLE
- STREET LIGHT POLE (INSTALLED BY CONTRACTOR)
- TRAFFIC SIGNAL MOUNTED ON LIGHT POLE
- PVC CONDUIT (SCHEDULE NOTED ON PLAN)
- STREET LIGHTING (LTP) CABLE (LTP = LOW THERMAL PLASTIC INSULATION) CABLE INSTALLED IN CONDUIT
- ELECTRICAL VAULT
- STREET LIGHTING ENCLOSURE
- TRAFFIC CONTROL CABINET
- EXISTING SIGNAL STANDARD
- TRAFFIC SIGNAL BASE TO BE INSTALLED (CONCRETE BASE TYPE 1)
- MONOTUBE MAST ARM BASE (EXISTING)
- SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- MAST ARM (EXISTING)

RESERVATION FOR STREET PURPOSES 30'

SCALE, FEET 0 30

6644 # 6650 # 6658 # 6666 # 6674 # 6682 # 6702

SHEET 5 OF 12

PROJECT NO: 2504-00-71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 101	E

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

TYPICAL RECTANGLAR VAULT SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS, AND FIRE HYDRANTS SHOULD BE USED.

LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125

BM: HYD. W/SIDE @ STA 24+00 ELEV: 144.047

N.91st ST.

DRAINAGE R.O.W.

#6726 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL LED "B" (PROVIDED BY CITY) STA.22+81.4'; 3'RT

3#4/1#8 LTP CABLE CIR.T2NW-E INSTALL IN CONDUIT

#6738 LIGHT POLE REMOVED BY CITY

EXISTING BIO-SWALE

#6744 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL LED "B" (PROVIDED BY CITY) STA.24+20.8'; 3'RT

#6752 LIGHT POLE REMOVED BY CITY

#6756 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL LED "B" (PROVIDED BY CITY) STA.25+60.2'; 3'RT

#6770 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL LED "B" (PROVIDED BY CITY) STA.26+97.3'; 3'RT

#6768 LIGHT POLE REMOVED BY CITY

2.5" PVC SCH.40 2' BEHIND CURB 100

CONC DWY · GRAVEL DWY · GRAVEL · CONC DWY · GRAVEL DWY · GRAVEL · ASPH DWY · CONC DWY · RESERVATION FOR STREET PURPOSES 30' · LAWN · WETLAND

72" mmsd · MMSD · SEC. LINE · 22+00 · 23+00 · 24+00 · 25+00 · 26+00 · 27+00

triple 10' x 6' box culvert

LEGEND

- EXISTING STREET LIGHT POLE
- STREET LIGHT POLE (INSTALLED BY CONTRACTOR)
- TRAFFIC SIGNAL MOUNTED ON LIGHT POLE
- PVC CONDUIT (SCHEDULE NOTED ON PLAN)
- STREET LIGHTING (LTP) CABLE (LTP = LOW THERMAL PLASTIC INSULATION) CABLE INSTALLED IN CONDUIT
- ELECTRICAL VAULT
- STREET LIGHTING ENCLOSURE
- TRAFFIC CONTROL CABINET
- EXISTING SIGNAL STANDARD
- TRAFFIC SIGNAL BASE TO BE INSTALLED (CONCRETE BASE TYPE 1)
- MONOTUBE MAST ARM BASE (EXISTING)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- MAST ARM (EXISTING)

SCALE, FEET 0 30

SHEET 6 OF 12

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 102	E

FILE NAME : W:\bes\pavings\2017work\n91 St – Mill to Good Hope (2504–00–71)\n91st St – Mill to Good Hope (Contr Installation).dgn PLOT DATE : 28–OCT–2016 08:15 PLOT BY : dkozel PLOT NAME : PLOT SCALE : 30.000000:1.000000

WISDOT/CADDS SHEET 42

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

TYPICAL RECTANGLAR VAULT SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS, AND FIRE HYDRANTS SHOULD BE USED.

LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125

BM: HYD. W/SIDE @ STA 29+30 ELEV: 144.041

BM: RR SPIKE WOOD #81-04937 W/SIDE ELEV: 146.088

N

N.91st ST.

6825 | # 6827 | # 6833 | # 6851

P.L. | P.L. | P.L.

ASPH DWY | R.R. TIES | GRAVEL DWY

#6808 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL LED "B" (PROVIDED BY CITY) STA.28+34'; 9'RT

#6820 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL LED "B" (PROVIDED BY CITY) STA.29+70.7'; 3.7'RT

#6820 LIGHT POLE REMOVED BY CITY

#6842 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL LED "B" (PROVIDED BY CITY) STA.31+10.7'; 3'RT

6844 LIGHT POLE REMOVED BY CITY

#6804 LIGHT POLE REMOVED BY CITY

3#6/1#8 LTP CABLE CIR.T8NW-D INSTALL IN CONDUIT

13"x24"x24" PULL BOX STA.27+17.7' 10'RT

13"x24"x24" PULL BOX STA.27+84.9' 10'RT

13"x24"x24" PULL BOX STA.27+16.7' 44'RT

13"x24"x24" PULL BOX STA.27+84.9' 44'RT

13"x24"x24" PULL BOX STA.27+70.9' 88.6'RT

13"x24"x24" PULL BOX STA.27+32.7' 88.6'RT

#9038 TYPE 5 BASE TRANSFORMER BASE 22 FT AL.POLE (PROVIDED BY CITY) 2#12UF W/GRD.RISER 6 FT. ARM (PROVIDED BY CITY) LUM.UTIL LED "A" (PROVIDED BY CITY) STA.27+31'; 76.7'RT

#9033 LIGHT POLE REMOVED BY CITY

2.5" PVC SCH.80

2.5" PVC SCH.40

2.5" PVC SCH.40 2' BEHIND CURB

CAP CONDUIT @ PAVING LIMIT

EXISTING BIO-SWALE

BIOSWALE

W. DENVER AVE.

28+00 | 29+00 | 30+00 | 31+00

TE&ES | CUC | STO | SAN | W | G | CONC. | CONC DWY | ASPH

MMSD

179° 53' 55"

LEGEND

- EXISTING STREET LIGHT POLE
- STREET LIGHT POLE (INSTALLED BY CONTRACTOR)
- TRAFFIC SIGNAL MOUNTED ON LIGHT POLE
- PVC CONDUIT (SCHEDULE NOTED ON PLAN)
- STREET LIGHTING (LTP) CABLE (LTP = LOW THERMAL PLASTIC INSULATION) CABLE INSTALLED IN CONDUIT
- ELECTRICAL VAULT
- STREET LIGHTING ENCLOSURE
- TRAFFIC CONTROL CABINET
- EXISTING SIGNAL STANDARD
- TRAFFIC SIGNAL BASE TO BE INSTALLED (CONCRETE BASE TYPE 1)
- MONOTUBE MAST ARM BASE (EXISTING)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- MAST ARM (EXISTING)

SCALE, FEET 0 30

6800 | # 6814 | # 6824 | # 6834

SHEET 7 OF 12

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 103	E

FILE NAME : W:\bes\pavings\2017work\n91 St – Mill to Good Hope (2504–00–71)\n91st St – Mill to Good Hope (Contr Installation).dgn | PLOT DATE : 28–OCT–2016 08:15 | PLOT BY : dkozel | PLOT NAME : | PLOT SCALE : 30.000000:1.000000

WISDOT/CADDS SHEET 42

2

POLE
STA 31+90

6867

6881

BM: RR SPIKE WOOD POLE
#81-04936 W/SIDE STA 34+15
ELEV: 151.342

6911

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

6919

TYPICAL RECTANGLAR VAULT SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS, AND FIRE HYDRANTS SHOULD BE USED.

LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125

69

N

P.L.

CONC DWY

ASPH DWY

STONE

N.91st ST.

SEC. LINE

#6858
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL. LED "B" (PROVIDED BY CITY)
STA.32+55.7'; 3'RT

#6860
LIGHT POLE
REMOVED
BY CITY

#6900
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL. LED "B" (PROVIDED BY CITY)
STA.33+95.7'; 3.4'RT

#6902
LIGHT POLE
REMOVED
BY CITY

#6918
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL. LED "B" (PROVIDED BY CITY)
STA.35+35.7'; 3'RT

#6920
LIGHT POLE
REMOVED
BY CITY

3#6/1#8 LTP CABLE CIR.T8NW-D INSTALL IN CONDUIT

3#4/1#8 LTP CABLE CIR.T8NW-D INSTALL IN CONDUIT

13"x24"x24" PULL BOX STA.33+5.7' 10'RT

13"x24"x24" PULL BOX STA.33+86.8' 10'RT

13"x24"x24" PULL BOX STA.33+5.7' 44'RT

13"x24"x24" PULL BOX STA.33+53.1' 123.2'RT

13"x24"x24" PULL BOX STA.33+96.8' 123.2'RT

13"x24"x24" PULL BOX STA.33+29.5' 123.2'RT

BIOSWALE
EXISTING
BIO-SWALE

2.5" PVC SCH.40 2' BEHIND CURB

2.5" PVC SCH.80

2.5" PVC SCH.40

2.5" SPECIAL

#9015
TYPE 5 BASE
22 FT. AL.POLE (PROVIDED BY CITY)
2#12UF W/GRD.RISER
6 FT. ARM (PROVIDED BY CITY)
LUM.UTIL. LED "A" (PROVIDED BY CITY)
STA.33+54.5'; 138.2'RT

#9017
LIGHT POLE
REMOVED
BY CITY

#9018
LIGHT POLE
REMOVED
BY CITY

#9020
TYPE 5 BASE
22 FT. AL.POLE (PROVIDED BY CITY)
2#12UF W/GRD.RISER
6 FT. ARM (PROVIDED BY CITY)
LUM.UTIL. LED "A" (PROVIDED BY CITY)
STA.33+95.4'; 152.5'RT

W. CHEYENNE CT.

6860

LEGEND

- EXISTING STREET LIGHT POLE
- STREET LIGHT POLE (INSTALLED BY CONTRACTOR)
- TRAFFIC SIGNAL MOUNTED ON LIGHT POLE
- PVC CONDUIT (SCHEDULE NOTED ON PLAN)
- STREET LIGHTING (LTP) CABLE (LTP = LOW THERMAL PLASTIC INSULATION) CABLE INSTALLED IN CONDUIT
- ELECTRICAL VAULT
- STREET LIGHTING ENCLOSURE
- TRAFFIC CONTROL CABINET
- EXISTING SIGNAL STANDARD
- TRAFFIC SIGNAL BASE TO BE INSTALLED (CONCRETE BASE TYPE 1)
- MONOTUBE MAST ARM BASE (EXISTING)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- MAST ARM (EXISTING)

SCALE, FEET 0 30

SHEET 8 OF 12

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 104	E

BM: RR SPIKE WOOD POLE
#81-04934 W/SIDE STA 37+00
ELEV: 157.612

BM: RR SPIKE WOOD POLE
-------- W/SIDE STA 40+50
ELEV: 156.377

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

TYPICAL RECTANGLAR VAULT SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS, AND FIRE HYDRANTS SHOULD BE USED.

LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125

N. 91st ST.

6945 # 6955 # 6965 # 6975

#6928
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.36+75.7'; 5.4'RT

#6930
LIGHT POLE
REMOVED
BY CITY

#6950
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2'-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.38+20.1'; 9'RT

#6952
LIGHT POLE
REMOVED
BY CITY

#6968
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.39+64.5'; 5.4'RT

#6970
LIGHT POLE
REMOVED
BY CITY

#7006
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.41+9'; 3'RT

13"x24"x24" PULL BOX STA.36+80' 10'RT

13"x24"x24" PULL BOX STA.37+67.7' 10'RT

3#4/1#8 LTP CABLE CIR.T18NW-D INSTALL IN CONDUIT

3#2/1#8 LTP CABLE CIR.T18NW-D INSTALL IN CONDUIT

SEC. LINE

EXISTING BIO-SWALE

37+00 38+00 39+00 40+00 41+00

2.5" PVC SCH.40 2' BEHIND CURB 100

2.5" PVC SCH.80 102

2.5" PVC SCH.40 100

13"x24"x24" PULL BOX STA.36+75.4' 44'RT

3#4/1#8 LTP CABLE CIR.T18NW-D

#9031
TYPE 5 BASE
TRANSFORMER BASE
22 FT. AL.POLE (PROVIDED BY CITY)
2#12UF W/GRD.RISER
6 FT. ARM (PROVIDED BY CITY)
LUM.UTIL LED "A" (PROVIDED BY CITY)
STA.37+5.9'; 86.5'RT

#9033
LIGHT POLE
REMOVED
BY CITY

13"x24"x24" PULL BOX STA.37+7.4' 81.6'RT

COORDINATE CONNECTION OF CONDUIT CROSSINGS TO VAULT WITH CITY OF MILWAUKEE

W. DALLAS ST.

9014 W. DALLAS ST.

LEGEND

- EXISTING STREET LIGHT POLE
- STREET LIGHT POLE (INSTALLED BY CONTRACTOR)
- TRAFFIC SIGNAL MOUNTED ON LIGHT POLE
- PVC CONDUIT (SCHEDULE NOTED ON PLAN)
- STREET LIGHTING (LTP) CABLE (LTP = LOW THERMAL PLASTIC INSULATION) CABLE INSTALLED IN CONDUIT
- ELECTRICAL VAULT
- STREET LIGHTING ENCLOSURE
- TRAFFIC CONTROL CABINET
- EXISTING SIGNAL STANDARD
- TRAFFIC SIGNAL BASE TO BE INSTALLED (CONCRETE BASE TYPE 1)
- MONOTUBE MAST ARM BASE (EXISTING)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- MAST ARM (EXISTING)

SCALE, FEET 0 30

SHEET 9 OF 12

PROJECT NO: 2504-00-71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 105	E

FILE NAME : W:\bes\pavings\2017work\n91 St – Mill to Good Hope (2504-00-71)\n91st St – Mill to Good Hope (Contr Installation).dgn PLOT DATE : 28-OCT-2016 08:16 PLOT BY : dkozel PLOT NAME : PLOT SCALE : 30.000000:1.000000

WISDOT/CADDS SHEET 42

7011 | # 7019 | # 7025 | # 7031 | # 7059

P.L. | P.L. | P.L. | P.L. | P.L.

BM: RR SPIKE WOOD POLE
#93-10345 W/SIDE STA 43+00
ELEV: 154.603

BM: RR SPI
#81-04929
ELEV: 149

N

ASPH DWY | GRAVEL DWY | CONC DWY | CONC DWY

N.91st ST. | N.91s

5" 14" 18" 10" 4" 14"

10" SAN 5" 7" SAN 8" SAN 10" 14" 4" SAN 4" SAN 14" 14" SAN

W W W W W W

32' 24' 8' 5' 12'

STO STO STO STO STO STO STO

15" 15" 18" 32'

4"4" 72" mmsd G G G G G G

#7008
LIGHT POLE
REMOVED
BY CITY

3#2/1#8 LTP CABLE
CIR.T18NW-D
INSTALL IN CONDUIT

#7020
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.42+53.4'; 3'RT

#7022
LIGHT POLE
REMOVED
BY CITY

3#2/1#8 LTP CABLE
CIR.T18NW-D
INSTALL IN CONDUIT

MMSD

#7036
LIGHT POLE
REMOVED
BY CITY

3#2/1#8 LTP CABLE
CIR.T18NW-D
INSTALL IN CONDUIT

#7058
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.45+42.2'; 3'RT

#7060
LIGHT POLE
REMOVED
BY CITY

3#2/1#8 LTP CABLE
CIR.T18NW-D
INSTALL IN CONDUIT

EXISTING BIO-SWALE | BIOSWALE | EXISTING BIO-SWALE | BIOSWALE

42+00 | 43+00 | SEC. LINE | 44+00 | 45+00

4" 4" 6" 6" 5" 7" 4" 5" 110'

TE&ES | WE/P PARK

CUC CUC CUC CUC CUC CUC CUC CUC

2.5" PVC
SCH.40
2' BEHIND
CURB
100

2.5" PVC
SCH.40
2' BEHIND
CURB
100

#7034
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.43+97.8'; 3'RT

2.5" PVC
SCH.40
2' BEHIND
CURB
100

2.5" PVC
SCH.40
2' BEHIND
CURB
100

14" 10" 7" 4" 6" 5" 7" 9" 4" 12' 10" 8"

8" 2" 7" 14" 8" 4" 6"

FENCE

FEN

P.L. P.L. P.L. P.L. P.L. P.L.

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

TYPICAL RECTANGLAR VAULT SHOULD BE INSTALLED AS SHOWN ON PLAN, BUT WHEN IT IS NOT POSSIBLE A 5 FT. TO 6 FT. OFFSET FROM STREET LIGHT POLES, SIGNAL STANDARDS, AND FIRE HYDRANTS SHOULD BE USED.

LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125

LEGEND

- EXISTING STREET LIGHT POLE
- STREET LIGHT POLE (INSTALLED BY CONTRACTOR)
- TRAFFIC SIGNAL MOUNTED ON LIGHT POLE
- PVC CONDUIT (SCHEDULE NOTED ON PLAN)
- STREET LIGHTING (LTP) CABLE (LTP = LOW THERMAL PLASTIC INSULATION) CABLE INSTALLED IN CONDUIT
- ELECTRICAL VAULT
- STREET LIGHTING ENCLOSURE
- TRAFFIC CONTROL CABINET
- EXISTING SIGNAL STANDARD
- TRAFFIC SIGNAL BASE TO BE INSTALLED (CONCRETE BASE TYPE 1)
- MONOTUBE MAST ARM BASE (EXISTING)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- MAST ARM (EXISTING)

SCALE, FEET 0 30

SHEET 10 OF 12

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 106	E

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

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LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125

KE WOOD POLE
W/SIDE STA 45+50
.409

7101-03

7109

BM: RR SPIKE WOOD POLE
#81-04927 W/SIDE STA 48+75
ELEV: 145.133

7117

N

t ST.

N.91st ST.

ASPH DWY

CW

CURB

P.L.

#7078
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.46+86.5'; 3'RT

#7080
LIGHT POLE
REMOVED
BY CITY

#7104
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.48+31'; 4.6'RT

#7106
LIGHT POLE
REMOVED
BY CITY

#7118
TYPE 5 BASE
TRANSFORMER BASE
TYPE 5A POLE
2-2#12UF W/GRD.RISERS
2-8 FT. ARMS
2-LUM.UTIL LED "B" (PROVIDED BY CITY)
STA.49+53.8'; 3'RT

#7120
LIGHT POLE
REMOVED
BY CITY

3#2/1#8 LTP CABLE CIR.T18NW-D INSTALL IN CONDUIT

72" mmsd

46+00 47+00 48+00 49+00 50+00

EXISTING BIO-SWALE

SEC. LINE

2.5" PVC SCH.40 2'BEHIND CURB 100

13"x24"x24" PULL BOX STA.47+48' 10'RT 112

2.5" PVC SCH.80

13"x24"x24" PULL BOX STA.48+31' 10'RT 112

13"x24"x24" PULL BOX STA.48+30.2' 44'RT 112

2.5" PVC SCH.40 102

#9068
LIGHT POLE
REMOVED
BY CITY

#9068
TYPE 5 BASE
TRANSFORMER BASE
22 FT. AL.POLE (PROVIDED BY CITY)
2#12UF W/GRD.RISER
6 FT. ARM (PROVIDED BY CITY)
LUM.UTIL LED "A" (PROVIDED BY CITY)
STA.48+9.5'; 59.2'RT

13"x24"x24" PULL BOX STA.47+74' 76.3'RT 112

13"x24"x24" PULL BOX STA.48+8.4' 68.7'RT 112

2.5" PVC SCH.40

CAP CONDUIT @ PAVING LIMIT

100 CONC.

FENCE

W. ROCHELLE AVE.

BIOSWALE

CUC SAN STO W TV TE&ES G

LEGEND

- EXISTING STREET LIGHT POLE
- STREET LIGHT POLE (INSTALLED BY CONTRACTOR)
- TRAFFIC SIGNAL MOUNTED ON LIGHT POLE
- PVC CONDUIT SCHEDULE NOTED ON PLAN
- STREET LIGHTING (LTP) CABLE (LTP = LOW THERMAL PLASTIC INSULATION) CABLE INSTALLED IN CONDUIT
- ELECTRICAL VAULT
- STREET LIGHTING ENCLOSURE
- TRAFFIC CONTROL CABINET
- EXISTING SIGNAL STANDARD
- TRAFFIC SIGNAL BASE TO BE INSTALLED (CONCRETE BASE TYPE 1)
- MONOTUBE MAST ARM BASE (EXISTING)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- MAST ARM (EXISTING)

SCALE, FEET 0 30

SHEET 11 OF 12

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 107	E

BM: RR SPIKE WOOD POLE
#81-03875 W/SIDE STA 51+50
ELEV: 141.391

BM: CHIST N
@ N 91ST &
ELEV: 142.

N

W. GOOD HOPE RD.

N.91st ST.

OAK LEAF

ASPH TRAIL

COORDINATE CONNECTION OF CONDUIT WITH CITY OF MILWAUKEE

COMM. PED.

CUC

SEC. LINE

CW

GRASS

ASPH

ELECTRICAL CABINET

MMSD

WALK SIGNAL

112 13"x24"x24" PULL BOX STA.53+14.4' 44'LT

EXISTING 2.5"

2.5" PVC SCH.40

2-2.5" PVC SCH.40

#7180 LIGHT POLE REMOVED BY CITY

112 CONC. 17"x30"x24" PULL BOX STA.53+14.4' 3'LT

#7140 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL.LED "B" (PROVIDED BY CITY) STA.50+76.6; 3'RT

#7140 LIGHT POLE REMOVED BY CITY

3#2/1#8 LTP CABLE CIR.T18NW-D INSTALL IN CONDUIT

#7160 TYPE 5 BASE TRANSFORMER BASE TYPE 5A POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL.LED "B" (PROVIDED BY CITY) STA.51+98.1'; 3'LT

#7160 LIGHT POLE REMOVED BY CITY

51+00

52+00

53+00

2.5" PVC SCH.40 2'BEHIND CURB 100

102 3-2.5" PVC SCH.80

112 17"x30"x24" PULL BOX STA.53+14.4' 45'RT

100 3-2.5" PVC SCH.40

#7180 TYPE 5 BASE TRANSFORMER BASE TYPE 5 POLE 2-2#12UF W/GRD.RISERS 2-8 FT. ARMS 2-LUM.UTIL.LED "C" (PROVIDED BY CITY) STA.53+25.4'; 3.5'LT

(3) 2.5" SPECIAL

CAP CONDUITS @ STA.53+48' 62.3'RT

WOOD RAILS

WEP BOX

ASPH. ON CONC.

SAN

STO

TE&ES

STATE

TV

WFSBOT

SCALE, FEET 0 30

NOTE:

GENERAL NOTES MUST BE FOLLOWED WHEN INSTALLING MATERIALS FOR STREET LIGHTING AND TRAFFIC SIGNALS.

CONDUIT END CAPS REQUIRED ON ALL EMPTY CONDUIT.

PULL ROPE (3/8" NYLON) REQUIRED IN ALL CONDUIT.

SEE STREET LIGHTING & TRAFFIC SIGNAL CONDUIT DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SEE UTILITY SPECIALS FOR ADDITIONAL INFORMATION AND ALL CONTACT NUMBERS.

CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF MILWAUKEE ELECTRICAL SERVICES FOR FINAL INSPECTION AND APPROVAL OF ALL ELECTRICAL WORK BEFORE ANY MATERIALS ARE COVERED UP OR BACKFILLED.

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LOCATIONS THAT HAVE DETAIL NOTE "105" ARE AREAS THAT ARE BOXED OUT AND FILLED WITH A 4" THICK ASPHALTIC SURFACE TEMPORARY UNDER BID #465.0125

LEGEND

- EXISTING STREET LIGHT POLE
- STREET LIGHT POLE (INSTALLED BY CONTRACTOR)
- TRAFFIC SIGNAL MOUNTED ON LIGHT POLE
- PVC CONDUIT (SCHEDULE NOTED ON PLAN)
- STREET LIGHTING (LTP) CABLE (LTP = LOW THERMAL PLASTIC INSULATION) CABLE INSTALLED IN CONDUIT
- ELECTRICAL VAULT
- STREET LIGHTING ENCLOSURE
- TRAFFIC CONTROL CABINET
- EXISTING SIGNAL STANDARD
- TRAFFIC SIGNAL BASE TO BE INSTALLED (CONCRETE BASE TYPE 1)
- MONOTUBE MAST ARM BASE (EXISTING)
- 000 - SEE DETAIL NUMBER FOR ADDITIONAL INFORMATION
- MAST ARM (EXISTING)

STREET LIGHTING ENCLOSURE T18NW 50KVA

SHEET 12 OF 12

PROJECT NO: 2504–00–71	HWY: NORTH 91st STREET	COUNTY: MILWAUKEE	STREET LIGHTING & TRAFFIC SIGNAL PLAN	SHEET 108	E

FILE NAME : W:\bes\pavings\2017work\n91 St – Mill to Good Hope (2504–00–71)\n91st St – Mill to Good Hope (Contr Installation).dgn
PLOT DATE : 28–OCT–2016 08:16
PLOT BY : dkozel
PLOT NAME :
PLOT SCALE : 30.000000:1.000000
WISDOT/CADDS SHEET 42

ESTIMATE OF QUANTITIES; STREET LIGHTING & TRAFFIC SIGNALS

PROJECT ID. 2504-00-71

MILWAUKEE COUNTY

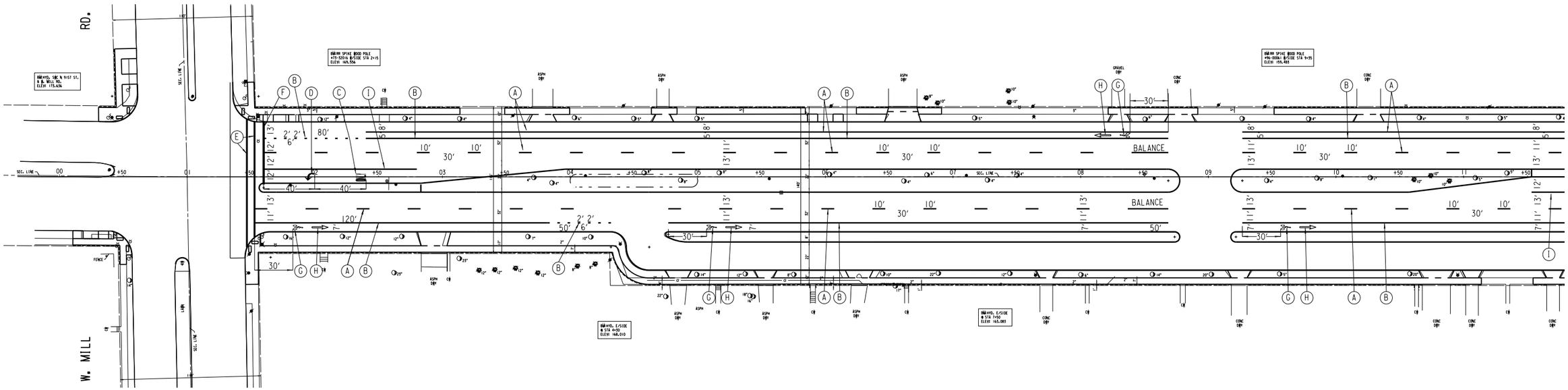
	Std.Bid Item No.	Description	Unit	Quantity
-	650.8500	Construction Staking Electrical	LS	1
-	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	175
-	652.0230	Conduit Rigid Nonmetallic Schedule 40 2 1/2-Inch	LF	5,600
-	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	475
-	652.0330	Conduit Rigid Nonmetallic Schedule 80 2 1/2-Inch	LF	1,500
-	652.0335	Conduit Rigid Nonmetallic Schedule 80 3-Inch	LF	200
-	652.0610	Conduit Special 2.5-Inch	LF	140
-	654.0105	Concrete Bases Type 5	EACH	47
-	655.0305	Cable Type UF 2#12 AWG Grounded	LF	3,100
-	657.0255	Trans Base Brkwy 11 1/2-Inch Bolt Circle	EACH	45
-	657.0322	Poles Type 5-Aluminum	EACH	5
-	657.0615	Lum Arms Singl Member 4 1/2-In Clamp 8-Ft	EACH	82
-	654.0101	Concrete Bases Type 1	EACH	2
-	SPV.0060.11	Fiberglass/Polymer Concrete Pull Boxes 13" x 24" x 24"	EACH	39
-	SPV.0060.12	Fiberglass/Polymer Concrete Pull Boxes 17" x 30" x 24"	EACH	10
-	SPV.0060.16	Installing City-Furnished 22 Ft. Aluminum Bolt Down Poles	EACH	6
-	SPV.0060.17	Installing City-Furnished Luminaire Arms 6 Ft.	EACH	6
-	SPV.0060.18	Installing City-Furnished LED Luminaire Utility Types A,B,& C	EACH	88
-		Total Number of LED Luminaire Utility Type A = 6		
-		Total Number of LED Luminaire Utility Type B = 72		
-		Total Number of LED Luminaire Utility Type C = 10		
-	SPV.0060.19	Poles Type 5A-Aluminum 25-Ft	EACH	36
-	SPV.0090.08	Cable Type 3#2/1#8 LTP	LF	1,700
-	SPV.0090.09	Cable Type 3#4/1#8 LTP	LF	2,650
-	SPV.0090.10	Cable Type 3#6/1#8 LTP	LF	1,750
-	SPV.0090.11	Cable Type 3#8/1#8 LTP	LF	1,200

SHEET 1 OF 1

2

N

N. 91ST ST.



- (A) PAVEMENT MARKING EPOXY, 4-INCH WHITE
- (B) PAVEMENT MARKING EPOXY, 6-INCH WHITE
- (C) PAVEMENT MARKING WORDS EPOXY "ONLY"
- (D) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (LEFT TURN)
- (E) PAVEMENT MARKING CROSS WALK EPOXY, 12-INCH WHITE
- (F) PAVEMENT MARKING STOP LINE EPOXY, 24-INCH WHITE
- (G) PAVEMENT MARKING, SYMBOLS BIKE LANE EPOXY
- (H) PAVEMENT MARKING, ARROWS BIKE LANE EPOXY
- (I) PAVEMENT MARKING EPOXY, 8-INCH WHITE

SHEET 1 OF 5

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PAVEMENT MARKING	SCALE FEET 0' 80'	SHEET NO: 110	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\PAVEMARK.DGN

REVISED DATE: 12-06-2016 BY SB

2

N

N. 91ST ST.

W. RIVERWOODS DR.

W. EDGEWATER DR.

W. ACACIA ST.

- (A) PAVEMENT MARKING EPOXY, 4-INCH WHITE
- (B) PAVEMENT MARKING EPOXY, 6-INCH WHITE
- (C) PAVEMENT MARKING WORDS EPOXY "ONLY"
- (D) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (LEFT TURN)
- (E) PAVEMENT MARKING CROSS WALK EPOXY, 12-INCH WHITE
- (F) PAVEMENT MARKING STOP LINE EPOXY, 24-INCH WHITE
- (G) PAVEMENT MARKING, SYMBOLS BIKE LANE EPOXY
- (H) PAVEMENT MARKING, ARROWS BIKE LANE EPOXY
- (I) PAVEMENT MARKING EPOXY, 8-INCH WHITE

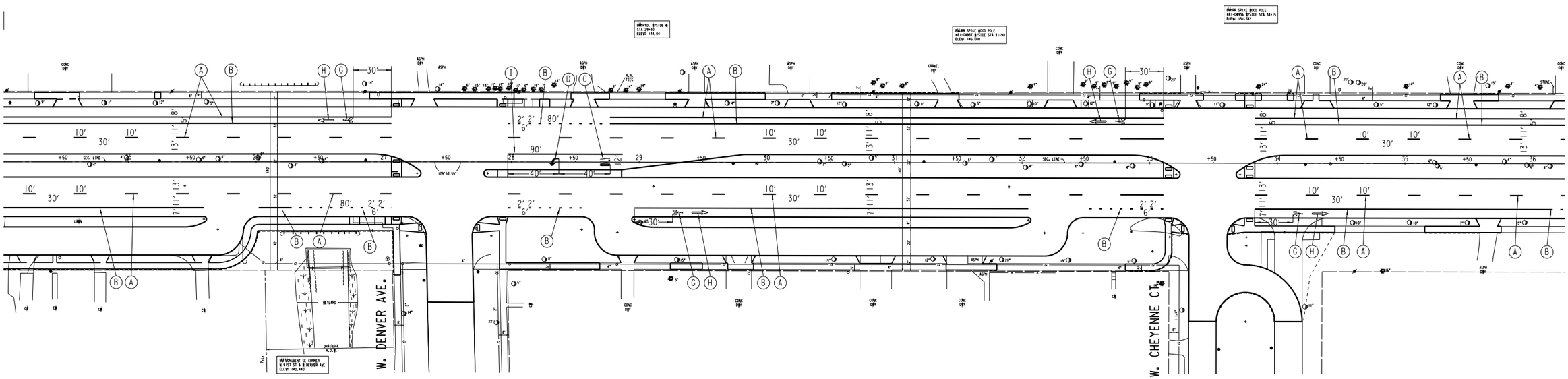
SHEET 2 OF 5

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PAVEMENT MARKING	SCALE FEET 0' 80'	SHEET NO: 111	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\PAVEMARK.DGN

REVISED DATE: 12-06-2016 BY SB

N. 91ST ST.



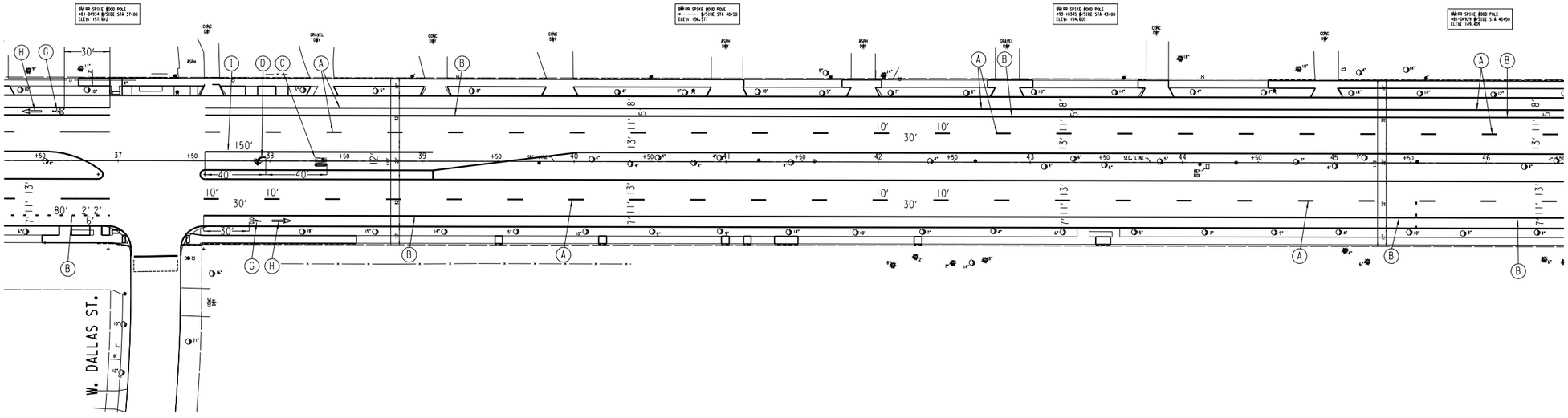
- (A) PAVEMENT MARKING EPOXY, 4-INCH WHITE
- (B) PAVEMENT MARKING EPOXY, 6-INCH WHITE
- (C) PAVEMENT MARKING WORDS EPOXY "ONLY"
- (D) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (LEFT TURN)
- (E) PAVEMENT MARKING CROSS WALK EPOXY, 12-INCH WHITE
- (F) PAVEMENT MARKING STOP LINE EPOXY, 24-INCH WHITE
- (G) PAVEMENT MARKING, SYMBOLS BIKE LANE EPOXY
- (H) PAVEMENT MARKING, ARROWS BIKE LANE EPOXY
- (I) PAVEMENT MARKING EPOXY, 8-INCH WHITE

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PAVEMENT MARKING	SCALE FEET 0' 80'	SHEET NO: 112	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\PAVEMARK.DGN

REVISED DATE: 12-06-2016 BY SB

N. 91ST ST.



- (A) PAVEMENT MARKING EPOXY, 4-INCH WHITE
- (B) PAVEMENT MARKING EPOXY, 6-INCH WHITE
- (C) PAVEMENT MARKING WORDS EPOXY "ONLY"
- (D) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (LEFT TURN)
- (E) PAVEMENT MARKING CROSS WALK EPOXY, 12-INCH WHITE
- (F) PAVEMENT MARKING STOP LINE EPOXY, 24-INCH WHITE
- (G) PAVEMENT MARKING, SYMBOLS BIKE LANE EPOXY
- (H) PAVEMENT MARKING, ARROWS BIKE LANE EPOXY
- (I) PAVEMENT MARKING EPOXY, 8-INCH WHITE

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PAVEMENT MARKING	SCALE FEET 0' 80'	SHEET NO: 113	E

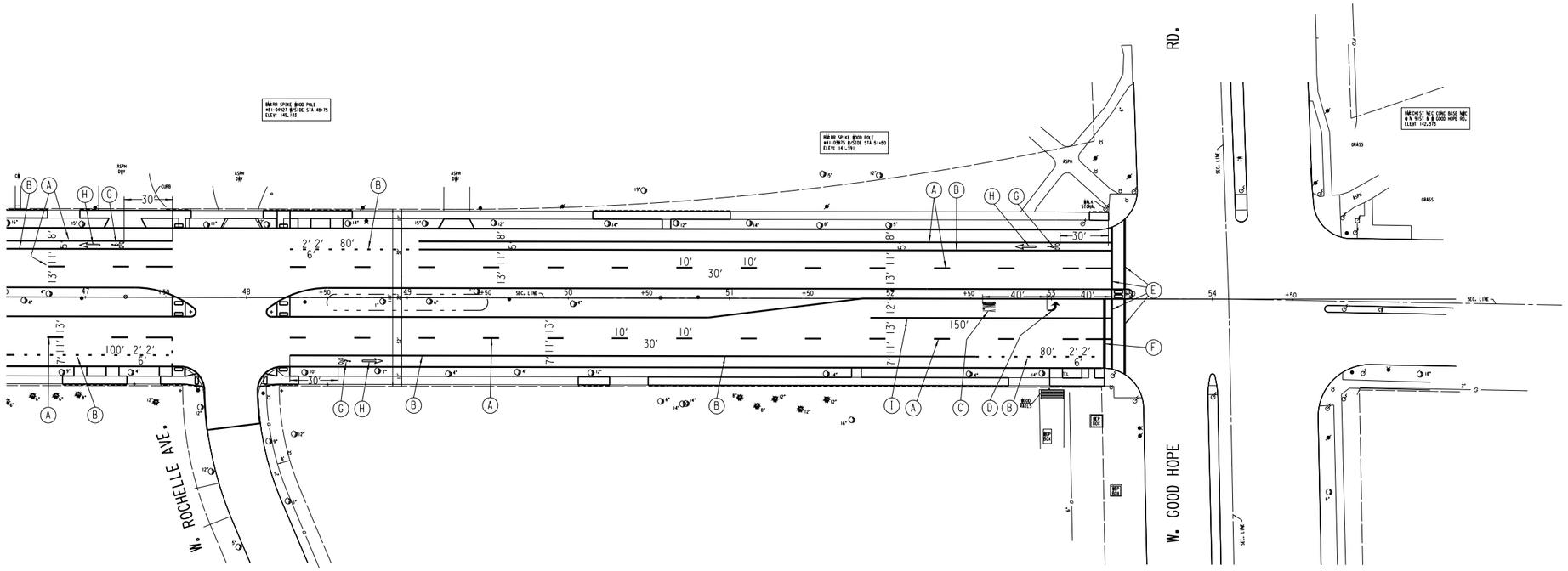
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REVISED DATE: 12-06-2016 BY SB

2

N

N. 91ST ST.



- (A) PAVEMENT MARKING EPOXY, 4-INCH WHITE
- (B) PAVEMENT MARKING EPOXY, 6-INCH WHITE
- (C) PAVEMENT MARKING WORDS EPOXY "ONLY"
- (D) PAVEMENT MARKING ARROWS EPOXY TYPE 2 (LEFT TURN)
- (E) PAVEMENT MARKING CROSS WALK EPOXY, 12-INCH WHITE
- (F) PAVEMENT MARKING STOP LINE EPOXY, 24-INCH WHITE
- (G) PAVEMENT MARKING, SYMBOLS BIKE LANE EPOXY
- (H) PAVEMENT MARKING, ARROWS BIKE LANE EPOXY
- (I) PAVEMENT MARKING EPOXY, 8-INCH WHITE

SHEET 5 OF 5

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PAVEMENT MARKING	SCALE FEET 0' 80'	SHEET NO: 114	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\PAVEMARK.DGN

REVISED DATE: 12-06-2016 BY SB

2

PEDESTRIAN TRAFFIC CONTROL NOTES

GENERAL

ALL PEDESTRIAN TRAFFIC CONTROL MUST BE PLACED PRIOR TO THE START OF ANY SIDEWALK WORK FOR EACH STAGE.

ANY MID-BLOCK SIDEWALK REMOVALS MUST HAVE TEMPORARY ACCOMODATIONS PLACED IMMEDIATELY UPON REMOVAL. SEE SDD 15D30.

TEMPORARY OR PERMANANT ACCOMODATIONS MUST BE PLACED AT ANY AREA OF SIDEWALK REMOVALS BEFORE ANOTHER AREA OF REMOVALS MAY BEGIN.

PEDESTRIAN ACCOMODATIONS MUST BE PROVIDED TO ALL RESIDENCES AND BUSINESSES USING EXISTING, NEWLY CONSTRUCTED OR TEMPORARY ACCOMODATIONS DURING ALL STAGES OF CONSTRUCTION,

A SIGNED PEDESTRIAN DETOUR TO ROUTE PEDESTRIAN TRAFFIC AROUND THE WORK ZONE IS SHOWN ON THE FOLLOWING CONSTRUCTION STAGING PEDESTRIAN RAMPS STREETS. FOR PEDESTRIANS WITH TRIPS STARTING OR ENDING INSIDE THE WORK ZONE, NO SIGNED DETOUR IS PLANNED. AREAS UNAVAILABLE TO PEDESTRIANS DURING CONSTRUCTION WILL BE SIGNED AND MARKED AS SHOWN IN THE 'CORNER SIDEWALK CLOSURE WITH NO TEMPORARY CROSSWALK' DETAIL.

STAGE 1

STAGE 1 WILL INCLUDE THE REMOVAL OF EXISTING SIDEWALK AND THE CONSTRUCTION OF PROPOSED SIDEWALK.

SEE THE PEDESTRIAN RAMP DETAILS FOR ADDITIONAL INFORMATION.

PEDESTRIAN RAMPS WILL BE RECONSTRUCTED DURING STAGE 1. TO ENSURE PEDESTRIAN ACCOMMODATIONS REMAIN AVAILABLE THE RAMPS HAVE BEEN DIVIDED INTO 3 GROUPS. EACH GROUP OF RAMPS MAY BE COMPLETED CONCURRENTLY BUT ALL RAMPS IN A GROUP MUST BE COMPLETE BEFORE STARTING WORK ON ANY OTHER RAMP.

NORTHEAST CORNER OF N. 91ST ST. & W. MILL RD.
NORTHEAST CORNER OF N. 91ST ST. & W. CHEYENNE CT.
SOUTHEAST CORNER OF N. 91ST ST. & W. DALLAS ST.
NORTHEAST CORNER OF N. 91ST ST. & W. DALLAS ST.
SOUTHEAST CORNER OF N. 91ST ST. & W. ROCHELLE AVE.
NORTHEAST CORNER OF N. 91ST ST. & W. ROCHELLE AVE.

STAGE 2

SOUTHEAST CORNER OF N. 91ST ST. & W. MILL RD.
SOUTHEAST CORNER OF N. 91ST ST. & W. ACACIA ST.
NORTHEAST CORNER OF N. 91ST ST. & W. ACACIA ST.
SOUTHEAST CORNER OF N. 91ST ST. & W. DENVER AVE.
NORTHEAST CORNER OF N. 91ST ST. & W. DENVER AVE.
SOUTHEAST CORNER OF N. 91ST ST. & W. CHEYENNE AVE.

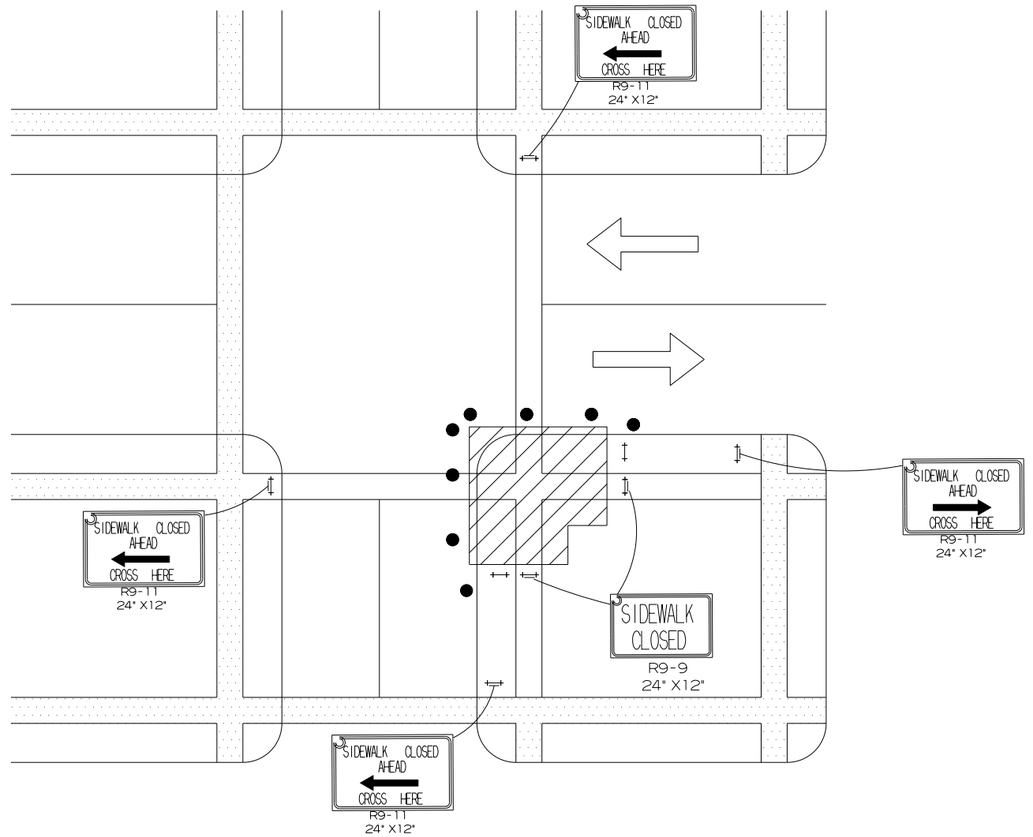
STAGE 3

NORTHWEST CORNER OF N. 91ST ST. & W. MILL RD.
SOUTHWEST CORNER OF N. 91ST ST. & W. RIVERWOODS DR.
NORTHWEST CORNER OF N. 91ST ST. & W. EDGEWATER DR.

STAGE 4

SOUTHWEST CORNER OF N. 91ST ST. & W. MILL RD.
NORTHWEST CORNER OF N. 91ST ST. & W. RIVERWOODS DR.
SOUTHWEST CORNER OF N. 91ST ST. & W. EDGEWATER DR.

W MILL RD
INTERSECTION DETAIL



WORK AREA

UNDER PEDESTRIAN TRAFFIC

TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)

DIRECTION OF TRAFFIC

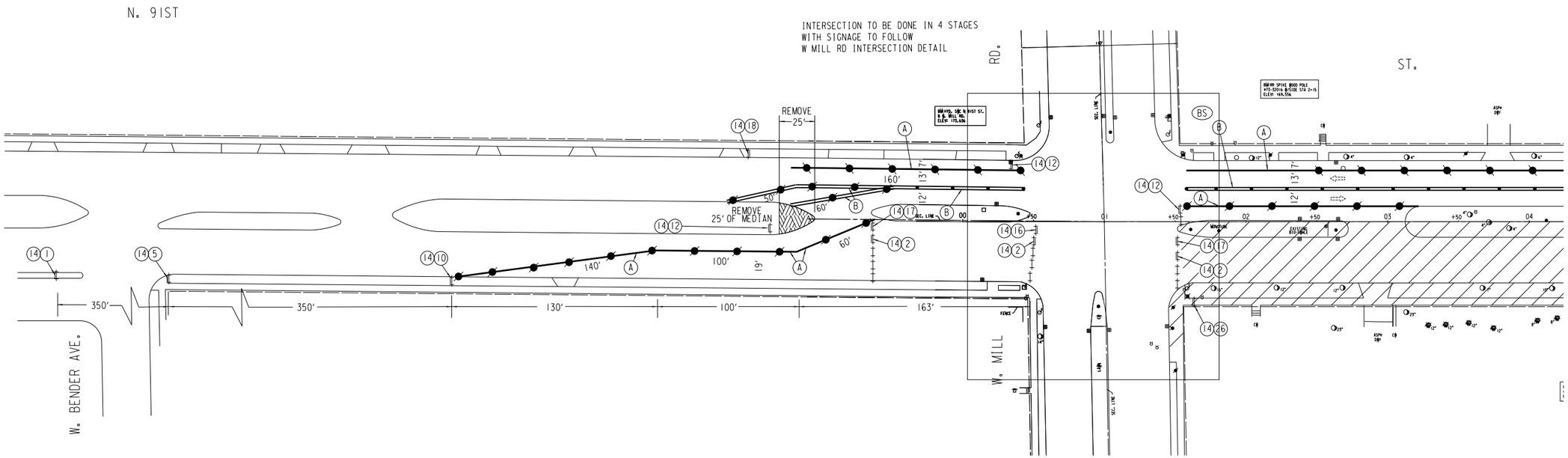
TRAFFIC CONTROL DRUM

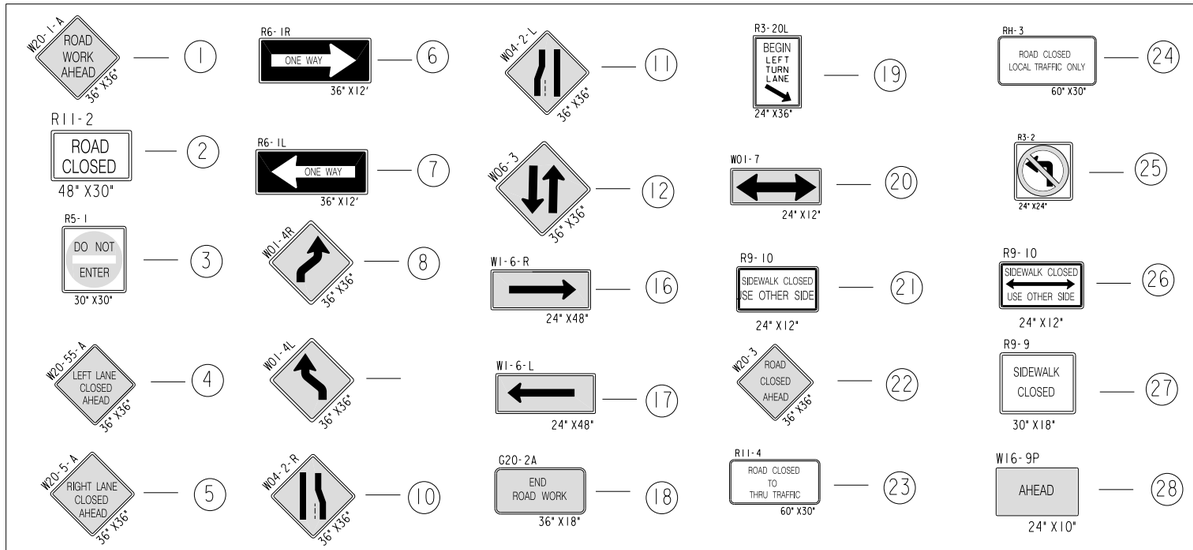
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SCALE FEET	SHEET NO: 115	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

REVISED DATE: 10-24-2016 BY TJK

STAGE 1





DRUMS W/LIGHTS 30' SPACING — 13
TYPE III BARRICADES — 14
TYPE III BARRICADES W/ SIGN — 14 + X
SIGNS BANDED TO UTILITY POLE — 15
WORK AREA
WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR
REMOVE ISLAND
TEMP. BUS LOAD ZONE (SEE CONST. DETAIL)
BUS STOP — BS
DIRECTION OF TRAFFIC
TUBULAR MARKERS 25' SPACING •

(A) TPM, REMOVABLE TAPE, 4" WHITE
(B) TPM, REMOVABLE TAPE, 4" DOUBLE YELLOW
(C) TPM, ARROW REMOVABLE TAPE
(D) TPM, WORDS REMOVABLE TAPE
(E) TPM, RIGHT TURN 4" YELLOW

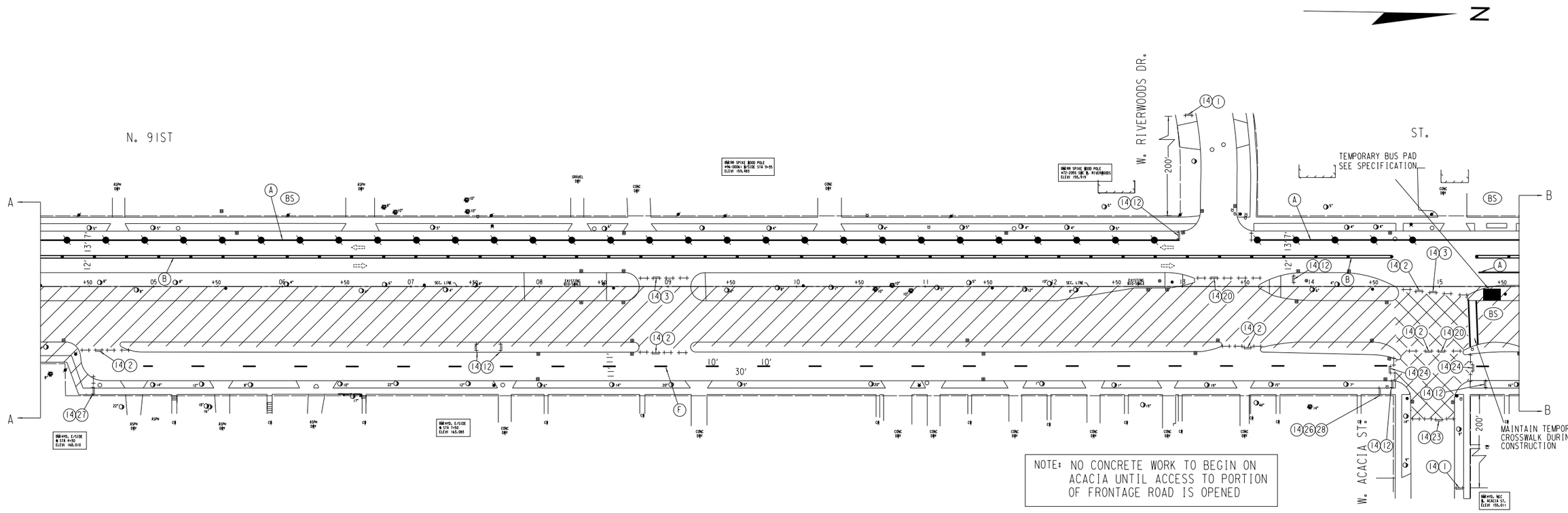
NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.
CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL- STAGE 1	SCALE FEET 0' 80'	SHEET NO: 116	E

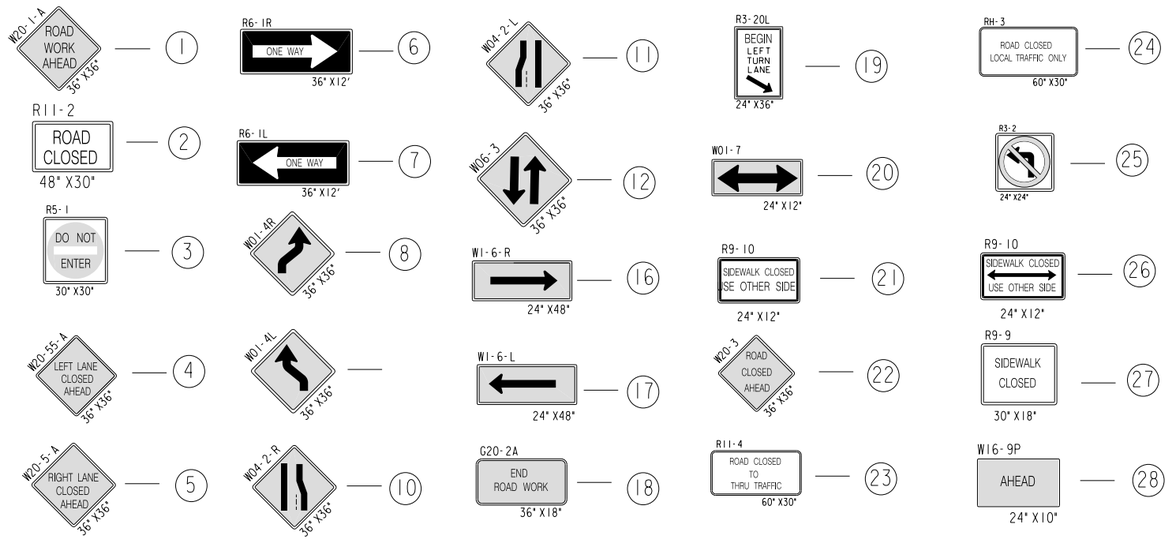
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REVISED: 10-24-2016 BY TJK

STAGE I



NOTE: NO CONCRETE WORK TO BEGIN ON ACACIA UNTIL ACCESS TO PORTION OF FRONTAGE ROAD IS OPENED



DRUMS W/LIGHTS 30' SPACING — (13)

TYPE III BARRICADES — (14)

TYPE III BARRICADES W/ SIGN — (14) + (X)

SIGNS BANDED TO UTILITY POLE — (15)

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

REMOVE ISLAND

TEMP. BUS LOAD ZONE (SEE CONST. DETAIL)

BUS STOP (BS)

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING

(A) TPM, REMOVABLE TAPE, 4" WHITE

(B) TPM, REMOVABLE TAPE, 4" DOUBLE YELLOW

(C) TPM, ARROW REMOVABLE TAPE

(D) TPM, WORDS REMOVABLE TAPE

(E) TPM, RIGHT TURN 4" YELLOW

(F) TPM, PAINT 4" YELLOW

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

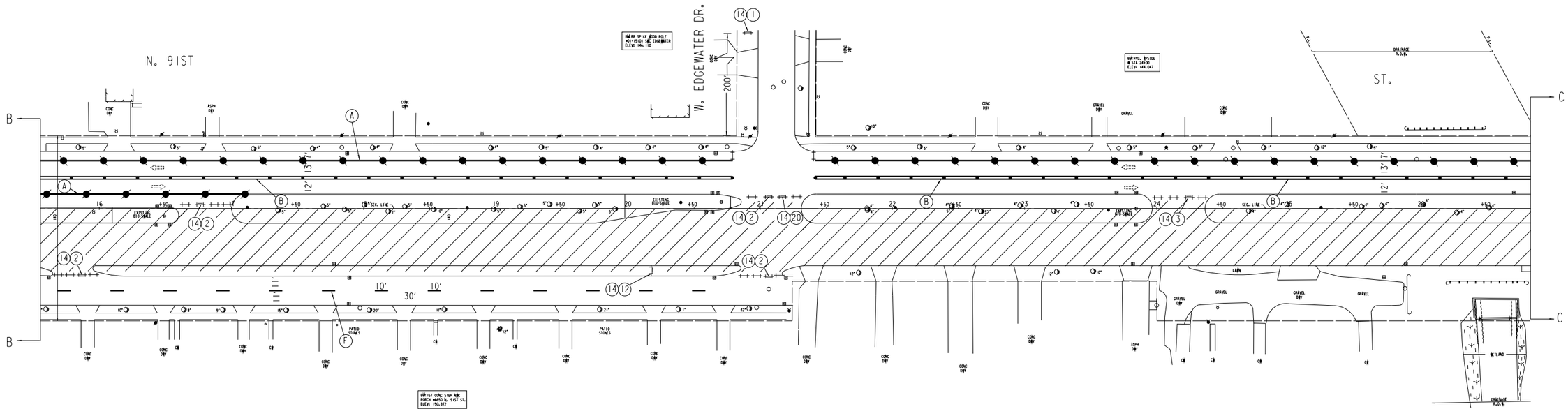
CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

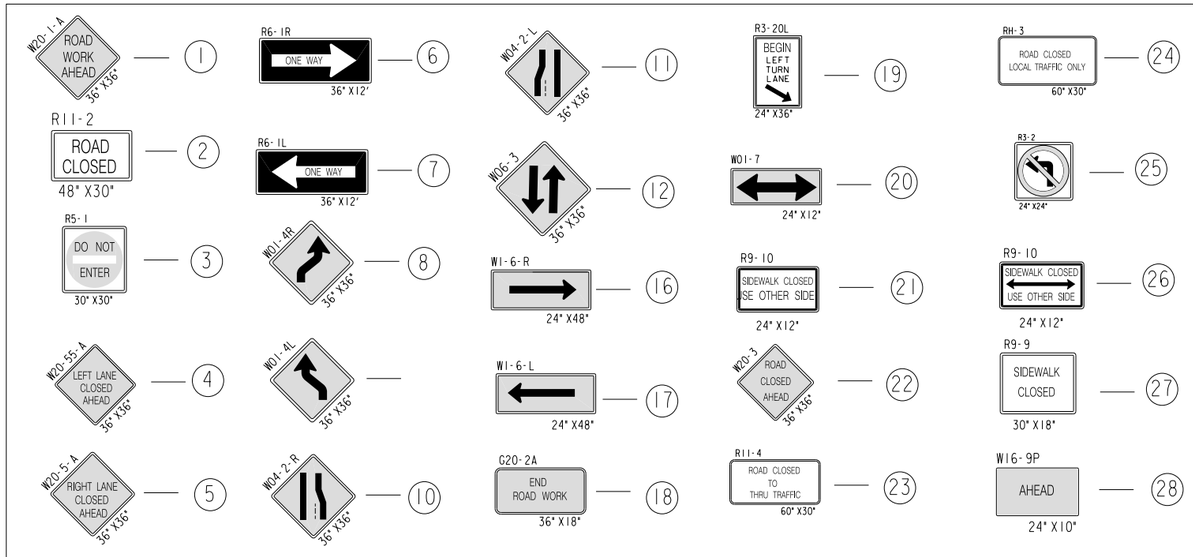
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL- STAGE I	SCALE FEET 0' 80'	SHEET NO: 117	E

FILE NAME= W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

REVISED: 10-24-2016 BY TJK

STAGE I





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

REMOVE ISLAND

TEMP. BUS LOAD ZONE (SEE CONST. DETAIL)

BUS STOP — BS

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

- (A) TPM, REMOVABLE TAPE, 4" WHITE
- (B) TPM, REMOVABLE TAPE, 4" DOUBLE YELLOW
- (C) TPM, ARROW REMOVABLE TAPE
- (D) TPM, WORDS REMOVABLE TAPE
- (E) TPM, RIGHT TURN 4" YELLOW
- (F) TPM, PAINT 4" YELLOW

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

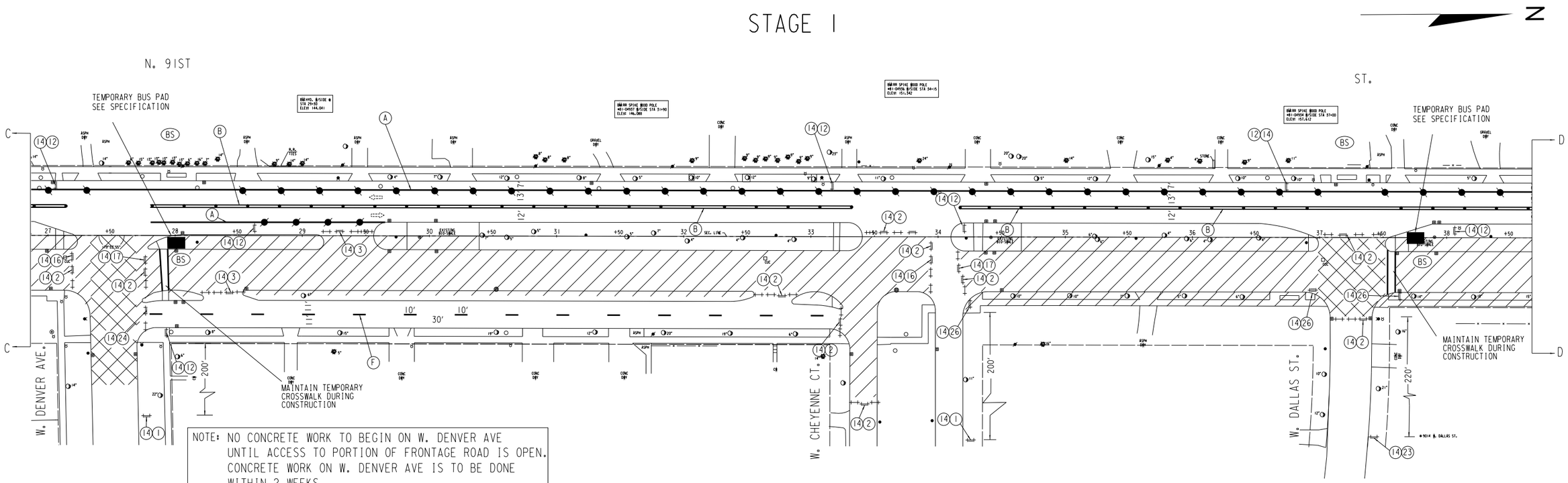
CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL- STAGE I	SCALE FEET 0' 80'	SHEET NO: 118	E

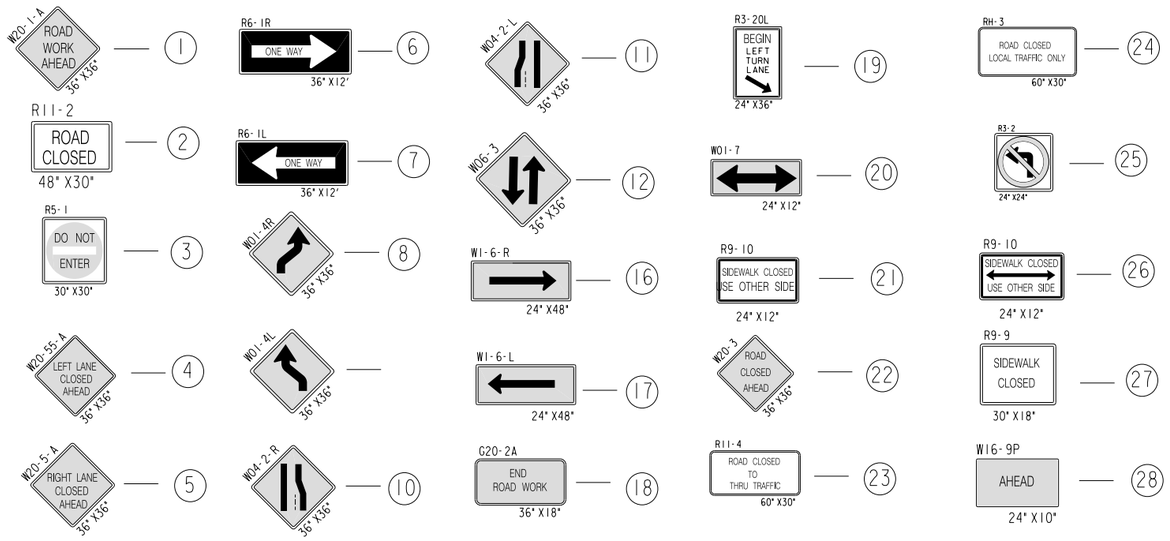
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STAGE I



NOTE: NO CONCRETE WORK TO BEGIN ON W. DENVER AVE UNTIL ACCESS TO PORTION OF FRONTAGE ROAD IS OPEN. CONCRETE WORK ON W. DENVER AVE IS TO BE DONE WITHIN 2 WEEKS



DRUMS W/LIGHTS 30' SPACING — (13)

TYPE III BARRICADES — (14)

TYPE III BARRICADES W/ SIGN — (14) + (X)

SIGNS BANDED TO UTILITY POLE — (15)

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

REMOVE ISLAND

TEMP. BUS LOAD ZONE (SEE CONST. DETAIL)

BUS STOP (BS)

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING

(A) TPM, REMOVABLE TAPE, 4" WHITE

(B) TPM, REMOVABLE TAPE, 4" DOUBLE YELLOW

(C) TPM, ARROW REMOVABLE TAPE

(D) TPM, WORDS REMOVABLE TAPE

(E) TPM, RIGHT TURN 4" YELLOW

(F) TPM, PAINT 4" YELLOW

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

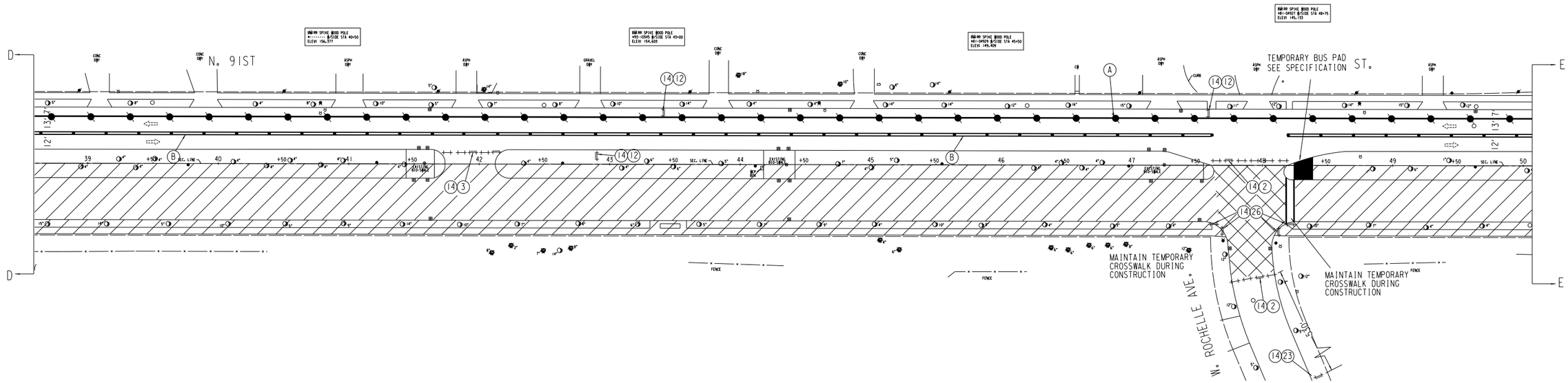
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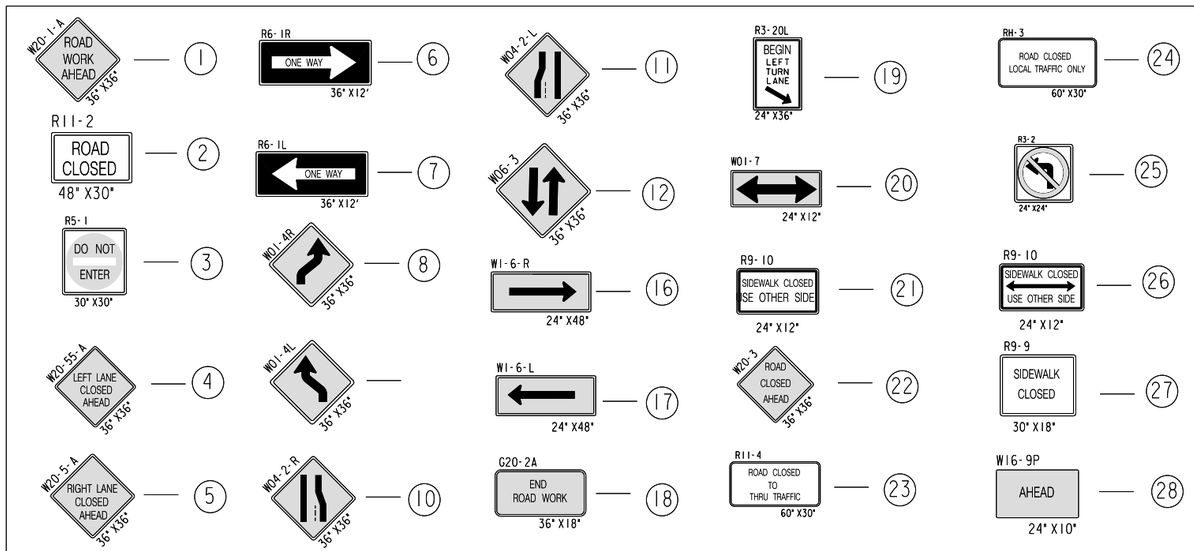
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL- STAGE I	SCALE FEET 0' 80'	SHEET NO: 119	E

FILE NAME = W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

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STAGE I





DRUMS W/LIGHTS 30' SPACING — (13)

TYPE III BARRICADES — (14)

TYPE III BARRICADES W/ SIGN — (14) + (X)

SIGNS BANDED TO UTILITY POLE — (15)

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

REMOVE ISLAND

TEMP. BUS LOAD ZONE (SEE CONST. DETAIL)

BUS STOP (BS)

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

(A) TPM, REMOVABLE TAPE, 4" WHITE

(B) TPM, REMOVABLE TAPE, 4" DOUBLE YELLOW

(C) TPM, ARROW REMOVABLE TAPE

(D) TPM, WORDS REMOVABLE TAPE

(E) TPM, RIGHT TURN 4" YELLOW

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

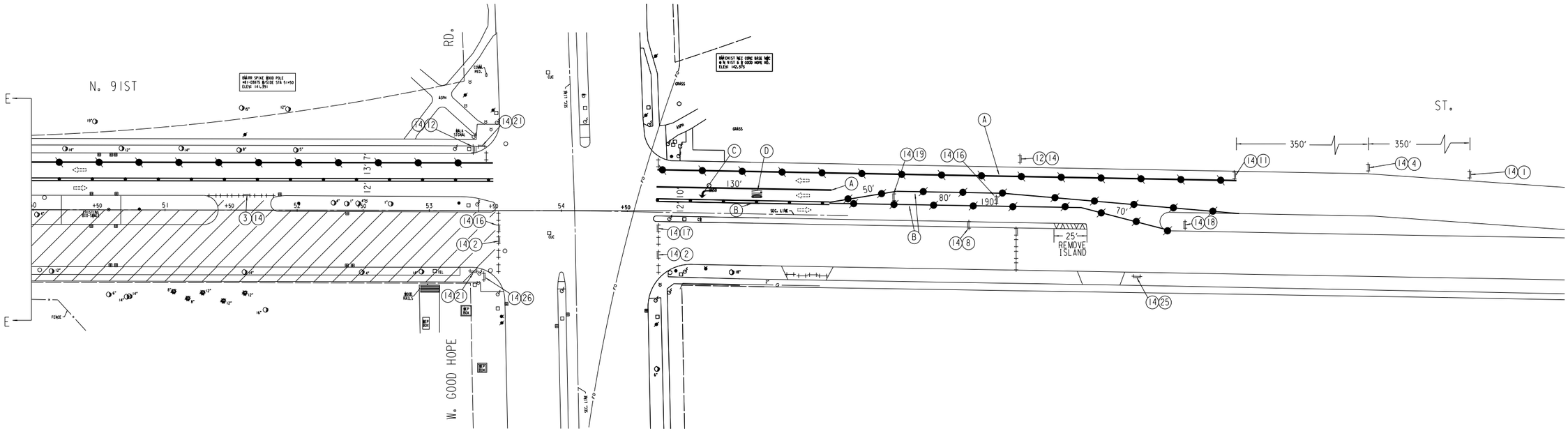
CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

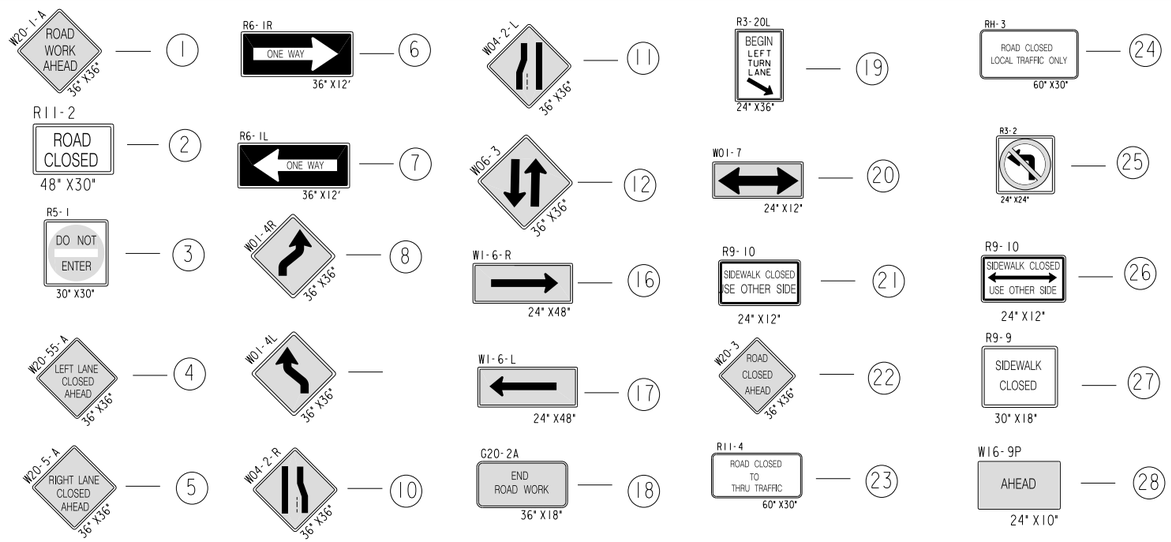
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FILE NAME= W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

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STAGE 1





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

REMOVE ISLAND

TEMP. BUS LOAD ZONE (SEE CONST. DETAIL)

BUS STOP — BS

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING

(A) TPM, REMOVABLE TAPE, 4" WHITE

(B) TPM, REMOVABLE TAPE, 4" DOUBLE YELLOW

(C) TPM, ARROW REMOVABLE TAPE

(D) TPM, WORDS REMOVABLE TAPE

(E) TPM, RIGHT TURN 4" YELLOW

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.
CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

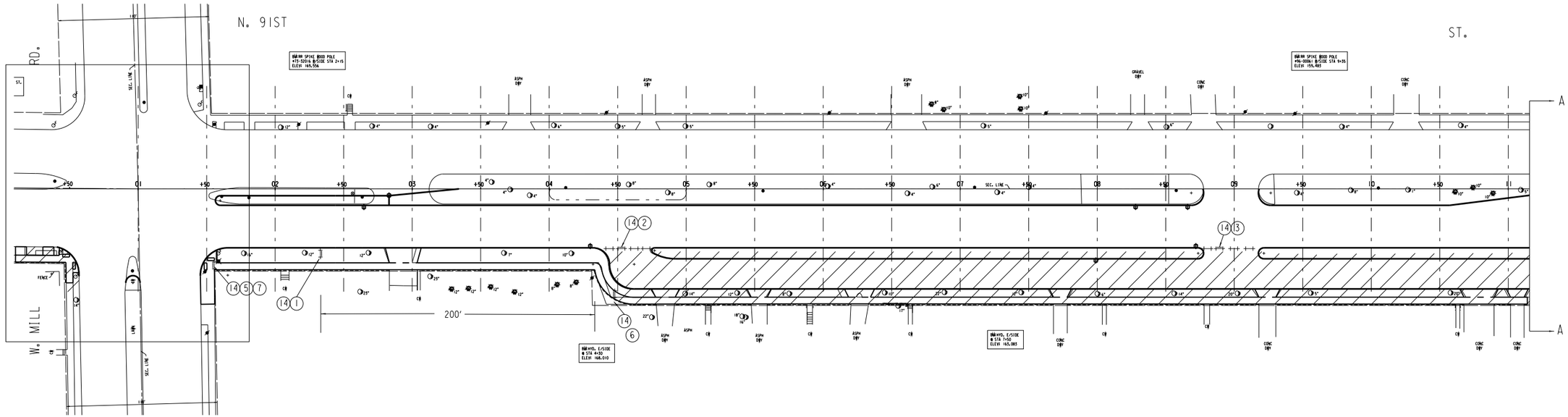
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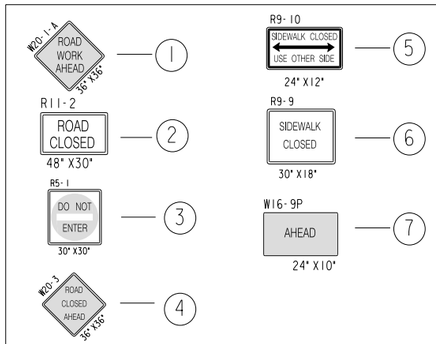
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STAGE 2

INTERSECTION TO BE DONE IN 4 STAGES
WITH SIGNAGE TO FOLLOW
W MILL RD INTERSECTION DETAIL





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY.
ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

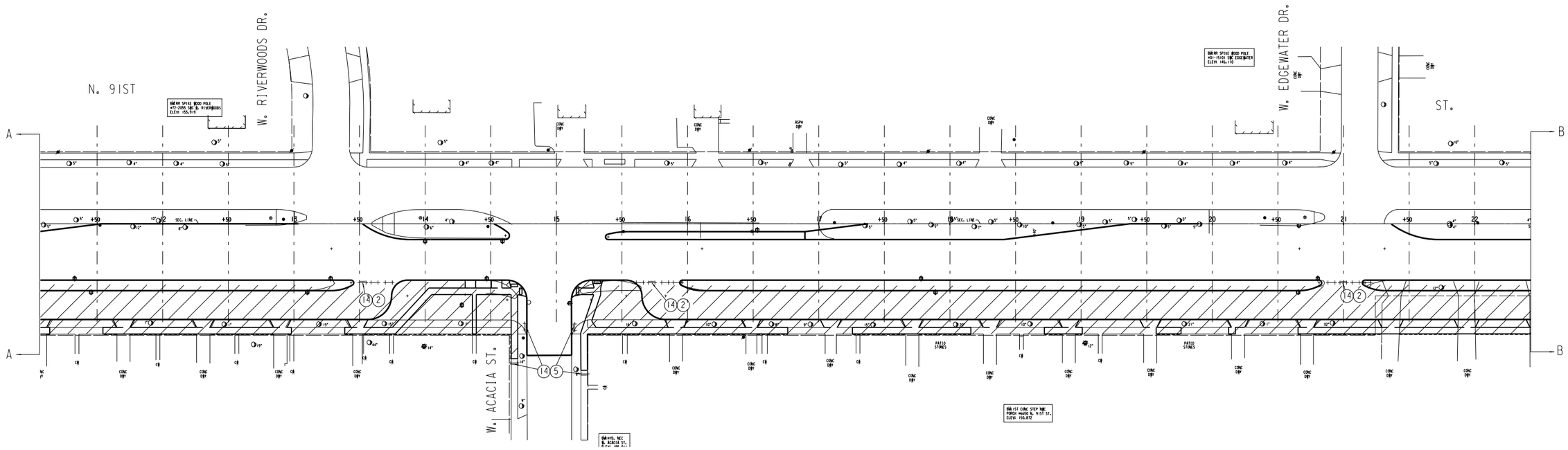
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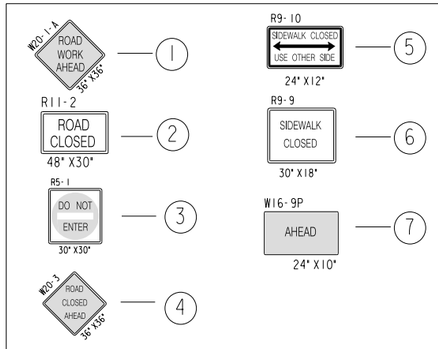
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STAGE 2

N





DRUMS W/LIGHTS 30' SPACING — (13)

TYPE III BARRICADES — (14)

TYPE III BARRICADES W/ SIGN — (14) + (X)

SIGNS BANDED TO UTILITY POLE — (15)

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.

CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

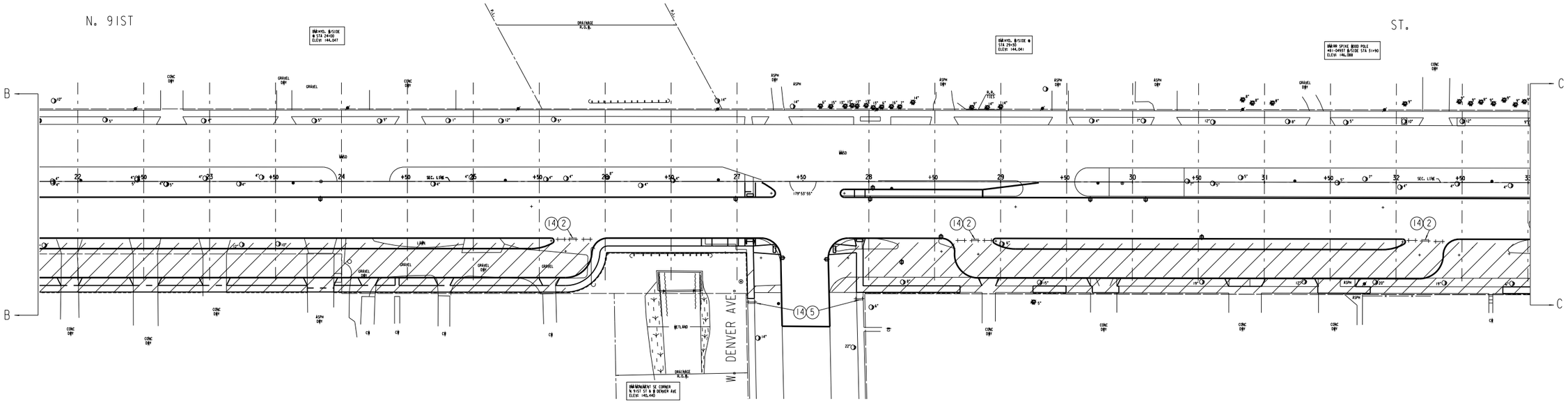
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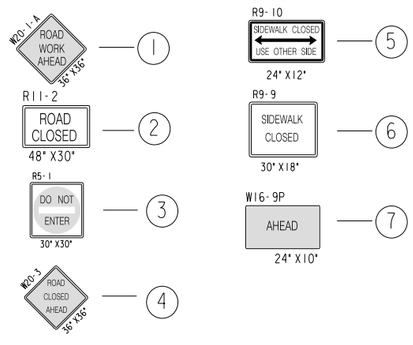
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FILE NAME = W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

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STAGE 2





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY.
ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

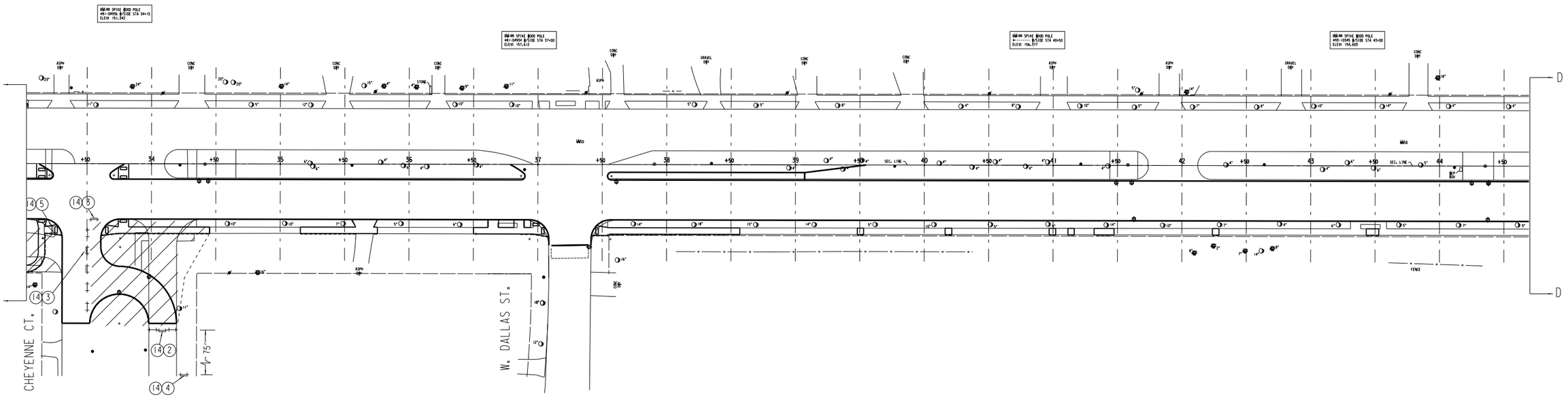
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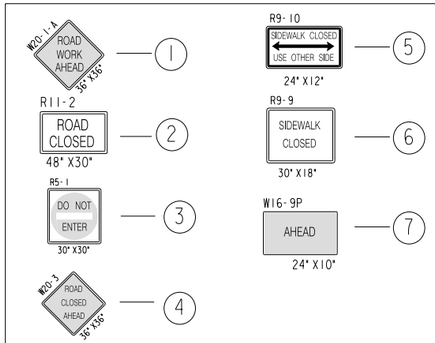
STATE PROJECT NUMBER 2504-00-71	HWY: N. 9IST ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL- STAGE 2	SCALE FEET 0' 80'	SHEET NO: 124	E

FILE NAME = W:\SPR\9IST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

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STAGE 2





DRUMS W/LIGHTS 30' SPACING — (13)

TYPE III BARRICADES — (14)

TYPE III BARRICADES W/ SIGN — (14) + (X)

SIGNS BANDED TO UTILITY POLE — (15)

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

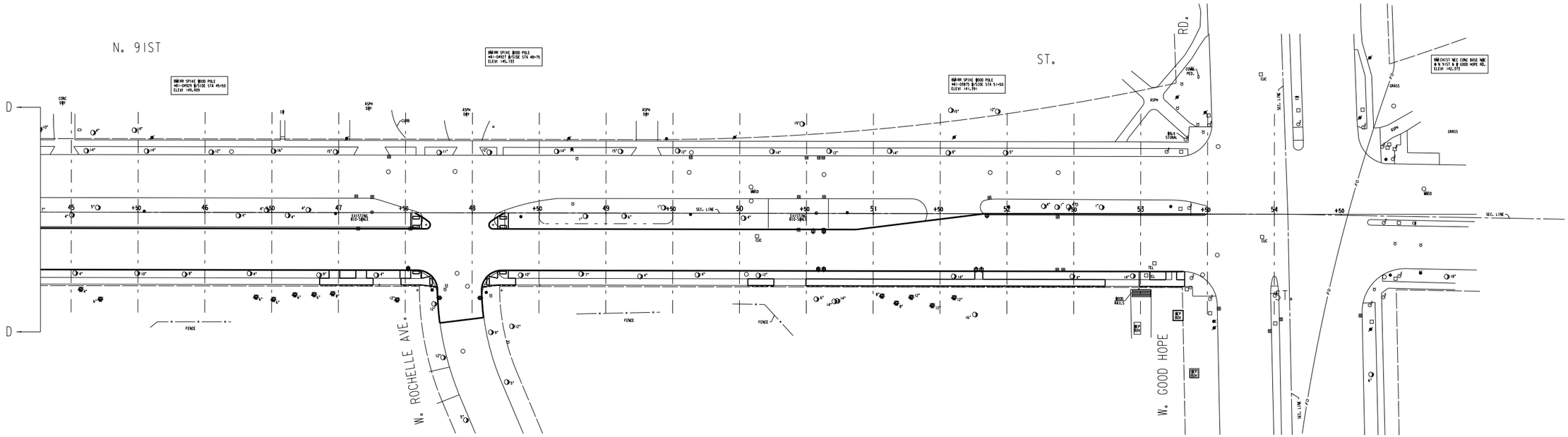
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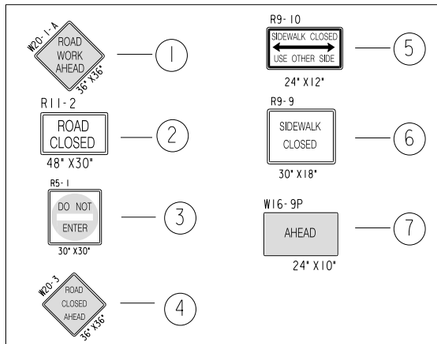
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FILE NAME: DGNFILENAME

REVISED: 10-24-2016 BY TJK

STAGE 2





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

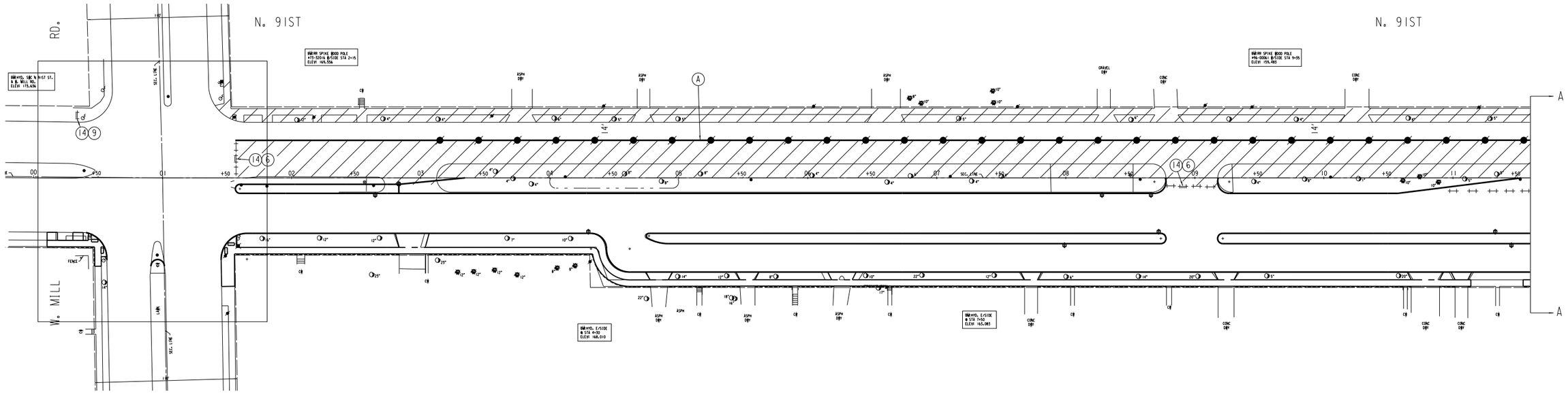
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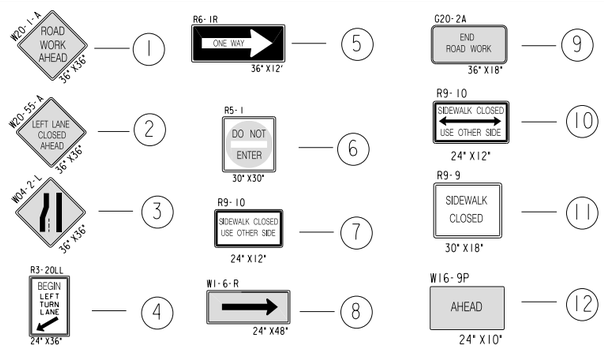
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STAGE 3

INTERSECTION TO BE DONE IN 4 STAGES
WITH SIGNAGE TO FOLLOW
W MILL RD INTERSECTION DETAIL





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

(A) TPM, REMOVABLE TAPE, 4" WHITE

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY.
ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

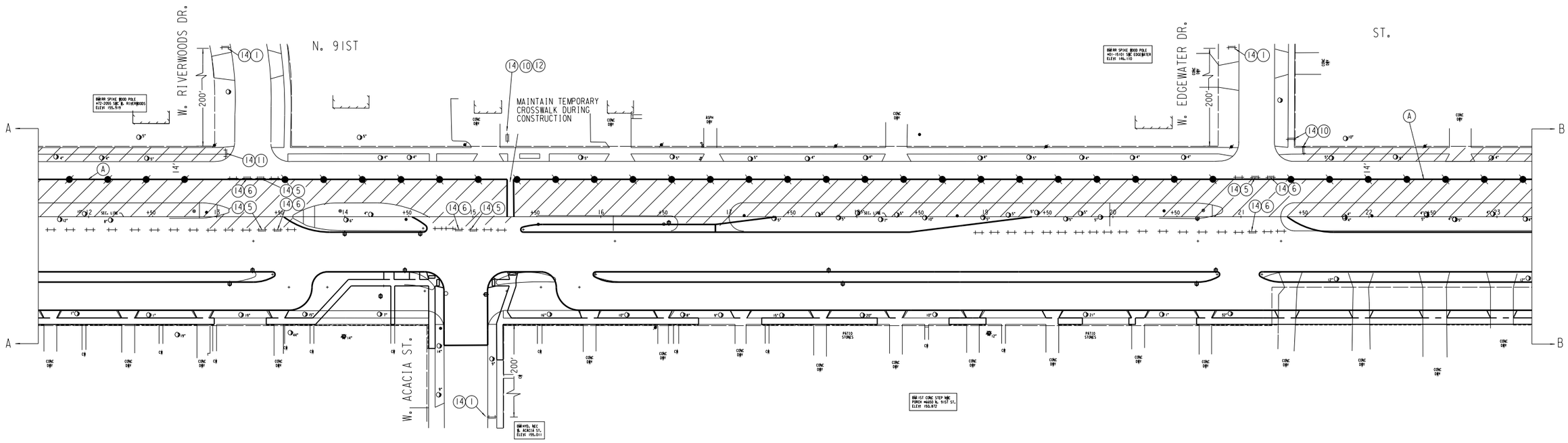
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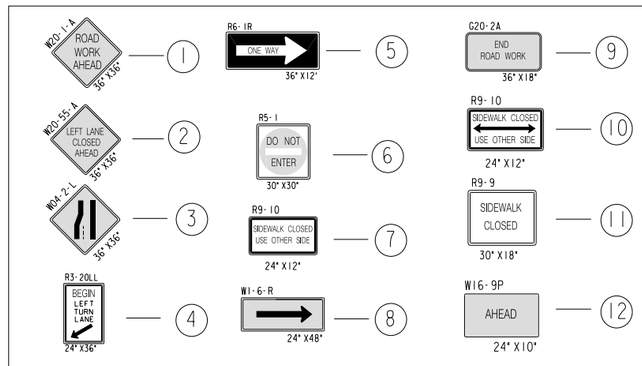
STATE PROJECT NUMBER	2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL- STAGE 3	SCALE FEET 0' 80'	SHEET NO: 127	E

FILE NAME = W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

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STAGE 3





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

(A) TPM, REMOVABLE TAPE, 4" WHITE

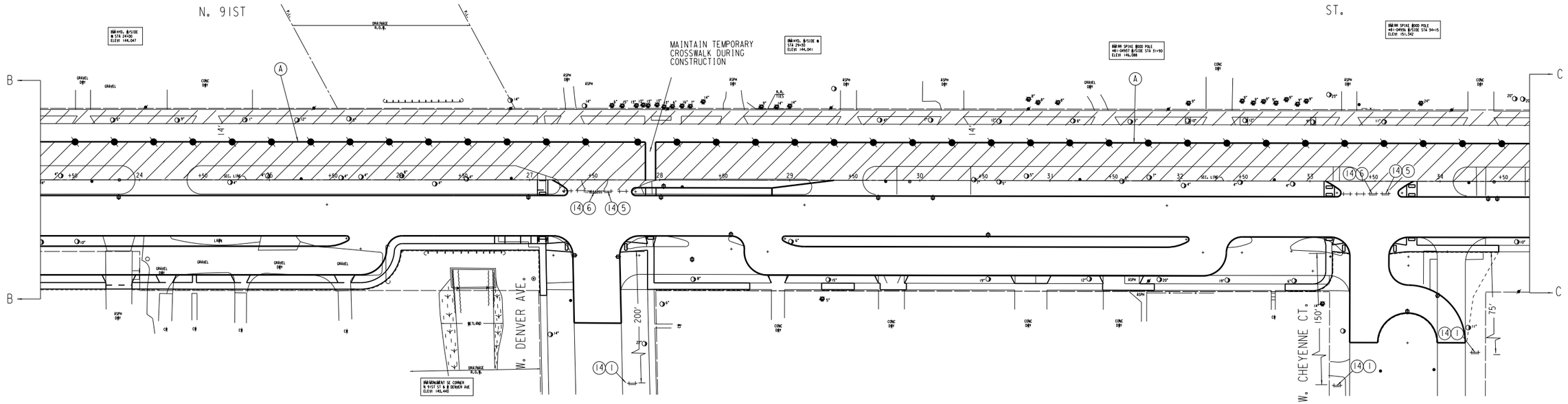
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CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

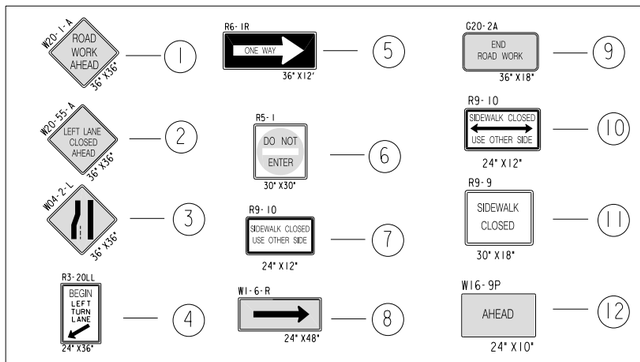
STATE PROJECT NUMBER	2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL- STAGE 3	SCALE FEET 0' 80'	SHEET NO: 128	E

FILE NAME = W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

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STAGE 3





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

(A) TPM, REMOVABLE TAPE, 4" WHITE

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY.
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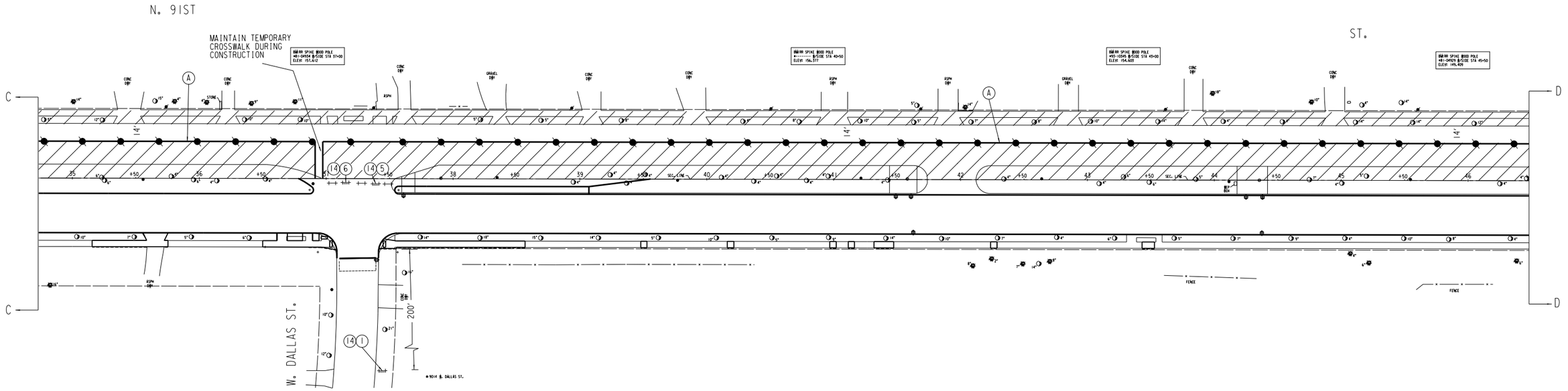
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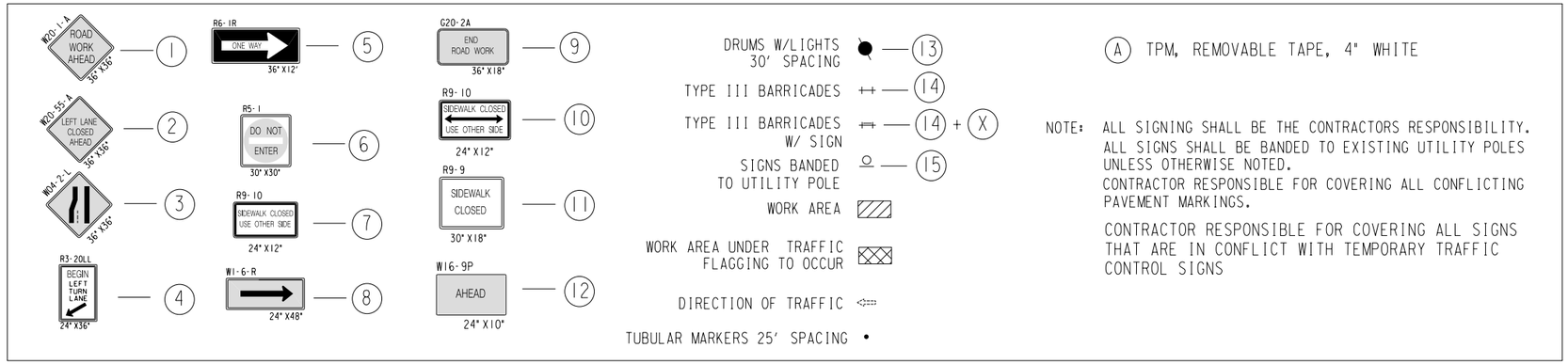
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FILE NAME = W:\SPR\9IST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

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STAGE 3





NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY.
ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.
CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

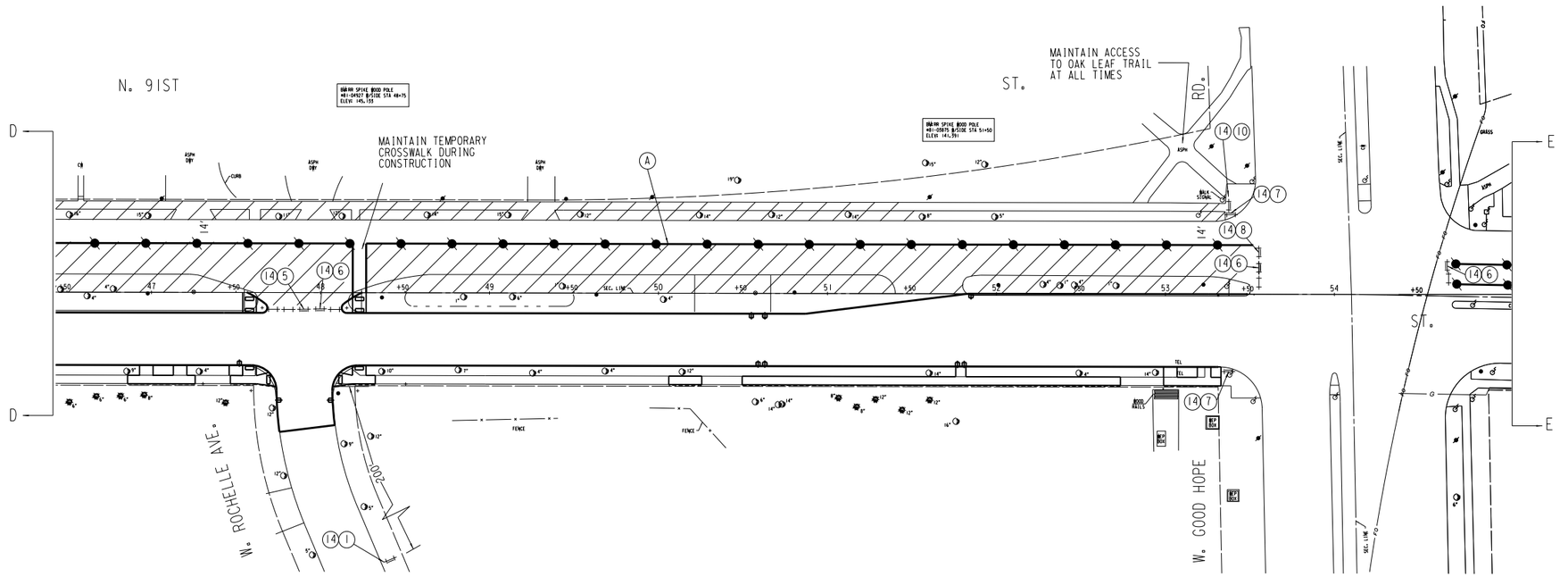
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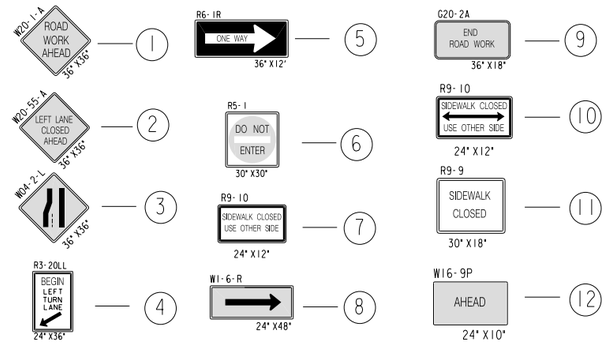
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FILE NAME = W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

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STAGE 3





DRUMS W/LIGHTS 30' SPACING — (13)

TYPE III BARRICADES — (14)

TYPE III BARRICADES W/ SIGN — (14) + (X)

SIGNS BANDED TO UTILITY POLE — (15)

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

(A) TPM, REMOVABLE TAPE, 4" WHITE

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY.
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CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

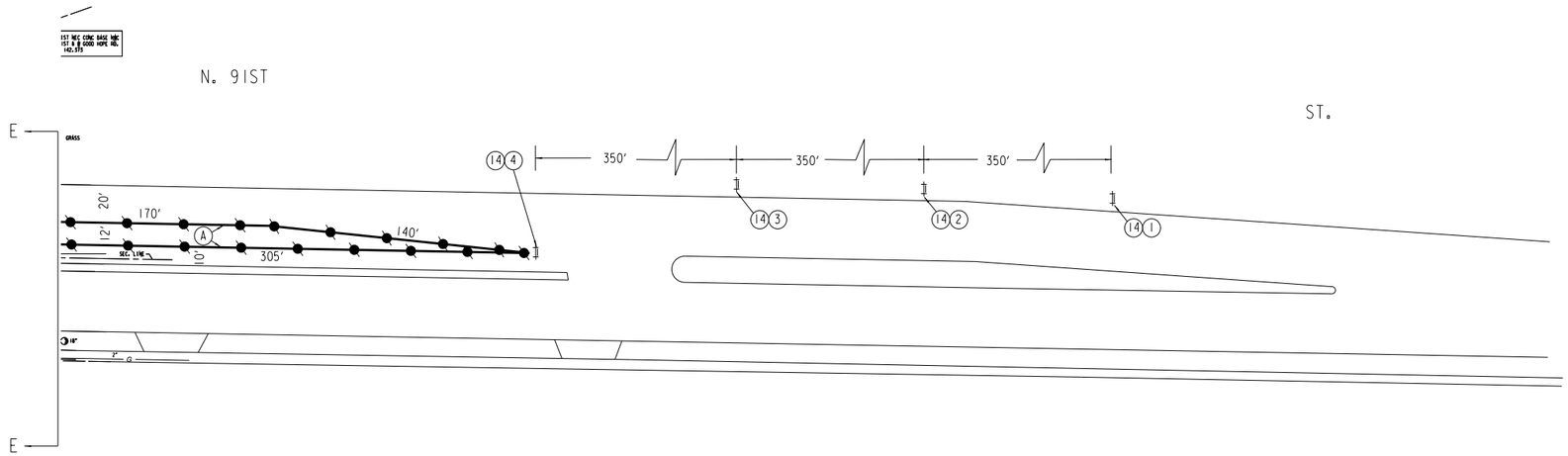
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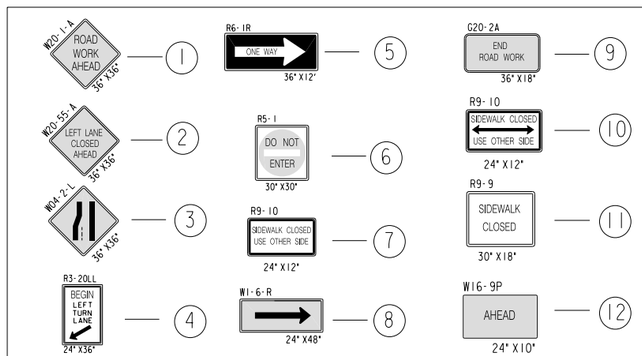
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STAGE 3

N





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

(A) TPM, REMOVABLE TAPE, 4" WHITE

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY.
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CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

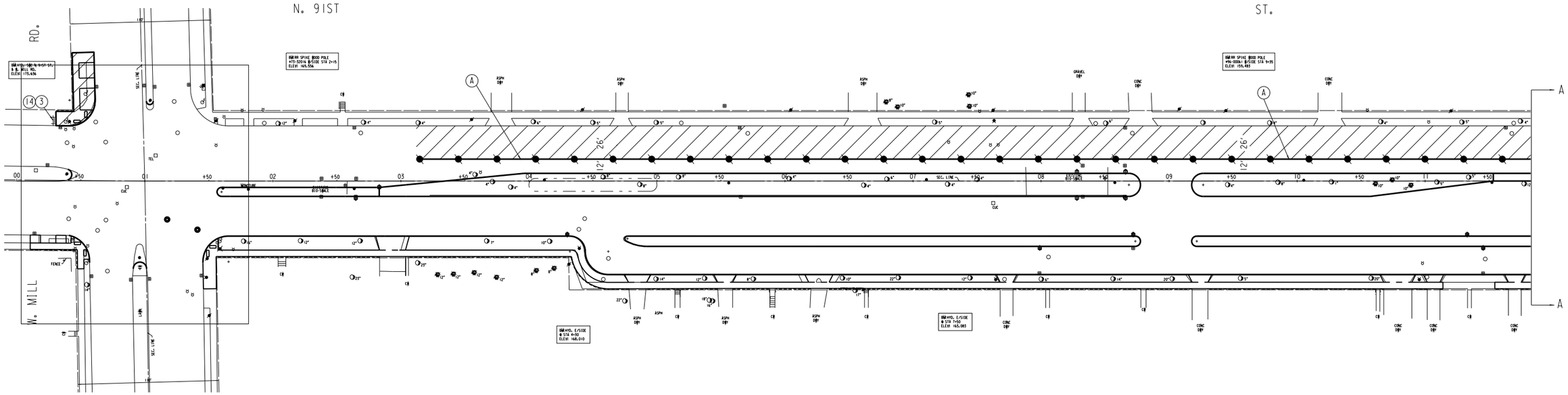
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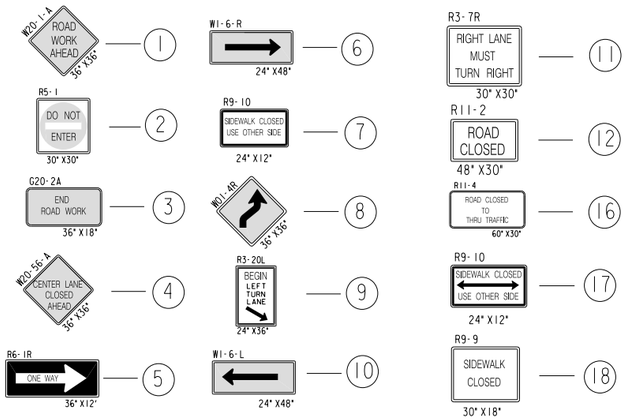
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REVISED: 10-24-2016 BY TJK

STAGE 4

INTERSECTION TO BE DONE IN 4 STAGES
WITH SIGNAGE TO FOLLOW
W MILL RD INTERSECTION DETAIL





DRUMS W/LIGHTS 30' SPACING — 13
TYPE III BARRICADES — 14
TYPE III BARRICADES W/ SIGN — 14 + X
SIGNS BANDED TO UTILITY POLE — 15
WORK AREA
WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR
DIRECTION OF TRAFFIC
TUBULAR MARKERS 25' SPACING •

(A) TPM, REMOVABLE TAPE, 4" WHITE

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.

CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

CONTRACTOR MUST MAINTAIN ACCESS TO DRIVEWAYS

CONTRACTOR MUST MAINTAIN ACCESS TO EITHER W. RIVERWOODS DR. OR W. EDGEWATER DR. CANNOT CLOSE BOTH STREETS AT THE SAME TIME

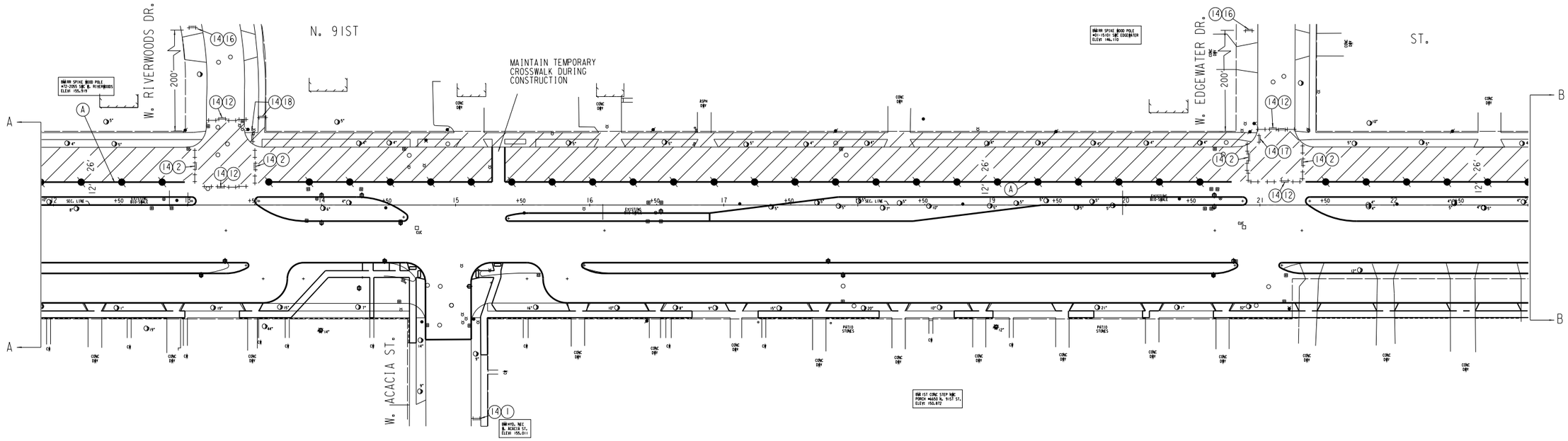
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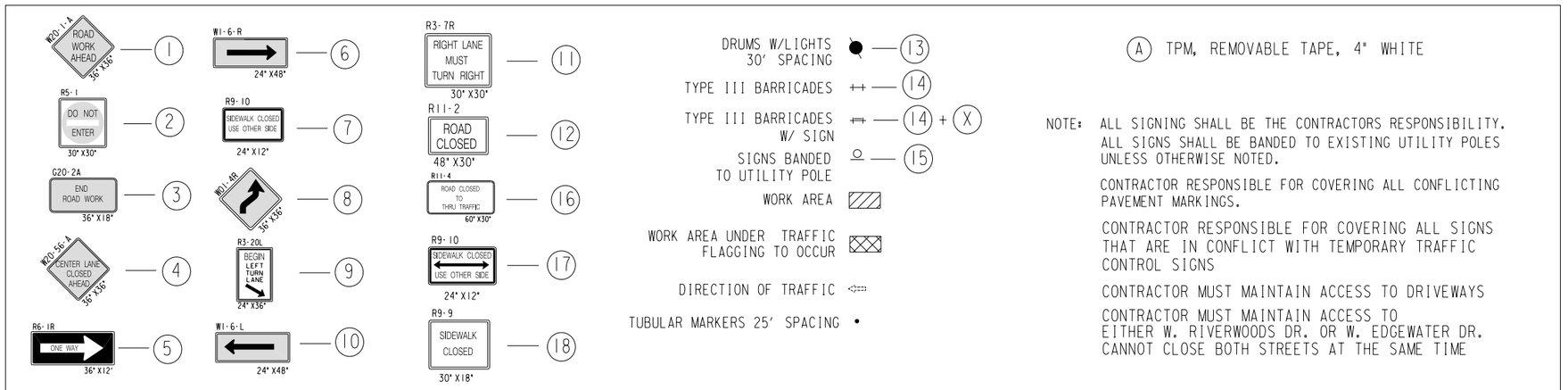
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STAGE 4

NOTE: CONTRACTOR MUST MAINTAIN ACCESS TO EITHER W. RIVERWOODS DR. OR W. EDGEWATER DR. CANNOT CLOSE BOTH STREETS AT THE SAME TIME





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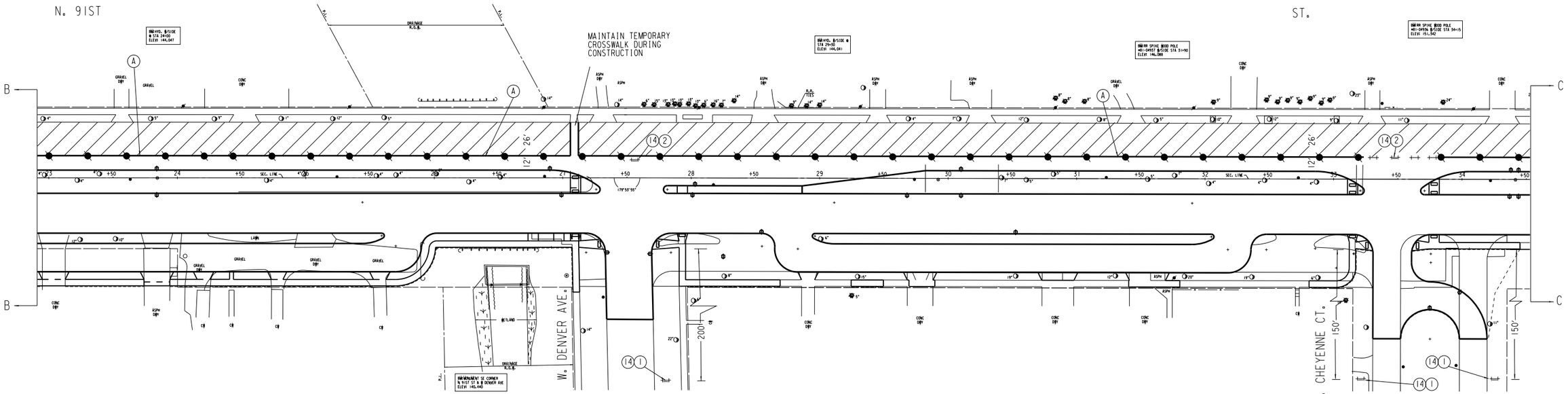
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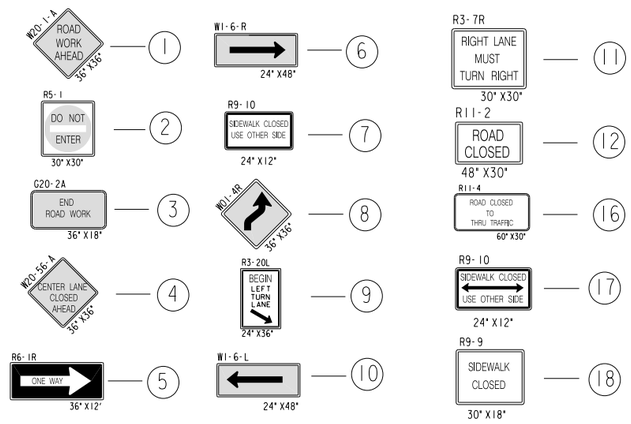
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FILE NAME= W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

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STAGE 4





DRUMS W/LIGHTS 30' SPACING — (13)

TYPE III BARRICADES — (14)

TYPE III BARRICADES W/ SIGN — (14) + (X)

SIGNS BANDED TO UTILITY POLE — (15)

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

(A) TPM, REMOVABLE TAPE, 4" WHITE

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.

CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

CONTRACTOR MUST MAINTAIN ACCESS TO DRIVEWAYS

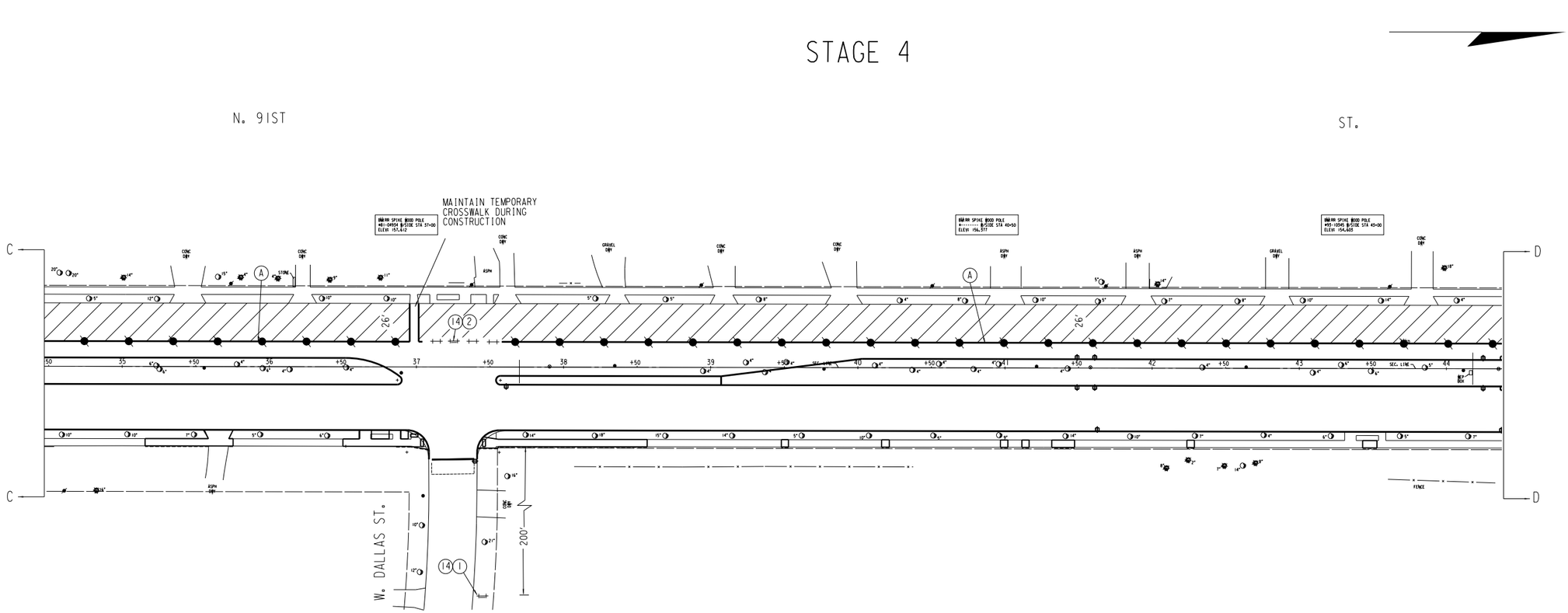
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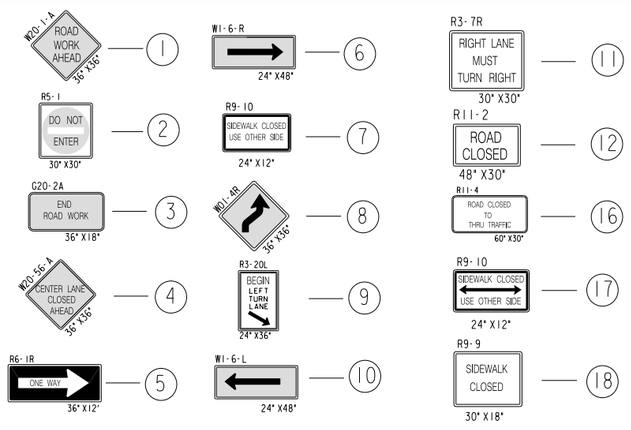
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FILE NAME= W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

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STAGE 4





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING

A TPM, REMOVABLE TAPE, 4" WHITE

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.

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CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

CONTRACTOR MUST MAINTAIN ACCESS TO DRIVEWAYS

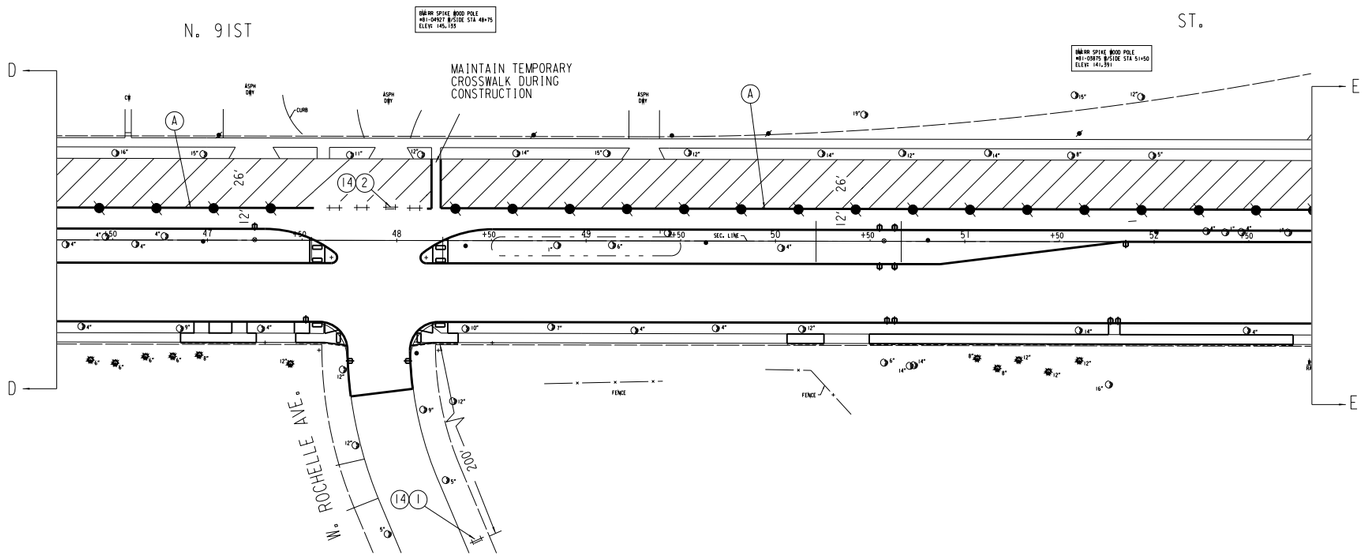
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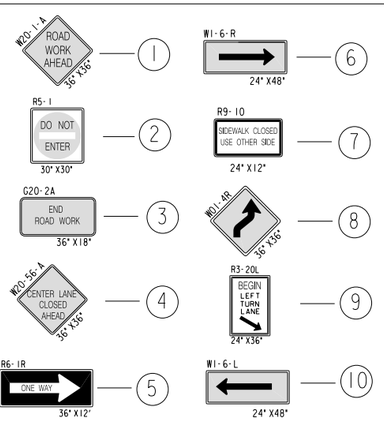
STATE PROJECT NUMBER 2504-00-71	HWY: N. 9IST ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL- STAGE 4	SCALE FEET 0' 80'	SHEET NO: 136	E

FILE NAME: W:\SPR\9IST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

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STAGE 4





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

(A) TPM, REMOVABLE TAPE, 4" WHITE

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CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

CONTRACTOR MUST MAINTAIN ACCESS TO DRIVEWAYS

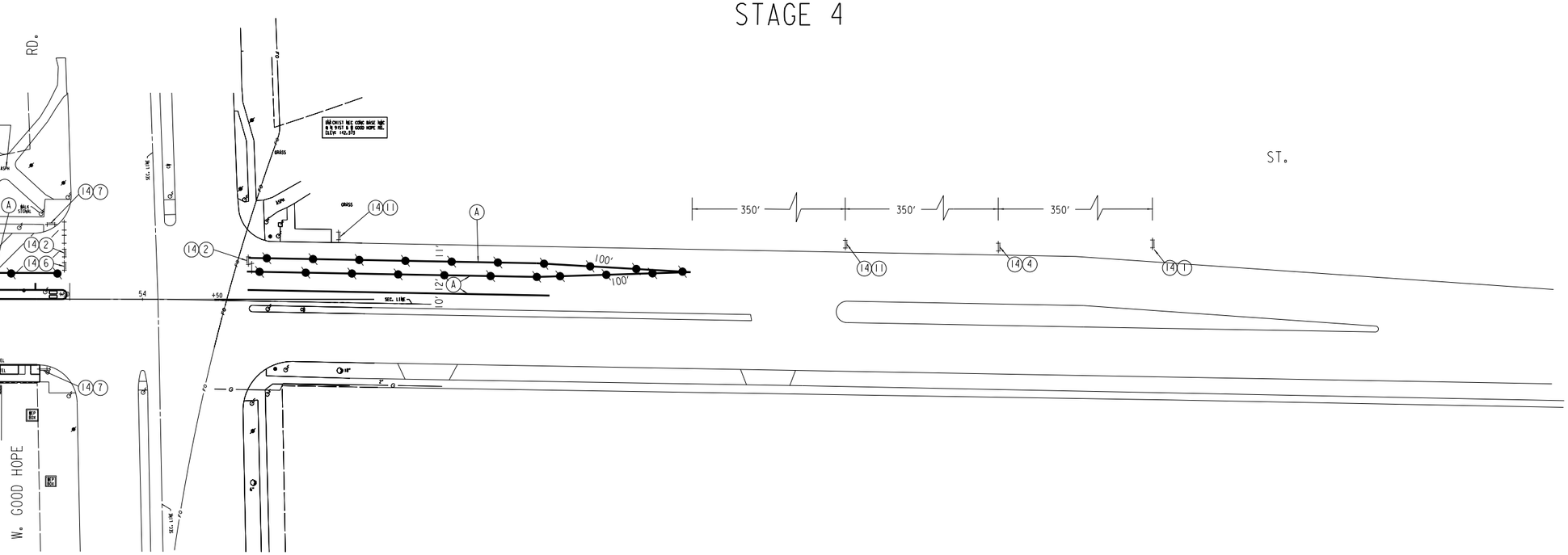
CONTRACTOR MUST MAINTAIN ACCESS TO EITHER W. RIVERWOODS DR. OR W. EDGEWATER DR. CANNOT CLOSE BOTH STREETS AT THE SAME TIME

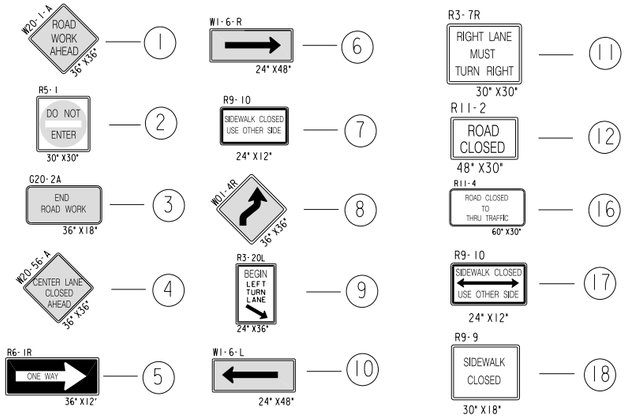
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL- STAGE 4	SCALE FEET 0' 80'	SHEET NO: 137	E

FILE NAME= W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

REVISED: 10-24-2016 BY TJK

STAGE 4





DRUMS W/LIGHTS 30' SPACING — 13

TYPE III BARRICADES — 14

TYPE III BARRICADES W/ SIGN — 14 + X

SIGNS BANDED TO UTILITY POLE — 15

WORK AREA

WORK AREA UNDER TRAFFIC FLAGGING TO OCCUR

DIRECTION OF TRAFFIC

TUBULAR MARKERS 25' SPACING •

(A) TPM, REMOVABLE TAPE, 4" WHITE

NOTE: ALL SIGNING SHALL BE THE CONTRACTORS RESPONSIBILITY. ALL SIGNS SHALL BE BANDED TO EXISTING UTILITY POLES UNLESS OTHERWISE NOTED.

CONTRACTOR RESPONSIBLE FOR COVERING ALL CONFLICTING PAVEMENT MARKINGS.

CONTRACTOR RESPONSIBLE FOR COVERING ALL SIGNS THAT ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS

CONTRACTOR MUST MAINTAIN ACCESS TO DRIVEWAYS

CONTRACTOR MUST MAINTAIN ACCESS TO EITHER W. RIVERWOODS DR. OR W. EDGEWATER DR. CANNOT CLOSE BOTH STREETS AT THE SAME TIME

STATE PROJECT NUMBER	2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	TRAFFIC CONTROL- STAGE 4	SCALE FEET 0' 80'	SHEET NO: 138	E

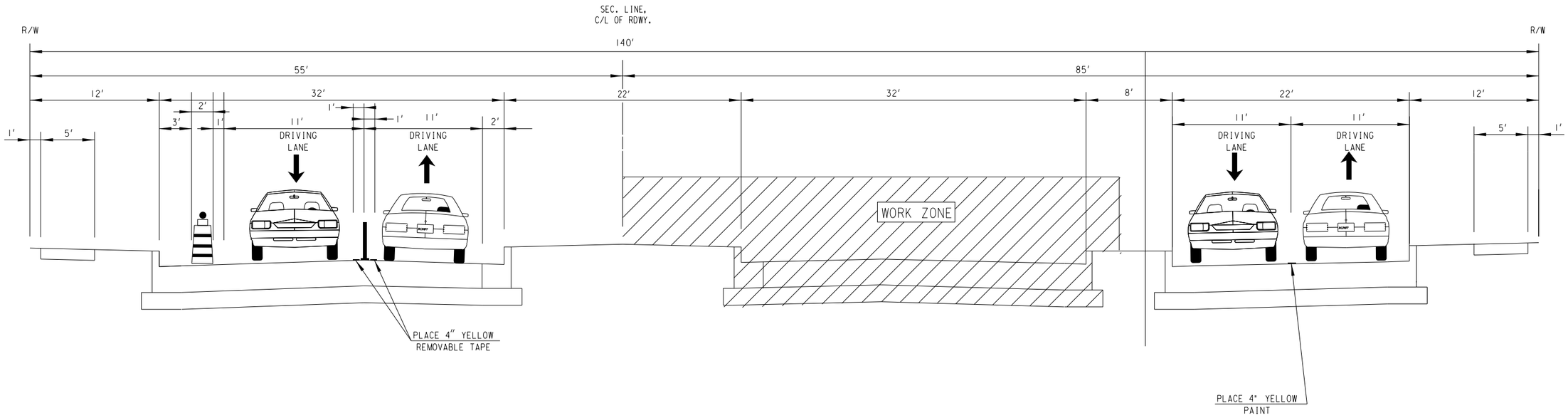
FILE NAME= W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\TRAFFIC CONTROL.DGN

REVISED: 10-24-2016 BY TJK

2

2

STAGE I



TYPICAL TRAFFIC CONTROL SECTION

NORTH 91ST STREET

NOTE: POST TEMPORARY
NO PARKING ANYTIME
ON EAST SIDE OF
FRONTAGE ROAD

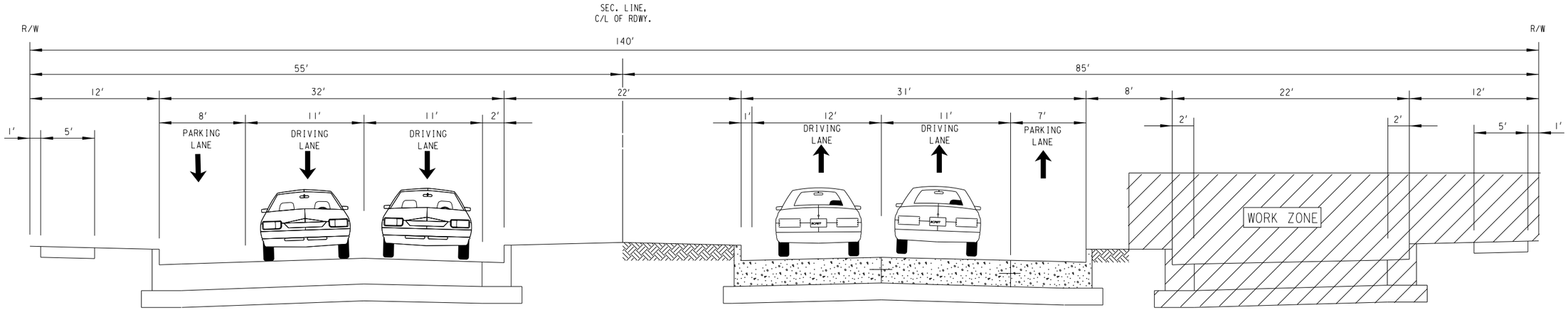
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CONSTRUCTION STAGING	SCALE FEET 0' 40'	SHEET NO: 139	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\91ST ST TRAFFIC TYPICAL.DGN

REVISED DATE: 10-24-2016 BY TJK

2

STAGE 2



TYPICAL TRAFFIC CONTROL SECTION

NORTH 91ST STREET

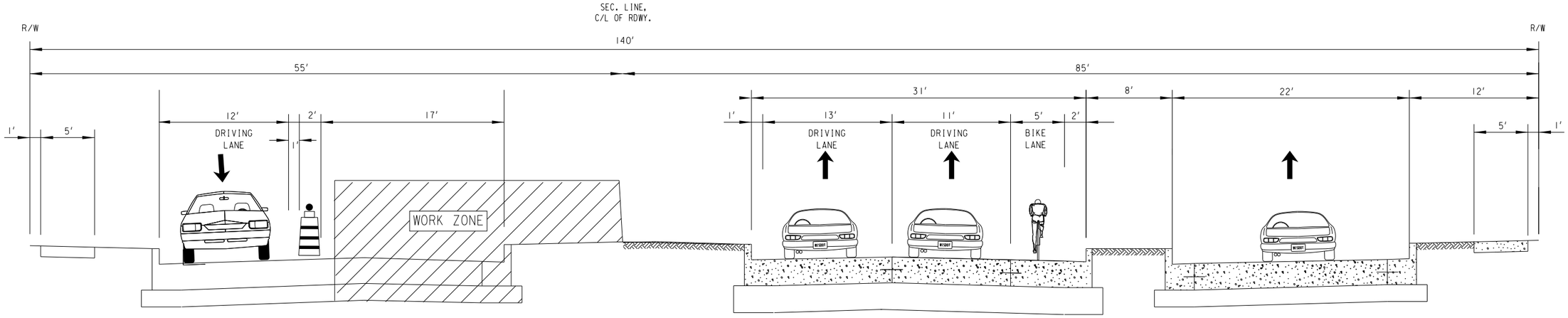
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CONSTRUCTION STAGING	SCALE FEET 0' 40'	SHEET NO: 140	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\91ST ST TRAFFIC TYPICAL.DGN

REVISED DATE: 10-24-2016 BY TJK

2

STAGE 3



TYPICAL TRAFFIC CONTROL SECTION

NORTH 91ST STREET

NOTE: POST TEMPORARY NO PARKING ANYTIME ON WEST SIDE OF N. 91ST ST.

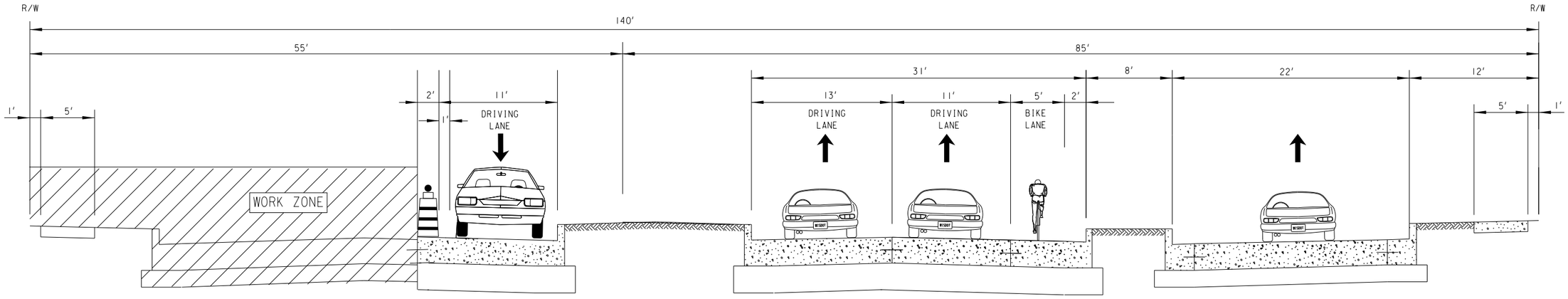
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CONSTRUCTION STAGING	SCALE FEET 0' 40'	SHEET NO: 141	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\91ST ST TRAFFIC TYPICAL.DGN

REVISED DATE: 10-24-2016 BY TJK

2

STAGE 4



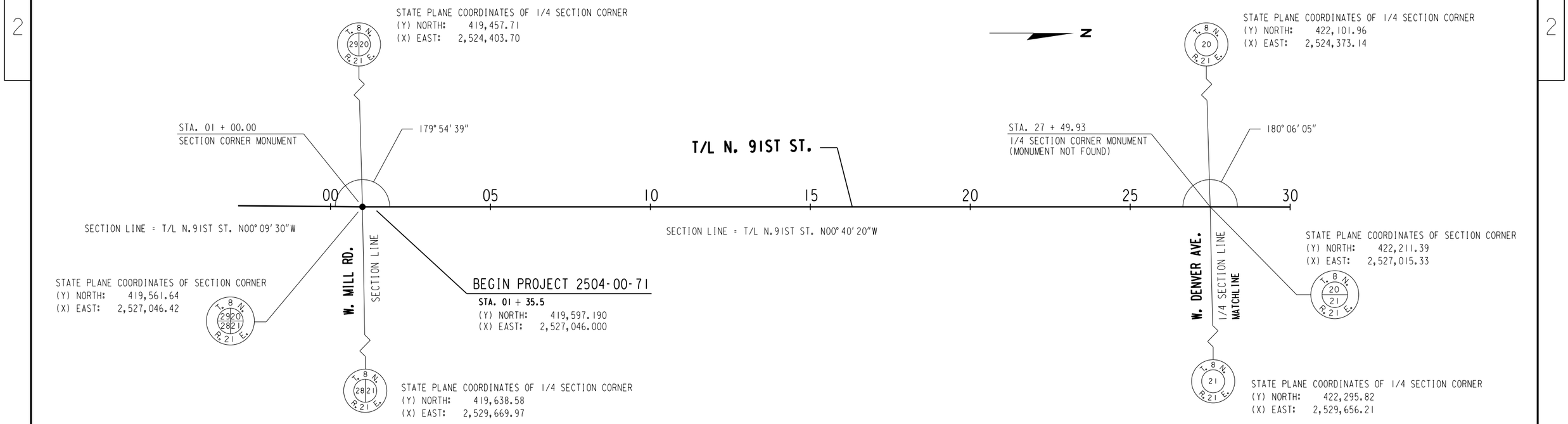
TYPICAL TRAFFIC CONTROL SECTION

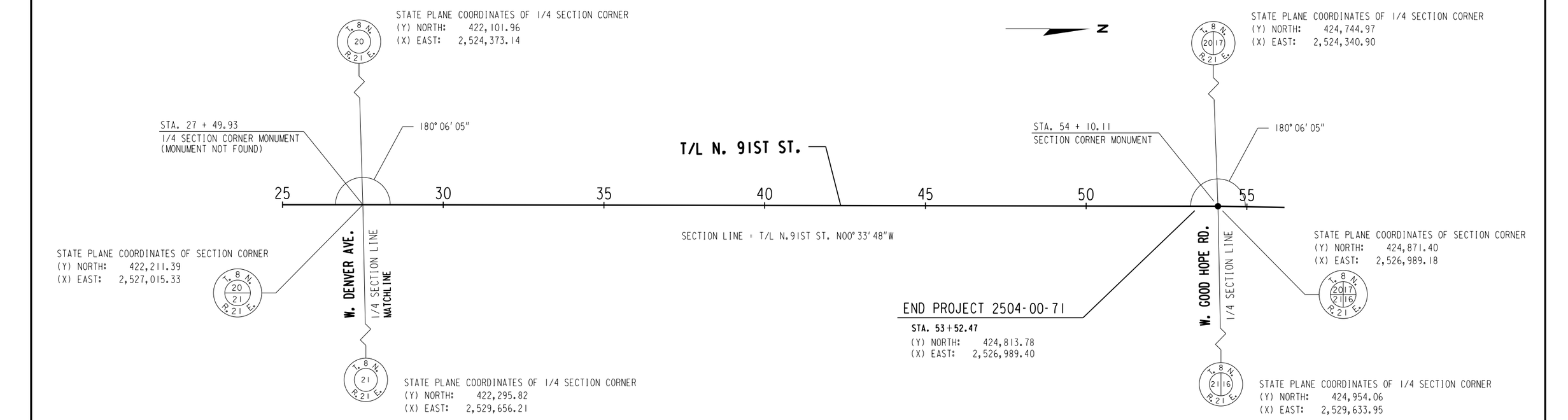
NORTH 91ST STREET

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	CONSTRUCTION STAGING	SCALE FEET 0' 40'	SHEET NO: 142	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\TRAFFIC PAVEMARK\91ST ST TRAFFIC TYPICAL.DGN

REVISED DATE: 10-24-2016 BY TJK





STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	ALIGNMENT PLAN	SCALE FEET 0' 300'	SHEET NO: 143	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\EXISTING\ALIGNMENT.DGN

REVISED DATE: 10-9-2016 BY SB

2504-00-71

Line	Item	Item Description	Unit	Total	Qty
0010	201.0110	Clearing	SY	70.000	70.000
0020	201.0120	Clearing	ID	384.000	384.000
0030	201.0210	Grubbing	SY	70.000	70.000
0040	201.0220	Grubbing	ID	384.000	384.000
0050	204.0100	Removing Pavement	SY	46,705.000	46,705.000
0060	204.0105	Removing Pavement Butt Joints	SY	470.000	470.000
0070	204.0115	Removing Asphaltic Surface Butt Joints	SY	40.000	40.000
0080	204.0150	Removing Curb & Gutter	LF	270.000	270.000
0090	204.0155	Removing Concrete Sidewalk	SY	4,800.000	4,800.000
0100	204.0165	Removing Guardrail	LF	135.000	135.000
0110	204.0170	Removing Fence	LF	104.000	104.000
0120	204.0220	Removing Inlets	EACH	93.000	93.000
0130	204.0245	Removing Storm Sewer (size) 01. 8-Inch Pipe	LF	1,422.000	1,422.000
0140	205.0100	Excavation Common	CY	25,858.000	25,858.000
0150	213.0100	Finishing Roadway (project) 01. 2504-00-71	EACH	1.000	1.000
0160	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	37,402.000	37,402.000
0170	320.0125	Concrete Base 6-Inch	SY	41.000	41.000
0180	320.0155	Concrete Base 9-Inch	SY	7.000	7.000
0190	415.0080	Concrete Pavement 8-Inch	SY	43,541.000	43,541.000
0200	415.0210	Concrete Pavement Gaps	EACH	4.000	4.000
0210	416.0170	Concrete Driveway 7-Inch	SY	780.000	780.000
0220	416.0610	Drilled Tie Bars	EACH	20.000	20.000
0230	416.0620	Drilled Dowel Bars	EACH	22.000	22.000
0240	455.0605	Tack Coat	GAL	14.000	14.000
0250	465.0105	Asphaltic Surface	TON	108.000	108.000
0260	465.0310	Asphaltic Curb	LF	35.000	35.000
0270	509.1500	Concrete Surface Repair	SF	246.000	246.000
0280	509.9025.S	Epoxy Injection Crack Repair	LF	283.000	283.000
0290	509.9026.S	Cored Holes 2-Inch Diameter	EACH	8.000	8.000
0300	601.0331	Concrete Curb & Gutter 31-Inch	LF	10,260.000	10,260.000
0310	602.0410	Concrete Sidewalk 5-Inch	SF	40,800.000	40,800.000
0320	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	540.000	540.000
0330	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	1,188.000	1,188.000
0340	611.2004	Manholes 4-FT Diameter	EACH	20.000	20.000
0350	611.3225	Inlets 2x2.5-FT	EACH	1.000	1.000
0360	611.8110	Adjusting Manhole Covers	EACH	63.000	63.000
0370	611.8115	Adjusting Inlet Covers	EACH	8.000	8.000
0380	612.0108	Pipe Underdrain 8-Inch	LF	319.000	319.000
0390	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	96.000	96.000

2504-00-71

Line	Item	Item Description	Unit	Total	Qty
0400	614.2300	MGS Guardrail 3	LF	25.000	25.000
0410	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0420	614.2620	MGS Guardrail Terminal Type 2	EACH	2.000	2.000
0430	619.1000	Mobilization	EACH	1.000	1.000
0440	620.0300	Concrete Median Sloped Nose	SF	1,557.000	1,557.000
0450	621.0100	Landmark Reference Monuments	EACH	1.000	1.000
0460	623.0200	Dust Control Surface Treatment	SY	43,500.000	43,500.000
0470	625.0100	Topsoil	SY	15,294.000	15,294.000
0480	628.1504	Silt Fence	LF	60.000	60.000
0490	628.1520	Silt Fence Maintenance	LF	60.000	60.000
0500	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0510	628.1910	Mobilizations Emergency Erosion Control	EACH	9.000	9.000
0520	628.2023	Erosion Mat Class II Type B	SY	70.000	70.000
0530	628.7005	Inlet Protection Type A	EACH	77.000	77.000
0540	628.7015	Inlet Protection Type C	EACH	108.000	108.000
0550	629.0205	Fertilizer Type A	CWT	9.630	9.630
0560	630.0130	Seeding Mixture No. 30	LB	2.000	2.000
0570	631.1000	Sod Lawn	SY	15,224.000	15,224.000
0580	632.0101	Trees (species) (size) (root) 01. Common Bald Cypress 3" Cal B&B	EACH	1.000	1.000
0590	632.0101	Trees (species) (size) (root) 02. Callery Pear 3" Cal B&B	EACH	2.000	2.000
0600	632.0101	Trees (species) (size) (root) 03. Sunburst Honeylocust 3" Cal B&B	EACH	1.000	1.000
0610	632.0101	Trees (species) (size) (root) 04. Canada Red Chokeberry 3" Cal B&B	EACH	1.000	1.000
0620	632.0101	Trees (species) (size) (root) 05. Japanese Tree Lilac 3" Cal B&B	EACH	3.000	3.000
0630	632.0101	Trees (species) (size) (root) 06. American Swetgum Moraine 3" Cal B&B	EACH	1.000	1.000
0640	632.0101	Trees (species) (size) (root) 07. Tulip Tree 3" Cal B&B	EACH	1.000	1.000
0650	632.0101	Trees (species) (size) (root) 08. Butternut 3" Cal B&B	EACH	1.000	1.000
0660	632.0101	Trees (species) (size) (root) 09. Northern Catalpa 3" Cal B&B	EACH	1.000	1.000
0670	632.0101	Trees (species) (size) (root) 10. Yellow River Birch 3" Cal B&B	EACH	3.000	3.000
0680	632.0101	Trees (species) (size) (root) 11. Red Bud 3" Cal B&B	EACH	1.000	1.000
0690	632.0101	Trees (species) (size) (root) 12. Amur Corktree 3" Cal B&B	EACH	1.000	1.000
0700	632.0201	Shrubs (species) (size) (root) 01. Rugosa Roses 3 Gal CG	EACH	13.000	13.000
0710	632.0201	Shrubs (species) (size) (root) 02. Diablo Ninebark 5 Gal	EACH	18.000	18.000

2504-00-71

Line	Item	Item Description	Unit	Total	Qty
		CG			
0720	632.0201	Shrubs (species) (size) (root) 03. Tigers Eye Sumac 5 Gal CG	EACH	14.000	14.000
0730	632.0201	Shrubs (species) (size) (root) 04. Miscanthus Panicum 1 Gal CG	EACH	60.000	60.000
0740	632.0201	Shrubs (species) (size) (root) 05. Arrowwood Viburnum 5 Gal CG	EACH	8.000	8.000
0750	632.0301	Vines (species) (size) (root) 01. Perrenial Black Eyed Susan 1 Gal CG	EACH	36.000	36.000
0760	632.0301	Vines (species) (size) (root) 02. Perrenial Blue Wonder Catmint 1 Gal CG	EACH	192.000	192.000
0770	632.0301	Vines (species) (size) (root) 03. Perrenial Dwarf Daylilies 1 Gal CG	EACH	276.000	276.000
0780	632.0301	Vines (species) (size) (root) 04. Perrenial Russian Sage 1 Gal CG	EACH	30.000	30.000
0790	632.0301	Vines (species) (size) (root) 05. Perrenial Agastache Blue Fortune 1 Gal CG	EACH	24.000	24.000
0800	632.9101	Landscape Planting Surveillance and Care Cycles	EACH	10.000	10.000
0810	642.5401	Field Office Type D	EACH	1.000	1.000
0820	643.0100	Traffic Control (project) 01. 2504-00-71	EACH	1.000	1.000
0830	643.0300	Traffic Control Drums	DAY	37,254.000	37,254.000
0840	643.0410	Traffic Control Barricades Type II	DAY	160.000	160.000
0850	643.0420	Traffic Control Barricades Type III	DAY	24,366.000	24,366.000
0860	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	209.000	209.000
0870	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	209.000	209.000
0880	643.0705	Traffic Control Warning Lights Type A	DAY	48,732.000	48,732.000
0890	643.0715	Traffic Control Warning Lights Type C	DAY	37,254.000	37,254.000
0900	643.0900	Traffic Control Signs	DAY	12,321.000	12,321.000
0910	644.1410.S	Temporary Pedestrian Surface Asphalt	SF	1,000.000	1,000.000
0920	644.1420.S	Temporary Pedestrian Surface Plywood	SF	600.000	600.000
0930	644.1430.S	Temporary Pedestrian Surface Plate	SF	2,000.000	2,000.000
0940	644.1601.S	Temporary Curb Ramp	EACH	24.000	24.000
0950	645.0112	Geotextile Type DF Schedule B	SY	105.000	105.000
0960	646.0106	Pavement Marking Epoxy 4-Inch	LF	6,469.000	6,469.000
0970	646.0116	Pavement Marking Epoxy 6-Inch	LF	8,231.000	8,231.000
0980	646.0126	Pavement Marking Epoxy 8-Inch	LF	960.000	960.000
0990	647.0166	Pavement Marking Arrows Epoxy Type 2	EACH	7.000	7.000
1000	647.0206	Pavement Marking Arrows Bike Lane Epoxy	EACH	19.000	19.000
1010	647.0306	Pavement Marking Symbols Bike Lane Epoxy	EACH	19.000	19.000
1020	647.0356	Pavement Marking Words Epoxy	EACH	7.000	7.000
1030	647.0576	Pavement Marking Stop Line Epoxy 24-Inch	LF	88.000	88.000

2504-00-71

Line	Item	Item Description	Unit	Total	Qty
1040	647.0776	Pavement Marking Crosswalk Epoxy 12-Inch	LF	340.000	340.000
1050	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	28,922.000	28,922.000
1060	649.0402	Temporary Pavement Marking Paint 4-Inch	LF	550.000	550.000
1070	649.1800	Temporary Pavement Marking Arrows Removable Tape	EACH	1.000	1.000
1080	649.2000	Temporary Pavement Marking Words Removable Tape	EACH	1.000	1.000
1090	650.4000	Construction Staking Storm Sewer	EACH	81.000	81.000
1100	650.4500	Construction Staking Subgrade	LF	12,900.000	12,900.000
1110	650.7000	Construction Staking Concrete Pavement	LF	12,900.000	12,900.000
1120	650.8500	Construction Staking Electrical Installations (project) 01. 2504-00-71	LS	1.000	1.000
1130	650.9910	Construction Staking Supplemental Control (project) 01. 2504-00-71	LS	1.000	1.000
1140	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	175.000	175.000
1150	652.0230	Conduit Rigid Nonmetallic Schedule 40 2 1/2-Inch	LF	5,600.000	5,600.000
1160	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	475.000	475.000
1170	652.0330	Conduit Rigid Nonmetallic Schedule 80 2 1/2-Inch	LF	1,500.000	1,500.000
1180	652.0335	Conduit Rigid Nonmetallic Schedule 80 3-Inch	LF	200.000	200.000
1190	652.0610	Conduit Special 2 1/2-Inch	LF	140.000	140.000
1200	654.0101	Concrete Bases Type 1	EACH	2.000	2.000
1210	654.0105	Concrete Bases Type 5	EACH	47.000	47.000
1220	655.0305	Cable Type UF 2-12 AWG Grounded	LF	3,100.000	3,100.000
1230	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	45.000	45.000
1240	657.0322	Poles Type 5-Aluminum	EACH	5.000	5.000
1250	657.0615	Luminaire Arms Single Member 4 1/2-Inch Clamp 8-FT	EACH	82.000	82.000
1260	690.0150	Sawing Asphalt	LF	430.000	430.000
1270	690.0250	Sawing Concrete	LF	218.000	218.000
1280	715.0415	Incentive Strength Concrete Pavement	DOL	11,292.000	11,292.000
1290	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,600.000	1,600.000
1300	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	2,000.000	2,000.000
1310	SPV.0035	Special 01. Storage Layer	CY	320.000	320.000
1320	SPV.0035	Special 02. Engineered Soil	CY	253.000	253.000
1330	SPV.0035	Special 03. Bedding Layer	CY	57.000	57.000
1340	SPV.0035	Special 04. Cobblestones	CY	68.000	68.000
1350	SPV.0060	Special 01. 8-Inch PVC Standpipe w/ Dome Grate	EACH	7.000	7.000
1360	SPV.0060	Special 02. Informational Sign Post	EACH	3.000	3.000
1370	SPV.0060	Special 03. 6-Inch Cleanouts	EACH	11.000	11.000
1380	SPV.0060	Special 04. Joe Pye Weed 1 Gal CG	EACH	8.000	8.000
1390	SPV.0060	Special 05. Karl Foerster Grass 1 Gal CG	EACH	26.000	26.000
1400	SPV.0060	Special 06. Switch Grass 1 Gal CG	EACH	11.000	11.000
1410	SPV.0060	Special 07. Inlet Covers Type 57	EACH	78.000	78.000

Line	Item	Item Description	Unit	Total	Qty
1420	SPV.0060	Special 08. Catch Basins Type 45A	EACH	60.000	60.000
1430	SPV.0060	Special 09. Adjust TES Manhole	EACH	8.000	8.000
1440	SPV.0060	Special 10. Install Salvaged Inlet Frame & Grate	EACH	14.000	14.000
1450	SPV.0060	Special 11. Fiberglass / Polymer Concrete Pull Box 13'x24"x24"	EACH	39.000	39.000
1460	SPV.0060	Special 12. Fiberglass / Polymer Concrete Pull Box 17"x30"x24"	EACH	10.000	10.000
1470	SPV.0060	Special 13. Utility Line Opening (ULO)	EACH	2.000	2.000
1480	SPV.0060	Special 14. Construction Staking Curb Ramp	EACH	52.000	52.000
1490	SPV.0060	Special 15. Manhole Cover Type 58A	EACH	3.000	3.000
1500	SPV.0060	Special 16. Installing City-Furnished 22' Aluminum Bolt Down Pole	EACH	6.000	6.000
1510	SPV.0060	Special 17. Installing City-Furnished Luminaire Arms 6'	EACH	6.000	6.000
1520	SPV.0060	Special 18. Installing City-Furnished Luminaires LED Types A, B, C	EACH	88.000	88.000
1530	SPV.0060	Special 19. Poles Type 5A Aluminum 25'	EACH	36.000	36.000
1540	SPV.0060	Special 20. Woods Purple Aster 1 Gal CG	EACH	144.000	144.000
1550	SPV.0060	Special 21. Russian Sage 1 Gal CG	EACH	24.000	24.000
1560	SPV.0060	Special 22. Becky Shasta Daisy 1 Gal CG	EACH	48.000	48.000
1570	SPV.0060	Special 23. Dwarf Korean Lilac 5 Gal CG	EACH	24.000	24.000
1580	SPV.0060	Special 24. Yellow Knockout Roses 2 Gal CG	EACH	12.000	12.000
1590	SPV.0060	Special 25. Cloud Nine Switch Grass 1 Gal CG	EACH	28.000	28.000
1600	SPV.0060	Special 26. Dwarf Serbian Spruce 5 Gal CG	EACH	4.000	4.000
1610	SPV.0060	Special 27. Catmint Blue Wonder 1 Gal CG	EACH	48.000	48.000
1620	SPV.0060	Special 28. American Hornbeams 3" Cal B&B	EACH	6.000	6.000
1630	SPV.0060	Special 29. Signature Bed	EACH	2.000	2.000
1640	SPV.0060	Special 30. Temporary Bus Loading Zone	EACH	8.000	8.000
1650	SPV.0060	Special 31. Storm Sewer Pipe Coupling 8-Inch	EACH	16.000	16.000
1660	SPV.0060	Special 32. Storm Sewer Pipe Coupling 10-Inch	EACH	1.000	1.000
1670	SPV.0060	Special 33. Storm Sewer Pipe Coupling 12-Inch	EACH	2.000	2.000
1680	SPV.0090	Special 01. Concrete Wall Repair	LF	15.000	15.000
1690	SPV.0090	Special 02. Culvert Joint Repair	LF	84.000	84.000
1700	SPV.0090	Special 03. Fence Chain Link Polymer Coated 4-FT	LF	123.000	123.000
1710	SPV.0090	Special 04. Storm Sewer Pipe Corrugated PVC 8-Inch	LF	80.000	80.000
1720	SPV.0090	Special 05. Storm Sewer Pipe Corrugated PVC 10-Inch	LF	5.000	5.000
1730	SPV.0090	Special 06. Storm Sewer Pipe Corrugated PVC 12-Inch	LF	10.000	10.000
1740	SPV.0090	Special 07. Construction Staking Sidewalk	LF	8,160.000	8,160.000
1750	SPV.0090	Special 08. Cable Type 3#2/1#8 LTP	LF	1,700.000	1,700.000
1760	SPV.0090	Special 09. Cable Type 3#4/1#8 LTP	LF	2,650.000	2,650.000
1770	SPV.0090	Special 10. Cable Type 3#6/1#8 LTP	LF	1,750.000	1,750.000
1780	SPV.0090	Special 11. Cable Type 3#8/1#8 LTP	LF	1,200.000	1,200.000

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Line	Item	Item Description	Unit	Total	Qty
1790	SPV.0090	Special 12. Fieldstone Boulder Wall	LF	80.000	80.000
1800	SPV.0090	Special 13. Concrete Curb & Gutter Integral 18-Inch Modified	LF	14,320.000	14,320.000
1810	SPV.0180	Special 01. Joint Sealing	SY	43,541.000	43,541.000
1820	SPV.0195	Special 01. Removal, Hauling, and Disposal of PAH Contaminated Sediment	TON	57.000	57.000

CLEARING & GRUBBING

LOCATION	CAT 10 201.0120 CLEARING I.D.	CAT 10 201.0220 GRUBBING I.D.	CAT 20 201.0110 CLEARING S.Y.	CAT 20 201.0210 GRUBBING S.Y.
STA 0+00 TO 5+00	25	25	--	--
STA 5+00 TO 11+00	52	52	--	--
STA 11+00 TO 17+00	50	50	--	--
STA 17+00 TO 23+00	60	60	--	--
STA 23+00 TO 29+00	34	34	70	70
STA 29+00 TO 35+00	25	25	--	--
STA 35+00 TO 41+00	50	50	--	--
STA 41+00 TO 47+00	40	40	--	--
STA 47+00 TO 53+00	48	48	--	--
STA 53+00 TO 53+52.5	--	--	--	--
PROJECT TOTAL	384	384	70	70

BUTT JOINTS

STREET	LOCATION	CAT 10 REMOVING PAVEMENT BUTT JOINTS 204.0105 SY	CAT 10 REMOVING ASPAHLTIC SURFACE BUTT JOINTS 204.0115 SY
N 91st	STA 0+00 TO 5+00	290	--
N 91st	STA 5+00 TO 11+00	--	--
N 91st	STA 11+00 TO 17+00	--	20
N 91st	STA 17+00 TO 23+00	--	10
N 91st	STA 23+00 TO 29+00	--	--
N 91st	STA 29+00 TO 35+00	--	--
N 91st	STA 35+00 TO 41+00	--	10
N 91st	STA 41+00 TO 47+00	--	--
N 91st	STA 47+00 TO 53+00	--	--
N 91st	STA 53+00 TO 53+52.5	180	--
	PROJECT TOTAL	470	40

