WIS

PROJECT ID: 6414-01-74

WITH: N/A

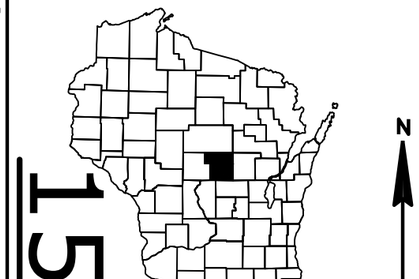
COUNTY: PORTAGE

AUGUST 2026

ORDER OF SHEETS


| | | |
|---|---|---|
| Section No. | 1 | Title |
| Section No. | 2 | Typical Sections and Details |
| Section No. | 3 | Estimate of Quantities |
| Section No. | 3 | Miscellaneous Quantities |
| ~~Section No.~~ | ~~4~~ | ~~Right of Way Plat~~ |
| Section No. | 5 | Plan and Profile |
| Section No. | 6 | Standard Detail Drawings |
| Section No. | 7 | Sign Plates |
| ~~Section No.~~ | ~~8~~ | ~~Structure Plans~~ |
| Section No. | 9 | Computer Earthwork Data |
| Section No. | 9 | Cross Sections |


TOTAL SHEETS = 214




# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

## PLAN OF PROPOSED IMPROVEMENT

# PLOVER - WAUPACA

### MAPLE DRIVE TO I-39

## STH 54

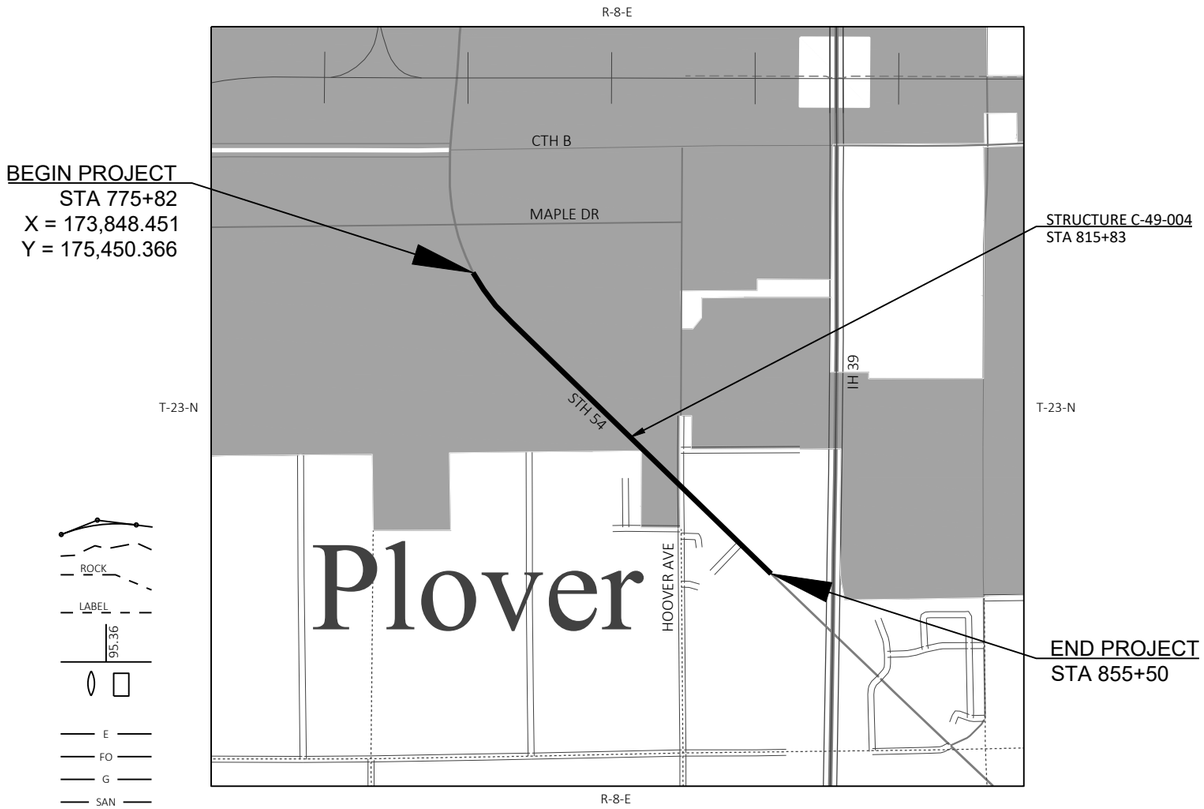
## PORTAGE COUNTY

| STATE PROJECT NUMBER |
|---|
| 6414-01-74 |

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 6414-01-74 | | |
| | | |
| | | |
| | | |

DESIGN DESIGNATION

| | | | |
|---|---|---|---|
| A.A.D.T. | 2026 | = | 5,280 |
| A.A.D.T. | 2046 | = | 5,760 |
| D.H.V. | | = | 975 |
| D.D. | | = | 50/50 |
| T. | | = | 19.5 % |
| DESIGN SPEED | | = | 60 MPH |
| ESALS | | = | 2,500,000 |




TOTAL NET LENGTH OF CENTERLINE = 1.509 MI

CONVENTIONAL SYMBOLS

| PLAN | | PROFILE | |
|---|---|---|---|
| CORPORATE LIMITS | | GRADE LINE | |
| PROPERTY LINE | | ORIGINAL GROUND | |
| LOT LINE | | MARSH OR ROCK PROFILE (To be noted as such) | ROCK |
| LIMITED HIGHWAY EASEMENT | | SPECIAL DITCH | LABEL |
| EXISTING RIGHT OF WAY | | GRADE ELEVATION | 95.36 |
| PROPOSED OR NEW R/W LINE | | CULVERT (Profile View) | |
| SLOPE INTERCEPT | | **UTILITIES** | |
| REFERENCE LINE | 300'EB' | ELECTRIC | E |
| EXISTING CULVERT | | FIBER OPTIC | FO |
| PROPOSED CULVERT (Box or Pipe) | | GAS | G |
| COMBUSTIBLE FLUIDS | CAUTION | SANITARY SEWER | SAN |
| | | STORM SEWER | SS |
| MARSH AREA | | TELEPHONE | T |
| | | WATER | W |
| WOODED OR SHRUB AREA | | UTILITY PEDESTAL | |
| | | POWER POLE | |
| | | TELEPHONE POLE | |

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), PORTAGE COUNTY, NAD83 ( 2011 ), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 ( 2012 ). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.


ORIGINAL PLANS PREPARED BY

DAAR ENGINEERING, INC.
www.daarcorp.com
Johnson Creek, WI 53038
414-225-9817


WISCONSIN PROFESSIONAL ENGINEER
TERESA A. SCHOPP
E-35843
JOHNSON CREEK
WISCONSIN

DATE: 4/21/26 (DATE) Teresa Schopp (SIGNATURE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | WISDOT/DAAR |
| Designer | DAAR ENGINEERING, INC. |
| Project Manager | ELIZABETH MILLER, P.E. |
| Regional Examiner | FRED SCHUNKE, P.E. |
| Regional Supervisor | NICHOLE LYSNE, P.E. |

APPROVED FOR THE DEPARTMENT

DATE: 4/23/26 (Signature)

E

## GENERAL NOTES

1. 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.
2. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK, ANY LOCAL MUNICIPALITY OR PUBLIC AGENCY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
3. PRIOR TO PLACEMENT OF BEAM GUARD THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED.
4. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PAVING OR PIPE LAYING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAYS SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER OPERATIONS ARE COMPLETED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.
5. STATION/OFFSETS FOR CULVERT PIPES ARE MEASURED FROM END OF PIPE.
6. HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

## ORDER OF SECTION 2 DETAIL SHEETS


GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
DETAIL STH 54 & CTH B
GUARDRAIL DETAILS
INTERSECTION DETAILS
CULVERT DETAILS
EROSION CONTROL DETAILS
PAVEMENT MARKING & PERMANENT SIGNING DETAILS
TRAFFIC CONTROL
TRAFFIC CONTROL DETOUR
TRAFFIC CONTROL STH 54 & CTH B
ALIGNMENT DETAILS


## RUNOFF COEFFICIENT TABLE

| | HYDROLOGIC SOIL GROUP | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | | | B | | | C | | | D | | |
| | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | |
| LAND USE: | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER |
| ROW CROPS: | .08<br>.22 | .16<br>.30 | .22<br>.38 | .12<br>.26 | .20<br>.34 | .27<br>.44 | .15<br>.30 | .24<br>.37 | .33<br>.50 | .19<br>.34 | .28<br>.41 | .38<br>.56 |
| MEDIAN STRIPTURF: | .19<br>.24 | .20<br>.26 | .24<br>.30 | .19<br>.25 | .22<br>.28 | .26<br>.33 | .20<br>.26 | .23<br>.30 | .30<br>.37 | .20<br>.27 | .25<br>.32 | .30<br>.40 |
| SIDE SLOPETURF: | | | .25<br>.32 | | | .27<br>.34 | | | .28<br>.36 | | | .30<br>.38 |
| PAVEMENT: | | | | | | | | | | | | |
| ASPHALT: | .70 - .95 | | | | | | | | | | | |
| CONCRETE: | .80 - .95 | | | | | | | | | | | |
| BRICK: | .70 - .80 | | | | | | | | | | | |
| DRIVES, WALKS: | .75 - .85 | | | | | | | | | | | |
| ROOFS: | .75 - .95 | | | | | | | | | | | |
| GRAVEL ROADS, SHOULDERS: | .40 - .60 | | | | | | | | | | | |

TOTAL PROJECT AREA = 11.66 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.51 ACRES

## UTILITIES CONTACTS

AT&T WISCONSIN
COMMUNICATION LINE
CHUCK BARTELT
70 E DIVISION ST
FOND DU LAC, WI 54935
PHONE: (920) 410-5104
EMAIL: CB1461@att.com

ATC MANAGEMENT, INC.
ELECTRICITY-TRANSMISSION
DOUG VOSBERG
2489 RINDEN ROAD
COTTAGE GROVE, WI 53527
PHONE: (608) 877-7650
EMAIL: dvosberg@atcllc.com

SPECTRUM COMMUNICATIONS
COMMUNICATION LINE
JASON O'KEEFE
5024 HEFFRON ST
STEVENS POINT, WI 54481
PHONE: (715) 382-3559
EMAIL: jason.okeefe@charter.com

VILLAGE OF PLOVER
SEWER
LYLE LUTZ
P.O. BOX 37
PLOVER, WI 54467
PHONE: (715) 340-2953
EMAIL: LLutz@ploverwi.gov

VILLAGE OF PLOVER
WATER
MATT SALOUN
P.O. BOX 37, 2400 POST ROAD
PLOVER, WI 54467
PHONE: (715) 347-9463
EMAIL: msaloun@ploverwi.gov

WISCONSIN PUBLIC SERVICE CORPORATION
ELECTRICITY
DON LUTZOW
P.O. BOX 1166
WAUSAU, WI 54402
PHONE: (507) 848-4211
EMAIL: donald.lutzow@wisconsinpublicservice.com

WISCONSIN PUBLIC SERVICE CORPORATION
GAS/PETROLEUM
TYLER DAHLSTROM
1700 SHERMAN ST
WAUSAU, WI 54402
PHONE: (715) 432-9212
EMAIL: Tyler.Dahlstrom@wisconsinpublicservice.com

## WISCONSIN DNR LIAISON

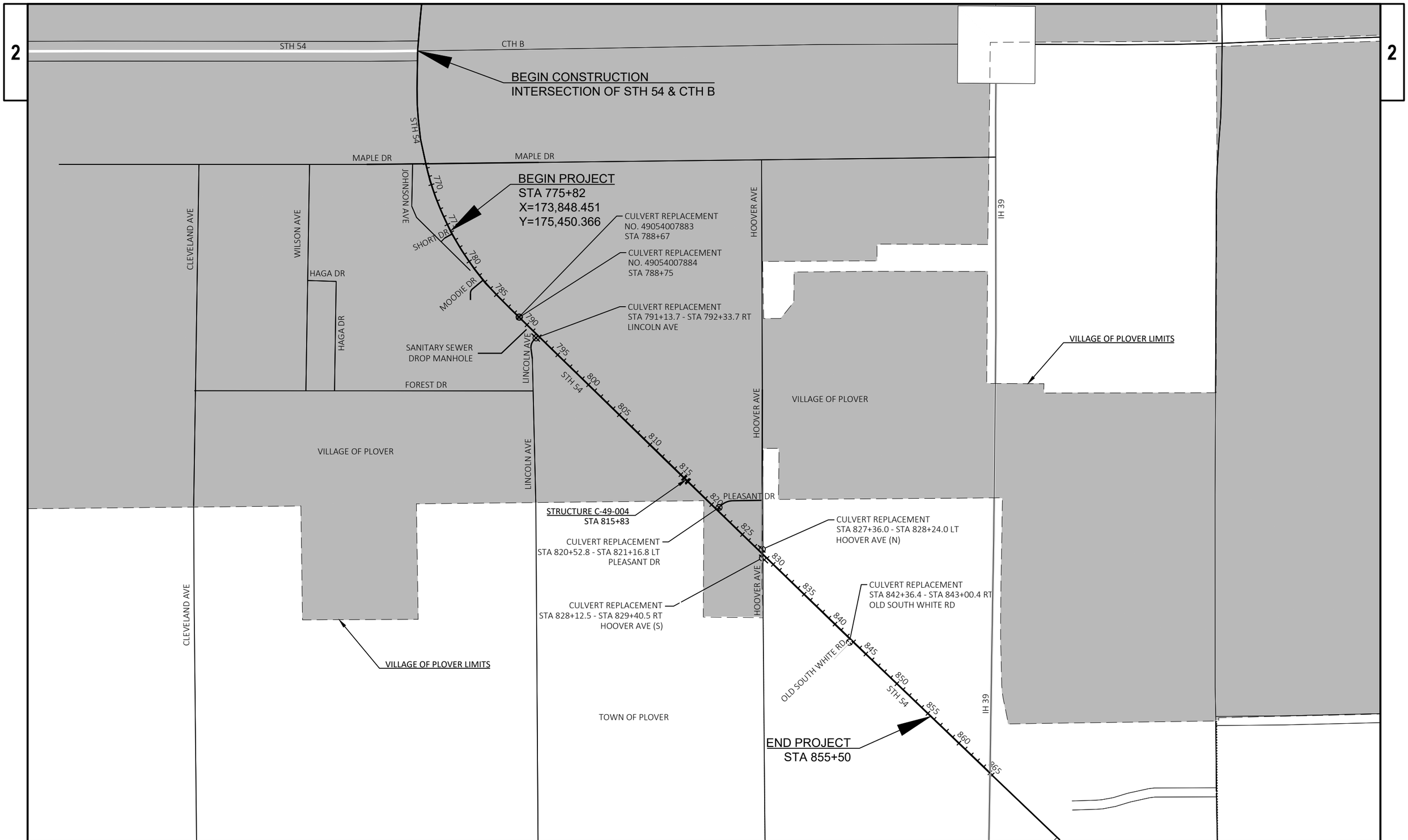
JAY SCHIEFELBEIN
NORTHEAST REGION
2984 SHAWANO AVE
GREEN BAY, WI 54313
PHONE: 920-360-3784
EMAIL: jeremiah.schiefelbein@wisconsin.gov

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

## STANDARD ABBREVIATIONS

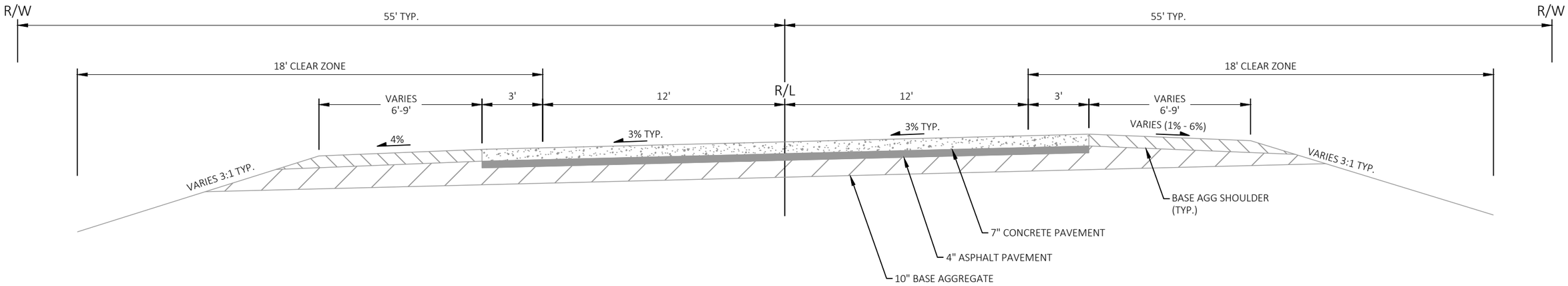
| | |
|---|---|
| AC | ACRE |
| AGG | AGGREGATE |
| AADT | ANNUAL AVERAGE DAILY TRAFFIC |
| AEW | APRON ENDWALL |
| ASPH | ASPHALTIC |
| BAD | BASE AGGREGATE DENSE |
| BM | BENCH MARK |
| CB | CATCH BASIN |
| CE | COMMERCIAL ENTRANCE |
| CONC | CONCRETE |
| CP | CONTROL POINT |
| CO | COUNTY |
| CTH | COUNTY TRUCK HIGHWAY |
| CY | CUBIC YARD |
| CP | CULVERT PIPE |
| CPRC | CULVERT PIPE REINFORCED CONCRETE |
| CPRCHE | CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL |
| D | DEGREE OF CURVE |
| DHV | DESIGN HOUR VOLUME |
| DD | DIRECTIONAL DISTRIBUTION |
| DWY | DRIVEWAY |
| EA | EACH |
| EB | EASTBOUND |
| EL OR ELEV | ELEVATION |
| EAT | ENERGY ABSORBING TERMINAL |
| ESALS | EQUIVALENT SINGLE AXLE LOADS |
| EXIST | EXISTING |
| FE | FIELD ENTRANCE |
| FT | FOOT |
| CWT | HUNDRED WEIGHT |
| INL | INLET |
| IH | INTERSTATE HIGHWAY |
| INV | INVERT |
| LT | LEFT |
| LHF | LEFT HAND FORWARD |
| L | LENGTH OF CURVE |
| LF | LINEAR FOOT |
| LS | LUMP SUM |
| MGAL | ONE THOUSAND GALLONS |
| MH | MANHOLE |
| PC | POINT OF CURVATURE |
| PI | POINT OF INTERSECTION |
| PT | POINT OF TANGENCY |
| LB | POUND |
| PSI | POUNDS PER SQUARE INCH |
| PE | PRIVATE ENTRANCE |
| R | RADIUS |
| RL OR R/L | REFERENCE LINE |
| REQD | REQUIRED |
| RT | RIGHT |
| RHF | RIGHT HAND FORWARD |
| R/W | RIGHT OF WAY |
| RDWY | ROADWAY |
| SF | SQUARE FEET |
| SY | SQUARE YARD |
| SDD | STANDARD DETAIL DRAWINGS |
| STH | STATE TRUNK HIGHWAY |
| STA | STATION |
| SE | SUPERELEVATION |
| T | TRUCKS (PERCENT OF) |
| TYP | TYPICAL |
| VAR | VARIABLE |
| VC | VERTICAL CURVE |
| VPC | VERTICAL POINT OF CURVATURE |
| VPI | VERTICAL POINT OF INTERSECTION |
| VPT | VERTICAL POINT OF TANGENCY |
| WB | WESTBOUND |

2



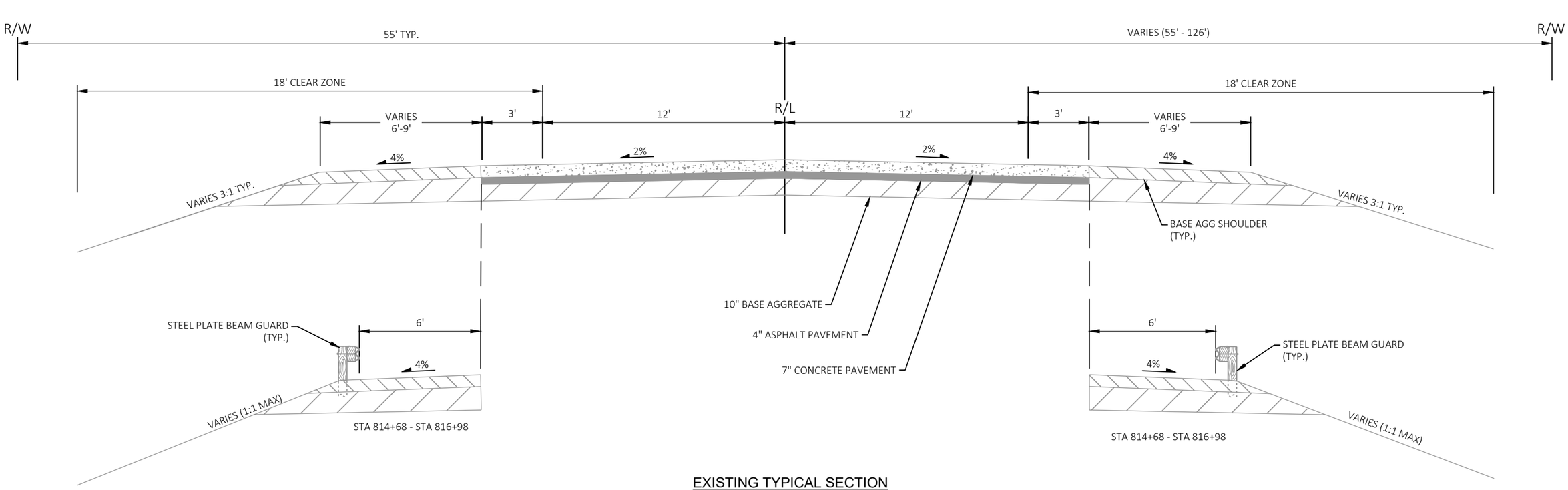

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PROJECT OVERVIEW | SHEET 3 | E |
|---|---|---|---|---|---|


FILE NAME : C:\USERS\BRETSANDERS\ONEDRIVE - DAAR CORPORATION\DOCUMENTS-NC-DESIGN - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\020201-PO.DWG PLOT DATE : 4/15/2026 8:44 AM PLOT BY : BRET SANDERS PLOT NAME : PLOT SCALE : 1 IN:1000 FT
LAYOUT NAME - 01
WISDOT/CADDS SHEET 42




EXISTING SUPERELEVATED SECTION

STA 775+82 - STA 786+60

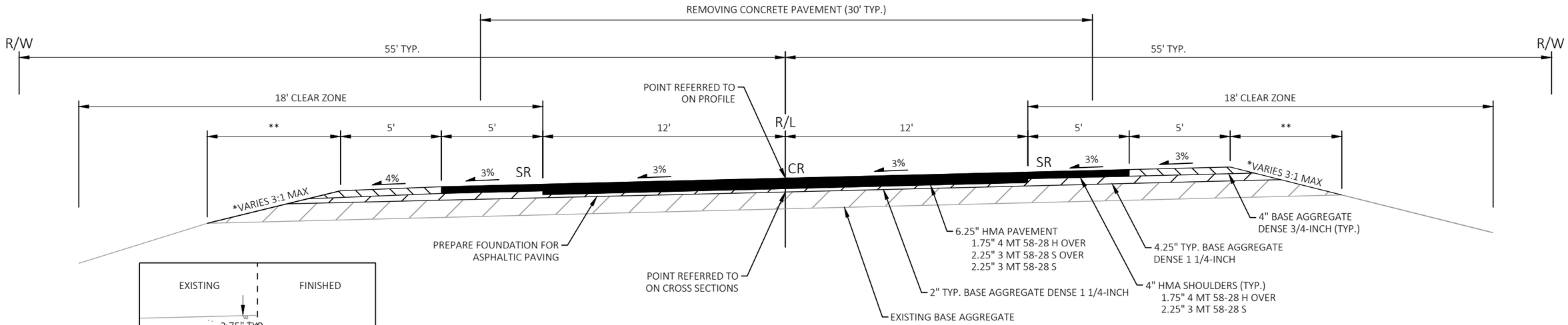



EXISTING TYPICAL SECTION

STA 786+60 - STA 855+50

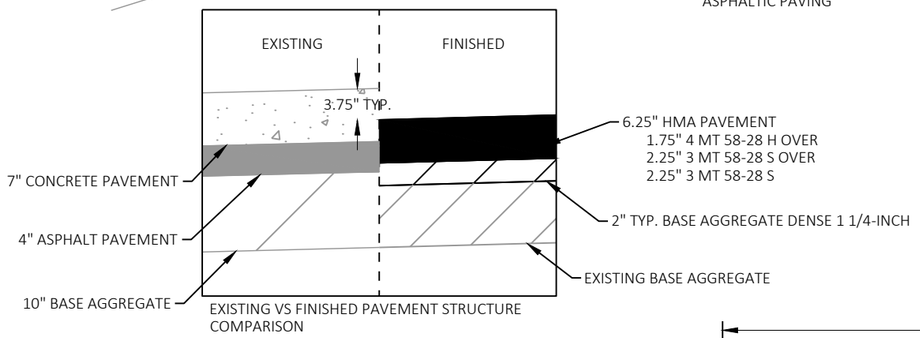
| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | TYPICAL SECTIONS | SHEET 4 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 01
PLOT DATE : 12/13/2024 1:59 PM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:5 FT
WISDOT/CADDS SHEET 42

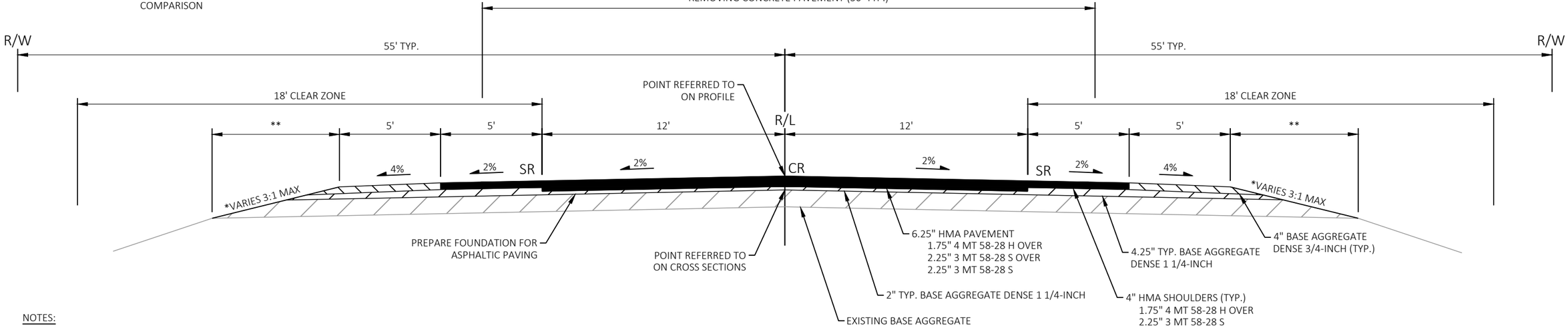



## FINISHED SUPERELEVATED SECTION

STA 775+82 - STA 786+60




EXISTING VS FINISHED PAVEMENT STRUCTURE COMPARISON




## FINISHED TYPICAL SECTION

STA 786+60 - STA 792+00

NOTES:

*BLEND SLOPE TO SUBGRADE SHOULDER POINT (29' TYP.)

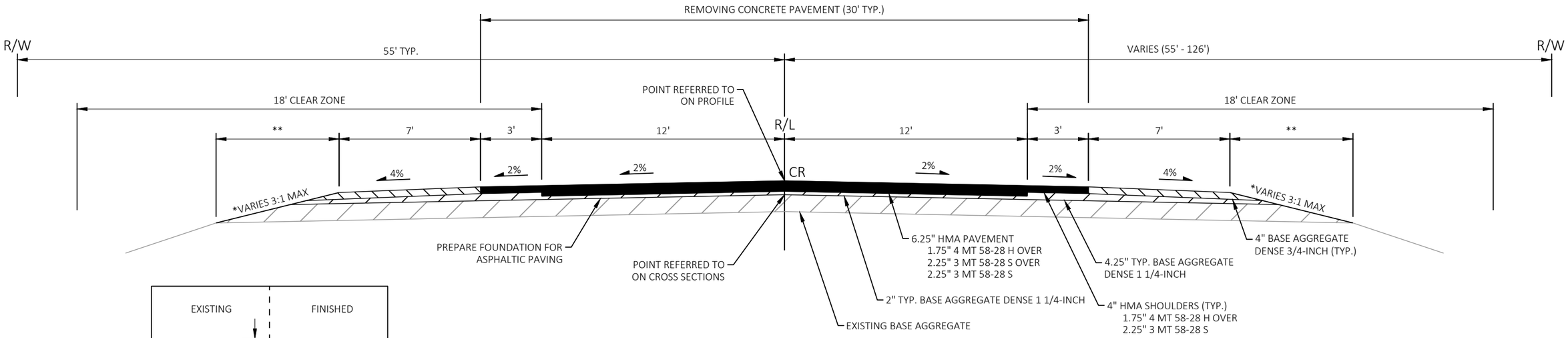
**LIMITS OF SEED & FERTILIZER

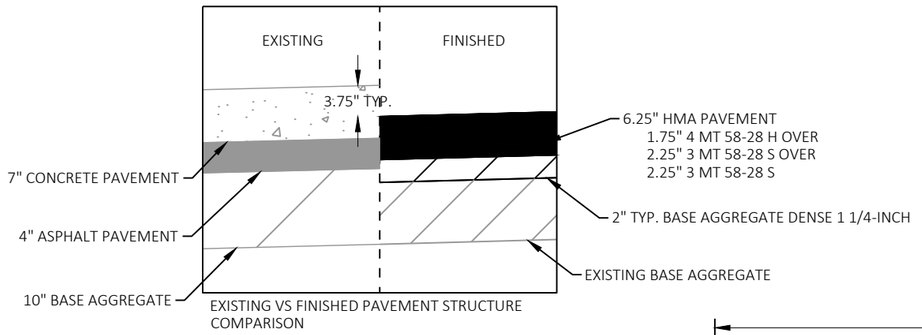
CR- ASPHALTIC RUMBLE STRIPS, CENTERLINE

SR- ASPHALTIC RUMBLE STRIPS, SHOULDER

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | TYPICAL SECTIONS | SHEET 5 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 02
PLOT DATE : 12/13/2024 1:59 PM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:5 FT
WISDOT/CADDS SHEET 42

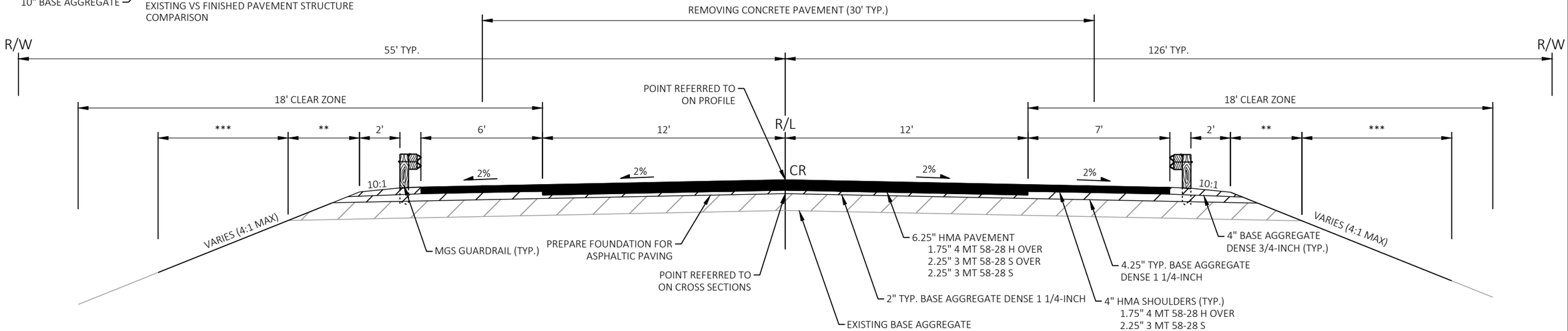



EXISTING VS FINISHED PAVEMENT STRUCTURE COMPARISON

## FINISHED TYPICAL SECTION

STA 792+00 - STA 813+83
STA 817+96 - STA 855+50




## FINISHED TYPICAL SECTION

STA 813+83 - STA 817+96
SEE CONSTRUCTION DETAILS FOR MORE INFORMATION

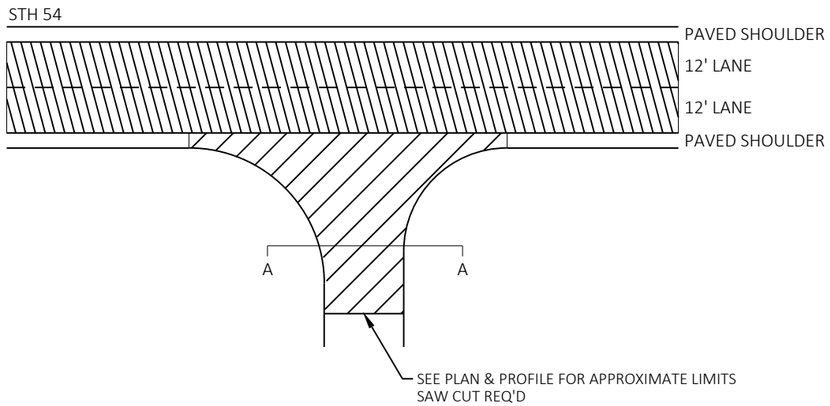
NOTES:

*BLEND SLOPE TO SUBGRADE SHOULDER POINT (29' TYP.)

**LIMITS OF SEED & FERTILIZER

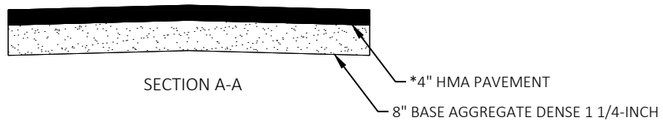
***LIMITS OF TOPSOIL, SEED, FERTILIZER, & EROSION MAT

CR- ASPHALTIC RUMBLE STRIPS, CENTERLINE




*4" HMA PAVEMENT, 8" BASE AGGREGATE DENSE 1 1/4-INCH

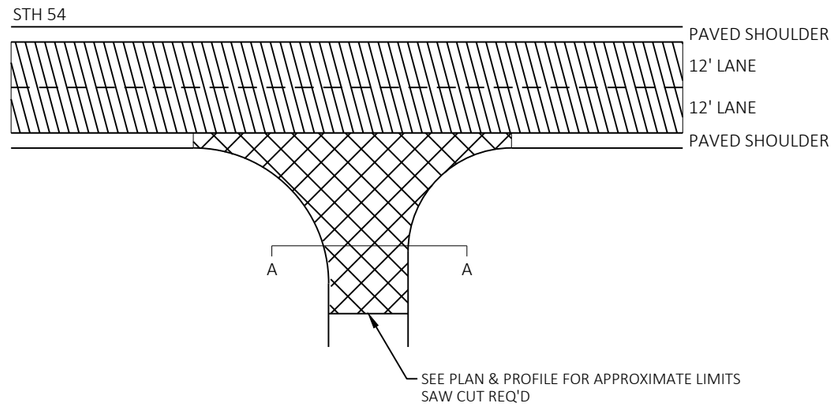
6.25" HMA PAVEMENT, 2" TYP. BASE AGGREGATE DENSE 1 1/4-INCH




## SIDE ROADS

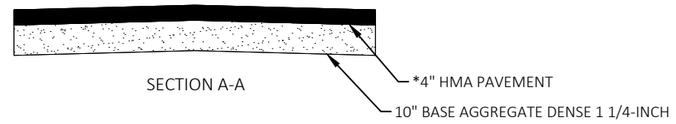
SHORT DR
MOODIE DR
LINCOLN AVE
PLEASANT DR
OLD SOUTH WHITE RD

*LIFT THICKNESS TO MATCH SHOULDER PAVING OPERATIONS




*4" HMA PAVEMENT, 10" BASE AGG DENSE 1 ¼"

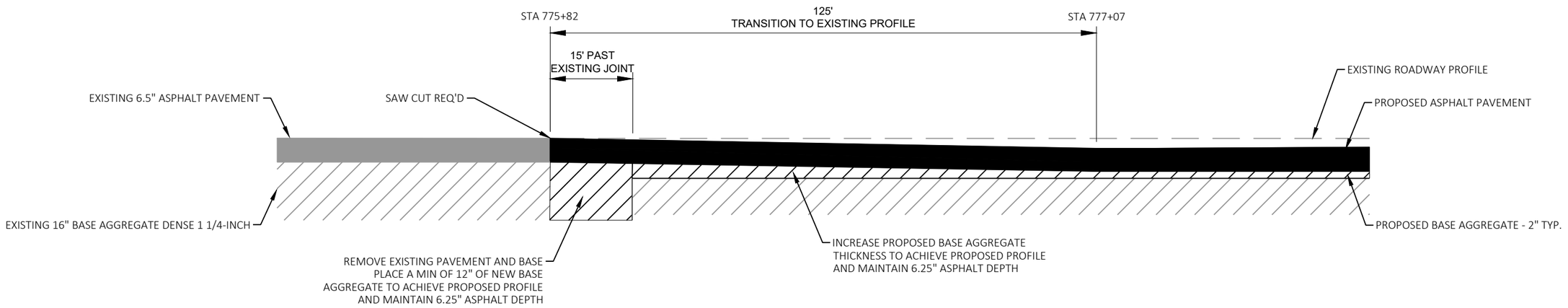
6.25" HMA PAVEMENT, 2" TYP. BASE AGG DENSE 1 ¼"



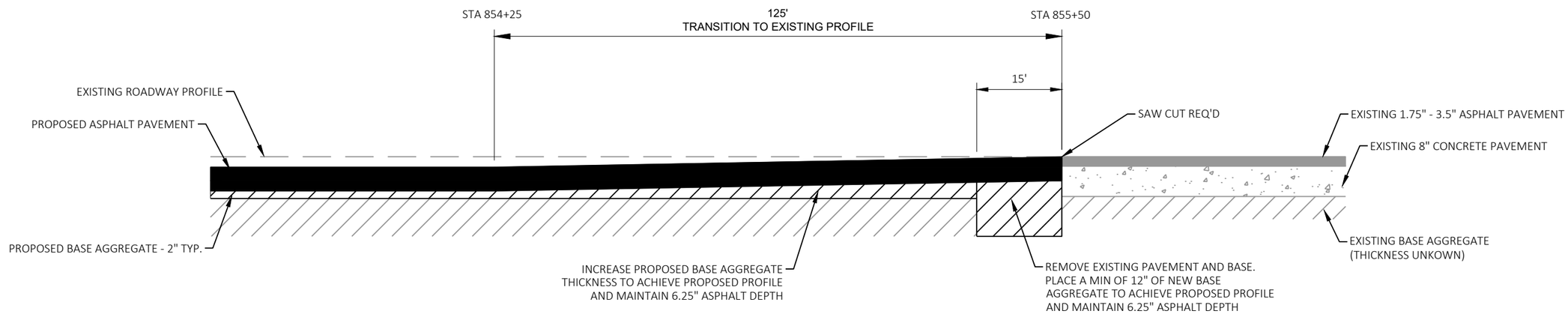

## SIDE ROADS

HOOVER AVE

*LIFT THICKNESS TO MATCH SHOULDER PAVING OPERATIONS

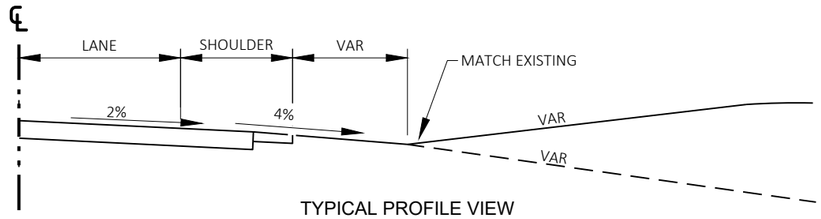



DETAIL FOR BEGIN PROJECT LIMITS

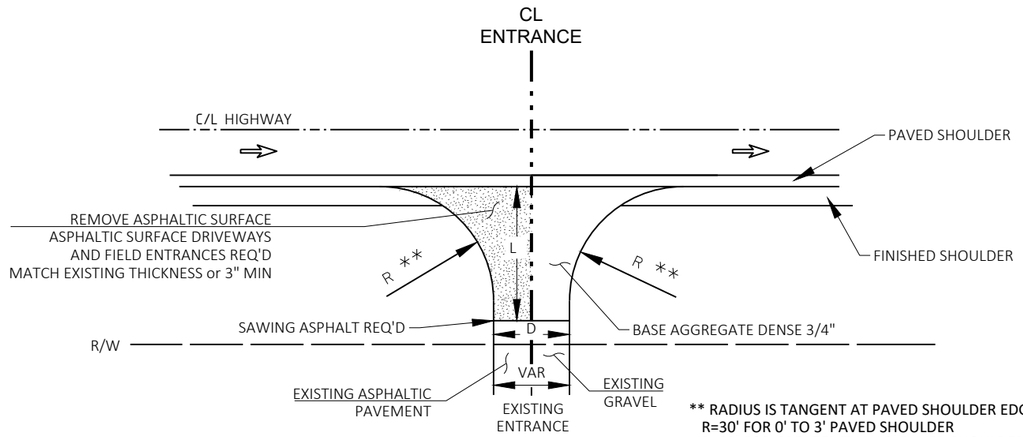



DETAIL FOR END PROJECT LIMITS

2




TYPICAL PROFILE VIEW




L=VARIABLE, EXACT LENGTH TO BE DETERMINED IN THE FIELD BY THE ENGINEER

D=DRIVEWAY WIDTH
D=20'TYP(PE & FE) (16'MIN-24'MAX)
D=28'TYP(CE & FARM ENT) (24'MIN-35'MAX)

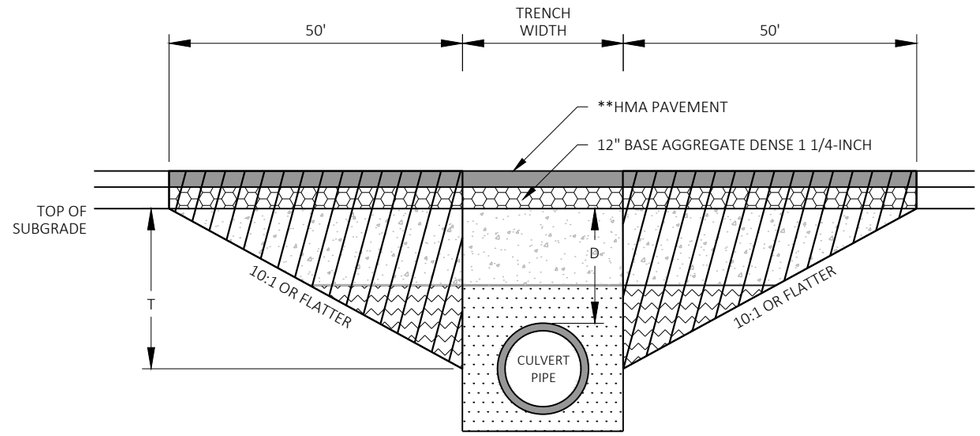
** RADIUS IS TANGENT AT PAVED SHOULDER EDGE
R=30' FOR 0' TO 3' PAVED SHOULDER
R=25' FOR GREATER THAN 3' PAVED SHOULDER

PLAN VIEW

## RURAL DRIVEWAY INTERSECTION (PE, FE & CE)

(FOR RESURFACING PROJECTS WITH PROFILE CHANGE)

2




DEPTH D < 6 FT

TRANSITION CUT DEPTH (T) = THE LESSER OF DEPTH TO CENTER OF PIPE OR 5 FT.
DO NOT EXTEND TRANSITION CUT BELOW HORIZONTAL CENTER OF PIPE.

KEY

- HMA PAVEMENT
- PROPOSED BASE
- TRENCH BACKFILL
- TRENCH OR FOUNDATION BACKFILL
- FOUNDATION BACKFILL
- TRANSITION CUT

**NOTES**

TRANSITION CUT IS PAID AS EXCAVATION COMMON.

TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.

BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.

PERFORM CULVERT PIPE INSTALLATION BEFORE PAVEMENT REPLACEMENT.