REMOVING PAVEMENT

STREET	LOCATION	CAT 10 204.0100 SY	CAT 30 204.0100 SY
N 91st	CROSS OVER S. OF MILL	45	--
N 91st	STA 0+00 TO 5+00	2,708	--
N 91st	STA 5+00 TO 11+00	4,410	--
N 91st	STA 11+00 TO 17+00	5,335	--
N 91st	STA 17+00 TO 23+00	4,577	--
N 91st	STA 23+00 TO 29+00	5,026	--
N 91st	STA 29+00 TO 35+00	5,045	--
N 91st	STA 35+00 TO 41+00	4,561	--
N 91st	STA 41+00 TO 47+00	4,405	--
N 91st	STA 47+00 TO 53+00	4,860	--
N 91st	STA 53+00 TO 53+52.5	255	--
N 91st	CROSS OVER N. OF GOOD HOPE	12	--
SERVICE DRIVE	STA 0+00 TO 5+00	--	166
SERVICE DRIVE	STA 5+00 TO 11+00	--	1,522
SERVICE DRIVE	STA 11+00 TO 17+00	--	1,402
SERVICE DRIVE	STA 17+00 TO 23+00	--	1,077
SERVICE DRIVE	STA 23+00 TO 29+00	--	322
SERVICE DRIVE	STA 29+00 TO 35+00	--	1,022
SERVICE DRIVE	STA 35+00 TO 41+00	--	--
SERVICE DRIVE	STA 41+00 TO 47+00	--	--
SERVICE DRIVE	STA 47+00 TO 53+00	--	--
SERVICE DRIVE	STA 53+00 TO 53+52.5	--	--
	CATEGORY TOTAL	41,194	5,511
	PROJECT TOTAL	46,705	

3

REMOVING CURB & GUTTER

STREET	LOCATION	CAT 10 204.0150 LF
N 91st	STA 0+00 TO 5+00	210
N 91st	STA 5+00 TO 11+00	--
N 91st	STA 11+00 TO 17+00	--
N 91st	STA 17+00 TO 23+00	10
N 91st	STA 23+00 TO 29+00	--
N 91st	STA 29+00 TO 35+00	--
N 91st	STA 35+00 TO 41+00	--
N 91st	STA 41+00 TO 47+00	--
N 91st	STA 47+00 TO 53+00	--
N 91st	STA 53+00 TO 53+52.5	50
	PROJECT TOTAL	270

REMOVING GUARDRAIL

LOCATION	CAT 10 204.0165 LF
STA 19+90 - STA 19+50, 60' LT	60
STA 20+20 - STA 20+80, 55' RT	60
STA 27+05, 60'-75' RT	15
PROJECT TOTAL	135

REMOVING FENCE

LOCATION	CAT 20 204.0170 LF
STA 25+95 - STA 26+30, LT	52
STA 26+39 - STA 26+74, RT	52
PROJECT TOTAL	104

REMOVING CONCRETE SIDEWALK

STREET	LOCATION	CAT 10 204.0155 SY	CAT 30 204.0155 SY
N 91st	STA 0+00 TO 5+00	522	--
N 91st	STA 5+00 TO 11+00	307	--
N 91st	STA 11+00 TO 17+00	562	--
N 91st	STA 17+00 TO 23+00	630	--
N 91st	STA 23+00 TO 29+00	412	--
N 91st	STA 29+00 TO 35+00	387	--
N 91st	STA 35+00 TO 41+00	500	--
N 91st	STA 41+00 TO 47+00	270	--
N 91st	STA 47+00 TO 53+00	350	--
N 91st	STA 53+00 TO 53+52.5	50	--
SERVICE DRIVE	STA 0+00 TO 5+00	--	48
SERVICE DRIVE	STA 5+00 TO 11+00	--	333
SERVICE DRIVE	STA 11+00 TO 17+00	--	238
SERVICE DRIVE	STA 17+00 TO 23+00	--	110
SERVICE DRIVE	STA 23+00 TO 29+00	--	38
SERVICE DRIVE	STA 29+00 TO 35+00	--	43
SERVICE DRIVE	STA 35+00 TO 41+00	--	--
SERVICE DRIVE	STA 41+00 TO 47+00	--	--
SERVICE DRIVE	STA 47+00 TO 53+00	--	--
SERVICE DRIVE	STA 53+00 TO 53+52.5	--	--
	CATEGORY TOTAL	3,990	810
	PROJECT TOTAL	4,800	

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REMOVING INLETS

STRUCTURE NUMBER	LOCATION	STATION	OFFSET		CAT 10 204.0220 EACH	CAT 30 204.0220 EACH
100	N 91st	STA 02+38	1'	LT	1	--
101	N 91st	STA 02+38	11'	RT	1	--
102A	N 91st	STA 02+63.7	43'	LT	1	--
102	N 91st	STA 02+57	3'	RT	1	--
103	N 91st	STA 02+65	11'	RT	1	--
104	N 91st	STA 02+65	11'	LT	1	--
104A	N 91st	STA 04+30	42'	RT	1	--
105A	N 91st	STA 05+65	11'	RT	1	--
106B	N 91st	STA 8+55.5	42'	LT	1	--
107	N 91st	STA 08+66	11'	LT	1	--
108	N 91st	STA 08+66	11'	RT	1	--
110A	N 91st	STA 8+72.5	43'	RT	1	--
111	N 91st	STA 11+32.8	42'	RT	1	--
113A	N 91st	STA 11+63	43'	LT	1	--
114	N 91st	STA 12+73.3	1'	RT	1	--
116	N 91st	STA 13+00.6	42'	LT	1	--
118	N 91st	STA 13+27.6	42'	RT	1	--
119	N 91st	STA 14+29.6	10'	LT	1	--
120	N 91st	STA 14+47.4	42'	RT	1	--
120B	N 91st	STA 14+59	12'	RT	1	--
121	N 91st	STA 14+60.8	53'	RT	1	--
121A	N 91st	STA 14+61.6	43'	LT	1	--
122	N 91st	STA 14+77	88'	RT	1	--
123	N 91st	STA 15+11	88'	RT	1	--
124	N 91st	STA 15+61	50'	RT	1	--
125	N 91st	STA 16+53.2	11'	RT	1	--
125A	N 91st	STA 16+53	1'	LT	1	--
126	N 91st	STA 17+77.6	43'	RT	1	--
127	N 91st	STA 17+87.6	42'	LT	1	--
129A	N 91st	STA 20+63.9	1'	RT	1	--
130	N 91st	STA 20+66.4	43'	LT	1	--
130A	N 91st	STA 20+68.3	10'	LT	1	--
131	N 91st	STA 20+82.2	43'	RT	1	--
134	N 91st	STA 23+84	0'		1	--
135	N 91st	STA 23+84.2	11'	RT	1	--
136	N 91st	STA 23+84.5	11'	LT	1	--
137	N 91st	STA 23+87.8	43'	LT	1	--
139	N 91st	STA 25+88.5	42'	RT	1	--
140	N 91st	STA 26+70.2	11'	RT	1	--
141	N 91st	STA 26+99.2	11'	RT	1	--
142	N 91st	STA 27+03.7	43'	LT	1	--
143	N 91st	STA 27+33	93'	RT	1	--
144	N 91st	STA 27+70	94'	RT	1	--
146	N 91st	STA 28+01	11'	RT	1	--
147	N 91st	STA 28+06	1'	LT	1	--
148A	N 91st	STA 28+55	43'	RT	1	--
149	N 91st	STA 29+68	11'	RT	1	--
150	N 91st	STA 29+69	11'	LT	1	--
150A	N 91st	STA 30+53	43'	RT	1	--
150B	N 91st	STA 31+27.5	43'	LT	1	--
152	N 91st	STA 33+99	88'	RT	1	--
155	N 91st	STA 37+61	11'	RT	1	--
155A	N 91st	STA 37+90	11'	LT	1	--
160	N 91st	STA 41+54	11'	LT	1	--
161	N 91st	STA 41+60	11'	LT	1	--
162	N 91st	STA 41+61	11'	RT	1	--
162A	N 91st	STA 41+62.1	43'	LT	1	--
162B	N 91st	STA 41+63	43'	RT	1	--
163	N 91st	STA 44+37	11'	LT	1	--
163A	N 91st	STA 44+38.1	43'	RT	1	--
164	N 91st	STA 44+38	11'	RT	1	--
164A	N 91st	STA 44+38.1	43'	LT	1	--
165	N 91st	STA 47+25	11'	LT	1	--
165A	N 91st	STA 47+37.5	43'	LT	1	--
165B	N 91st	STA 47+52	43'	RT	1	--
166	N 91st	STA 47+54	11'	RT	1	--
166A	N 91st	STA 47+75.2	63.6'	RT	1	--
166B	N 91st	STA 48+07.2	63.7'	RT	1	--
167	N 91st	STA 49+63	43'	LT	1	--
168	N 91st	STA 50+50	43'	LT	1	--
169	N 91st	STA 50+59	43'	LT	1	--
170	N 91st	STA 50+59	43'	RT	1	--
171	N 91st	STA 50+63	43'	LT	1	--
172	N 91st	STA 50+63	11'	LT	1	--
173	N 91st	STA 50+63	11'	RT	1	--
174	N 91st	STA 50+63	43'	RT	1	--
175	N 91st	STA 52+38	1'	RT	1	--
176	N 91st	STA 52+38	43'	RT	1	--
177	N 91st	STA 52+42	43'	RT	1	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
106	SERVICE DRIVE	STA 07+99	73'	RT	--	1
106A	SERVICE DRIVE	STA 7+99.3	51'	RT	--	1
112	SERVICE DRIVE	STA 11+45.2	71'	RT	--	1
113	SERVICE DRIVE	STA 11+45.4	50'	RT	--	1
117	SERVICE DRIVE	STA 13+10.2	50'	RT	--	1
120A	SERVICE DRIVE	STA 14+57.9	72'	RT	--	1
128	SERVICE DRIVE	STA 17+89.9	73'	RT	--	1
129	SERVICE DRIVE	STA 17+89.3	51'	RT	--	1
132	SERVICE DRIVE	STA 21+18.2	73'	RT	--	1
133	SERVICE DRIVE	STA 21+19.5	52.2'	RT	--	1
138	SERVICE DRIVE	STA 25+71.9	51.9'	RT	--	1
145	SERVICE DRIVE	STA 28+00	53'	RT	--	1
145A	SERVICE DRIVE	STA 28+00	65'	RT	--	1
148	SERVICE DRIVE	STA 28+07	53'	RT	--	1
					CATEGORY TOTAL	79	14
					PROJECT TOTAL	93	

REMOVING STORM SEWER PIPE 8-INCH

STRUCTURE NO.	ROADWAY	LOCATION STATION	OFFSET	CONNECTION STRUCTURE	CAT 10 204.0245 LF	CAT 30 204.0245 LF
100	N 91st	2+38	1' LT	200	45	--
101	N 91st	2+38	11' RT	100	15	--
102	N 91st	2+57	3' RT	104	10	--
103	N 91st	2+65	11' RT	104	15	--
104	N 91st	2+65	11' LT	200	35	--
107	N 91st	8+66	11' LT	205	27	--
108	N 91st	8+66	11' RT	107	24	--
111	N 91st	11+32.8	42' RT	113	15	--
114	N 91st	12+73.3	1' RT	115	15	--
116	N 91st	13+00.6	42' RT	209	23	--
117	N 91st	13+10.2	50' RT	Existing Main	10	--
118	N 91st	13+27.6	42' RT	117	20	--
119	N 91st	14+29.6	10' LT	211	41	--
120	N 91st	14+47.4	42' RT	213	45	--
122	N 91st	14+77	88' RT	212	10	--
123	N 91st	15+11	88' RT	212	23	--
124	N 91st	15+61	50' RT	Existing Main	8	--
126	N 91st	17+77.6	43' RT	129	15	--
127	N 91st	17+87.6	42' LT	215	5	--
130	N 91st	20+66.4	43' LT	216	8	--
131	N 91st	20+82.2	43' RT	Existing Main	20	--
133	N 91st	21+19.5	52.2' RT	217	16	--
134	N 91st	23+84	0	136	10	--
135	N 91st	23+84.2	11' RT	218	30	--
136	N 91st	23+84.5	11' LT	Existing Main	26	--
137	N 91st	23+87.8	43' LT	Existing Main	5	--
139	N 91st	25+88.5	49' RT	Existing Main	20	--
140	N 91st	26+70.2	11' LT	223	33	--
141	N 91st	26+99.2	11' RT	224	29	--
142	N 91st	27+03.7	43' LT	223	10	--
143	N 91st	27+33	93' RT	226	11	--
144	N 91st	27+70	94' RT	226	22	--
146	N 91st	28+01	11' RT	227	30	--
147	N 91st	28+06	1' LT	Existing Main	34	--
149	N 91st	29+68	11' RT	150	25	--
150	N 91st	29+69	11' LT	228	27	--
152	N 91st	33+99	88' RT	232	32	--
152A	N 91st	34+37	11' RT	235	30	--
152B	N 91st	34+38	11' LT	234	20	--
155	N 91st	37+61	11' RT	238	30	--
160	N 91st	41+54	11' LT	241	15	--
161	N 91st	41+60	11' LT	241	19	--
162	N 91st	41+61	11' RT	161	25	--
163	N 91st	44+37	11' LT	242	18	--
164	N 91st	44+38	11' RT	163	26	--
165	N 91st	47+25	11' LT	250	25	--
166	N 91st	47+54	11' RT	252	60	--
167	N 91st	49+63	43' LT	253	12	--
168	N 91st	50+50	43' LT	254	20	--
169	N 91st	50+59	43' LT	171	5	--
170	N 91st	50+59	43' RT	174	5	--
171	N 91st	50+63	43' LT	254	14	--
172	N 91st	50+63	11' LT	254	17	--
173	N 91st	50+63	11' RT	172	25	--
174	N 91st	50+63	43' RT	173	30	--
175	N 91st	52+38	1' RT	257	33	--
176	N 91st	52+38	43' RT	175	40	--
177	N 91st	52+42	43' RT	176	5	--
- -	- -	- -	- -	- -	- -	- -
- -	- -	- -	- -	- -	- -	- -
106	SERVICE DRIVE	7+99	73' RT	204	--	15
112	SERVICE DRIVE	11+45.2	71' RT	206	--	10
113	SERVICE DRIVE	11+45.3	50' RT	206	--	10
121	SERVICE DRIVE	14+60.8	53' RT	213	--	19
125	SERVICE DRIVE	16+53.2	11' RT	Existing Main	--	50
129	SERVICE DRIVE	17+89.3	51' RT	214	--	10
132	SERVICE DRIVE	21+18.2	73' RT	217	--	17
138	SERVICE DRIVE	25+71.9	51.9' RT	Existing Main	--	10
145	SERVICE DRIVE	28+00	53' RT	148	--	6
148	SERVICE DRIVE	28+07	53' RT	227	--	12
				CATEGORY TOTAL	1,263	159
				PROJECT TOTAL	1,422	

EARTHWORK SUMMARY

STREET	LOCATION	CAT 10 COMMON EXCAVATION 205.0100 CY	CAT 30 COMMON EXCAVATION 205.0100 CY
N 91st	CROSS OVER S. OF MILL	35	--
N 91st	STA 0+00 TO 5+00	1,561	--
N 91st	STA 5+00 TO 11+00	2,637	--
N 91st	STA 11+00 TO 17+00	2,844	--
N 91st	STA 17+00 TO 23+00	2,721	--
N 91st	STA 23+00 TO 29+00	2,742	--
N 91st	STA 29+00 TO 35+00	2,763	--
N 91st	STA 35+00 TO 41+00	2,723	--
N 91st	STA 41+00 TO 47+00	2,616	--
N 91st	STA 47+00 TO 53+00	2,728	--
N 91st	STA 53+00 TO 53+52.5	150	--
SERVICE DRIVE	STA 0+00 TO 5+00	--	39
SERVICE DRIVE	STA 5+00 TO 11+00	--	376
SERVICE DRIVE	STA 11+00 TO 17+00	--	260
SERVICE DRIVE	STA 17+00 TO 23+00	--	376
SERVICE DRIVE	STA 23+00 TO 29+00	--	208
SERVICE DRIVE	STA 29+00 TO 35+00	--	212
SERVICE DRIVE	STA 35+00 TO 41+00	--	--
SERVICE DRIVE	STA 41+00 TO 47+00	--	--
SERVICE DRIVE	STA 47+00 TO 53+00	--	--
SERVICE DRIVE	STA 53+00 TO 53+52.5	--	--
BIOSWALES *	PROJECT	--	867
CATEGORY TOTAL		23,520	2,338
PROJECT TOTAL		25,858	

*QUANTITIES SHOWN ELSEWHERE IN THE PLANS

FROM/TO STATION	LOCATION	ITEM 205.0100 EXCAVATION COMMON (1) CUT (2) CY	ITEM 205.0100 EXCAVATION COMMON (1) EBS (3) CY	SALVAGED UNUSEABLE PAVEMENT (4) CY	AVAILABLE MATERIAL (5) CY	UNEXPANDED FILL CY	EXPANDED FILL (6) CY	MASS ORDINATE (7) CY	WASTE CY	BORROW (8) CY
		24,991	0	12,050	12,941	2,158	2,482	10,459	22,509	0

1) Common Excavation is the sum of the Cut and EBS Columns
2) Salvaged/Unusable Pavement Material is included in the Cut
3) EBS to be backfilled with Base Aggregate Dense 1-1/4 Inch
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusable Pavement Material
6) Expanded Fill Factor = 1.15
7) The Mass Ordinate + or - quantity calculated for the Division. Plus quantity indicates excess of material, minus indicates a shortage of material
8) To be bid as part of Base Aggregate Dense 1-1/4 Inch

3

BASE AGGREGATE

STREET	LOCATION	CAT 10 305.0120 BASE AGGREGATE DENSE 1-1/4 INCH TON	CAT 30 305.0120 BASE AGGREGATE DENSE 1-1/4 INCH TON
N 91st	CROSS OVER S. OF MILL	18	
N 91st	STA 0+00 TO 5+00	2,332	--
N 91st	STA 5+00 TO 11+00	3,942	--
N 91st	STA 11+00 TO 17+00	4,250	--
N 91st	STA 17+00 TO 23+00	4,068	--
N 91st	STA 23+00 TO 29+00	4,098	--
N 91st	STA 29+00 TO 35+00	4,130	--
N 91st	STA 35+00 TO 41+00	4,071	--
N 91st	STA 41+00 TO 47+00	3,911	--
N 91st	STA 47+00 TO 53+00	4,076	--
N 91st	STA 53+00 TO 53+52.5	222	--
SERVICE DRIVE	STA 0+00 TO 5+00	--	59
SERVICE DRIVE	STA 5+00 TO 11+00	--	585
SERVICE DRIVE	STA 11+00 TO 17+00	--	405
SERVICE DRIVE	STA 17+00 TO 23+00	--	584
SERVICE DRIVE	STA 23+00 TO 29+00	--	322
SERVICE DRIVE	STA 29+00 TO 35+00	--	329
SERVICE DRIVE	STA 35+00 TO 41+00	--	--
SERVICE DRIVE	STA 41+00 TO 47+00	--	--
SERVICE DRIVE	STA 47+00 TO 53+00	--	--
SERVICE DRIVE	STA 53+00 TO 53+52.5	--	--
	CATEGORY TOTAL	35,118	2,284
	PROJECT TOTAL	37,402	

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LOCATION	CAT 10 FINISHING ROADWAY PROJECT 2504-00-71 213.0100 EACH
PROJECT - N. 91ST STREET	1
PROJECT TOTAL	1

CONCRETE BASE

STREET	LOCATION	CAT 10 320.0125 CONCRETE BASE 6-INCH SY	CAT 10 320.0155 CONCRETE BASE 9-INCH SY
N 91st	STA 0+00 TO 5+00	17	--
N 91st	STA 5+00 TO 11+00	5	--
N 91st	STA 11+00 TO 17+00	--	--
N 91st	STA 17+00 TO 23+00	--	--
N 91st	STA 23+00 TO 29+00	--	--
N 91st	STA 29+00 TO 35+00	3	--
N 91st	STA 35+00 TO 41+00	6	--
N 91st	STA 41+00 TO 47+00	5	--
N 91st	STA 47+00 TO 53+00	5	--
N 91st	STA 53+00 TO 53+52.5	--	7
	PROJECT TOTAL	41	7

CONCRETE PAVEMENT

STREET	LOCATION	CAT 10 415.0080 CONCRETE PAVEMENT 8-INCH SY	CAT 30 415.0080 CONCRETE PAVEMENT 8-INCH SY	CAT 10 SPV.0180.01 JOINT SEALING SY	CAT 30 SPV.0180.01 JOINT SEALING SY
N 91st	CROSS OVER S. OF MILL	41	--	41	--
N 91st	STA 0+00 TO 5+00	2,527	--	2,527	--
N 91st	STA 5+00 TO 11+00	3,836	--	3,836	--
N 91st	STA 11+00 TO 17+00	4,891	--	4,891	--
N 91st	STA 17+00 TO 23+00	4,240	--	4,240	--
N 91st	STA 23+00 TO 29+00	4,420	--	4,420	--
N 91st	STA 29+00 TO 35+00	4,424	--	4,424	--
N 91st	STA 35+00 TO 41+00	4,510	--	4,510	--
N 91st	STA 41+00 TO 47+00	4,000	--	4,000	--
N 91st	STA 47+00 TO 53+00	4,500	--	4,500	--
N 91st	STA 53+00 TO 53+52.5	250	--	250	--
SERVICE DRIVE	STA 0+00 TO 5+00	--	163	0	163
SERVICE DRIVE	STA 5+00 TO 11+00	--	1,504	0	1,504
SERVICE DRIVE	STA 11+00 TO 17+00	--	1,049	0	1,049
SERVICE DRIVE	STA 17+00 TO 23+00	--	1,500	0	1,500
SERVICE DRIVE	STA 23+00 TO 29+00	--	840	0	840
SERVICE DRIVE	STA 29+00 TO 35+00	--	846	0	846
SERVICE DRIVE	STA 35+00 TO 41+00	--	--	--	--
SERVICE DRIVE	STA 41+00 TO 47+00	--	--	--	--
SERVICE DRIVE	STA 47+00 TO 53+00	--	--	--	--
SERVICE DRIVE	STA 53+00 TO 53+52.5	--	--	--	--
	CATEGORY TOTAL	37,639	5,902	37,639	5,902
	PROJECT TOTAL	43,541		43,541	

3

3

CONCRETE PAVEMENT ITEMS

STREET	LOCATION	CAT 10 DRILLED TIE BARS 416.0610 EACH	CAT 10 DRILLED DOWEL BARS 416.0620 EACH	CAT 10 CONCRETE PAVEMENT GAPS 415.0210 EACH
N 91st	CROSS OVER S. of MILL	20	22	--
N 91st	STA 0+00 TO 5+00	--	--	--
N 91st	STA 5+00 TO 11+00	--	--	--
N 91st	STA 11+00 TO 17+00	--	--	1
N 91st	STA 17+00 TO 23+00	--	--	--
N 91st	STA 23+00 TO 29+00	--	--	1
N 91st	STA 29+00 TO 35+00	--	--	--
N 91st	STA 35+00 TO 41+00	--	--	1
N 91st	STA 41+00 TO 47+00	--	--	--
N 91st	STA 47+00 TO 53+00	--	--	1
N 91st	STA 53+00 TO 53+52.5	--	--	--
	PROJECT TOTAL	20	22	4

ASPHALT PAVING ITEMS

STREET	LOCATION	CAT 10 TACK COAT 455.0605 GAL	CAT 10 ASPHALTIC SURFACE 465.0105 TON	CAT 10 ASPHALTIC CURB 465.0310 LF
N 91st	CROSS OVER S. OF MILL	--	13	35
N 91st	STA 0+00 TO 5+00	8	50	--
N 91st	STA 5+00 TO 11+00	--	2	--
N 91st	STA 11+00 TO 17+00	1	3	--
N 91st	STA 17+00 TO 23+00	--	1	--
N 91st	STA 23+00 TO 29+00	--	2	--
N 91st	STA 29+00 TO 35+00	--	1	--
N 91st	STA 35+00 TO 41+00	--	1	--
N 91st	STA 41+00 TO 47+00	--	1	--
N 91st	STA 47+00 TO 53+00	--	1	--
N 91st	STA 53+00 TO 53+52.5	5	33	
	PROJECT TOTAL	14	108	35

CONCRETE CURB AND GUTTER

STREET	LOCATION	CAT 10 SPV.0090.13 CONCRETE CURB AND GUTTER INTEGRAL 18-INCH MODIFIED LF	CAT 30 SPV.0090.13 CONCRETE CURB AND GUTTER INTEGRAL 18-INCH MODIFIED LF	CAT 10 601.0331 CONCRETE CURB & GUTTER 31-INCH LF	CAT 30 601.0331 CONCRETE CURB & GUTTER 31-INCH LF
N 91st	CROSS OVER S. OF MILL			60	
N 91st	STA 0+00 TO 5+00	960	--	430	--
N 91st	STA 5+00 TO 11+00	1,660	--	600	--
N 91st	STA 11+00 TO 17+00	1,430	--	540	--
N 91st	STA 17+00 TO 23+00	1,700	--	540	--
N 91st	STA 23+00 TO 29+00	1,640	--	600	--
N 91st	STA 29+00 TO 35+00	1,700	--	600	--
N 91st	STA 35+00 TO 41+00	1,630	--	600	--
N 91st	STA 41+00 TO 47+00	1,800	--	600	--
N 91st	STA 47+00 TO 53+00	1,710	--	600	--
N 91st	STA 53+00 TO 53+52.5	90	--	50	--
SERVICE DRIVE	STA 0+00 TO 5+00	--	--	--	170
SERVICE DRIVE	STA 5+00 TO 11+00	--	--	--	1,160
SERVICE DRIVE	STA 11+00 TO 17+00	--	--	--	970
SERVICE DRIVE	STA 17+00 TO 23+00	--	--	--	1,170
SERVICE DRIVE	STA 23+00 TO 29+00	--	--	--	710
SERVICE DRIVE	STA 29+00 TO 35+00	--	--	--	790
SERVICE DRIVE	STA 35+00 TO 41+00	--	--	--	10
SERVICE DRIVE	STA 41+00 TO 47+00	--	--	--	0
SERVICE DRIVE	STA 47+00 TO 53+00	--	--	--	40
SERVICE DRIVE	STA 53+00 TO 53+52.5	--	--	--	20
	CATEGORY TOTAL	14,320	0	5,220	5,040
	PROJECT TOTAL	14,320		10,260	

3

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

CONCRETE DRIVEWAY

STREET	LOCATION	CAT 10 416.0170 CONCRETE DRIVEWAY 7-INCH SY	CAT 30 416.0170 CONCRETE DRIVEWAY 7-INCH SY
N 91st	STA 0+00 TO 5+00	70	--
N 91st	STA 5+00 TO 11+00	60	--
N 91st	STA 11+00 TO 17+00	40	--
N 91st	STA 17+00 TO 23+00	20	--
N 91st	STA 23+00 TO 29+00	40	--
N 91st	STA 29+00 TO 35+00	70	--
N 91st	STA 35+00 TO 41+00	80	--
N 91st	STA 41+00 TO 47+00	50	--
N 91st	STA 47+00 TO 53+00	40	--
N 91st	STA 53+00 TO 53+52.5	--	--
SERVICE DRIVE	STA 0+00 TO 5+00	--	--
SERVICE DRIVE	STA 5+00 TO 11+00	--	60
SERVICE DRIVE	STA 11+00 TO 17+00	--	60
SERVICE DRIVE	STA 17+00 TO 23+00	--	90
SERVICE DRIVE	STA 23+00 TO 29+00	--	50
SERVICE DRIVE	STA 29+00 TO 35+00	--	50
SERVICE DRIVE	STA 35+00 TO 41+00	--	--
SERVICE DRIVE	STA 41+00 TO 47+00	--	--
SERVICE DRIVE	STA 47+00 TO 53+00	--	--
SERVICE DRIVE	STA 53+00 TO 53+52.5	--	--
	CATEGORY TOTAL	470	310
	PROJECT TOTAL	780	

CONCRETE WALK

STREET	LOCATION	CAT 10 602.0410 CONCRETE WALK 5-INCH SF	CAT 30 602.0410 CONCRETE WALK 5-INCH SF	CAT 10 602.0515 CURB RAMP DWF PATINA SF
N 91st	STA 0+00 TO 5+00	4,270	--	80
N 91st	STA 5+00 TO 11+00	1,730	--	
N 91st	STA 11+00 TO 17+00	4,745	--	80
N 91st	STA 17+00 TO 23+00	3,490	--	20
N 91st	STA 23+00 TO 29+00	3,210	--	100
N 91st	STA 29+00 TO 35+00	2,205	--	100
N 91st	STA 35+00 TO 41+00	4,440	--	40
N 91st	STA 41+00 TO 47+00	1,860	--	
N 91st	STA 47+00 TO 53+00	3,880	--	100
N 91st	STA 53+00 TO 53+52.5	550	--	20
SERVICE DRIVE	STA 0+00 TO 5+00	--	400	--
SERVICE DRIVE	STA 5+00 TO 11+00	--	3,020	--
SERVICE DRIVE	STA 11+00 TO 17+00	--	2,095	--
SERVICE DRIVE	STA 17+00 TO 23+00	--	1,890	--
SERVICE DRIVE	STA 23+00 TO 29+00	--	2,430	--
SERVICE DRIVE	STA 29+00 TO 35+00	--	585	--
SERVICE DRIVE	STA 35+00 TO 41+00	--	--	--
SERVICE DRIVE	STA 41+00 TO 47+00	--	--	--
SERVICE DRIVE	STA 47+00 TO 53+00	--	--	--
SERVICE DRIVE	STA 53+00 TO 53+52.5	--	--	--
	CATEGORY TOTAL	30,380	10,420	
	PROJECT TOTAL	40,800		540

STORM SEWER ITEMS

CATEGORY 10

STRUCTURE NUMBER	LOCATION STATION	LOCATION OFFSET	COVER ELEV.	STRUCT. TYPE	LID TYPE	CONNECTION STRUCTURE	PIPE SIZE (IN)	LENGTH (FT)	INVERT ELEV. INLET	INVERT ELEV. OUTLET	SLOPE FT/FT	REMARKS
1	02+64	43' LT	167.40	45A	57	Storm MH@2+68.7, 37.6' LT	12	7	164.30	164.10	0.029	
2	02+64.8	12' RT	168.27	45A	57	Storm MH@2+83.1, 6' RT	12	19	165.15	164.50	0.034	
3	02+83.1	6' RT	167.57	45A	57	Storm MH@2+68.7, 37.6' LT	12	35	164.25	163.30	0.027	With Inlet Grate
4	04+30	43' RT	165.50	45A	57	Existing Drains	8	5				Corrugated PVC
6	08+66	42' LT	158.58	45A	57	Storm MH@ 8+71, 37' LT	12	7	155.50	155.25	0.036	
7	08+66	6' LT	158.82	4'-0" MH	57	Storm MH@8+71, 37' LT	12	31	154.95	153.90	0.034	Rim Grade estimated
8	08+66	12' RT	159.24	45A	57	Storm MH@ 8+66., 6' LT	12	18	155.60	155.20	0.022	
9	08+72	43' RT	158.84	45A	57	Existing Drains	8	5				Corrugated PVC
10	11+33	42' RT	155.86	45A	57	Existing Drains	8	5				Corrugated PVC
13	11+63	42' LT	155.37	45A	57	Storm MH@ 11+67.7, 37.2' LT	12	7	152.25	152.00	0.036	
14	13+01	42' LT	153.95	45A	57	Existing Drain	10	5				Corrugated PVC
16	13+28	42' RT	153.54	45A	57	Storm MH@13+10, 50' RT	12	20	150.40	149.90	0.025	
17	14+30	6' LT	153.00	45A	57	Storm MH @14+65.4, 37.1' LT	12	47	148.00	146.75	0.027	Estimated Rim Elevation
18	14+47	42' RT	152.28	45A	57	Storm MH@14+88.6, 60.7' RT	12	46	149.00	147.00	0.043	
20	14+59	11' RT	152.30	45A	57	Existing Drain	8	5				Corrugated PVC
21	14+61.6	42' LT	152.50	45A	57	Storm MH@ 14+65.4, 37.1' LT	12	6	149.10	148.90	0.033	
22	14+77	60' RT	151.73	4'-0" MH	57				145.43	145.43		
23	15+11	59' RT	151.43	4'-0" MH	57				145.02	145.02		With Inlet Grate
24	16+50	37' LT	151.07	4'-0" MH	58A				143.29	143.29		
25	16+53	6' RT	150.97	45A	57	Direct Connection to Storm Sewer @ 16+49, 37' LT	12	43	147.70	146.70	0.023	
26	17+78	43' RT	148.31	45A	57	Storm MH@ 17+89, 51' RT	12	14	145.20	144.65	0.039	
27	17+88	42' LT	149.34	45A	57	Storm MH@ 17+91.3, 37.3' LT	12	7	146.25	146.00	0.036	
30	20+66	0	145.77	45A	57	Storm MH@ 20+66, 6' LT	12	6	141.90	141.65	0.042	
31	20+66	6' LT	145.26	45A	57	Storm MH@ 20+73, 38' LT	12	33	141.30	140.00	0.039	
32	20+66	43' LT	144.74	45A	57	Storm MH@ 20+73, 38' LT	12	9	140.15	139.80	0.039	
33	20+82	43' RT	144.78	45A	57	Storm MH@20+65.4, 51' RT	12	21	141.20	140.75	0.021	
35	23+84	6' LT	142.25	45A	57	Storm MH@23+90, 37' LT	12	32	138.50	137.00	0.047	With Inlet Grate
36	23+84	12' RT	141.95	45A	57	Storm MH@23+82, 43' RT	12	31	138.40	137.75	0.021	With Inlet Grate
37	23+88	43' LT	141.92	45A	57	Storm MH@23+90, 37' LT	12	6	138.80	138.60	0.033	
38	23+90	37' LT	142.07	4'-0" MH	58A				135.26	135.26		Estimated Elevations
39	26+90	6' LT	139.43	45A	57	Storm MH@ 26+93.2, 37.2' LT	12	31	135.00	134.00	0.032	
40	26+99	12' RT	139.42	45A	57	Storm MH@ 27+02.2, 43' RT	12	31	135.85	135.00	0.027	
41	27+04	43' LT	139.12	45A	57	Storm MH@ 26+93.2, 37.2' LT	12	12	136.00	135.50	0.042	
42	27+33	58' RT	139.34	45A	57	Storm MH@ 27+47.1, 40.9' RT	12	22	136.00	135.00	0.045	
43	27+69	59' RT	139.24	45A	57	Storm MH@ 27+47.1, 40.9' RT	12	28	136.15	135.50	0.023	
44	28+01	12' RT	139.97	45A	57	Storm MH@28+00, 43' RT	12	31	136.80	136.00	0.026	
45	28+03	6' RT	139.76	45A	57	Storm MH@28+17.4, 37.6' RT	12	46	136.60	135.00	0.035	
46	28+17.4	37.6' LT	139.87	4'-0" MH	58A				134.13	134.13		
48	28+25	61' RT	139.50	45A	55	Storm MH@28+00, 43' RT	12	31	136.40	135.00	0.045	
49	28+54.8	43' RT	140.01	4'-0" MH	57				134.38	134.38		With Inlet Grate, Corbel to East
50	29+68	12' RT	141.75	45A	57	Storm MH@29+62, 39' LT	12	51	138.60	138.10	0.010	
51	30+53	43' RT	142.99	4'-0" MH	57				137.15	136.51		Inlet grate per PF 123-24
54	33+99	88' RT	151.31	45A	57	Storm MH@ 33+66, 89' RT	12	33	148.20	147.75	0.014	
55	34+37	12' RT	151.01	45A	57	Storm MH@ 34+50, 43' RT	12	33	147.80	146.45	0.041	
56	34+38	6' LT	150.65	45A	57	Storm MH@ 34+39, 31' LT	12	25	146.00	145.25	0.030	

STORM SEWER ITEMS

CATEGORY 10

STRUCTURE NUMBER	LOCATION STATION	OFFSET	COVER ELEV.	STRUCT. TYPE	LID TYPE	CONNECTION STRUCTURE	PIPE SIZE (IN)	LENGTH (FT)	INVERT ELEV. INLET	OUTLET	SLOPE FT/FT	REMARKS
57	34+38	43' LT	140.53	45A	57	Existing Drains	8	5				Corrugated PVC
58	37+12.8	43' LT	155.63	45A	57	Existing Drains	8	5				Corrugated PVC
59	37+41	64' RT	166.55	45A	57	Existing Drains	8	5				Corrugated PVC
60	37+61	12' RT	156.44	45A	57	Storm MH@37+61, 43' RT	12	31	153.35	152.35	0.032	
61	41+61	12' RT	156.00	4'-0" MH	57	Storm MH@ 41+61, 6' LT	12	18	150.75	150.00	0.042	Estimated rim elevaions with inlet grate
62	41+61	6' LT	154.31	4'-0" MH	57	Storm MH@41+62.3, 29.7' LT	12	29	150.00	149.00	0.034	Estimated rim elevaions with inlet grate
63	41+62	43' LT	154.01	45A	57	Existing Drains	8	5				Corrugated PVC
64	41+63	43' RT	155.83	45A	57	Storm MH@ 41+61, 12' RT	12	30	152.70	151.00	0.057	
65	44+37	43' RT	152.68	45A	57	Storm MH@ 44+38, 12' RT	12	31	147.45	146.75	0.023	Estimated rim elevaions with inlet grate
66	44+38	6' LT	150.20	4'-0" MH	57	Storm MH@ 44+36, 30.6' LT	12	25	146.00	145.50	0.020	Key Basin
67	44+38	43' LT	149.94	45A	57	Existing Drains	8	5				Corrugated PVC
68	44+38	12' RT	151.84	4'-0" MH	57	Storm MH@ 44+38, 6' LT	12	18	146.75	146.00	0.042	Estimated rim elevaions with inlet grate
69	47+25	6' LT	145.73	45A	57	Storm MH@ 47+37, 30' LT	12	27	141.75	141.00	0.028	Estimated rim elevaions with inlet grate
70	47+38	43' LT	145.24	45A	57	Existing Drains	8	5				Corrugated PVC
71	47+52	43' RT	145.77	45A	57	Existing Drains	8	5				Corrugated PVC
72	47+75	64' RT	145.41	45A	57	Existing Drains	8	5				Corrugated PVC
73	48+07	64' RT	145.01	45A	57	Existing Drains	8	5				Corrugated PVC
74	49+63	43' LT	140.45	45A	57	Storm MH@49+62, 30' LT	12	13	136.50	136.00	0.038	
75	50+50	43' LT	139.69	2'x2.5' INL	57	Storm MH@50+63, 43' LT	12	13	136.60	136.30	0.023	
76	50+59	43' RT	140.12	45A	57	Storm MH@50+63, 43' RT	12	4	137.00	136.90	0.025	
77	50+63	43' LT	139.58	4'-0" MH	57	Storm MH@50+63, 29' LT	12	14	136.05	135.90	0.011	With Inlet Grate
78	50+63	6' LT	139.83	4'-0" MH	57	Storm MH@50+63, 29' LT	12	23	135.35	134.50	0.037	With Inlet Grate
79	50+63	12' RT	140.26	4'-0" MH	57	Storm MH@50+63, 6' LT	12	18	135.80	135.35	0.025	With Inlet Grate
80	50+63	43' RT	140.09	4'-0" MH	57	Storm MH@50+63, 12' RT	12	31	136.50	135.80	0.023	With Inlet Grate
81	51+77	43' RT	139.44	4'-0" MH	57				136.60	136.60		With Inlet Grate, On top of existing storm sewer
82	51+81	43' RT	139.44	45A	57	Storm MH@51+77, 43' RT	12	4	136.90	136.80	0.025	With Inlet Grate
83	51+85	0	139.90	4'-0" MH	57				136.14	136.14		With Inlet Grate

1,148 LF SSRCP 12-Inch(608.0312)
18 EACH Manholes 4-FT Diameter (611.2004)
1 EACH Inlets 2x2.5-FT (611.3225)
69 EACH Inlet Covers Type 57 (SPV.0060.07)
53 EACH Catch Basins Type 45A (SPV.0060.08)
3 EACH Manhole Covers Type 58A (SPV.0060.15)
13 EACH Storm Sewer Pipe Coupling 8-Inch (SPV.0060.31)
1 EACH Storm Sewer Pipe Coupling 10-Inch (SPV.0060.32)
65 LF Storm Sewer Pipe Corrugated PVC 8-Inch (SPV.0090.04)
5 LF Storm Sewer Pipe Corrugated PVC 10-Inch (SPV.0090.05)

STORM SEWER ITEMS

CATEGORY 30

STRUCTURE NUMBER	LOCATION STATION	OFFSET	COVER ELEV.	STRUCT. TYPE	LID TYPE	CONNECTION STRUCTURE	PIPE SIZE (IN)	LENGTH (FT)	INVERT ELEV. INLET	OUTLET	SLOPE FT/FT	REMARKS
5	07+99	51' RT	159.77	45A	57	Existing Drains	8	5				Corrugated PVC
11	11+45	50' RT	155.69	45A	57	Existing Drains	8	5				Corrugated PVC; With Inlet Grate
15	13+10	50' RT	153.86	4'-0" MH	57	Existing Drain	12	5				Corrugated PVC; With Inlet Grate
19	14+57.9	72' RT	152.26	45A	57	Existing Drain	8	5				Corrugated PVC
28	17+89	51' RT	147.70	45A	57	Storm MH@ 17+89.1, 60.5' RT	12	10	144.40	144.00	0.040	With Inlet Grate
29	20+65.4	51' RT	144.83	4'-0" MH	57	Existing Drain	12	5				With Inlet Grate
47	28+23	43' LT	139.80	45A	57	Storm MH@28+17.4, 37.6' RT	12	8	136.70	136.50	0.025	
52	31+27	43' LT	143.60	45A	57	Storm MH@ 31+33, 37' LT	12	8	140.50	140.30	0.025	
53	33+75	100' RT	151.21	45A	57	Storm MH@ 33+66, 89' RT	12	14	148.10	147.60	0.036	

40 LF SSRCP 12-Inch (608.0312)
2 EACH Manholes 4-FT Diameter (611.2004)
9 EACH Inlet Covers Type 57 (SPV.0060.07)
7 EACH Catch Basins Type 45A (SPV.0060.08)
3 EACH Storm Sewer Pipe Coupling 8-Inch (SPV.0060.31)
2 EACH Storm Sewer Pipe Coupling 12-Inch (SPV.0060.33)
15 LF Storm Sewer Pipe Corrugated PVC 8-Inch (SPV.0090.04)
10 LF Storm Sewer Pipe Corrugated PVC 12-Inch (SPV.0090.06)

ADJUST MANHOLE COVER

STRUCTURE NUMBER	LOCATION	STATION	OFFSET	COVER ELEVATION	CAT 10 611.8110 EACH	CAT 30 611.8110 EACH
200	N 91st	STA 02+68.7	37.6' LT	167.45	1	--
400	N 91st	STA 04+39	37.7' RT	165.50	1	--
201	N 91st	STA 04+43.6	29.4' RT	165.58	1	--
401	N 91st	STA 05+19	45' LT	163.24	1	--
203	N 91st	STA 05+70.9	37.3' LT	162.08	1	--
205	N 91st	STA 08+71	37' LT	158.63	1	--
207	N 91st	STA 11+67.7	37.2' LT	155.45	1	--
402	N 91st	STA 11+69.2	45.2' LT	155.86	1	--
208	N 91st	STA 13+15.2	12.2 LT	154.16	1	--
209	N 91st	STA 13+22.7	37.4 LT	153.95	1	--
210	N 91st	STA 13+22.7	58' LT	153.95	1	--
403	N 91st	STA 13+29.8	45.5' LT	153.98	1	--
211	N 91st	STA 14+65.4	37.1' LT	152.59	1	--
212	N 91st	STA 14+88.1	89.6' RT	152.29	1	--
213	N 91st	STA 14+88.6	60.7 RT	151.85	1	--
404	N 91st	STA 14+94.2	45.6' RT	152.77	1	--
405	N 91st	STA 14+96.9	74.8' RT	152.02	1	--
406	N 91st	STA 17+83.5	46.3' LT	150.01	1	--
215	N 91st	STA 17+91.3	37.3 LT	149.39	1	--
216	N 91st	STA 20+73	38' LT	144.95	1	--
409	N 91st	STA 23+71.1	45.6' LT	142.63	1	--
220	N 91st	STA 24+52.1	37.3' LT	141.40	1	--
411	N 91st	STA 24+57.8	45.9' LT	141.43	1	--
222	N 91st	STA 25+96.6	37.3' LT	139.94	1	--
223	N 91st	STA 26+93.2	37.2' LT	139.32	1	--
223A	N 91st	STA 27+47.1	40.9 RT	139.63	1	--
412	N 91st	STA 26+94.3	45.5' LT	139.72	1	--
226	N 91st	STA 27+47.2	93.8' RT	139.83	1	--
413	N 91st	STA 27+74.1	46.5' LT	140.16	1	--
227	N 91st	STA 28+00	43' RT	139.68	1	--
228	N 91st	STA 29+62	39' LT	141.70	1	--
229	N 91st	STA 31+33	37' LT	143.79	1	--
230	N 91st	STA 32+39	38' LT	146.00	1	--
231	N 91st	STA 32+68	29' LT	146.75	1	--
232	N 91st	STA 33+66	89' RT	150.65	1	--
235A	N 91st	STA 33+67	42' RT	149.06	1	--
234	N 91st	STA 34+39	31' LT	150.69	1	--
235	N 91st	STA 34+50	43' RT	151.14	1	--
236	N 91st	STA 37+13.1	29.5' LT	155.87	1	--
237	N 91st	STA 37+22	41' RT	156.00	1	--
238	N 91st	STA 37+63	43' RT	156.30	1	--
239	N 91st	STA 37+86	30.7' LT	156.69	1	--
240	N 91st	STA 38+57.6	31' LT	157.09	1	--
414	N 91st	STA 39+49.5	46.7' LT	157.04	1	--
241	N 91st	STA 41+62.3	29.7' LT	154.27	1	--
242	N 91st	STA 44+36	30.6' LT	150.31	1	--
250	N 91st	STA 47+37	30' LT	145.45	1	--
415	N 91st	STA 47+89	45' RT	145.15	1	--
252	N 91st	STA 47+96	55' RT	145.09	1	--
257	N 91st	STA 49+62	30' LT	140.72	1	--
416	N 91st	STA 50+09	9' LT	140.27	1	--
254	N 91st	STA 50+63	43' LT	139.54	1	--
255	N 91st	STA 51+87	11' LT	140.21	1	--
256	N 91st	STA 51+88	31' LT	140.46	1	--
--	--	--	--	--	--	--
202	SERVICE DRIVE	STA 04+62	60.4' RT	165.65	--	1
204	SERVICE DRIVE	STA 08+05.8	58.3' RT	159.86	--	1
206	SERVICE DRIVE	STA 11+47	60.9' RT	155.87	--	1
214	SERVICE DRIVE	STA 17+89.1	60.5' RT	147.89	--	1
407	SERVICE DRIVE	STA 17+97.2	75.3' RT	148.69	--	1
217	SERVICE DRIVE	STA 21+06.5	60.9' RT	145.64	--	1
410	SERVICE DRIVE	STA 24+00	73.2' RT	142.71	--	1
219	SERVICE DRIVE	STA 24+06.1	60.8' RT	142.39	--	1
221	SERVICE DRIVE	STA 25+87.8	60.4 RT	140.55	--	1
		CATEGORY TOTAL			54	9
		PROJECT TOTAL			63	

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ADJUST INLET COVER

STRUCTURE NUMBER	LOCATION	STATION	OFFSET	COVER ELEV.	CAT 10 611.8115 EACH	CAT 30 611.8115 EACH
105	N 91st	STA 05+65	42' LT	161.93	1	--
115	N 91st	STA 12+88.1	1' RT	153.91	1	--
218	N 91st	STA 23+82	43' RT	142.05	1	--
224	N 91st	STA 27+2.2'	43' RT	139.26	1	--
151	N 91st	STA 33+31	92' RT	149.78	1	--
153	N 91st	STA 34+42	0'	151.05	1	--
154	N 91st	STA 37+10	64' RT	155.96	1	--
110	SERVICE DRIVE	STA 08+72	51' RT	159.00	--	1
		CATEGORY TOTAL			7	1
		PROJECT TOTAL			8	

3

CONCRETE MEDIAN SLOPE NOSE

STREET	LOCATION	CAT 10 CONCRETE MEDIAN SLOPE NOSE 620.0300 SF
N 91st	CROSS OVER S. OF MILL	107
N 91st	STA 0+00 TO 5+00	350
N 91st	STA 5+00 TO 11+00	380
N 91st	STA 11+00 TO 17+00	230
N 91st	STA 17+00 TO 23+00	140
N 91st	STA 23+00 TO 29+00	100
N 91st	STA 29+00 TO 35+00	70
N 91st	STA 35+00 TO 41+00	100
N 91st	STA 41+00 TO 47+00	--
N 91st	STA 47+00 TO 53+00	50
N 91st	STA 53+00 TO 53+52.5	30
	PROJECT TOTAL	1,557

MOBILIZATION

LOCATION	CAT 10 619.1000 EACH
PROJECT	1
TOTAL	1

LANDMARK REFERENCE MONUMENT

LOCATION	CAT 10 621.0100 EACH
27+49.95	1
TOTAL	1

3

BEAM GUARD

STREET	LOCATION	OFFSET	CAT 10 MGS GUARDRAIL 3 614.2300 LF	CAT 10 MGS GUARDRAIL TERMINAL EAT 614.2610 EACH	CAT 10 MGS GUARDRAIL TERMINAL TYPE 2 614.2620 EACH
N 91st	STA 25+85 TO 26+55	57' LT	12.5	1	1
N 91st	STA 26+15 TO 26+85	54' RT	12.5	1	1
		PROJECT TOTAL	25	2	2

UTILITY LINE OPENING

STREET	LOCATION	CAT 10 UTILITY LINE OPENING SPV.0060.13 EACH
N 91st	CROSS OVER S. of MILL	--
N 91st	STA 0+00 TO 5+00	2
N 91st	STA 5+00 TO 11+00	--
N 91st	STA 11+00 TO 17+00	--
N 91st	STA 17+00 TO 23+00	--
N 91st	STA 23+00 TO 29+00	--
N 91st	STA 29+00 TO 35+00	--
N 91st	STA 35+00 TO 41+00	--
N 91st	STA 41+00 TO 47+00	--
N 91st	STA 47+00 TO 53+00	--
N 91st	STA 53+00 TO 53+52.5	--
	PROJECT TOTAL	2

EROSION CONTROL MOBILIZATION

LOCATION	CAT 10 MOBILIZATIONS EROSION CONTROL 628.1905 EACH	CAT 10 MOBILIZATIONS EMERGENCY EROSION CONTROL 628.1910 EACH
PROJECT	3	9
TOTAL	3	9

EROSION CONTROL

LOCATION	CAT 20 SILT FENCE 628.1504 LF	CAT 20 SILT FENCE MAINTENANCE 628.1520 LF	CAT 20 EROSION MAT CLASS II TYPE B 628.2023 SY	CAT 20 SEEDING MIXTURE NO 30 630.0130 LB
B-40-299	60	60	70	2
PROJECT TOTAL	60	60	70	2

INLET PROTECTION

STREET	LOCATION	CAT 10 TYPE A 628.7005 EACH	CAT 30 TYPE A 628.7005 EACH	CAT 10 TYPE C 628.7015 EACH	CAT 30 TYPE C 628.7015 EACH
N 91st	STA 0+00 TO 5+00	4	--	14	--
N 91st	STA 5+00 TO 11+00	4	--	6	--
N 91st	STA 11+00 TO 17+00	10	--	16	--
N 91st	STA 17+00 TO 23+00	6	--	6	--
N 91st	STA 23+00 TO 29+00	14	--	15	--
N 91st	STA 29+00 TO 35+00	10	--	14	--
N 91st	STA 35+00 TO 41+00	2	--	4	--
N 91st	STA 41+00 TO 47+00	7	--	11	--
N 91st	STA 47+00 TO 53+52.5	14	--	17	--
SERVICE DRIVE	STA 0+00 TO 5+00	--	--	--	--
SERVICE DRIVE	STA 5+00 TO 11+00	--	1	--	1
SERVICE DRIVE	STA 11+00 TO 17+00	--	3	--	2
SERVICE DRIVE	STA 17+00 TO 23+00	--	2	--	2
SERVICE DRIVE	STA 23+00 TO 29+00	--	--	--	--
SERVICE DRIVE	STA 29+00 TO 35+00	--	--	--	--
SERVICE DRIVE	STA 35+00 TO 41+00	--	--	--	--
SERVICE DRIVE	STA 41+00 TO 47+00	--	--	--	--
SERVICE DRIVE	STA 47+00 TO 53+00	--	--	--	--
SERVICE DRIVE	STA 53+00 TO 53+52.5	--	--	--	--
	CATEGORY TOTAL	71	6	103	5
	PROJECT TOTAL	77		108	

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EROSION CONTROL

STREET	LOCATION	CAT 10 DUST CONTROL SURFACE TREATMENT 623.0200 SY	CAT 30 DUST CONTROL SURFACE TREATMENT 623.0200 SY	CAT 10 TOPSOIL 625.0100 SY	CAT 20 TOPSOIL 625.0100 SY	CAT 30 TOPSOIL 625.0100 SY	CAT 10 FERTILIZER TYPE A 629.0205 CWT	CAT 20 FERTILIZER TYPE A 629.0205 CWT	CAT 30 FERTILIZER TYPE A 629.0205 CWT	CAT 10 SOD LAWN 631.1000 SY	CAT 30 SOD LAWN 631.1000 SY
N 91st	CROSS OVER S. of MILL	--	--	24	--	--	0.02	--	--	24	--
N 91st	STA 0+00 TO 5+00	2,527	--	1,019	--	--	0.64	--	--	1,019	--
N 91st	STA 5+00 TO 11+00	3,836	--	1,788	--	--	1.13	--	--	1,788	--
N 91st	STA 11+00 TO 17+00	4,891	--	1,050	--	--	0.66	--	--	1,050	--
N 91st	STA 17+00 TO 23+00	4,240	--	1,351	--	--	0.85	--	--	1,351	--
N 91st	STA 23+00 TO 29+00	4,420	--	1,121	70	--	0.71	0.04	--	1,121	--
N 91st	STA 29+00 TO 35+00	4,424	--	1,637	--	--	1.03	--	--	1,637	--
N 91st	STA 35+00 TO 41+00	4,510	--	1,330	--	--	0.84	--	--	1,330	--
N 91st	STA 41+00 TO 47+00	4,000	--	1,660	--	--	1.05	--	--	1,660	--
N 91st	STA 47+00 TO 53+00	4,500	--	1,310	--	--	0.83	--	--	1,310	--
N 91st	STA 53+00 TO 53+52.5	250	--	40	--	--	0.03	--	--	40	--
SERVICE DRIVE	STA 0+00 TO 5+00	--	163	--		71	--	--	0.04	--	71
SERVICE DRIVE	STA 5+00 TO 11+00	--	1504	--		402	--	--	0.25	--	402
SERVICE DRIVE	STA 11+00 TO 17+00	--	1049	--		800	--	--	0.50	--	800
SERVICE DRIVE	STA 17+00 TO 23+00	--	1500	--		399	--	--	0.25	--	399
SERVICE DRIVE	STA 23+00 TO 29+00	--	840	--		639	--	--	0.40	--	639
SERVICE DRIVE	STA 29+00 TO 35+00	--	846	--		583	--	--	0.37	--	583
SERVICE DRIVE	STA 35+00 TO 41+00	--	--	--		--	--	--	--	--	--
SERVICE DRIVE	STA 41+00 TO 47+00	--	--	--		--	--	--	--	--	--
SERVICE DRIVE	STA 47+00 TO 53+00	--	--	--		--	--	--	--	--	--
SERVICE DRIVE	STA 53+00 TO 53+52.5	--	--	--		--	--	--	--	--	--
	CATEGORY TOTAL	37,598	5,902	12,330	70	2,894	7.77	0.04	1.82	12,330	2,894
	PROJECT TOTAL	43,500		15,294			9.63			15,224	

TRAFFIC CONTROL ITEMS

CATEGORY 10 STAGE	LOCATION	STAGE DURATION DAYS	643.0300 TRAFFIC CONTROL DRUMS NO.	643.0300 TRAFFIC CONTROL DRUMS DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO.	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAYS	643.0500 TRAFFIC CONTROL FLEXIBLE MARKER MARKER POSTS EACH	643.0600 TRAFFIC CONTROL FLEXIBLE MARKER MARKER BASES EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO.	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C NO.	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS	643.0900 TRAFFIC CONTROL SIGNS NO.	643.0900 TRAFFIC CONTROL SIGNS DAYS
1	N 91st NORTHBOUND	69	232	16,008	201	13,869	209	209	402	27,738	232	16,008	100	6,900
	UNDISTRIBUTED MEDIAN AND INTERSECTIONS, PEDESTRIAN ACCESS		20	1,380	10	690	--	--	20	1,380	20	1,380	10	690
	SUBTOTAL			17,388		14,559	209	209		29,118		17,388		7,590
3	N 91ST SOUTHBOUND INSIDE	49	186	9,114	91	4,459	--	--	182	8,918	186	9,114	38	1,862
	UNDISTRIBUTED MEDIAN AND INTERSECTIONS, PEDESTRIAN ACCESS		15	735	5	245	--	--	10	490	15	735	4	196
	SUBTOTAL			9,849		4,704	--	--		9,408		9,849		2,058
4	N 91ST SOUTHBOUND OUTSIDE	54	173	9,342	64	3,456	--	--	128	6,912	173	9,342	32	1,728
	UNDISTRIBUTED MEDIAN AND INTERSECTIONS, PEDESTRIAN ACCESS		10	540	5	270	--	--	10	540	10	540	4	216
	SUBTOTAL			9,882		3,726	--	--		7,452		9,882		1,944
	CATEGORY TOTAL			37,119		22,989	209	209		45,978		37,119		11,592
CATEGORY 30														
2	SERVICE DRIVE	27	--	--	47	1,269	--	--	94	2,538	--	--	23	621
	UNDISTRIBUTED MEDIAN AND INTERSECTIONS, PEDESTRIAN ACCESS		5	135	4	108	--	--	8	216	5	135	4	108
	CATEGORY TOTAL			135		1,377	--	--		2,754		135		729
	PROJECT TOTAL			37,254		24,366	209	209		48,732		37,254		12,321

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PEDESTRIAN ACCOMMODATION ITEMS

CATEGORY 10 STAGE	LOCATION	TRAFFIC CONTROL BARRICADES TYPE II 643.0410 DAYS	TEMPORARY PEDESTRIAN SURFACE ASPHALT 644.1410.S SF	TEMPORARY PEDESTRIAN SURFACE PLYWOOD 644.1420.S SF	TEMPORARY PEDESTRIAN SURFACE PLATE 644.1430.S SF	TEMPORARY CURB RAMP 644.1601.S EACH	TEMPORARY BUS LOADING ZONE SPV.0060.30 EACH
1	UNDISTRIBUTED	40	250	200	1000	8	4
2	UNDISTRIBUTED	40	250	200	--	8	--
3	UNDISTRIBUTED	40	250	--	500	--	4
4	UNDISTRIBUTED	40	250	200	500	8	--
	PROJECT TOTAL	160	1000	600	2000	24	8

TRAFFIC CONTROL ITEMS

LOCATION	CAT 10 643.0100 TRAFFIC CONTROL PROJECT 2504-00-71 EACH
PROJECT	1
TOTAL	1

FIELD OFFICE

LOCATION	CAT 10 FIELD OFFICE TYPE D 642.5401 EACH
PROJECT	1
TOTAL	1

PAVEMENT MARKING ITEMS

STREET	LOCATION	CAT 10 PAVEMENT MARKING EPOXY 4-INCH 646.0106 LF	CAT 10 PAVEMENT MARKING EPOXY 6-INCH 646.0116 LF	CAT 10 PAVEMENT MARKING EPOXY 8-INCH 646.0126 LF	CAT 10 PAVEMENT MARKING ARROWS EPOXY TYPE 2 647.0166 EACH	CAT 10 PAVEMENT MARKING ARROWS BIKE LANE EPOXY 647.0206 EACH	CAT 10 PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY 647.0306 EACH	CAT 10 PAVEMENT MARKING WORDS EPOXY 647.0356 EACH	CAT 10 PAVEMENT MARKING STOP LINE EPOXY 24-INCH 647.0576 LF	CAT 10 PAVEMENT MARKING CROSSWALK EPOXY 12-INCH 647.0776 LF
N 91st	STA 0+00 TO 5+00	425	547	120	1	1	1	1	48	180
N 91st	STA 5+00 TO 11+00	826	1092	--	--	3	3	--	--	--
N 91st	STA 11+00 TO 17+00	608	794	300	2	4	4	2	--	--
N 91st	STA 17+00 TO 23+00	754	1010	150	1	2	2	1	--	--
N 91st	STA 23+00 TO 29+00	660	740	90	1	1	1	1	--	--
N 91st	STA 29+00 TO 35+00	812	998	--	--	3	3	--	--	--
N 91st	STA 35+00 TO 41+00	744	938	150	1	2	2	1	--	--
N 91st	STA 41+00 TO 47+00	900	1162	--	--	--	--	--	--	--
N 91st	STA 47+00 TO 53+52.5	740	950	150	1	3	3	1	40	160
	PROJECT TOTAL	6,469	8,231	960	7	19	19	7	88	340

TRAFFIC CONTROL ITEMS
TEMPORARY PAVEMENT MARKING

STAGE	LOCATION	CATEGORY 10 649.0400 TPM REMOVABLE TAPE 4-INCH WHITE LF	CATEGORY 10 649.0400 TPM REMOVABLE TAPE 4-INCH DBL YELLOW LF	CATEGORY 30 649.0402 TPM PAINT 4-INCH YELLOW LF	CATEGORY 10 649.1800 TPM ARROWS REMOVABLE TAPE EACH	CATEGORY 10 649.2000 TPM WORDS REMOVABLE TAPE EACH
1	N 91st NORTHBOUND	6988	5540	550	1	1
3	N 91ST SOUTHBOUND INSIDE	5766		--	--	--
4	N 91ST SOUTHBOUND OUTSIDE	5088		--	--	--
	SUBTOTAL	17,842	11,080	550	1	1
	PROJECT TOTAL	28,922		550	1	1

CONSTRUCTION STAKING

STREET	LOCATION	CAT 10 CONSTRUCTION STAKING STORM SEWER 650.4000 EACH	CAT 30 CONSTRUCTION STAKING STORM SEWER 650.4000 EACH	CAT 10 CONSTRUCTION STAKING SUBGRADE 650.4500 LF	CAT 30 CONSTRUCTION STAKING SUBGRADE 650.4500 LF	CAT 10 CONSTRUCTION STAKING PAVEMENT 650.7000 LF	CAT 30 CONSTRUCTION STAKING PAVEMENT 650.7000 LF	CAT 10 CONSTRUCTION STAKING CURB RAMP SPV.0060.14 EACH	CAT 10 CONSTRUCTION STAKING CONC. SIDEWALK SPV.0090.07 LF	CAT 30 CONSTRUCTION STAKING CONC. SIDEWALK SPV.0090.07 LF
N 91st	STA 0+00 TO 5+00	4	--	700	--	700	--	8	854	--
N 91st	STA 5+00 TO 11+00	4	--	1,200	--	1,200	--	--	346	--
N 91st	STA 11+00 TO 17+00	12	--	1,200	--	1,200	--	8	949	--
N 91st	STA 17+00 TO 23+00	6	--	1,200	--	1,200	--	2	698	--
N 91st	STA 23+00 TO 29+00	14	--	1,200	--	1,200	--	10	642	--
N 91st	STA 29+00 TO 35+00	6	--	1,200	--	1,200	--	10	441	--
N 91st	STA 35+00 TO 41+00	3	--	1,200	--	1,200	--	4	888	--
N 91st	STA 41+00 TO 47+00	8	--	1,200	--	1,200	--	--	372	--
N 91st	STA 47+00 TO 53+00	15	--	1,200	--	1,200	--	10	776	--
N 91st	STA 53+00 TO 53+52.5	--	--	70	--	70	--	--	110	--
SERVICE DRIVE	STA 0+00 TO 5+00	--	--	--	50	--	50	--	--	80
SERVICE DRIVE	STA 5+00 TO 11+00	--	1	--	600	--	600	--	--	604
SERVICE DRIVE	STA 11+00 TO 17+00	--	3	--	400	--	400	--	--	419
SERVICE DRIVE	STA 17+00 TO 23+00	--	2	--	600	--	600	--	--	378
SERVICE DRIVE	STA 23+00 TO 29+00	--	1	--	390	--	390	--	--	486
SERVICE DRIVE	STA 29+00 TO 35+00	--	2	--	490	--	490	--	--	117
SERVICE DRIVE	STA 35+00 TO 41+00	--	--	--	--	--	--	--	--	--
SERVICE DRIVE	STA 41+00 TO 47+00	--	--	--	--	--	--	--	--	--
SERVICE DRIVE	STA 47+00 TO 53+00	--	--	--	--	--	--	--	--	--
SERVICE DRIVE	STA 53+00 TO 53+52.5	--	--	--	--	--	--	--	--	--
	CATEGORY TOTAL	72	9	10,370	2,530	10,370	2,530	52	6,076	2,084
	PROJECT TOTAL	81		12,900		12,900		52	8,160	

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LIGHTING & TRAFFIC SIGNALS

LOCATION	CAT 10 CONSTRUCTION STAKING ELECTRICAL 2504-00-71 650.8500 LS	CAT 10 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2 INCH 652.0225 LF	CAT 10 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-1/2 INCH 652.0230 LF	CAT 10 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3 INCH 652.0235 LF	CAT 10 CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-1/2 INCH 652.0330 LF	CAT 10 CONDUIT RIGID NONMETALLIC SCHEDULE 80 3 INCH 652.0335 LF	CAT 10 CONDUIT SPECIAL 2-1/2 INCH 652.0610 LF	CAT 10 CONCRETE BASES TYPE 1 654.0101 EACH
PROJECT	1	175	5,600	475	1,500	200	140	2
TOTALS	1	175	5,600	475	1,500	200	140	2

LOCATION	CAT 10 CONCRETE BASES TYPE 5 654.0105 EACH	CAT 10 CABLE TYPE UF 2#12 AWG GROUNDED 655.0305 LF	CAT 10 TRANS BASE BREAKAWAY 11-1/2 INCH BOLT CIRCLE 657.0255 EACH	CAT 10 POLES TYPE 5 ALUMINUM 657.0322 EACH	CAT 10 LUMINAIRE ARM SINGLE MEMBER 4-1/2 INCH CLAMP 8-FOOT 657.0615 EACH	CAT 10 FIBERGLASS/POLYMER CONCRETE PULL BOX 13" x 24" x 24" SPV.0060.11 EACH	CAT 10 FIBERGLASS/POLYMER CONCRETE PULL BOX 17" x 30" x 24" SPV.0060.12 EACH	CAT 10 INSTALL CITY FURNISHED 22' ALUMINUM BOLT DOWN POLE SPV.0060.16 EACH
PROJECT	47	3,100	45	5	82	39	10	6
TOTALS	47	3,100	45	5	82	39	10	6

LOCATION	CAT 10 INSTALL CITY FURNISHED LUMINAIRE ARM 6-FOOT SPV.0060.17 EACH	CAT 10 INSTALL CITY FURNISHED LED LUMINAIRE UTILITY TYPE A,B,C SPV.0060.18 EACH	CAT 10 POLES TYPE 5A ALUMINUM 25-FOOT SPV.0060.19 EACH	CAT 10 CABLE TYPE 3#2/1#8 LTP SPV.0090.08 LF	CAT 10 CABLE TYPE 3#4/1#8 LTP SPV.0090.09 LF	CAT 10 CABLE TYPE 3#6/1#8 LTP SPV.0090.10 LF	CAT 10 CABLE TYPE 3#8/1#8 LTP SPV.0090.11 LF
PROJECT	6	88	36	1,700	2,650	1,750	1,200
TOTALS	6	88	36	1,700	2,650	1,750	1,200

STRUCTURE ITEMS

LOCATION	CAT 20 CONCRETE SURFACE REPAIR 509.1500 SF	CAT 20 EPOXY INJECTION CRACK REPAIR 509.9025.S LF	CAT 20 CORED HOLES 2-INCH DIA. 509.9026.S EACH	CAT 20 CONCRETE WALL REPAIR SPV.0090.01 LF	CAT 20 CULVERT JOINT REPAIR SPV.0090.02 LF	CAT 20 FENCE CHAIN LINK POLYMER COATED 4-FT SPV.0090.03 LF	CAT 20 REMOVAL, HAULING DISPOSAL OF PAH CONTAMINATED SEDIMENT SPV.0195.01 TON
B-40-229	246	283	8	15	84	123	57
PROJECT TOTAL	246	283	8	15	84	123	57

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SAWING

STREET	LOCATION	CAT 10 SAWING ASPHALT 690.0150 LF	CAT 10 SAWING CONCRETE 690.0250 LF
N 91st	CROSS OVER S. of MILL	--	88
N 91st	STA 0+00 TO 5+00	60	10
N 91st	STA 5+00 TO 11+00	50	20
N 91st	STA 11+00 TO 17+00	20	--
N 91st	STA 17+00 TO 23+00	--	50
N 91st	STA 23+00 TO 29+00	50	--
N 91st	STA 29+00 TO 35+00	20	50
N 91st	STA 35+00 TO 41+00	60	--
N 91st	STA 41+00 TO 47+00	30	--
N 91st	STA 47+00 TO 53+00	40	--
N 91st	STA 53+00 TO 53+52.5	100	--
	PROJECT TOTAL	430	218

BIOSWALE ITEMS

STRUCTURE NUMBER	LOCATION	CAT 30 SPV.0060.10 INSTALL SALVAGED INLET FRAME & GRATE EACH
600	Bio-Swale #1	1
601	Bio-Swale #1	1
602	Bio-Swale #2	1
603	Bio-Swale #2	1
604	Bio-Swale #3	1
605	Bio-Swale #3	1
606	Bio-Swale #4	1
607	Bio-Swale #4	1
608	Bio-Swale #5	1
609	Bio-Swale #5	1
610	Bio-Swale #6	1
611	Bio-Swale #6	1
612	Bio-Swale #7	1
613	Bio-Swale #7	1
	PROJECT TOTAL	14

CONTRACTOR TO STOCKPILE REMAINING INLET FRAME & GRATES (QTY=9)
STRUCTURES S614 THRU S635 ARE EXISTING.
BIOSWALES FRAME & GRATES TO BE SALVAGED OR STOCKPILED.

CITY UNDERGROUND CONDUIT

LOCATION	OFFSET	CAT 30 ADJUSTING TES MANHOLE COVERS SPV.0060.09 EACH
STA 7+62.6	17.2' RT	1
STA 14+71.2	17.0' RT	1
STA 20+88.2	16.6' RT	1
STA 27+13.4	17.5' RT	1
STA 32+64.1	17.2' RT	1
STA 37+02.8	17.5' RT	1
STA 43+44.5	17.4' RT	1
STA 50+13.0	17.2' RT	1
PROJECT TOTAL		8

BIOSWALE ITEMS

LOCATION	* CAT 30 205.0100 COMMON EXCAVATION C.Y.	CAT 30 612.0108 PIPE UNDERDRAIN 8-INCH L.F.	CAT 30 612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH L.F.	CAT 30 632.0201.01 RUGOSA ROSES #3 CG EACH	CAT 30 632.0201.02 DIABLO NINEBARK #5 CG EACH	CAT 30 632.0201.03 TIGERS EYE SUMAC #5 CG EACH	CAT 30 632.0201.04 MISCANTHUS PANICUM #1 CG EACH	CAT 30 632.0201.05 ARROWOOD VIBURNUM #5 CG EACH	CAT 30 632.0301.01 PERENNIAL BLACK EYED SUSAN #1 CG EACH	CAT 30 632.0301.02 PERENNIAL BLUE WONDER CATMINT #1 CG EACH	CAT 30 632.0301.03 PERENNIAL DWARF DAYLILIES #1 CG EACH	CAT 30 632.0301.04 PERENNIAL RUSSIAN SAGE #1 CG EACH
Bio-Swale #1	152	18	58	7	5	--	12	--	--	72	60	--
Bio-Swale #2	120	18	44	--	--	8	12	--	--	--	72	--
Bio-Swale #3	158	40	65	--	8	--	6	--	36	--	72	--
Bio-Swale #4	76	5	28	--	--	6	-	--	--	--	--	--
Bio-Swale #5	115	5	39	6	--	--	12	--	--	48	--	--
Bio-Swale #6	127	5	44	--	5	--	18	--	--	-	72	18
Bio-Swale #7	119	5	41	--	--	--	-	8	--	72	--	12
PROJECT TOTAL	867	96	319	13	18	14	60	8	36	192	276	30

LOCATION	CAT 30 632.0301.05 PERENNIAL AGASTACHE BLUE FORTUNE #1 CG EACH	CAT 30 645.0112 GEOTEXTILE FABRIC TYPE DF SCHEDULE B S.Y.	CAT 30 SPV.0035.01 STORAGE LAYER C.Y.	CAT 30 SPV.0035.02 ENGINEERED SOIL C.Y	CAT 30 SPV.0035.03 BEDDING LAYER C.Y.	CAT 30 SPV.0035.04 COBBLESTONES C.Y.	CAT 30 SPV.0060.01 8-INCH PVC STANDPIPE WITH DOME GRATE EACH	CAT 30 SPV.0060.02 INFORMATIONAL SIGN POSTS EACH	CAT 30 SPV.0060.03 6-INCH CLEANOUTS EACH	CAT 30 SPV.0060.04 JOE PYE WEED #1 CG EACH	CAT 30 SPV.0060.05 KARL FORESTER GRASS #1 CG EACH	CAT 30 SPV.0060.06 SWITCH GRASS #1 CG EACH
Bio-Swale #1	--	20	58	45	10	6	1	1	1	--	--	--
Bio-Swale #2	--	14	45	35	8	6	1	--	1	--	--	--
Bio-Swale #3	--	20	58	50	11	6	1	--	2	--	--	11
Bio-Swale #4	24	10	31	25	6	12	1	1	1	--	14	-
Bio-Swale #5	--	13	40	30	7	6	1	--	2	8	--	--
Bio-Swale #6	--	14	45	35	8	20	1	--	2	--	--	--
Bio-Swale #7	--	14	43	33	7	12	1	1	2	--	12	--
PROJECT TOTAL	24	105	320	253	57	68	7	3	11	8	26	11

* QUANTITIES INCLUDED ELSEWHERE

3

SIGNATURE BED ITEMS

LOCATION	CAT 10 SPV.0060.20 WOODS PURPLE ASTER #1 CG EACH	CAT 10 SPV.0060.21 RUSSIAN SAGE #1 CG EACH	CAT 10 SPV.0060.22 SHASTA DAISY BECKY #1 CG EACH	CAT 10 SPV.0060.23 DWARF KOREAN LILAC #5 CG EACH	CAT 10 SPV.0060.24 YELLOW KNOCKOUT ROSE #2 CG EACH	CAT 10 SPV.0060.25 CLOUD NINE SWITCHGRASS #1 CG EACH	CAT 10 SPV.0060.26 DWARF SERBIAN SPRUCE #5 CG EACH	CAT 10 SPV.0060.27 CATMINT BLUE WONDER #1 CG EACH	CAT 10 SPV.0060.28 AMERICAN HORNBEAMS 3" B&B EACH	CAT 10 SPV.00.60.29 SIGNATURE BED EACH	CAT 10 SPV.0090.12 FIELDSTONE BOULDER WALL L.F.
Signature Bed #1	72	12	24	12	6	14	2	24	3	1	40
Signature Bed #2	72	12	24	12	6	14	2	24	3	1	40
PROJECT TOTAL	144	24	48	24	12	28	4	48	6	2	80

3

LANDSCAPE ITEMS

	CAT 10 632.0101.01 COMMON BALDCYPRESS 3" B&B EACH	CAT 10 632.0101.02 CALLERY PEAR 3" B&B EACH	CAT 10 632.0101.03 SUNBURST HONEYLOCUST 3" B&B EACH	CAT 10 632.0101.04 CANADA RED CHOKECHERRY 3" B&B EACH	CAT 10 632.0101.05 JAPANESE TREE LILAC 3" B&B EACH	CAT 10 632.0101.06 AMERICAN SWEETGUM MORAINE 3" B&B EACH	CAT 10 632.0101.07 TULIP TREE 3" B&B EACH	CAT 10 632.0101.08 BUTTERNUT 3" B&B EACH	CAT 10 632.0101.09 NORTHERN CATALPA 3" B&B EACH	CAT 10 632.0101.10 YELLOW RIVER BIRCH 3" B&B EACH	CAT 10 632.0101.11 RED BUD 3" B&B EACH	CAT 10 632.0101.12 AMUR CORKTREE 3" B&B EACH	CAT 10 632.9101 PLANTING SURVEILLANCE AND CARE CYLCES EACH
TOTALS	1	2	1	1	3	1	1	1	1	3	1	1	10

TREES

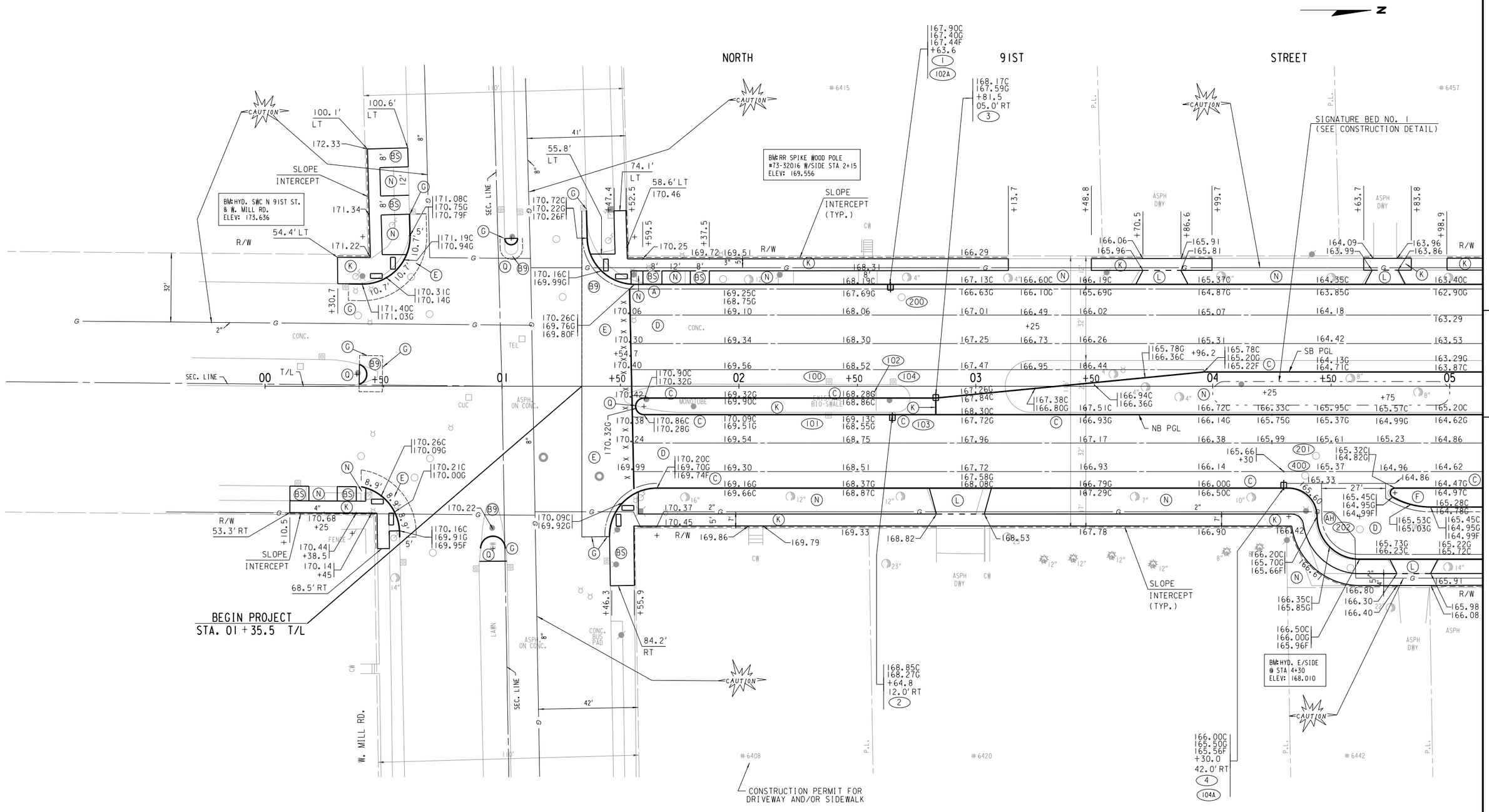
LOCATION	COMMON NAME	SCIENTIFIC NAME	SIZE PLANTED	ROOT ZONE MODE	HEIGHT	BALL (MIN. SIZE) DIA.	BALL (MIN. SIZE) DEPTH	HOLE (MIN. SIZE) DIA.	HOLE (MIN. SIZE) DEPTH	BRACE OR GUY	FERT. UNITS REQ'D	RODENT PROTECTION REQ'D	MULCH RING DIAMETER	REMARKS
STA 6+23 MEDIAN	NORTHERN CATALPA	CATALPA SPECIOSA	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY
STA 7+80 MEDIAN	COMMON BALDCYPRESS	TAXODIUM DISTICHUM	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY
STA 14+10 MEDIAN	CANADA RED CHOKECHERRY	PRUNUS VIRGINIANA "CANADA RED"	3" CAL.	B&B	8' - 10'	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY, CLUMP FORM
STA 18+53 MEDIAN	SUNBURST HONEYLOCUST	GLEDITSIA TRIACANTHOS 'INERMIS'	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY
STA 22+98 MEDIAN	TULIP TREE	LIRIODENDRON TULIPIFERA	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY
STA 23+36 MEDIAN	CALLERY PEAR	PYRUS CALLERYANA "CLEVELAND SELECT"	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY
STA 25+50 MEDIAN	YELLOW RIVER BIRCH	BETULA NIGRA	3" CAL.	B&B	8' - 10'	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY, CLUMP FORM
STA 26+04 MEDIAN	YELLOW RIVER BIRCH	BETULA NIGRA	3" CAL.	B&B	8' - 10'	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY, CLUMP FORM
STA 26+56 MEDIAN	YELLOW RIVER BIRCH	BETULA NIGRA	3" CAL.	B&B	8' - 10'	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY, CLUMP FORM
STA 31+13 MEDIAN	RED BUD	CERCIS CANADENSIS	3" CAL.	B&B	8' - 10'	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY, CLUMP FORM
STA 35+09 MEDIAN	JAPANESE TREE LILAC	SYRINGA RETICULATA "IVORY SILK"	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY
STA 35+62 MEDIAN	JAPANESE TREE LILAC	SYRINGA RETICULATA "IVORY SILK"	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY
STA 36+14 MEDIAN	JAPANESE TREE LILAC	SYRINGA RETICULATA "IVORY SILK"	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY
STA 40+40 MEDIAN	AMERICAN SWEETGUM 'MORAINE'	LIQUIDDAMBAR STYRACIFLUA	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY
STA 40+95 MEDIAN	CALLERY PEAR	PYRUS CALLERYANA "CLEVELAND SELECT"	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY
STA 43+86 MEDIAN	AMUR CORKTREE	PHELLODENDRON AMURENSE	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY
STA 46+00 MEDIAN	BUTTERNUT	LIQUIDDAMBAR STYRACIFLUA	3" CAL.	B&B	--	24"	19"	48"	24"	BRACE	4 EACH	NONE	68"	SPECIMEN QUALITY

PLANT CHART

LOCATION	COMMON NAME	SIZE PLANTED	ROOT ZONE MODE	HEIGHT	REMARKS
SIGNATURE BED	DWARF SERBIAN SPRUCE	5 GAL.	CG	--	SPECIMEN QUALITY
SIGNATURE BED	YELLOW KNOCKOUT ROSE	2 GAL.	CG	--	SPECIMEN QUALITY
SIGNATURE BED	DWARF KOREAN LILAC	5 GAL.	CG		SPECIMEN QUALITY
SIGNATURE BED	RUSSIAN SAGE	1 GAL.	CG	--	SPECIMEN QUALITY
SIGNATURE BED	CATMINT BLUE WONDER	1 GAL.	CG	--	SPECIMEN QUALITY
SIGNATURE BED	CLOUD NINE SWITCHGRASS	1 GAL.	CG	--	SPECIMEN QUALITY
SIGNATURE BED	SHASTA DAISYS "BECKY"	1 GAL.	CG		SPECIMEN QUALITY
SIGNATURE BED	WOODS PURPLE ASTER	1 GAL.	CG		SPECIMEN QUALITY
SIGNATURE BED	AMERICAN HORNBEAM	3" CAL.	B&B		SPECIMEN QUALITY
BIO-SWALE	RUGOSA ROSES	3 GAL.	CG		SPECIMEN QUALITY
BIO-SWALE	DIABLO NINEBARK	5 GAL.	CG	--	SPECIMEN QUALITY
BIO-SWALE	TIGERS EYE SUMAC	5 GAL.	CG	--	SPECIMEN QUALITY
BIO-SWALE	MISCANTHUS PANICUM	1 GAL.	CG	--	SPECIMEN QUALITY
BIO-SWALE	ARROWOOD VIBURNUM	5 GAL.	CG	--	SPECIMEN QUALITY
BIO-SWALE	PERENNIAL BLACK EYED SUSAN	1 GAL.	CG	--	SPECIMEN QUALITY
BIO-SWALE	PERENNIAL CATMINT BLUE WONDER	1 GAL.	CG	--	SPECIMEN QUALITY
BIO-SWALE	PERENNIAL DWARF DAYLILIES	1 GAL.	CG	--	SPECIMEN QUALITY
BIO-SWALE	PERENNIAL RUSSIAN SAGE	1 GAL.	CG	--	SPECIMEN QUALITY
BIO-SWALE	PERENNIAL AGASTACHE BLUE FORTUNE	1 GAL.	CG	--	SPECIMEN QUALITY
BIO-SWALE	JOE PYE WEED	1 GAL.	CG	--	SPECIMEN QUALITY
BIO-SWALE	KARL FORESTER GRASS	1 GAL.	CG	--	SPECIMEN QUALITY
BIO-SWALE	SWITCH GRASS	1 GAL.	CG	--	SPECIMEN QUALITY

N. 91ST ST. W. MILL RD. TO W. GOOD HOPE RD.

- (A) CONST. CONC. CURB & GUTTER 31-INCH
- (B) REMOVE & CONST. 3" ASPH. SURFACE ON 6" CONC. BASE
- (C) CONST. CONC. & GUTTER 18-INCH
- (D) REMOVE & CONST. 8" CONC. PAVEMENT
- (E) MILL 3" AND CONST. ASPH.CONC. PAVT.
- (F) CONST. MAINTENANCE RAMP
- (G) SAW CONCRETE
- (K) CONST. 5" CONC. SIDEWALK
- (L) CONST. CONC. DRIVEWAY (7-INCH) FLARED
- (N) GRADE & PLACE 4" TOPSOIL, SOD & FERTILIZER
- (M) SAW ASPHALT
- (Q) CONST. CONCRETE MEDIAN SLOPED NOSE
- (AH) CONST. CONC. CURB & GUTTER 31-INCH (HIGH-SIDE)
- (B9) REM. AND REPLACE 3" ASPH. ON 9" CONC. BASE
- (BS) CONST. BUS STOP WALK



STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0' 40'	SHEET NO: 176	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\00_05.DGN

REVISED DATE: 8-24-2016 BY SB

N

NORTH 91ST STREET

6457 | # 6477 | # 6501 | # 6515 | # 6539

P.L.