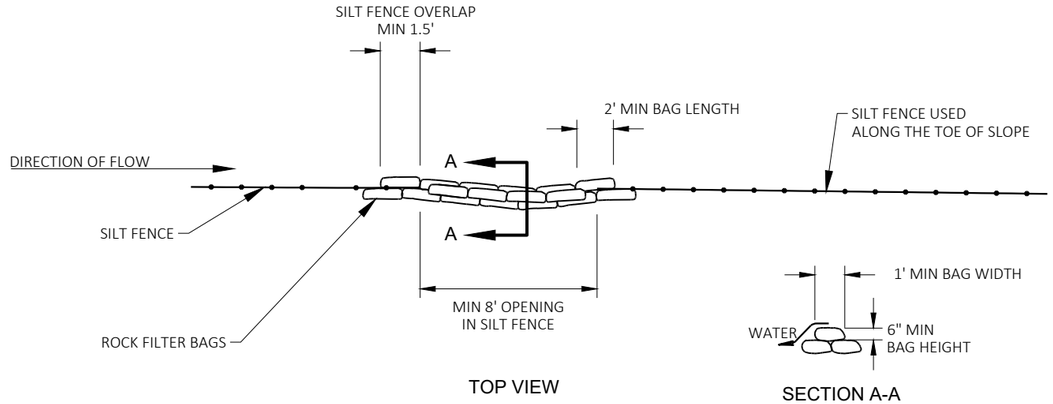
**HMA PAVEMENT TO BE PLACED AS PART OF MAINLINE PAVING OPERATIONS.

## CULVERT PIPE TRANSITION

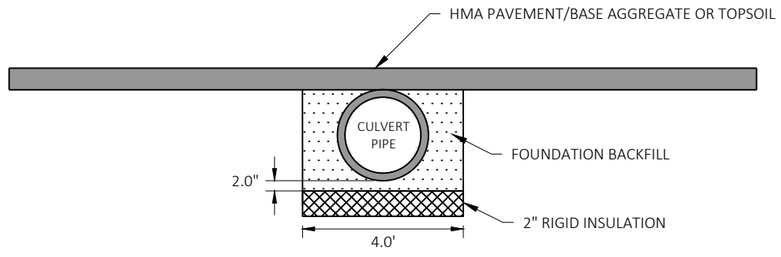
| ROUTE | STA (CL) | DEPTH D (FT)* | PIPE DIA (IN) | REMARKS |
|---|---|---|---|---|
| STH 54 | 788+67 | 0.77 | 24" X 38" | C 49054007883 |
| STH 54 | 788+75 | 0.80 | 24" X 38" | C 49054007884 |

*DEPTH MEASURED AT CENTERLINE

2




ROCK BAGS USED FOR SILT FENCE RELIEF

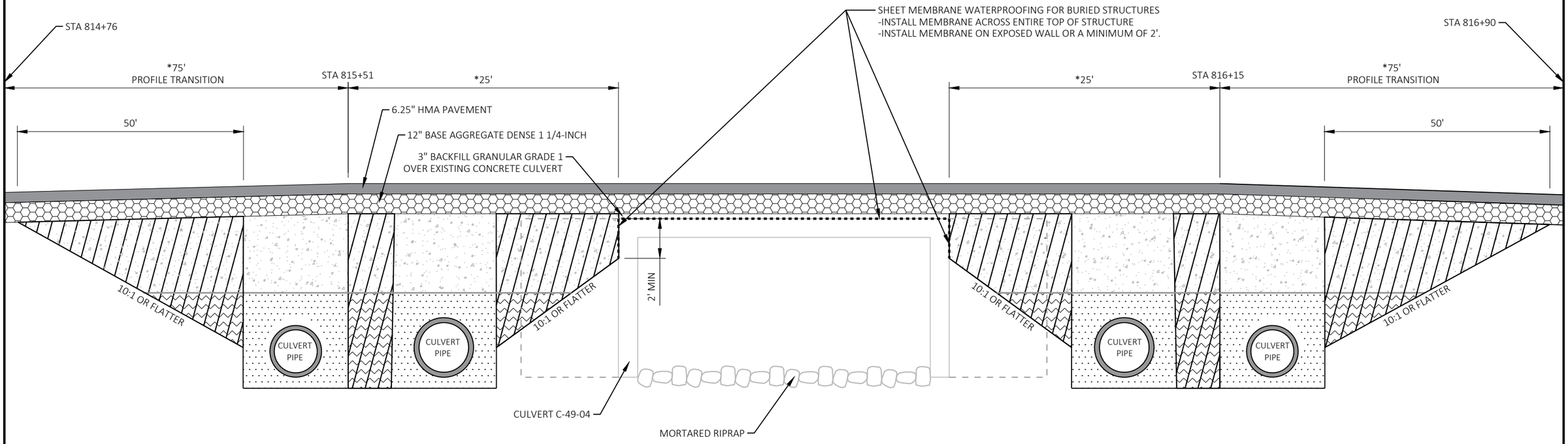



LINCOLN AVE CULVERT PIPE
STA 791+14 TO 792+34

NOTES

LINCOLN AVE CULVERT INSULATION SEE SPV.0060.04 RIGID INSULATION BOARD 2-INCH THICK - LINCOLN AVE FOR MORE INFORMATION

2




## CULVERT C-49-04 PAVEMENT STRUCTURE
## STA 815+83

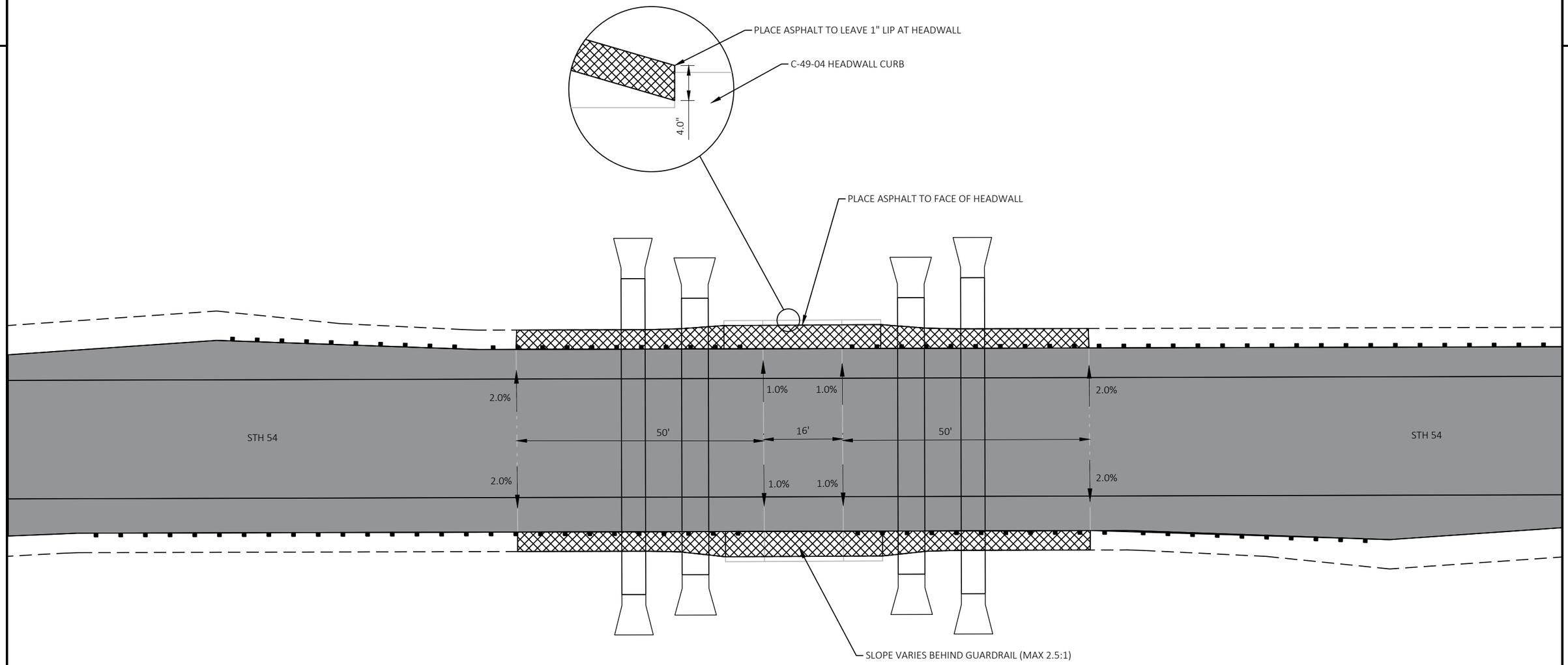
DETAIL NOT TO SCALE, FOR INFORMATION ONLY

NOTES
*SEE PLAN & PROFILE FOR MORE INFORMATION ON PROFILE TRANSITION

KEY

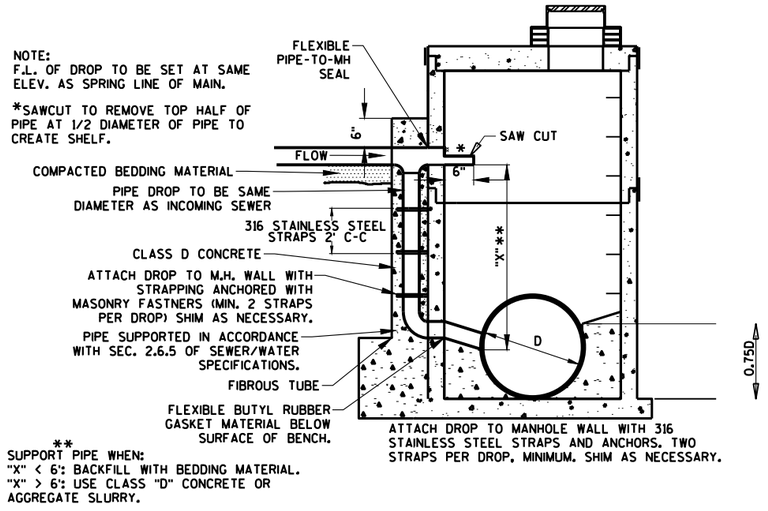
- HMA PAVEMENT
- PROPOSED BASE
- TRENCH BACKFILL
- TRENCH OR FOUNDATION BACKFILL
- FOUNDATION BACKFILL
- TRANSITION CUT

2

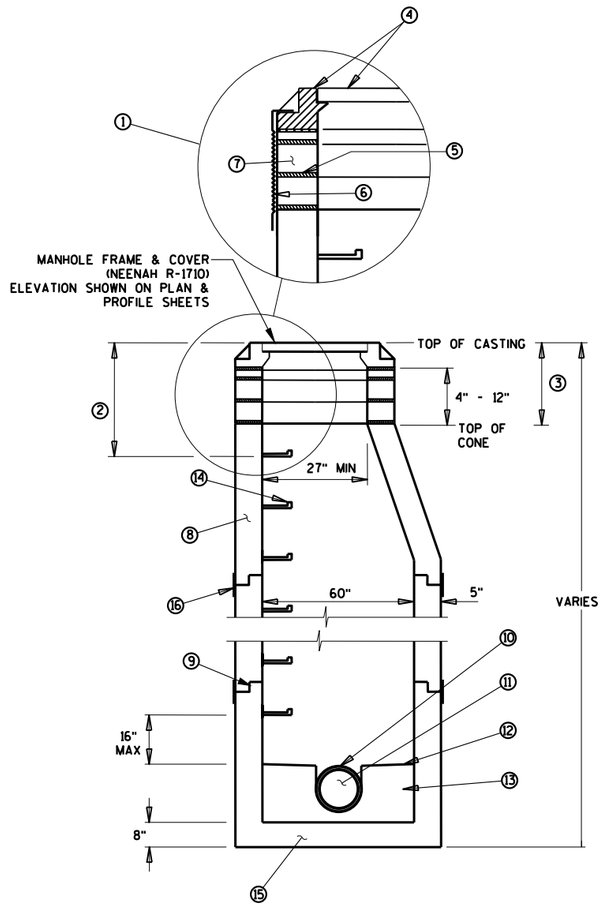



## CULVERT C-49-04 PAVING DETAILS
STA 815+83

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CONSTRUCTION DETAILS | SHEET 13 | E |
|---|---|---|---|---|---|




**OUTSIDE DROP DETAIL**
NTS




**60" SANITARY MANHOLE**
NTS

GENERAL NOTES:

1. WHEN MANHOLES ARE LOCATED UNDER PAVEMENTS, THE TOP OF THE MANHOLE FRAME SHALL BE ADJUSTED TO WITHIN 1/4" BELOW THE PAVEMENT GRADE.
2. TOP MANHOLE STEP SHALL BE PLACED IN THE CONE AT A MAXIMUM OF 28" FROM THE TOP OF THE FRAME.
3. ADJUST AS NECESSARY TO MEET PLAN GRADE. MAXIMUM HEIGHT OF CHIMNEY AND CASTING SHALL BE 24" AND THE MINIMUM HEIGHT SHALL BE 12" (A MINIMUM OF ONE ADJUSTMENT RING SHALL BE USED).
4. MANHOLE FRAME & COVER SHALL BE NEENAH R-1710 UNLESS NOTED OTHERWISE.
5. PRE-MOLDED BUTYL BASE SEALANT PLACED CONTINUOUSLY AROUND THE ENTIRE PERIMETER OF THE RINGS REQUIRED COMMENCING BETWEEN EACH RING AND SEALANT SHALL BE TERMINATING BETWEEN BOTTOM RING AND TOP OF CONE. PRE-MOLDED WITH AN APPROXIMATE CROSS-SECTION OF 3/8" BY 3-1/2".
6. EXTERNAL FRAME CHIMNEY SEAL.
7. ADJUSTMENT RINGS SHALL HAVE A MAXIMUM THICKNESS OF 12" AND A MINIMUM THICKNESS OF 4". ADJUSTING RINGS SHALL BE INJECTION MOLDED-RECYCLED HDPE AS MANUFACTURED BY LADTECH, INC.
8. PRECAST CONCRETE MANHOLE SECTIONS, TYPICAL, CONFORMING TO ASTM C-478 WITH CONCEALED PICK HOLES.
9. WATERTIGHT JOINT, TYPICAL, WITH GASKETS CONFORMING TO C-443, OR JOINTS SEALED WITH MASTIC JOINTING COMPOUND.
10. PRESS SEAL GASKET, PSX OR CAST-A-SEAL 603 FROM PRESS SEAL GASKET CORPORATION.
11. SANITARY SEWER-SIZE, NUMBER OF CONNECTIONS TO MANHOLE, ORIENTATION, AND ELEVATION SHOWN ON PLAN.
12. BENCH SLOPE 2 IN./FT.
13. STANDARD MANHOLE INVERT TO THE CROWN OF THE PIPE. SEE FILE NO. 13 OF "STANDARD SPECIFICATIONS".
14. MANHOLE STEP, NEENAH R-1982-F, TYPICAL.
15. PRECAST BASE.
16. EXTERNAL SEAL ON ALL JOINTS. SEE SPECIFICATIONS. TYPICAL.

2

BUS 51
POST ROAD

N

STH 54 WESTBOUND

CTH B WESTBOUND

STH 54 EASTBOUND

CTH B EASTBOUND

EP: 116+00
N: 177544.8110
E: 173490.6146

SAWING CONCRETE (TYP.)

NOTE - REPLACE DISTURBED
PAVEMENT MARKINGS IN KIND

N01°36'24.97"E

STH 54 EASTBOUND

STH 54 WESTBOUND

BP: 113+70
N: 177314.9014
E: 173484.1648

MCDONALDS
2601 PLOVER RD

PLOVER EXPRESS MART
2621 PLOVER RD

## LEGEND

- PROPOSED LOOP DETECTOR - REFER SDD LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
- CONCRETE PAVEMENT REPLACEMENT (9-INCH) /*6" BASE AGGREGAE DENSE 1 1/4-INCH
  *ONLY REQUIRED WHERE LOOP DETECTOR IS LOCATED
- EXISTING PULL BOX; REMOVE AND RECONNECT NEW LOOP CONDUIT
- EXISTING PULL BOX
- REMOVE CONCRETE SIDEWALK
  [CONCRETE SIDEWALK 6-INCH]
- REMOVE ASPHALTIC SURFACE
  [3" ASPHALTIC SURFACE SAFETY ISLANDS]
- REMOVE CURB AND GUTTER
  [CONCRETE CURB & GUTTER 18-INCH TYPE A OR CONCRETE CURB & GUTTER 30-INCH TYPE A]
- RESTORATION
  [6" TOPSOIL / EROSION MAT URBAN CLASS I TYPE A / FERTILIZER TYPE B / SEED MIX NO 40 / SEED WATER]

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | DETAIL: STH 54 / CTH B / BUSINESS 51 LOOP DETECTOR OVERVIEW | SHEET 15 | E |
|---|---|---|---|---|---|

2

CONSTRUCTION NOTES:

1) PROPOSED SAWCUTS FOR PAVEMENT REMOVAL AREA AS SHOWN (LIMITS SHALL BE NO CLOSER THAN 5-FT FROM ANY PROPOSED LOOP DETECTOR). DISCUSS WITH PROJECT ENGINEER/ELECTRICIAN IF FIELD ADJUSTMENTS ARE NECESSARY.
2) DETECTOR SIZES ARE AS NOTED. DISTANCE BETWEEN MULTIPLE DETECTOR LOOPS SHALL BE 8-FT.
3) DETECTOR LOOPS SHALL BE INSTALLED IN THE AGGREGATE BASE COURSE UNDER THE PAVEMENT. REFER SDD LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE)BOX OFF ROADWAY (OPTION 2).
4) EACH LOOP DETECTOR SHALL HAVE A SEPARATE LEAD-IN CABLE TO THE CONTROL CABINET.
5) STATION / OFFSET ARE APPROXIMATE. ENGINEER IN FIELD TO APPROVE SAWCUT LIMITS.

N

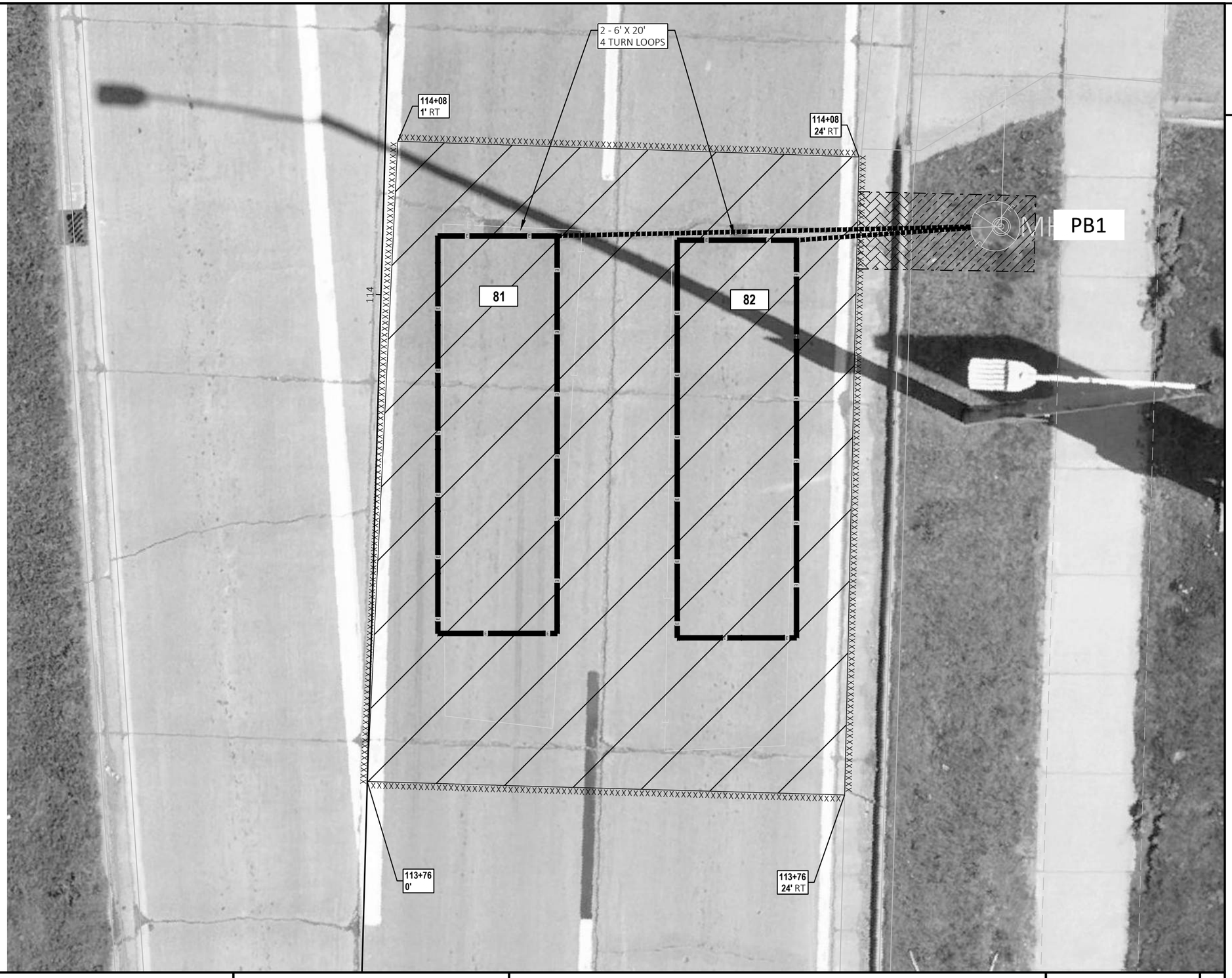
2

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | DETAIL: STH 54 EASTBOUND | SHEET 16 | E |
|---|---|---|---|---|---|

CONSTRUCTION NOTES:

1) PROPOSED SAWCUTS FOR PAVEMENT REMOVAL AREA AS SHOWN (LIMITS SHALL BE NO CLOSER THAN 3-FT FROM ANY PROPOSED LOOP DETECTOR). DISCUSS WITH PROJECT ENGINEER/ELECTRICIAN IF FIELD ADJUSTMENTS ARE NECESSARY.
2) DETECTOR SIZES ARE AS NOTED. DISTANCE BETWEEN MULTIPLE DETECTOR LOOPS SHALL BE 8-FT.
3) DETECTOR LOOPS SHALL BE INSTALLED IN THE AGGREGATE BASE COURSE UNDER THE PAVEMENT. REFER SDD LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE)BOX OFF ROADWAY (OPTION 2).
4) EACH LOOP DETECTOR SHALL HAVE A SEPARATE LEAD-IN CABLE TO THE CONTROL CABINET.
5) STATION / OFFSET ARE APPROXIMATE. ENGINEER IN FIELD TO APPROVE SAWCUT LIMITS.