CAUTION

162.43C
161.93G
161.97F
+64.7
43' LT
105

159.94C
159.44G
+75

BIO-SWALE NO. 1
(SEE BIO-SWALE PLAN)

159.84C
159.26G
159.30F
+28.0
6.0' LT
600

159.08C
158.58G
158.62F
+65.8
43' LT
6
106B

159.57
159.49
GRAVEL DWY

159.66
159.58

159.23C
158.73G
159.49

159.19

159.40C
158.82G
158.86F
+66.0
6.0' LT
7

BM:RR SPIKE WOOD POLE
#96-00061 W/SIDE STA 9+35
ELEV: 159.483

SLOPE
INTERCEPT
(TYP.)

54' LT

157.62
157.54
157.87

157.46
157.38
156.35

R/W 156.83

ASPH DWY

CONC DWY

+98.9 | +84.3 | +86 | +94 | +06 | +14 | +24.3 | +48.1 | +73.2 | +91.0 | +21.5 | +36.1 | +69.0 | +86.9 | +91.8 | +51.5 | +16.4 | +34.9

R/W 162.95 | 161.89 | 161.60 | 161.55

163.40C 162.90G 163.29 163.53 | 162.65C 162.15G 162.64 162.88 | 162.05C 161.55G 161.99 162.23 | 161.84 | 161.52C 161.02G 161.34 161.58 | 161.25C 160.75G 161.01 161.25 | 160.92C 160.42G 160.72 160.96 | 160.27C 159.77G 160.15 160.39 | 159.70C 159.20G 159.58 159.82 | 159.01 159.25 | 158.99 | 158.68C 158.18G 158.44 158.68 | 158.38C 157.88G 158.14 158.38 | 158.09C 157.59G 157.89 158.13 | 157.57C 157.07G 157.37 157.61 | 157.05C 156.55G 156.84 157.08 | 156.53C 156.03G 156.3 156.55

163.87C 163.29G | 163.22C 162.64G | 162.57C 161.99G | 161.92C 161.34G | 161.30C 160.72G | 160.73C 160.15G | 160.16C 159.58G | 159.38C 158.80G 158.82F | 158.72C 158.14G 158.16F | 158.47C 157.89G | 157.95C 157.37G | 157.42C 156.84G | 156.89C 156.31G

+26.65

05 8" +50 T/L 06 4" +50 07 SEC. LINE +50 4" F 08 +50 09 +50 10 T/L +50 10" 11

SB PGL

+75
161.01G
161.59C

S614

107

LIGHT BIO-SWALE

+89 | 15' | 10.5' | +53

159.59C
159.01G

159.60C
159.02G

158.65

158.88C
158.30G F

158.76C

158.17C

157.48C
156.90G
+57.2

156.87C
156.29G

CONC.

158.84

S615

159.51G

159.82C
159.24G
159.26F

159.04C
158.46G
158.48F

+26.65

158.70

158.18G

157.59G

156.4

160.82C 160.09C

164.62 164.47G 164.97C 165.28C 164.78G | 164.89 163.72G 164.22C 164.25C 163.75G | 163.16 162.97G 163.47C 163.22C 162.72G | 162.43 162.21G 162.71C 162.28C 162.21C 161.78G | 161.70 161.46G 161.96C 161.54C 161.04G | 160.97 160.70G 161.20C 160.90C 160.40G | 160.24 159.95G 160.45C | 159.51 | 158.48 | +68.65 | 159.06 | 158.81 | 158.63 | 158.85 | 158.92C 158.42F | 158.18 | 157.59 | 156.99 | 156.39

159.34C
158.84G

159.14

+21.65
158.52

158.88C
158.38G

159.01C
158.51G

158.54C
158.77C

157.94C
158.11C

157.35C
157.45C

156.85G
156.95C

156.25G
156.75C
156.79C
156.28G

165.72C 165.22G | 164.69C 164.19G | 163.16 | 162.65G | 163.66C | 163.15C | 162.73C 162.23G | 161.84G | 161.49 | 161.34C 160.84G | 159.87G | 159.66 | 160.37C | 160.16C | 159.59 | 159.75 159.61 | 159.23G 159.73C | 159.42C 158.92G | 159.14C 158.64G 158.68F | 159.27C | 158.55C | 158.05G | 157.38G | 157.23C 156.73G | 157.18

+25 | +75 | +25 | +30.4

AH

165.97 R/W 165.45 164.94 165.02 | 164.43 164.64 164.72 | 163.31 163.39 | 162.92 | 162.64 | 162.29 | 161.64 161.24 | 161.12 | 160.67 | 160.46 | 160.03 | 159.75 | 159.45 | 159.47C 158.97G | 158.85 | 158.19 157.87 R/W

+47.4 | +59.1 | +18.5 | +34.5 | +68.1 | +78.1 | +5.2 | +78.0 | +82.0 | +18.0 | +30.3 | 84.0' RT | +67.7 | +89.6 | +1.6

ASPH CW | ASPH DWY | CW | ASPH DWY | CW | CONC DWY | CW | CW | CONC DWY | CONC DWY | CW | CONC DWY

204

160.27C
159.77G
159.81F
+99.1
51' RT
5
106A

160.15F
160.19G
160.69C
+98.8
73' RT
106

160.41G
159.83F
159.87F
+28.0
12' RT
601

159.85C
159.27G
159.31F
+66.0
12' RT
8
108

85.1' RT

159.02G
159.06F
+72
51.1' RT
110

160.20

158.86G
158.94F
+72.2
43' RT
9
110A

159.50C
159.00G

CAUTION

CAUTION

6446-48 | # 6450-52 | # 6460 | # 6500 | # 6506 | # 6534

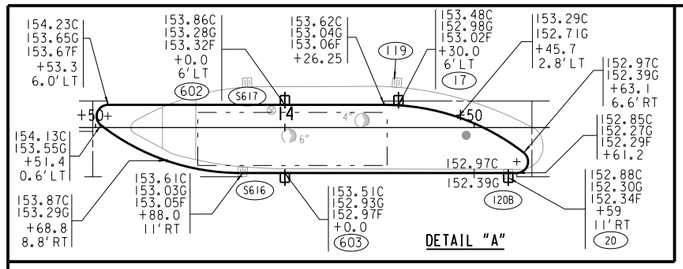
CONSTRUCTION PERMIT FOR
DRIVEWAY AND/OR SIDEWALK

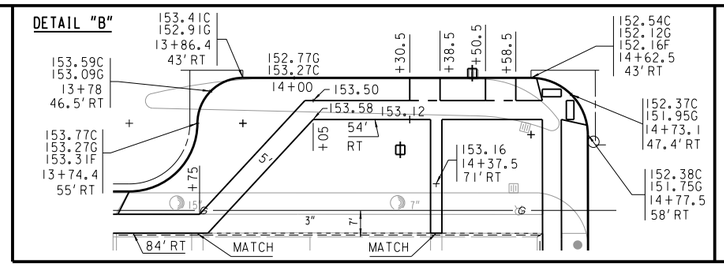
SEE CORRESPONDING "PLAN DETAIL" FOR CURB
GEOMETRICS AND JOINT LINE LOCATIONS

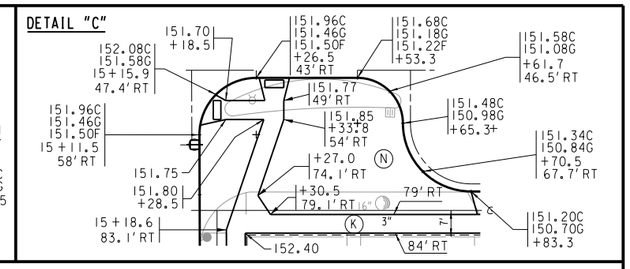
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0' 40'	SHEET NO: 177	E

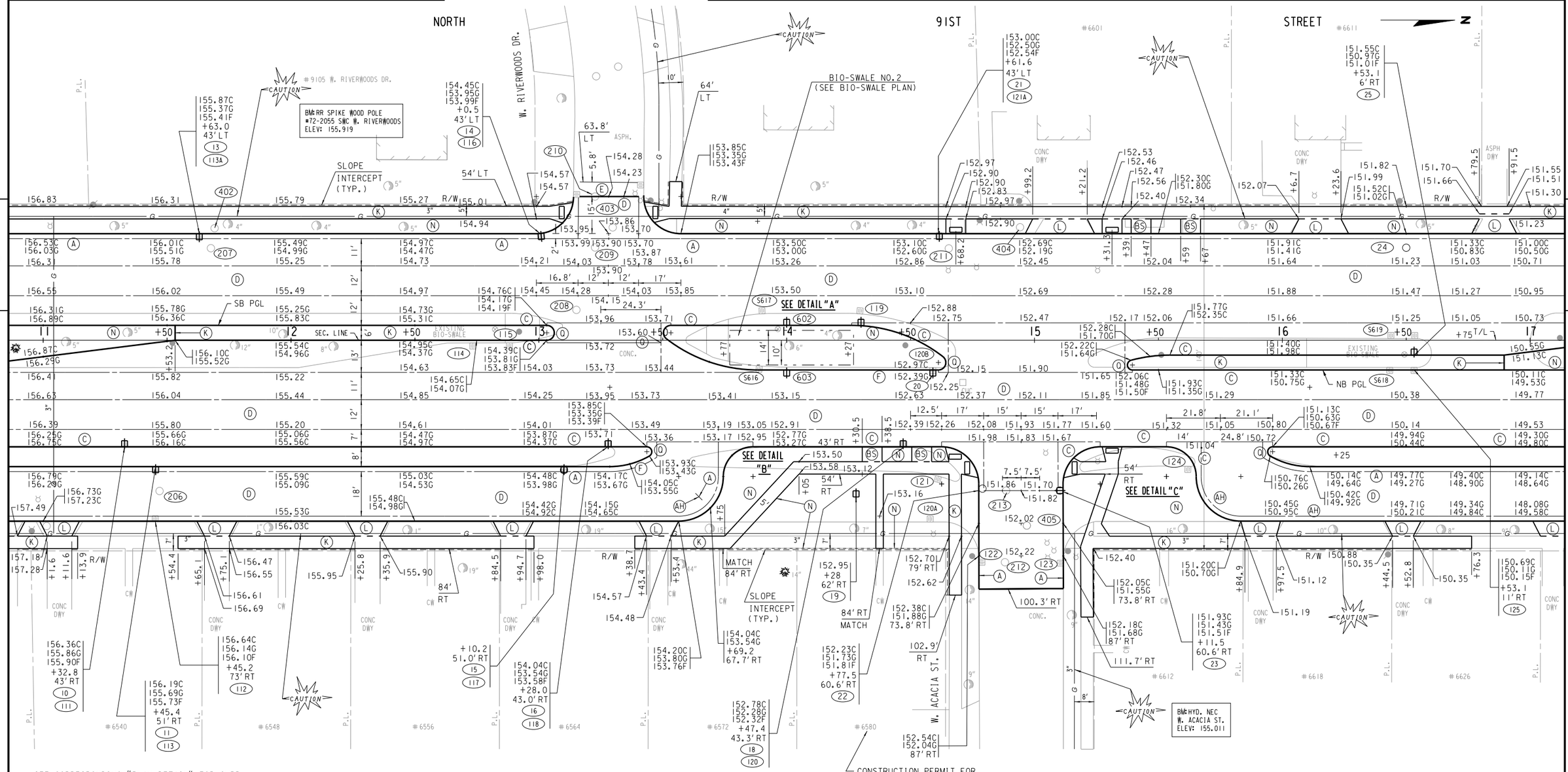
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REVISED DATE: 8-02-2016 BY SB







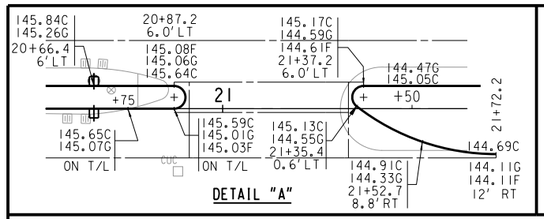


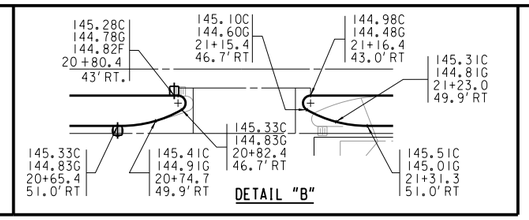
SEE CORRESPONDING "PLAN DETAIL" FOR CURB GEOMETRICS AND JOINT LINE LOCATIONS

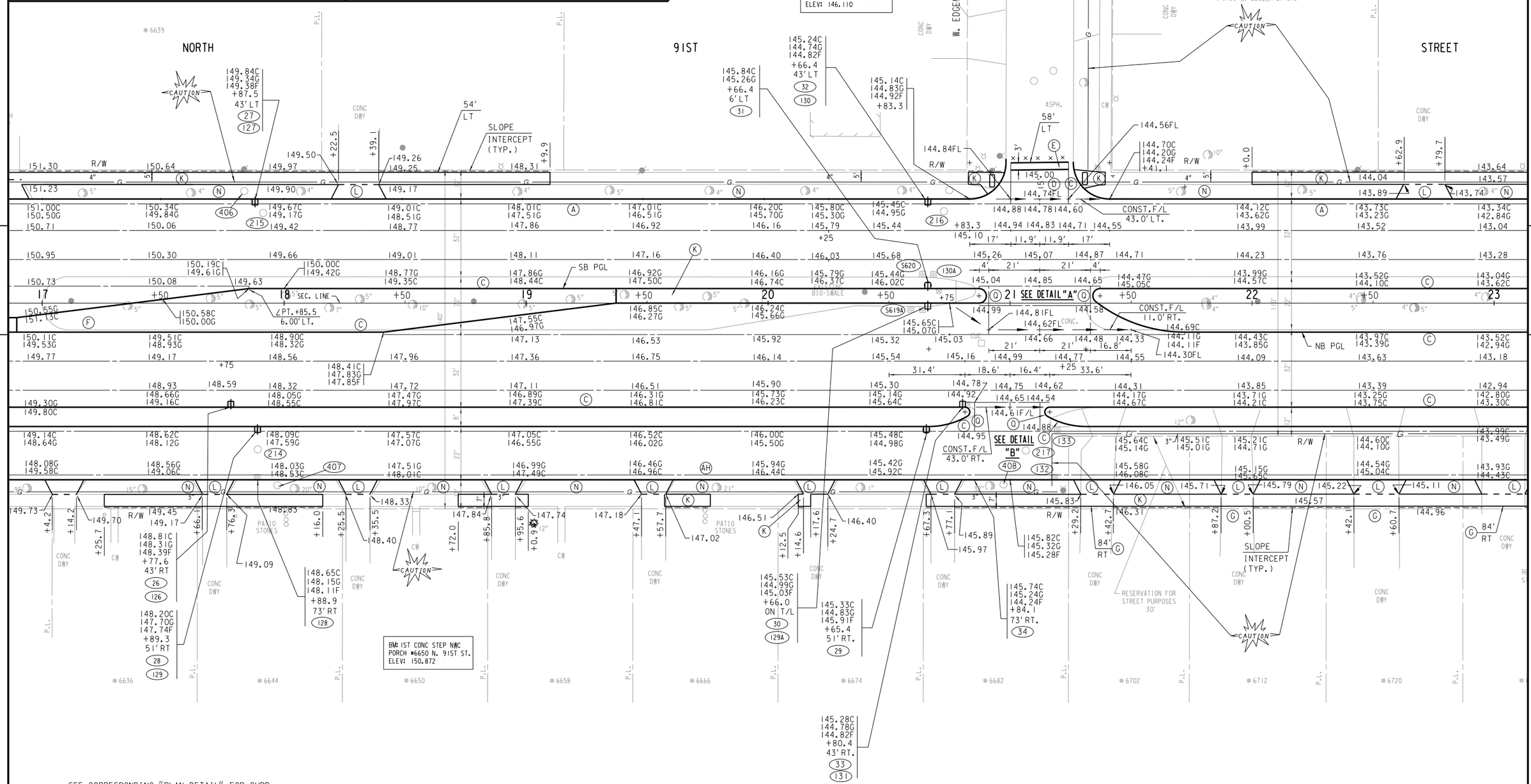
STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0' 40'	SHEET NO: 178 E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\11_17.DGN

REVISED DATE: 8-29-2016 BY SB





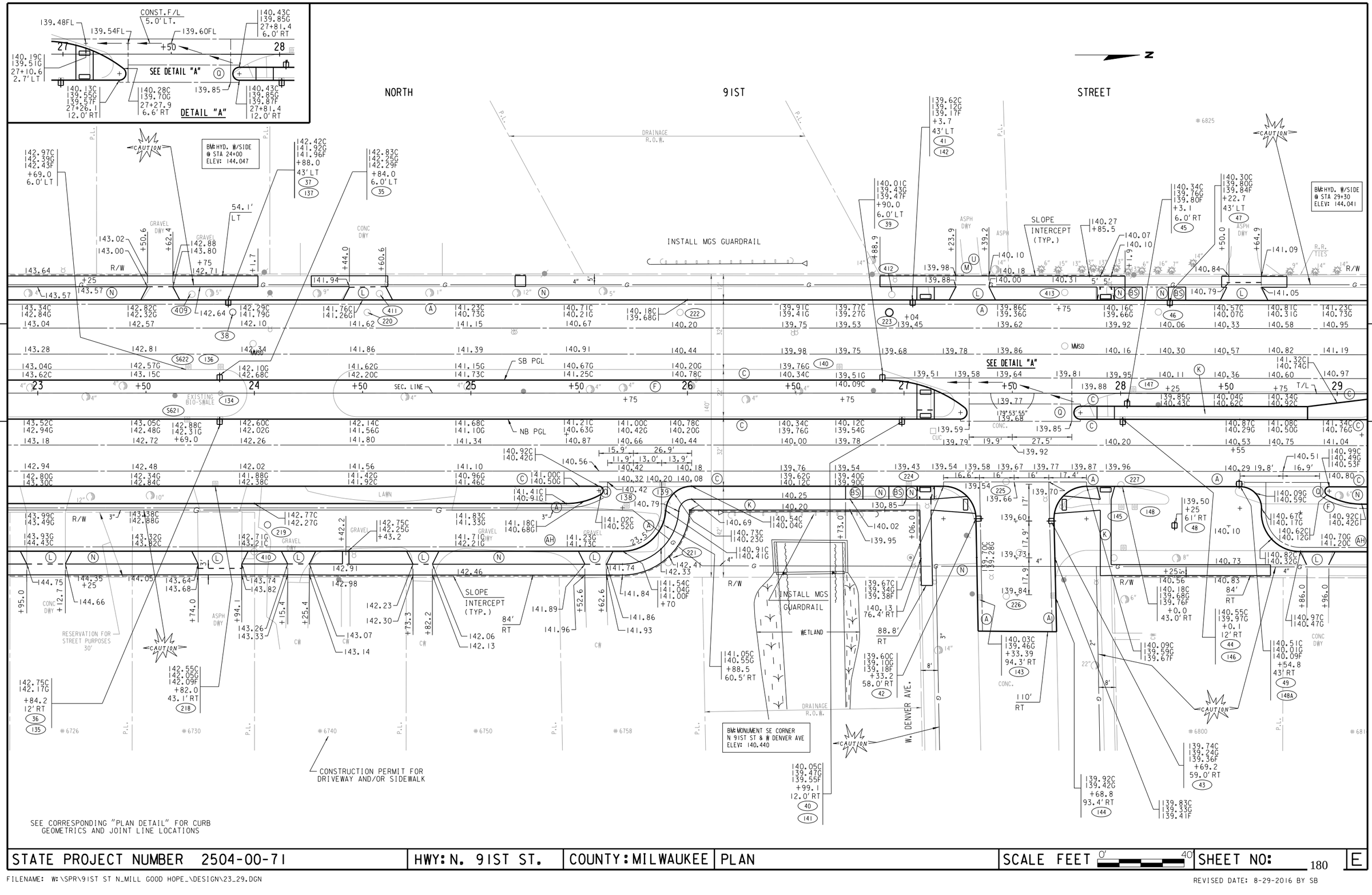


SEE CORRESPONDING "PLAN DETAIL" FOR CURB GEOMETRICS AND JOINT LINE LOCATIONS

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0' 40'	SHEET NO: 179	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\17_23.DGN

REVISED DATE: 8-02-2016 BY SB



STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0' 40	SHEET NO: 180	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\23_29.DGN

REVISED DATE: 8-29-2016 BY SB

NORTH 91ST STREET

N

BM: HYD. W/SIDE @ STA 29+30 ELEV: 144.041

BM: RR SPIKE WOOD POLE #81-04937 W/SIDE STA 31+90 ELEV: 146.088

BM: RR SPIKE WOOD POLE #81-04936 W/SIDE STA 34+15 ELEV: 151.342

BIO-SWALE NO.3 (SEE BIO-SWALE PLAN)

BIO-SWALE NO.4 (SEE BIO-SWALE PLAN)

SLOPE INTERCEPT (TYP.)

54.0' LT

84.0' RT

54.0' RT

SB PGL

NB PGL

SEC. LINE

EXISTING BIO-SWALE

CONST. F/L 6.0' LT.

CONST. F/L 43.0' RT.

W. CHEYENNE CT.

CAUTION

SEE CORRESPONDING "PLAN DETAIL" FOR CURB GEOMETRICS AND JOINT LINE LOCATIONS

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0' 40'	SHEET NO: 181	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\29_35.DGN

REVISED DATE: 8-02-2016 BY SB

N

NORTH 91ST STREET

6919 # 6927 # 6945 # 6955 # 6965 # 6975

BM:RR SPIKE WOOD POLE #81-04934 W/SIDE STA 37+00 ELEV: 157.612

BM:RR SPIKE WOOD POLE #-------- W/SIDE STA 40+50 ELEV: 156.377

CAUTION

CONC DWY

ASPH DWY

GRAVEL DWY

STONE

SLOPE INTERCEPT (TYP.)

54' RT

54.0' LT

R/W

SB PGL

NB PGL

MMSD

EXISTING BIO-SWALE

CONC.

CUC

SEC. LINE

T/L

CONST. F/L 43.0' RT.

W. DALLAS ST.

#9011 W. DALLAS ST.

#9014 W. DALLAS ST.

35 36 37 38 39 40 41

SEE CORRESPONDING "PLAN DETAIL" FOR CURB GEOMETRICS AND JOINT LINE LOCATIONS

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0' 40'	SHEET NO: 182	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\35_41.DGN

REVISED DATE: 8-30-2016 BY SB

NORTH 91ST STREET

N

7011 # 7019 # 7025 # 7031 # 7059 # 7101-03

CAUTION CAUTION

P.L.

BM: RR SPIKE WOOD POLE
#93-10345 W/SIDE STA 43+00
ELEV: 154.603

BM: RR SPIKE WOOD POLE
#81-04929 W/SIDE STA 45+50
ELEV: 149.409

54.0' LT

SLOPE INTERCEPT (TYP.)

ASPH DWY · CONC DWY · GRAVEL DWY · CW

R/W

SB PGL · NB PGL · SEC. LINE · T/L

EXISTING BIO-SWALE

BIO-SWALE NO.5 (SEE BIO-SWALE PLAN)

BIO-SWALE NO.6 (SEE BIO-SWALE PLAN)

FENCE

54.0' RT

53.9' RT

SEE CORRESPONDING "PLAN DETAIL" FOR CURB GEOMETRICS AND JOINT LINE LOCATIONS

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0' 40'	SHEET NO: 183	E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\41_47.DGN

REVISED DATE: 8-02-2016 BY SB

NORTH

91ST

STREET

N

BM: RR SPIKE WOOD POLE
#81-04927 W/SIDE STA 48+75
ELEV: 145.133

BM: RR SPIKE WOOD POLE
#81-03875 W/SIDE STA 51+50
ELEV: 141.391

SIGNATURE BED NO. 2
(SEE CONSTRUCTION DETAIL)

BIO-SWALE NO.7
(SEE BIO-SWALE PLAN)

SLOPE
INTERCEPT
(TYP.)

CONST.F/L
5.0'LT.

CONST.F/L
43.0'RT.

SB PGL

NB PGL

W. ROCHELLE AVE.

FENCE

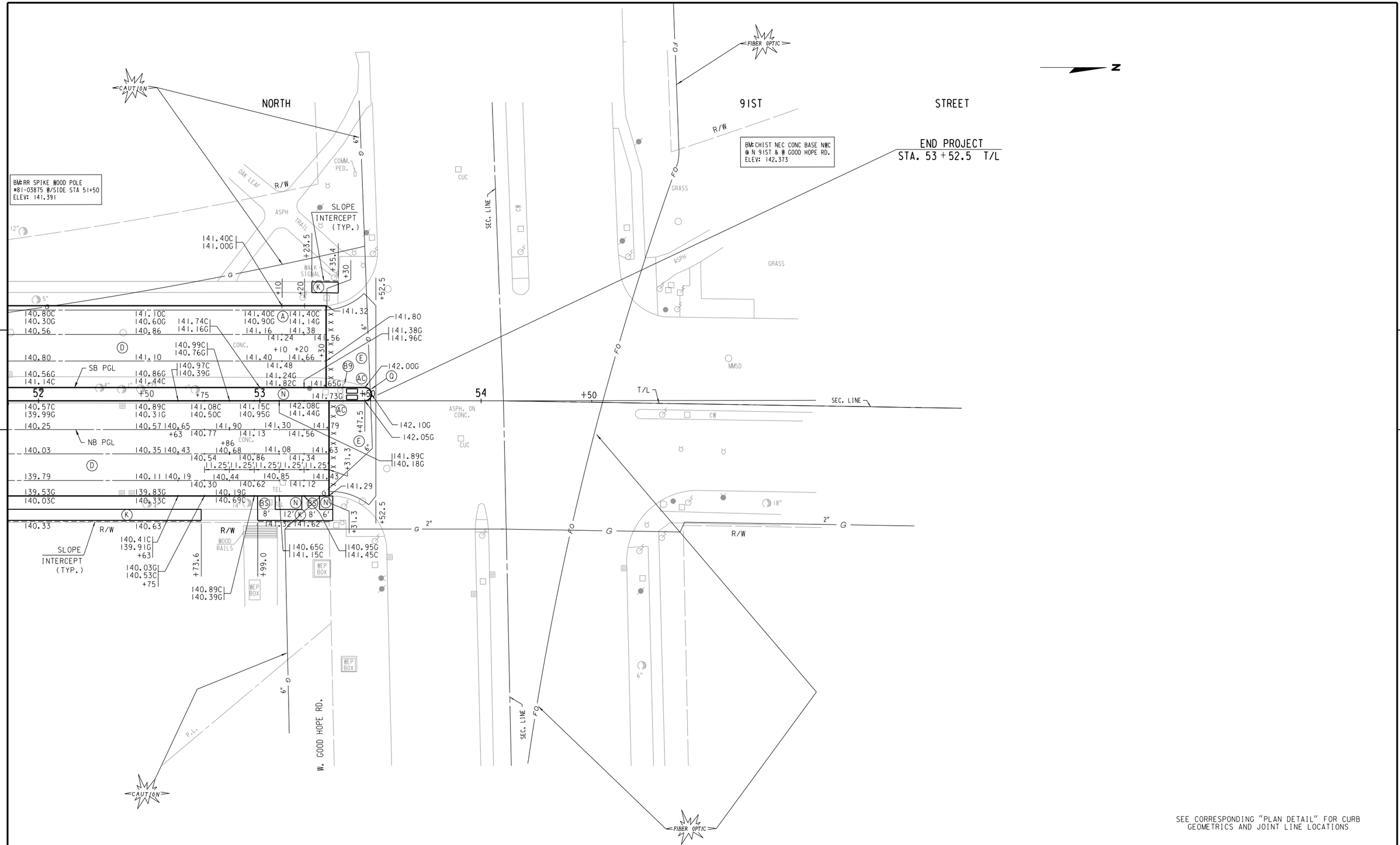
CAUTION

SEE CORRESPONDING "PLAN DETAIL" FOR CURB GEOMETRICS AND JOINT LINE LOCATIONS

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0' 40'	SHEET NO: 184 E

FILENAME: W:\SPR\91ST ST N_MILL GOOD HOPE_\DESIGN\47_53.DGN

REVISED DATE: 8-29-2016 BY SB



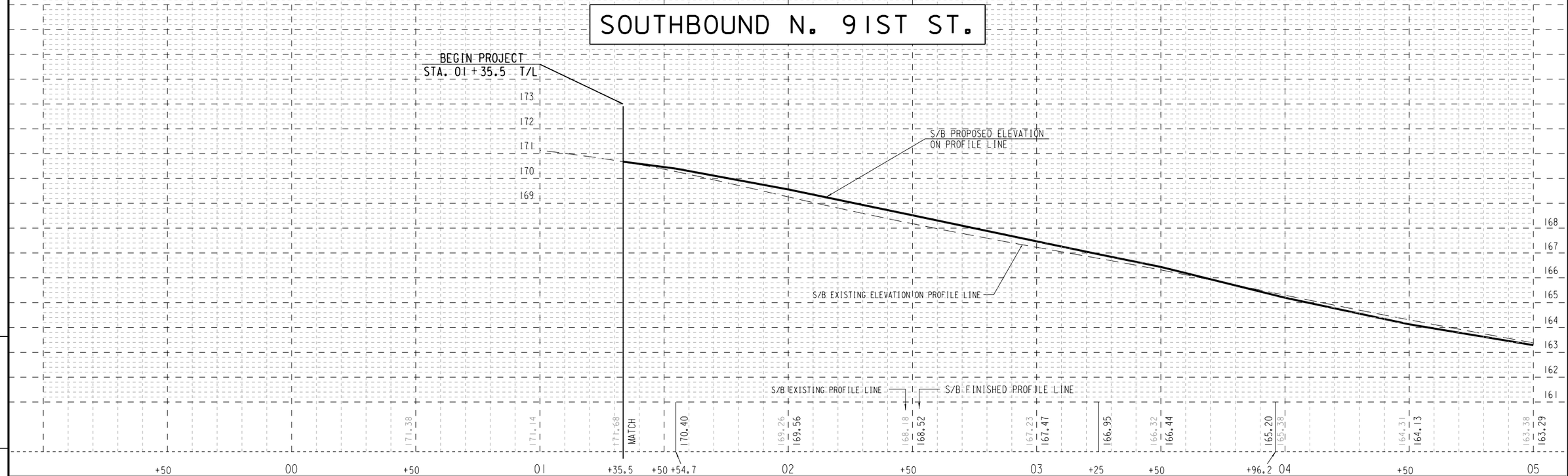
SEE CORRESPONDING "PLAN DETAIL" FOR CURB GEOMETRICS AND JOINT LINE LOCATIONS

STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PLAN	SCALE FEET 0' 40'	SHEET NO: 185	E

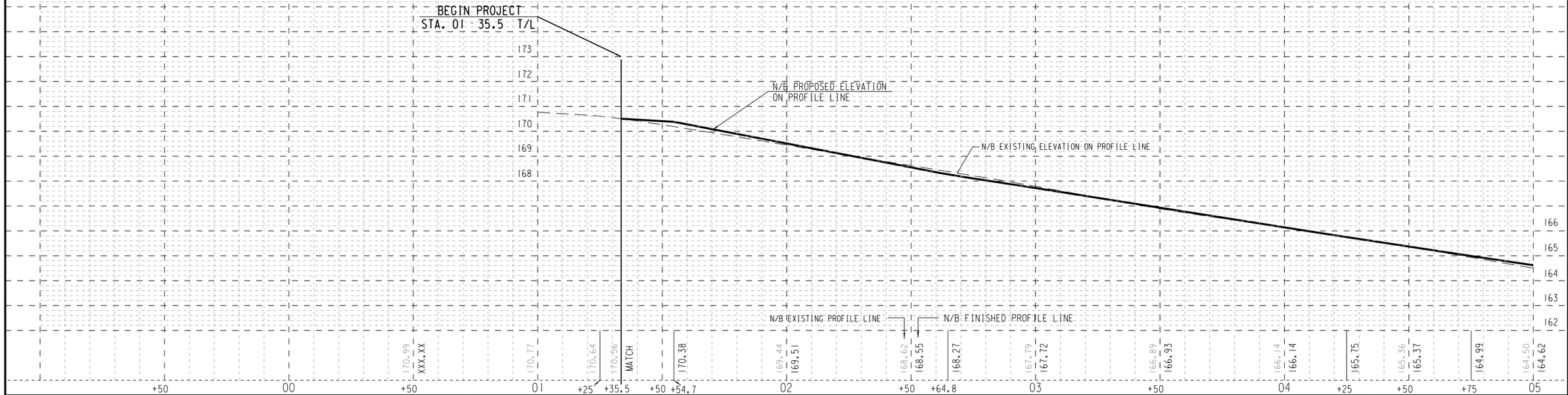
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REVISED DATE: 8-29-2016 BY SB

SOUTHBOUND N. 91ST ST.



NORTHBOUND N. 91ST ST.

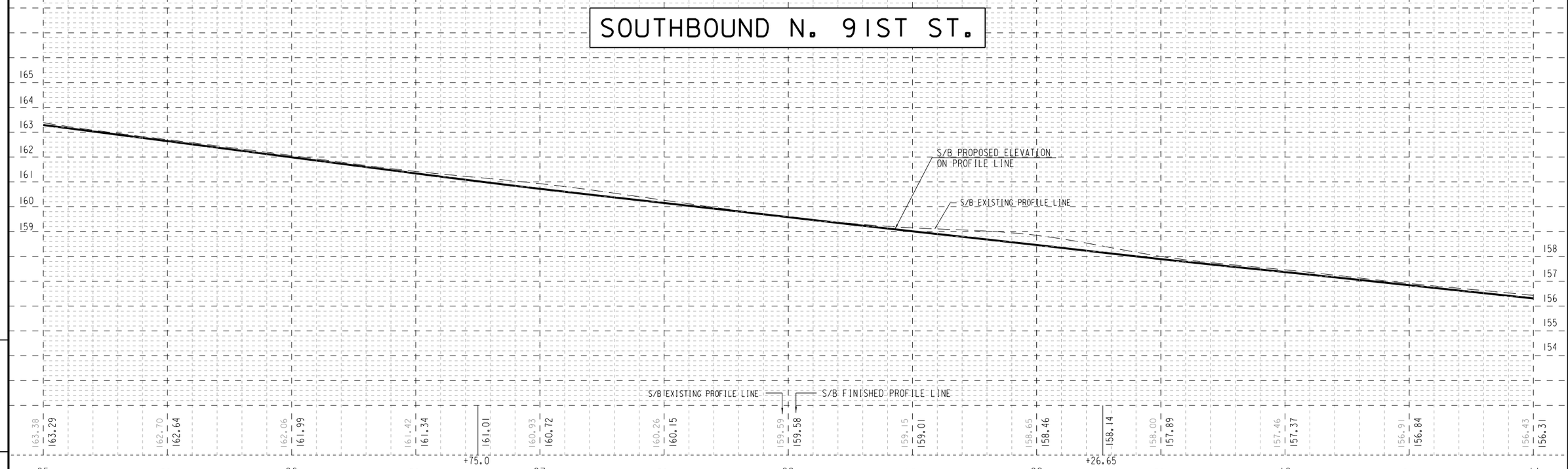


STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PROFILE	SCALE FEET	SHEET NO: 186	E

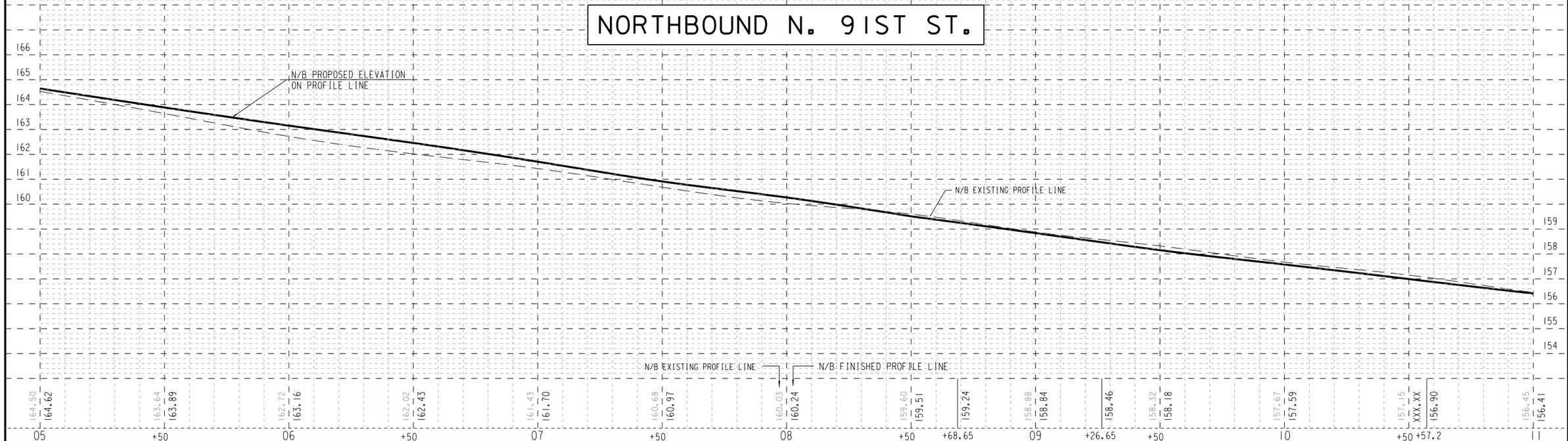
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REVISED DATE: 8-24-2016 BY SB

SOUTHBOUND N. 91ST ST.



NORTHBOUND N. 91ST ST.

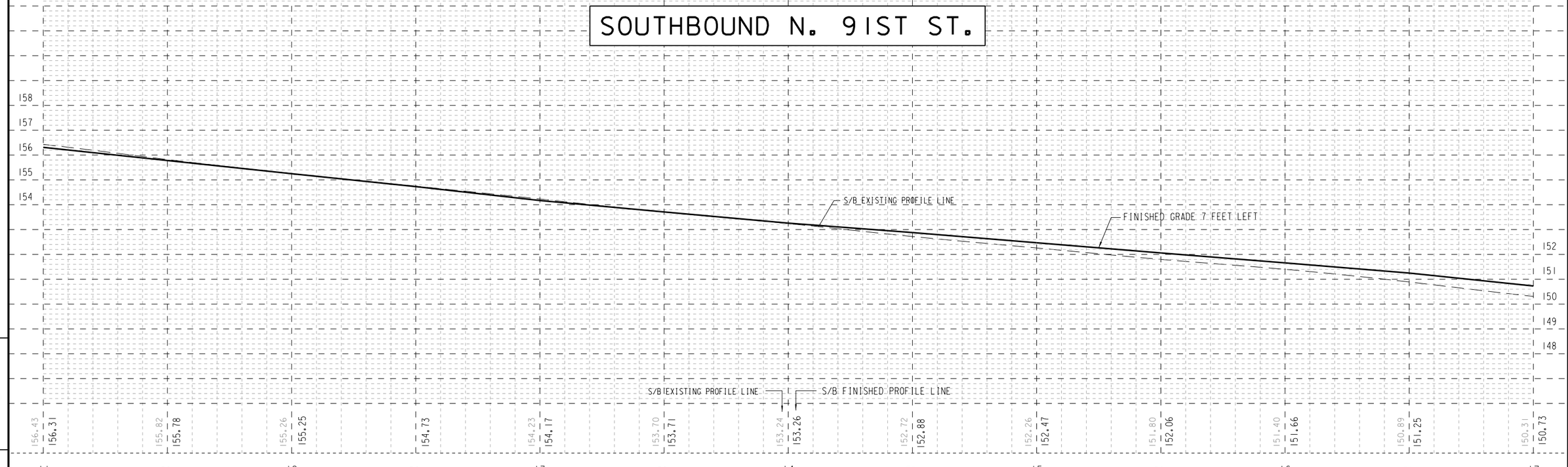


STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PROFILE	SCALE FEET	SHEET NO: 187 E

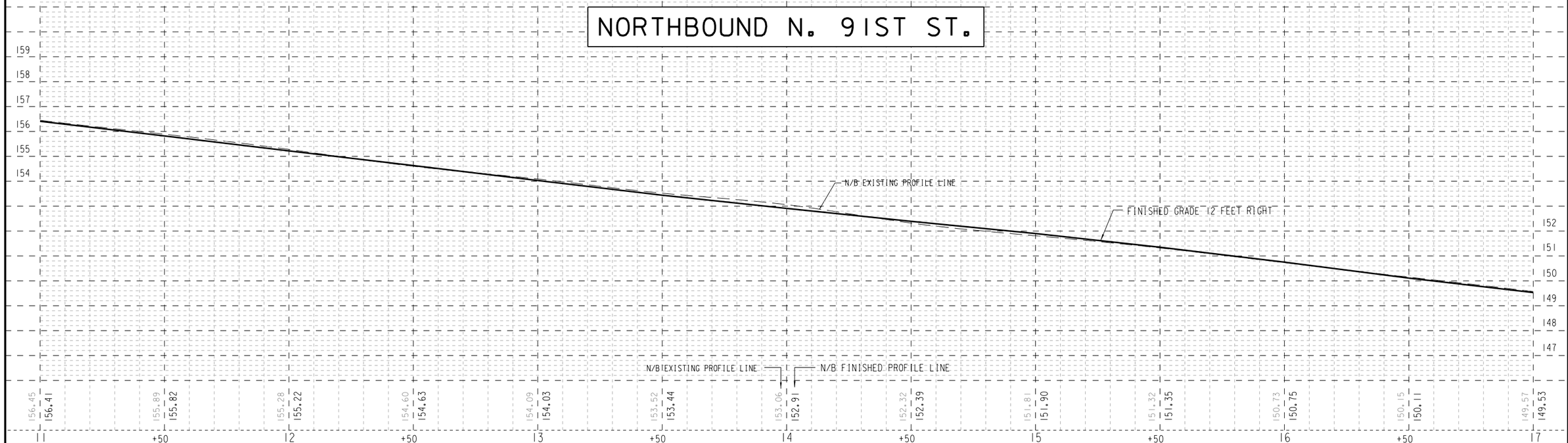
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REVISED DATE: 6-30-2016 BY SB

SOUTHBOUND N. 91ST ST.



NORTHBOUND N. 91ST ST.

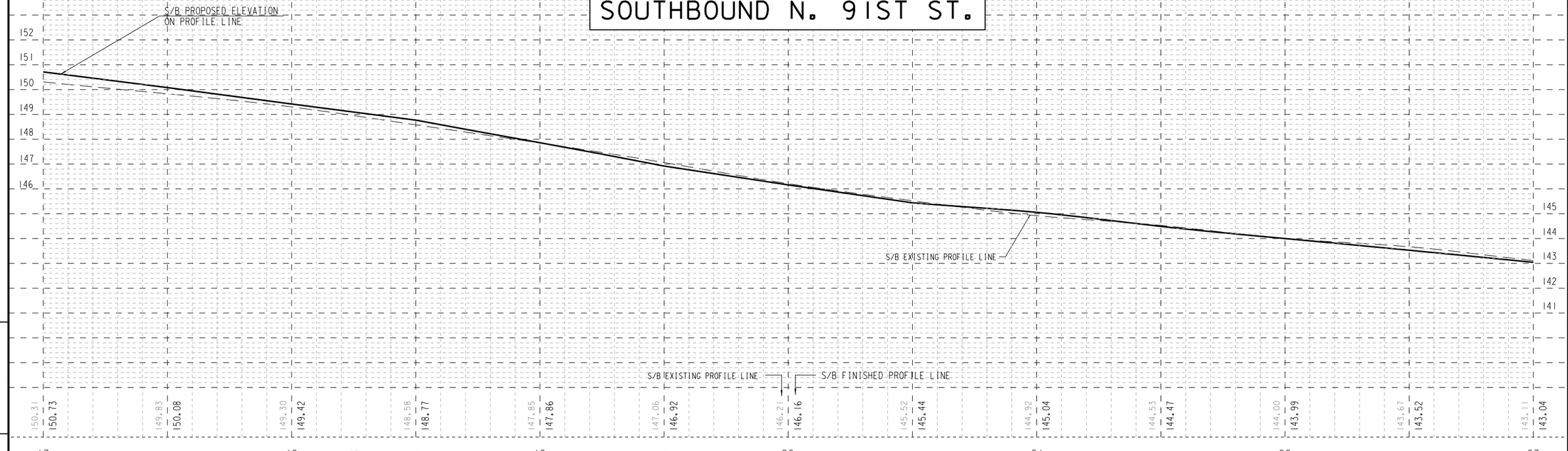


STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PROFILE	SCALE FEET	SHEET NO: 188 E

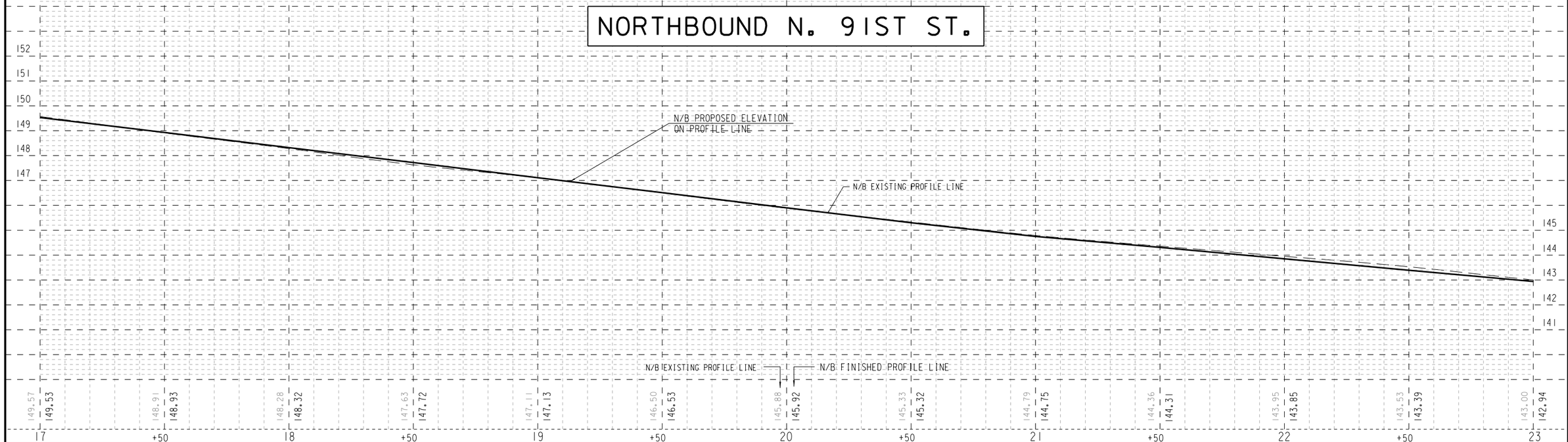
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REVISED DATE: 6-30-2016 BY SB

SOUTHBOUND N. 91ST ST.



NORTHBOUND N. 91ST ST.

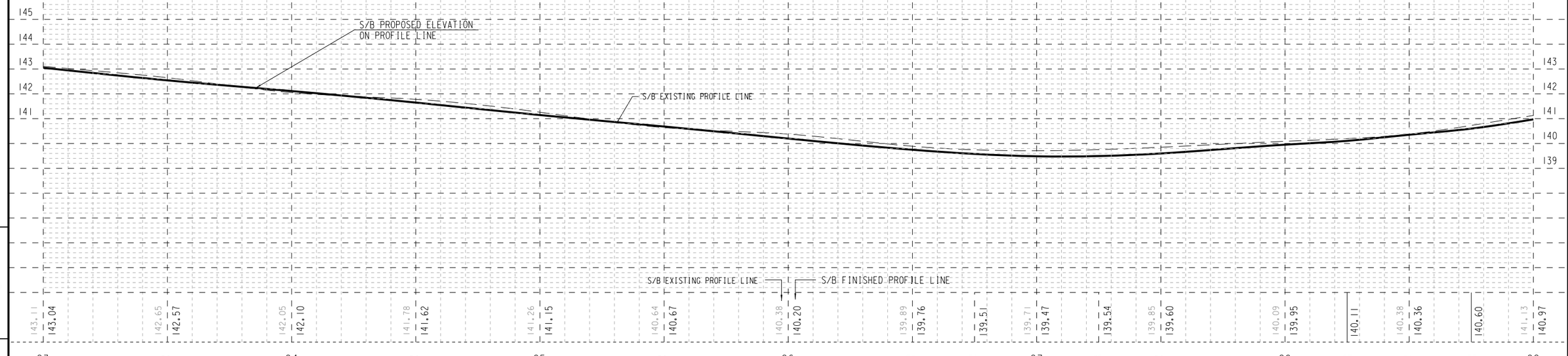


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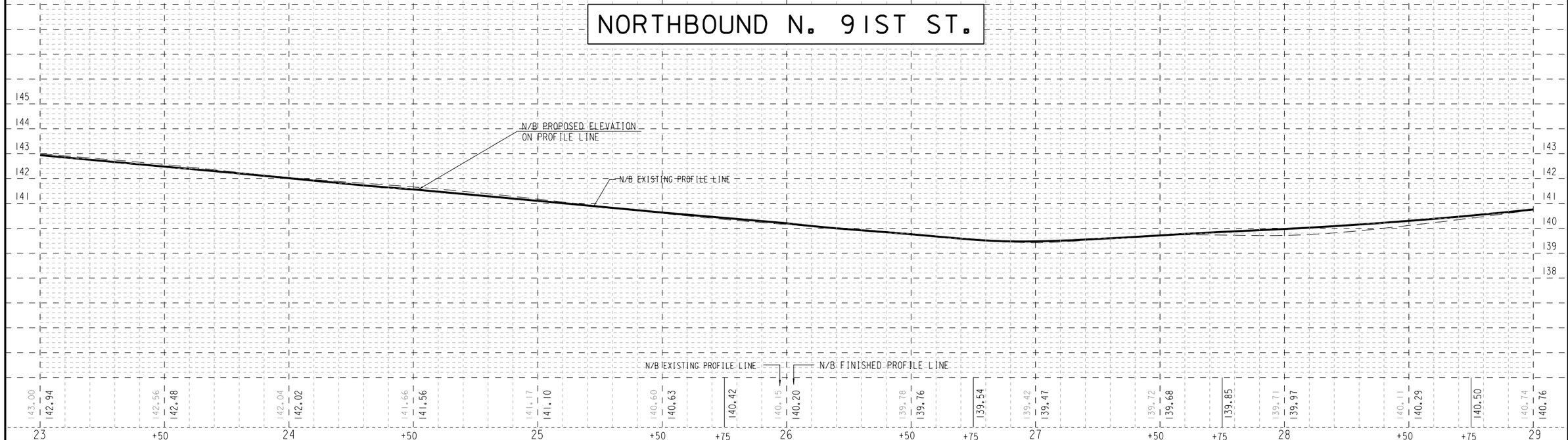
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REVISED DATE: 6-30-2016 BY SB

SOUTHBOUND N. 91ST ST.



NORTHBOUND N. 91ST ST.

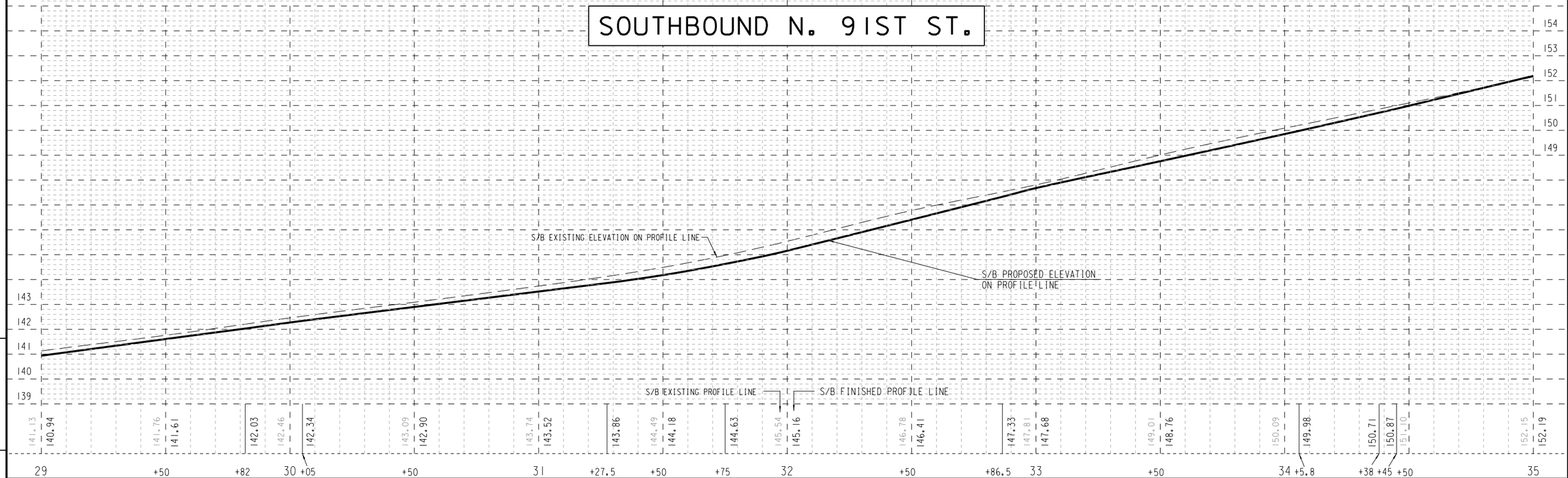


STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PROFILE	SCALE FEET	SHEET NO: 190	E

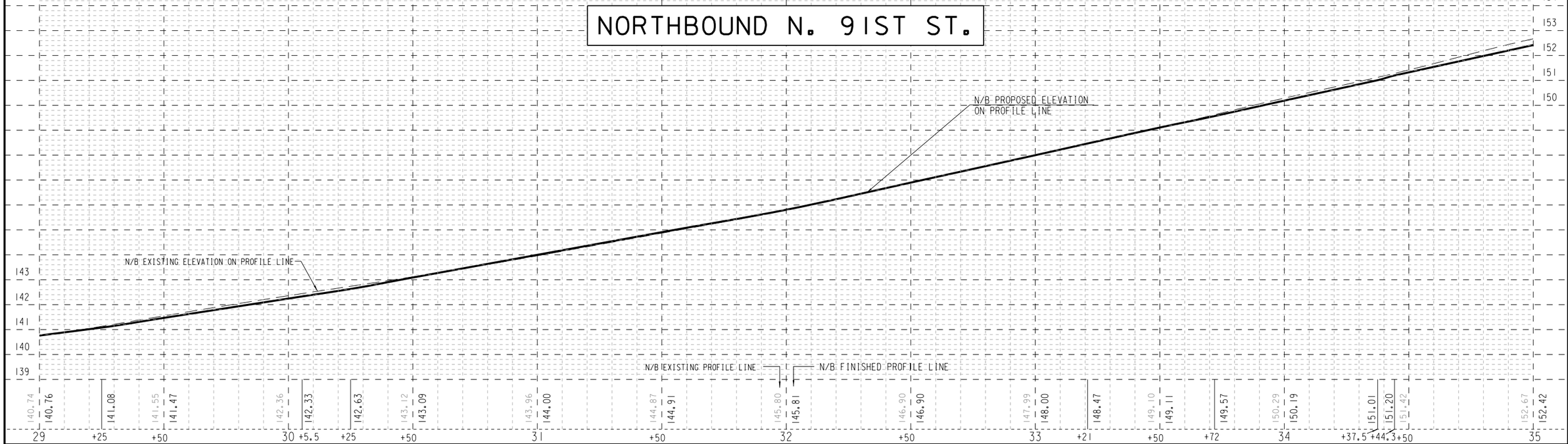
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REVISED DATE: 8-29-2016 BY SB

SOUTHBOUND N. 91ST ST.



NORTHBOUND N. 91ST ST.

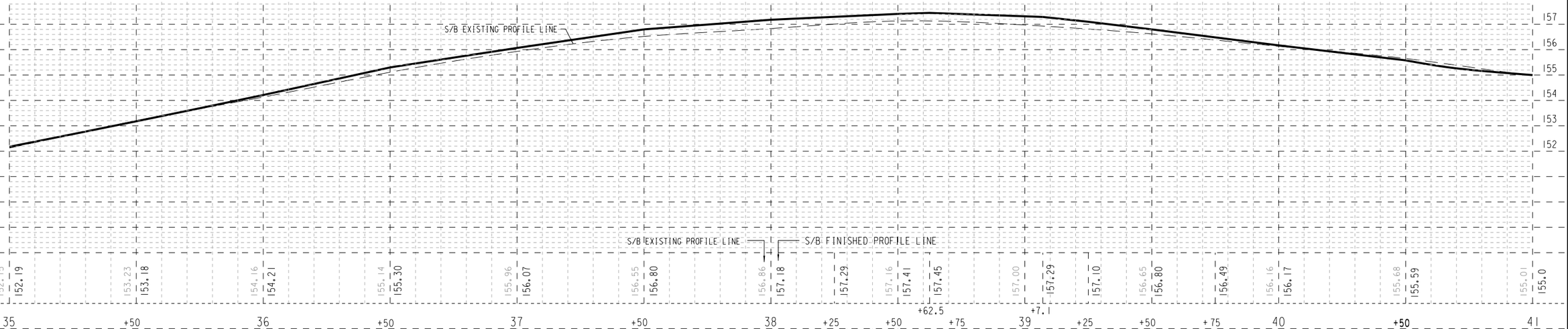


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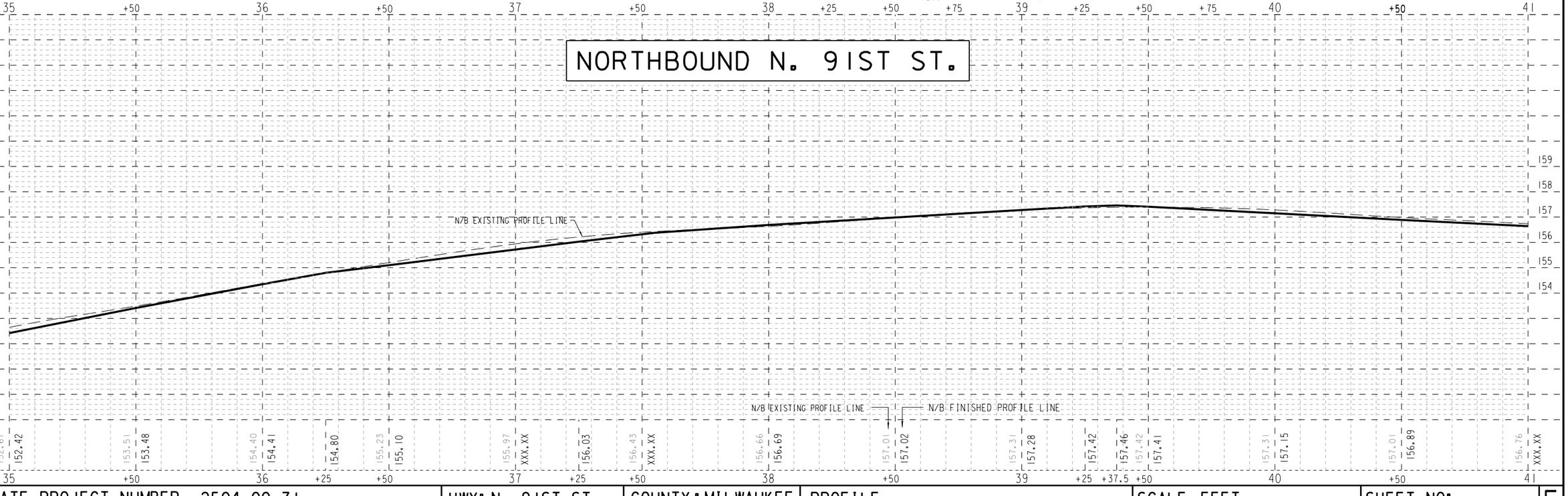
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REVISED DATE: 6-30-2016 BY SB

SOUTHBOUND N. 91ST ST.



NORTHBOUND N. 91ST ST.

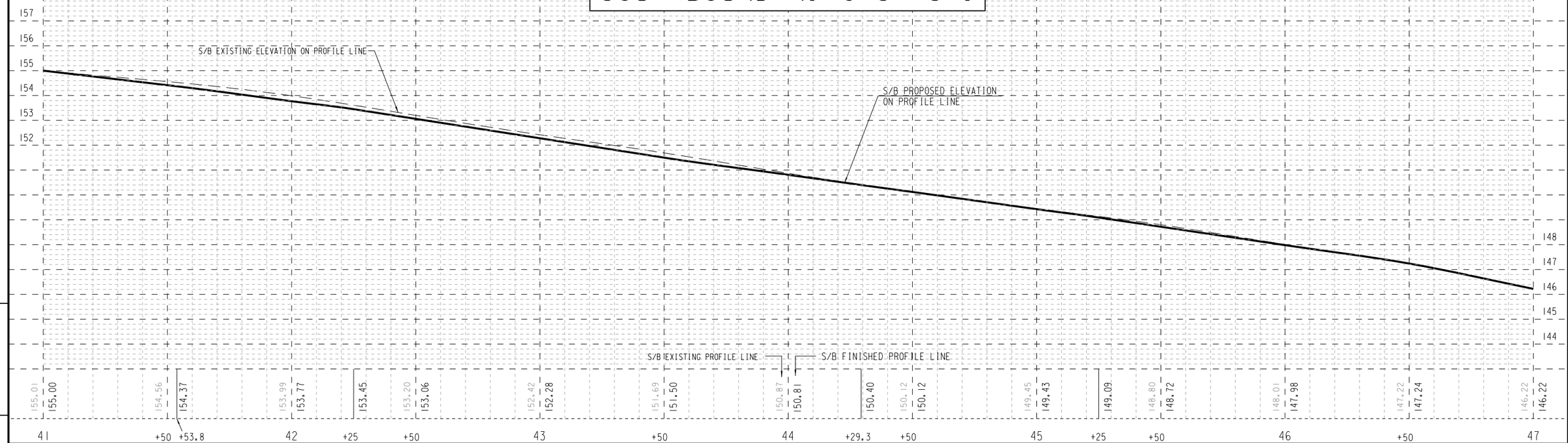


STATE PROJECT NUMBER 2504-00-71	HWY: N. 91ST ST.	COUNTY: MILWAUKEE	PROFILE	SCALE FEET	SHEET NO: 192	E

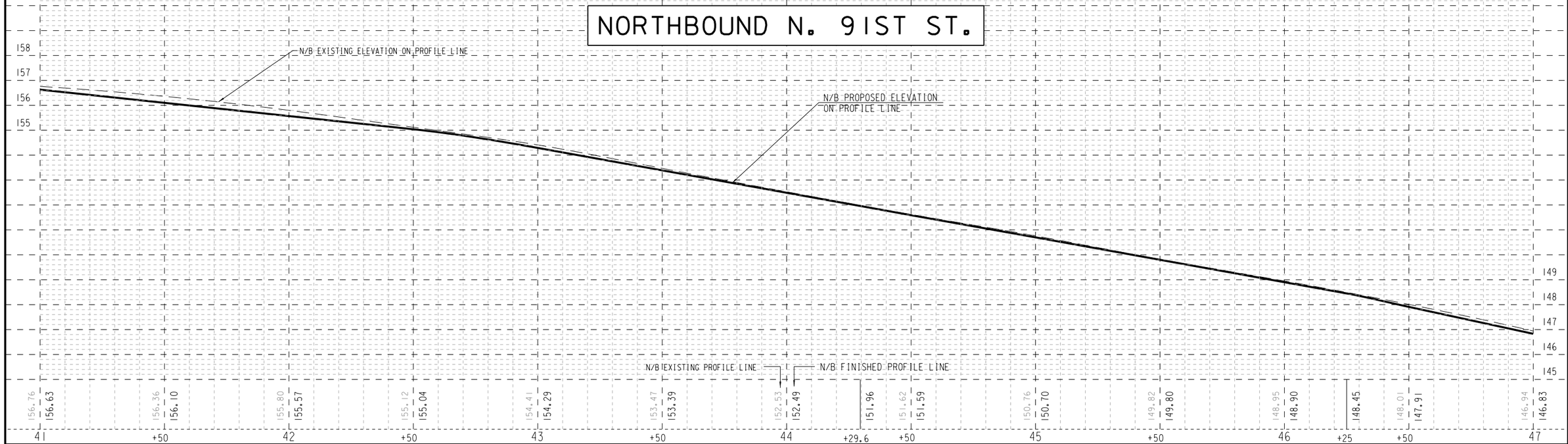
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REVISED DATE: 8-30-2016 BY SB

SOUTHBOUND N. 91ST ST.



NORTHBOUND N. 91ST ST.

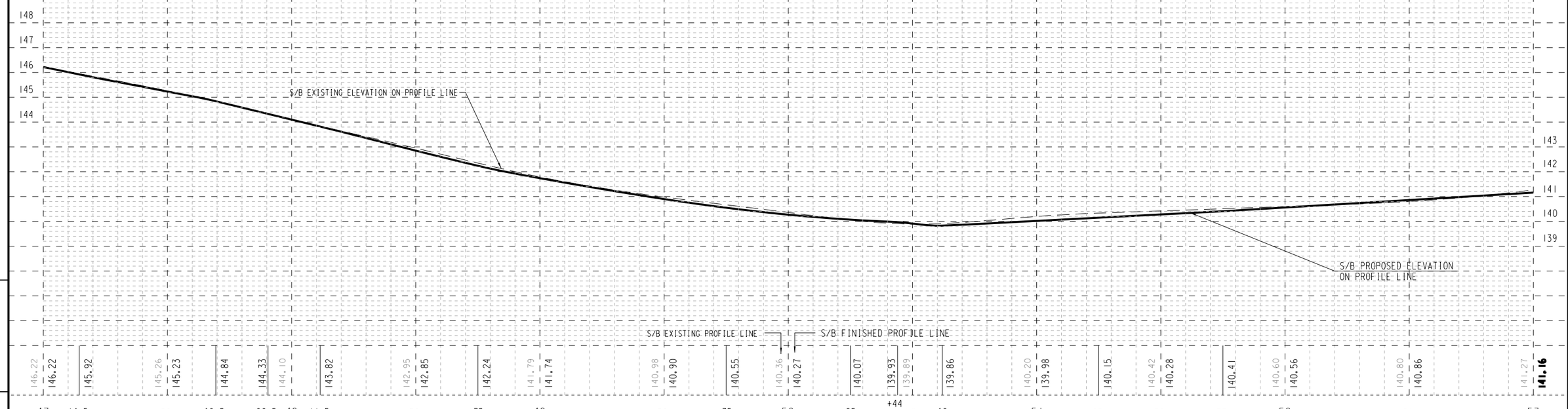


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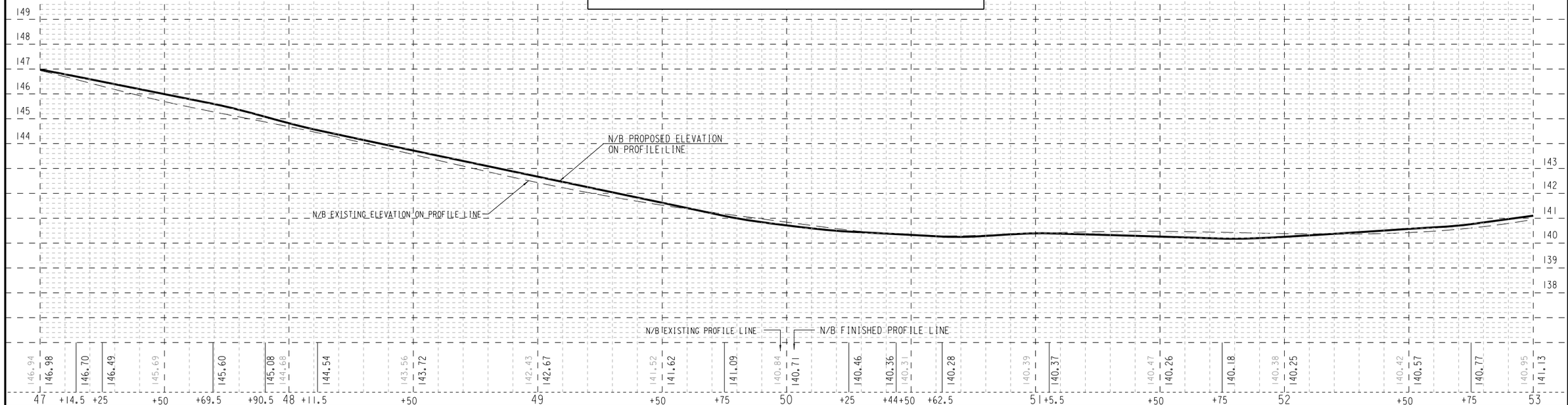
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REVISED DATE: 6-30-2016 BY SB

SOUTHBOUND N. 91ST ST.



NORTHBOUND N. 91ST ST.

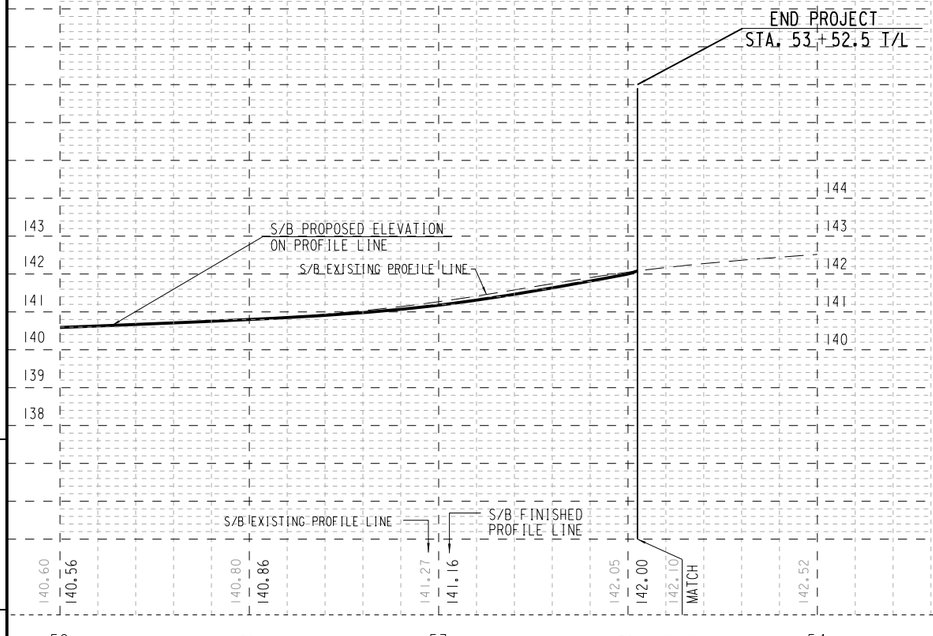


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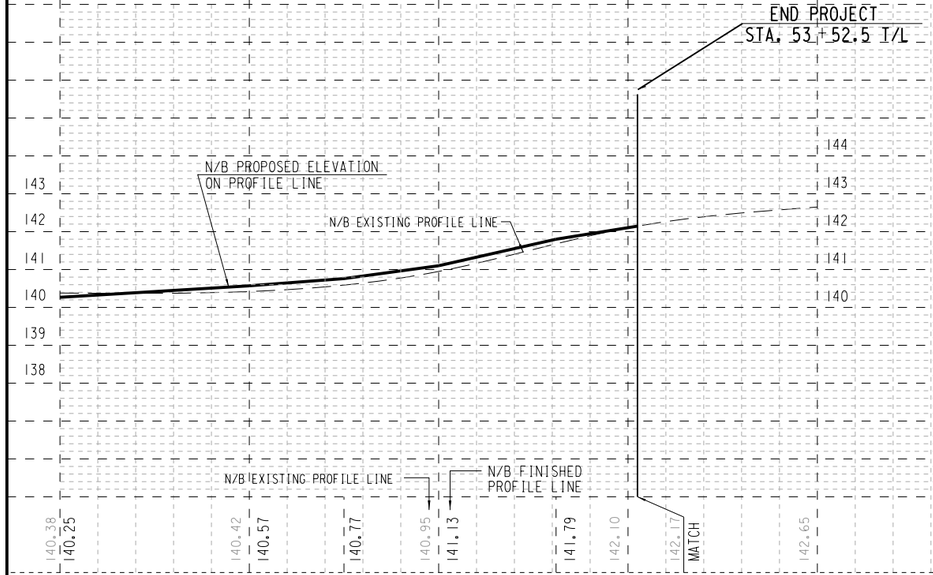
REVISED DATE: 8 -29 -2016 BY SB

SOUTHBOUND N. 9IST ST.



52 +50 53 +50 +52.5 54 +50 55 +50 +50 +50

NORTHBOUND N. 9IST ST.



52 +50 +75 53 +31 +50 +52.5 54 +50 55 +50 +50 +50

STATE PROJECT NUMBER 2504-00-71	HWY: N. 9IST ST.	COUNTY: MILWAUKEE	PROFILE	SCALE FEET	SHEET NO: 195	E

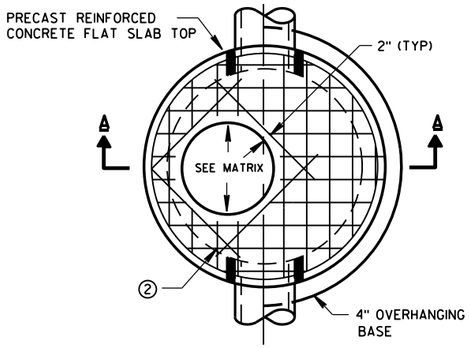
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REVISED DATE: 8-29-2016 BY SB

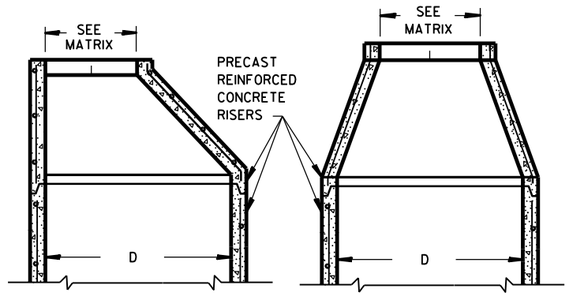
Standard Detail Drawing List

08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-19	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D05-17A	CURB RAMPS TYPES 1 AND 1-A
08D05-17B	CURB RAMPS TYPES 2 AND 3
08D05-17C	CURB RAMPS TYPES 4A AND 4A1
08D05-17D	CURB RAMPS TYPE 4B AND 4B1
08D05-17E	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
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
11B02-02	CONCRETE MEDIAN NOSE
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C15-06A	CONCRETE BASE
13C15-06B	CONCRETE BASE
13C18-03A	CONCRETE PAVEMENT JOINTING
13C18-03B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-03C	CONCRETE PAVEMENT JOINT TIES
13C18-03D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14A02-01	TREE PLANTING DETAIL
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-03	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-13B	PAVEMENT MARKING WORDS
15C07-13C	PAVEMENT MARKING ARROWS
15C07-13E	PAVEMENT MARKING FOR BIKE LANES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C11-06	FLEXIBLE TUBULAR MARKER POST
15C33-02	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D23-04	TRAFFIC CONTROL, INTERSECTION WITHIN TWO LANE CLOSURE
15D30-03A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-03B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-03C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
16A01-06	LANDMARK REFERENCE MONUMENTS AND COVERS

6

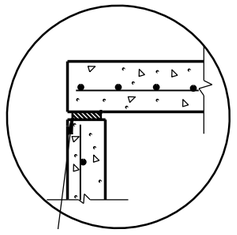


PLAN VIEW CIRCULAR OPENING

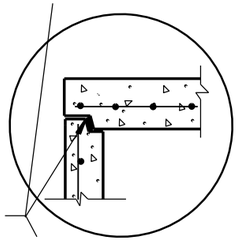


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

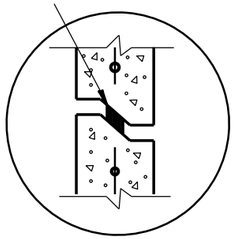


TOP WITH PLAIN END JOINT



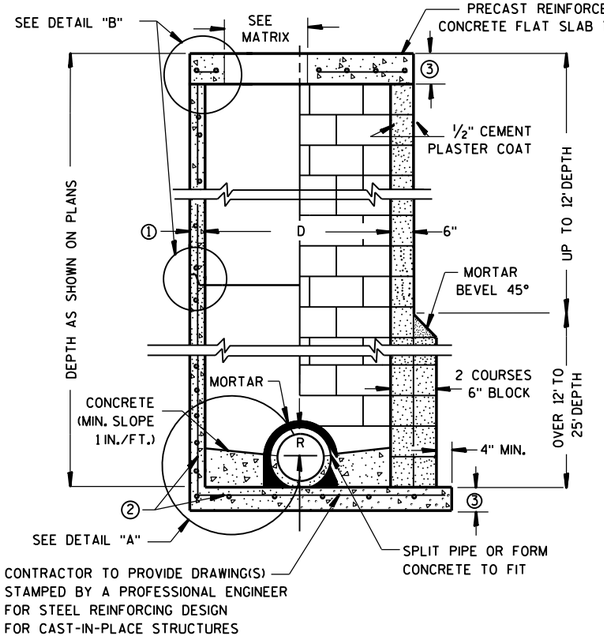
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



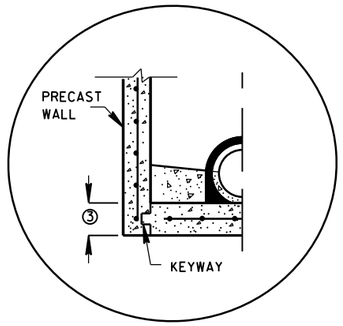
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

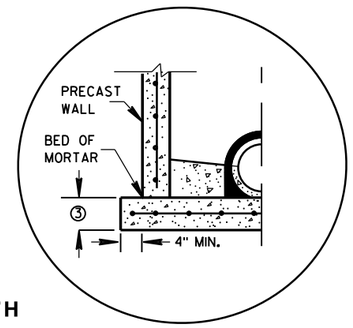


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

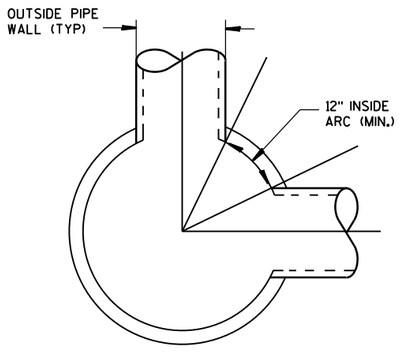


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

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 MANHOLE 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 GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

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 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

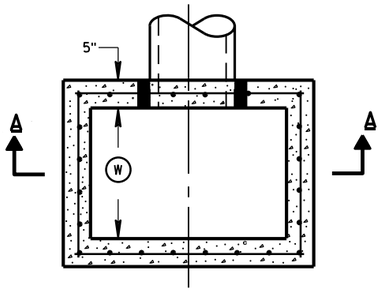
MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

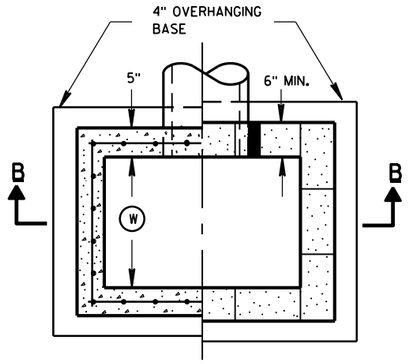
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

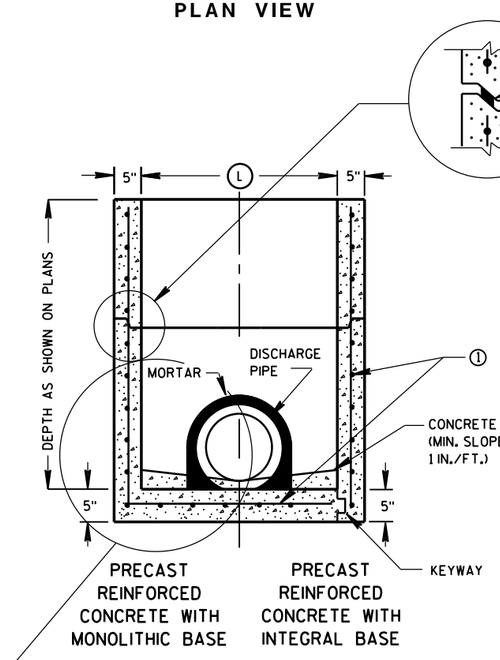
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S.D.D. 8 B 9-1



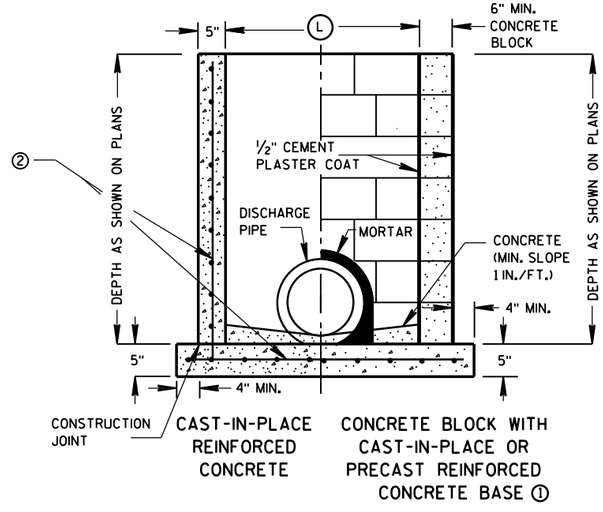
PLAN VIEW



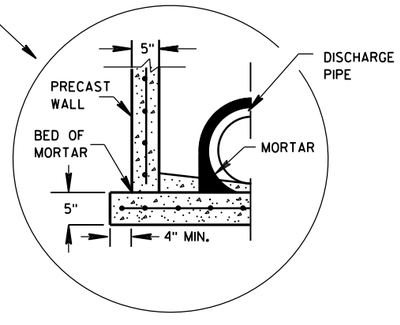
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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 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 GRANULAR 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.