N




| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | DETAIL: STH 54 WESTBOUND | SHEET 17 | E |
|---|---|---|---|---|---|

2

CONSTRUCTION NOTES:

1) PROPOSED SAWCUTS FOR PAVEMENT REMOVAL AREA AS SHOWN (LIMITS SHALL BE NO CLOSER THAN 3-FT FROM ANY PROPOSED LOOP DETECTOR). DISCUSS WITH PROJECT ENGINEER/ELECTRICIAN IF FIELD ADJUSTMENTS ARE NECESSARY.
2) DETECTOR SIZES ARE AS NOTED. DISTANCE BETWEEN MULTIPLE DETECTOR LOOPS SHALL BE 8-FT.
3) DETECTOR LOOPS SHALL BE INSTALLED IN THE AGGREGATE BASE COURSE UNDER THE PAVEMENT. REFER SDD LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE)BOX OFF ROADWAY (OPTION 2).
4) EACH LOOP DETECTOR SHALL HAVE A SEPARATE LEAD-IN CABLE TO THE CONTROL CABINET.
5) STATION / OFFSET ARE APPROXIMATE. ENGINEER IN FIELD TO APPROVE SAWCUT LIMITS.

N

2

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | DETAIL: STH 54 WESTBOUND LEFT TURN LANE | SHEET 18 | E |
|---|---|---|---|---|---|

FILE NAME : P:\PROJECTS_CURRENT\PORTAGE\WISDOT\STH 54 - RAPIDS TO PLOVER\ESTIMATE\STH54 CTH B BUS51 INTERSECTION\TRAFFICLOOPS_STH54-2027.DWG
LAYOUT NAME - 02
PLOT DATE : 4/9/2026 9:53 AM PLOT BY : DEXTER KAETTERHENRY PLOT NAME : PLOT SCALE : 1 IN:10 FT

N

CONSTRUCTION NOTES:

1) PROPOSED SAWCUTS FOR PAVEMENT REMOVAL AREA AS SHOWN (LIMITS SHALL BE NO CLOSER THAN 5-FT FROM ANY PROPOSED LOOP DETECTOR). DISCUSS WITH PROJECT ENGINEER/ELECTRICIAN IF FIELD ADJUSTMENTS ARE NECESSARY.
2) DETECTOR SIZES ARE AS NOTED. DISTANCE BETWEEN MULTIPLE DETECTOR LOOPS SHALL BE 8-FT.
3) DETECTOR LOOPS SHALL BE INSTALLED IN THE AGGREGATE BASE COURSE UNDER THE PAVEMENT. REFER SDD LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE)BOX OFF ROADWAY (OPTION 2).
4) EACH LOOP DETECTOR SHALL HAVE A SEPARATE LEAD-IN CABLE TO THE CONTROL CABINET.
5) STATION / OFFSET ARE APPROXIMATE. ENGINEER IN FIELD TO APPROVE SAWCUT LIMITS.

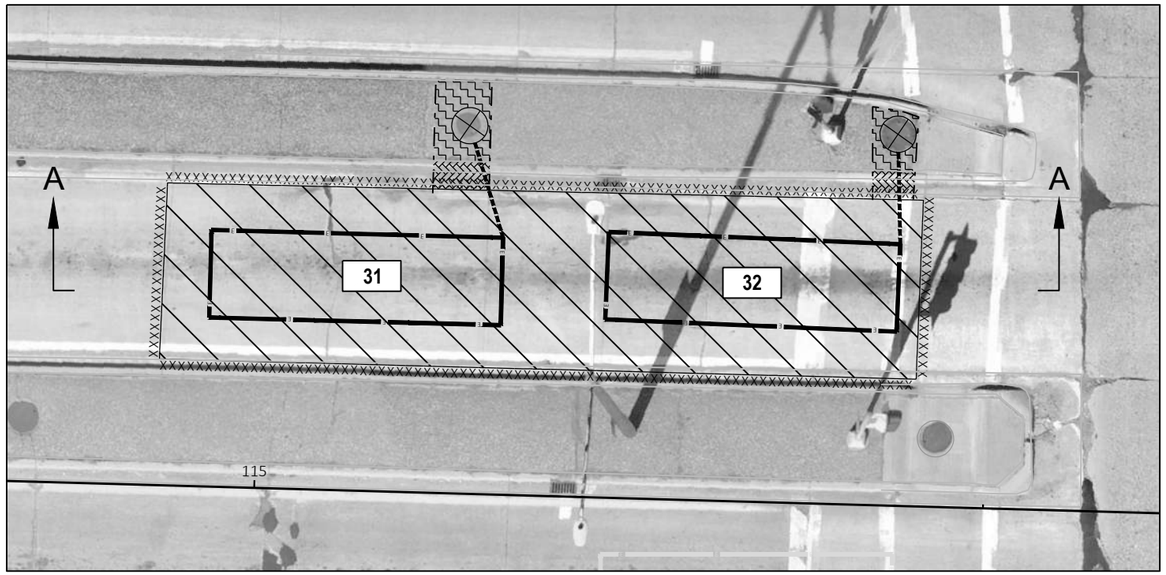
2

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | DETAIL: STH 54 WESTBOUND RIGHT TURN LANE | SHEET 19 | E |
|---|---|---|---|---|---|

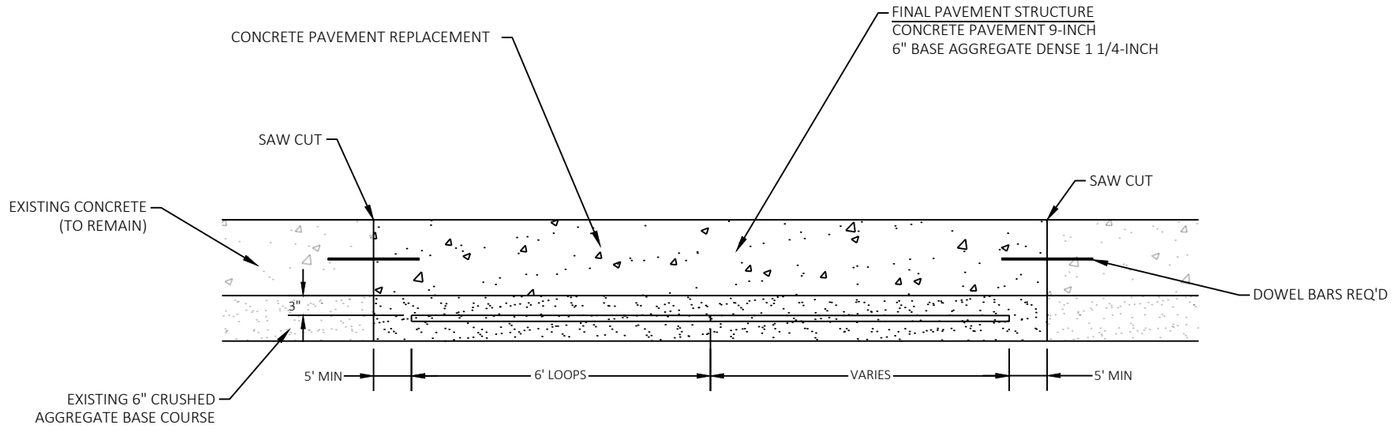
FILE NAME : P:\PROJECTS_CURRENT\PORTAGE\WISDOT\STH 54 - RAPIDS TO PLOVER\ESTIMATE\STH54 CTH B BUS51 INTERSECTION\TRAFFICLOOPS_STH54-2026.DWG
LAYOUT NAME - 03
PLOT DATE : 4/9/2026 9:51 AM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

N

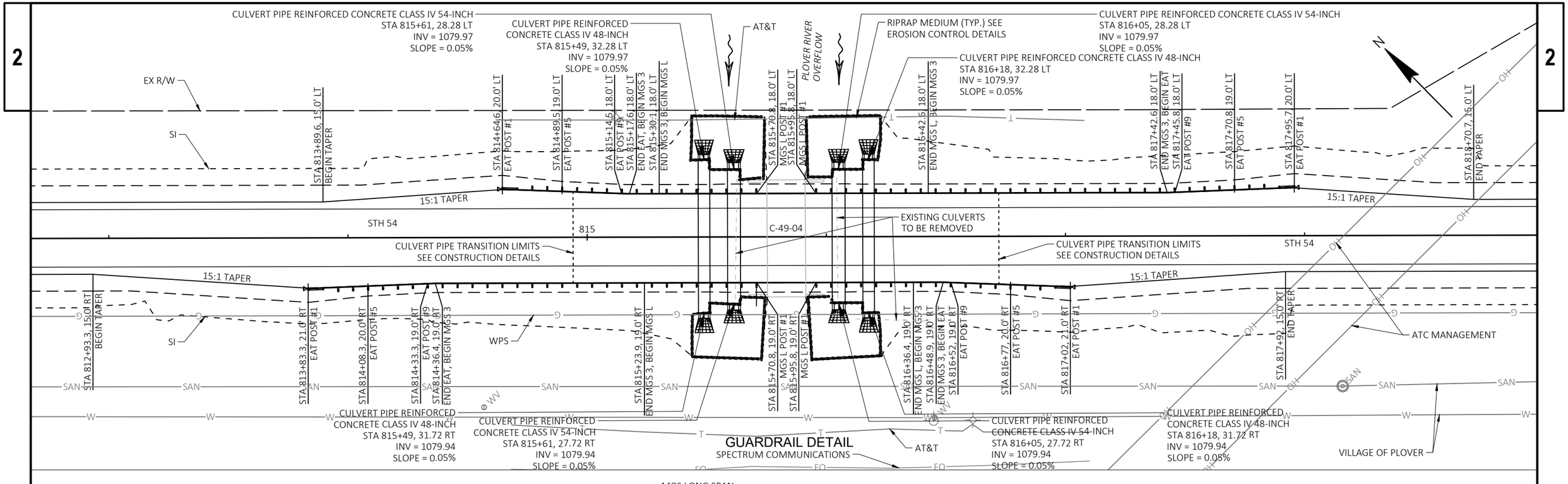



PLAN VIEW




SECTION A-A

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | DETAIL: LOOP DETECTOR INSTALLATION AND PAVEMENT REMOVAL | SHEET 20 | E |
|---|---|---|---|---|---|

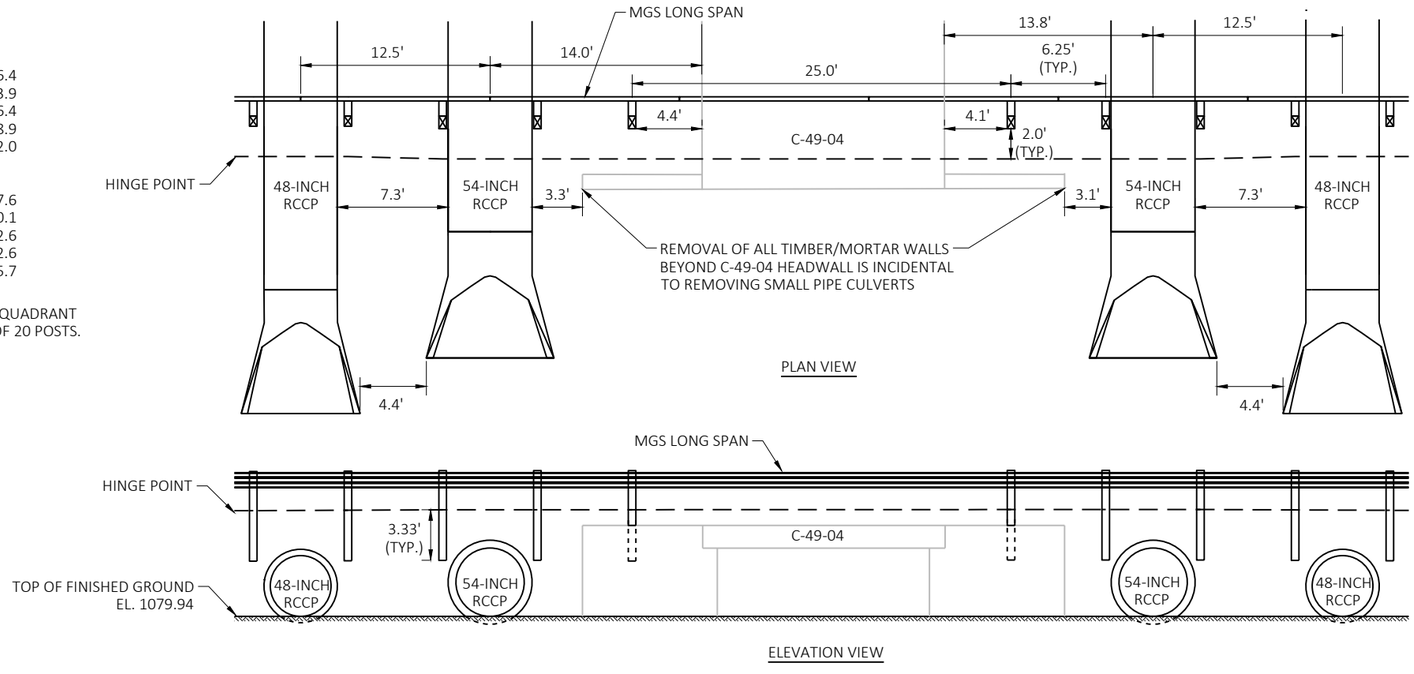



INSTALL NEW MGS GUARDRAIL

RIGHT:
MGS GUARDRAIL EAT: STA 813+83.3 - STA 814+36.4
MGS GUARDRAIL 3: STA 814+36.4 - STA 815+23.9
MGS GUARDRAIL 3 L: STA 815+23.9 - STA 816+36.4
MGS GUARDRAIL 3: STA 816+36.4 - STA 816+48.9
MGS GUARDRAIL EAT: STA 816+48.9 - STA 817+02.0

LEFT:
MGS GUARDRAIL EAT: STA 814+64.6 - STA 815+17.6
MGS GUARDRAIL 3: STA 815+17.6 - STA 815+30.1
MGS GUARDRAIL 3 L: STA 815+30.1 - STA 816+42.6
MGS GUARDRAIL 3: STA 816+42.6 - STA 817+42.6
MGS GUARDRAIL EAT: STA 817+42.6 - STA 817+95.7

THE FIRST 5 POSTS FROM THE STRUCTURE IN EACH QUADRANT ARE REQUIRED TO BE HAND DUG. THIS IS A TOTAL OF 20 POSTS.



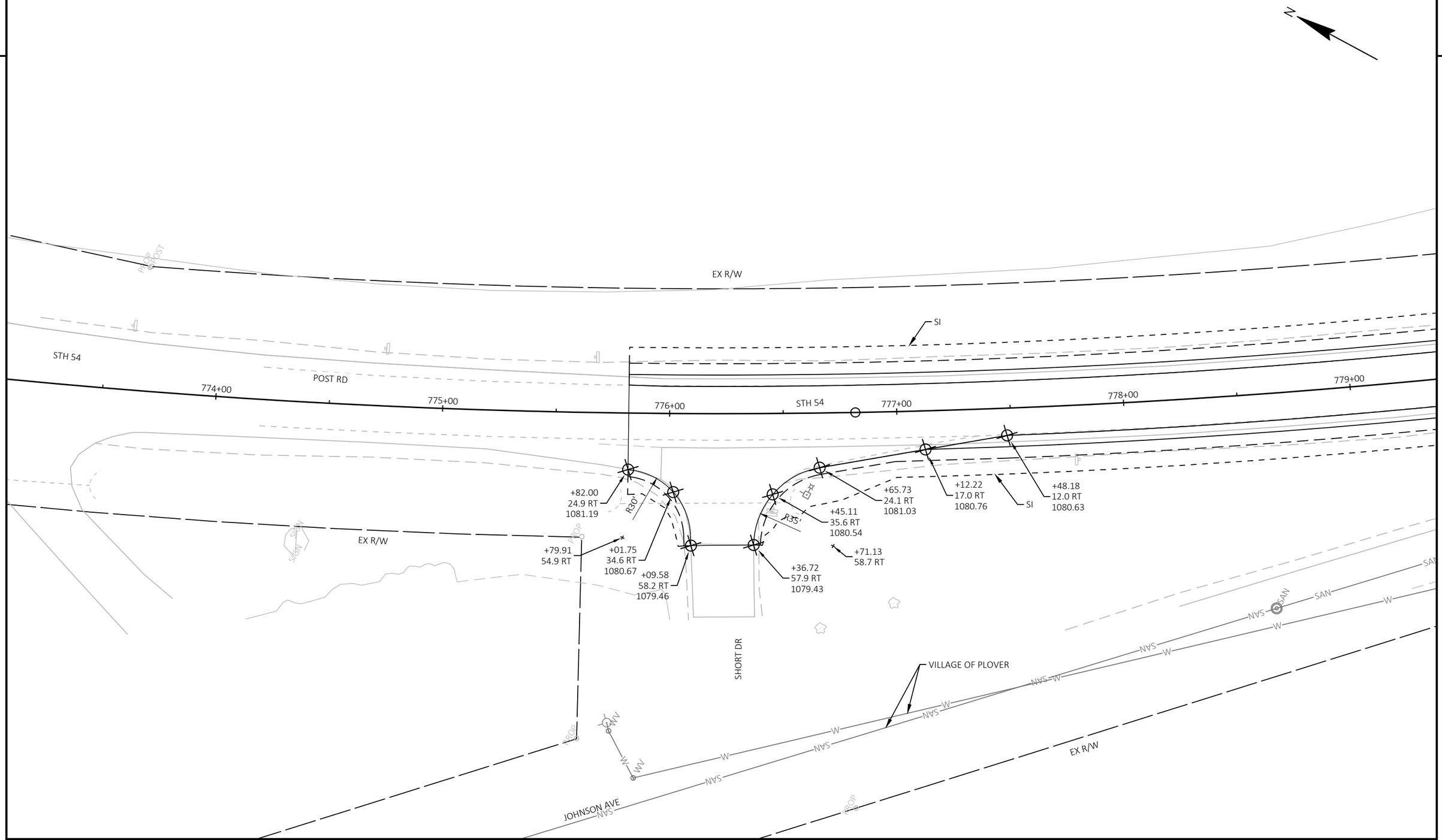

NOTE: RT SIDE IS SHOWN, LT SIDE IS SIMILAR

## MGS LONG SPAN AND CULVERT DETAIL

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | GUARDRAIL DETAILS | SHEET 21 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\BRETSANDERS\ONEDRIVE - DAAR CORPORATION\DOCUMENTS-NC-DESIGN - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\021002-BG.DWG PLOT DATE : 12/11/2024 1:44 PM PLOT BY : BRET SANDERS PLOT NAME : PLOT SCALE : 1 IN:40 FT
LAYOUT NAME - 01
WISDOT/CADDS SHEET 42

NOTE: SEE PLAN & PROFILE SHEETS FOR INFORMATION ON SIDEROAD CENTERLINES.




| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | INTERSECTION DETAILS | SHEET 22 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\021101-ID.DWG
LAYOUT NAME - 01
PLOT DATE : 1/16/2025 12:48 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

NOTE: SEE PLAN & PROFILE SHEETS FOR INFORMATION ON SIDEROAD CENTERLINES.

N

EX R/W

WPS

SI

780+00

781+00

782+00

STH 54

783+00

784+00

785+00

+31.97
24.5 RT
1081.37

+45.57
31.2 RT
1081.02

+11.08
22.2 RT
1081.36

+62.92
17.0 RT
1081.25

+24.01
12.0 RT
1081.14

+33.08
12.0 RT
1080.92

+75.54
17.0 RT
1081.11

+92.55
31.5 RT
1081.04

+14.22
52.0 RT

+28.52
49.3 RT

+52.73
44.6 RT
1080.66

+56.44
65.0 RT
1080.18

+84.71
50.9 RT
1080.38

+84.27
65.0 RT
1079.95

R25'

R30'

EX R/W

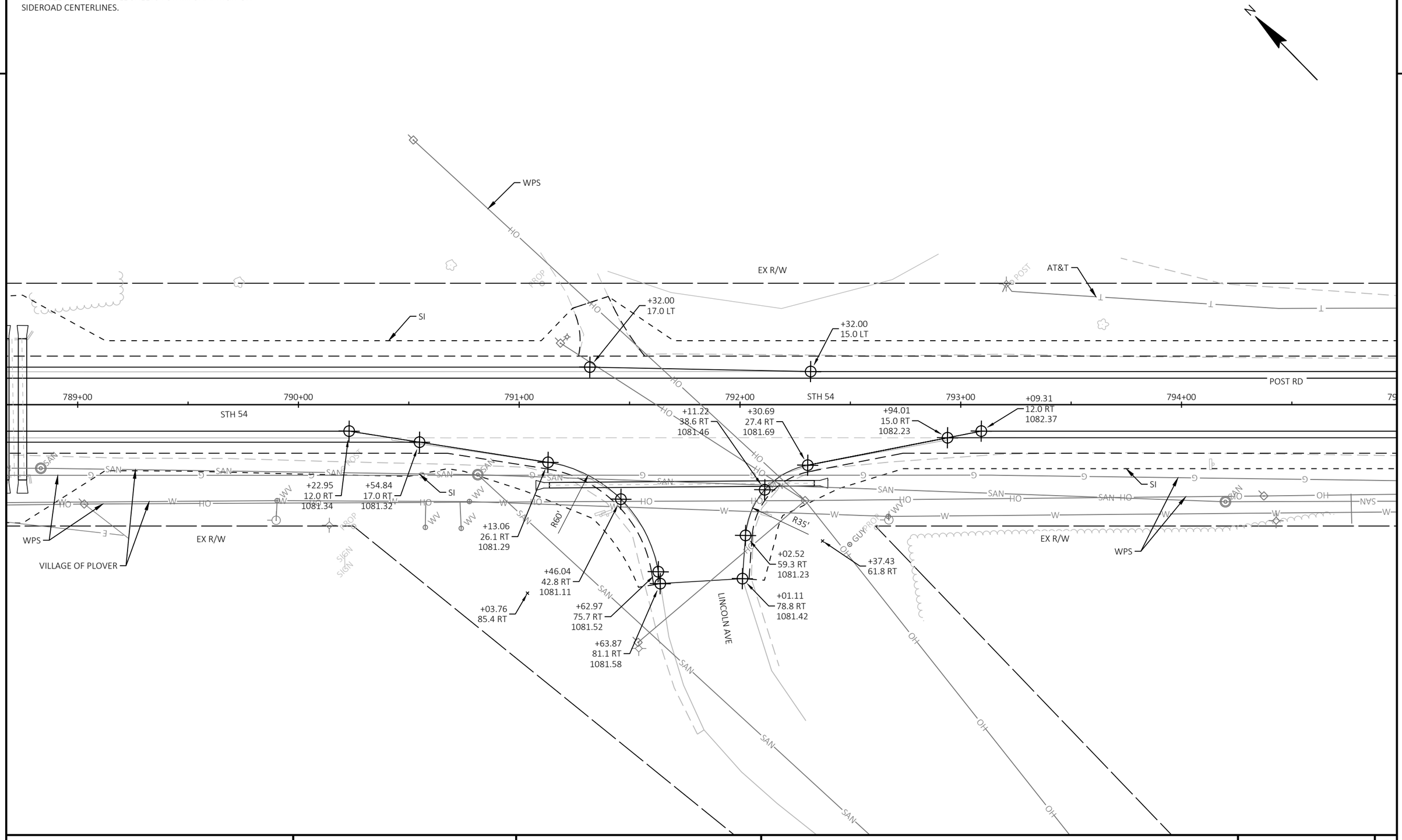
WPS

VILLAGE OF PLOVER

MOODIE DR

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | INTERSECTION DETAILS | SHEET 23 | E |
|---|---|---|---|---|---|

NOTE: SEE PLAN & PROFILE SHEETS FOR INFORMATION ON SIDEROAD CENTERLINES.




| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | INTERSECTION DETAILS | SHEET 24 | E |
|---|---|---|---|---|---|


FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\021101-ID.DWG
LAYOUT NAME - 03
PLOT DATE : 1/16/2025 12:48 PM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

NOTE: SEE PLAN & PROFILE SHEETS FOR INFORMATION ON SIDEROAD CENTERLINES.