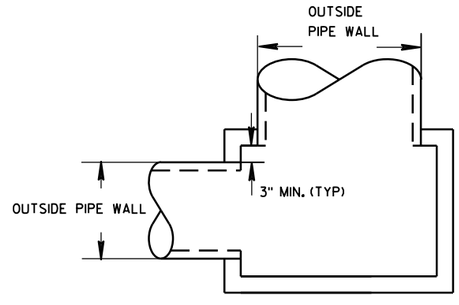
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

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



DETAIL "A"

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

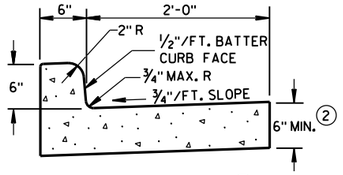
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
FHWA

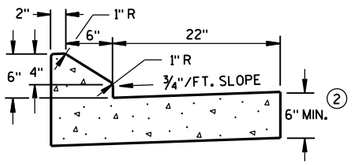
/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

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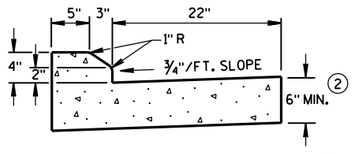
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TYPES A & D ①

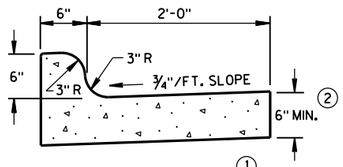


6" SLOPED CURB TYPES G & J ①

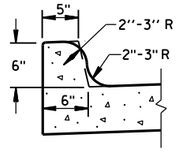


4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

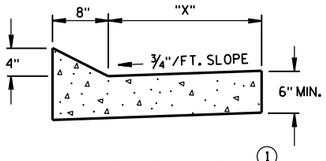


TYPES K & L ①



OPTIONAL CURB SHAPE FOR TYPES K & L ①

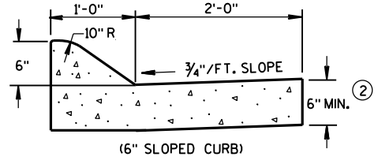
CONCRETE CURB & GUTTER 30"



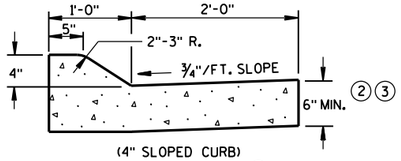
TYPES TBT & TBTT ①

CONCRETE CURB & GUTTER

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

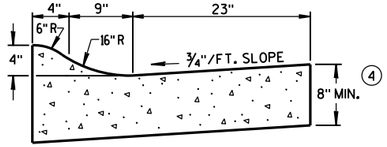


(6" SLOPED CURB)



(4" SLOPED CURB)

TYPES A & D ①



4" SLOPED CURB TYPES R & T ①⑤

CONCRETE CURB & GUTTER 36"

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 AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

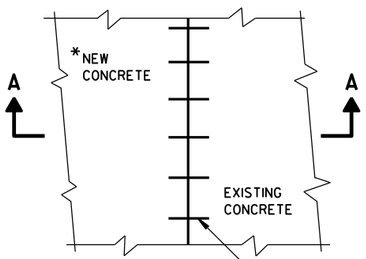
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

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.

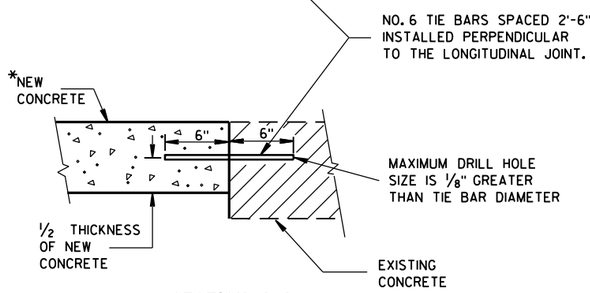
⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



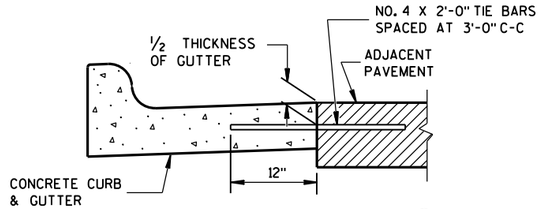
PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

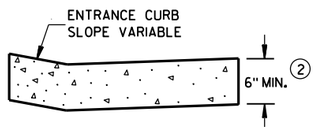


SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT

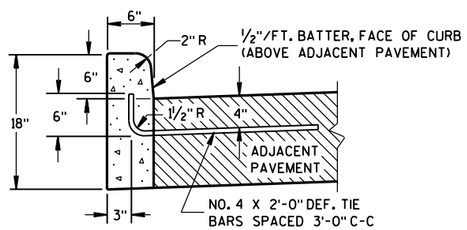


TYPICAL TIE BAR LOCATION ①

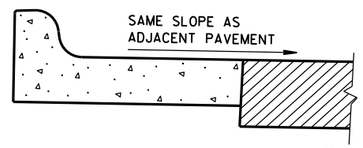


DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)

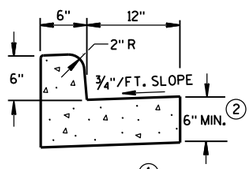


① TYPES A & D



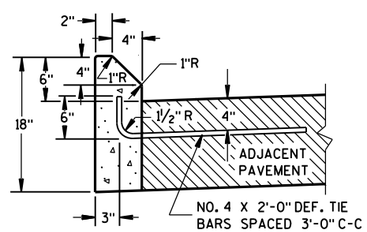
⑥ REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)



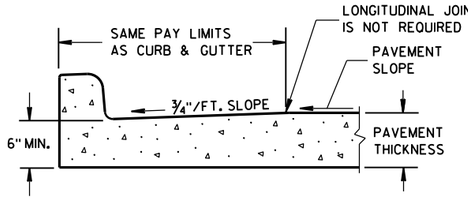
① TYPES A & D

CONCRETE CURB & GUTTER 18"

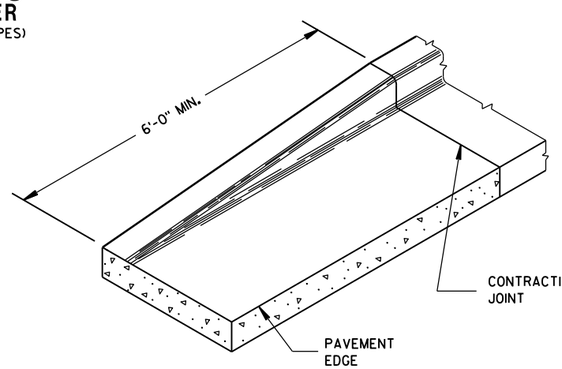


① TYPES G & J

CONCRETE CURB



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

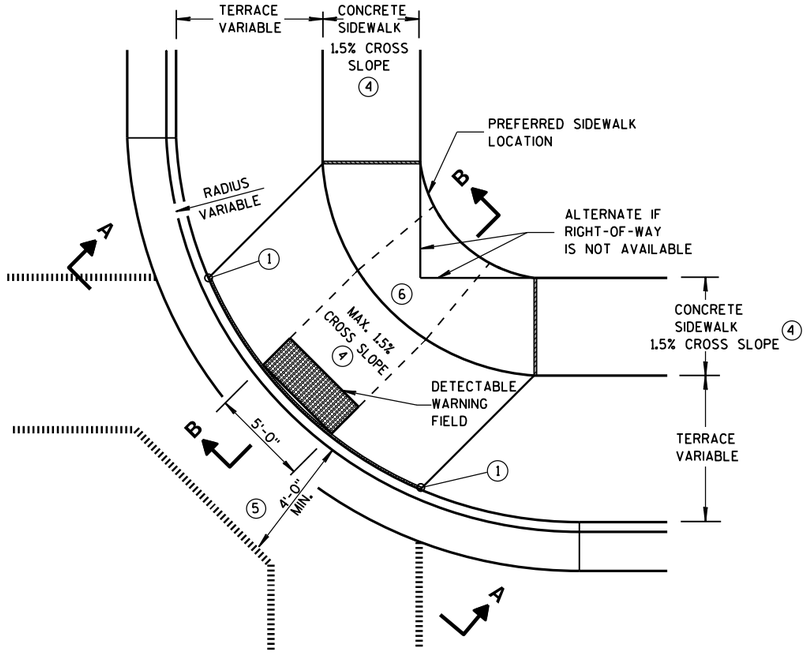
June, 2016 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

6

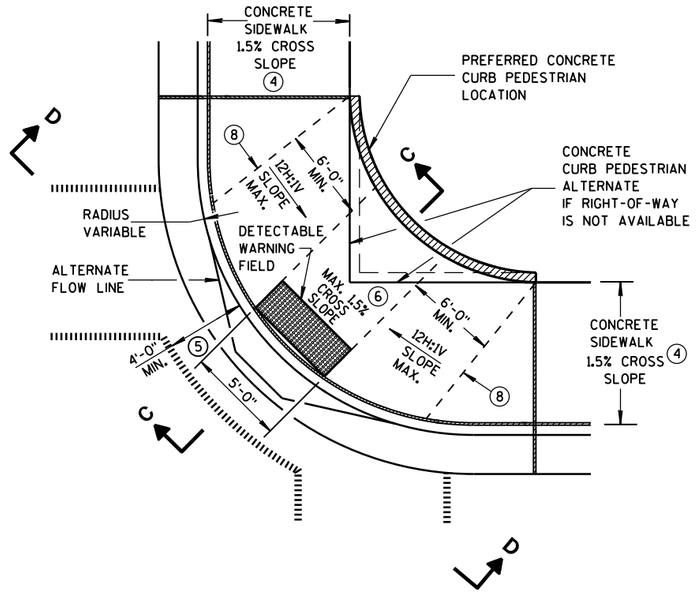
S.D.D. 8 D 1-19



PLAN VIEW

TYPE 1 RAMP

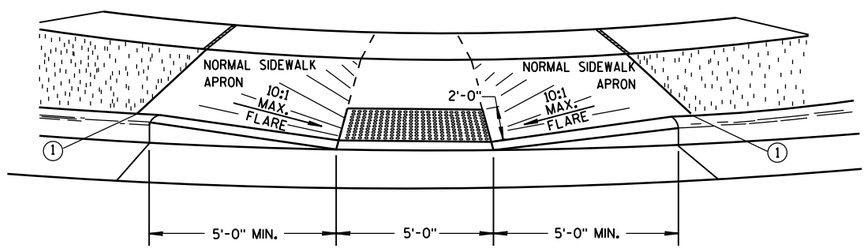
(CENTER OF CORNER RADIUS)



PLAN VIEW

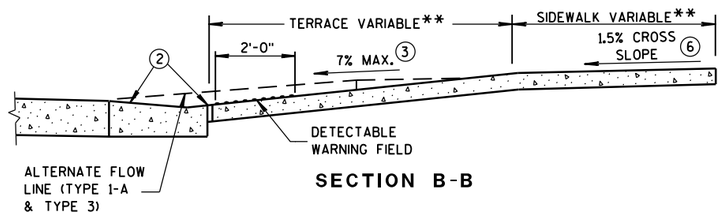
TYPE 1-A RAMP

(NO TERRACE)

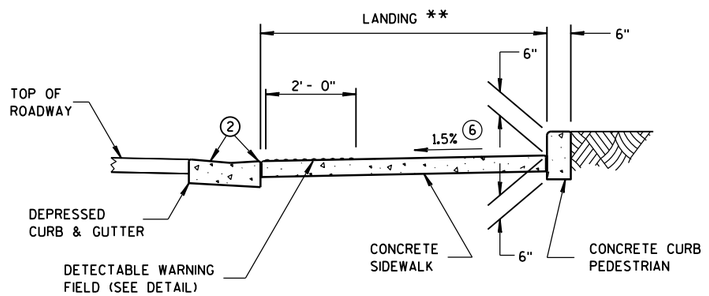


VIEW A-A

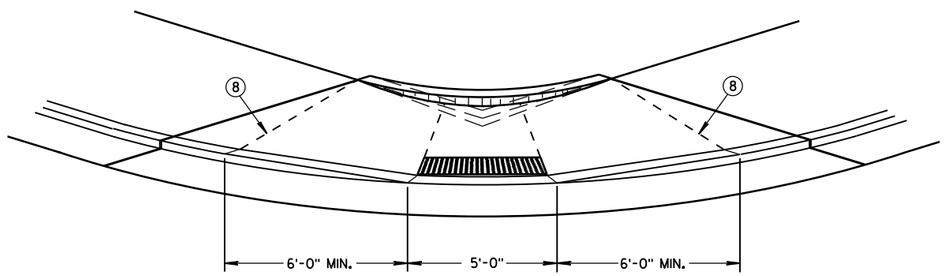
** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



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.

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. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

(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 NOT EXCEED 7%.

(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.

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

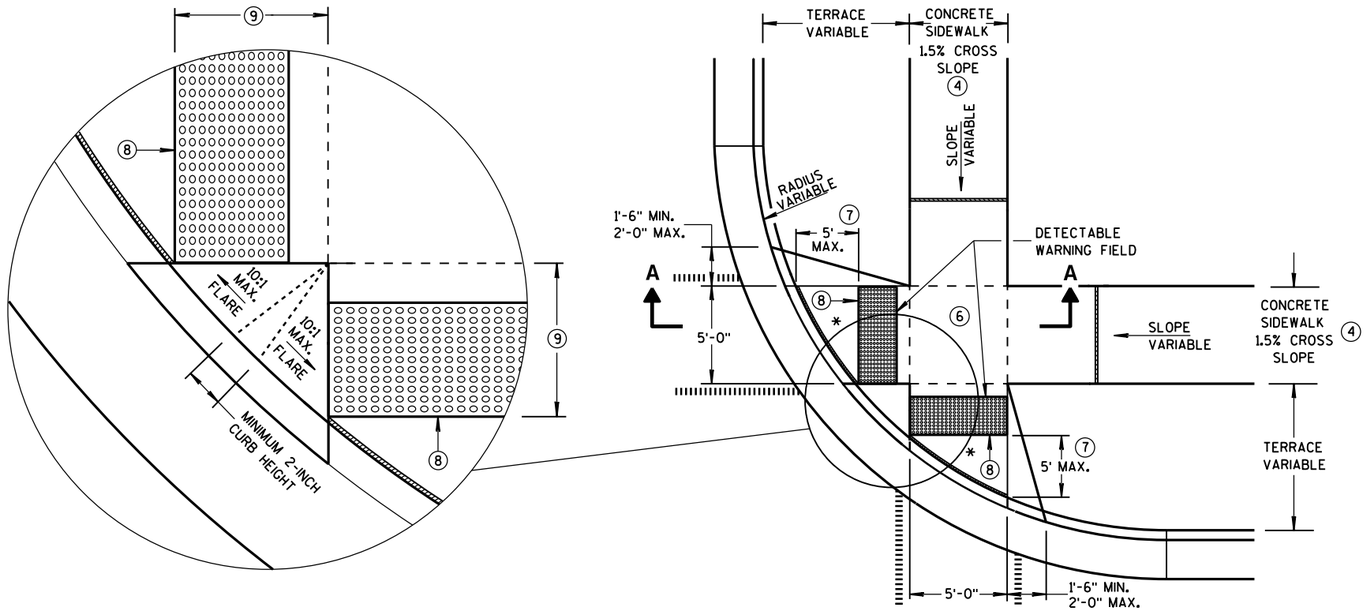
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

S.D.D. 8 D 5-17a

S.D.D. 8 D 5-17a

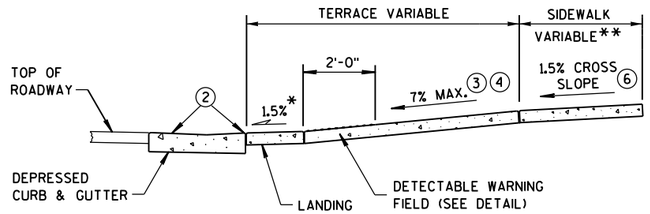


PLAN VIEW

TYPE 2 RAMP

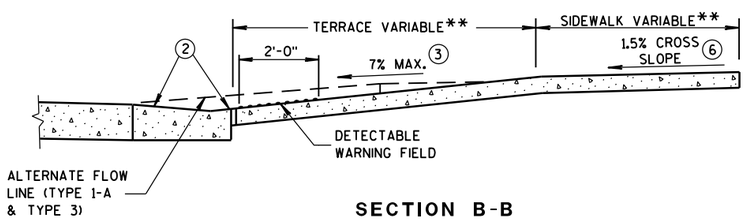
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B

GENERAL NOTES

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 NOT EXCEED 7%.

(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 (MINIMUM 4 FEET X 4 FEET).

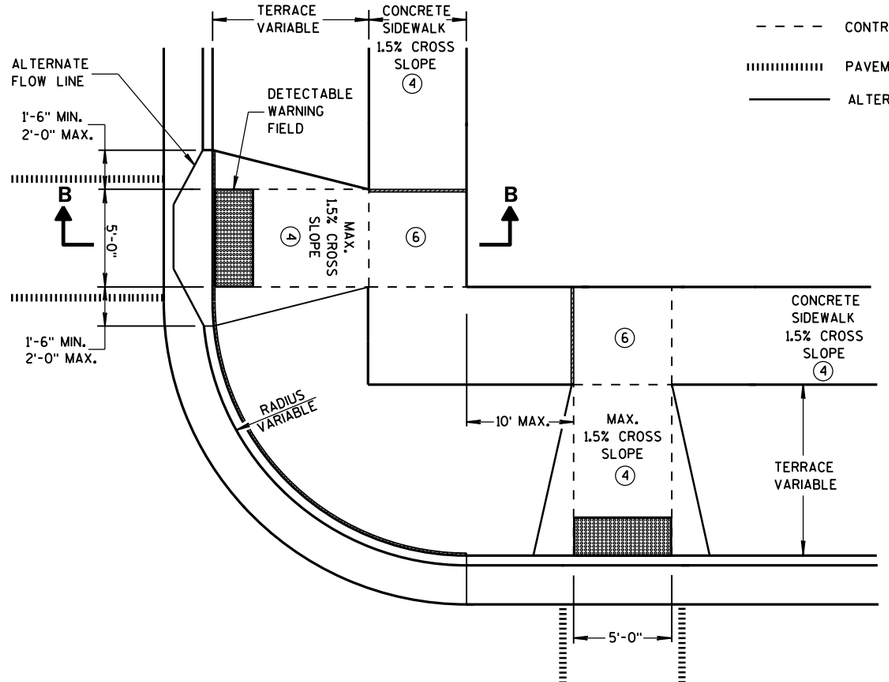
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION OF PEDESTRIAN TRAVEL.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(9) WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

LEGEND

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



PLAN VIEW

TYPE 3 RAMP

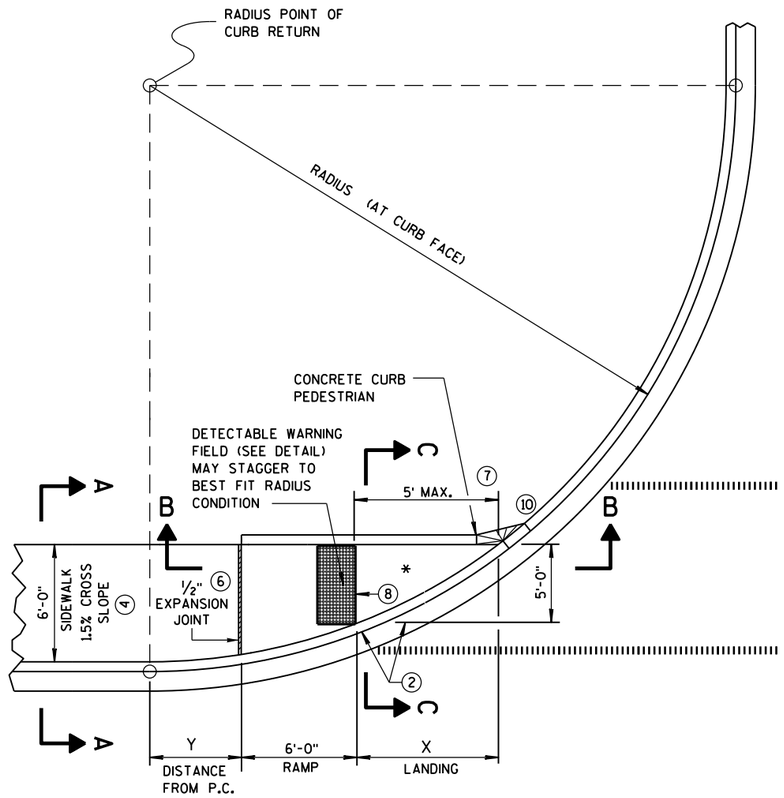
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

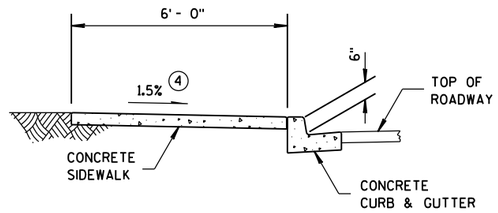
S.D.D. 8 D 5-17b



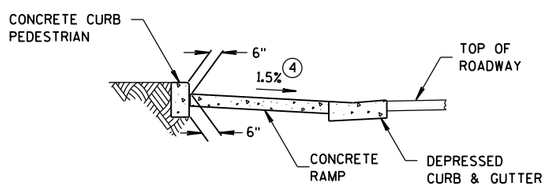
CURB RAMP TYPE 4A
PLAN VIEW

RADIUS (AT CURB FACE)	X	Y
20 FEET	7'-11"	0'-2"
30 FEET	10'-2¾"	1'-7½"
40 FEET	12'-1¼"	2'-10"
50 FEET	13'-8¾"	3'-10¾"
60 FEET	15'-2"	4'-10¼"

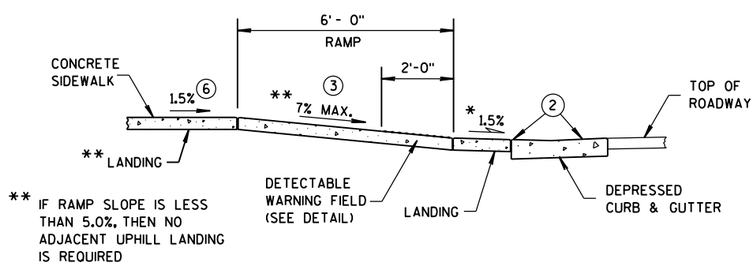
INTERMEDIATE RADII CAN BE INTERPOLATED



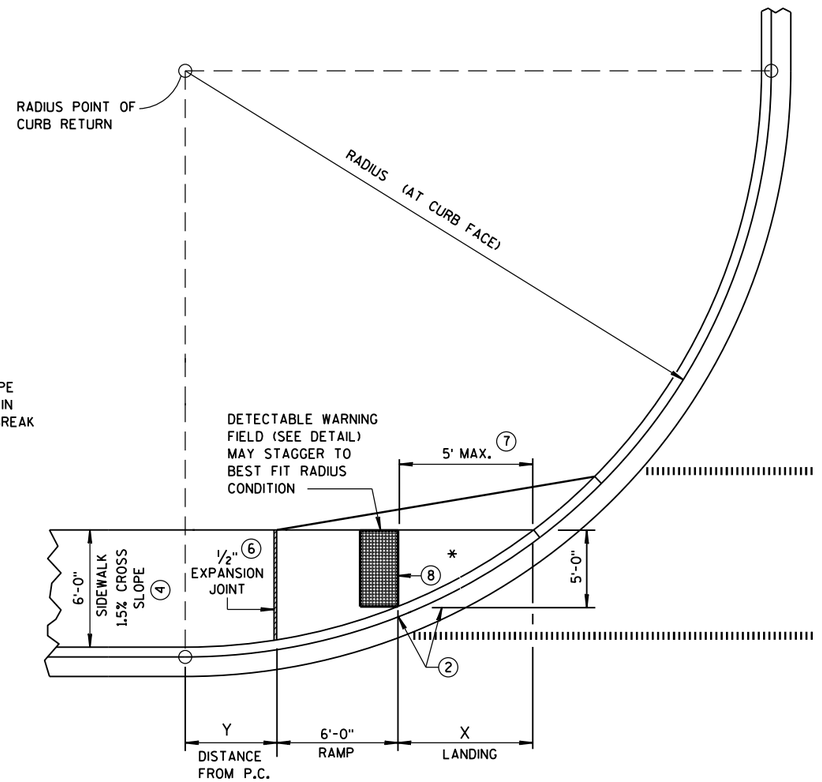
SECTION A-A FOR TYPE 4A



SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A



* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

CURB RAMP TYPE 4A1
PLAN VIEW

GENERAL NOTES

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 ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

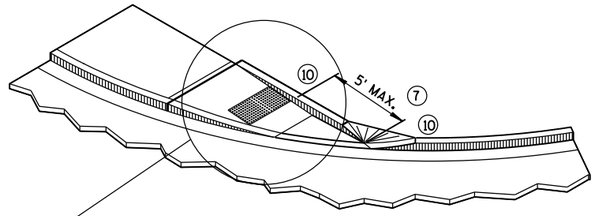
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

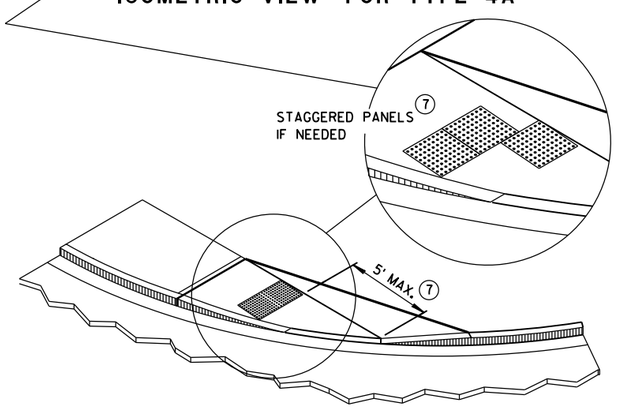
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION OF PEDESTRIAN TRAVEL.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

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



ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

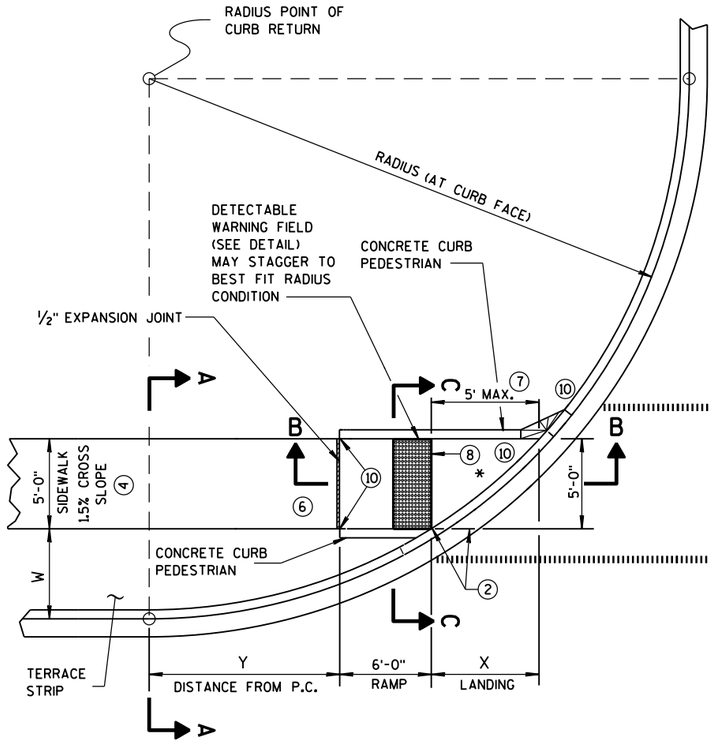
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

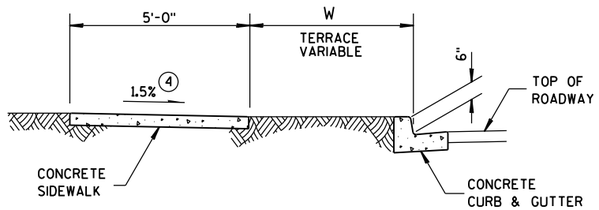
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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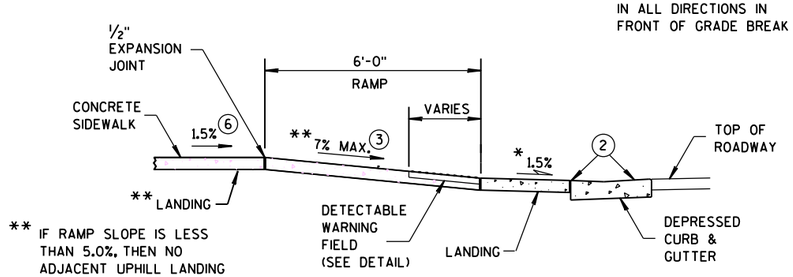
S.D.D. 8 D 5-17c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



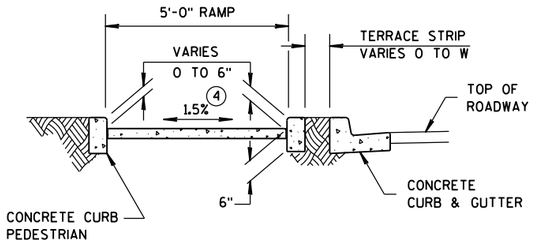
SECTION B-B FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)



SECTION C-C FOR TYPE 4B

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'-9¾"	3'-6½"	4'-11½"	5'-1¾"	4'-3¼"	6'-5½"	3'-8¾"	7'-6¾"	3'-3"	8'-6¼"
30 FEET	7'-9¼"	5'-10½"	6'-9½"	7'-11¼"	6'-0¼"	9'-8"	5'-5"	11'-1¾"	4'-10¾"	12'-5¾"
40 FEET	9'-4"	7'-10"	8'-2¾"	10'-3"	7'-4¾"	12'-3¾"	6'-8½"	14'-1¼"	6'-1¾"	15'-8½"
50 FEET	10'-8"	9'-6½"	9'-5½"	12'-3¼"	8'-6½"	14'-7½"	7'-9¾"	16'-8¼"	7'-2½"	18'-6¼"
60 FEET	11'-10¼"	11'-0¾"	10'-6½"	14'-1¼"	9'-6½"	16'-8½"	8'-9¼"	18'-11¾"	8'-1½"	21'-0½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

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 ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL NOT EXCEED 7%.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

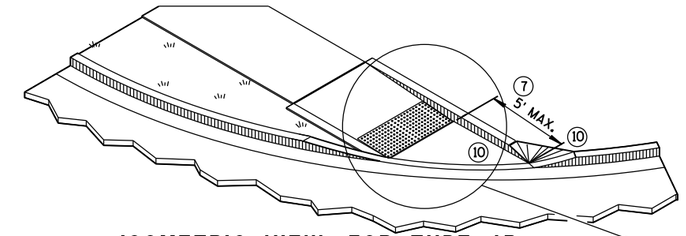
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

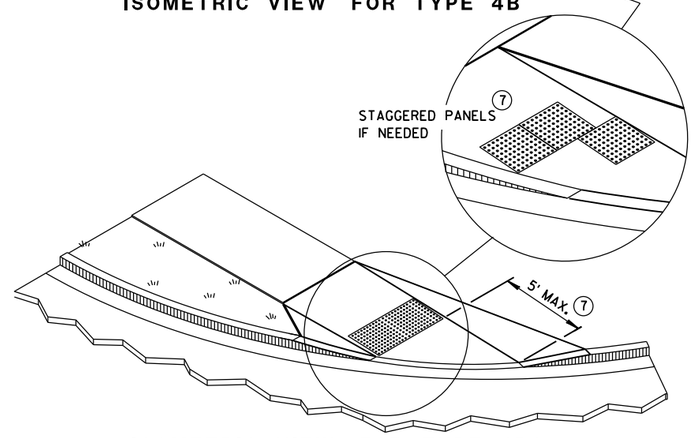
(7) WHEN THIS DISTANCE EXCEEDS 5 FEET, STAGGER ADDITIONAL DETECTABLE WARNING PANEL FORWARD TO REDUCE THIS DISTANCE. PROVIDE MINIMUM 12-INCH ROW OVERLAP TO AVOID SIDESTEP OF DOME DETECTION. ALIGN DOMES BETWEEN OVERLAPPING ROWS AND IN DIRECTION OF PEDESTRIAN TRAVEL.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

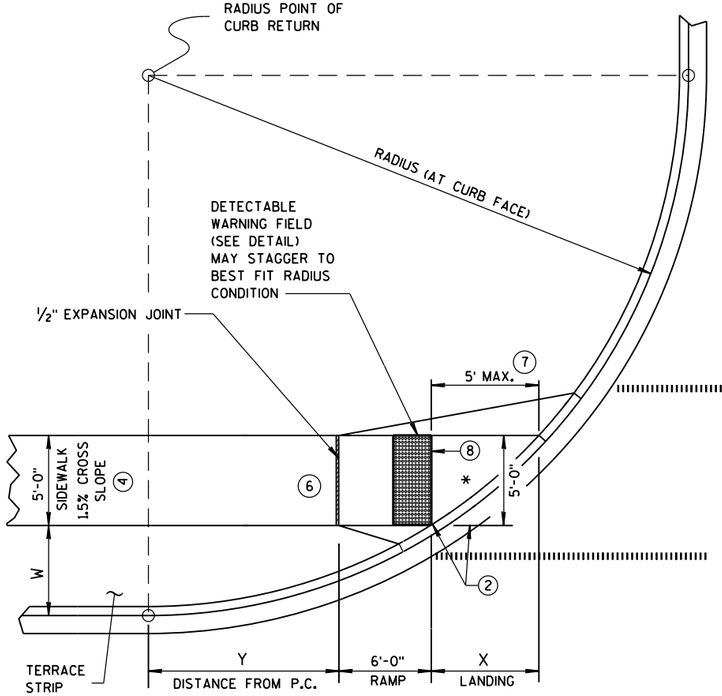
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1



CURB RAMP TYPE 4B1
PLAN VIEW

CURB RAMPS TYPE 4B AND 4B1

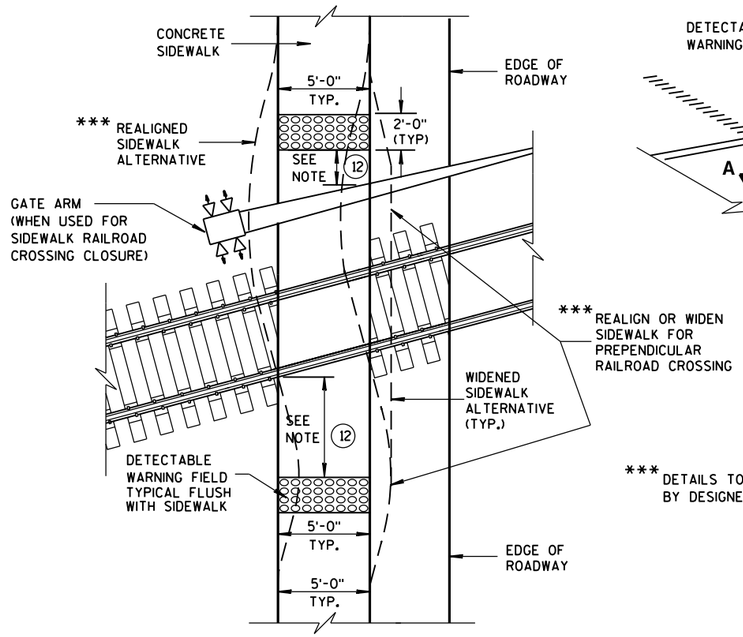
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 8 D 5-17d

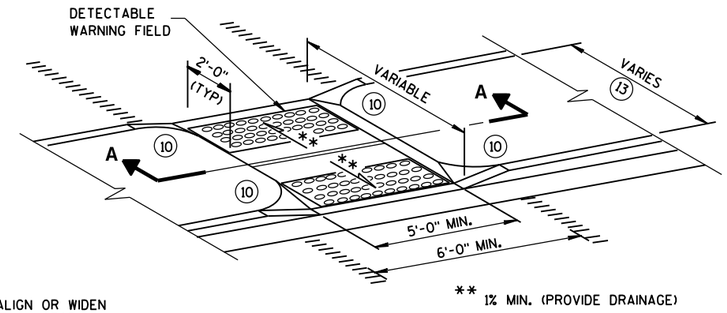
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S.D.D. 8 D 5-17d



*** DETAILS TO BE DETERMINED BY DESIGNER

TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



** 1% MIN. (PROVIDE DRAINAGE)

MEDIAN ISLAND NON-ELEVATED CROSSING
TYPE 5

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.

(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 NOT EXCEED 7%.

(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.

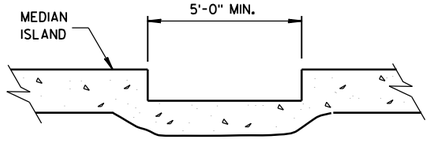
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET (MINIMUM 4 FEET X 4 FEET).

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

(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 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.

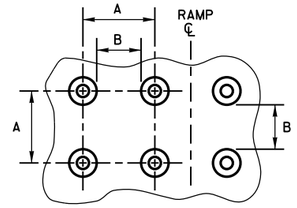
(13) DO NOT INSTALL DETECTABLE WARNING FIELDS IF MEDIAN WIDTH BETWEEN BACK OF CURBS IS LESS THAN 6 FEET.



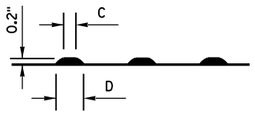
SECTION A-A

	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.

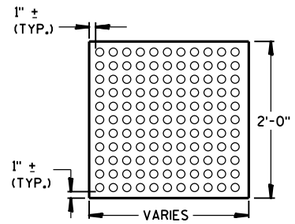


PLAN VIEW

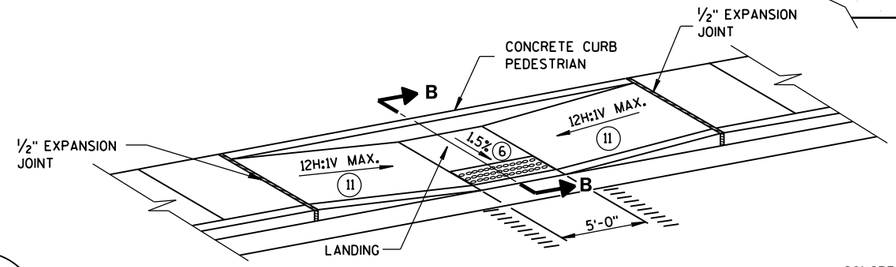


ELEVATION VIEW

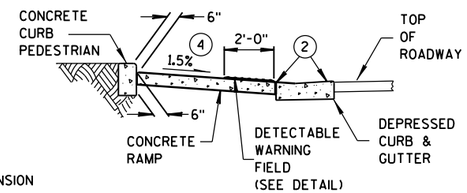
TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



PLAN VIEW
DETECTABLE WARNING FIELD (TYPICAL)

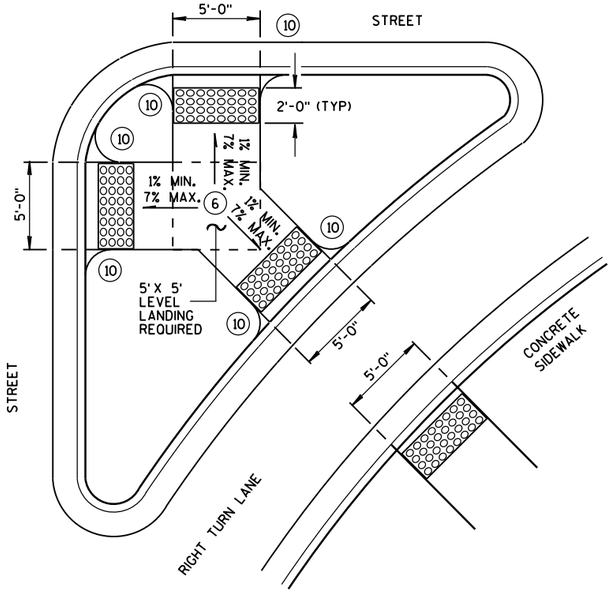


MID-BLOCK CROSSING
TYPE 7A

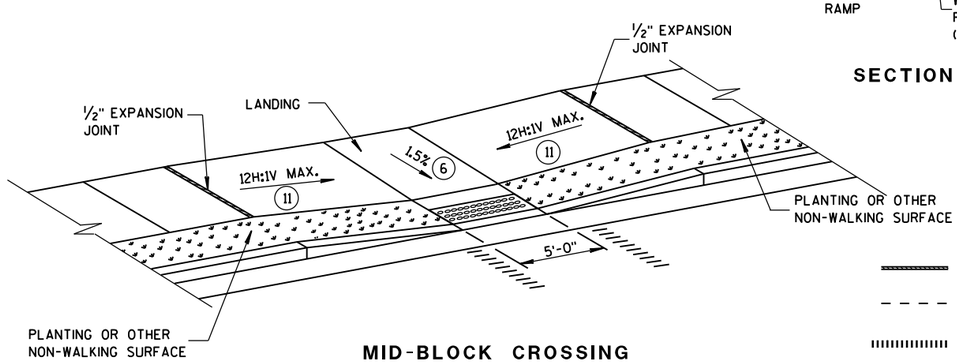


SECTION B-B

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

LEGEND

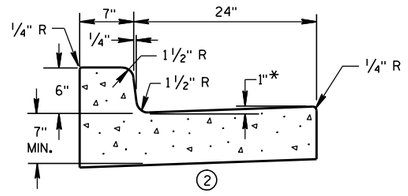
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

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

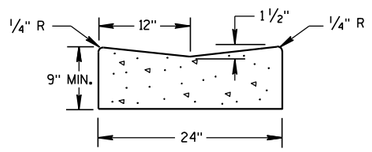
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

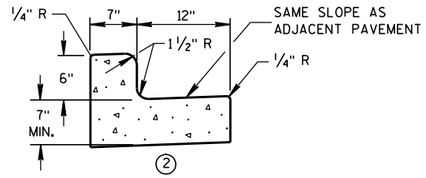
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S.D.D. 8 D 5-17e



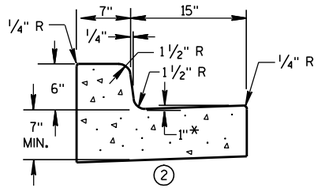
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

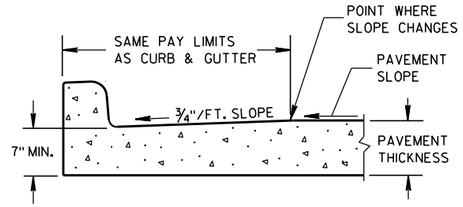


① CONCRETE CURB & GUTTER 19"



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

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.

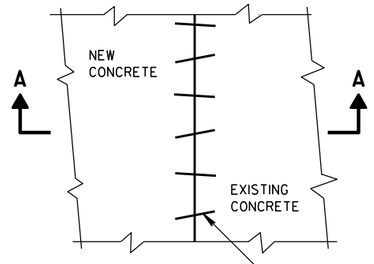
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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" MIMIMUM GUTTER THICKNESS IS MAINTAINED.

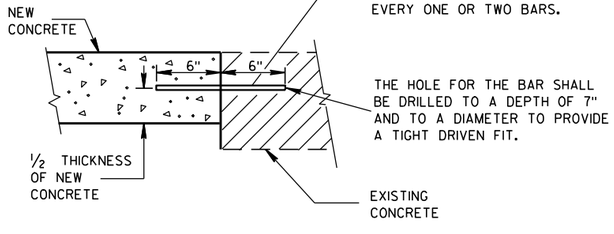
③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



PLAN VIEW

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

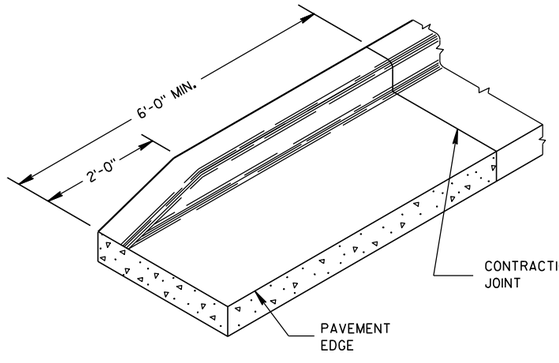
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



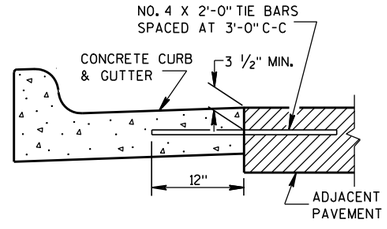
THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO A DIAMETER TO PROVIDE A TIGHT DRIVEN FIT.

SECTION A-A

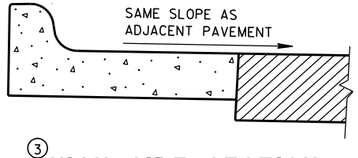
PAVEMENT TIES



END SECTION CURB & GUTTER



① TYPICAL TIE BAR LOCATION



③ HIGH SIDE SECTION

(TYPICAL FOR ALL CURB & GUTTER)

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

(For Optional Use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/2/2010 — DATE

/S/ Jerry Zogg — ROADWAY STANDARDS ENGINEER

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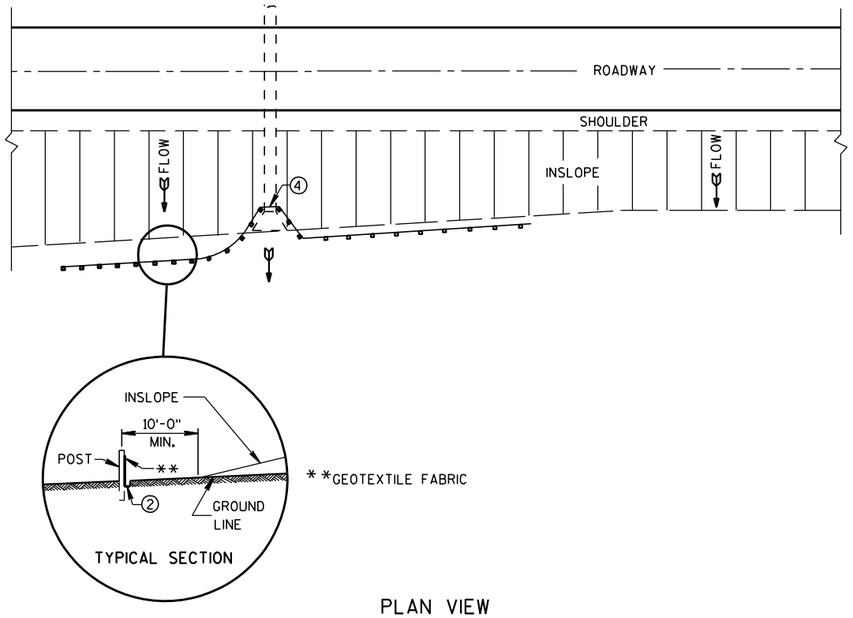
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S.D.D. 8 D 16-10

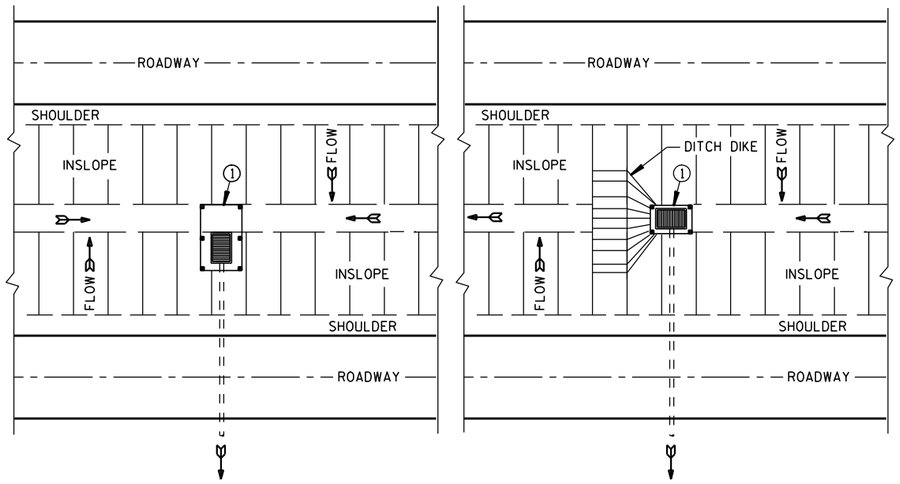
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PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



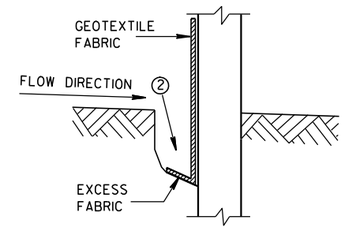
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

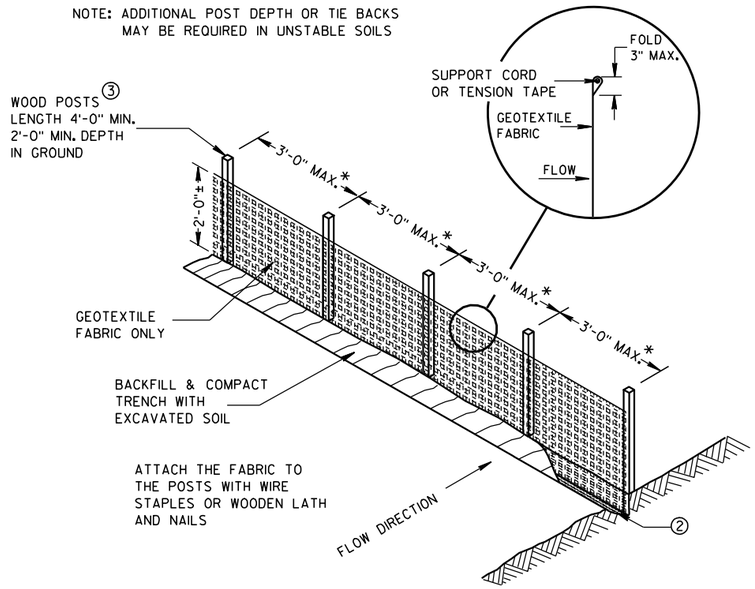
GENERAL NOTES

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

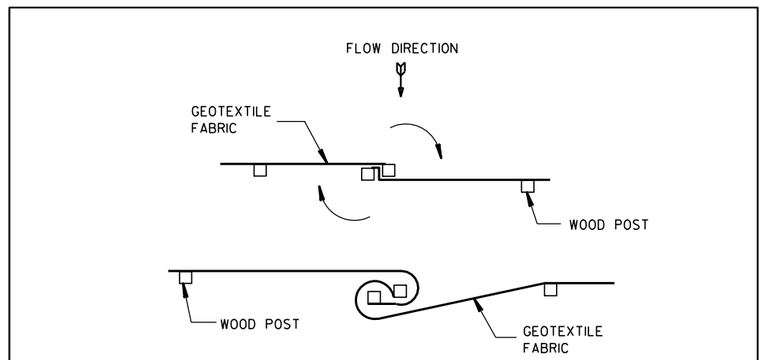
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



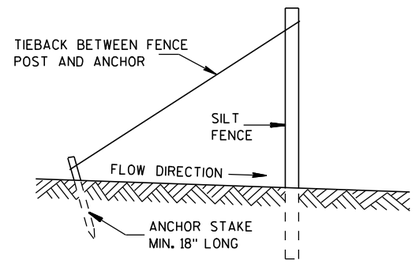
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

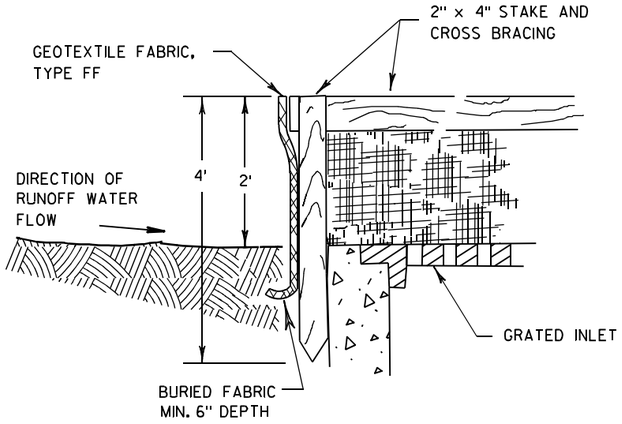
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

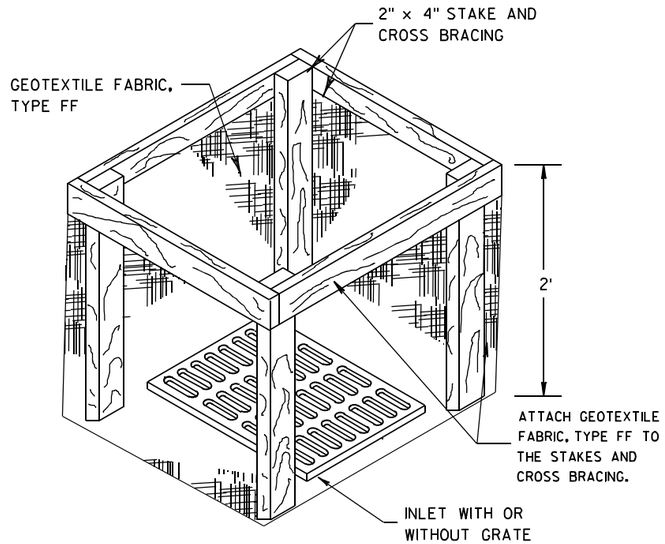
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S.D.D. 8 E 9-6

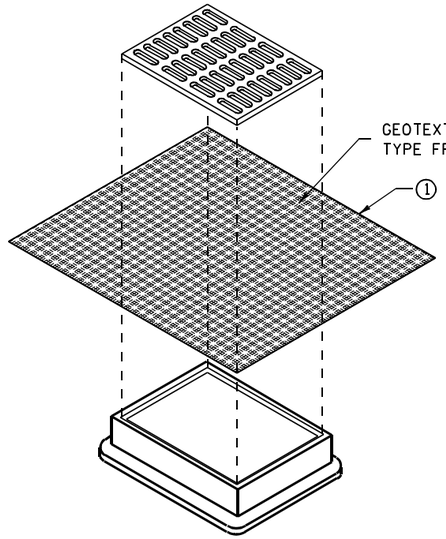
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S.D.D. 8 E 9-6



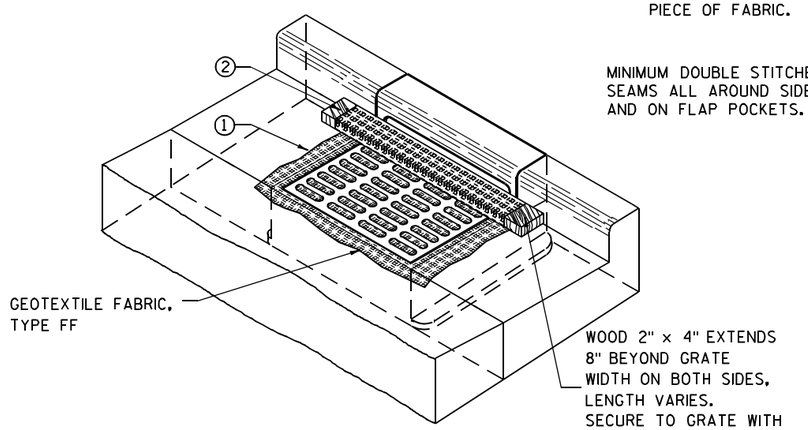


INLET PROTECTION, TYPE A

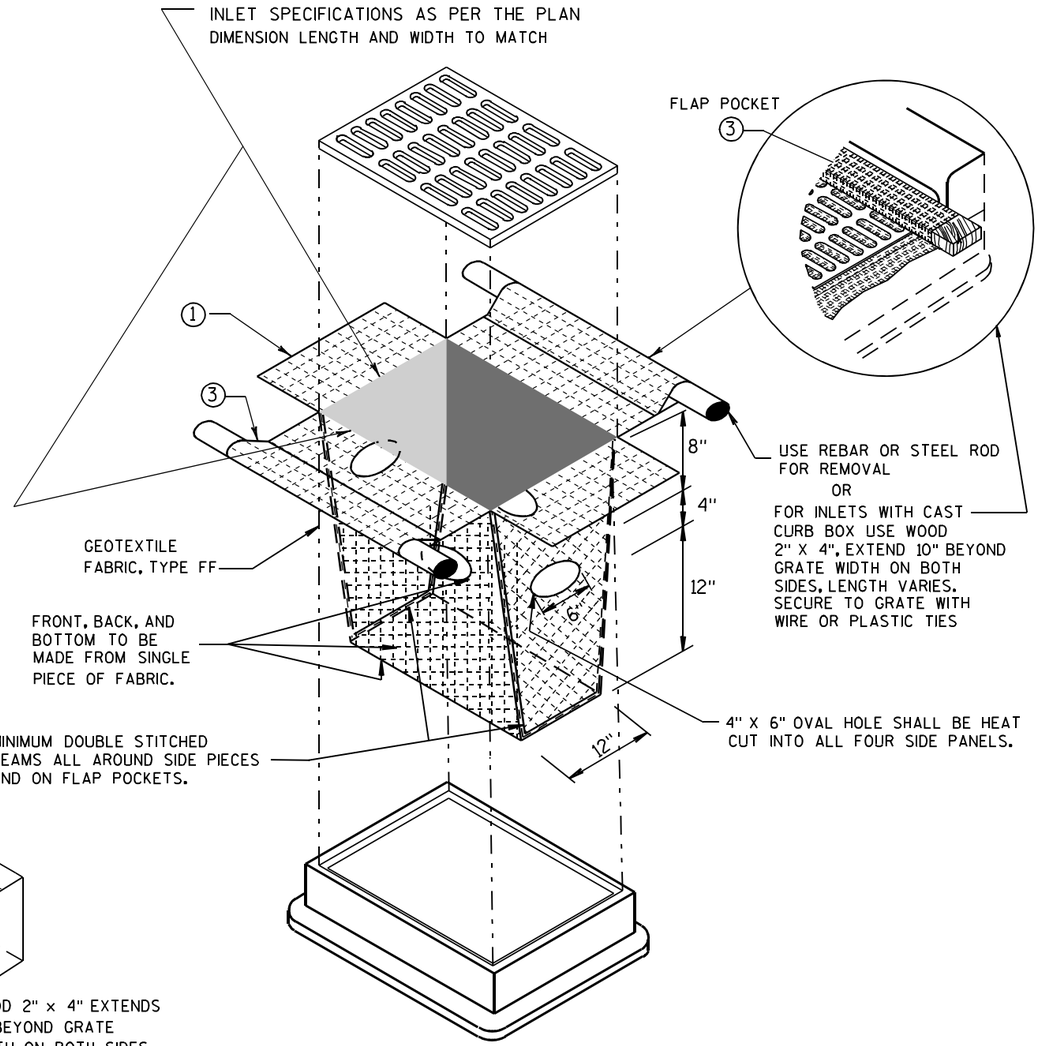


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

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.

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
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

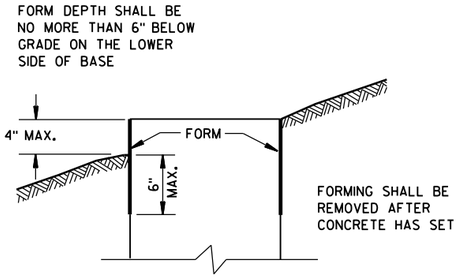
FHWA

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S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

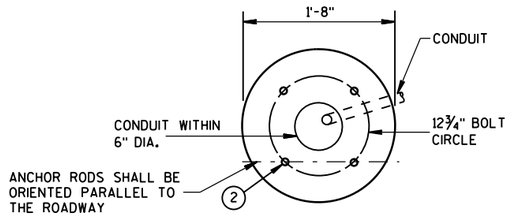
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

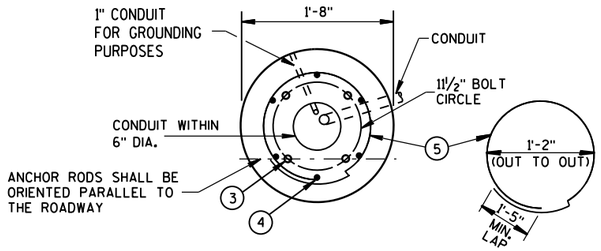
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

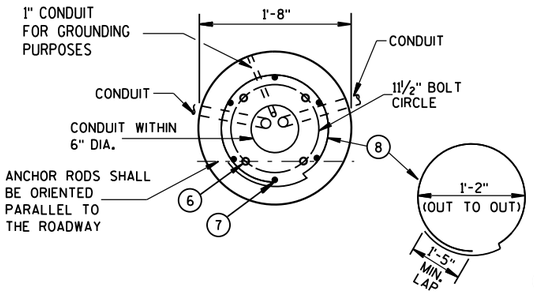
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

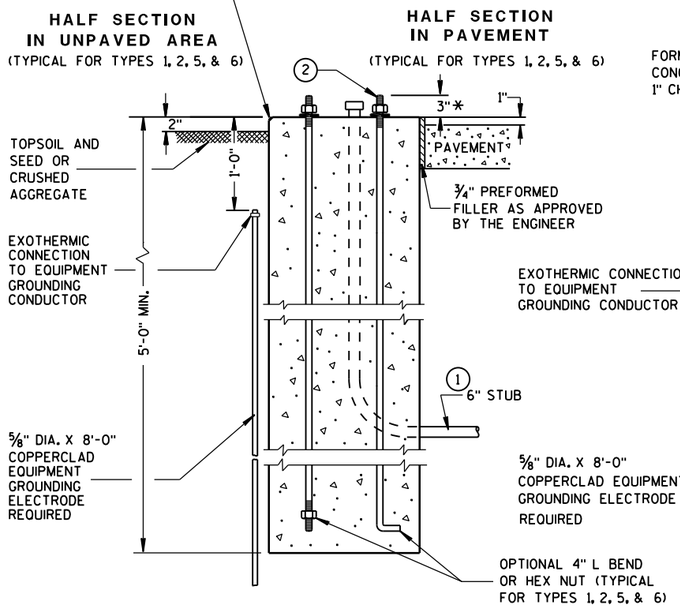






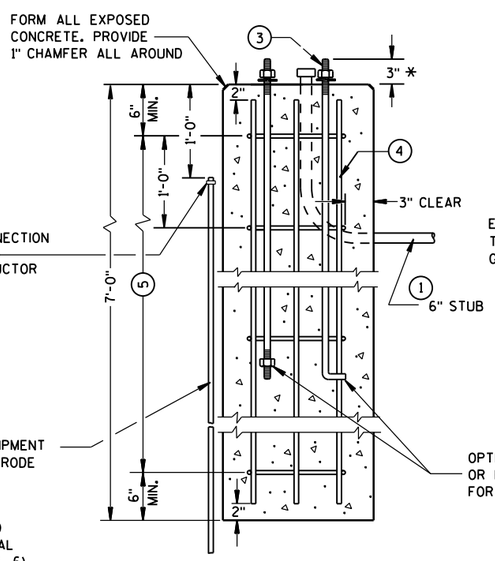
HALF SECTION IN UNPAVED AREA

(TYPICAL FOR TYPES 1, 2, 5, & 6)

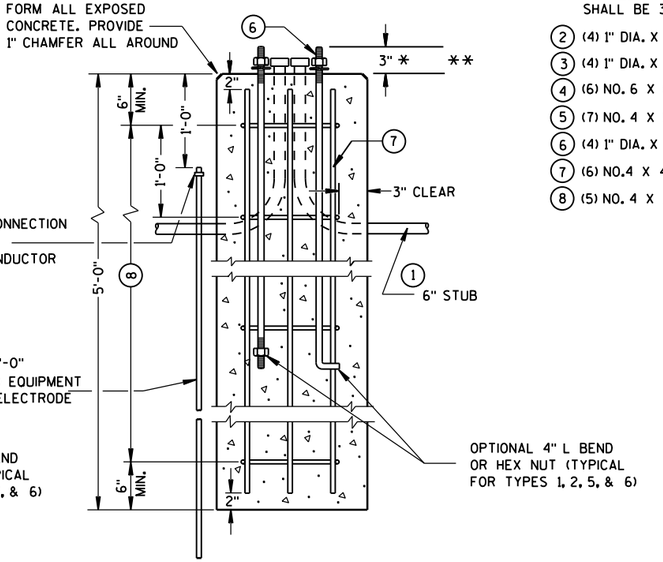


HALF SECTION IN PAVEMENT

(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 2-7

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

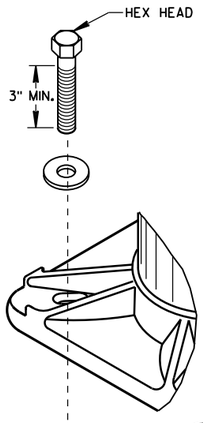
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

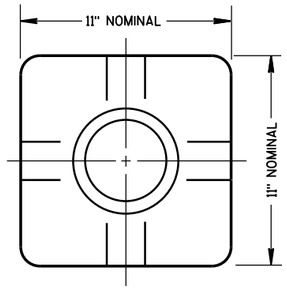
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

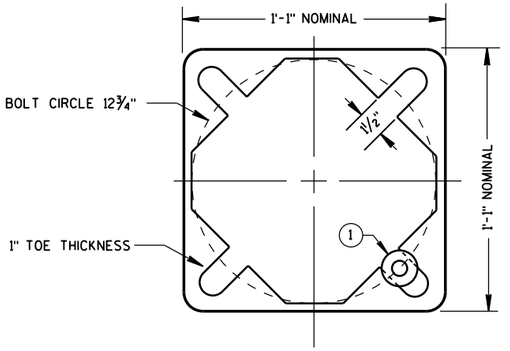
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

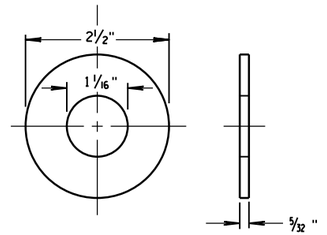




TOP VIEW
(PEDESTAL BASE)

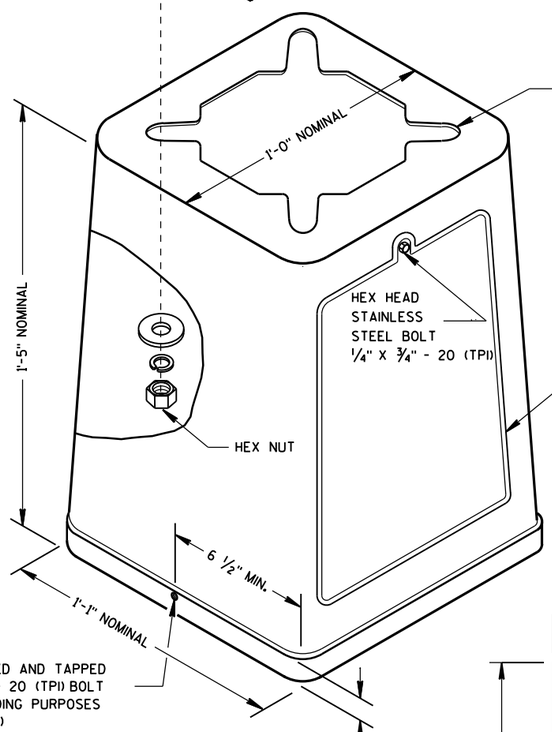


BOTTOM VIEW
(PEDESTAL BASE)

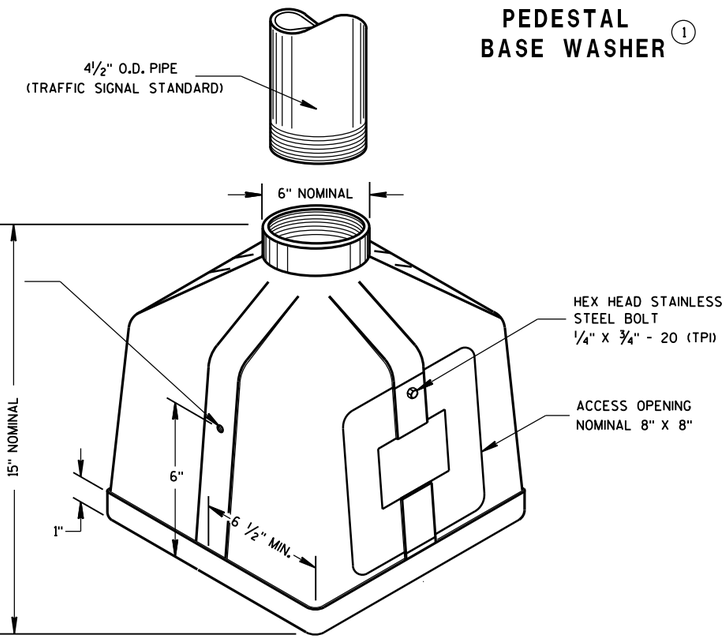


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

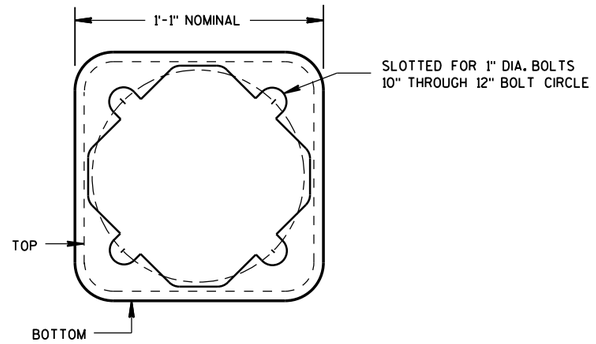


ISOMETRIC VIEW

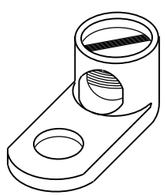


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

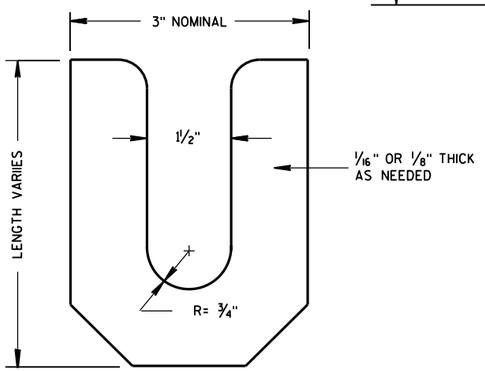


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

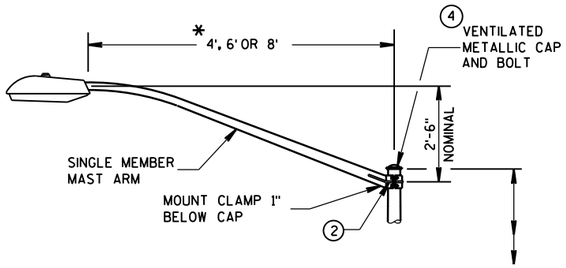
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

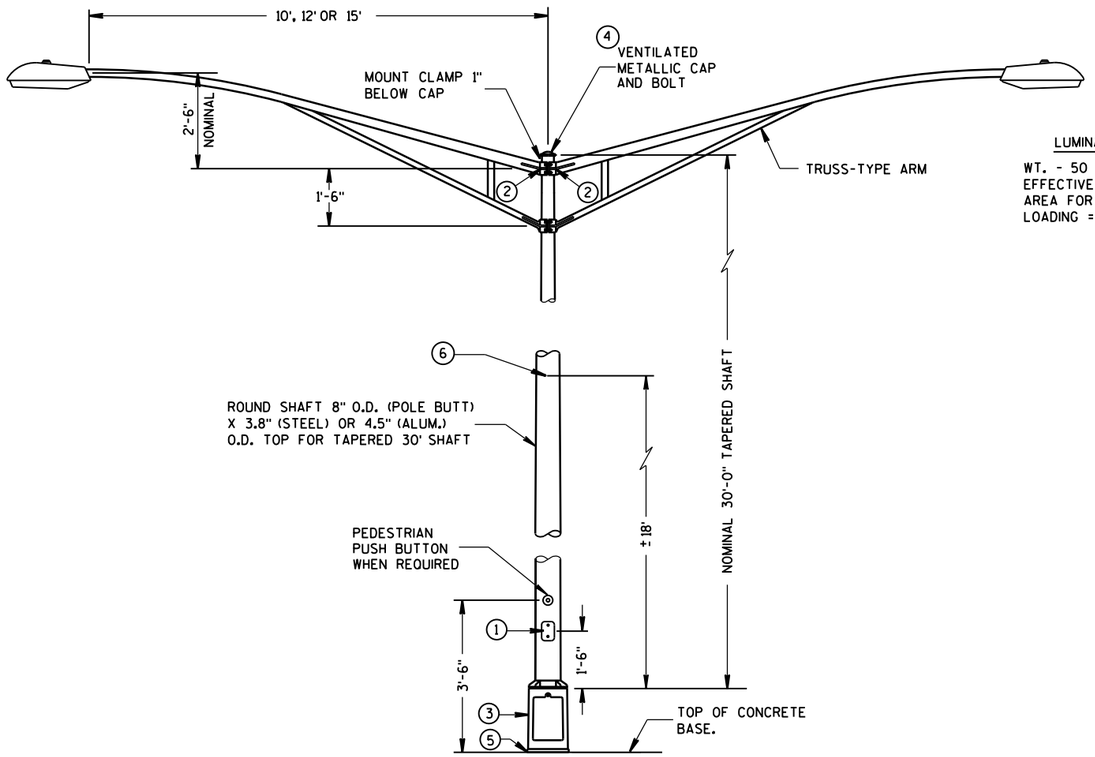
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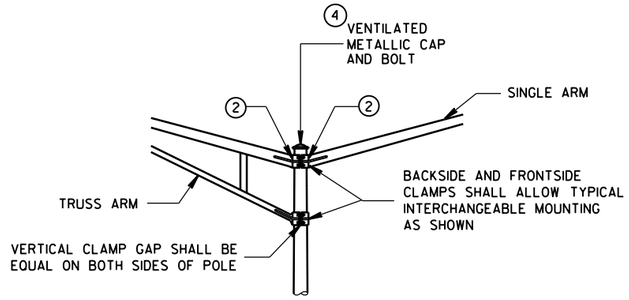
S.D.D. 9 C 3-4

*RISE FOR 4' ARM SHALL BE 2'-0".





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

GENERAL NOTES

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONEECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(4) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

6

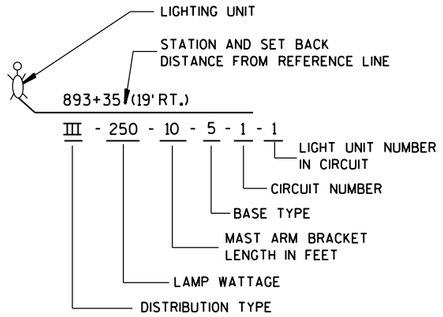
S.D.D. 9 E 1-14d

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

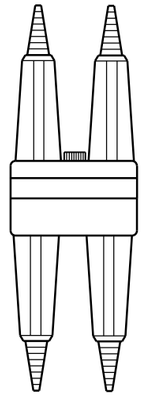
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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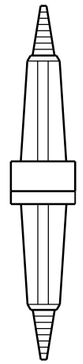
S.D.D. 9 E 1-14d



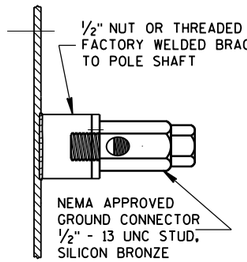
LIGHTING UNIT CODE
(TYPICAL)

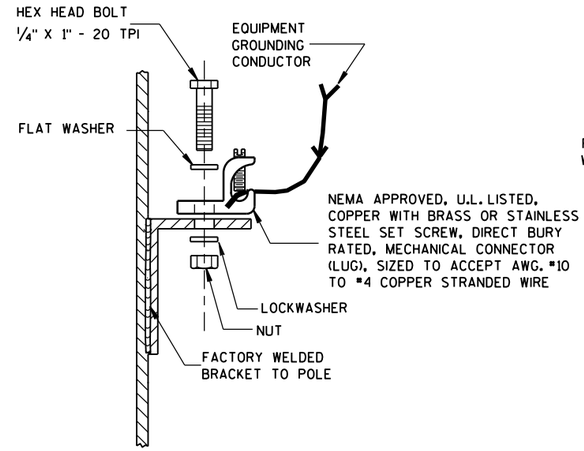


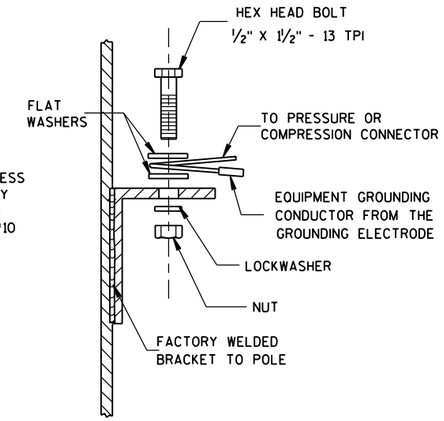
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



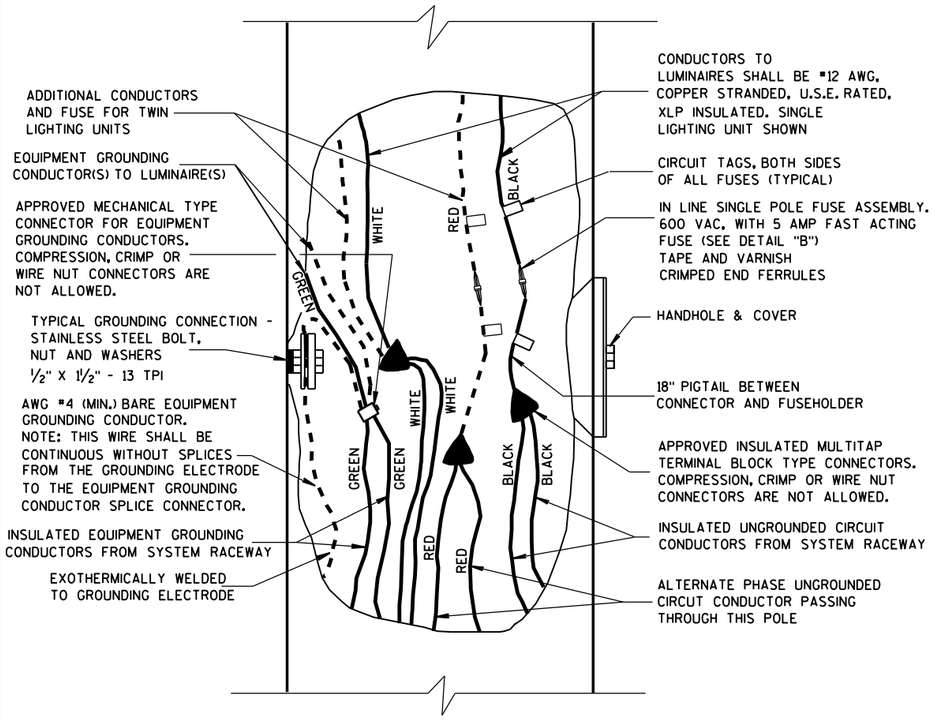
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



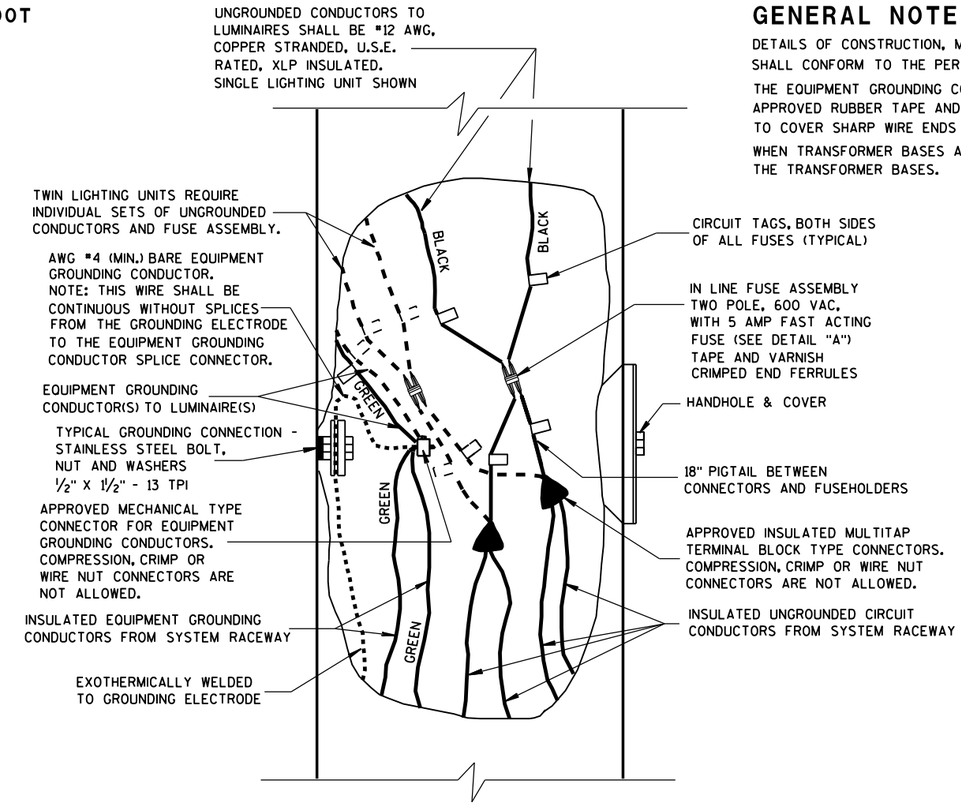




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

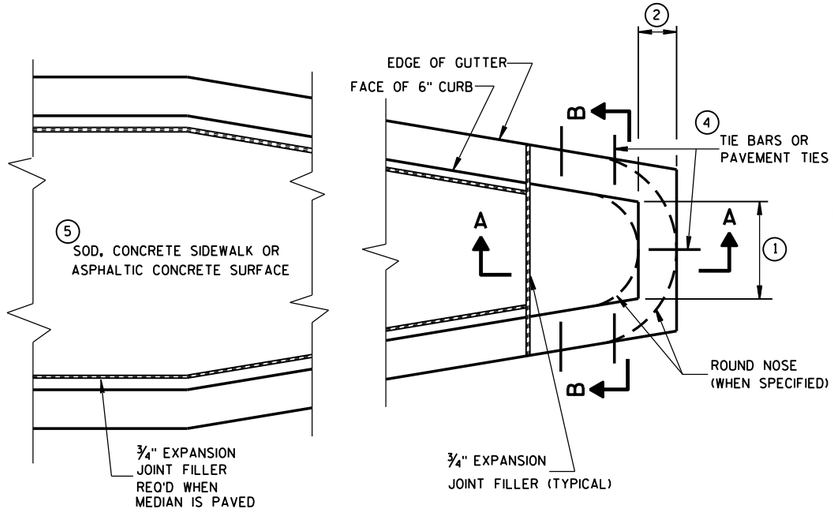
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

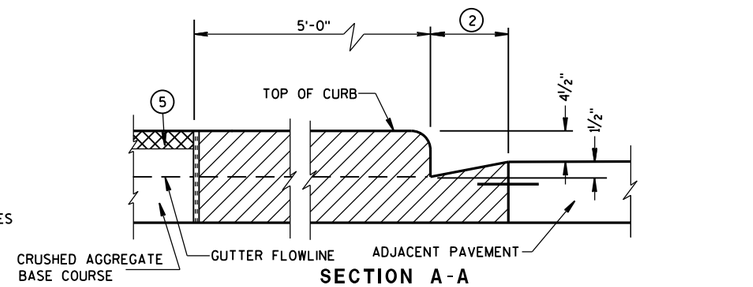
NON-FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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S.D.D. 9 E 3-5





CONCRETE MEDIAN BLUNT NOSE DETAIL

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.