2

2

N

PLEASANT DR

ATC MANAGEMENT

EX R/W

+59.64
12.0 LT
1086.99

+86.57
15.0 LT
1086.94

+38.94
51.0 LT

+42.26
21.2 LT
1086.83

+67.22
41.0 LT
1086.50

+70.75
51.0 LT
1086.24

+57.58
27.5 LT
1086.66

+99.20
51.0 LT
1086.37

+02.49
41.7 LT
1086.48

+11.24
28.9 LT
1086.66

+30.79
51.6 LT

+25.23
22.1 LT
1086.84

+63.11
15.0 LT
1087.00

+79.02
12.0 LT
1087.06

R30'

R30'

SI

SI

EX R/W

STH 54

STH 54

818+00 819+00 820+00 821+00 822+00 823+00 824

WPS

VILLAGE OF PLOVER

EX R/W

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | INTERSECTION DETAILS | SHEET 25 | E |
|---|---|---|---|---|---|

NOTE: SEE PLAN & PROFILE SHEETS FOR INFORMATION ON SIDEROAD CENTERLINES.

2

2

N

+67.32
146.8 LT

HOOVER AVE

+62.52
75.0 LT
1086.67

+80.05
57.3 LT
1086.55

+45.42
58.0 LT
1086.57

WPS

EX R/W

R125'

+13.52
34.0 LT
1086.76

AT&T

EX R/W

+30.96
44.2 LT

+34.33
24.5 LT
1086.93

+61.35
12.0 LT
1087.19

+78.91
15.0 LT
1087.13

SI

R20'

+49.95
37.9 LT
1086.75

+52.72
22.7 LT
1086.96

+17.92
15.0 LT
1087.15

+43.42
12.0 LT
1087.24

826+00 827+00 828+00 829+00 830+00 831+00

STH 54

WPS

SI

+91.99
12.0 RT
1087.19

+16.99
15.0 RT
1087.12

+91.99
24.0 RT
1086.94

+18.38
29.2 RT
1086.87

R70'

+40.87
43.9 RT
1086.70

+52.61
24.0 RT
1087.01

+20.36
45.4 RT
1086.69

R35'

+52.61
59.0 RT

+28.4
60.3' RT

+27.61
15.0 RT
1087.35

+52.61
12.0 RT
1087.49

SI

-CONCRETE BASE TYPE 13
-POLES TYPE 12-OVER HEIGHT
-MONOTUBE ARMS 15-FT
-ANCHOR ASSEMBLIES POLES ON STRUCTURES

AT&T

+27.54
83.4 RT
1086.36

+35.73
93.7 RT
1086.26

SPECTRUM COMMUNICATIONS

VILLAGE OF PLOVER

+91.99
94.0 RT

+16.75
112.2 RT
1086.56

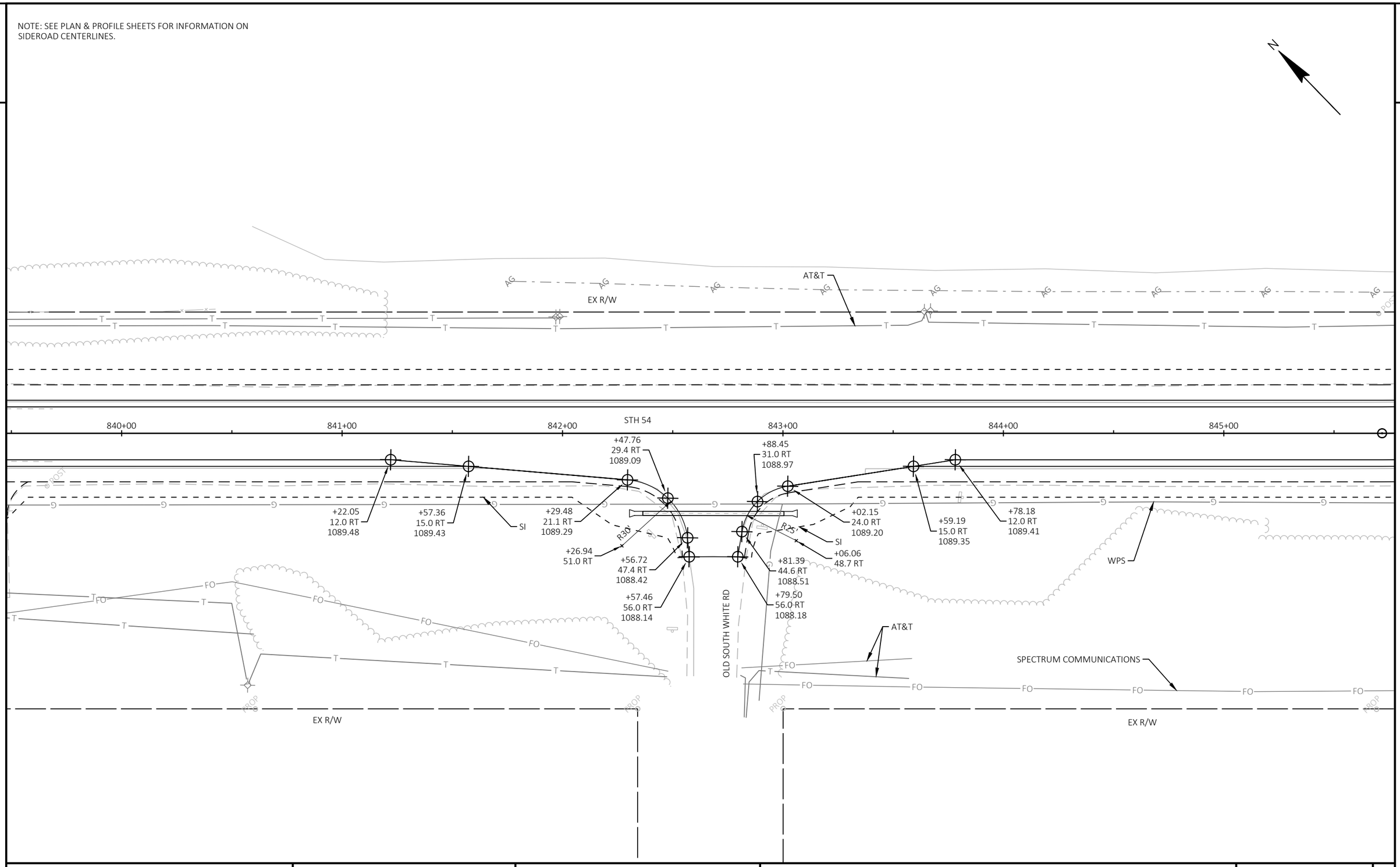
EX R/W

EX R/W

HOOVER AVE

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | INTERSECTION DETAILS | SHEET 26 | E |
|---|---|---|---|---|---|

NOTE: SEE PLAN & PROFILE SHEETS FOR INFORMATION ON SIDEROAD CENTERLINES.




| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | INTERSECTION DETAILS | SHEET 27 | E |
|---|---|---|---|---|---|


FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\021101-ID.DWG
LAYOUT NAME - 06
PLOT DATE : 1/16/2025 12:48 PM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

CULVERT PIPE REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH
STA 788+75, 29.91 LT
INV = 1076.82
SLOPE = 0.77%

REPLACE CULVERTS
CULVERTS #49054007883 & 7884
AEWS REQUIRED
4 - MARKERS CULVERT END

CULVERT PIPE REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH
STA 788+67, 29.91 LT
INV = 1076.82
SLOPE = 0.77%

VILLAGE OF PLOVER

RIPRAP LIGHT
5' X 13'

TRANSITION LIMITS

SI

EX R/W

CULVERT PIPE REINFORCED CONCRETE
CLASS IV 24-INCH
STA 791+13.7, 36.52 RT
INV = 1077.62
SLOPE = 0.37%

REPLACE CULVERT
LINCOLN AVE
AEWS REQUIRED
2 - MARKERS CULVERT END

C/L STH 54

AT&T

784 786 788 790 792 STH 54 794 796 798

VILLAGE OF PLOVER

WPS

REMOVING SMALL PIPE CULVERTS
EXISTING 22" x 36" PIPE ARCH CMCP - 63 FT EACH

CULVERT PIPE REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH
STA 788+67, 34.09 RT
INV = 1076.33
SLOPE = 0.77%

CULVERT PIPE REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH
STA 788+75, 34.09 RT
INV = 1076.33
SLOPE = 0.77%

REMOVING SMALL PIPE CULVERTS
EXISTING 24-INCH CMP - 120 FT

CULVERT PIPE REINFORCED CONCRETE
CLASS IV 24-INCH
STA 792+33.7, 35.58 RT
INV = 1078.06
SLOPE = 0.37%

SPECTRUM COMMUNICATIONS

LINCOLN AVE

ATC MANAGEMENT

PLEASANT DR

CULVERT PIPE REINFORCED CONCRETE
CLASS IV 24-INCH
STA 820+52.8, 35.39 LT
INV = 1082.88
SLOPE = 0.25%

CULVERT PIPE REINFORCED CONCRETE
CLASS IV 24-INCH
STA 821+16.8, 35.55 LT
INV = 1083.04
SLOPE = 0.25%

C/L STH 54

REMOVING SMALL PIPE CULVERTS
EXISTING 24-INCH CMP - 62 FT

REPLACE CULVERT
PLEASANT DR
AEWS REQUIRED
2 - MARKERS CULVERT END

818 820 822 STH 54 824 826 828 830 832

VILLAGE OF PLOVER

CULVERT PIPE REINFORCED CONCRETE
CLASS IV 24-INCH
STA 827+36.0, 38.00 LT
INV = 1083.29
SLOPE = 0.23%

REMOVING SMALL PIPE CULVERTS
EXISTING 24-INCH CMP - 86 FT

REPLACE CULVERT
HOOVER AVE
AEWS REQUIRED
2 - MARKERS CULVERT END

CULVERT PIPE REINFORCED CONCRETE
CLASS IV 24-INCH
STA 828+24.0, 42.00 LT
INV = 1083.09
SLOPE = 0.23%

CULVERT PIPE REINFORCED CONCRETE
CLASS IV 24-INCH
STA 829+40.5, 37.84 RT
INV = 1083.09
SLOPE = 0.15%

CULVERT PIPE REINFORCED CONCRETE
CLASS IV 24-INCH
STA 828+12.5, 38.13 RT
INV = 1083.28
SLOPE = 0.15%

REMOVING SMALL PIPE CULVERTS
EXISTING 24-INCH CMP - 86 FT

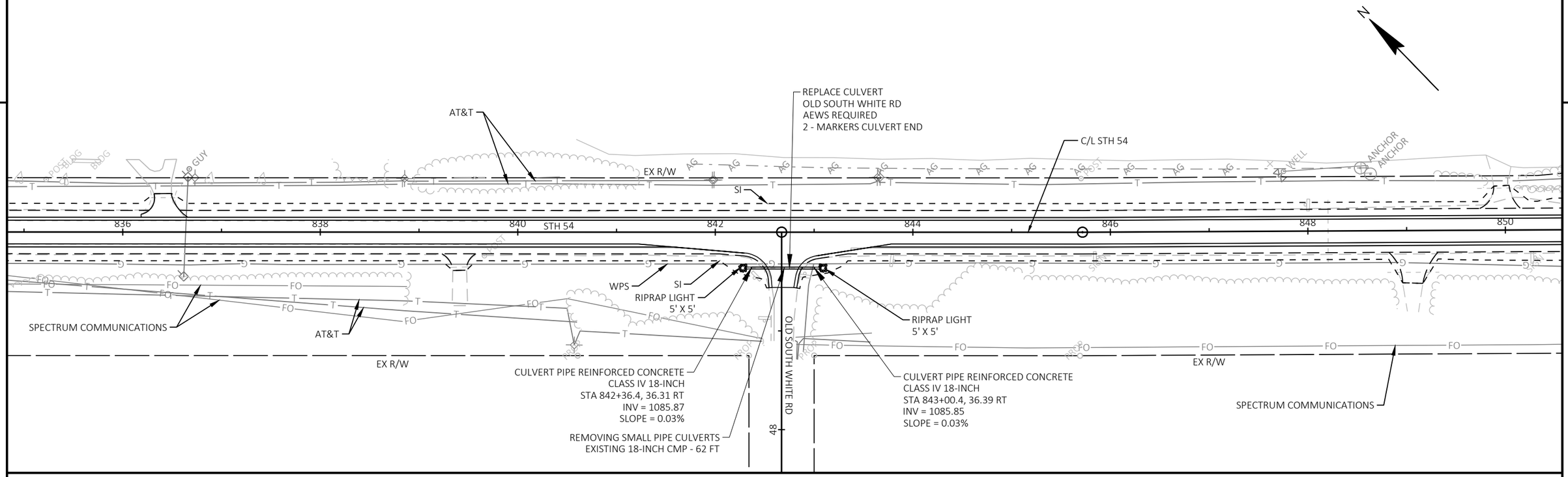
HOOVER AVE

WPS

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CULVERT DETAILS | SHEET 28 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 01
PLOT DATE : 12/13/2024 9:41 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

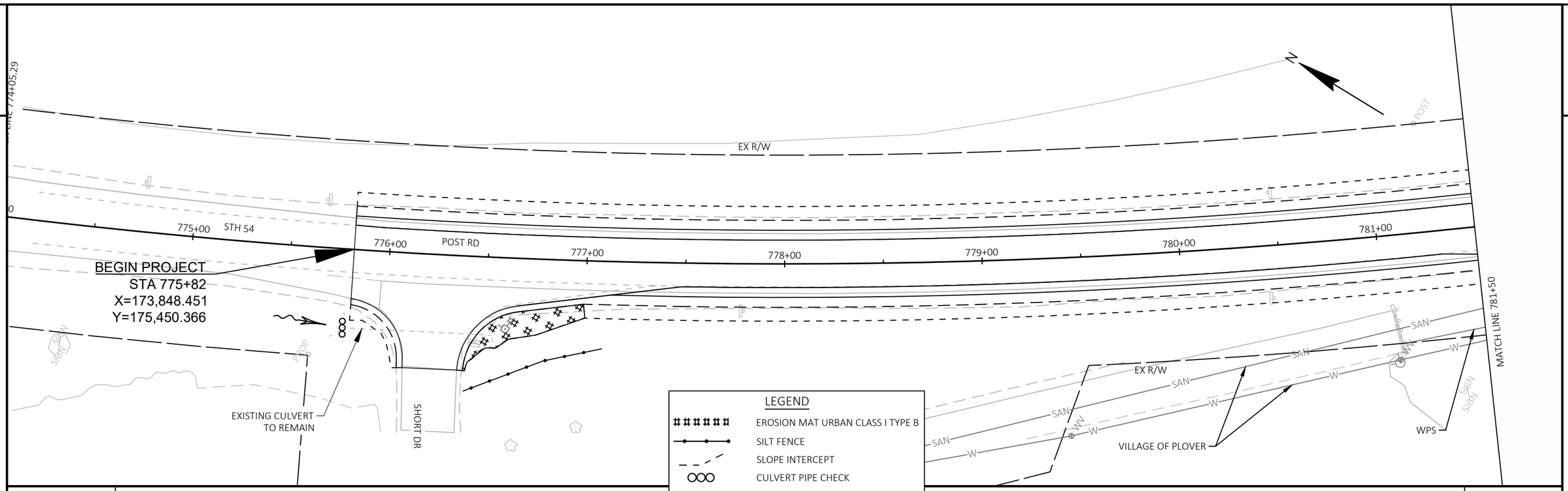



THIS VIEW FRAME LEFT INTENTIONALLY BLANK

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CULVERT DETAILS | SHEET 29 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 02
PLOT DATE : 12/13/2024 9:41 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2




| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | EROSION CONTROL DETAILS | SHEET 30 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\022002-EC.DWG
LAYOUT NAME - 01
PLOT DATE : 1/13/2025 12:47 PM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

2

RIPRAP LIGHT
5' X 13'

CULVERT TO BE REPLACED
SEE CULVERT DETAILS

MATCH LINE 788+50

EX R/W

AT&T

789+00 790+00 791+00 792+00 793+00 STH 54 794+00 POST RD 795+00

CULVERT TO BE REPLACED
SEE CULVERT DETAILS

RIPRAP LIGHT
5' X 13'

EX R/W

VILLAGE OF PLOVER

WPS

RIPRAP LIGHT
5' X 5'

LINCOLN AVE

RIPRAP LIGHT
5' X 5'

EX R/W

MATCH LINE 795+50

NOTE: CULVERT PIPE CHECKS TO BE PLACED AT INVERT END OF ALL CULVERT PIPES CROSSING STH 54 AND SIDEROAD CULVERTS WITHIN PROJECT LIMITS

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW
- ROCK BAGS FOR SILT FENCE RELIEF
- RIPRAP

MATCH LINE 795+50

AT&T

EX R/W

796+00 797+00 798+00 STH 54 799+00 POST RD 800+00 801+00 802+00

VILLAGE OF PLOVER

WPS

EX R/W

SPECTRUM COMMUNICATIONS

MATCH LINE 802+50

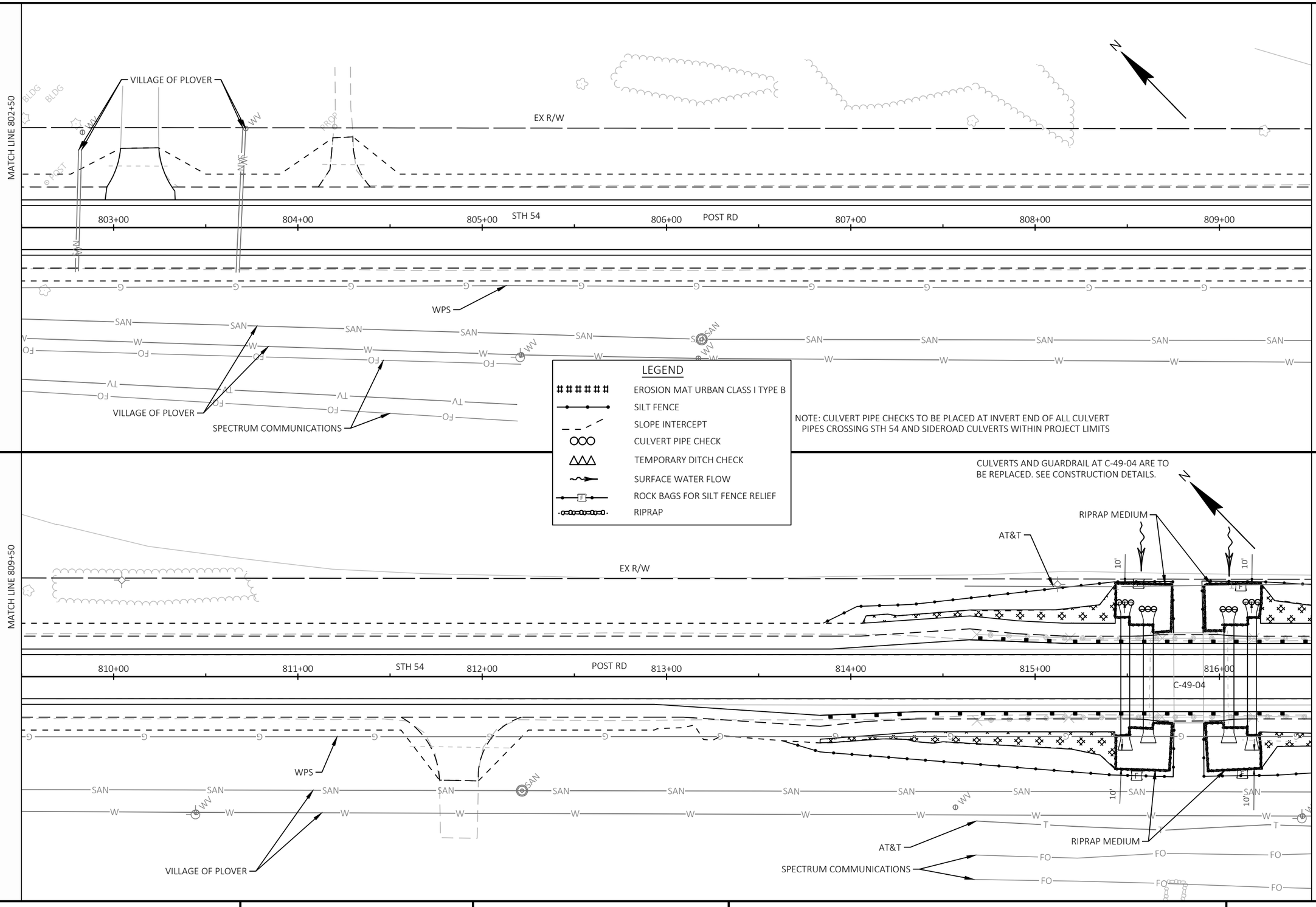
2

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | EROSION CONTROL DETAILS | SHEET 31 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\022002-EC.DWG
LAYOUT NAME - 02

PLOT DATE : 1/13/2025 12:47 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 44