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

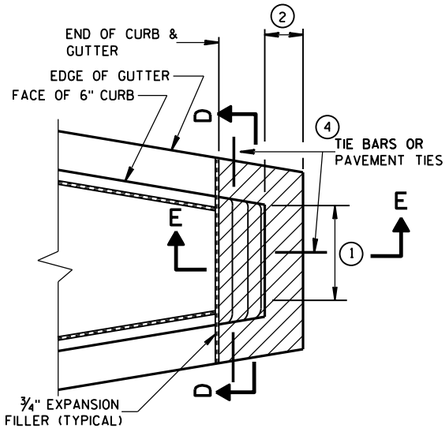
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

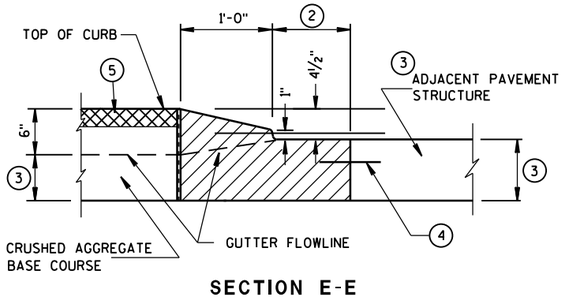
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

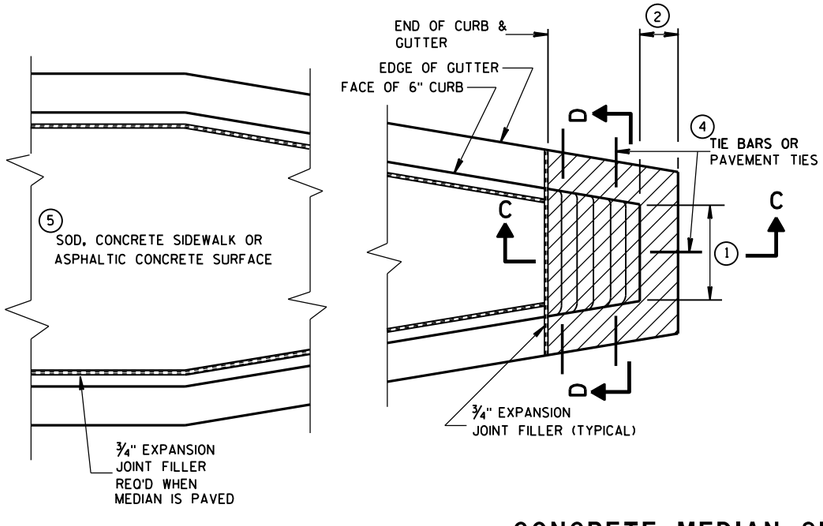
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

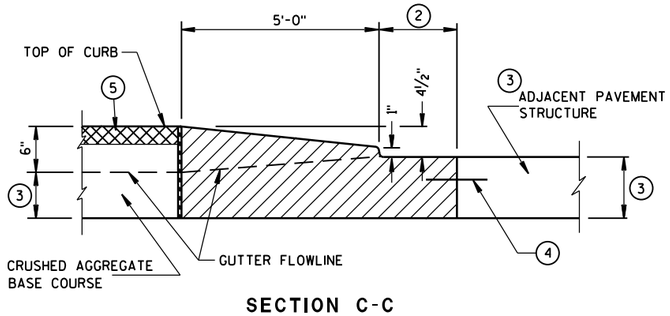




SECTION E-E

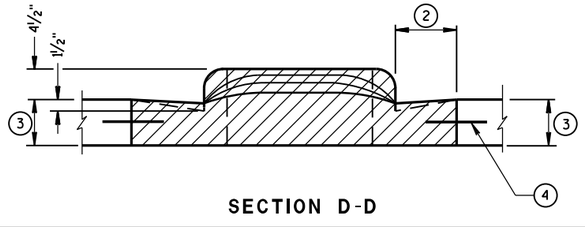
CONCRETE MEDIAN SLOPED NOSE TYPE 2





SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

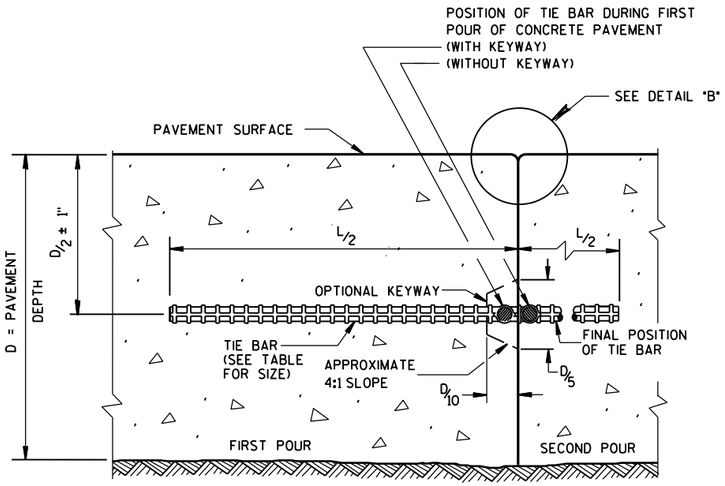
APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER
FHWA

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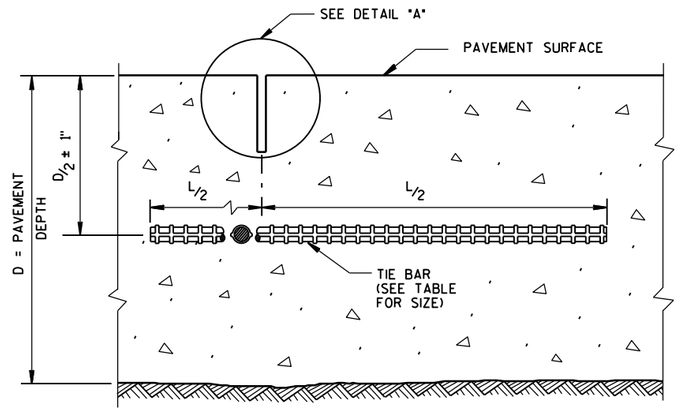
S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

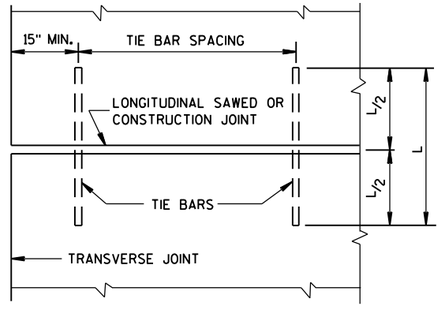
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

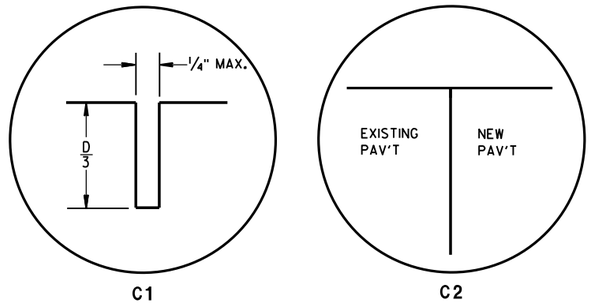
CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

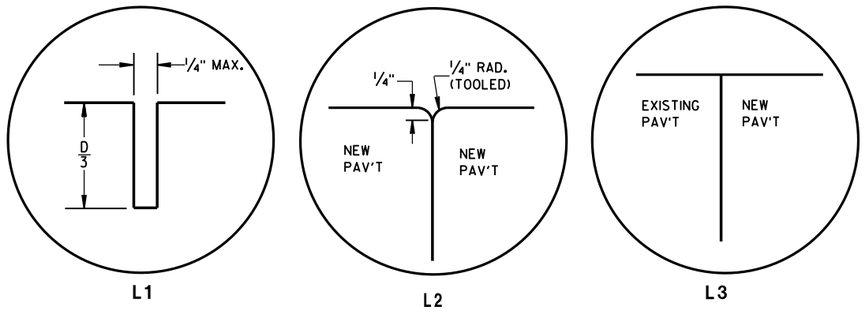
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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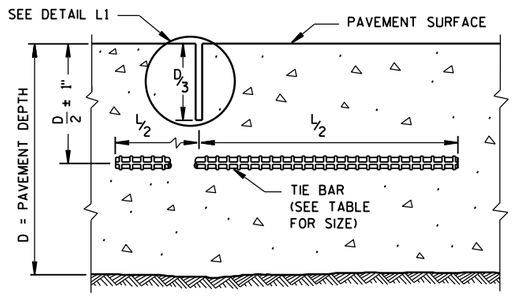
S.D.D. 13 C 1-18



TRANSVERSE JOINTS

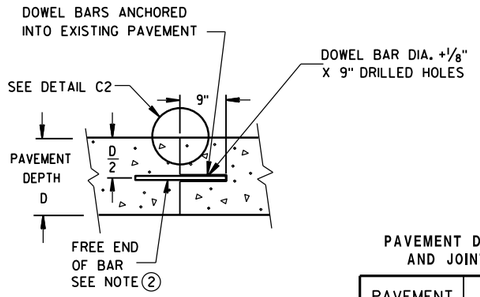


LONGITUDINAL JOINTS



SECTION C-C

SAWED JOINT



SECTION D-D

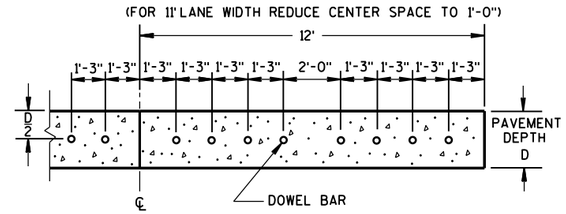
GENERAL NOTES

ANCHOR TIE BARS AND DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

(2) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

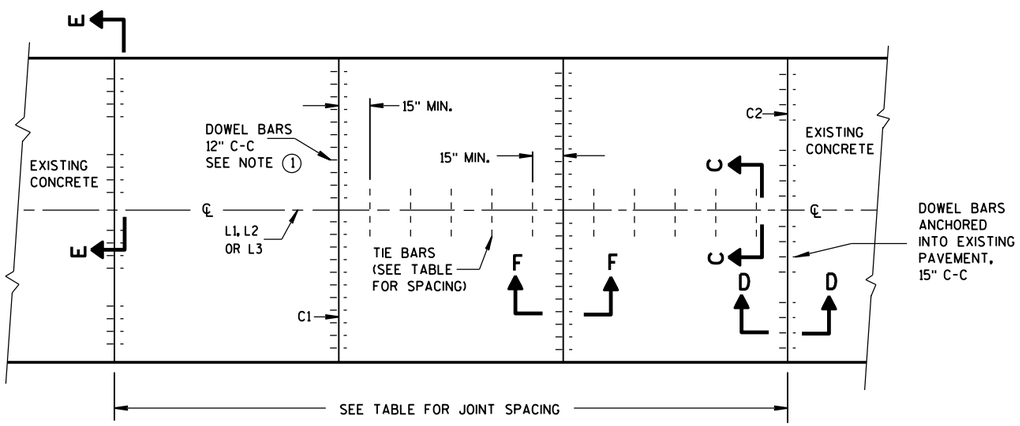
PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5½", 6, 6 ½"	NONE	12'
7, 7 ½"	1"	14'
8, 8 ½"	1 ¼"	15'
9, 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

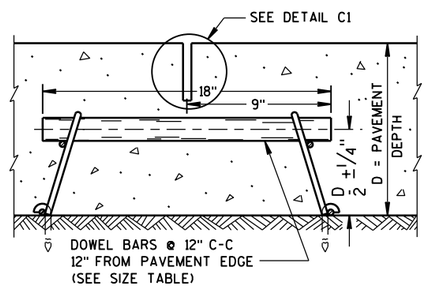
* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW

CONCRETE BASE CONTRACTION JOINT LOCATIONS



SECTION F-F

CONTRACTION JOINT

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

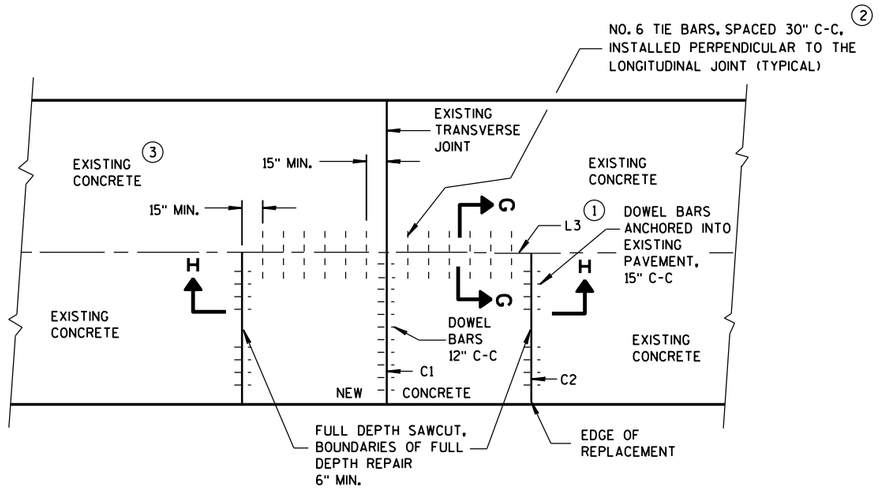
S.D.D. 13 C 15-6a

GENERAL NOTES

(1) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) AT THE LONGITUDINAL JOINT IN LIEU OF TIE BARS FOR SINGLE LANE CONCRETE BASE REPAIRS UP TO 15 FEET IN LENGTH.

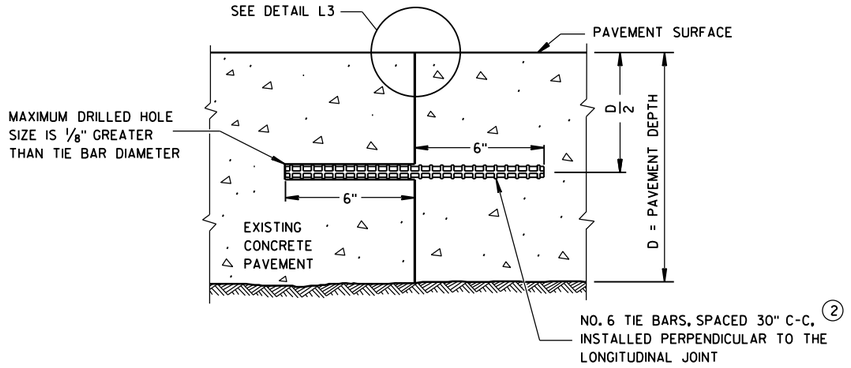
(2) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(3) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



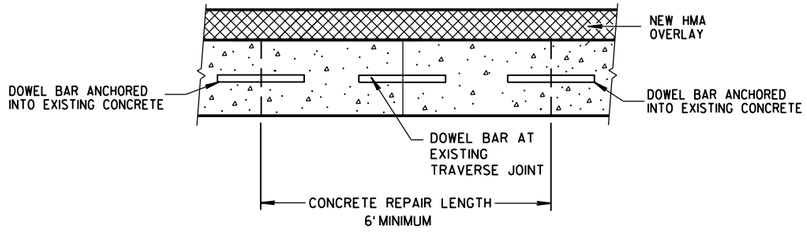
PLAN VIEW

SINGLE LANE CONCRETE BASE REPAIR



SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT



SECTION H-H

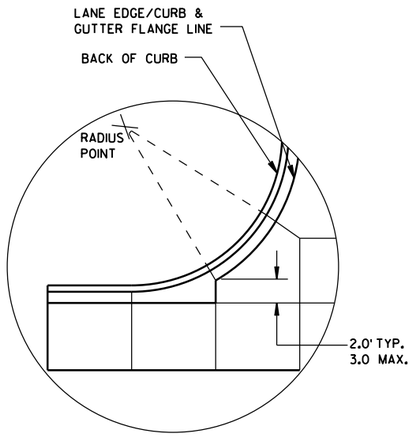
CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

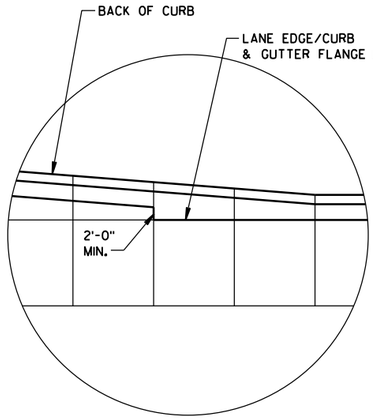
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPEI
FHWA

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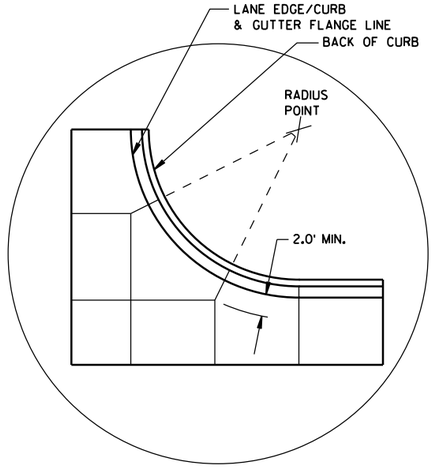
S.D.D. 13 C 15-6b



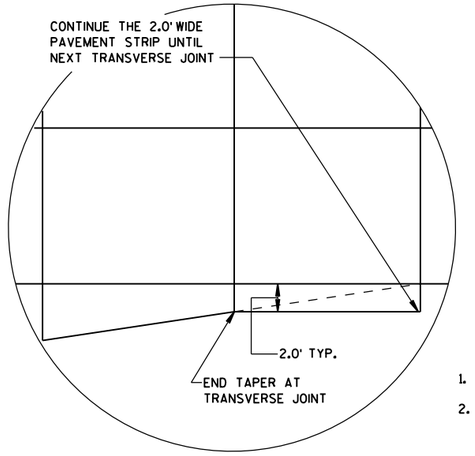
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

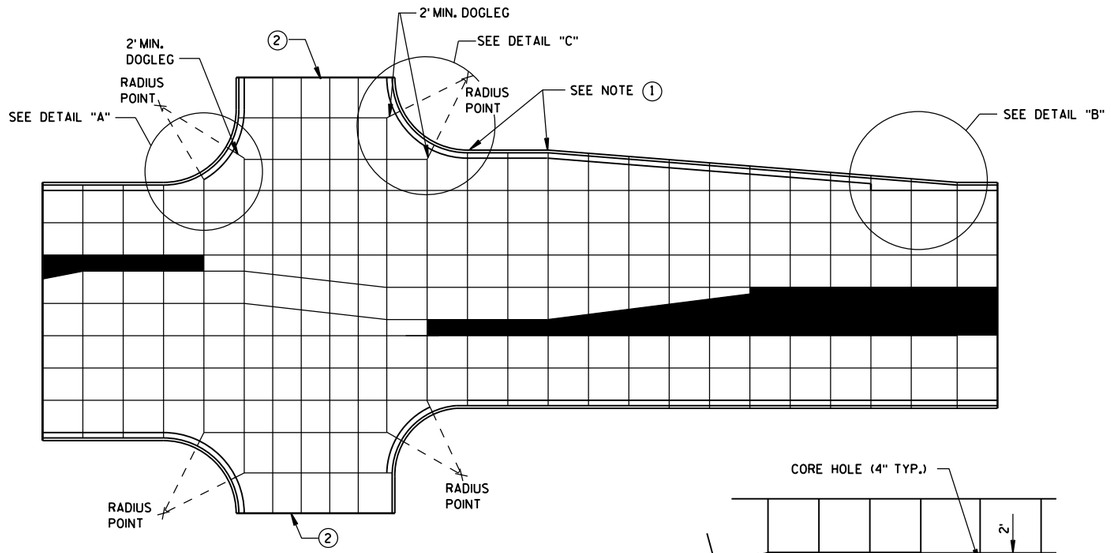
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

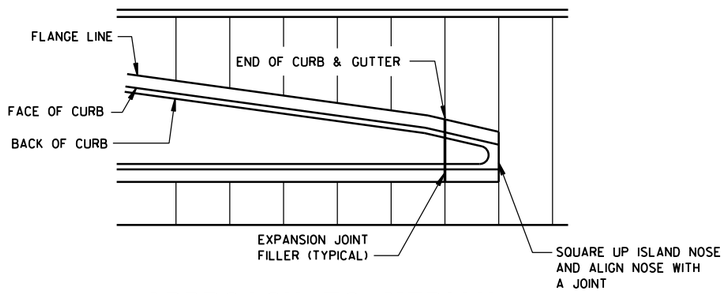
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



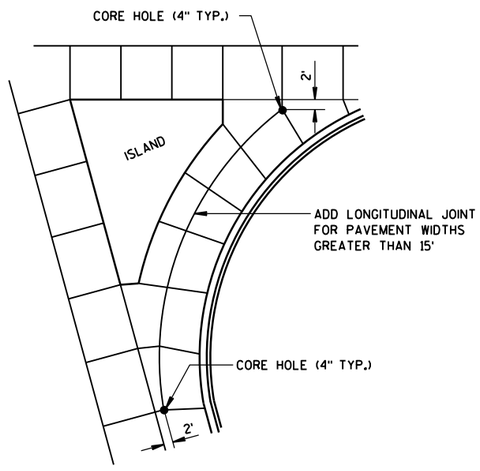
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

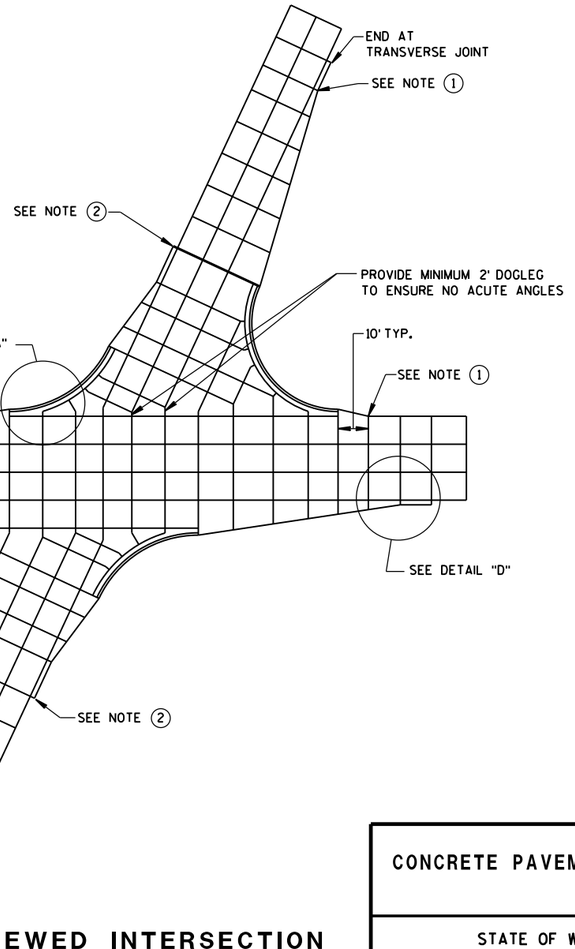
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



APPROACH TO MEDIAN



LARGE RIGHT TURN



SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

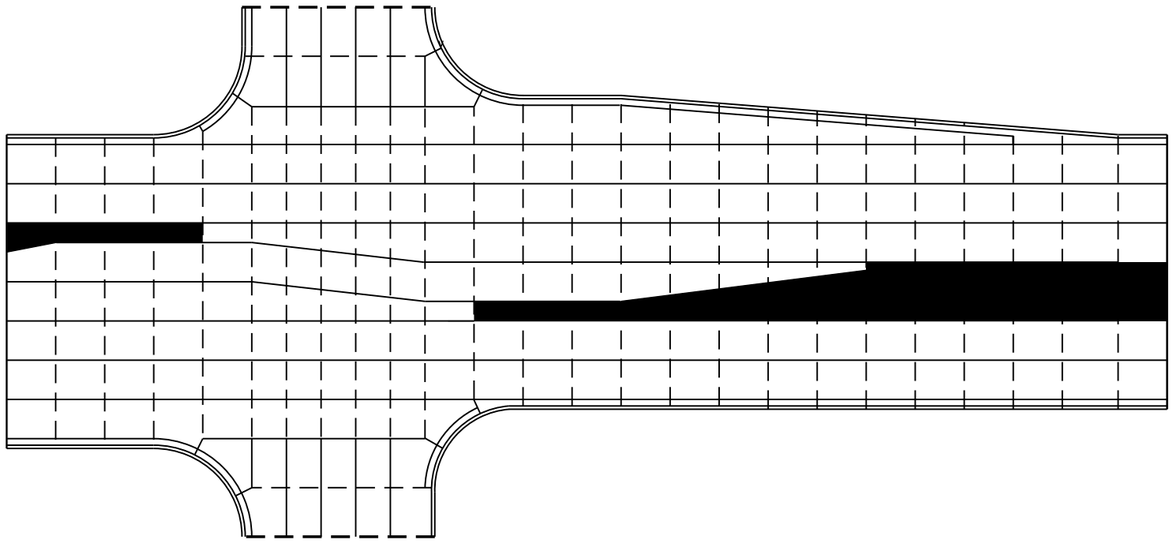
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S.D.D. 13 C 18-3a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

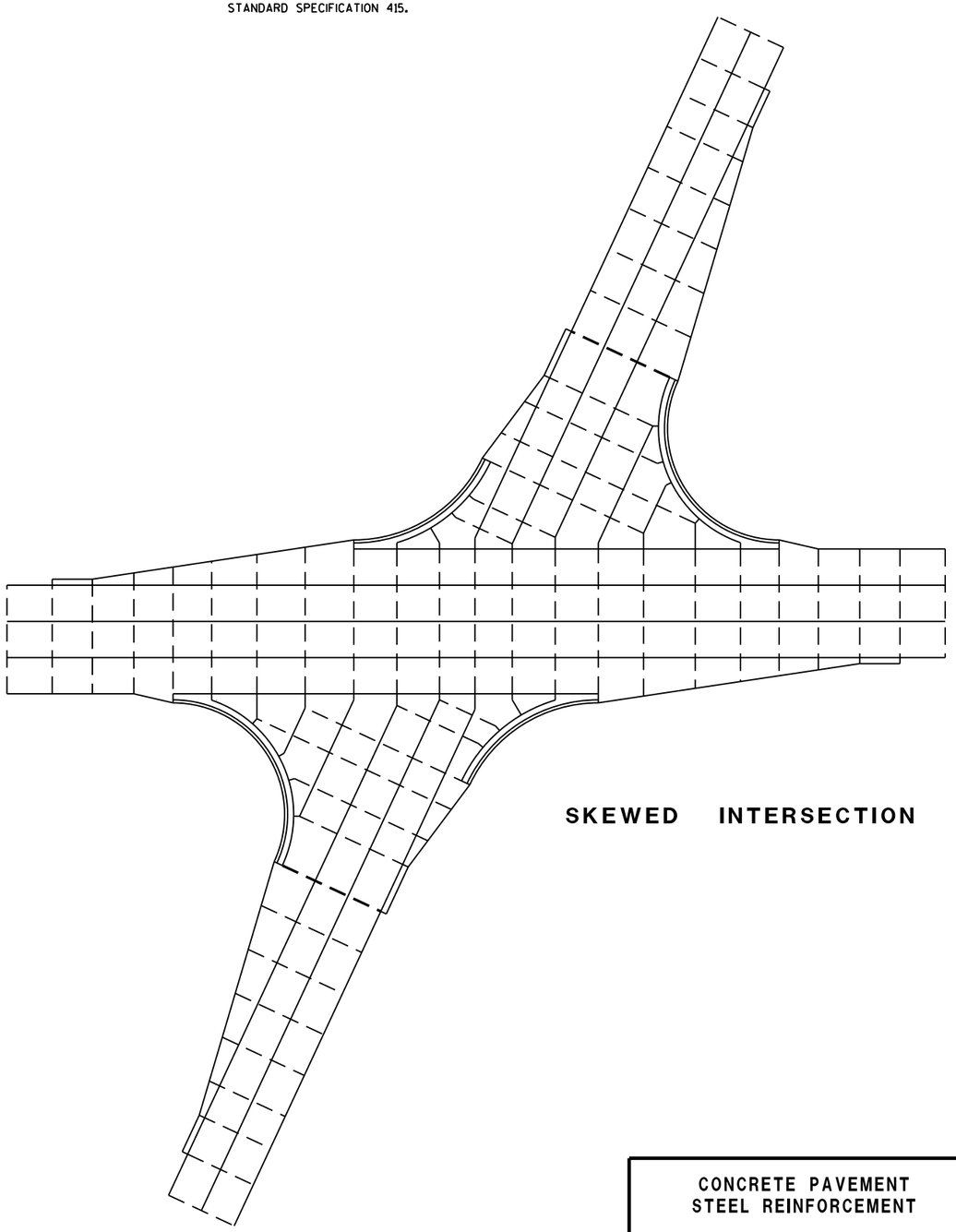
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

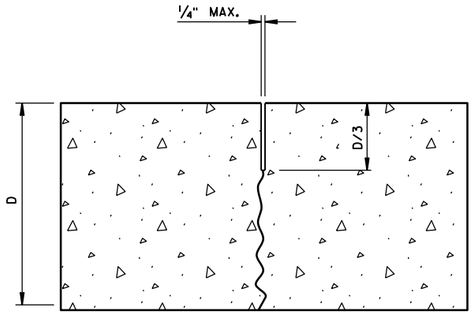
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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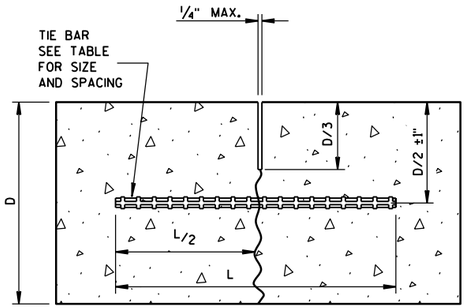
S.D.D. 13 C 18-3b

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S.D.D. 13 C 18-3b



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

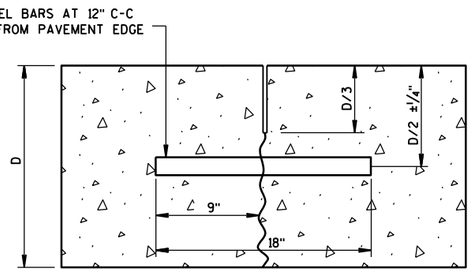
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

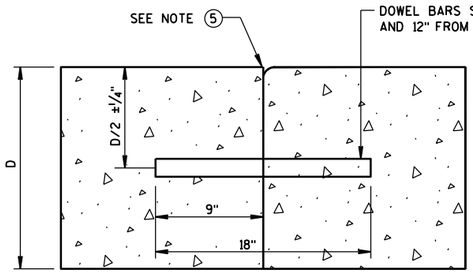
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



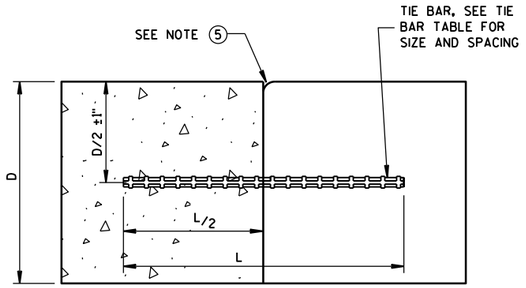
DOWELED-TRANSVERSE

CONTRACTION JOINTS

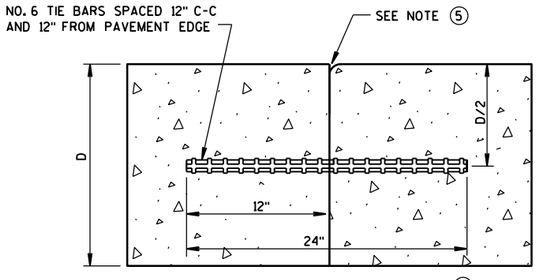
SEE NOTE (2)



DOWELED TRANSVERSE (3)

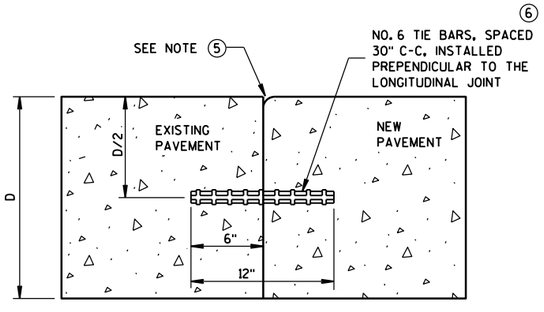


TIED LONGITUDINAL



TIED TRANSVERSE (3)

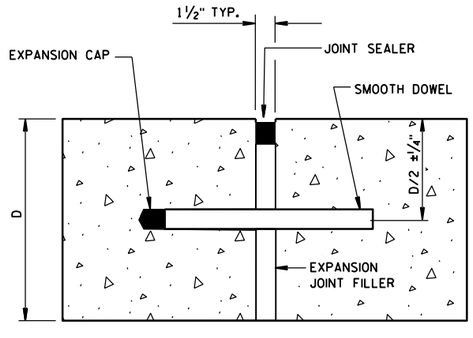
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

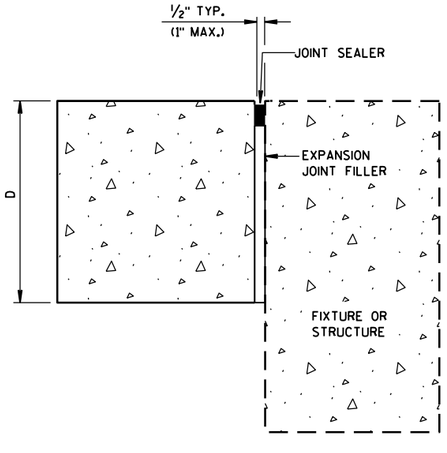
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

6

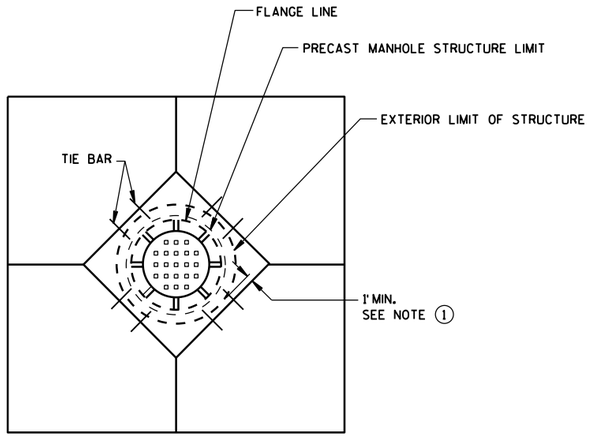
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S.D.D. 13 C 18-3c

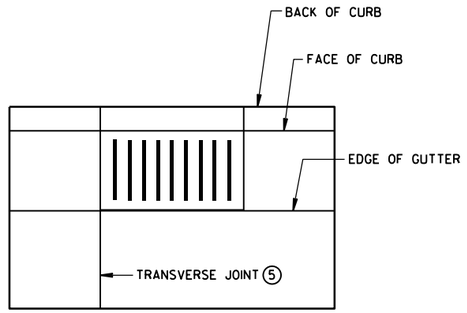
S.D.D. 13 C 18-3c

CONCRETE PAVEMENT
JOINT TYPES

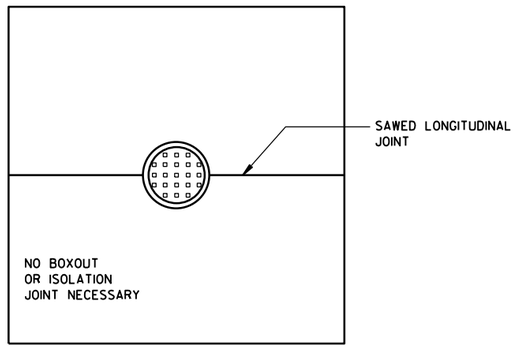
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



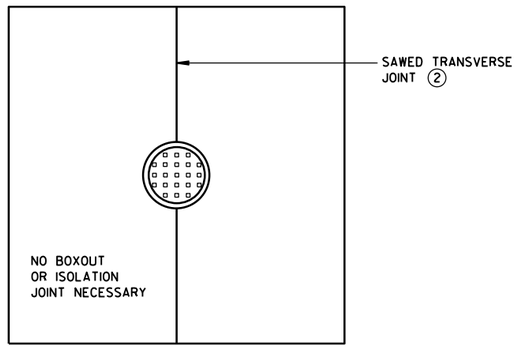
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



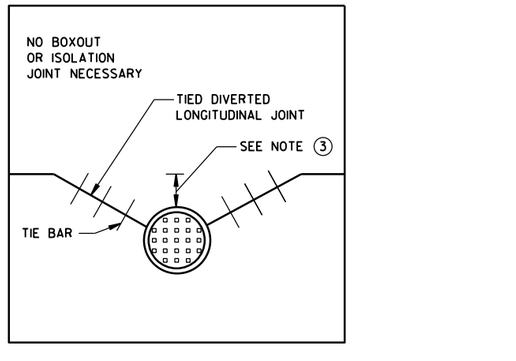
INLET WITH TRANSVERSE JOINT



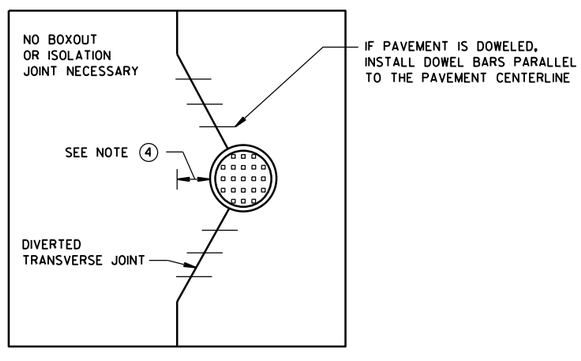
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

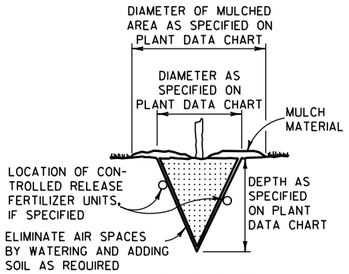
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

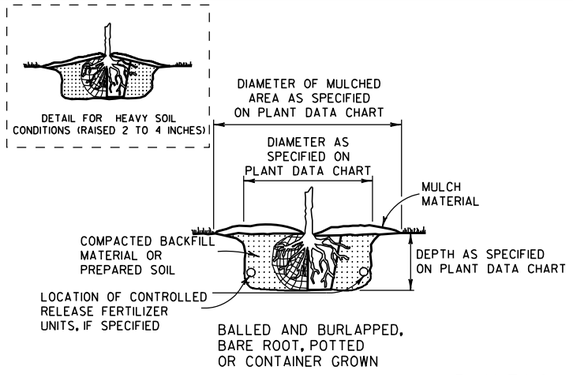
APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

6

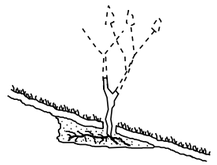
S.D.D. 13 C 18-3d



MACHINE MOVED

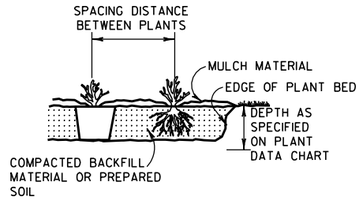


BALLED AND BURLAPPED, BARE ROOT, POTTED OR CONTAINER GROWN



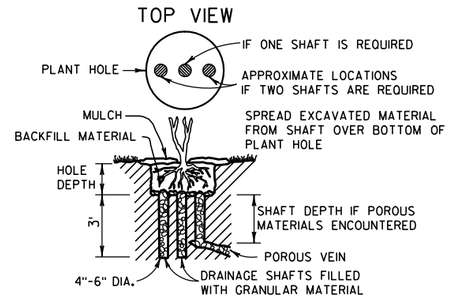
ACCOMMODATE ROOTS (SMOOTH AND STAGHORN SUMAC)

NOTE:
1) ENGINEER SHALL REQUIRE 3 SLITS IN POT TO SPEED DETERIORATION
2) METAL, PLASTIC OR OTHER NONDEGRADABLE POTS SHALL BE REMOVED PRIOR TO PLANTING



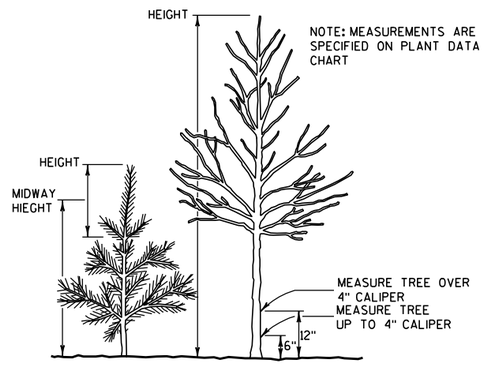
PREPARED BED (BARE ROOT AND POTTED)

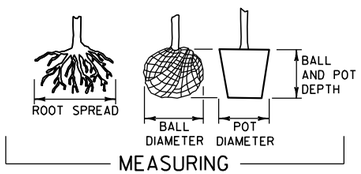
PLANTING



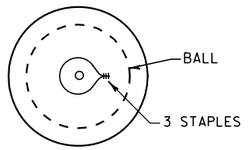
NOTE:
DRAINAGE SHAFT AS SPECIFIED ON PLANT DATA CHART

DRAINING

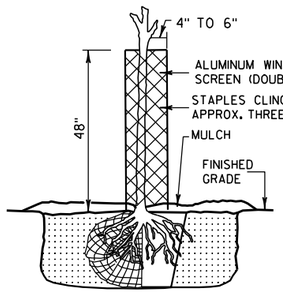




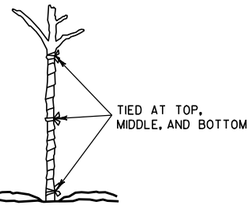
MEASURING



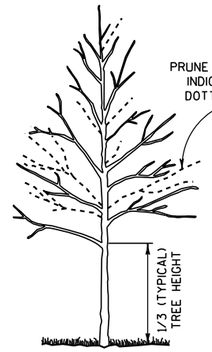
TOP VIEW



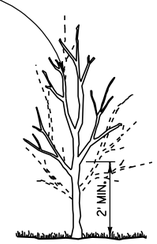
RODENT PROTECTION



WRAPPING



TALL DECIDUOUS TREES (ASH, MAPLE, LINDEN, OAK)



SINGLE STEMMED LOW DECIDUOUS TREES (CRABS AND OTHER SINGLE STEM TYPE)



MULTI-STEMMED LOW DECIDUOUS TREES OR LARGE SHRUBS (HAWTHORN, SERVICEBERRY)

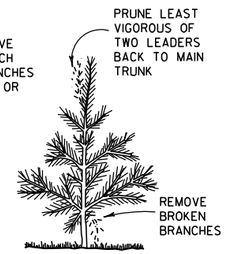
NOTE: WHEN PRUNING, PRESERVE CHARACTER AND SHAPE OF TREE. AVOID LEAVING STUBS - REMOVE BRANCH OR TWIG BACK TO THE NEAREST CROTCH
1) PRUNE TO REMOVE DEAD AND BROKEN BRANCHES
2) PRUNE TO REMOVE BRANCHES THAT TOUCH OR ARE TOO CLOSE TO OTHER BRANCHES



SHRUBS (GRAY DOGWOOD ARROWWOOD VIBURNUM)

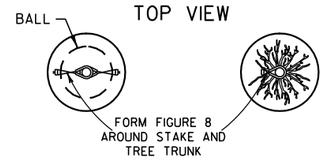


SUMAC

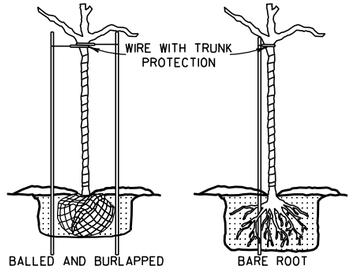


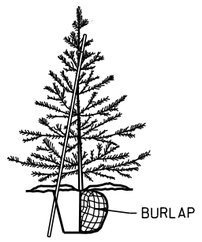
TREE TYPE EVERGREENS (PINE, SPRUCE, FIR) EVERGREENS USUALLY ARE NOT PRUNED

PRUNING



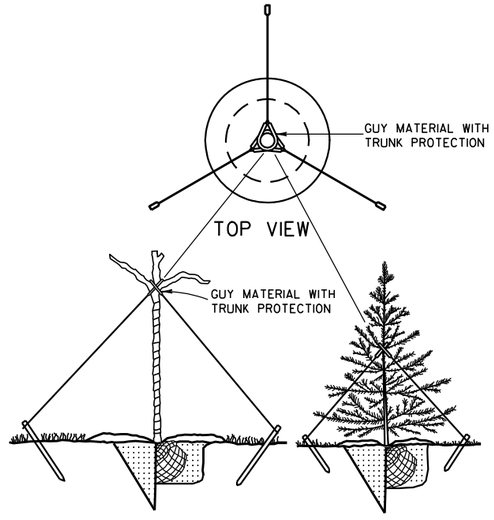






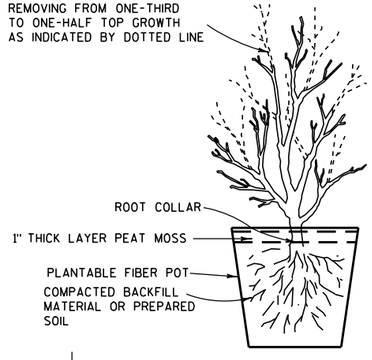
NOTE: BRACING STAKE
1) SHALL BE DRIVEN INTO THE GROUND AS CLOSE TO THE TREE AS POSSIBLE WITHOUT DAMAGING THE BRANCHES.
2) MAY BE DRIVEN AT SUCH AN ANGLE THAT IT DOES NOT PENETRATE THE BALL OR POT.
3) SHALL NOT PROTRUDE ABOVE THE TOP OF THE TREE; AND
4) SHALL HAVE A HOLE NEAR THE TOP TO HOLD THE WIRE IN PLACE.

BRACING



GUYING

PRUNE LARGER SHRUBS BY REMOVING FROM ONE-THIRD TO ONE-HALF TOP GROWTH AS INDICATED BY DOTTED LINE



POTTING

NOTES

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

BRACING, WRAPPING, GUYING, RODENT PROTECTION, FERTILIZER AND MULCH SHALL BE USED ONLY WHEN SPECIFIED ON THE PLANT DATA CHART (PART OF PLAN) OR SPECIAL PROVISIONS.

TREE PLANTING DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/11/94
DATE
/S/ Rory L. Rhinesmith
CHIEF METHODS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 A 2-1

① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

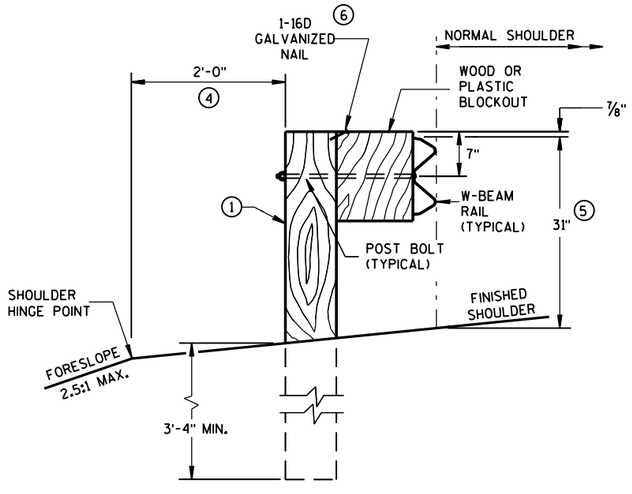
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ 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 OF LARGE ROCKS.

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).

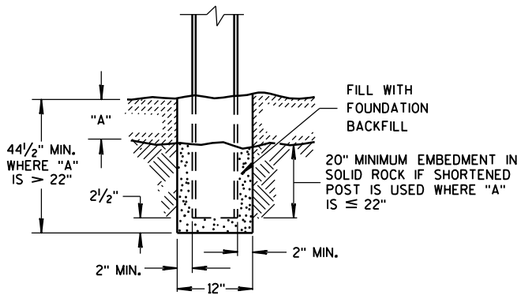
⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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.



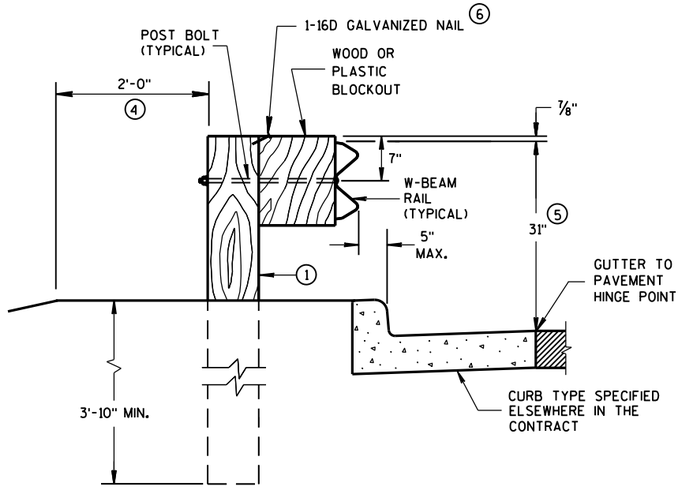
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



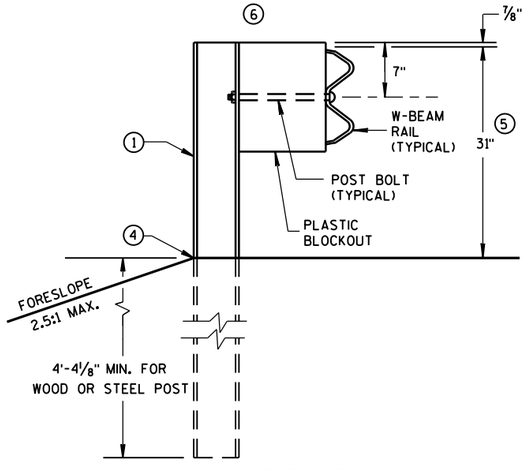
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



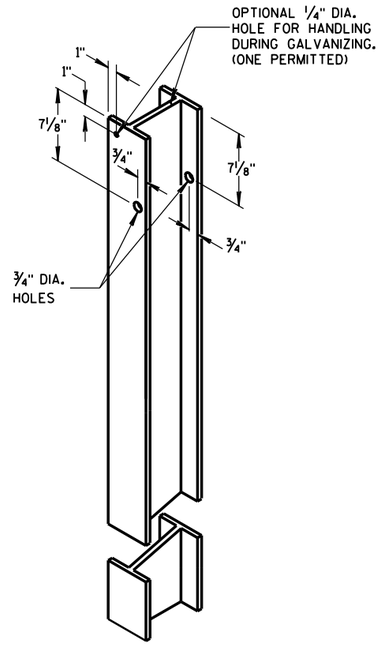
END VIEW

LOCATED ALONG A CURBED ROADWAY

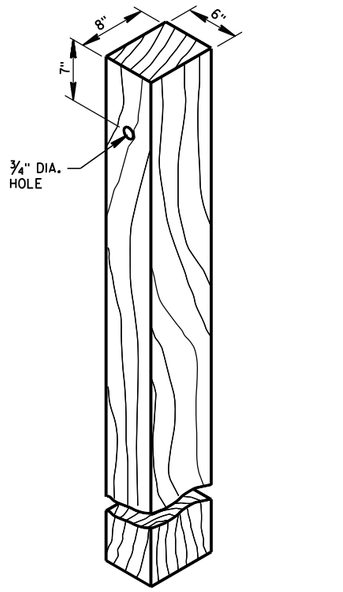


END VIEW

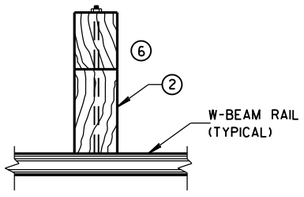
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



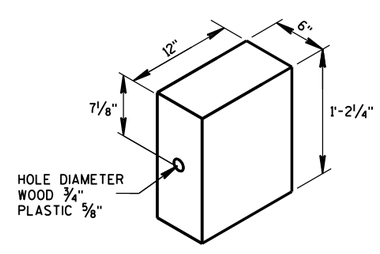
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



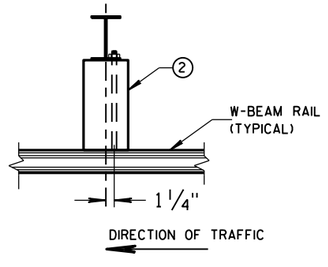
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②



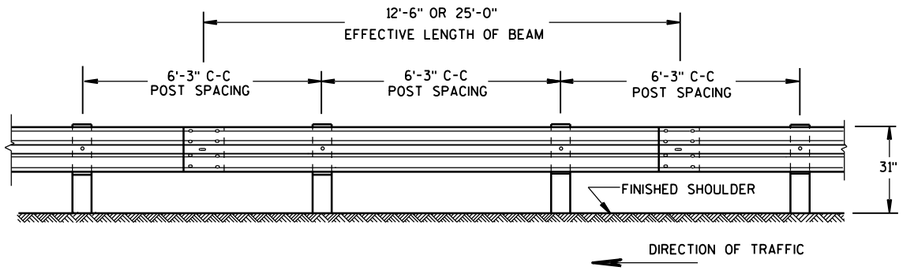
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

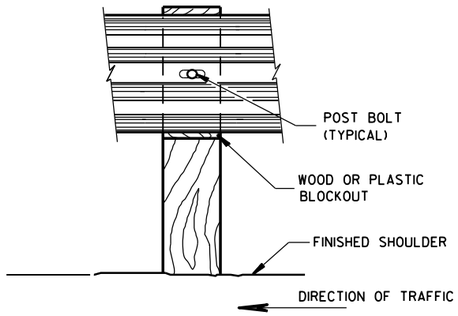
6

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FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

7. PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

8. 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.

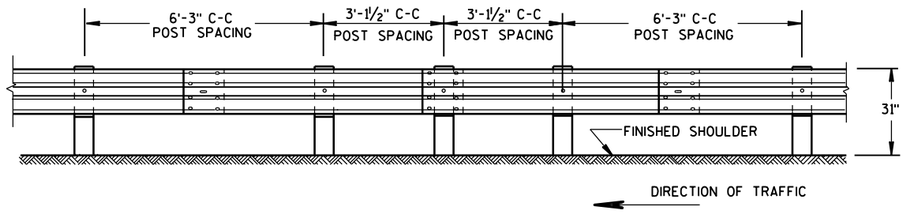
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

10. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

11. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

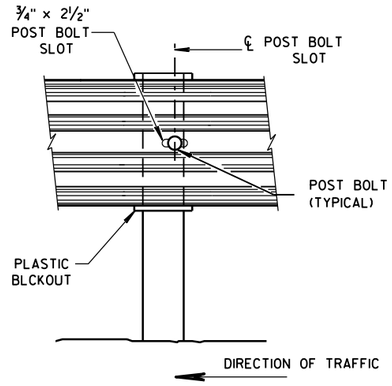
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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

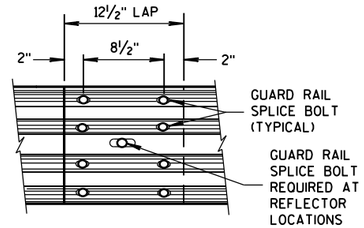


FRONT VIEW

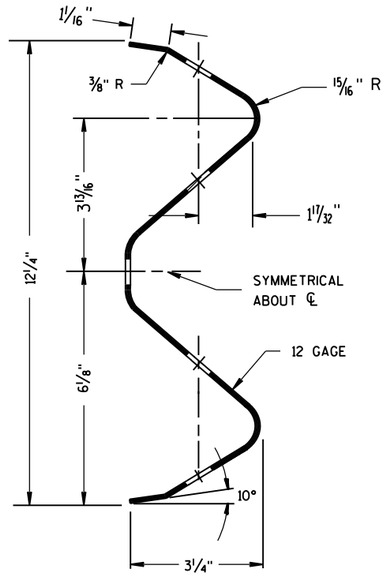
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



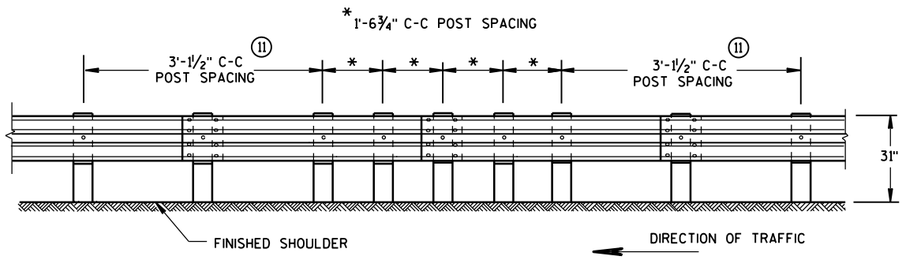
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

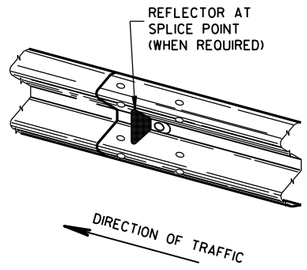


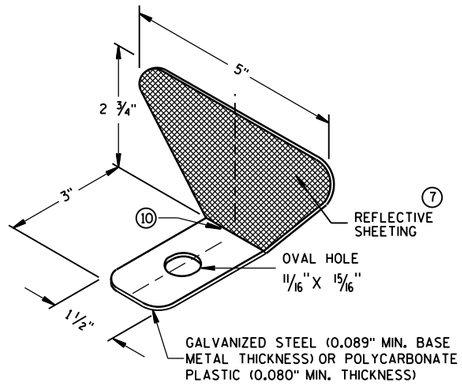
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

REFLECTOR SPACING (8)

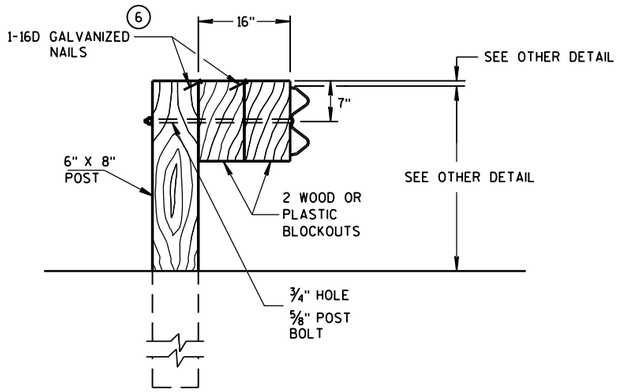
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 (9)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (10)	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

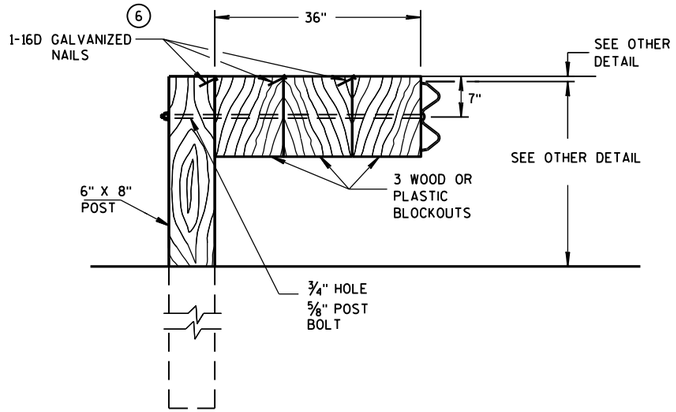
S.D.D. 14 B 42-4b

S.D.D. 14 B 42-4b



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.

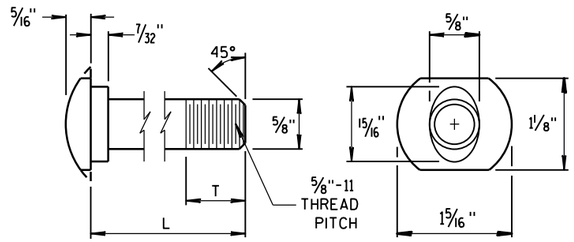


DETAIL FOR 36" BLOCKOUT DEPTH

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.

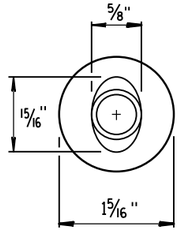
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

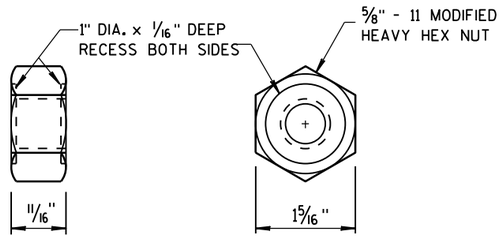


POST BOLT TABLE

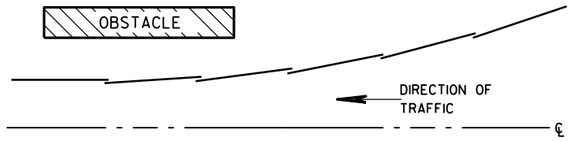
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

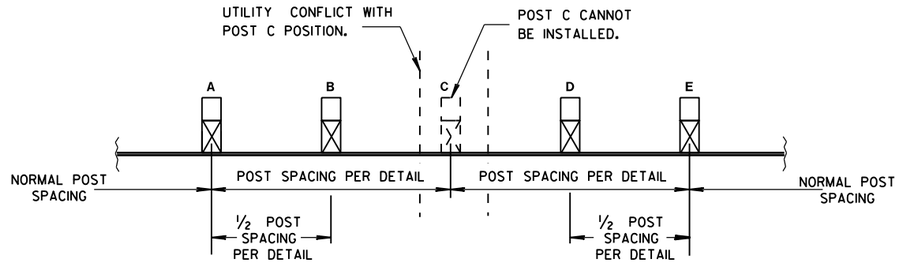


POST BOLT, SPLICE BOLT AND RECESS NUT

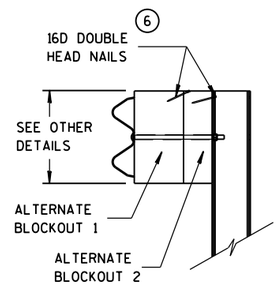


PLAN VIEW

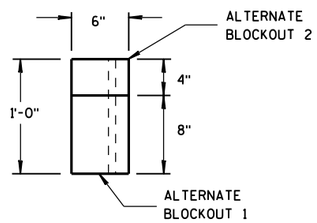
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

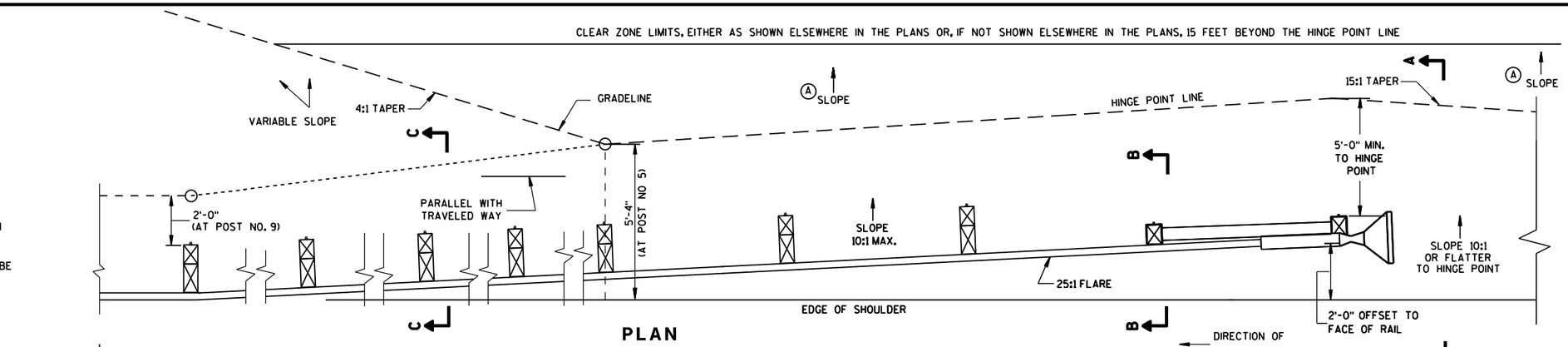
SEE SDD 14B42 FOR MORE INFORMATION.

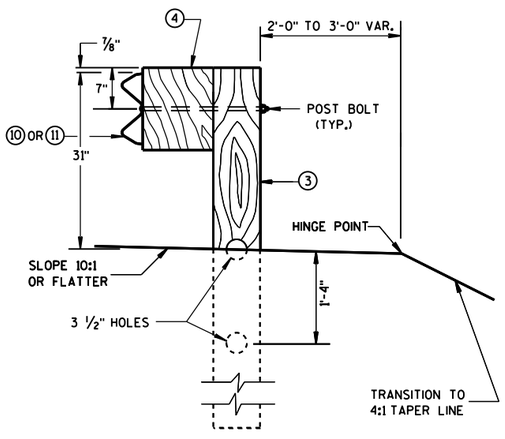
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

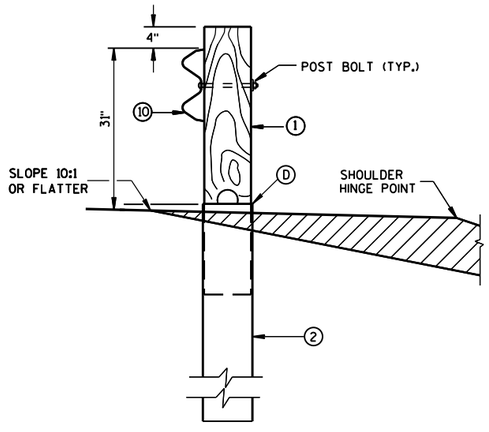
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

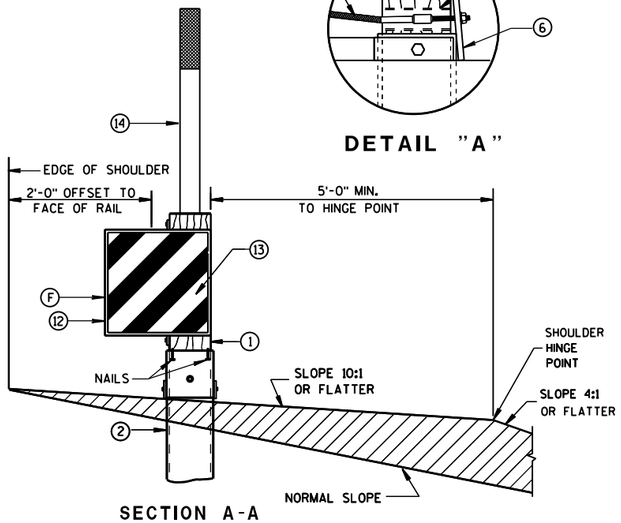




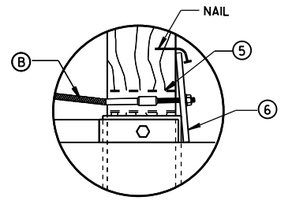
SECTION C-C
TYPICAL AT POST NOS. 3-9



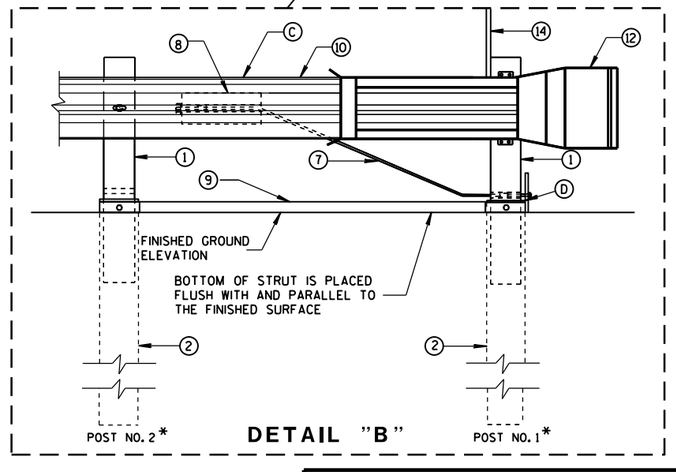
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"

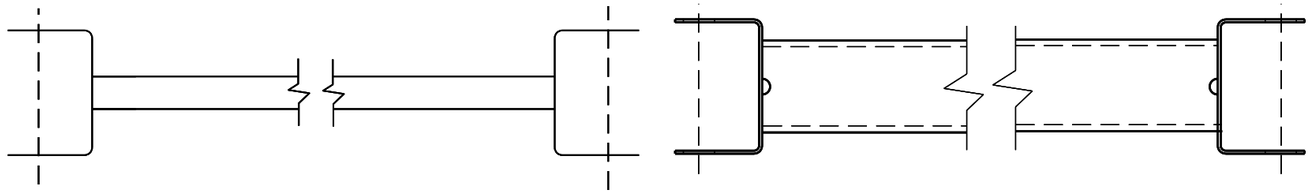


DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

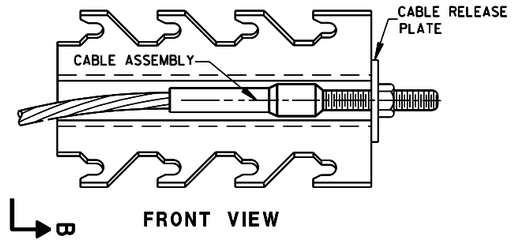
S.D.D. 14 B 44-2a



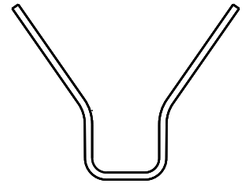
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

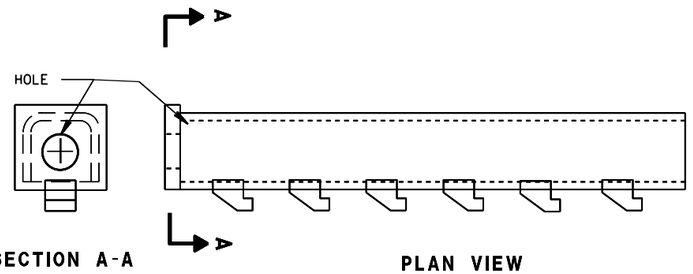
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



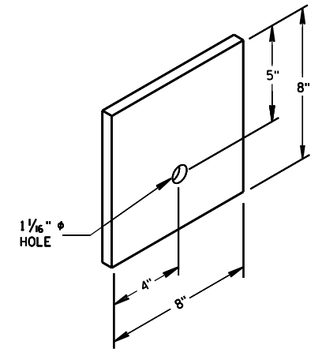
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



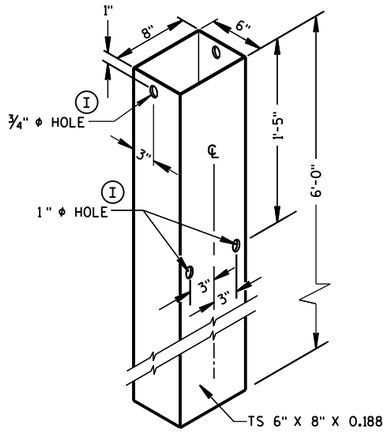
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

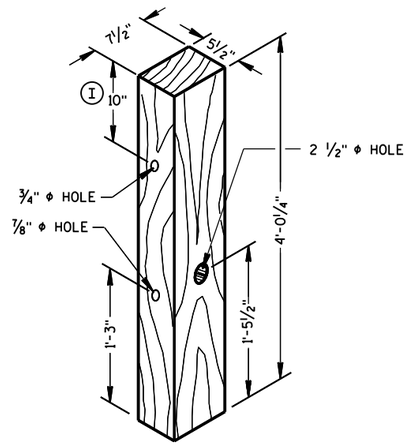
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 44-2b

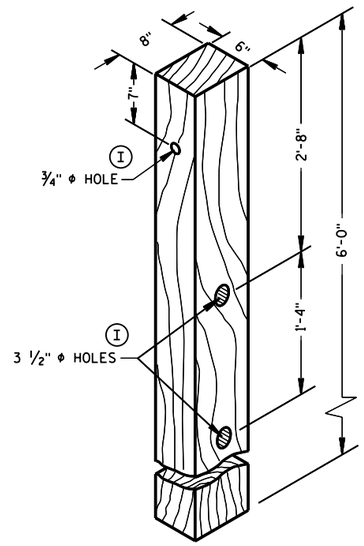


FOUNDATION TUBE (2)



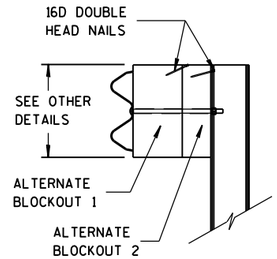
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

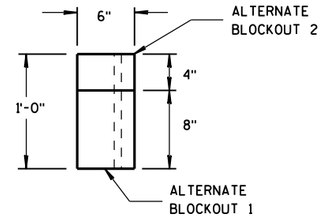


POSTS NUMBER 3-9

WOOD CRT POST (3)

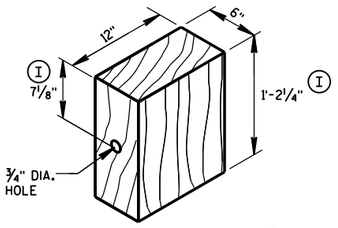


SIDE VIEW



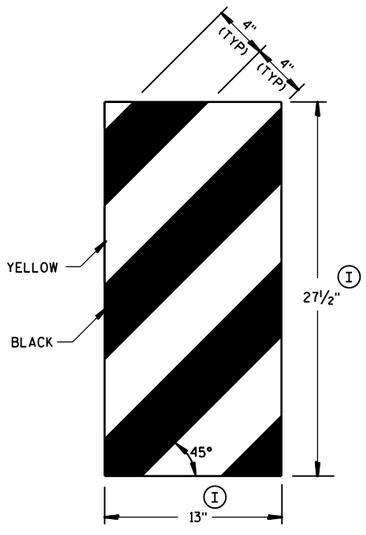
TOP VIEW

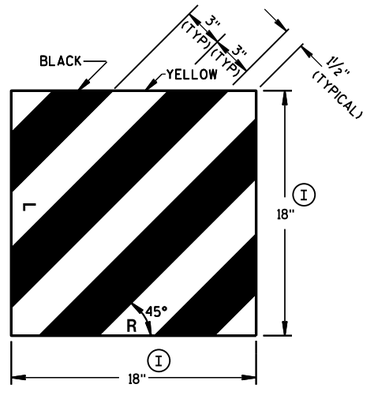
ALTERNATE WOOD BLOCKOUT DETAIL



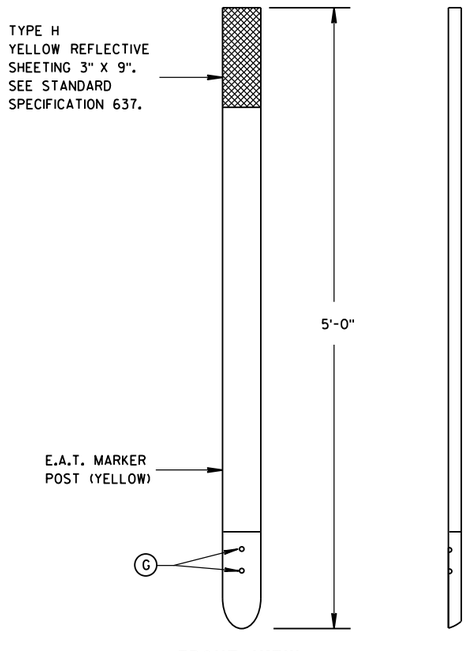
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





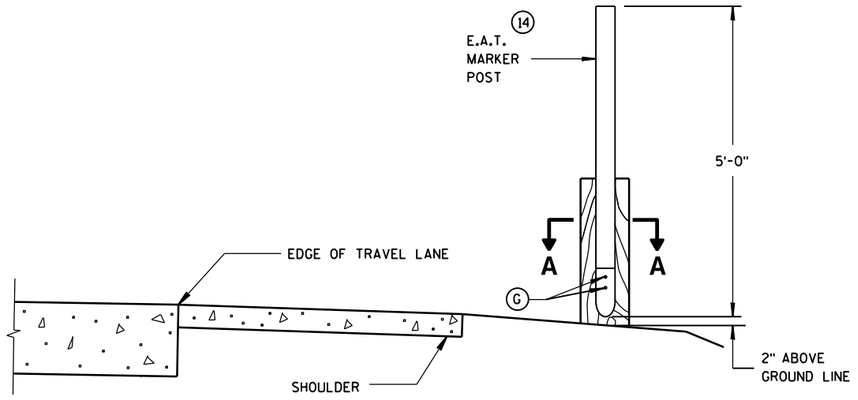
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

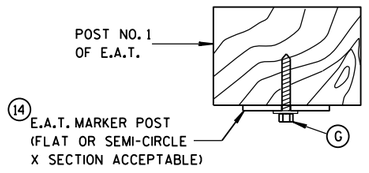
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

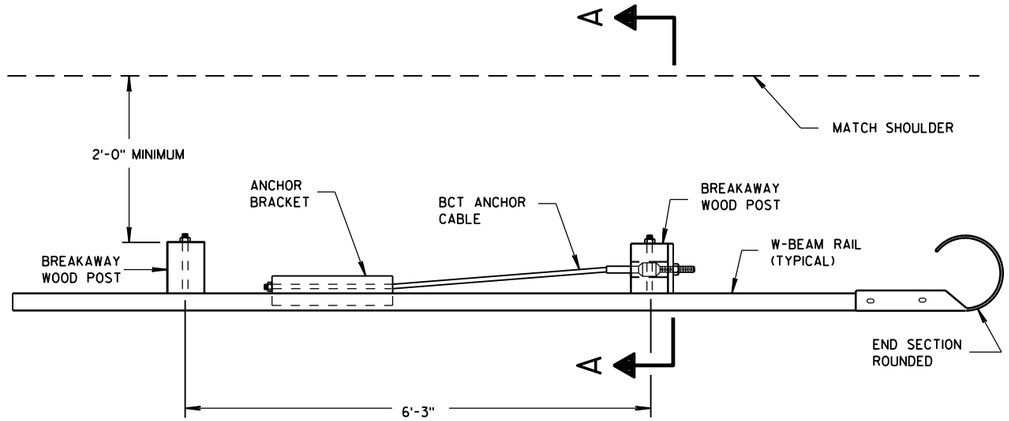
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

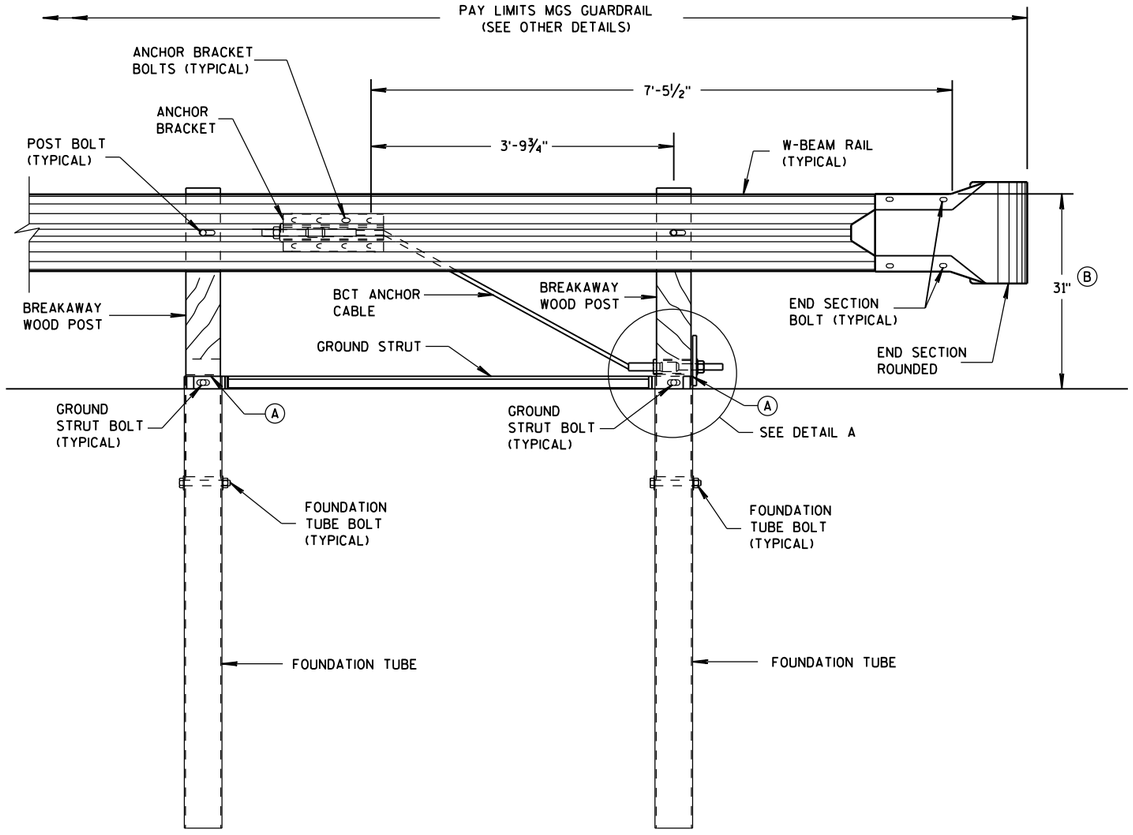
FHWA

6

S.D.D. 14 B 44-2c

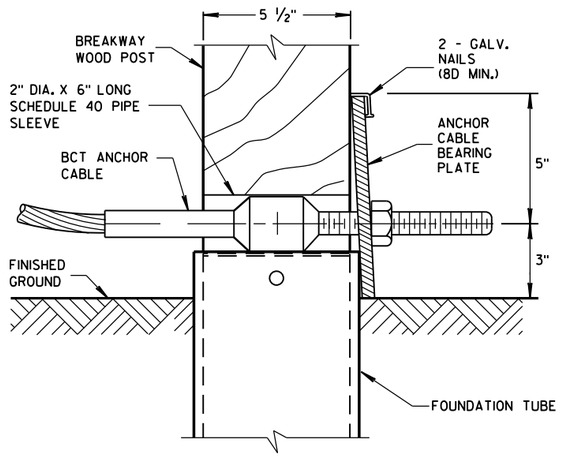


PLAN VIEW



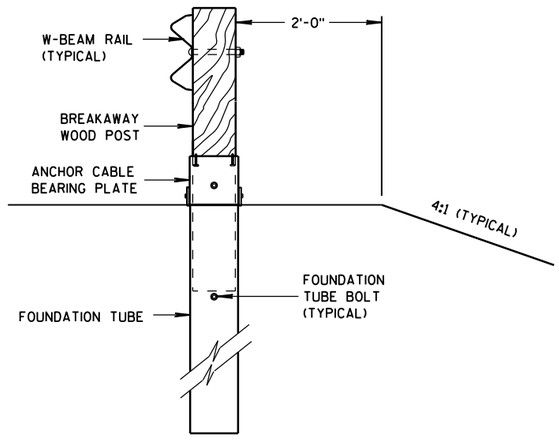
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

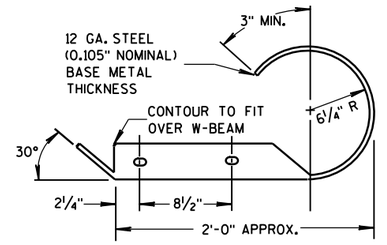
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

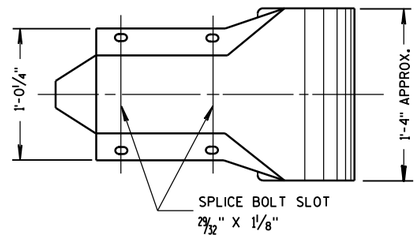
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



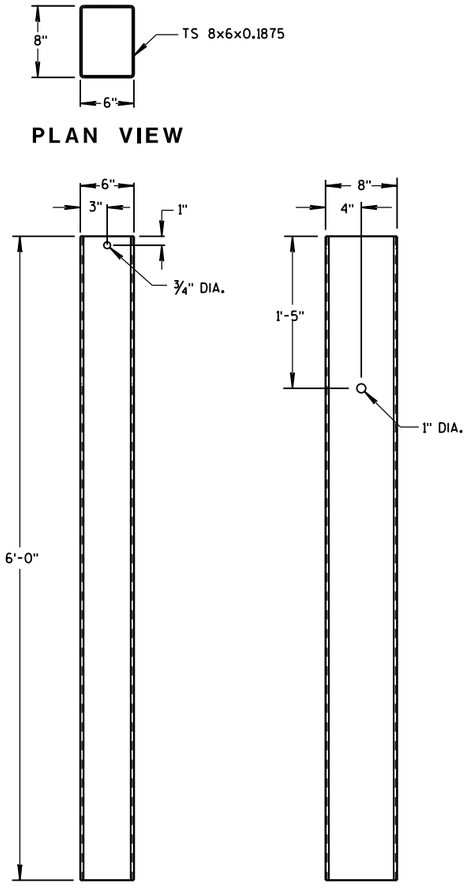
FRONT VIEW

W BEAM END
SECTION ROUNDED

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

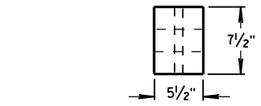
6
S.D.D. 14 B 47-2a



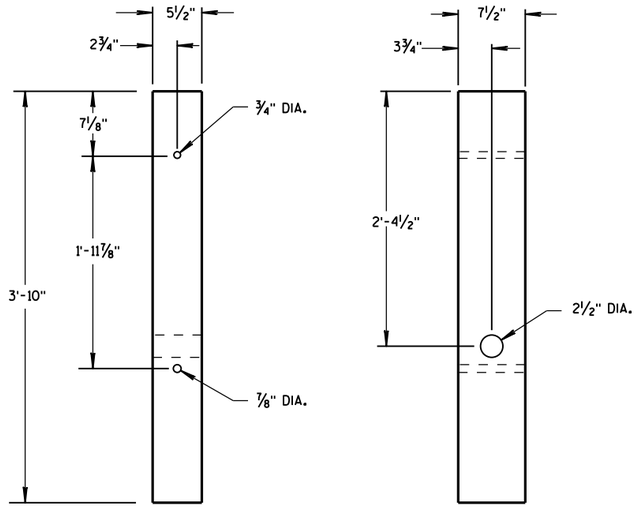
PLAN VIEW

FRONT VIEW SIDE VIEW

FOUNDATION TUBE



PLAN VIEW

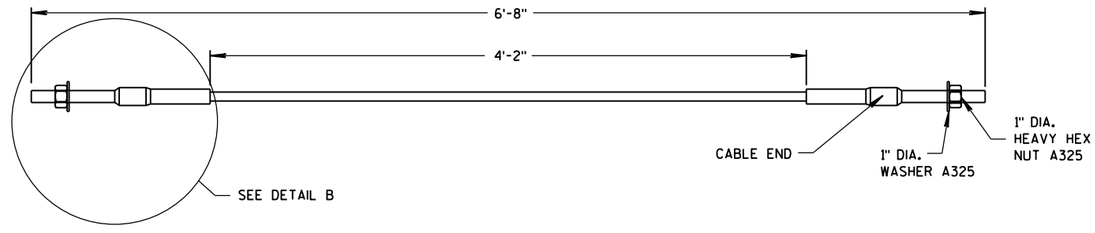


FRONT VIEW SIDE VIEW

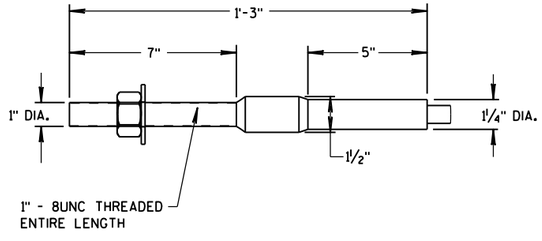
BREAKAWAY WOOD POST

GENERAL NOTES

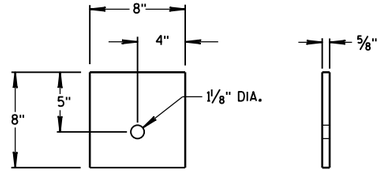
BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.



BCT ANCHOR CABLE



DETAIL B



SIDE VIEW FRONT VIEW

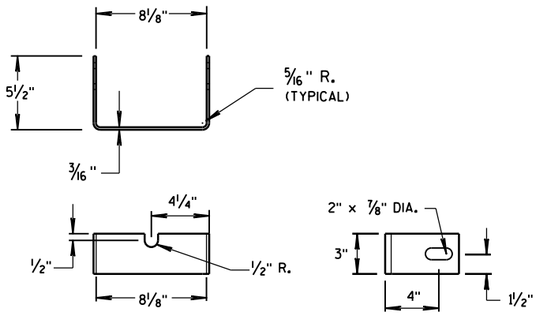
ANCHOR CABLE
BEARING PLATE

MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

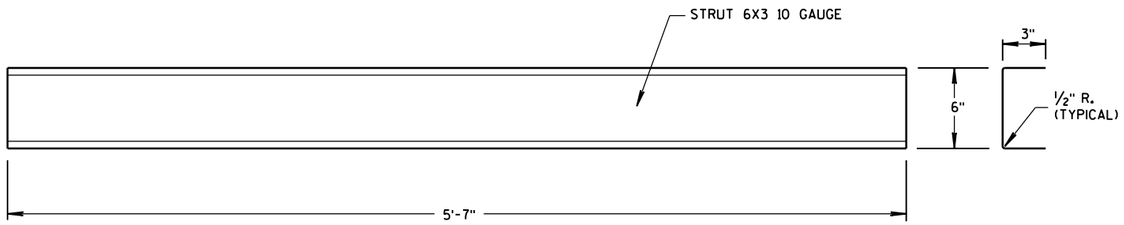
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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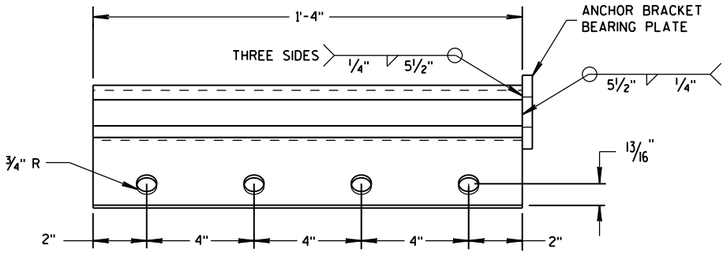
S.D.D. 14 B 47-2b

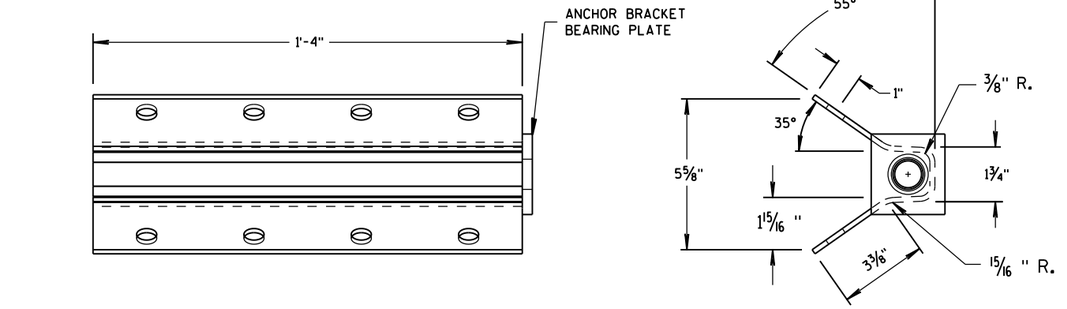


YOKE DETAIL

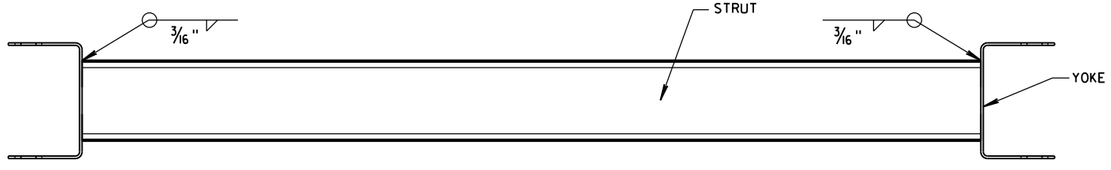


STRUT DETAIL

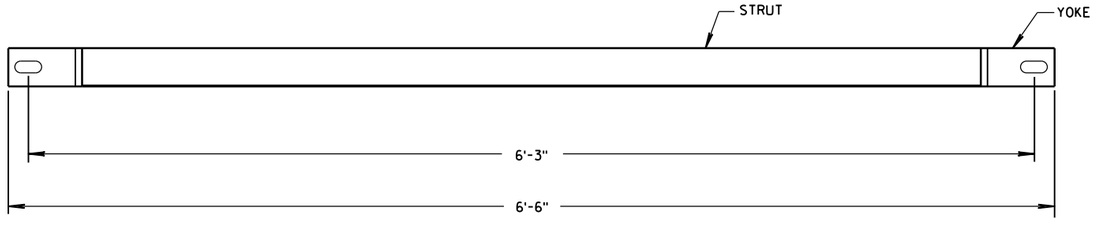




ANCHOR BRACKET

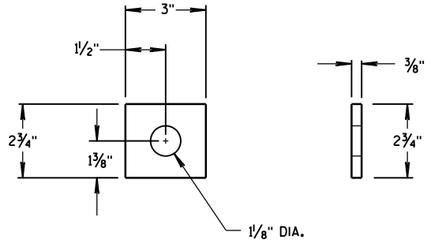


PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

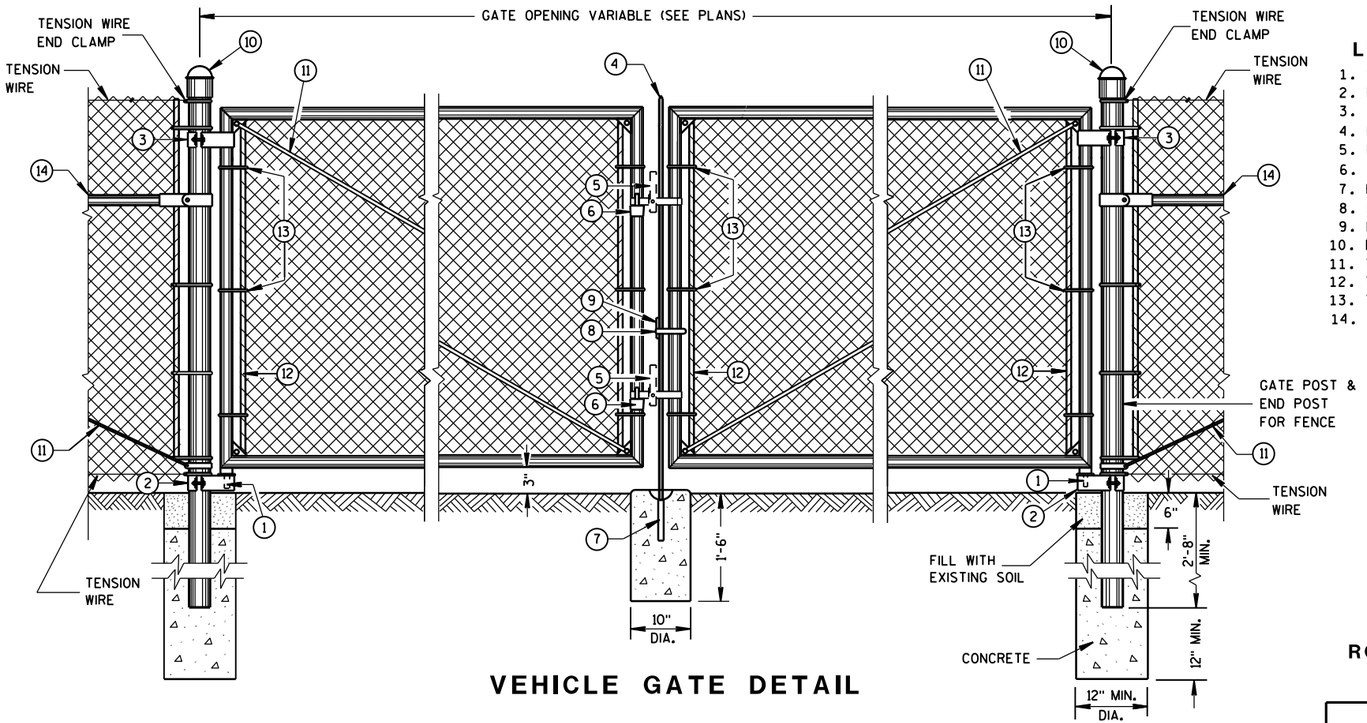
FHWA

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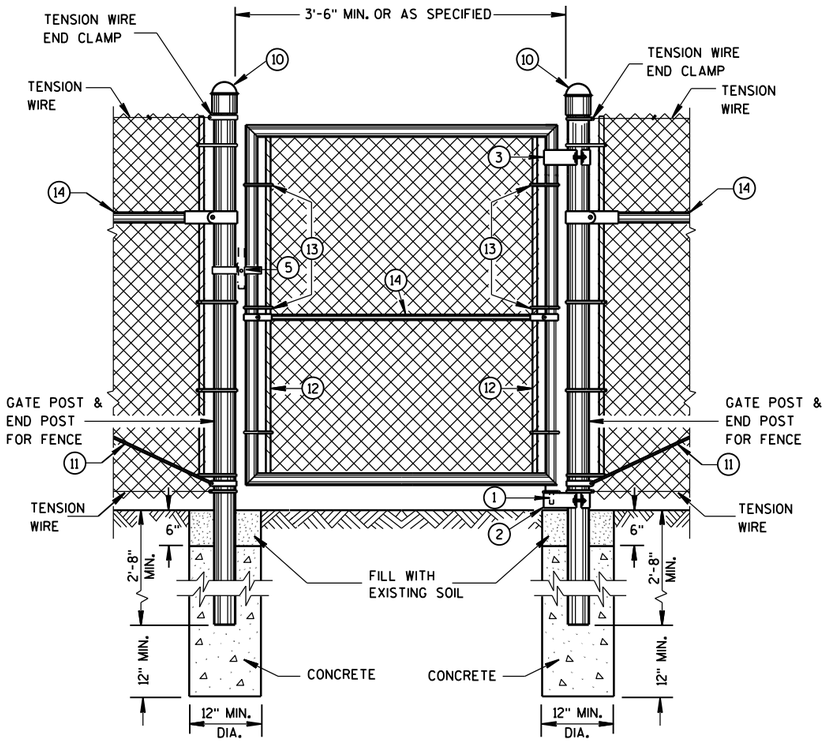
S.D.D. 14 B 47-2c

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S.D.D. 14 B 47-2c



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. 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.

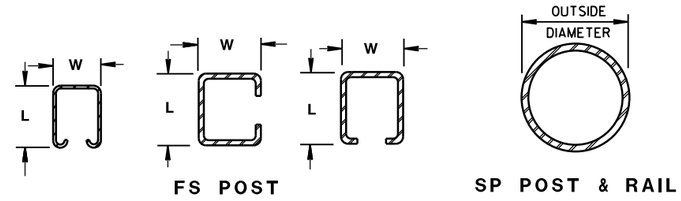
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

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.



FS POST — SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

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 EQUAL TO 8 FT.	FS3

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

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

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

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	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

REQUIRED POST SIZE FOR GATES

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

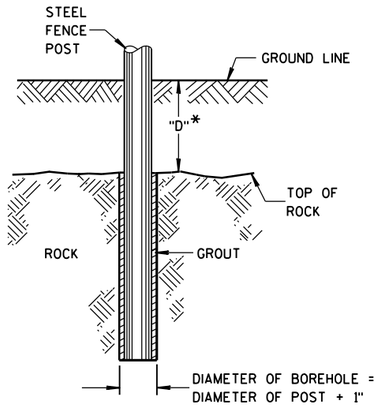
ROUND STEEL FENCE POST (1.8 OZ./SQ. FT. COATING)

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

FENCE CHAIN LINK

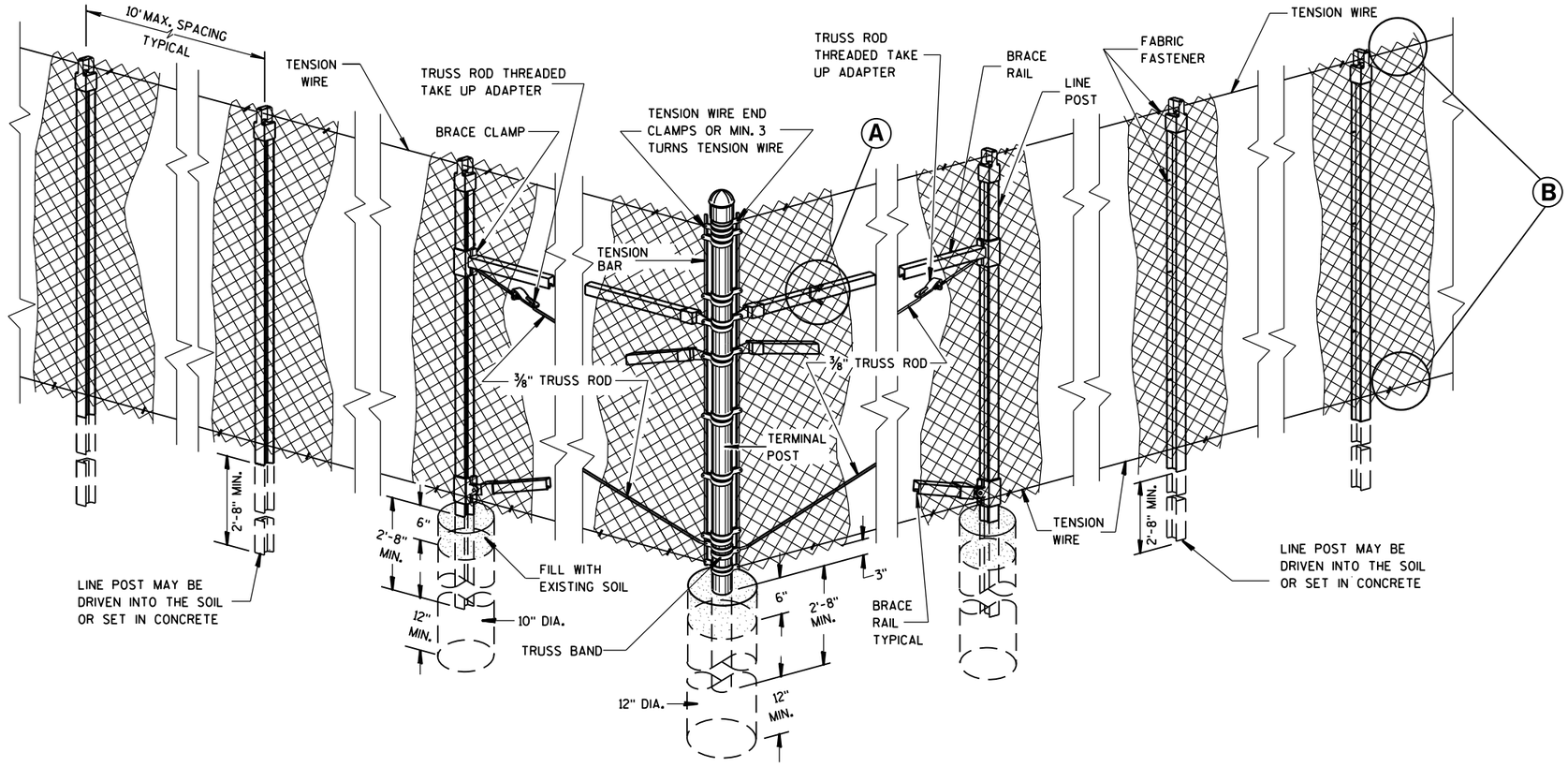
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 230

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S.D.D. 15 B 3-15a

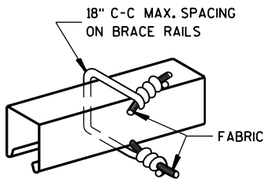


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



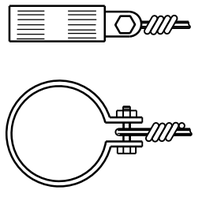
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



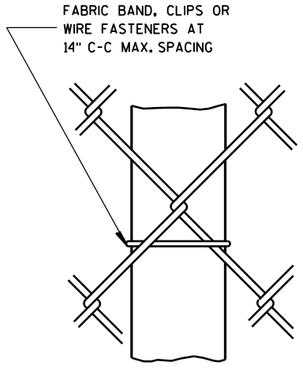
BRACE RAIL

FABRIC FASTENER

Ⓐ



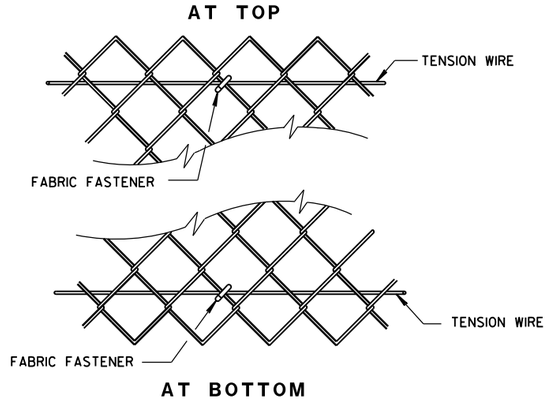
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

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FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

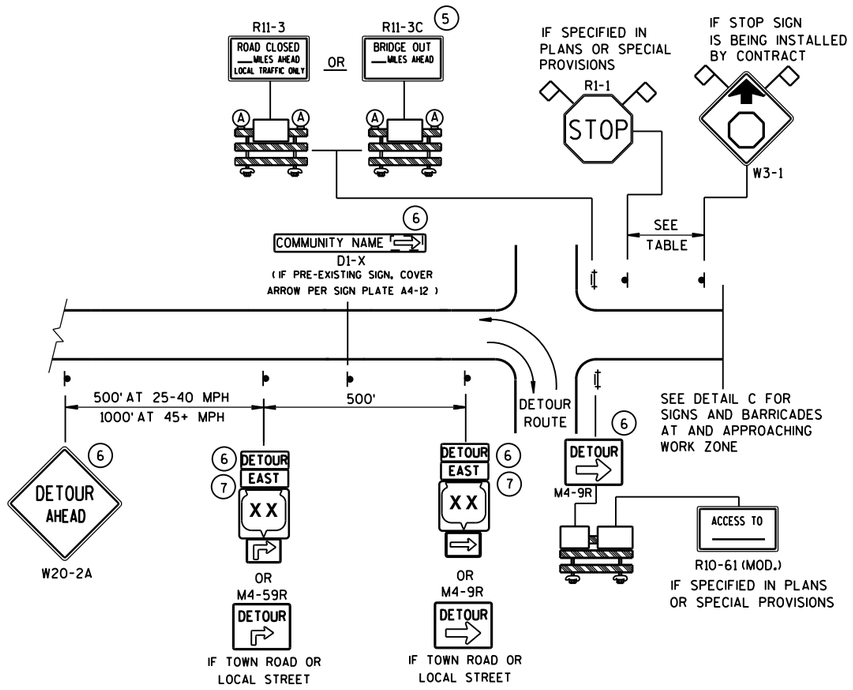
APPROVED
FEB. 2015 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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S.D.D. 15 B 3-15b

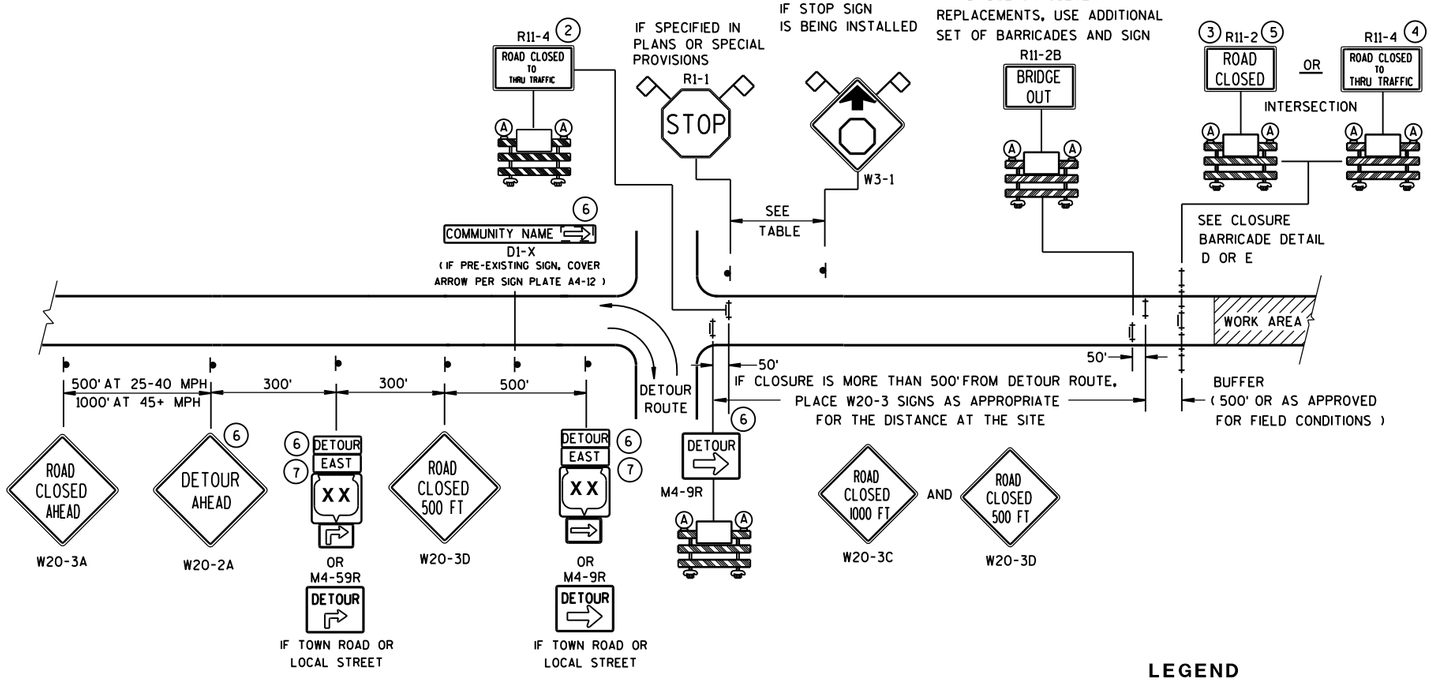
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S.D.D. 15 B 3-15b



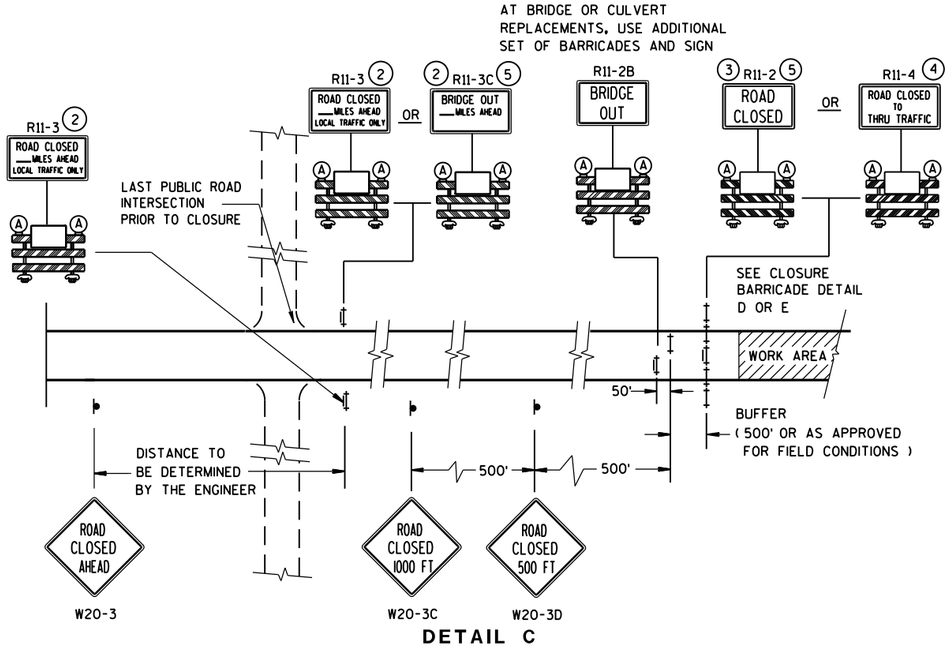
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

SEE SDD 15C2-SHEET "**b**"
FOR GENERAL NOTES
AND FOOTNOTES (1) THROUGH (7)

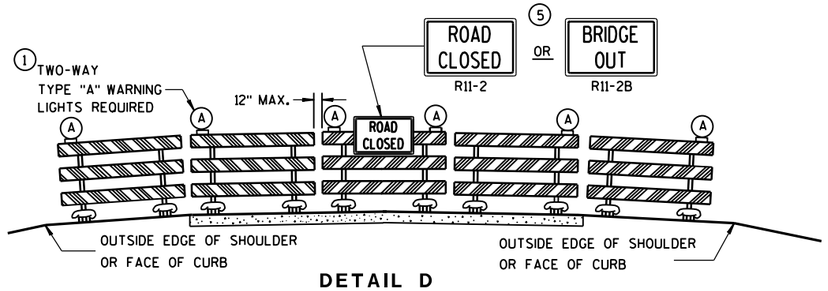
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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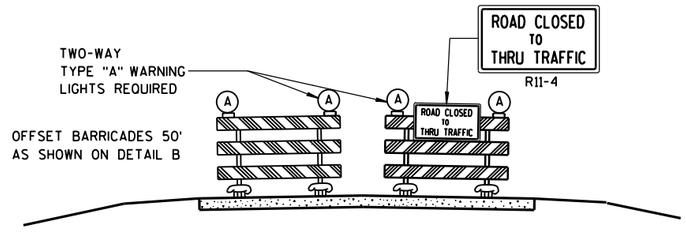
S.D.D. 15 C 2-6a



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 SUPPORTS.

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 BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE 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, 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". (30" X 15" 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.)
- M05-1 AND M06-1 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".

(1) 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).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT 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 LANE 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 SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

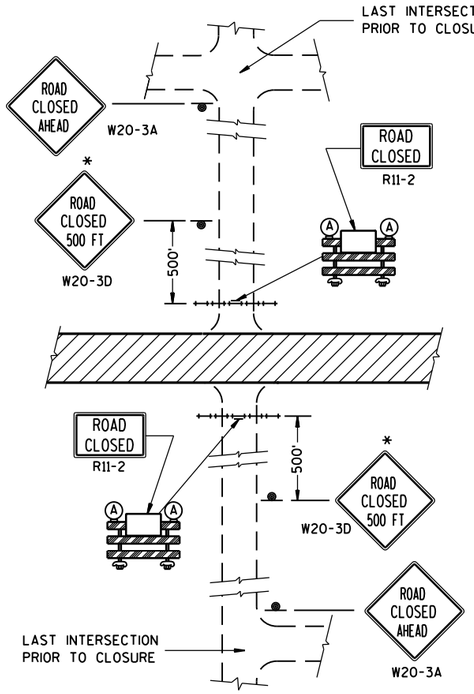
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI
FHWA — FIC

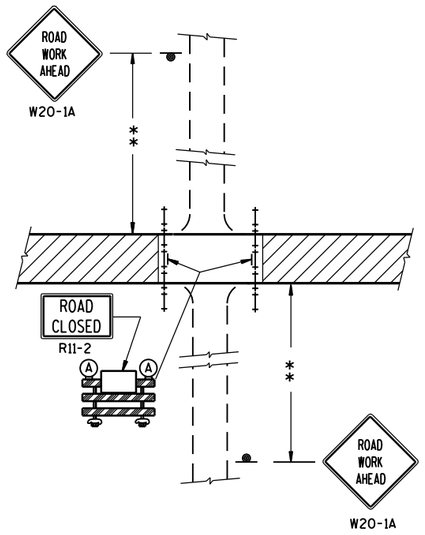
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S.D.D. 15 C 2-6b



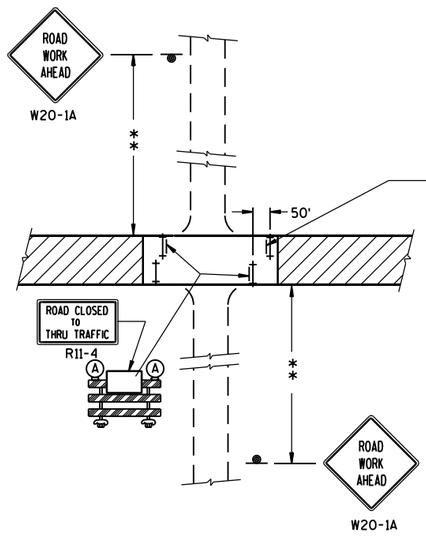
DETAIL 1

(NO ACCESS TO PROJECT)



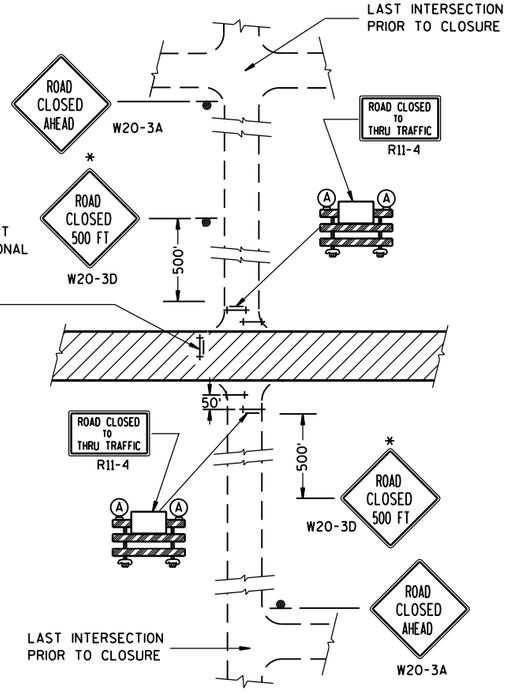
DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT).



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

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.

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 PORTABLE SUPPORTS.

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)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO... SAFETY ENGI... — FHWA

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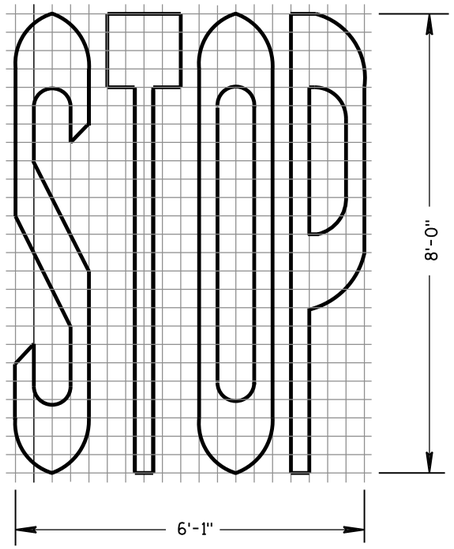
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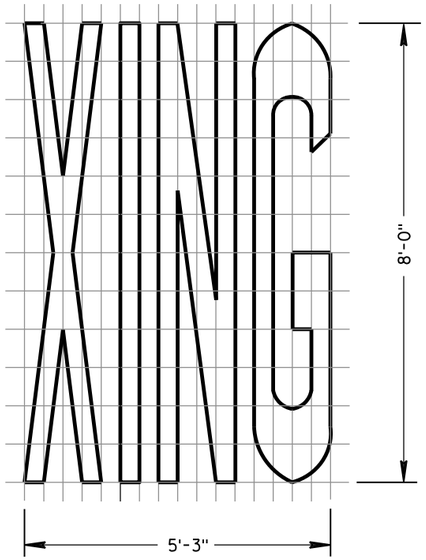
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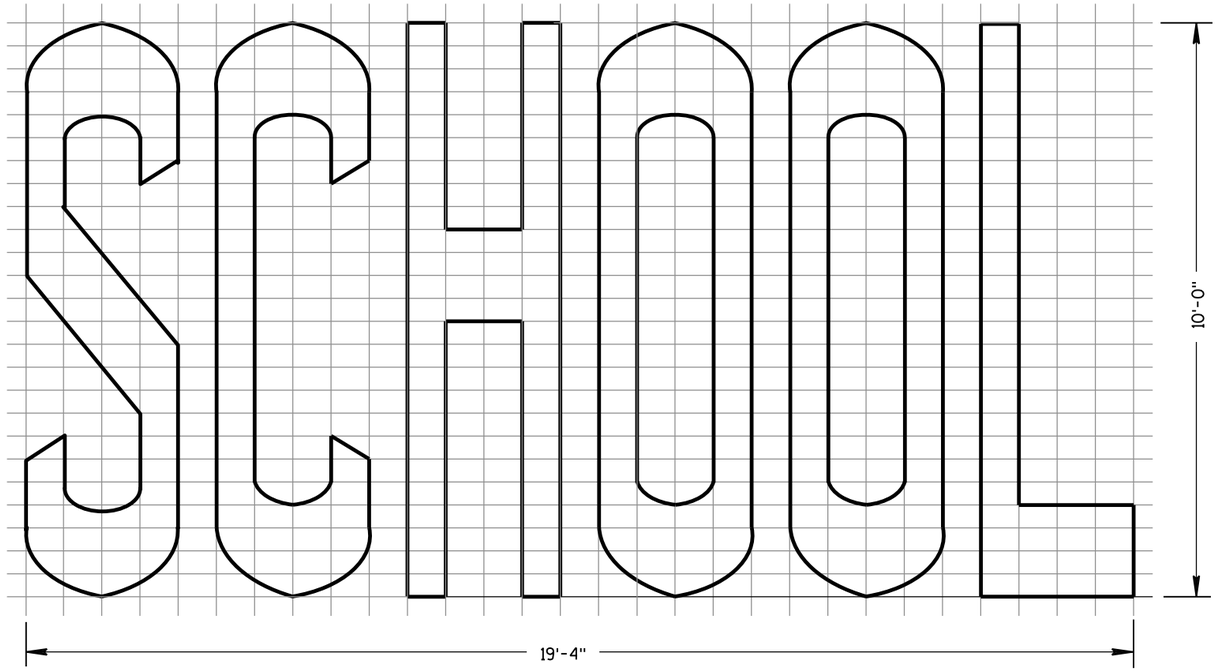
S.D.D. 15 C 3-3

GENERAL NOTES

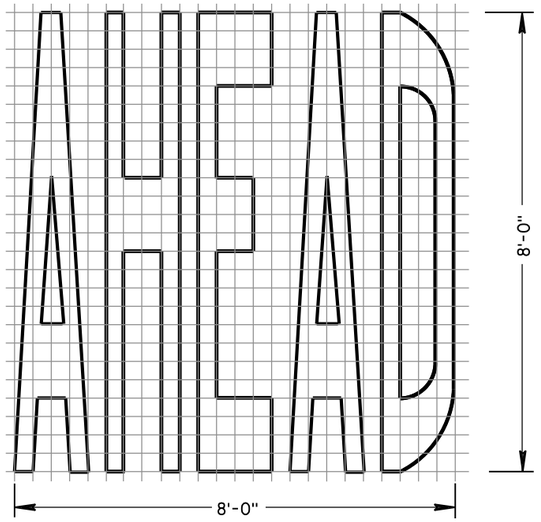
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

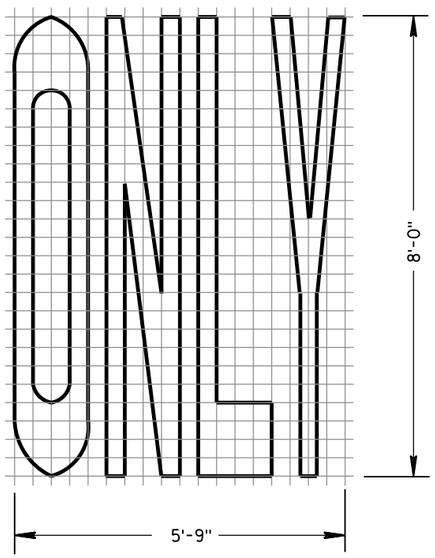


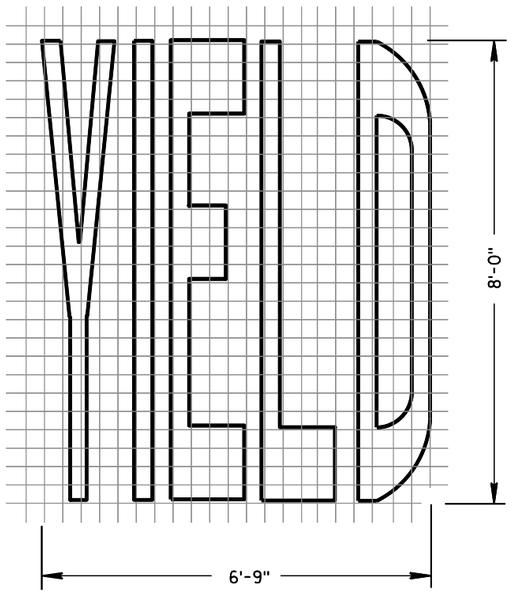


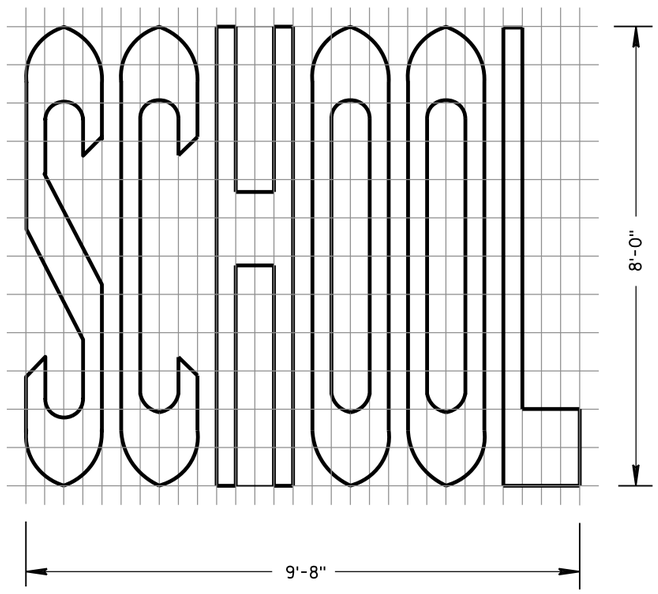


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

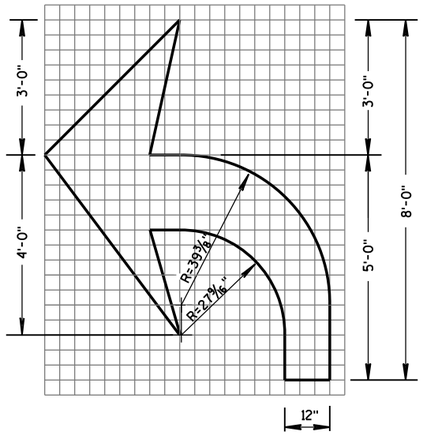
APPROVED

4-18-16	/S/ Matthew R. Rauch	
DATE	STATE SIGNING AND MARK	EER

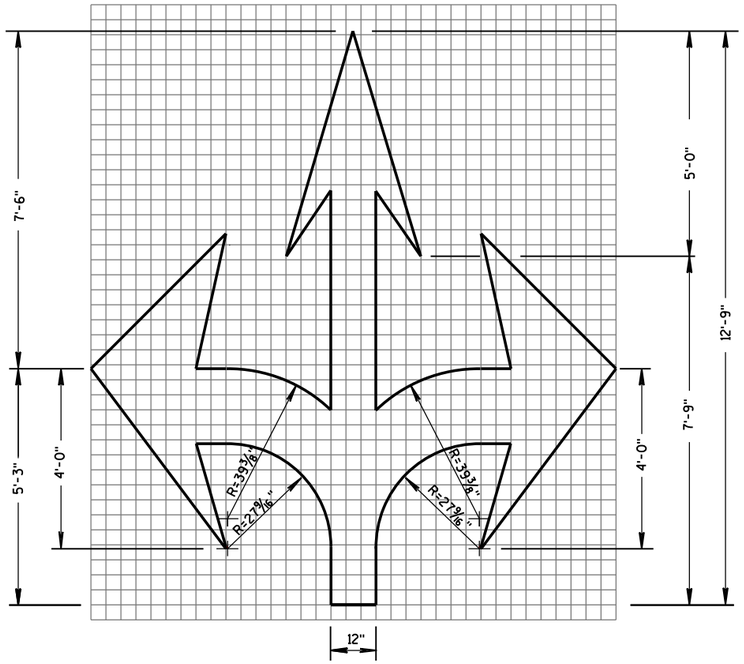
FHWA

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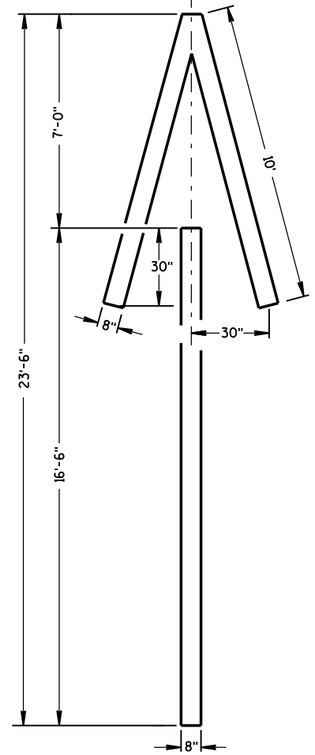
S.D.D. 15 C 7-13b



TYPE 2



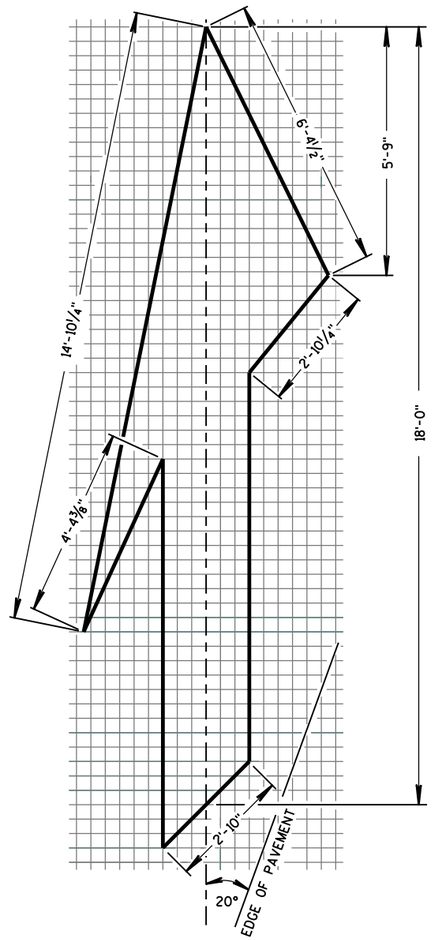
TYPE 6



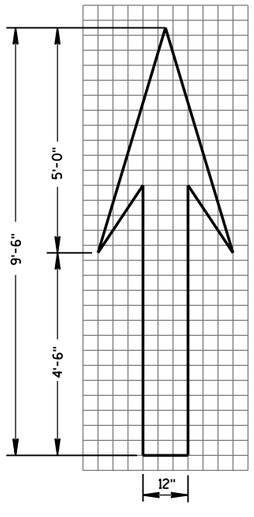
TYPE 4

GENERAL NOTES

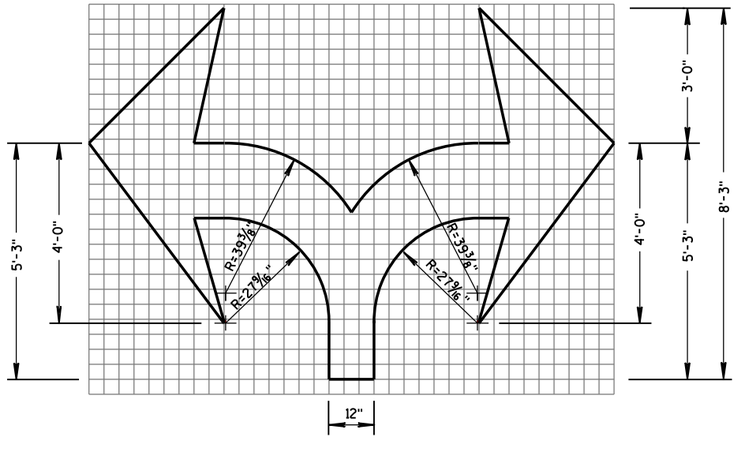
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



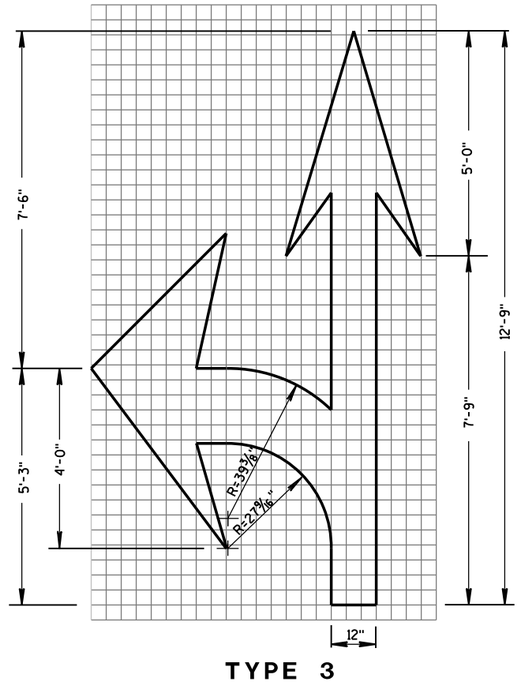
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

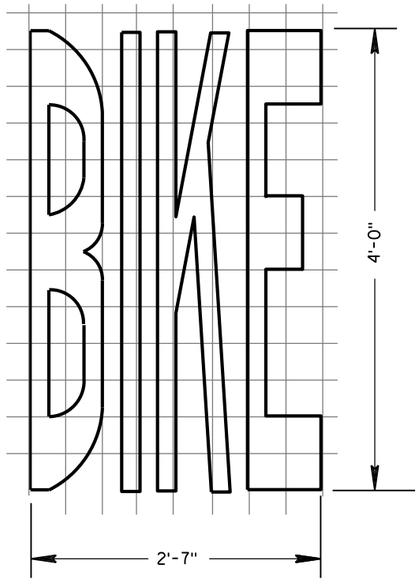
APPROVED
4-18-16
DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAR
NEER
FHWA

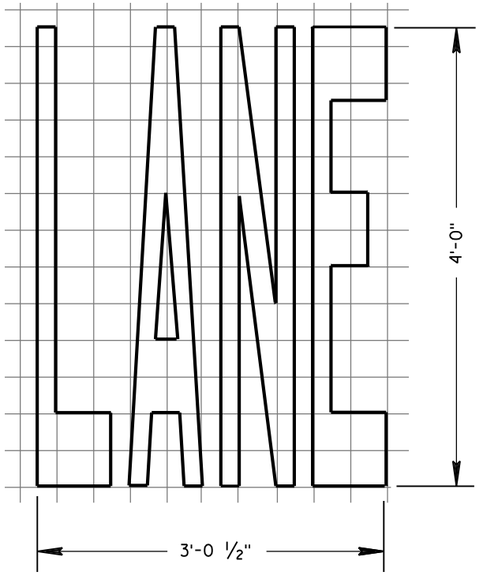
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S.D.D. 15 C 7-13c

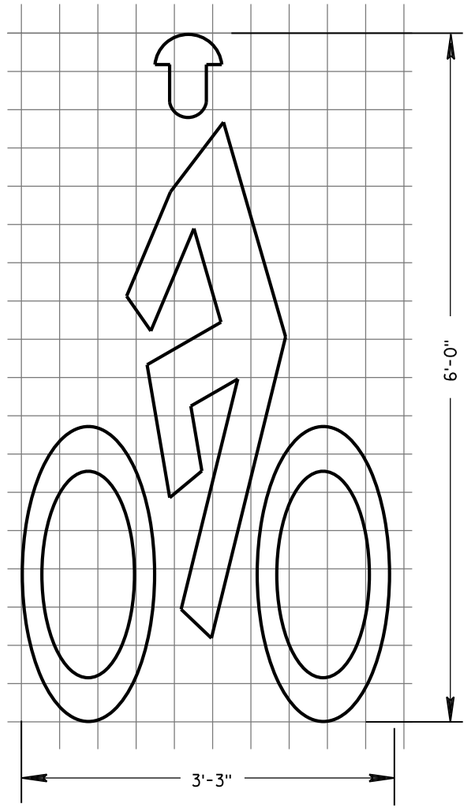
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S.D.D. 15 C 7-13c

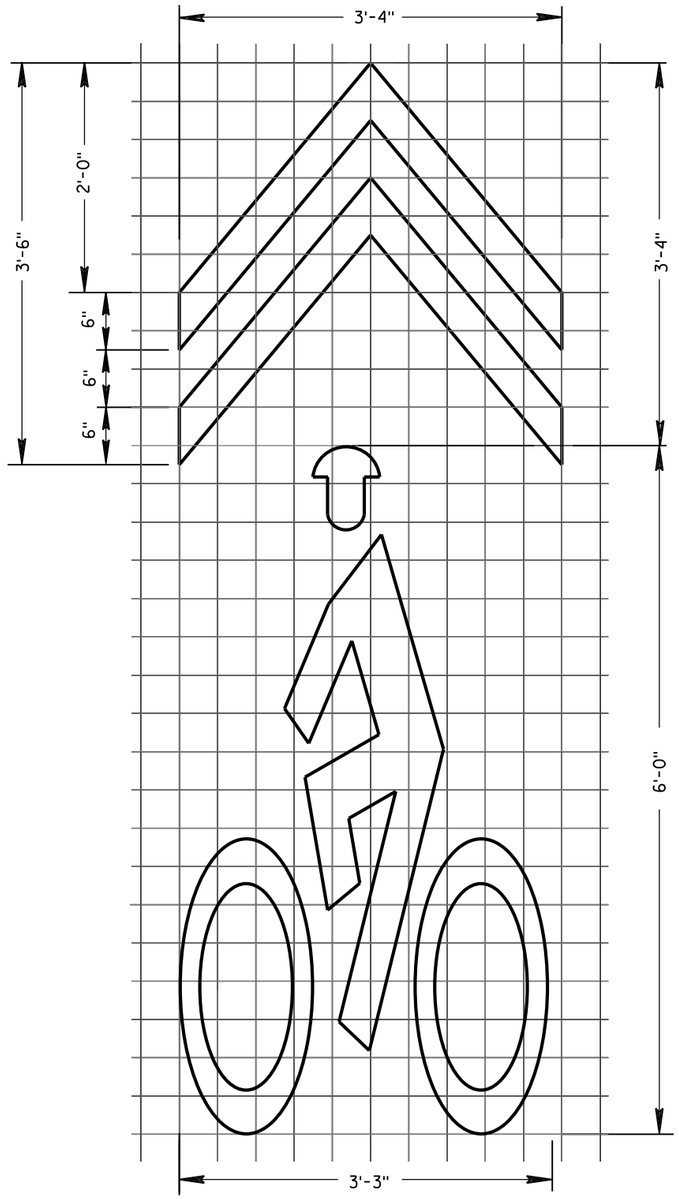




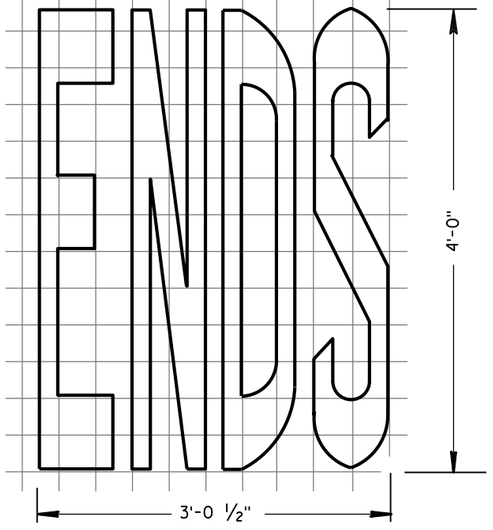
BIKE LANE WORDS



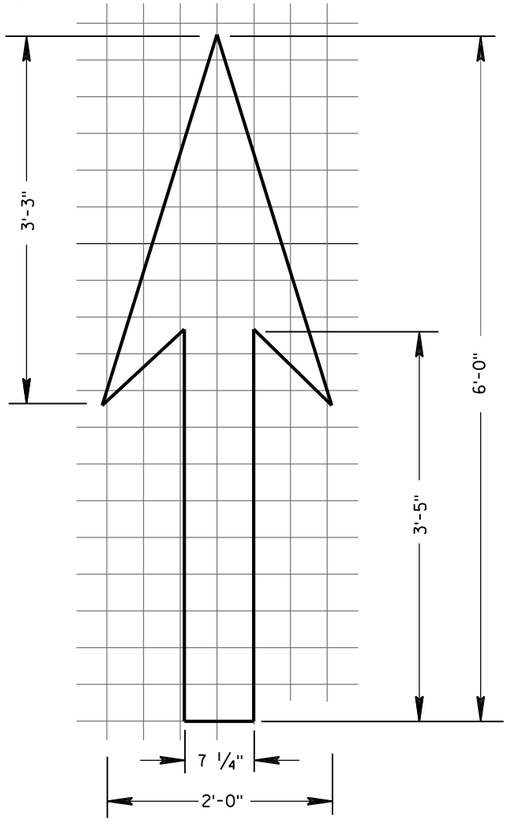
BIKE LANE SYMBOL



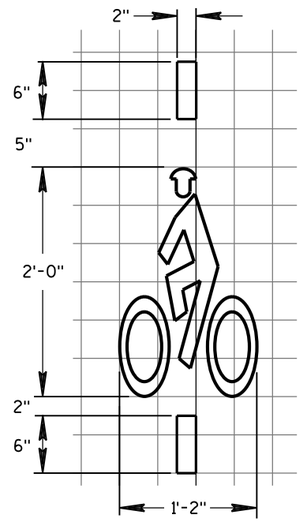
BIKE SYMBOL FOR SHARED LANE



BIKE LANE WORDS



BIKE LANE ARROW



BICYCLE DETECTOR PAVEMENT MARKING

GENERAL NOTES

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

PAVEMENT MARKING FOR BIKE LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARK ENGINEER

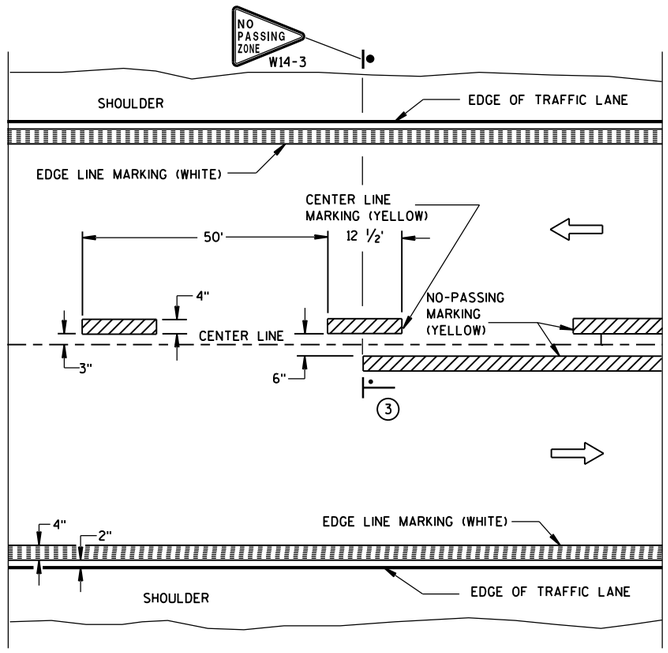
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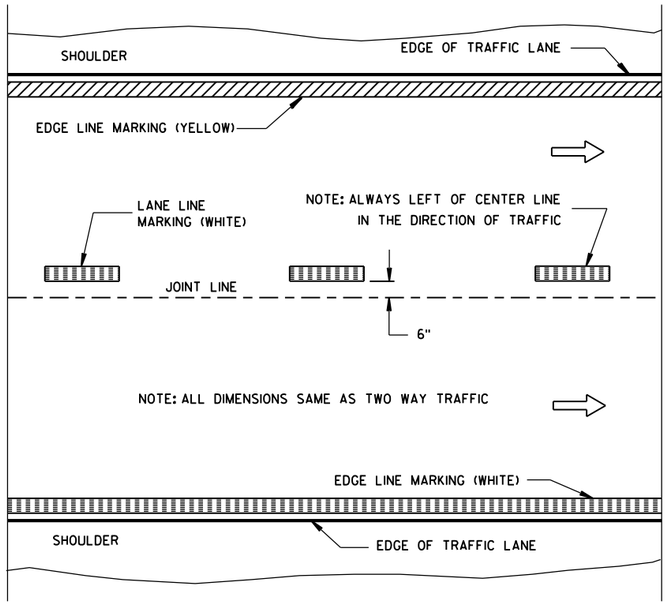
S.D.D. 15 C 7-13e

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S.D.D. 15 C 7-13e

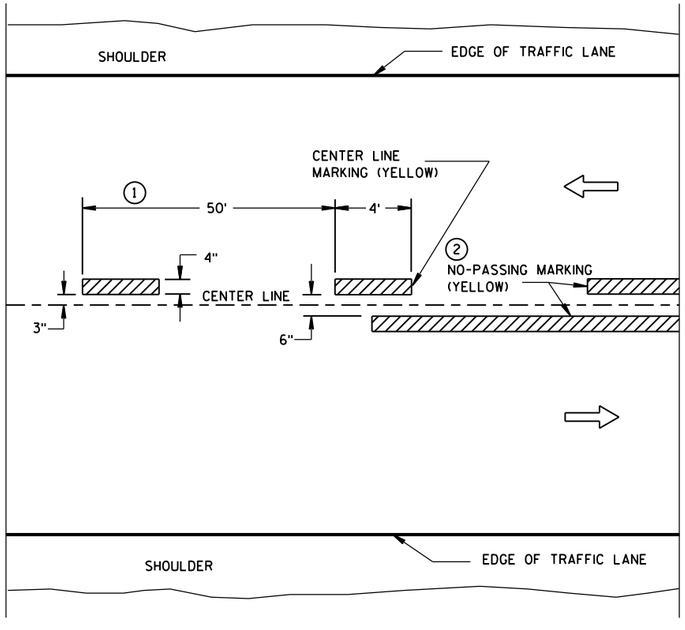


TWO WAY TRAFFIC

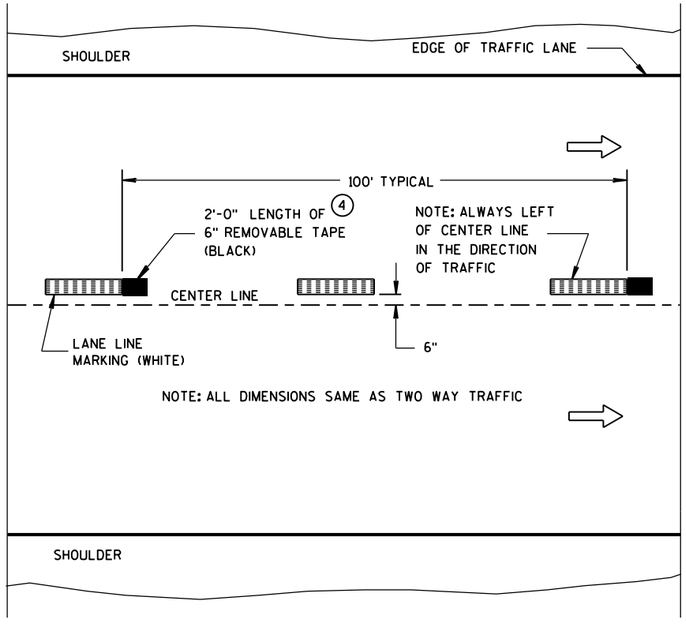


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

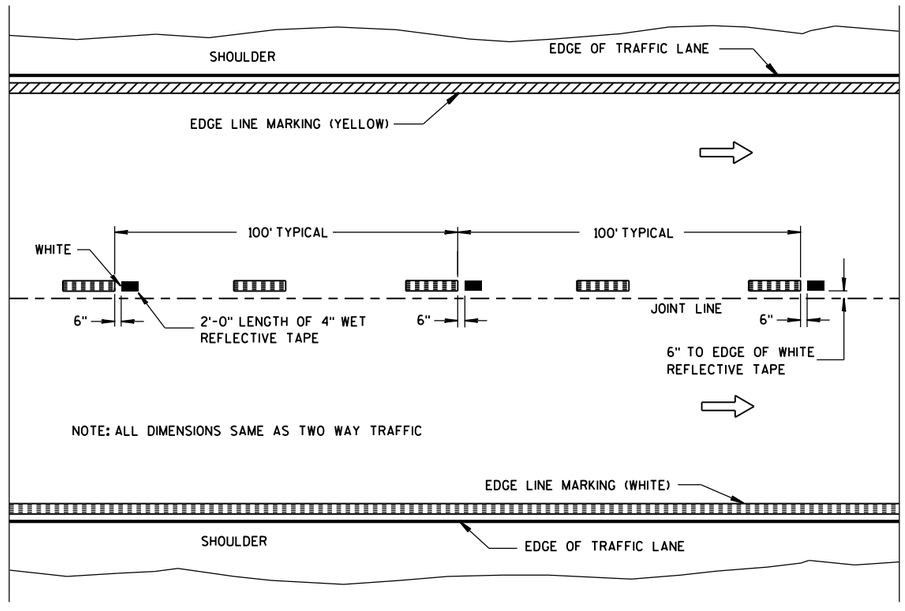
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

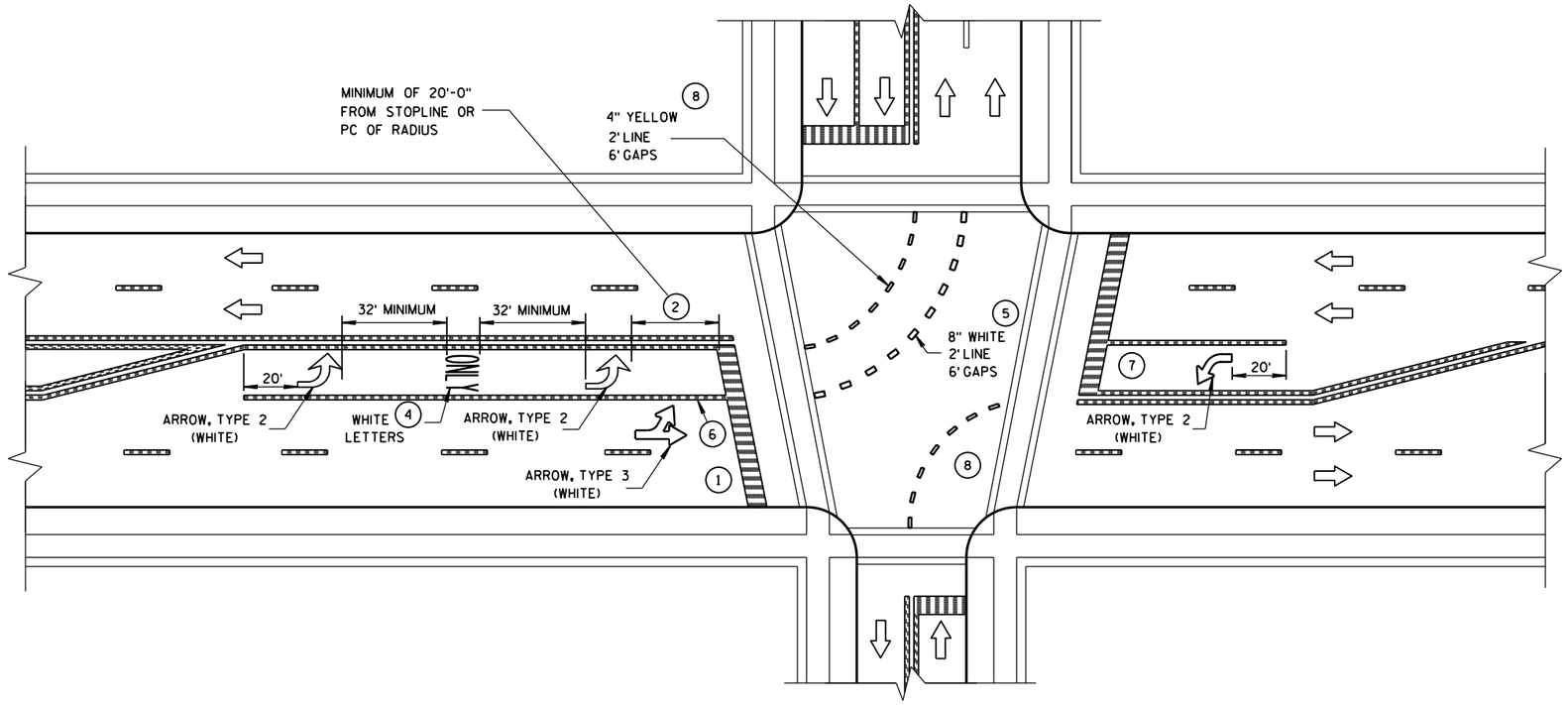
APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

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

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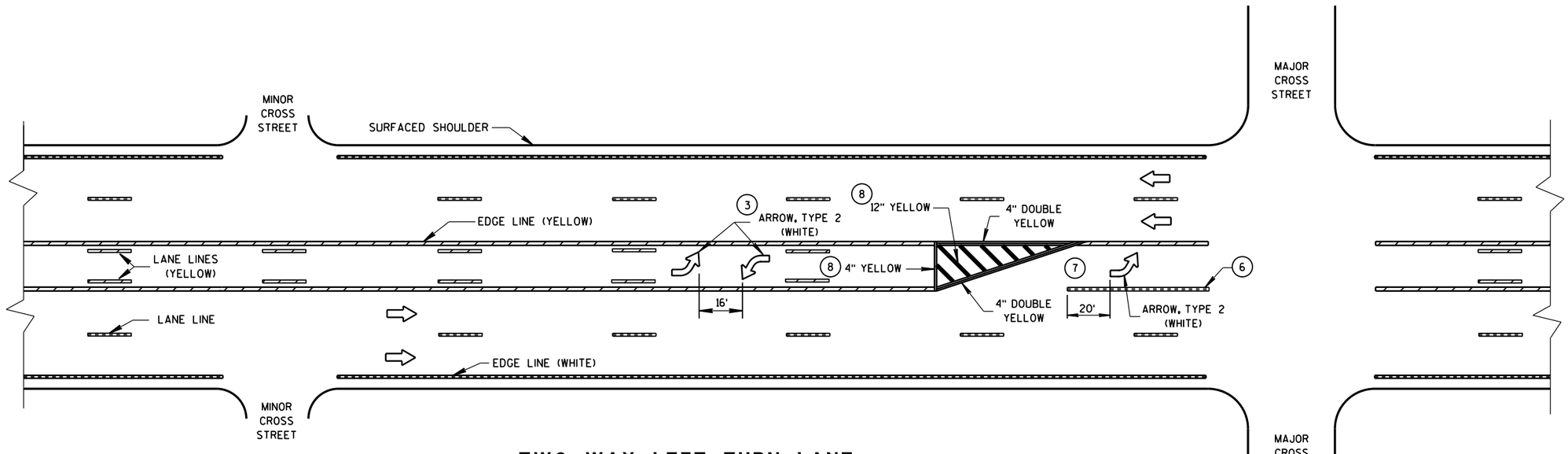
S.D.D. 15 C 8-16a



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

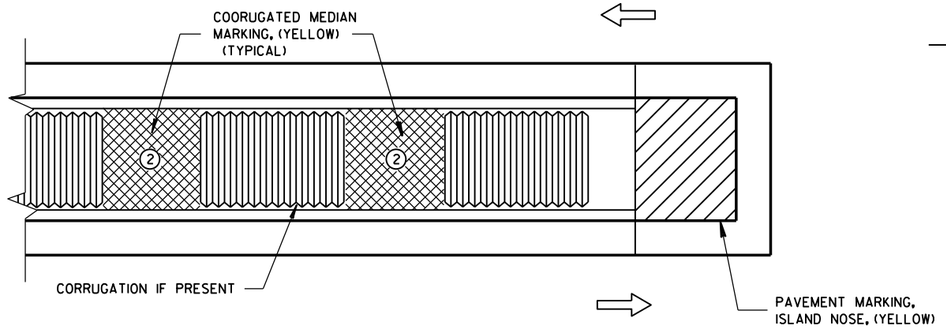
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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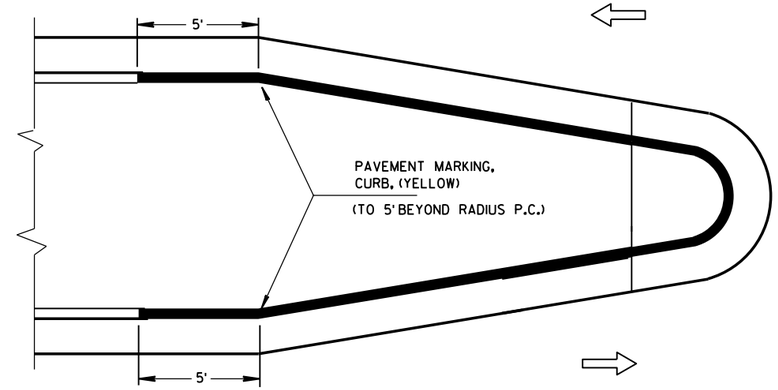
S.D.D. 15 C 8-16e

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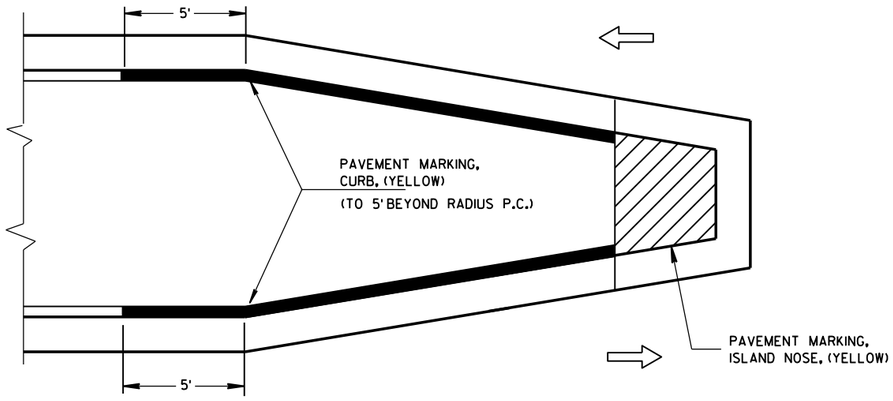
S.D.D. 15 C 8-16e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

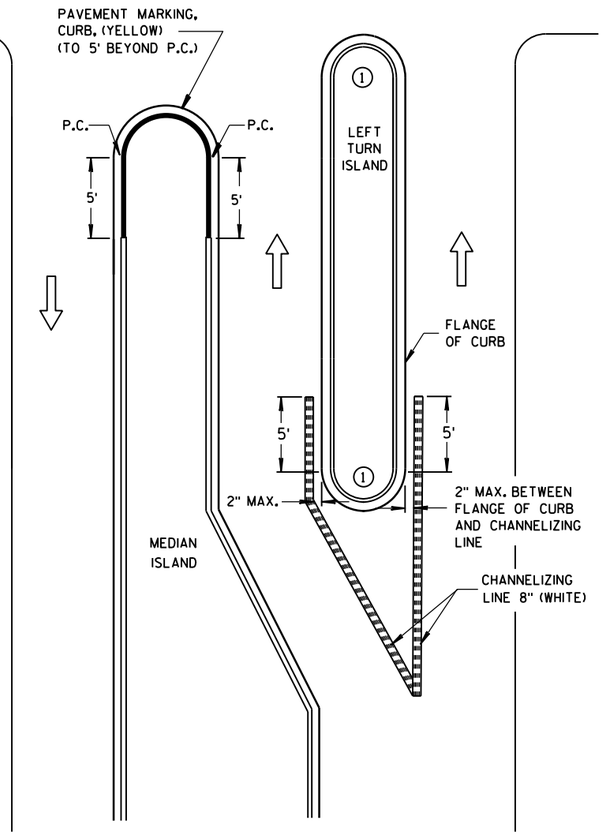


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

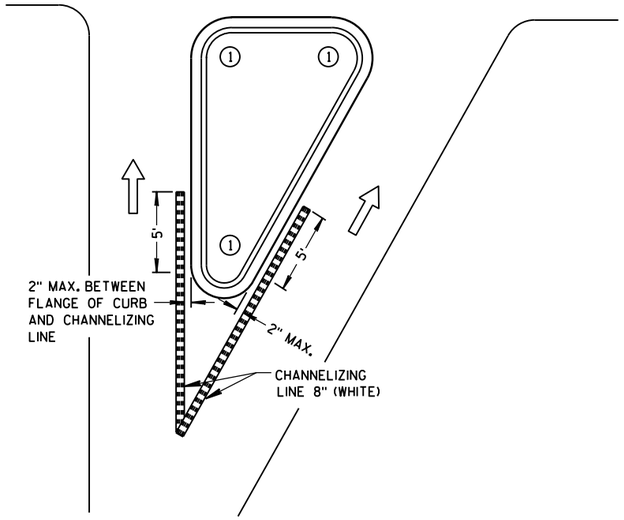


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. 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 AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

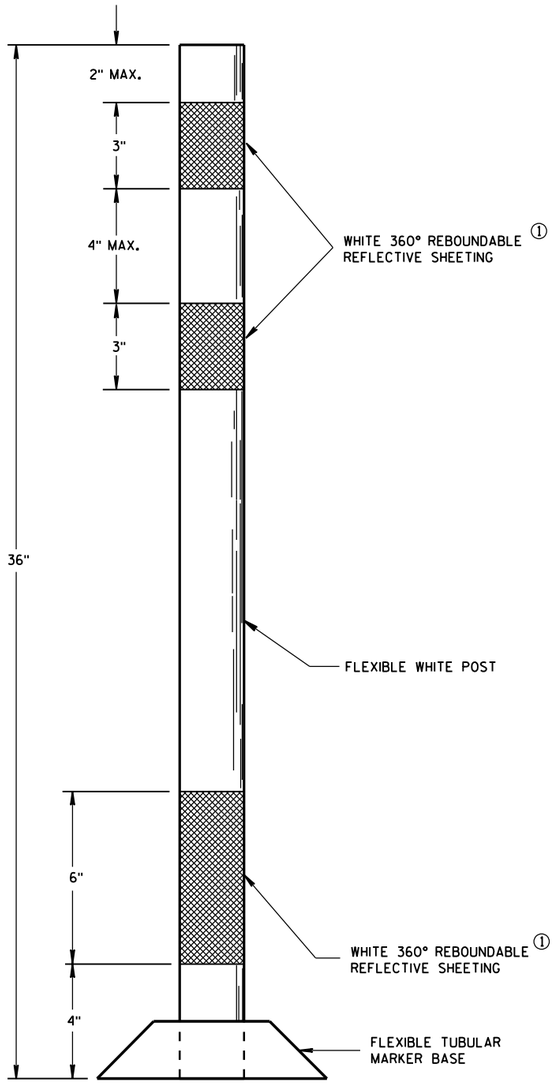
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

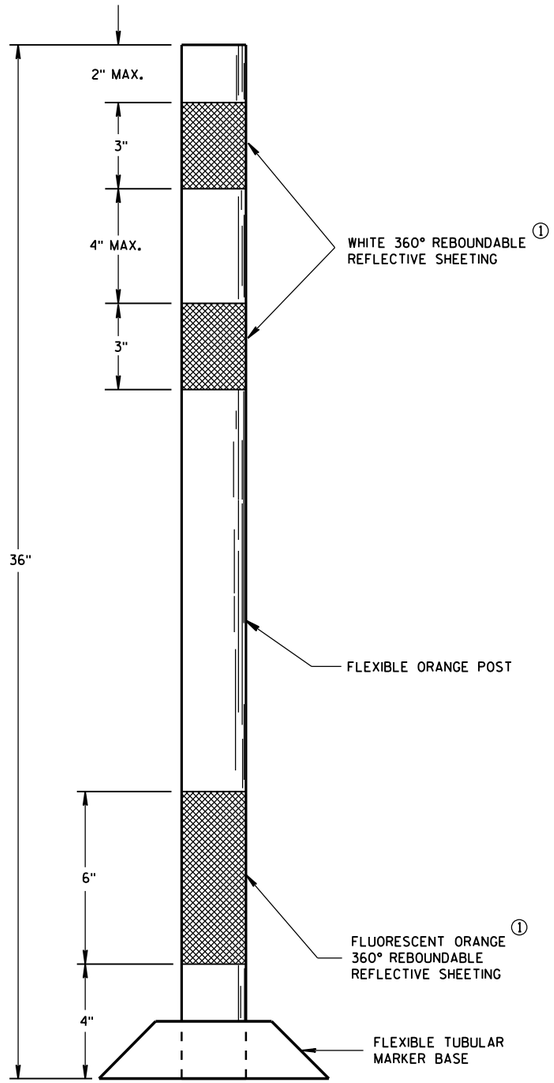
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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



FLEXIBLE
TUBULAR MARKER POST
PERMANENT CROSSOVER



FLEXIBLE
TUBULAR MARKER POST
WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

FLEXIBLE TUBULAR MARKER POST

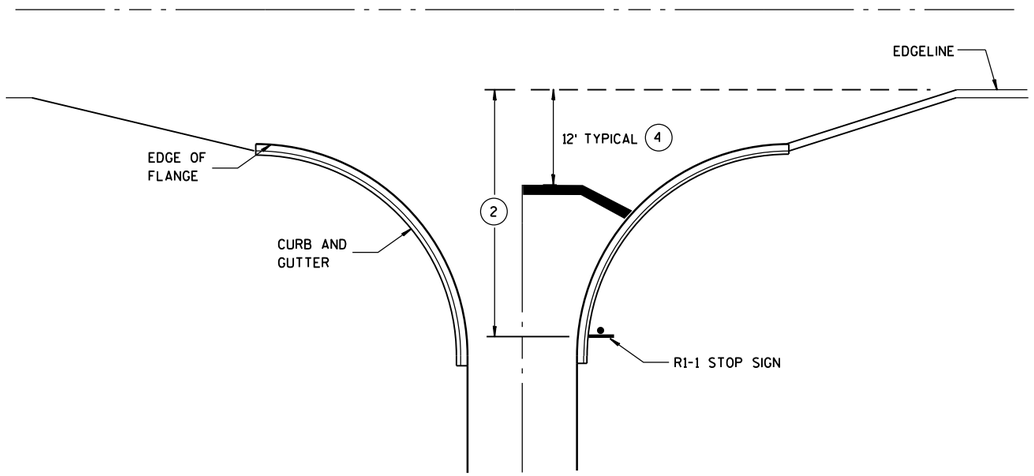
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-16-2015
DATE
FHWA

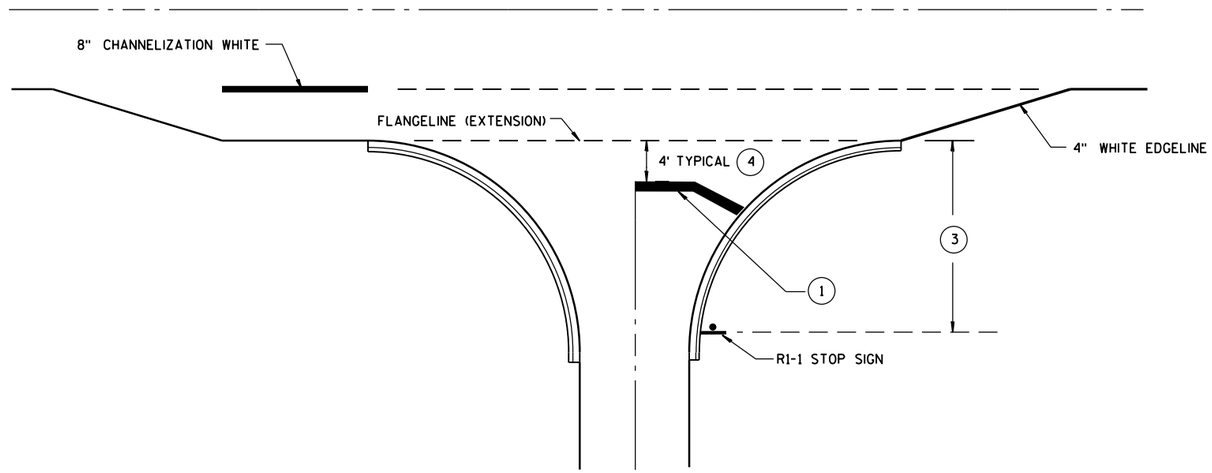
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON
SAFETY ENGINE

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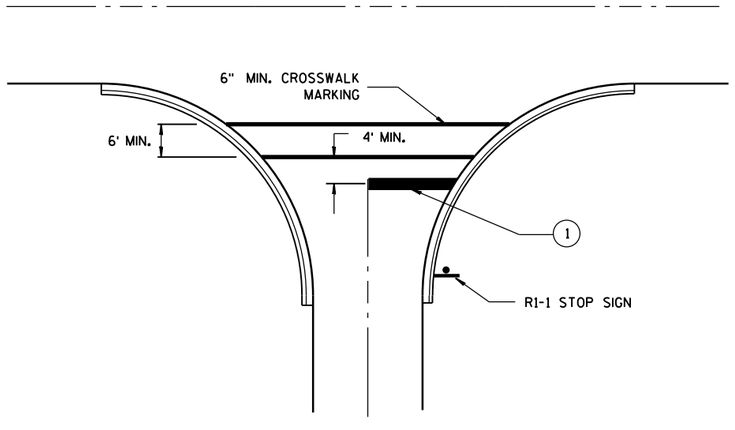
S.D.D. 15 C 11-6



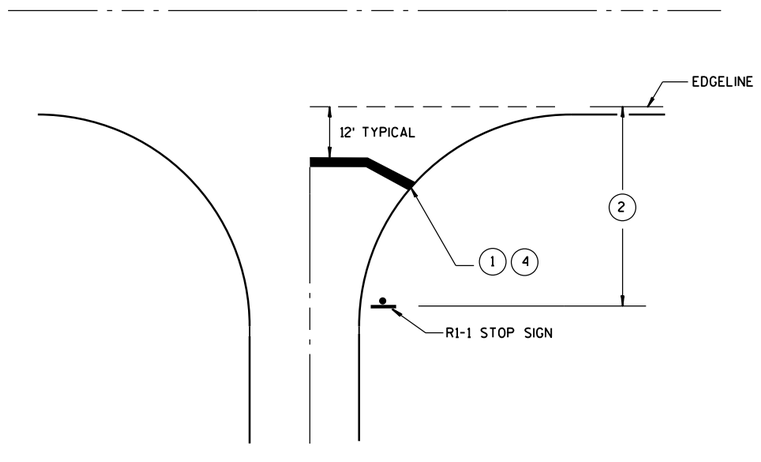
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

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

4-18-2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR[illegible]NEER

FHWA

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S.D.D. 15 C 33-2

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

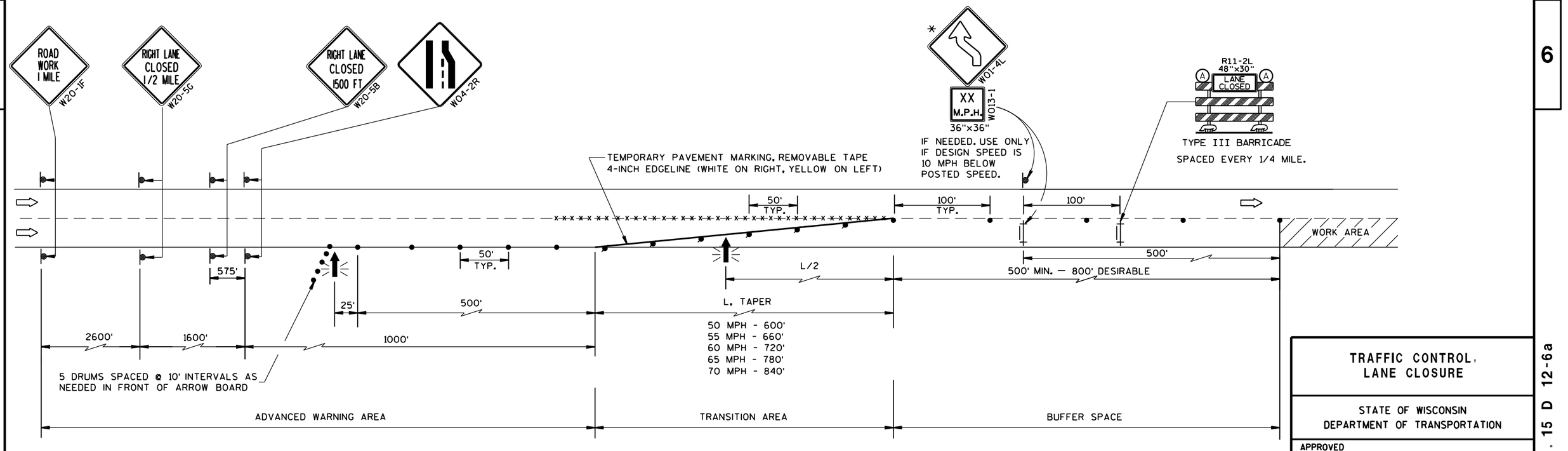
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



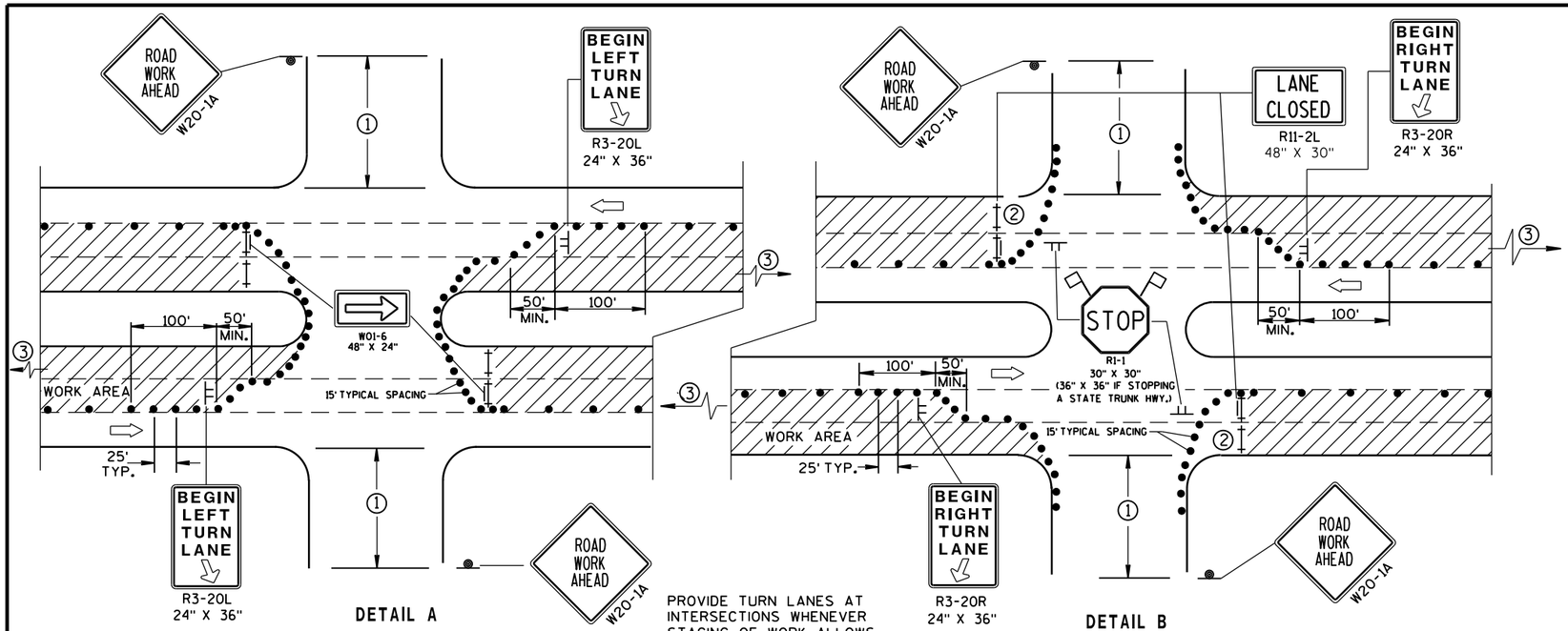
TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

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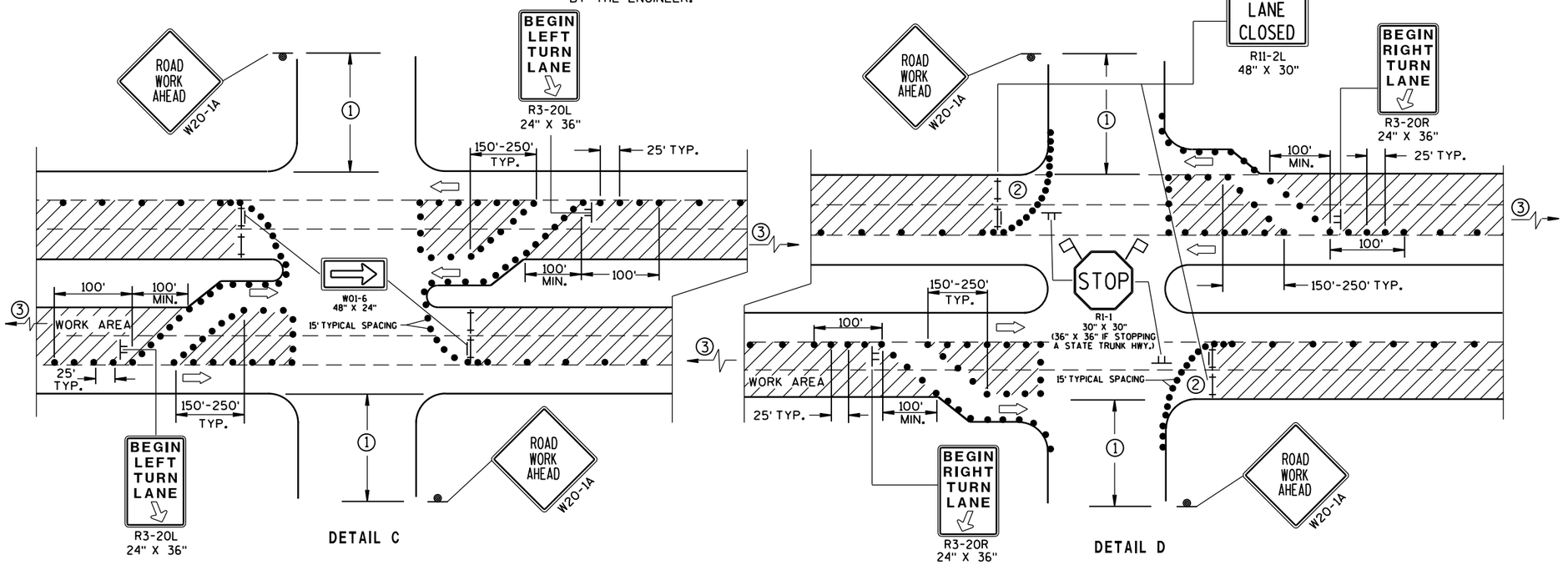
S.D.D. 15 D 12-6a



FOR LEFT TWO LANES CLOSED AT INTERSECTION OR MEDIAN BREAK

FOR RIGHT TWO LANES CLOSED AT INTERSECTION

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



FOR LEFT TWO LANES CLOSED AT INTERSECTION OR MEDIAN BREAK (WITH LEFT TURN BAY OPEN)

FOR RIGHT TWO LANES CLOSED AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

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

THE SPACING BETWEEN 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 IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

BARRICADES IN A CLOSED LANE 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.