2

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | EROSION CONTROL DETAILS | SHEET 32 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\022002-EC.DWG
LAYOUT NAME - 03
PLOT DATE : 1/13/2025 12:47 PM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

2

MATCH LINE 816+50

AT&T

EX R/W

ATC MANAGEMENT

CULVERT TO BE REPLACED
SEE CULVERT DETAILS

RIPRAP LIGHT
5' X 5'

PLEASANT DR

RIPRAP LIGHT
5' X 5'

EX R/W

N

817+00 | 818+00 | 819+00 | STH 54 | 820+00 | POST RD | 821+00 | 822+00 | 823+00

WPS

MATCH LINE 823+50

NOTE: CULVERT PIPE CHECKS TO BE PLACED AT INVERT END OF ALL CULVERT PIPES CROSSING STH 54 AND SIDEROAD CULVERTS WITHIN PROJECT LIMITS

AT&T

SPECTRUM COMMUNICATIONS

VILLAGE OF PLOVER

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW
- ROCK BAGS FOR SILT FENCE RELIEF
- RIPRAP

2

MATCH LINE 823+50

EX R/W

RIPRAP LIGHT
5' X 5'

HOOVER AVE

AT&T

RIPRAP LIGHT
5' X 5'

EX R/W

N

824+00 | STH 54 | 825+00 | POST RD | 826+00 | 827+00 | 828+00 | 829+00 | 830+00

CULVERTS TO BE REPLACED
SEE CULVERT DETAILS

WPS

RIPRAP LIGHT
5' X 5'

SPECTRUM COMMUNICATIONS

RIPRAP LIGHT
5' X 5'

AT&T

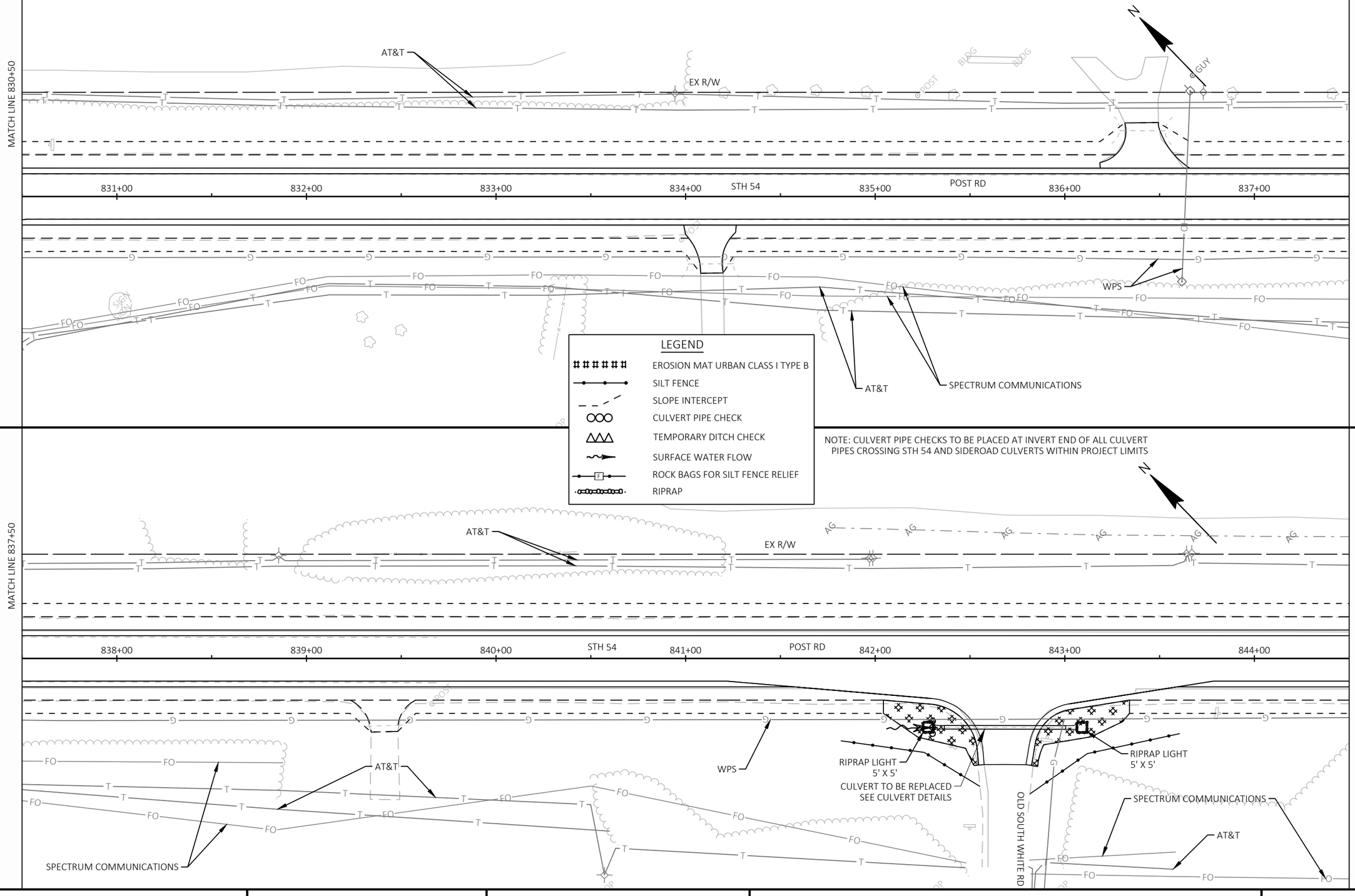
VILLAGE OF PLOVER

HOOVER AVE

MATCH LINE 830+50

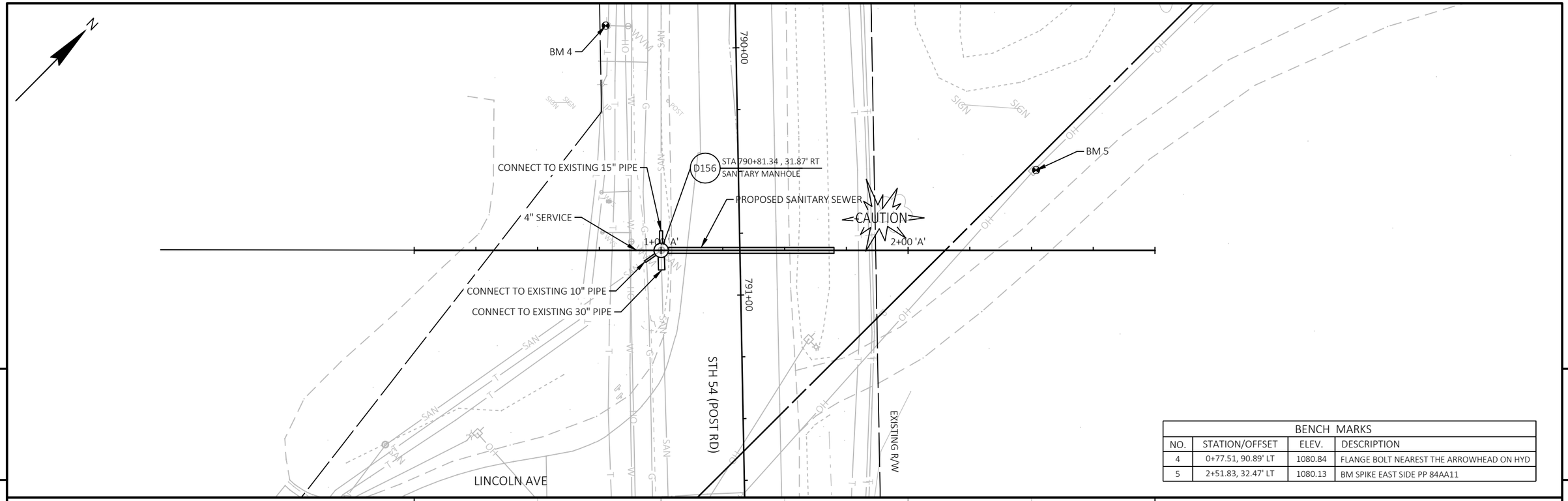
| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | EROSION CONTROL DETAILS | SHEET 33 | E |
|---|---|---|---|---|---|

2

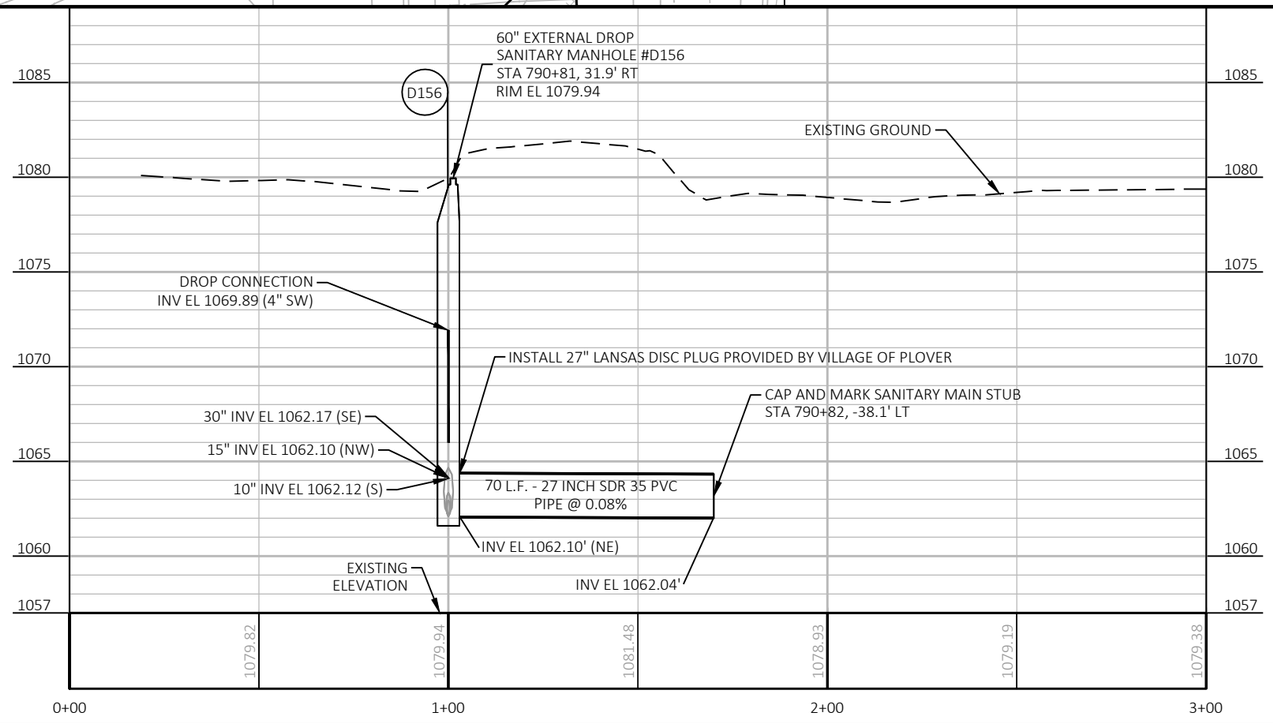



| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | EROSION CONTROL DETAILS | SHEET 34 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\022002-EC.DWG
LAYOUT NAME - 05
PLOT DATE : 1/13/2025 12:47 PM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:50 FT
WISDOT/CADDS SHEET 44

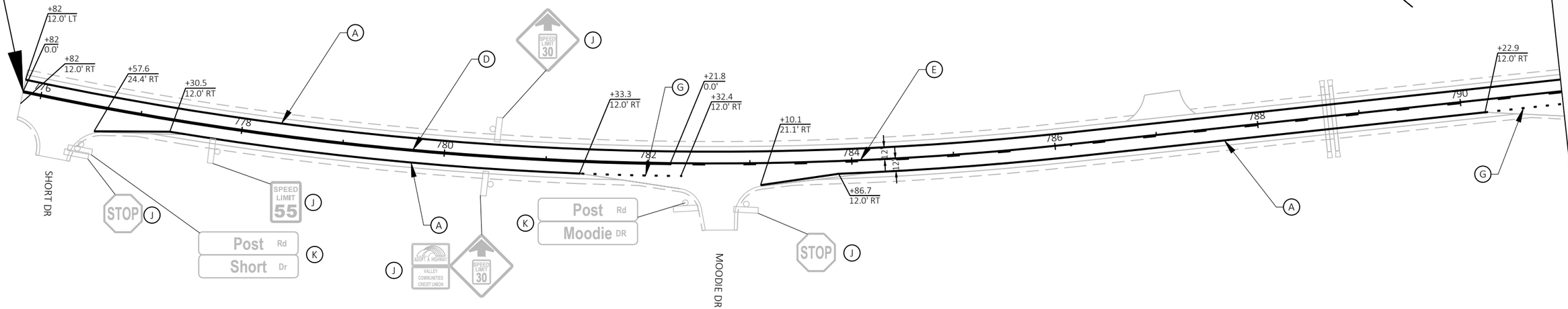



| BENCH MARKS | | | |
|---|---|---|---|
| NO. | STATION/OFFSET | ELEV. | DESCRIPTION |
| 4 | 0+77.51, 90.89' LT | 1080.84 | FLANGE BOLT NEAREST THE ARROWHEAD ON HYD |
| 5 | 2+51.83, 32.47' LT | 1080.13 | BM SPIKE EAST SIDE PP 84AA11 |

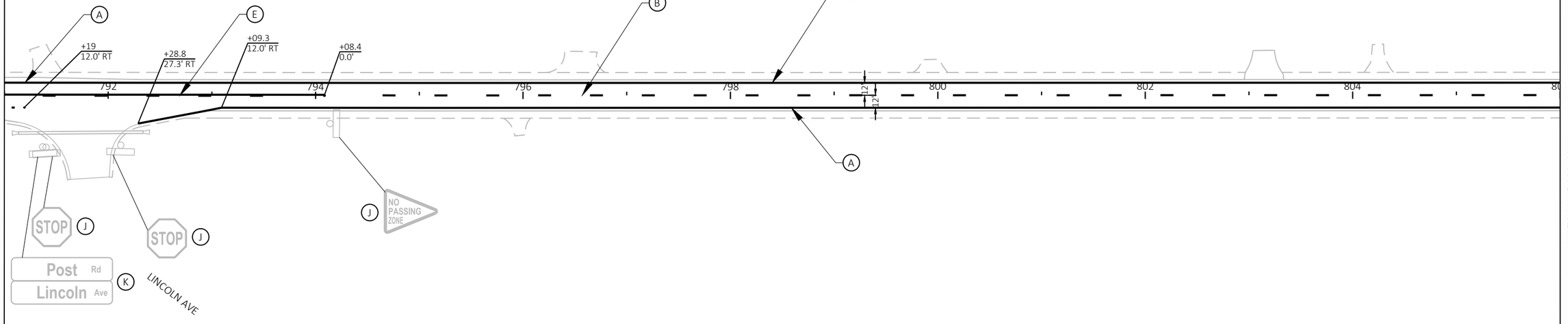



| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | UTILITY PLAN: SANITARY INTERCEPTOR PHASE 1 | SHEET 35 | E |
|---|---|---|---|---|---|

BEGIN PROJECT
STA 775+82




| | | | |
|---|---|---|---|
| A | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH WHITE | G | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH WHITE (3' DASH, 9' GAP) |
| B | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH YELLOW (12.5' YELLOW DASH, 37.5' GAP) | H | MARKING LINE EPOXY 6-INCH WHITE |
| C | MARKING STOP LINE EPOXY 18-INCH | I | MARKING LINE EPOXY 6-INCH YELLOW (DOUBLE SOLID LINE) |
| D | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH YELLOW (DOUBLE SOLID LINE) | J | MOVING SIGNS SIGNS TYPE II POSTS WOOD 4X6-INCH X 18-FT |
| E | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH YELLOW (SOLID LINE & 12.5' DASH, 37.5' GAP) | K | SIGNS TO BE MOVED BY OTHERS |
| F | MARKING DIAGONAL EPOXY 12-INCH | | |




| | | | | |
|---|---|---|---|---|
| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PAVEMENT MARKING & PERMANENT SIGNING DETAILS | SHEET 36 E |

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 01
PLOT DATE : 1/27/2025 10:08 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

2

MATCH LINE 806+00

PLEASANT DR

MATCH LINE 821+00

- (A) MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH WHITE
- (B) MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH YELLOW (12.5' YELLOW DASH, 37.5' GAP)
- (C) MARKING STOP LINE EPOXY 18-INCH
- (D) MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH YELLOW (DOUBLE SOLID LINE)
- (E) MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH YELLOW (SOLID LINE & 12.5' DASH, 37.5' GAP)
- (F) MARKING DIAGONAL EPOXY 12-INCH
- (G) MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH WHITE (3' DASH, 9' GAP)
- (H) MARKING LINE EPOXY 6-INCH WHITE
- (I) MARKING LINE EPOXY 6-INCH YELLOW (DOUBLE SOLID LINE)
- (J) MOVING SIGNS SIGNS TYPE II POSTS WOOD 4X6-INCH X 18-FT
- (K) SIGNS TO BE MOVED BY OTHERS

806 808 810 812 814 816 818 820

+59.6 12.0' LT

+42.3 21.2' LT

822 824 826 828 830 832 834

+26.1 12.0' LT

+79 12.0' LT

+45.4 58.0' LT

+34.3 24.5' LT

+56.7 64.3' LT

+79 24.5' LT

+54.1 12.0' LT

+43.4 12.0' LT

+61.3 12.0' LT

+92 12.0' RT

+07.7 12.0' RT

+77.2 24.1' RT

+52.6 24.0' RT

+52.6 12.0' RT

+28.4 60.3' RT

+27.5 83.4' RT

+17.2 93.5' RT

REMOVING SIGNS TYPE II

-CONCRETE BASE TYPE 13
-POLES TYPE 12-OVER HEIGHT
-MONOTUBE ARMS 15-FT
-ANCHOR ASSEMBLIES POLES ON STRUCTURES

MARKING DIAGONAL EPOXY 12-INCH SPACED AT 12'

MARKING DIAGONAL EPOXY 12-INCH SPACED AT 12'

HOOVER AVE

HOOVER AVE

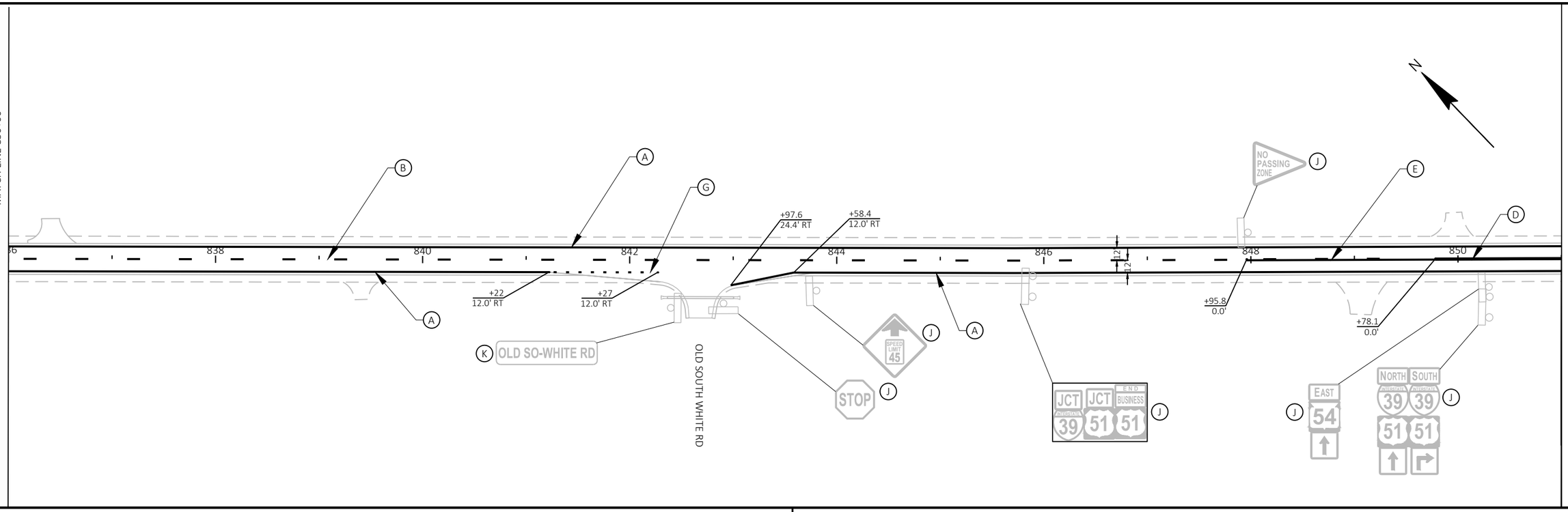
MATCH LINE 836+00

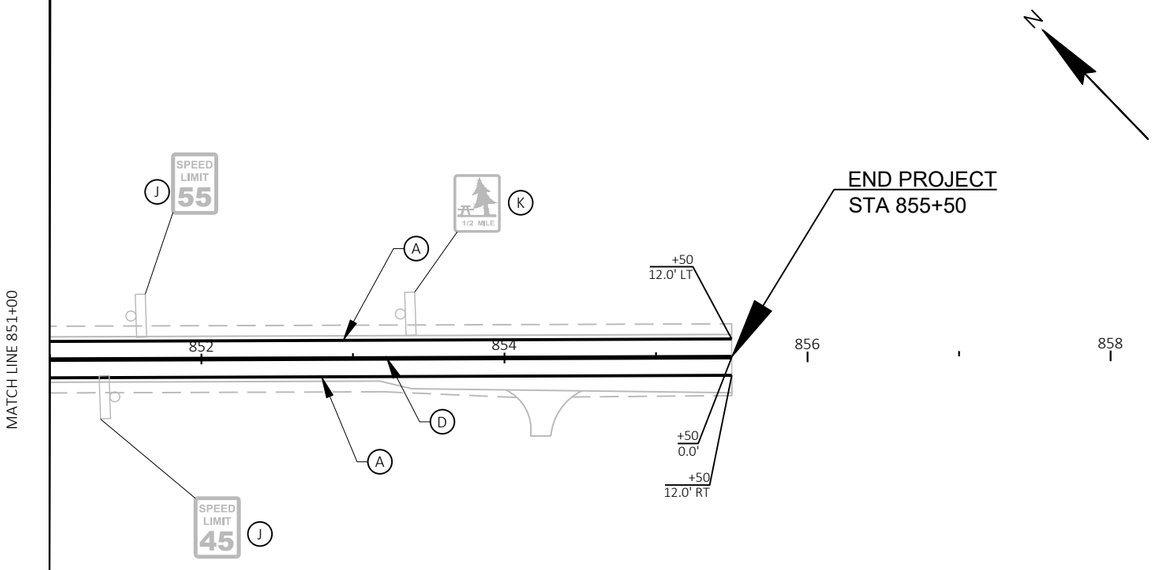
| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PAVEMENT MARKING & PERMANENT SIGNING DETAILS | SHEET 37 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 02