① 500 FEET TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350 FEET IF 35-40 MPH.
200 FEET IF 25-30 MPH.

② ALSO USE BARRICADES AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN TWO LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGIN — FIC
FHWA

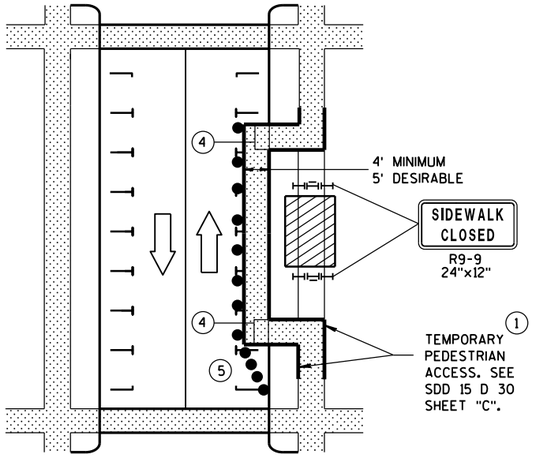
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S.D.D. 15 D 23-4

6

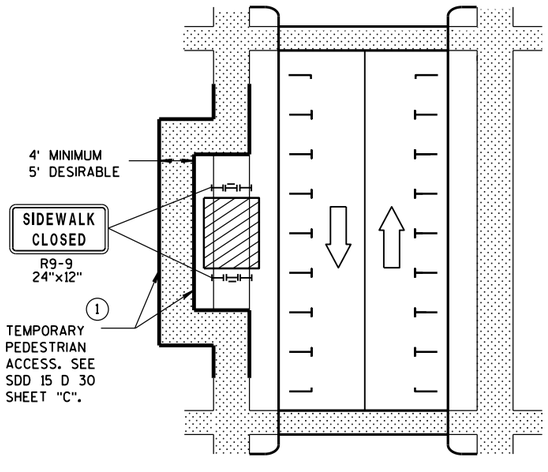
S.D.D. 15 D 23-4

NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

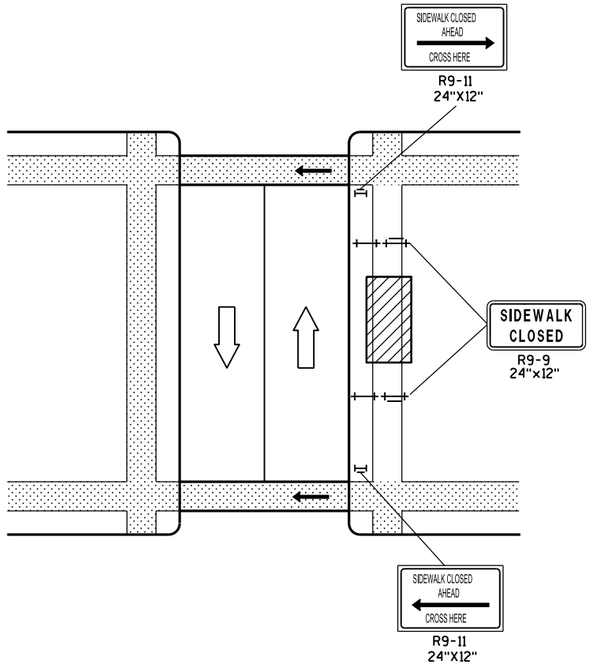


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

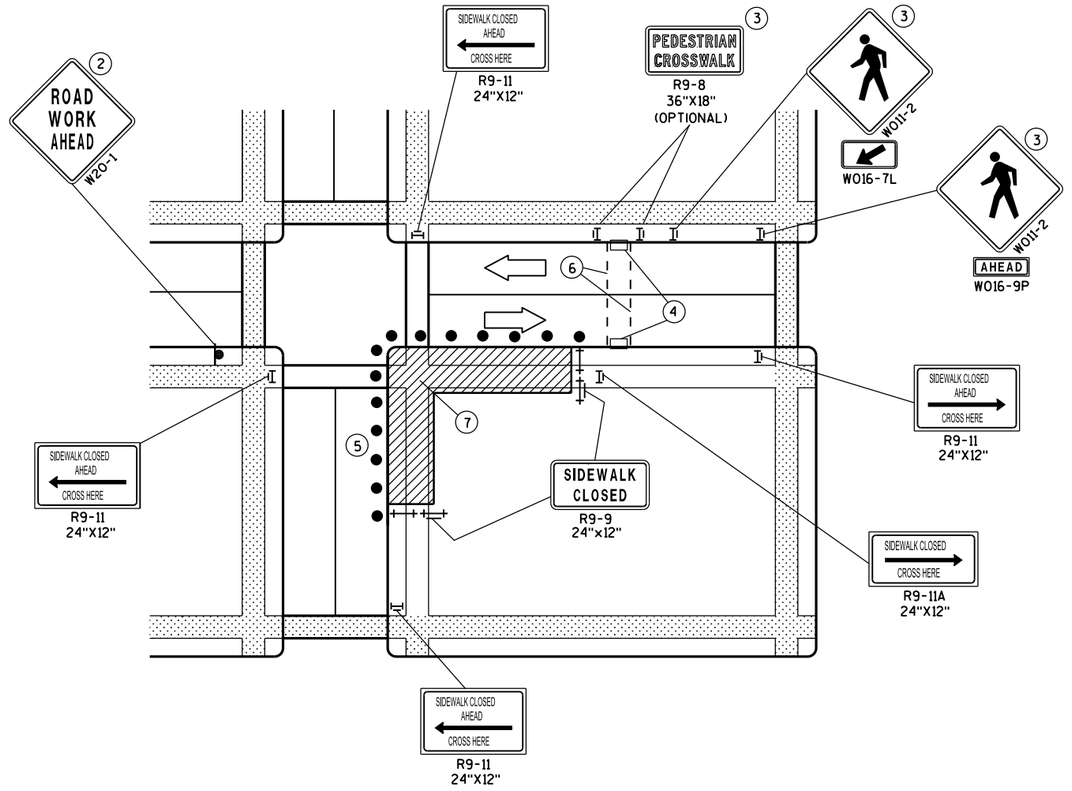
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

FOR NIGHTTIME CLOSURE USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

(1) IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE.

(2) "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

(3) IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND W011-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.

(4) TEMPORARY CURB RAMPS. SEE SDD 15 D 30 SHEET "B".

(5) DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

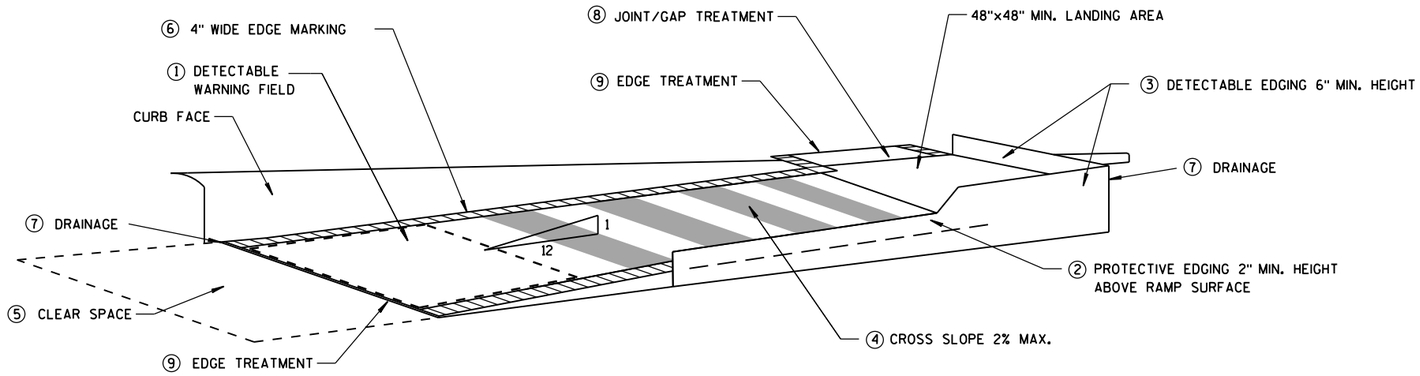
(7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

LEGEND

- SIGN ON PERMANENT SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- DIRECTION OF TRAFFIC
- TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6
S.D.D. 15 D 30-3a



TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

① CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 8D5 SHEET "E".

② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

④ CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

⑤ CLEAR SPACE OF 48"X48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

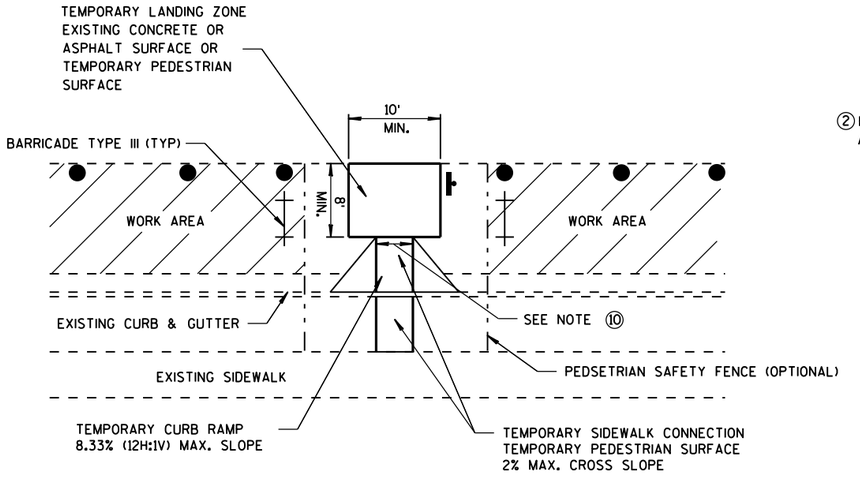
⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.

⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

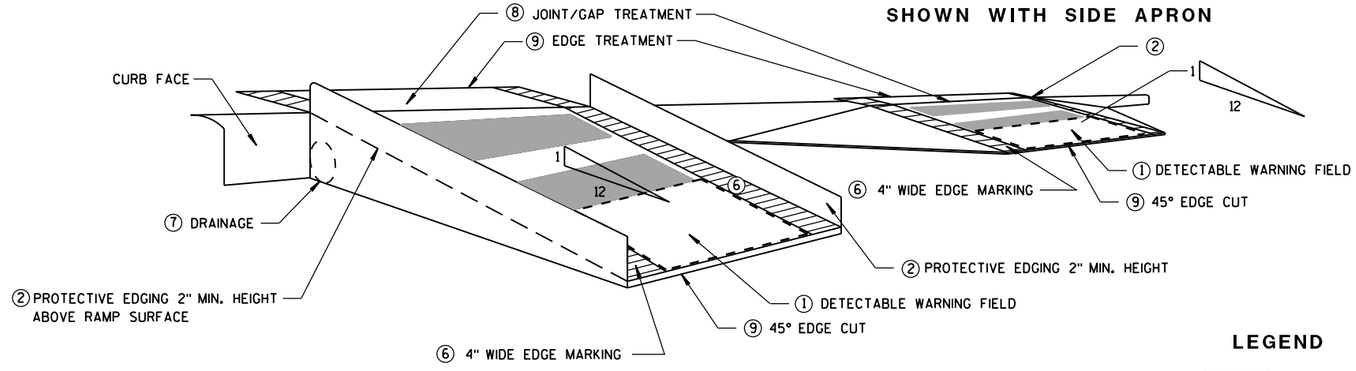
⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

⑩ 5' WIDE MIN. WITH PEDSETRIAN SAFETY FENCE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY FENCE.



TEMPORARY BUS STOP PAD



SHOWN WITH PROTECTIVE EDGE

SHOWN WITH SIDE APRON

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

LEGEND

WORK AREA

TYPE III BARRICADE

TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

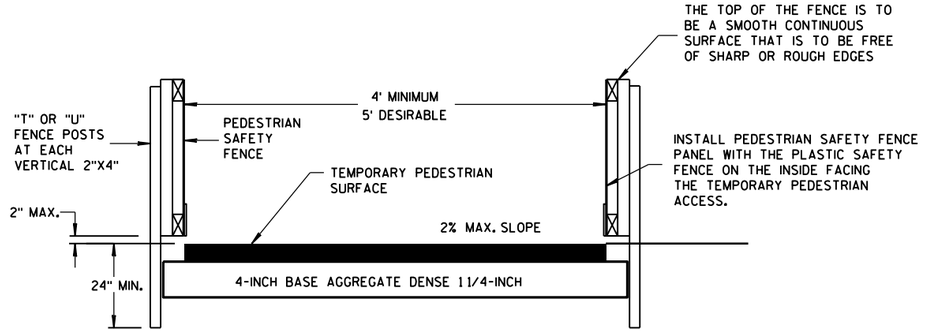
FHWA

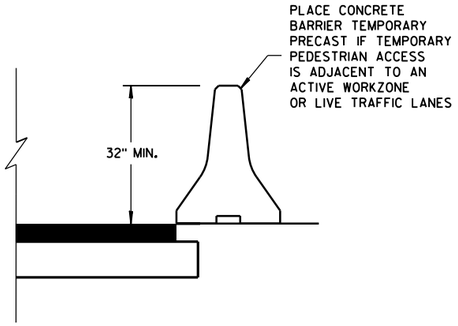
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S.D.D. 15 D 30-3b

6

S.D.D. 15 D 30-3b

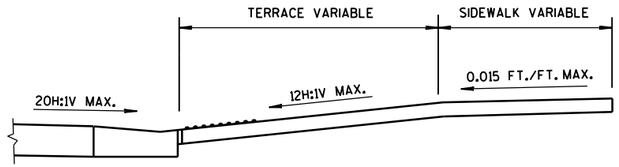




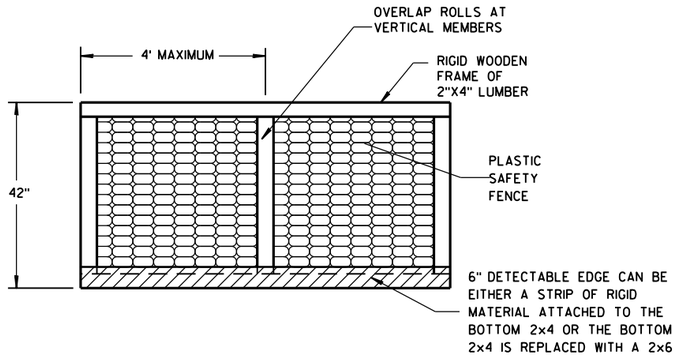
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

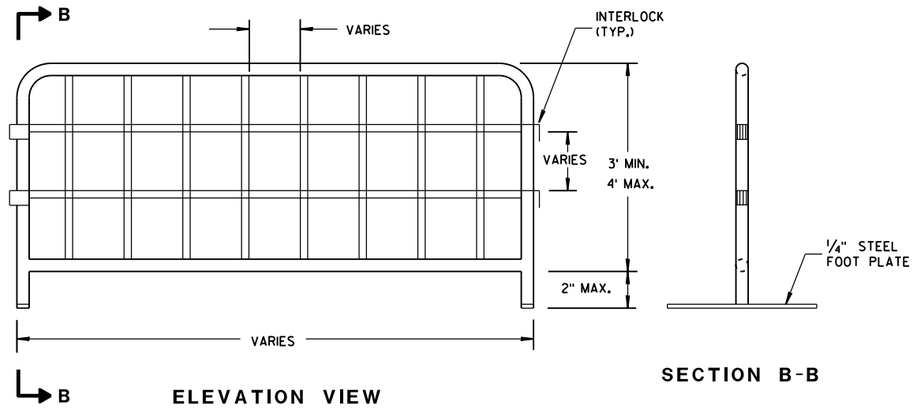
(1) INTERCHANGEABLE WITH THE PEDESTRIAN SAFETY FENCE.



SECTION A-A



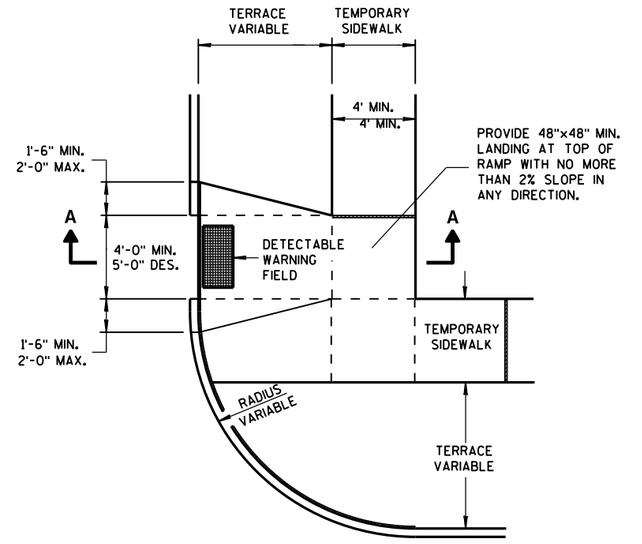
PEDESTRIAN SAFETY FENCE



ELEVATION VIEW

SECTION B-B

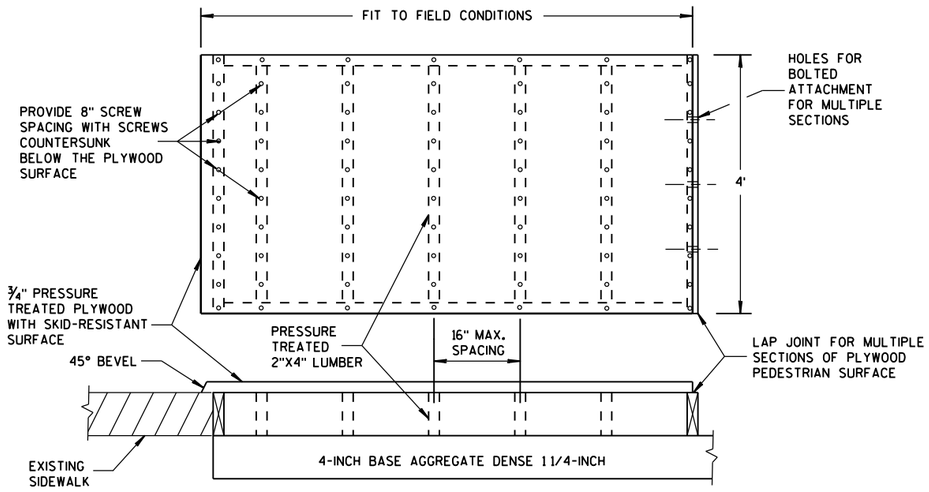
TEMPORARY PEDESTRIAN STEEL BARRICADE (1)



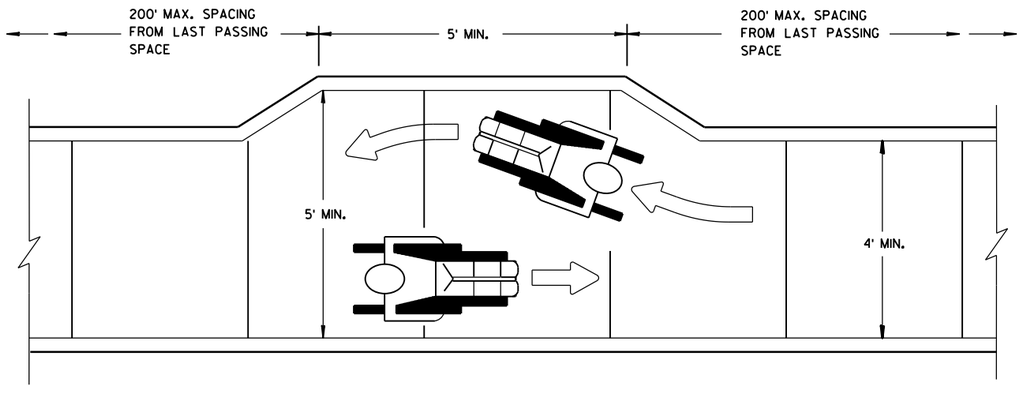
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



NARROW SIDEWALK PASSING DETAIL

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

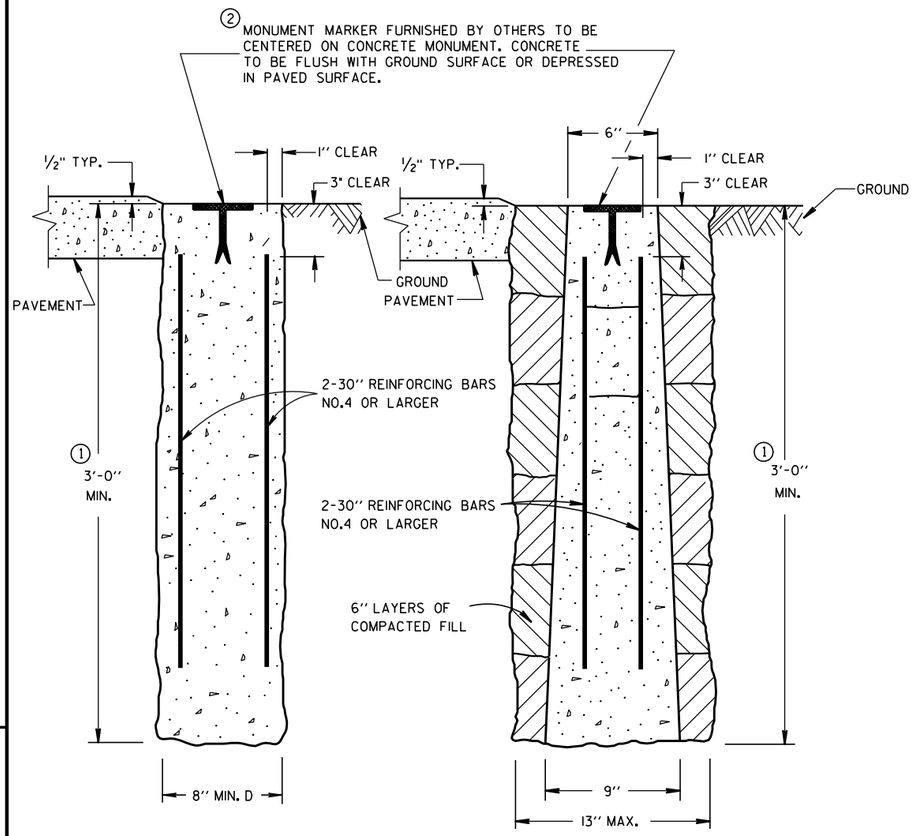
APPROVED
June 2016
DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGIN IC
FHWA

6

S.D.D. 15 D 30-3c

6

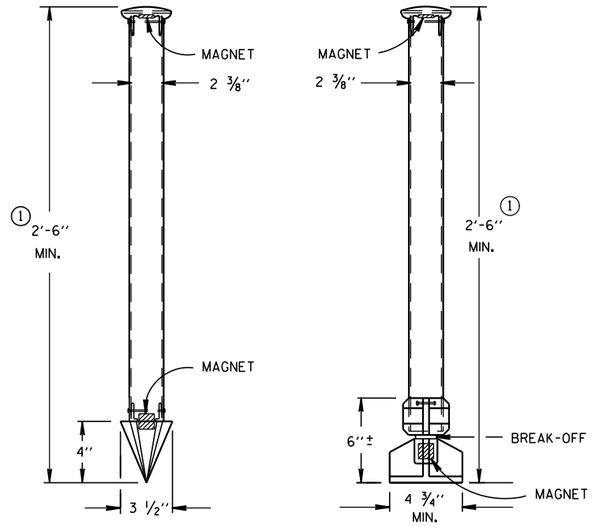
S.D.D. 15 D 30-3c



CAST-IN-PLACE PRECAST

CONCRETE MONUMENTS

TYPE A



TYPE C DRIVE-IN MONUMENT

TYPE D BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

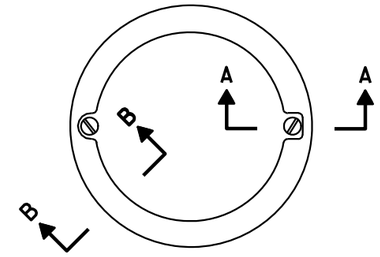
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

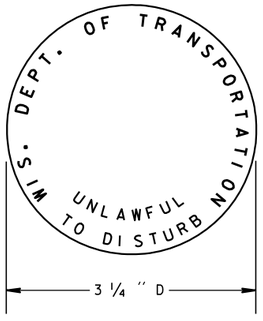
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

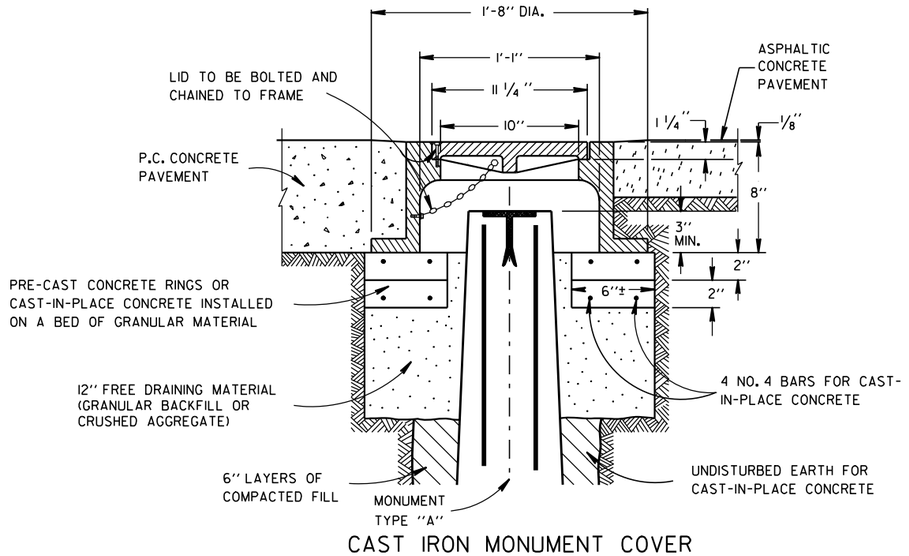
② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



TOP VIEW

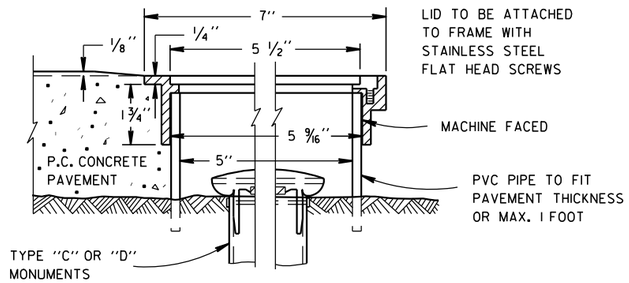


② WIS DOT MONUMENT MARKER LOGO FOR TYPES "A", "C" & "D"



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)

(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MOUNMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/22/1999 DATE

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 16 A 1-6

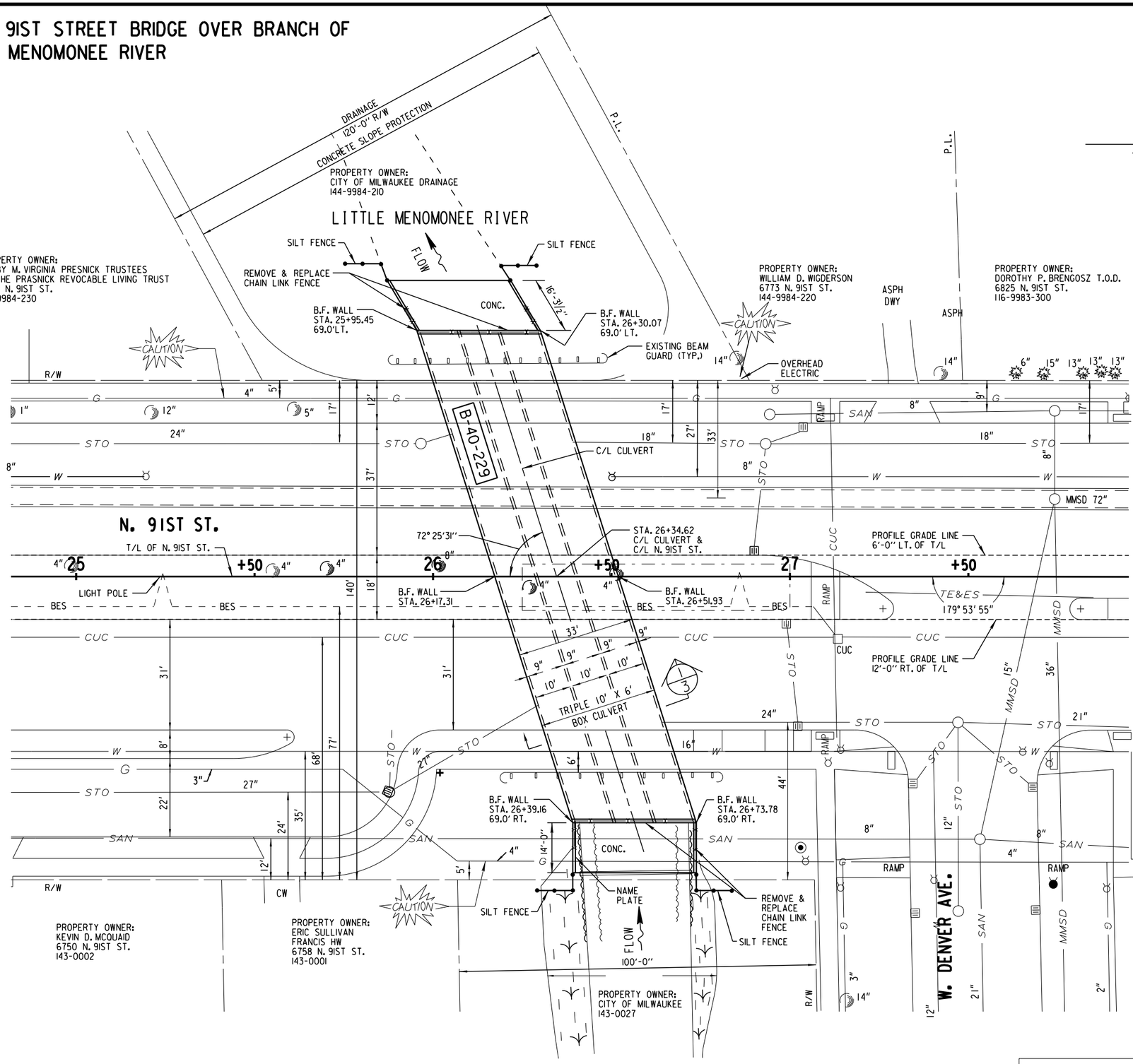
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NORTH 91ST STREET BRIDGE OVER BRANCH OF LITTLE MENOMONEE RIVER

STATE PROJECT NUMBER
2504 - 00 - 71

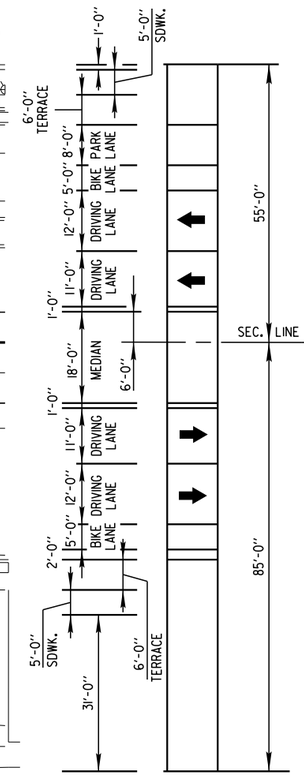
LIST OF DRAWINGS

1. SITE PLAN
2. SUPERSTRUCTURE CROSS SECTION AND ELEVATION
3. ESTIMATE OF QUANTITIES AND TRANSVERSE SECTION
4. EXTERIOR OF CULVERT CONCRETE SURFACE REPAIR PLAN
5. INTERIOR OF CULVERT CONCRETE SURFACE REPAIR PLAN 1 OF 2
6. INTERIOR OF CULVERT CONCRETE SURFACE REPAIR PLAN 2 OF 2
7. FENCING DETAILS



PLAN VIEW

3 - CELL CONCRETE BOX CULVERT



B.F. = BACK FACE

BENCHMARK:
HYDRANT W/S OF N. 91ST ST.
STA. 29+30
EL: 144.041

WISDOT BRIDGE OFFICE CONTACT:
WILLIAM DREHER 608-266-8489

CONSULTANT CONTACT:
CITY OF MILWAUKEE
JERREL KRUSCHKE 414-286-3402

WISCONSIN
JERREL KRUSCHKE
43536-6
MILWAUKEE, WIS.
PROFESSIONAL ENGINEER
08-25-2016

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
CITY OF MILWAUKEE
DEPARTMENT OF PUBLIC WORKS
INFRASTRUCTURE SERVICES DIVISION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 11/28/16
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-229

N. 91ST ST. OVER BRANCH OF LITTLE MENOMONEE RIVER

COUNTY	TOWN/CITY/VILLAGE
MILWAUKEE	MILWAUKEE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
J.D.T.	H.J.R.	D.B.	J.D.T. H.J.R.

SITE PLAN

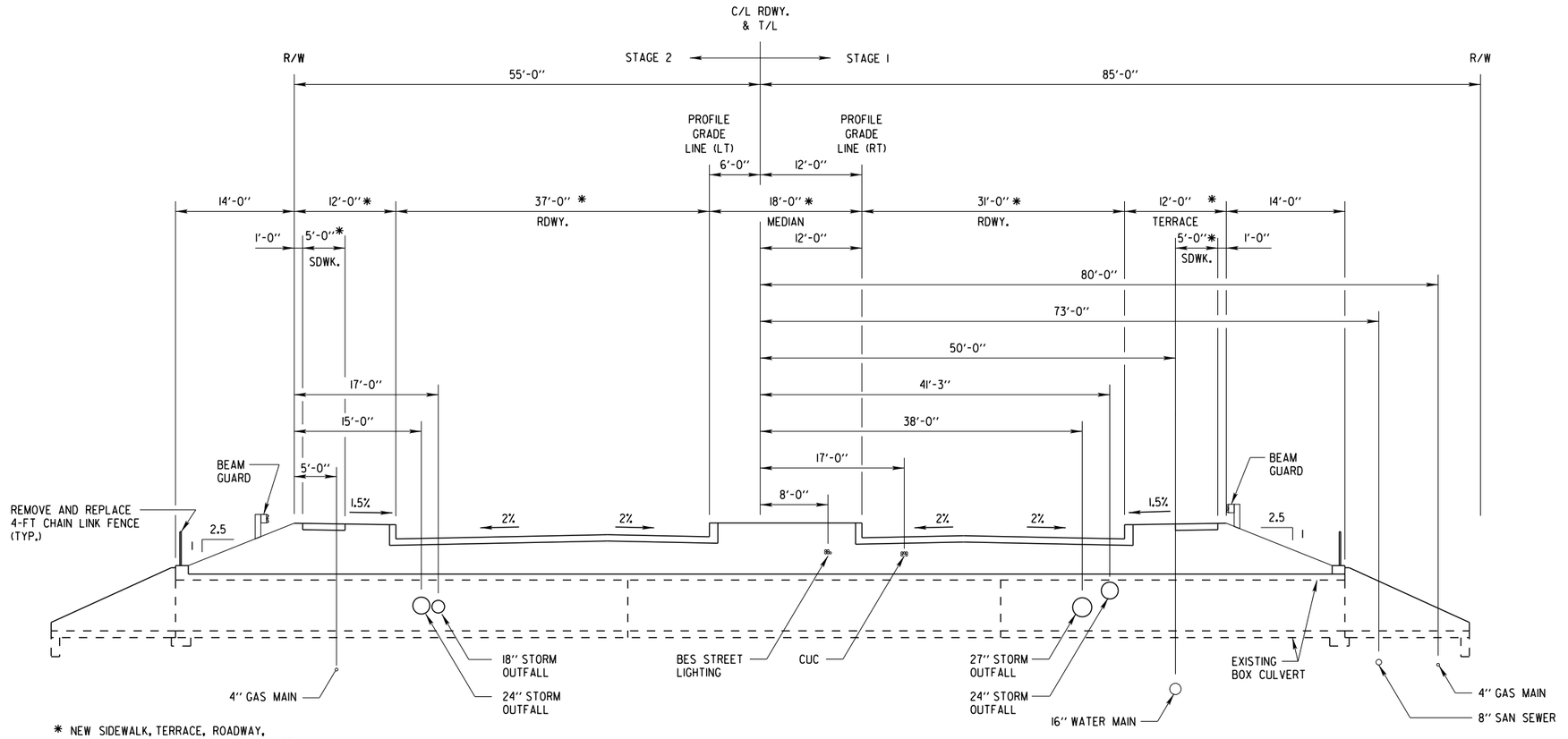
SHEET 1 OF 7
249

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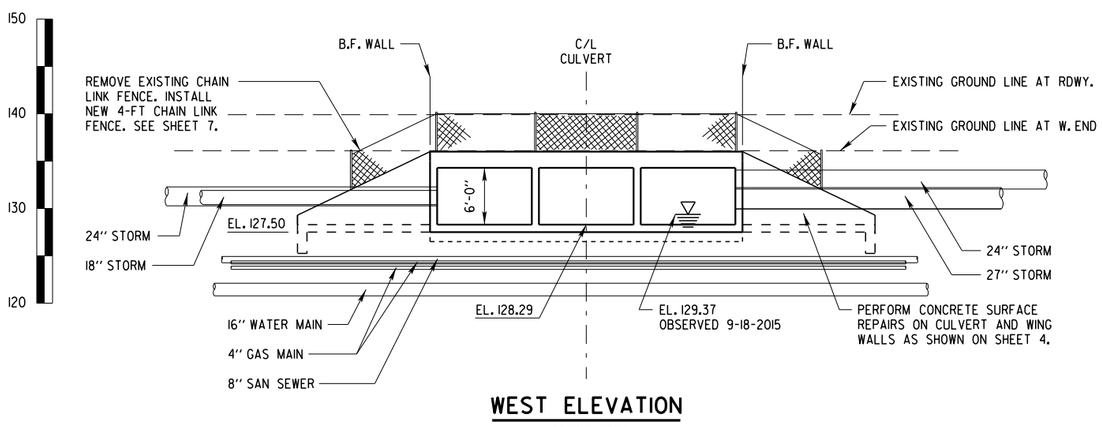
STATE PROJECT NUMBER
2504 - 00 - 71



* NEW SIDEWALK, TERRACE, ROADWAY, MEDIAN, AND C.U.C. CONDUIT WORK TO BE PAID UNDER RDWY. CONTRACT CAT. 0010

LONGITUDINAL SECTION

LOOKING NORTH
(PERPENDICULAR TO C/L RDWY. & T/L)



WEST ELEVATION

LOOKING EAST

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-229

DRAWN BY D.B. | PLANS CK'D. J.D.T. H.J.R.

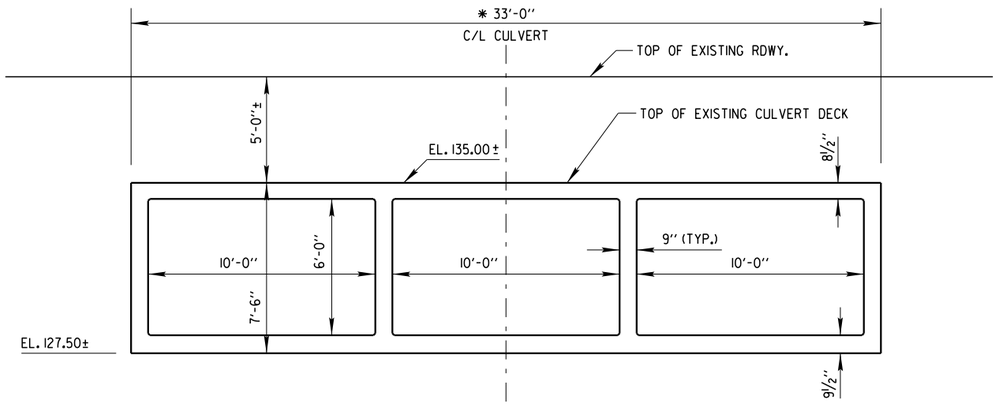
SUPERSTRUCTURE CROSS SECTION AND ELEVATION

SHEET 2 OF 7
250

W:\STR\B0410\ 2018 REHAB\PLANS\ 03_QUAN.DGN 08-09-2016

STATE PROJECT NUMBER

2504 - 00 - 71



* TRANSVERSE SECTION (1/1)
LOOKING NORTH EAST

* DIMENSION PERPENDICULAR TO C/L OF CULVERT

ESTIMATE OF QUANTITIES

CATEGORY	ITEM NO.	BID ITEM	UNIT	CULVERT	TOTAL
0030	204.0170	REMOVING FENCE	LF	104	104
0030	509.1500	CONCRETE SURFACE REPAIR	SF	246	246
0030	509.9025.S	EPOXY INJECTION CRACK REPAIR	LF	283	283
0030	509.9026.S	CORED HOLES 2-INCH DIAMETER	EACH	8	8
0030	SPV.0090.01	CONCRETE WALL REPAIR	LF	15	15
0030	SPV.0090.02	CULVERT JOINT REPAIR	LF	84	84
0030	SPV.0090.03	FENCE CHAIN LINK POLYMER-COATED 4-FT	LF	123	123
0030	SPV.0195.01	REMOVAL, HAULING AND DISPOSAL OF PAH CONTAMINATED SEDIMENT	TON	57	57
		NON-BID ITEMS			
		NAME PLATE			
		NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER			

NOTE:
CLEARING, GRUBBING, SILT FENCE AND SILT FENCE MAINTENANCE QUANTITIES INCLUDED IN ROADWAY CONTRACT CATEGORY 0010

DESIGN DATA

DEAD LOAD

CONC. = 150 LB/CF
OVERBURDEN = 5'-0"

LIVE LOAD

DESIGN LOADING : HS-20 (TAKEN FROM HSI, 12/1/2015)
INVENTORY RATING : HS-20 (TAKEN FROM HSI, 12/1/2015)
OPERATING RATING : HS-33 (TAKEN FROM HSI, 12/1/2015)
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 190 KIPS
(TAKEN FROM HSI, 12/1/2015)

MATERIAL PROPERTIES

CONC. MASONRY CULVERTS f'c = 3,500 PSI
BAR STEEL REINFORCEMENT fy = 60,000 PSI

HYDRAULIC DATA

HYDRAULIC DATA NOT AVAILABLE FOR THIS BRANCH OF THE LITTLE MENOMONEE RIVER

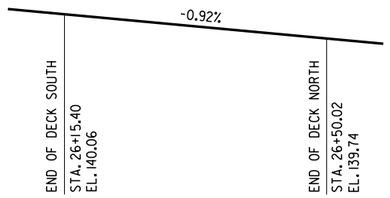
TRAFFIC VOLUME

ADT (2013) = 14,900
ADT (2037) = 16,900
R.D.S. = 40 MPH

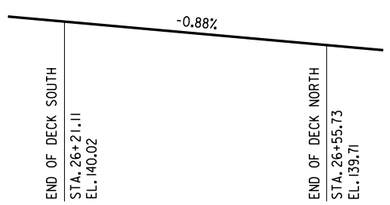
PROJECT IMPROVEMENTS

THE BRIDGE REHABILITATION PROJECT, AS PROPOSED, CONSISTS OF: SURFACE REPAIRS TO THE CULVERT UNDERSIDE OF DECK, CELL WALLS, & WING WALLS; EPOXY INJECTION OF UNDERSIDE OF DECK, AND CELL WALLS; CULVERT JOINT REPAIR; REMOVAL AND REPLACEMENT OF EAST AND WEST CHAIN LINK FENCE.

THE STREET PROJECT, AS PROPOSED, CONSISTS OF: REPLACEMENT OF THE SDWK./CURB/ROADWAY/MEDIAN, EROSION CONTROL, STORM INLET WORK, RE-GRADING, SILT FENCE, SILT FENCE MAINTENANCE, AND PLACING TOP SOIL AND SEED. SEE ROADWAY PLAN FOR DETAILS.



SOUTHBOUND PROFILE GRADE LINE 6'-0" LT OF T/L NORTH 91ST STREET



NORTHBOUND PROFILE GRADE LINE 12'-0" RT OF T/L NORTH 91ST STREET

GENERAL NOTES

ALL DETAILS, MATERIALS & FABRICATION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION EDITION 2017, EXCEPT AS OTHERWISE NOTED.

ALL STATIONS & ELEVATIONS ARE IN FEET.

ALL ELEVATIONS ARE REFERRED TO CITY OF MILWAUKEE DATUM. CITY OF MILWAUKEE DATUM = 580.60 NGVD.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT. ALL REINFORCING BARS ARE ENGLISH & THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE SIZE OF THE BAR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

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

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

CHAMFER EXPOSED CONCRETE EDGES 1" UNLESS OTHERWISE NOTED.

SEE ROADWAY PLANS FOR EXISTING AND PROPOSED UTILITY LOCATIONS.

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.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-229

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ESTIMATE OF QUANTITIES AND TRANSVERSE SECTION

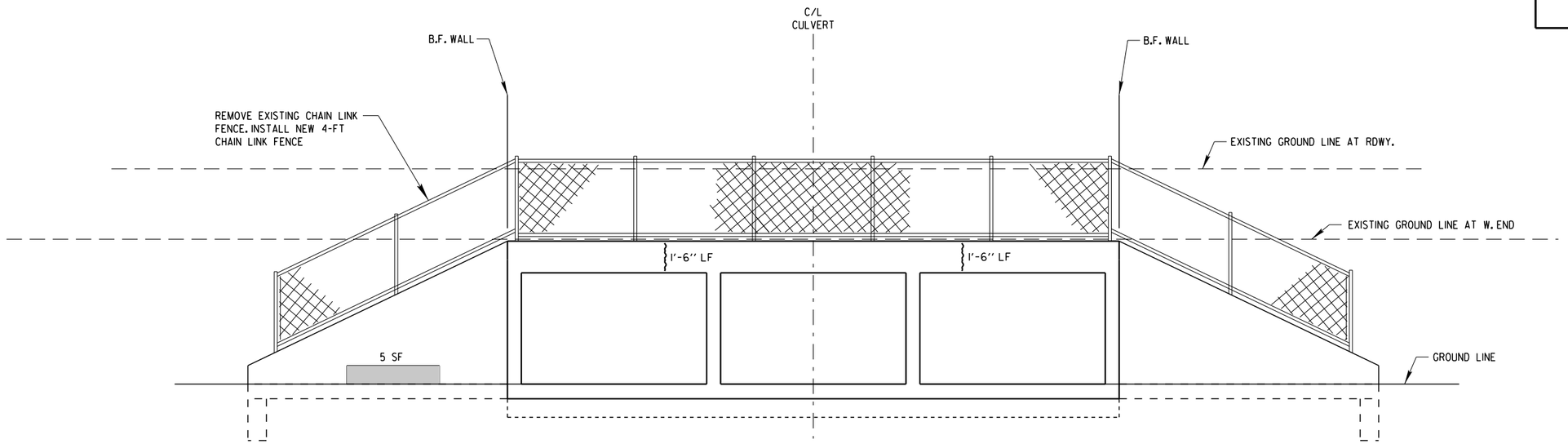
SHEET 3 OF 7

8

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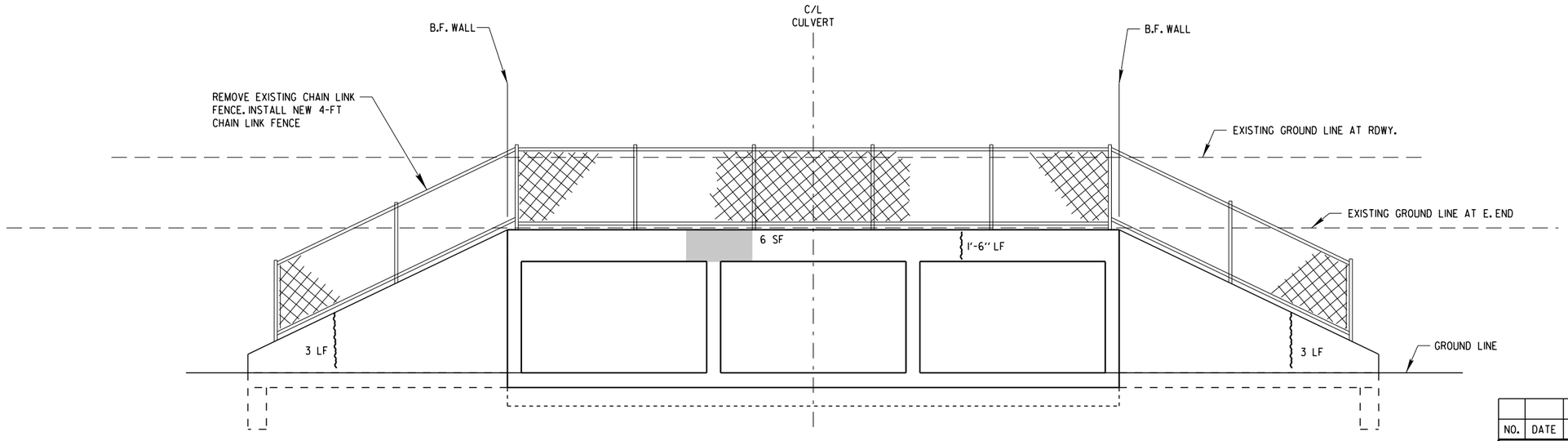
W:\STR\BO40\ 2018 REHAB\PLANS\ 04_EXT OF CULVERT.DGN 07-25-2016

STATE PROJECT NUMBER
2504 - 00 - 71



WEST ELEVATION

LOOKING EAST



EAST ELEVATION

LOOKING WEST

KEY:

EPOXY CRACK REPAIR (LF)

CONCRETE SURFACE REPAIR (SF)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-229

DRAWN BY	D.B.	PLANS CK'D.	J.D.T. H.J.R.

EXTERIOR OF CULVERT CONCRETE SURFACE REPAIR PLAN

SHEET 4 OF 7

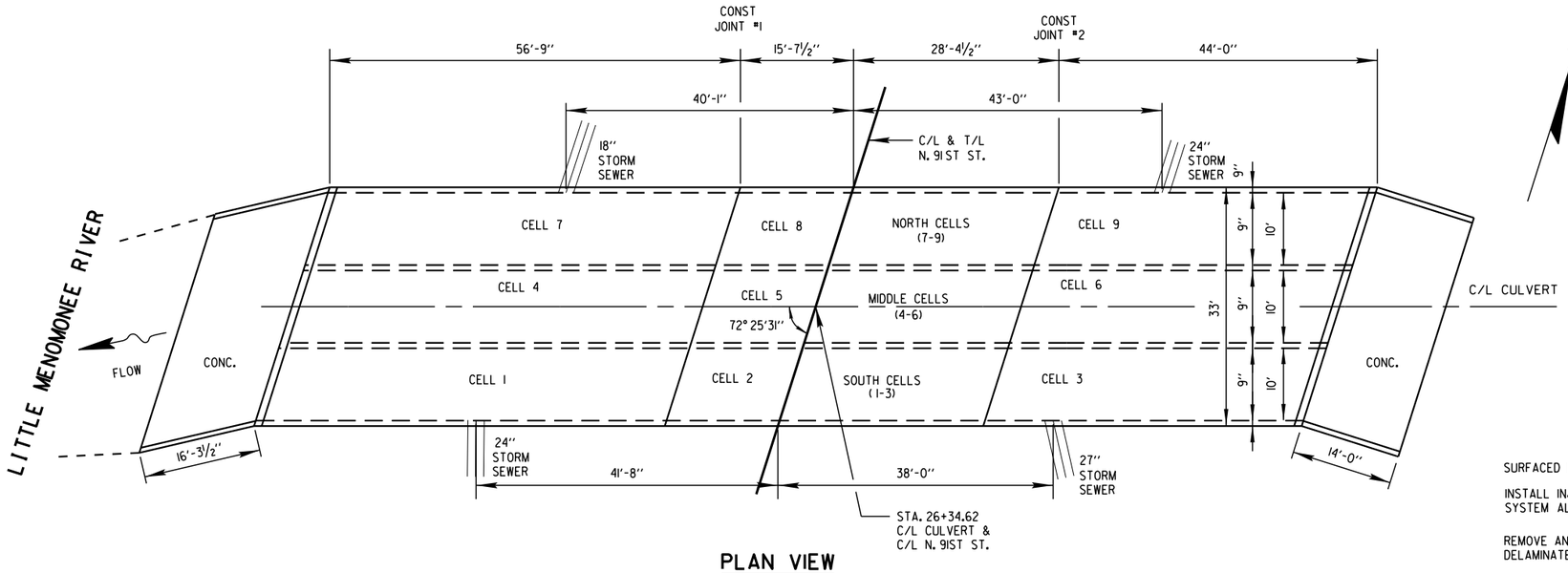
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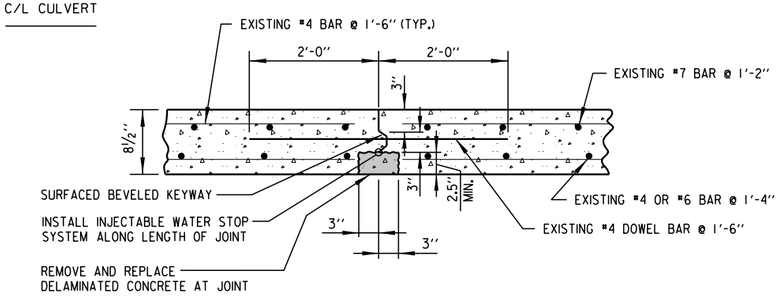
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STATE PROJECT NUMBER
2504 - 00 - 71

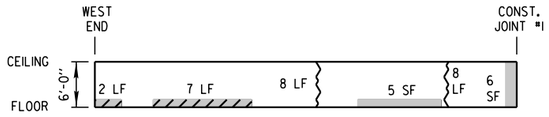


PLAN VIEW

3 - CELL CONCRETE BOX CULVERT

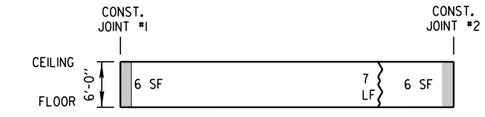


CONSTRUCTION JOINT DETAIL



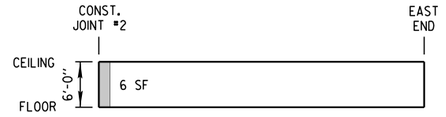
ELEVATION NORTH WALL-CELL 1

(LOOKING NORTH)



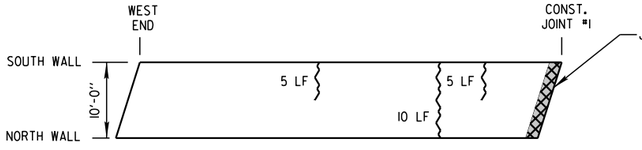
ELEVATION NORTH WALL-CELL 2

(LOOKING NORTH)



ELEVATION NORTH WALL-CELL 3

(LOOKING NORTH)



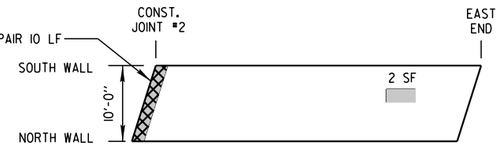
PLAN VIEW CEILING- CELL 1

(LOOKING UP)



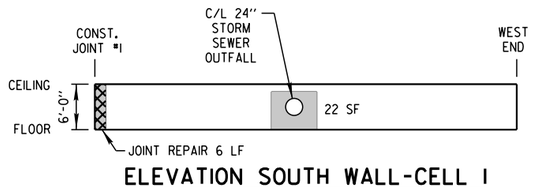
PLAN VIEW CEILING- CELL 2

(LOOKING UP)



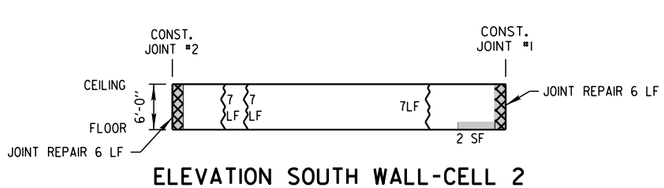
PLAN VIEW CEILING- CELL 3

(LOOKING UP)



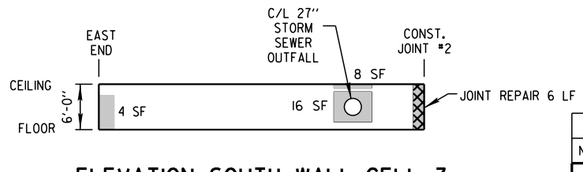
ELEVATION SOUTH WALL-CELL 1

(LOOKING SOUTH)



ELEVATION SOUTH WALL-CELL 2

(LOOKING SOUTH)



ELEVATION SOUTH WALL-CELL 3

(LOOKING SOUTH)

SOUTH CELL REPAIRS

(CELLS 1-3)

KEY:

- EPOXY INJECTION CRACK REPAIR (LF)
- CONCRETE SURFACE REPAIR (SF)
- CONCRETE WALL REPAIR (LF)
- CULVERT JOINT REPAIR (LF)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-229

DRAWN BY D.B. | PLANS CK'D. J.D.T. H.J.R.

INTERIOR OF CULVERT CONCRETE SURFACE REPAIR PLAN 1 OF 2

SHEET 5 OF 7

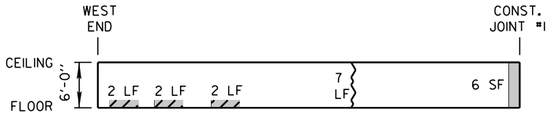
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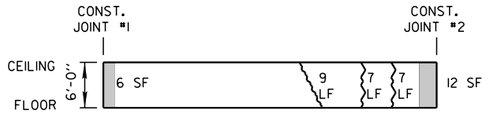
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STATE PROJECT NUMBER
2504 - 00 - 71



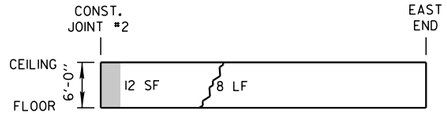
ELEVATION NORTH WALL-CELL 4

(LOOKING NORTH)



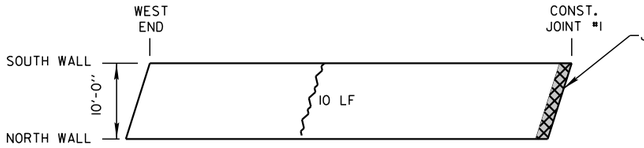
ELEVATION NORTH WALL-CELL 5

(LOOKING NORTH)



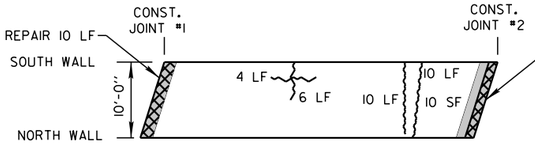
ELEVATION NORTH WALL-CELL 6

(LOOKING NORTH)



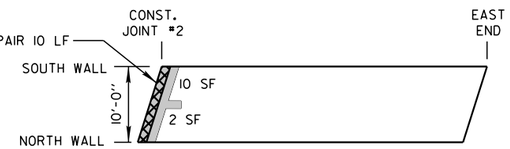
PLAN VIEW CEILING- CELL 4

(LOOKING UP)



PLAN VIEW CEILING- CELL 5

(LOOKING UP)



PLAN VIEW CEILING- CELL 6

(LOOKING UP)



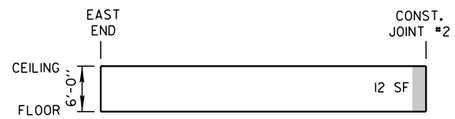
ELEVATION SOUTH WALL-CELL 4

(LOOKING SOUTH)



ELEVATION SOUTH WALL-CELL 5

(LOOKING SOUTH)

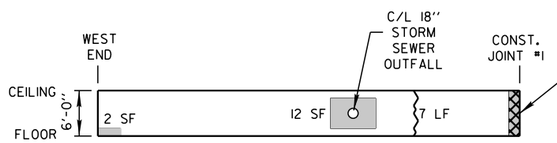


ELEVATION SOUTH WALL-CELL 6

(LOOKING SOUTH)

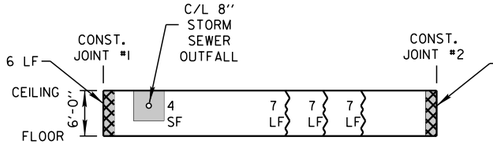
MIDDLE CELL REPAIRS

(CELLS 4-6)



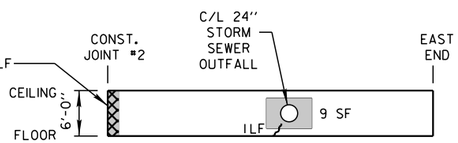
ELEVATION NORTH WALL-CELL 7

(LOOKING NORTH)



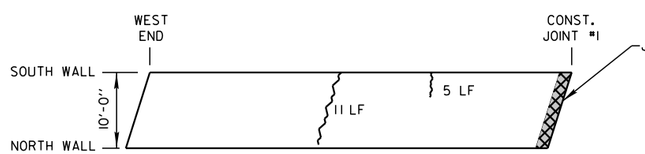
ELEVATION NORTH WALL-CELL 8

(LOOKING NORTH)



ELEVATION NORTH WALL-CELL 9

(LOOKING NORTH)



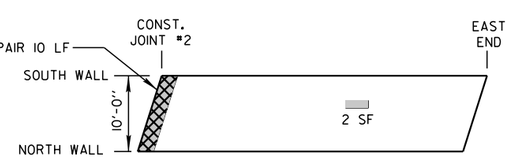
PLAN VIEW CEILING- CELL 7

(LOOKING UP)



PLAN VIEW CEILING- CELL 8

(LOOKING UP)



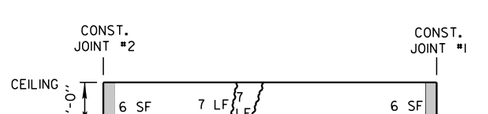
PLAN VIEW CEILING- CELL 9

(LOOKING UP)



ELEVATION SOUTH WALL-CELL 7

(LOOKING SOUTH)



ELEVATION SOUTH WALL-CELL 8

(LOOKING SOUTH)



ELEVATION SOUTH WALL-CELL 9

(LOOKING SOUTH)

NORTH CELL REPAIRS

(CELLS 7-9)

KEY:

- EPOXY INJECTION CRACK REPAIR (LF)
- CONCRETE SURFACE REPAIR (SF)
- CONCRETE WALL REPAIR (LF)
- CULVERT JOINT REPAIR (LF)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-229

DRAWN BY D.B. | PLANS CK'D. J.D.T. H.J.R.

INTERIOR OF CULVERT CONCRETE SURFACE REPAIR PLAN 2 OF 2

SHEET 6 OF 7

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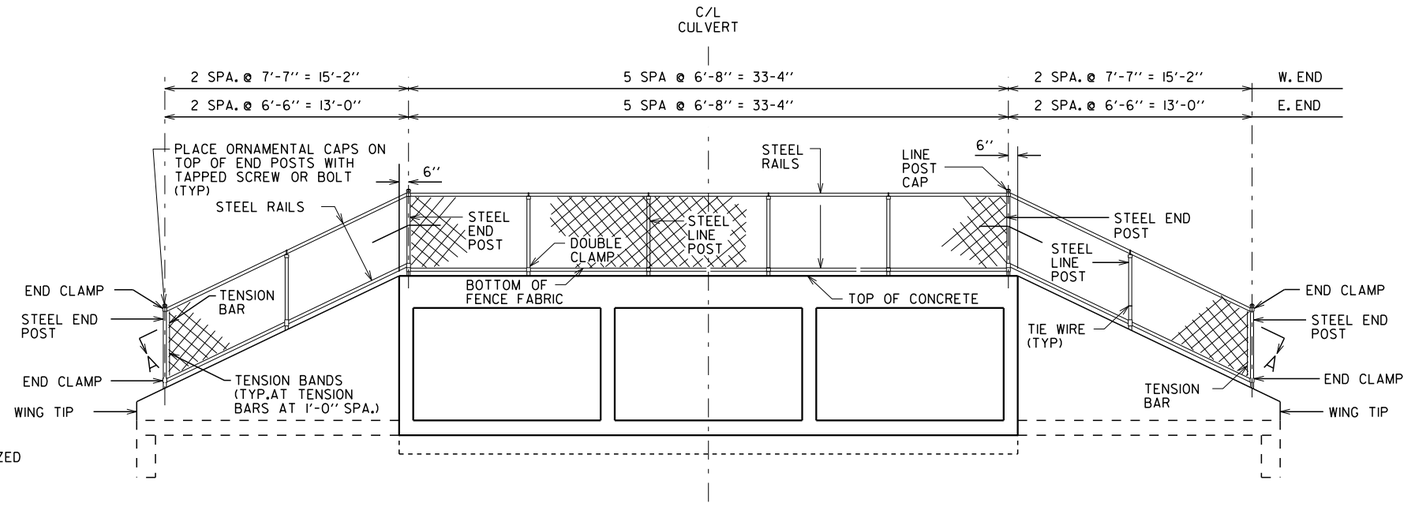
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STATE PROJECT NUMBER

2504 - 00 - 71

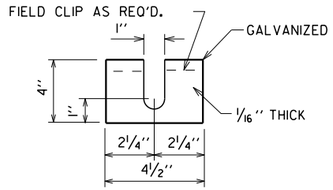
FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



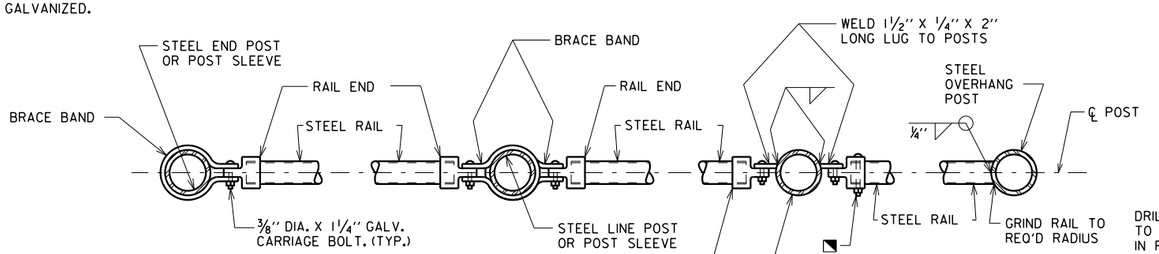
FENCE PART ELEVATION

UNFOLDED EAST ELEVATION
OTHER SIDE SIMILAR



POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT. SHIMS SHALL BE GALVANIZED.



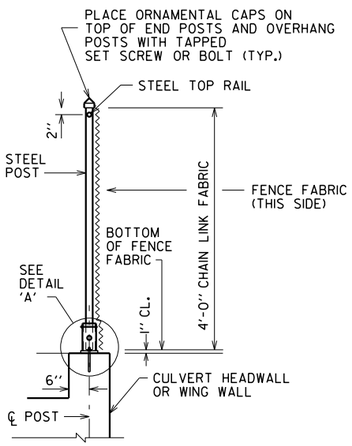
END CLAMP

✳ DOUBLE CLAMP

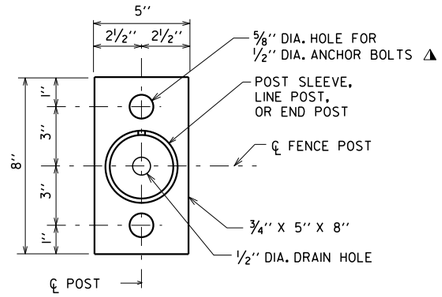
WELDED CONNECTION
(AT OVERHANG SECTION)

SECTION A-A

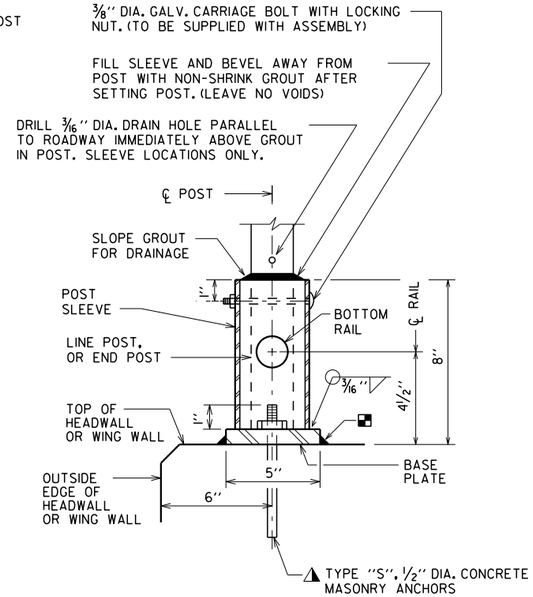
NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS



SECTION THRU FENCE



BASE PLATE



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

GENERAL NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL WITH A COLORED POLYMER COATING ON THE OUTSIDE.

FABRIC SHALL CONFORM TO ASTM F668, CLASS 2B, STEEL RAILS, POSTS, AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTING SHALL CONFORM TO ASTM F626. SEE THE SPECIAL PROVISIONS FOR ADDITIONAL DETAILS.

THE COLOR OF THE POLYMER COATING FOR THIS STRUCTURE SHALL BE DARK GREEN, IN ACCORDANCE WITH ASTM F934.

THE BID ITEM SHALL BE "FENCE CHAIN LINK POLYMER-COATED 4-FT". LF.

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

◪ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

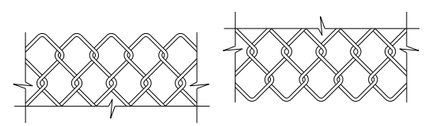
✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

◭ MASONRY ANCHOR TYPE S 1/2-INCH. EMBED 6" IN CONCRETE. ANCHOR, WASHER, AND NUT SHALL BE GALVANIZED.

◨ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

◥ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST SPACING.



TOP DETAIL BOTTOM DETAIL

FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-229

DRAWN BY D.B. | PLANS CK'D. J.D.T. H.J.R.

FENCING DETAILS

SHEET 7 OF 7
255

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STATION	CUT C.Y.	FILL (-) C.Y.	LARGEST CUT IN FEET	LARGEST FILL (-) IN FEET
1+00	130	41	1.85	1.18
1+50	130	25	1.95	1.12
2+00	130	29	1.95	1.12
2+50	130	25	1.88	1.12
3+00	135	19	1.9	1.12
3+50	130	18	1.96	1.15
4+00	130	11	1.96	1.15
4+50	146	33	1.85	1.62
5+00	130	50	1.85	1.62
5+50	130	34	1.93	1.12
6+00	146	36	1.85	1.18
6+50	146	44	1.95	1.18
7+00	130	35	1.95	1.19
7+50	130	27	1.88	1.19
8+00	137	27	1.9	1.18
8+50	130	28	1.96	1.18
9+00	130	46	1.96	1.16
9+50	130	28	1.77	1.12
10+00	130	16	1.77	1.09
10+50	130	16	1.85	1.12
11+00	130	18	2.03	1.12
11+50	119	11	2.1	1.37
12+00	119	4	2.1	1.12
12+50	119	7	2.04	1.14
13+00	119	9	2.25	1.14
13+50	120	9	2.37	1.12
14+00	119	13	2.37	1.09
14+50	120	18	2.26	1.12
15+00	122	18	2.33	1.12
15+50	119	18	2.33	1.19
16+00	126	18	2.46	1.19
16+50	119	34	2.01	1.18
17+00	120	29	2.01	1.12
17+50	112	18	1.98	1.12
18+00	128	18	1.88	1.12
18+50	133	25	1.87	1.12

STATION	CUT C.Y.	FILL (-) C.Y.	LARGEST CUT IN FEET	LARGEST FILL (-) IN FEET
19+00	127	19	1.78	1.15
19+50	139	18	1.78	1.15
20+00	128	11	1.78	1.62
20+50	119	33	1.72	1.62
21+00	119	50	1.89	1.12
21+50	141	30	2.13	1.22
22+00	180	26	2.13	1.31
22+50	159	24	2.34	1.27
23+50	151	24	1.9	1.18
24+00	157	43	1.93	1.18
24+50	150	41	1.85	1.18
25+00	150	25	1.95	1.12
25+50	141	29	1.95	1.12
26+00	128	25	1.88	1.12
26+50	116	19	1.9	1.12
27+00	123	18	1.96	1.15
27+50	137	11	1.96	1.15
28+00	131	33	1.77	1.62
28+50	123	50	1.77	1.62
29+00	144	34	1.85	1.12
29+50	150	36	2.03	1.18
30+00	141	44	2.1	1.18
30+50	157	35	2.1	1.19
31+00	155	27	2.04	1.19
31+50	155	27	2.25	1.18
32+00	162	28	2.37	1.18
32+50	139	46	2.37	1.16
33+00	135	50	2.26	1.12
33+50	134	34	2.33	1.09
34+00	137	36	2.33	1.12
34+50	135	44	2.46	1.12
35+00	108	28	2.01	1.37
35+50	107	16	2.01	1.12
36+00	104	16	1.98	1.14
36+50	101	18	1.88	1.14
37+00	104	11	1.87	1.12

STATION	CUT C.Y.	FILL (-) C.Y.	LARGEST CUT IN FEET	LARGEST FILL (-) IN FEET
37+50	102	4	1.78	1.09
38+00	106	7	1.78	1.12
38+50	113	9	1.78	1.12
39+00	117	9	1.72	1.19
39+50	111	13	1.89	1.19
40+00	141	18	2.13	1.2
40+50	101	18	2.13	1.25
41+00	100	18	2.34	1.28
41+50	115	18	2.41	1.28
42+00	106	34	2.41	1.26
42+50	110	29	2.54	1.32
43+00	118	18	2.59	1.33
43+50	117	18	2.67	1.33
44+00	114	18	2.67	1.31
44+50	144	18	2.38	1.28
45+00	100	18	2.36	1.26
45+50	97	18	2.17	1.24
46+00	94	17	2.17	1.18
46+50	94	17	2.08	1.17
47+00	98	17	2.03	1.13
47+50	79	27	2.03	1.5
48+00	78	19	2.03	1.5
48+50	87	10	1.96	1.31
49+00	81	19	2.14	1.31
49+50	88	18	2.14	1.2
50+00	101	18	2.13	1.18
50+50	96	29	2.11	1.44
51+00	104	29	2.2	1.44
51+50	125	22	2.48	1.17
52+00	129	17	2.48	1.18
52+50	117	9	2.44	1.18
53+00	102	9	1.98	1.11
53+50	65	6	1.89	1.11

TOTAL	12,941	2,482

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PROJECT NO: 2504-00-71 | HWY: N. 91ST STREET | COUNTY: MILWAUKEE | EARTHWORK | SHEET: 256 | E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

Notes

Wisconsin Department of Transportation

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