PLOT DATE : 1/27/2025 10:08 AM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

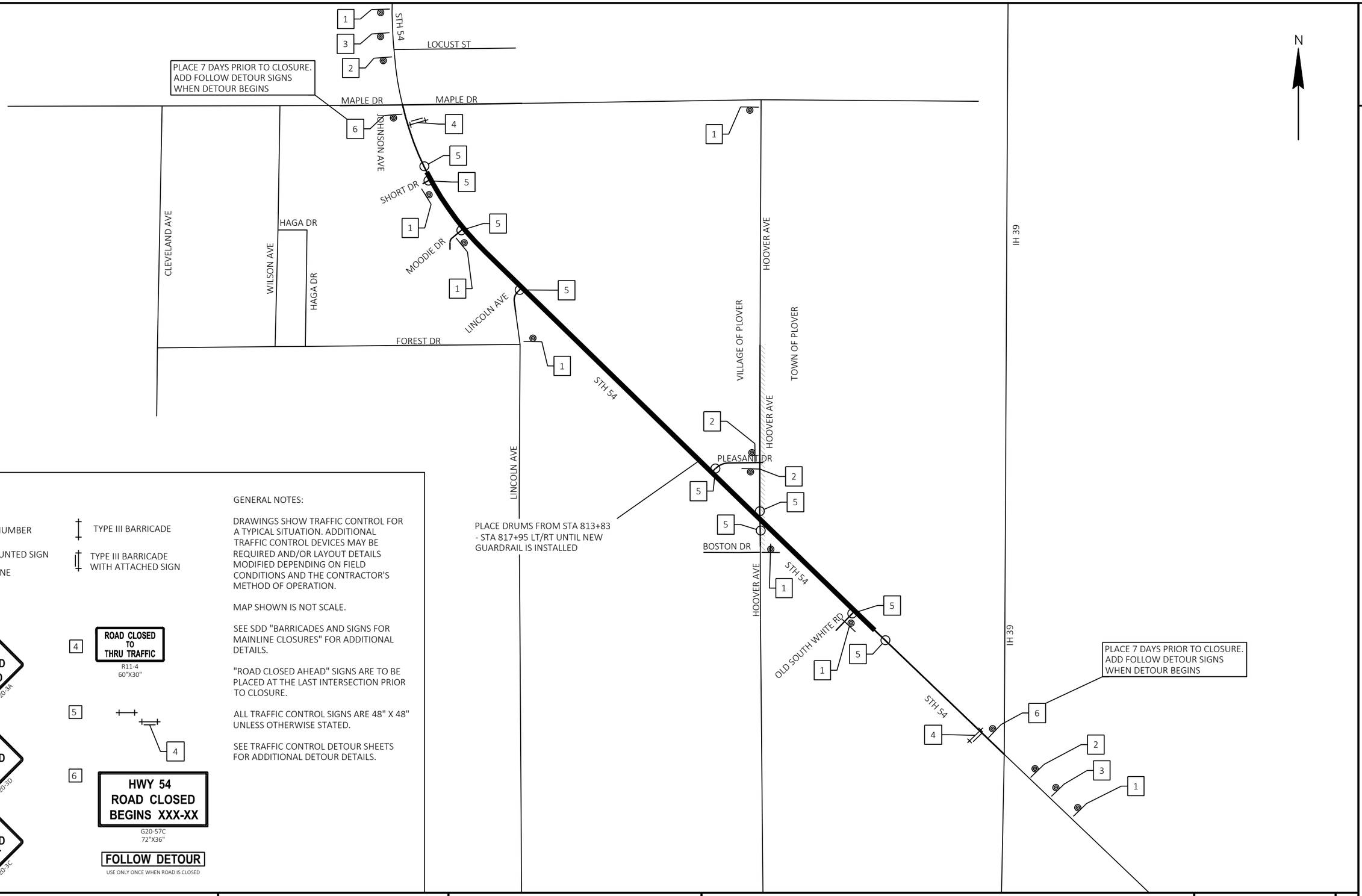



| | |
|---|---|
| A | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH WHITE |
| B | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH YELLOW (12.5' YELLOW DASH, 37.5' GAP) |
| C | MARKING STOP LINE EPOXY 18-INCH |
| D | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH YELLOW (DOUBLE SOLID LINE) |
| E | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH YELLOW (SOLID LINE & 12.5' DASH, 37.5' GAP) |
| F | MARKING DIAGONAL EPOXY 12-INCH |
| G | MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH WHITE (3' DASH, 9' GAP) |
| H | MARKING LINE EPOXY 6-INCH WHITE |
| I | MARKING LINE EPOXY 6-INCH YELLOW (DOUBLE SOLID LINE) |
| J | MOVING SIGNS SIGNS TYPE II POSTS WOOD 4X6-INCH X 18-FT |
| K | SIGNS TO BE MOVED BY OTHERS |

| | | | | |
|---|---|---|---|---|
| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PAVEMENT MARKING & PERMANENT SIGNING DETAILS | SHEET 38 E |

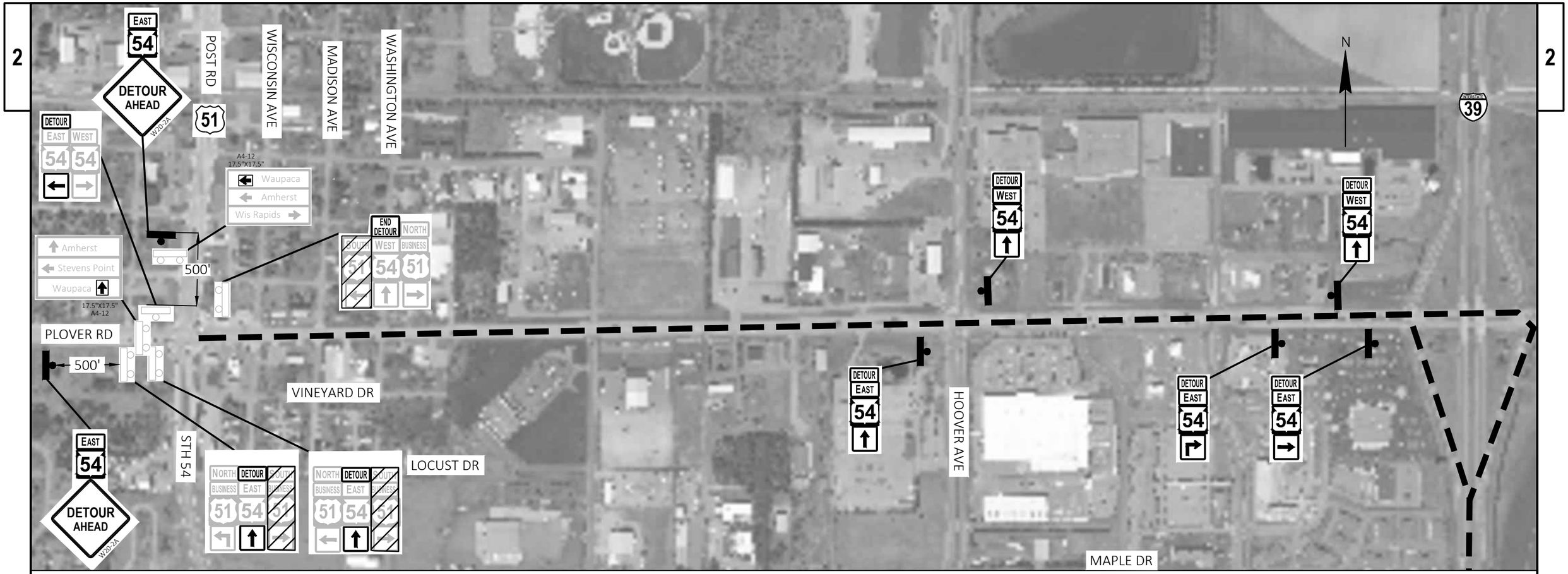
FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\024501-PM.DWG
LAYOUT NAME - 03
PLOT DATE : 1/27/2025 10:08 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44




| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | TRAFFIC CONTROL | SHEET 39 | E |
|---|---|---|---|---|---|

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | TRAFFIC CONTROL DETOUR OVERVIEW | SHEET 40 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 01
PLOT DATE : 1/27/2025 10:54 AM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:1000 FT




## LEGEND

- DETOUR ROUTE
- EXISTING SIGN ON POST(S)
- PROPOSED SIGN ON PERMANENT SUPPORT(S)
- EXISTING SIGN
- PROPOSED SIGN
- COVER EXISTING SIGN

## SIGN INVENTORY

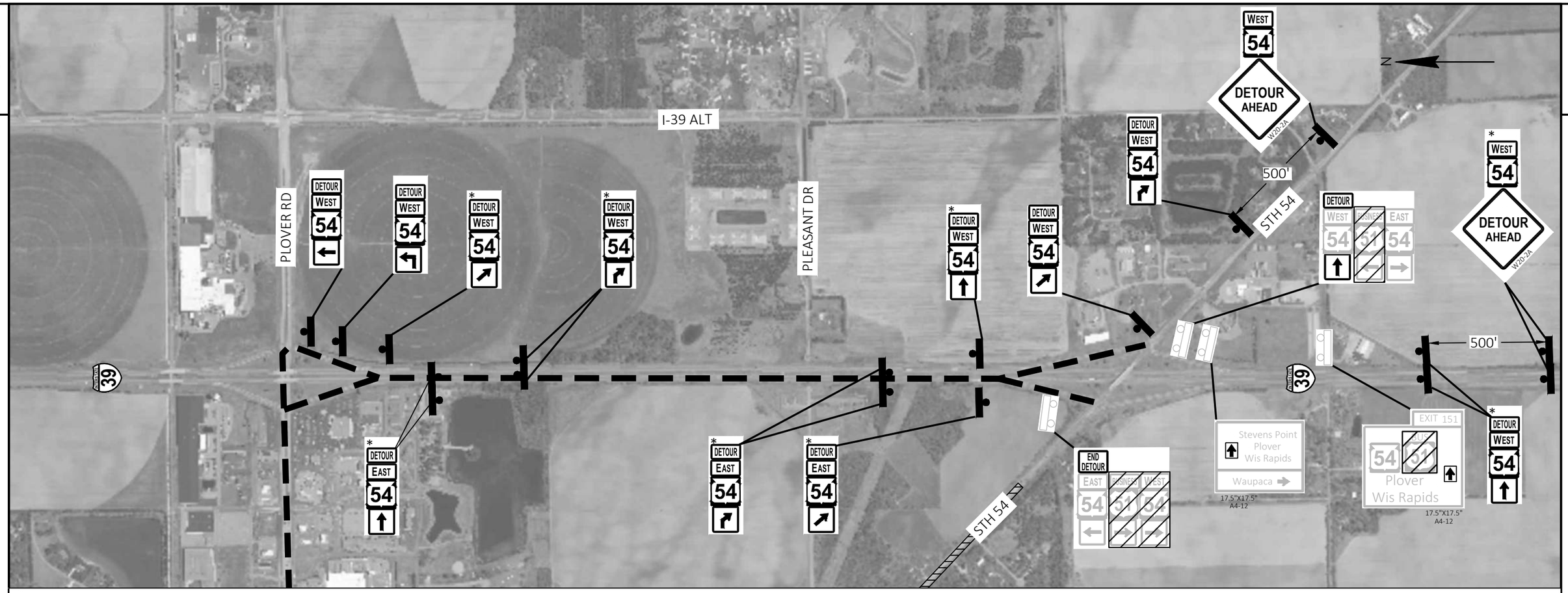
| | | | | | |
|---|---|---|---|---|---|
| 54 | M1-6 24"X24" *36"X36" | INTERSTATE 39 | M1-1 24"X24" *36"X36" | | MO6-2 21"X21" *30"X30" |
| 51 | M1-4 24"X24" *36"X36" | COUNTY B | M1-5A 24"X24" *36"X36" | | MO5-1R 21"X21" *30"X30" |
| NORTH | M3-1 24"X12" *36"X18" | JCT | M2-1 21"X15" *30"X21" | | MO5-2R 21"X21" *30"X30" |
| EAST | M3-2 24"X12" *36"X18" | | MO6-4 21"X21" *30"X30" | | |
| SOUTH | M3-3 24"X12" *36"X18" | | MO6-1 21"X21" *30"X30" | | |
| WEST | M3-4 24"X12" *36"X18" | | MO6-1 21"X21" *30"X30" | | |
| BUSINESS | M4-3 24"X12" *36"X18" | | MO6-1 21"X21" *30"X30" | | |
| DETOUR | M4-8 24"X12" *36"X18" | | MO5-1L 21"X21" *30"X30" | | |
| END DETOUR | M4-8A 24"X18" *30"X24" | | | | |

DETOUR AHEAD W20-2A 48"X48"

GENERAL NOTES:

1. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
2. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER
3. 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
4. THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE
5. "WO" SIGNS ARE THE SAME AS "W" AND "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE
6. ALL EXISTING SIGNS THAT NEED TO BE COVERED SHALL BE COVERED WITH A BLANK BLACK PANEL UNLESS OTHERWISE NOTED
7. * APPLIES TO ALL SIGNS IN THE ASSEMBLY

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | TRAFFIC CONTROL DETOUR | SHEET 41 | E |
|---|---|---|---|---|---|




## LEGEND

- DETOUR ROUTE
- EXISTING SIGN ON POST(S)
- PROPOSED SIGN ON PERMANENT SUPPORT(S)
- EXISTING SIGN
- PROPOSED SIGN
- COVER EXISTING SIGN

## SIGN INVENTORY

| | | | | | |
|---|---|---|---|---|---|
| 54 | M1-6 24"X24" *36"X36" | INTERSTATE 39 | M1-1 24"X24" *36"X36" | | MO6-2 21"X21" *30"X30" |
| 51 | M1-4 24"X24" *36"X36" | COUNTY B | M1-5A 24"X24" *36"X36" | | MO5-1R 21"X21" *30"X30" |
| NORTH | M3-1 24"X12" *36"X18" | JCT | M2-1 21"X15" *30"X21" | | MO5-2R 21"X21" *30"X30" |
| EAST | M3-2 24"X12" *36"X18" | | MO6-4 21"X21" *30"X30" | | |
| SOUTH | M3-3 24"X12" *36"X18" | | MO6-1 21"X21" *30"X30" | | |
| WEST | M3-4 24"X12" *36"X18" | | MO6-1 21"X21" *30"X30" | | |
| BUSINESS | M4-3 24"X12" *36"X18" | | MO6-1 21"X21" *30"X30" | | |
| DETOUR | M4-8 24"X12" *36"X18" | | MO5-1L 21"X21" *30"X30" | | |
| END DETOUR | M4-8A 24"X18" *30"X24" | | | | |

DETOUR AHEAD W20-2A 48"X48"

GENERAL NOTES:

1. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
2. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER
3. 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
4. THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE
5. "WO" SIGNS ARE THE SAME AS "W" AND "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE
6. ALL EXISTING SIGNS THAT NEED TO BE COVERED SHALL BE COVERED WITH A BLANK BLACK PANEL UNLESS OTHERWISE NOTED
7. * APPLIES TO ALL SIGNS IN THE ASSEMBLY

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | TRAFFIC CONTROL DETOUR | SHEET 42 | E |
|---|---|---|---|---|---|

2

2

N

SOUTH DR

EARHART AVE

BUS 51
POST RD

350'

350'

350'

245'

250'

STH 54 WESTBOUND

STH 54 EASTBOUND

EP: 116+00.00

BP: 113+90.00

CTH B WESTBOUND

CTH B EASTBOUND

WILSON AVE

LANE CLOSED
R11-2L
48"X30"

LANE CLOSED
R11-2L
48"X30"

LANE CLOSED
R11-2L
48"X30"

ROAD WORK AHEAD
W20-1A

RIGHT LANE CLOSED AHEAD
W20-5A

W04-2R

STH 54 EASTBOUND

VINEYARD DR

200'

180'

200'

LOCUST DR

W04-2R

200'

RIGHT LANE CLOSED AHEAD
W20-5A

200'

ROAD WORK AHEAD
W20-1A

STH 54 WESTBOUND

MAPLE DR

MAPLE DR

STAGE 1
CLOSE RIGHT TURN LANE ONTO STH 54 EASTBOUND.
CLOSE RIGHT TURN LANE ONTO CTH B EASTBOUND.
COMPLETE INSTALLATION OF LOOP DETECTORS (63, 66, 82, 86, 85) AND ALL INCIDENTAL WORK NECESSARY TO OPEN ALL LANES.

WORK IN STAGE 1 IS LIMITED TO FIVE CONSECUTIVE DAYS STARTING MONDAY MORNING AT 6 A.M.. RIGHT TURN LANE ONTO STH 54 EASTBOUND AND RIGHT TURN LANE ONTO CTH B EASTBOUND SHALL BE OPENED TO LOCAL TRAFFIC BY NOON FRIDAY.

LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- CONNECTED ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES

1.SEE SDD "TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL DETAILS

2. SEE SDD "TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL DETAILS

3. MOVE DRUMS TO OPEN TWO LANES OF STH 54 EASTBOUND AND TWO LANES OF STH 54 WESTBOUND AT THE SIGNAL DURING CURING PERIOD.

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | TRAFFIC CONTROL STAGE 1 - OVERVIEW LOOP DETECTORS | SHEET 43 | E |
|---|---|---|---|---|---|

2

2

BUS 51
POST RD

N

STH 54 WESTBOUND

SEE SDD "TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY" FOR TRAFFIC CONTROL ITEMS AND LAYOUT

CTH B WESTBOUND

EP: 116+00.00

12'

CTH B EASTBOUND

STH 54 EASTBOUND

LANE CLOSED
R11-2L
48"X30"

115

LANE CLOSED
R11-2L
48"X30"

END ROAD WORK
G20-2A
48"X24"

STH 54 EASTBOUND

STH 54 WESTBOUND

12'

MCDONALDS
2601 PLOVER RD

BP: 113+90.00

PLOVER EXPRESS MART
2621 PLOVER RD

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE" FOR TRAFFIC CONTROL ITEMS AND LAYOUT

LANE CLOSED
R11-2L
48"X30"

VINEYARD DR

LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- CONNECTED ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES

1.SEE SDD "TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL DETAILS

2. SEE SDD "TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL DETAILS

3. MOVE DRUMS TO OPEN TWO LANES OF STH 54 EASTBOUND AND TWO LANES OF STH 54 WESTBOUND AT THE SIGNAL DURING CURING PERIOD.

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | TRAFFIC CONTROL STAGE 1 - LOOP DETECTORS | SHEET 44 | E |
|---|---|---|---|---|---|

2

2

N

SOUTH DR

EARHART AVE

BUS 51
POST RD

STH 54 WESTBOUND

STH 54 EASTBOUND

CTH B WESTBOUND

CTH B EASTBOUND

EP: 116+00.00

WILSON AVE

BP: 113+90.00

LANE CLOSED
R11-2L
48"X30"

200'

STH 54 EASTBOUND

VINEYARD DR

180'

200'

STH 54 WESTBOUND

LOCUST DR

W04-2L

200'

RIGHT LANE CLOSED AHEAD
W20-5A

200'

ROAD WORK AHEAD
W20-1A

MAPLE DR

MAPLE DR

STAGE 2
CLOSE LEFT TURN LANE ONTO STH 54 WESTBOUND.
CLOSE LEFT LANE OF STH 54 WESTBOUND.
COMPLETE INSTALLATION OF LOOP DETECTORS (81, 31, 32) AND ALL INCIDENTAL WORK NECESSARY TO OPEN ALL LANES.

WORK IN STAGE 2 IS LIMITED TO FIVE CONSECUTIVE DAYS STARTING MONDAY MORNING AT 6 A.M.. LEFT TURN LANE ONTO STH 54 WESTBOUND AND LEFT LANE OF STH 54 WESTBOUND SHALL BE OPENED TO LOCAL TRAFFIC BY NOON FRIDAY.

LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- CONNECTED ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES

1.SEE SDD "TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL DETAILS

2. SEE SDD "TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL DETAILS

3. MOVE DRUMS TO OPEN TWO LANES OF STH 54 WESTBOUND AT THE SIGNAL DURING CURING PERIOD.

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | TRAFFIC CONTROL STAGE 2 OVERVIEW - LOOP DETECTORS | SHEET 45 | E |
|---|---|---|---|---|---|

2

2

N

STH 54 WESTBOUND

BUS 51
POST RD

CTH B WESTBOUND

EP: 116+00.00

CTH B EASTBOUND

STH 54 EASTBOUND

115

STH 54 EASTBOUND

STH 54 WESTBOUND

13'

BP: 113+90.00

LANE
CLOSED
R11-2L
48"X30"

SEE SDD "TRAFFIC CONTROL, LANE CLOSURE" FOR TRAFFIC CONTROL ITEMS AND LAYOUT

MCDONALDS
2601 PLOVER RD

PLOVER EXPRESS MART
2621 PLOVER RD

VINEYARD DR

LEGEND

- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- CONNECTED ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC

NOTES

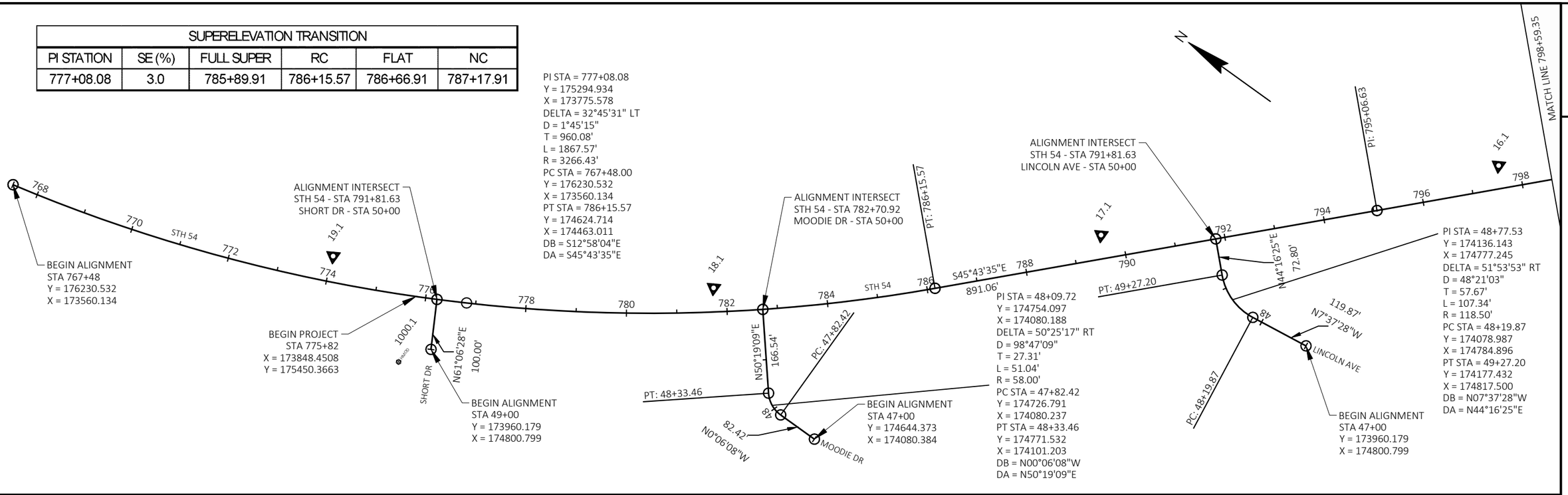
1.SEE SDD "TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL DETAILS

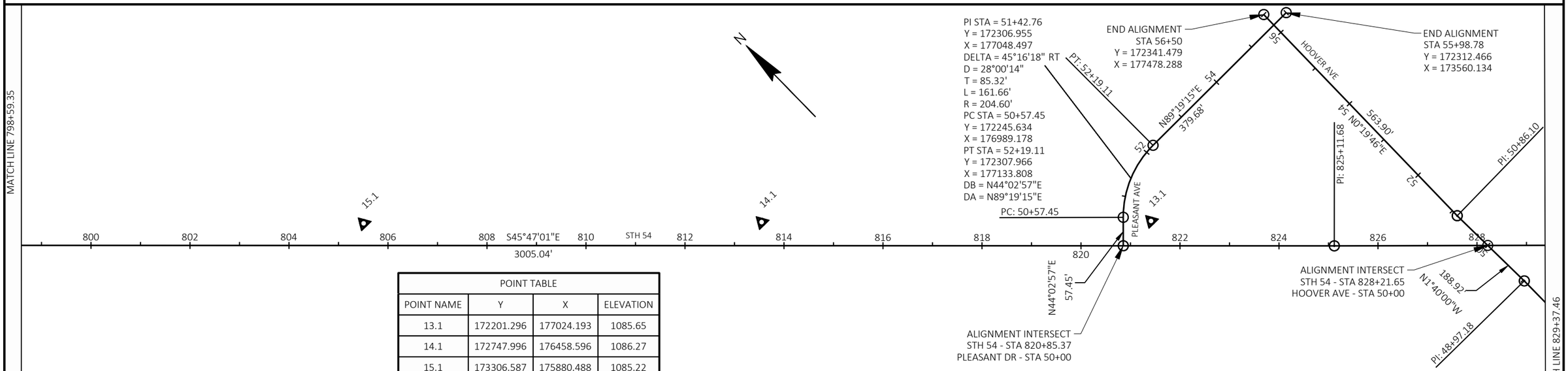
2. SEE SDD "TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL DETAILS

3. MOVE DRUMS TO OPEN TWO LANES OF STH 54 WESTBOUND AT THE SIGNAL DURING CURING PERIOD.

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | TRAFFIC CONTROL STAGE 2 - LOOP DETECTORS | SHEET 46 | E |
|---|---|---|---|---|---|

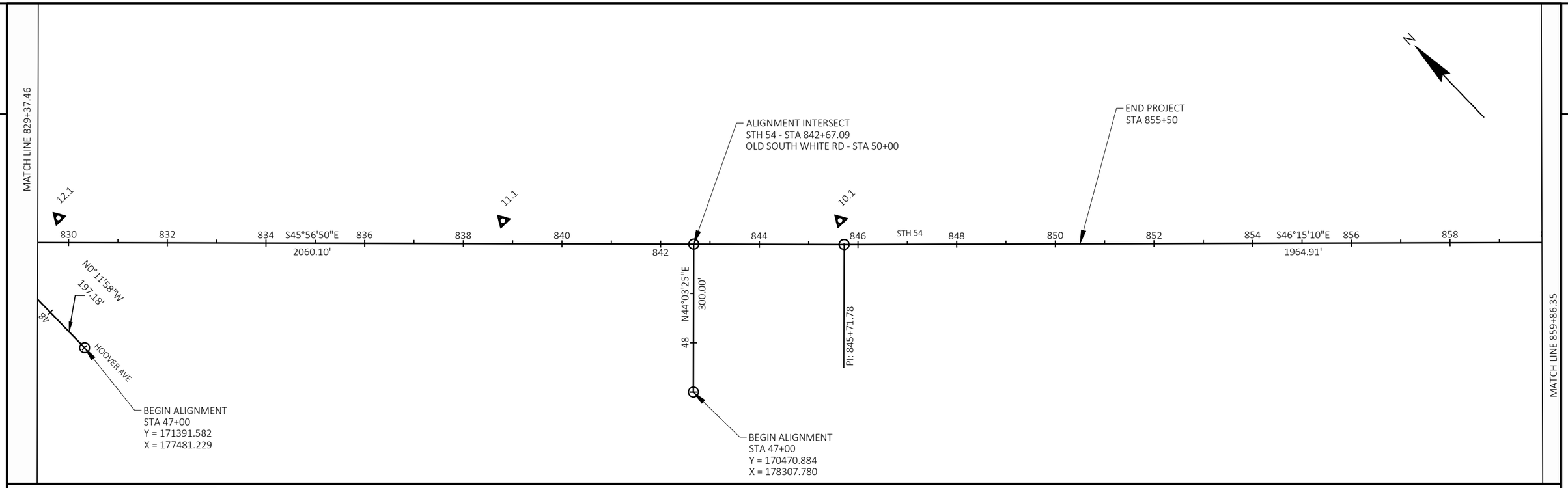
| SUPERELEVATION TRANSITION | | | | | |
|---|---|---|---|---|---|
| PI STATION | SE (%) | FULL SUPER | RC | FLAT | NC |
| 777+08.08 | 3.0 | 785+89.91 | 786+15.57 | 786+66.91 | 787+17.91 |

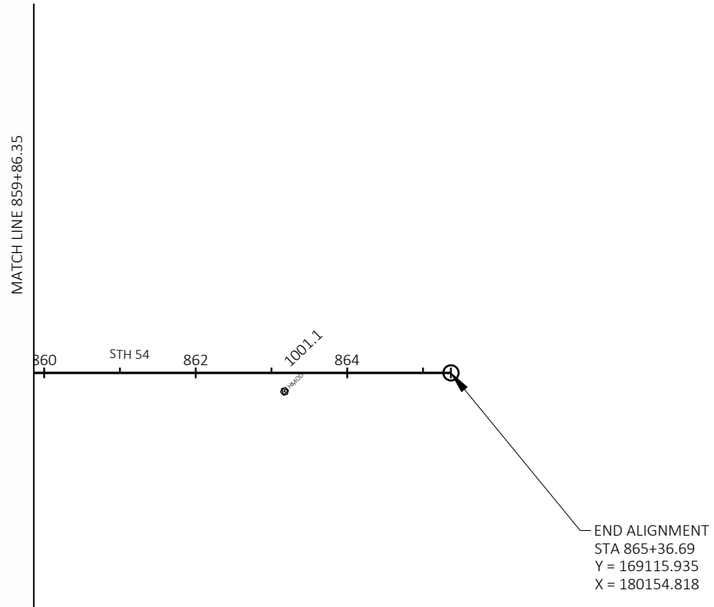


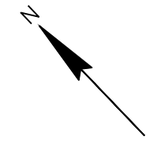




| POINT TABLE | | | |
|---|---|---|---|
| POINT NAME | Y | X | ELEVATION |
| 13.1 | 172201.296 | 177024.193 | 1085.65 |
| 14.1 | 172747.996 | 176458.596 | 1086.27 |
| 15.1 | 173306.587 | 175880.488 | 1085.22 |
| 16.1 | 173858.816 | 175314.455 | 1081.96 |
| 17.1 | 174418.958 | 174741.337 | 1079.68 |
| 18.1 | 174981.981 | 174206.848 | 1077.69 |
| 19.1 | 175631.932 | 173816.575 | 1077.35 |
| 1000.1 | 175403.867 | 173722.367 | 1077.77 |

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | ALIGNMENT DETAILS | SHEET 47 | E |
|---|---|---|---|---|---|

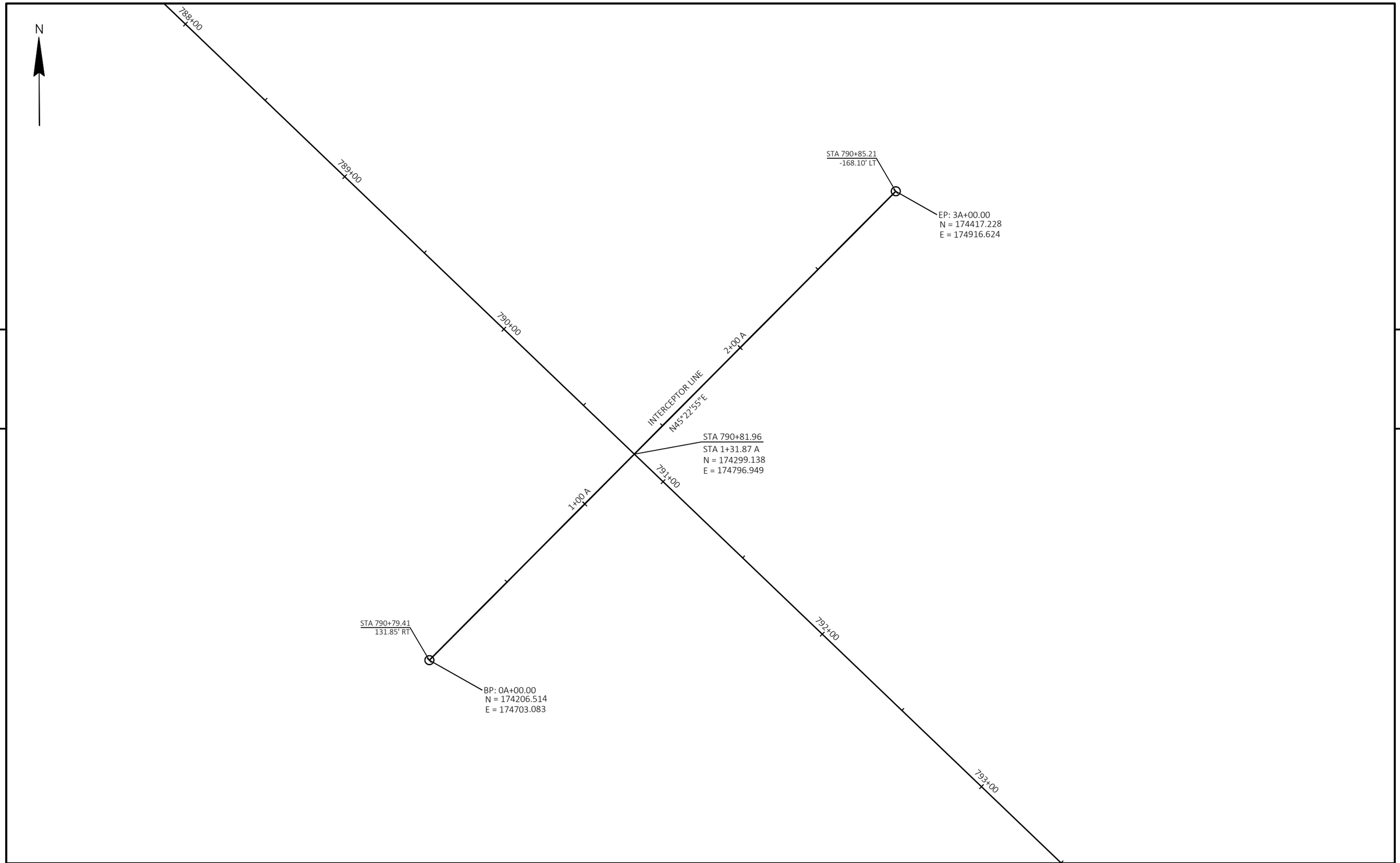



| CONTROL POINT TABLE | | | | |
|---|---|---|---|---|
| POINT # | STATION | OFFSET | DESCRIPTION | ELEVATION |
| 10.1 | 845+63.37 | 48.86 | IP W/ CAP | 1088.21 |
| 11.1 | 838+79.91 | 46.53 | IP W/ CAP | 1087.74 |
| 12.1 | 829+79.04 | 49.89 | IP W/ CAP | 1085.10 |
| 1001.1 | 863+17.15 | 24.27 | HMOD MALLARD PN0778 | 1117.26 |

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | ALIGNMENT DETAILS | SHEET 48 | E |
|---|---|---|---|---|---|




| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | UTILITY PLAN: SANITARY INTERCEPTOR PHASE 1 | SHEET 49 | E |
|---|---|---|---|---|---|

## Estimate Of Quantities

6414-01-74

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0002 | 203.0100 | Removing Small Pipe Culverts | EACH | 10.000 | 10.000 |
| 0004 | 204.0100 | Removing Concrete Pavement | SY | 26,880.000 | 26,880.000 |
| 0006 | 204.0110 | Removing Asphaltic Surface | SY | 420.000 | 420.000 |
| 0008 | 204.0150 | Removing Curb & Gutter | LF | 28.000 | 28.000 |
| 0010 | 204.0155 | Removing Concrete Sidewalk | SY | 8.000 | 8.000 |
| 0012 | 204.0165 | Removing Guardrail | LF | 460.000 | 460.000 |
| 0014 | 205.0100 | Excavation Common | CY | 14,148.000 | 14,148.000 |
| 0016 | 209.1500 | Backfill Granular Grade 1 | TON | 30.000 | 30.000 |
| 0018 | 211.0101 | Prepare Foundation for Asphaltic Paving (project) 01. 6414-01-74 | EACH | 1.000 | 1.000 |
| 0020 | 213.0100 | Finishing Roadway (project) 01. 6414-01-74 | EACH | 1.000 | 1.000 |
| 0022 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 3,060.000 | 3,060.000 |
| 0024 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 10,570.000 | 10,570.000 |
| 0026 | 416.0610 | Drilled Tie Bars | EACH | 206.000 | 206.000 |
| 0028 | 416.0620 | Drilled Dowel Bars | EACH | 256.000 | 256.000 |
| 0030 | 416.1720 | Concrete Pavement Replacement | SY | 505.000 | 505.000 |
| 0032 | 455.0605 | Tack Coat | GAL | 2,598.000 | 2,598.000 |
| 0034 | 460.2000 | Incentive Density HMA Pavement | DOL | 6,090.000 | 6,090.000 |
| 0036 | 460.6223 | HMA Pavement 3 MT 58-28 S | TON | 6,520.000 | 6,520.000 |
| 0038 | 460.6424 | HMA Pavement 4 MT 58-28 H | TON | 2,990.000 | 2,990.000 |
| 0040 | 465.0120 | Asphaltic Surface Driveways and Field Entrances | TON | 70.000 | 70.000 |
| 0042 | 465.0305 | Asphaltic Surface Safety Islands | TON | 1.000 | 1.000 |
| 0044 | 465.0520 | Asphaltic Rumble Strips, Shoulder | LF | 2,390.000 | 2,390.000 |
| 0046 | 465.0560 | Asphaltic Rumble Strips, Centerline | LF | 5,570.000 | 5,570.000 |
| 0048 | 516.0610.S | Sheet Membrane Waterproofing for Buried Structures | SY | 103.000 | 103.000 |
| 0050 | 522.0418 | Culvert Pipe Reinforced Concrete Class IV 18-Inch | LF | 64.000 | 64.000 |
| 0052 | 522.0424 | Culvert Pipe Reinforced Concrete Class IV 24-Inch | LF | 400.000 | 400.000 |
| 0054 | 522.0448 | Culvert Pipe Reinforced Concrete Class IV 48-Inch | LF | 128.000 | 128.000 |
| 0056 | 522.0454 | Culvert Pipe Reinforced Concrete Class IV 54-Inch | LF | 112.000 | 112.000 |
| 0058 | 522.1018 | Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch | EACH | 2.000 | 2.000 |
| 0060 | 522.1024 | Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch | EACH | 8.000 | 8.000 |
| 0062 | 522.1048 | Apron Endwalls for Culvert Pipe Reinforced Concrete 48-Inch | EACH | 4.000 | 4.000 |
| 0064 | 522.1054 | Apron Endwalls for Culvert Pipe Reinforced Concrete 54-Inch | EACH | 4.000 | 4.000 |
| 0066 | 522.2424 | Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch | LF | 128.000 | 128.000 |
| 0068 | 522.2624 | Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch | EACH | 4.000 | 4.000 |
| 0070 | 531.8990 | Anchor Assemblies Poles on Structures | EACH | 1.000 | 1.000 |
| 0072 | 601.0405 | Concrete Curb & Gutter 18-Inch Type A | LF | 7.000 | 7.000 |
| 0074 | 601.0409 | Concrete Curb & Gutter 30-Inch Type A | LF | 20.000 | 20.000 |
| 0076 | 602.0415 | Concrete Sidewalk 6-Inch | SF | 65.000 | 65.000 |
| 0078 | 606.0100 | Riprap Light | CY | 15.000 | 15.000 |
| 0080 | 606.0200 | Riprap Medium | CY | 150.000 | 150.000 |
| 0082 | 612.0902.S | Insulation Board Polystyrene (inch) 01. 2-Inch | SY | 4.000 | 4.000 |
| 0084 | 614.0396 | Guardrail Mow Strip Asphalt | SY | 104.000 | 104.000 |
| 0086 | 614.2300 | MGS Guardrail 3 | LF | 214.000 | 214.000 |
| 0088 | 614.2340 | MGS Guardrail 3 L | LF | 226.000 | 226.000 |
| 0090 | 614.2610 | MGS Guardrail Terminal EAT | EACH | 4.000 | 4.000 |
| 0092 | 618.0100 | Maintenance and Repair of Haul Roads (project) 01. 6414-01-74 | EACH | 1.000 | 1.000 |
| 0094 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0096 | 624.0100 | Water | MGAL | 270.000 | 270.000 |
| 0098 | 625.0100 | Topsoil | SY | 2,755.000 | 2,755.000 |

## Estimate Of Quantities

6414-01-74

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0100 | 628.1504 | Silt Fence | LF | 3,160.000 | 3,160.000 |
| 0102 | 628.1520 | Silt Fence Maintenance | LF | 3,160.000 | 3,160.000 |
| 0104 | 628.1905 | Mobilizations Erosion Control | EACH | 3.000 | 3.000 |
| 0106 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 3.000 | 3.000 |
| 0108 | 628.2006 | Erosion Mat Urban Class I Type A | SY | 7.000 | 7.000 |
| 0110 | 628.2008 | Erosion Mat Urban Class I Type B | SY | 2,748.000 | 2,748.000 |
| 0112 | 628.7504 | Temporary Ditch Checks | LF | 26.000 | 26.000 |
| 0114 | 628.7555 | Culvert Pipe Checks | EACH | 108.000 | 108.000 |
| 0116 | 628.7570 | Rock Bags | EACH | 64.000 | 64.000 |
| 0118 | 629.0210 | Fertilizer Type B | CWT | 5.000 | 5.000 |
| 0120 | 630.0130 | Seeding Mixture No. 30 | LB | 132.000 | 132.000 |
| 0122 | 630.0140 | Seeding Mixture No. 40 | LB | 2.000 | 2.000 |
| 0124 | 630.0500 | Seed Water | MGAL | 56.000 | 56.000 |
| 0126 | 633.5200 | Markers Culvert End | EACH | 22.000 | 22.000 |
| 0128 | 634.0618 | Posts Wood 4x6-Inch X 18-FT | EACH | 23.000 | 23.000 |
| 0130 | 637.2210 | Signs Type II Reflective H | SF | 12.500 | 12.500 |
| 0132 | 638.2102 | Moving Signs Type II | EACH | 39.000 | 39.000 |
| 0134 | 638.2602 | Removing Signs Type II | EACH | 2.000 | 2.000 |
| 0136 | 638.3000 | Removing Small Sign Supports | EACH | 2.000 | 2.000 |
| 0138 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0140 | 643.0300 | Traffic Control Drums | DAY | 915.000 | 915.000 |
| 0142 | 643.0420 | Traffic Control Barricades Type III | DAY | 1,316.000 | 1,316.000 |
| 0144 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 2,712.000 | 2,712.000 |
| 0146 | 643.0810 | Traffic Control Connected Arrow Boards | DAY | 10.000 | 10.000 |
| 0148 | 643.0900 | Traffic Control Signs | DAY | 8,165.000 | 8,165.000 |
| 0150 | 643.0920 | Traffic Control Covering Signs Type II | EACH | 21.000 | 21.000 |
| 0152 | 643.1000 | Traffic Control Signs Fixed Message | SF | 36.000 | 36.000 |
| 0154 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0156 | 645.0120 | Geotextile Type HR | SY | 300.000 | 300.000 |
| 0158 | 645.0130 | Geotextile Type R | SY | 23.000 | 23.000 |
| 0160 | 646.2020 | Marking Line Epoxy 6-Inch | LF | 500.000 | 500.000 |
| 0162 | 646.2025 | Marking Line Grooved Black Epoxy 6-Inch | LF | 6.000 | 6.000 |
| 0164 | 646.2040 | Marking Line Grooved Wet Ref Epoxy 6-Inch | LF | 20,952.000 | 20,952.000 |
| 0166 | 646.4040 | Marking Line Grooved Wet Ref Epoxy 10-Inch | LF | 152.000 | 152.000 |
| 0168 | 646.6120 | Marking Stop Line Epoxy 18-Inch | LF | 182.000 | 182.000 |
| 0170 | 646.7120 | Marking Diagonal Epoxy 12-Inch | LF | 134.000 | 134.000 |
| 0172 | 646.7420 | Marking Crosswalk Epoxy Transverse Line 6-Inch | LF | 92.000 | 92.000 |
| 0174 | 648.0100 | Locating No-Passing Zones | MI | 1.510 | 1.510 |
| 0176 | 650.4500 | Construction Staking Subgrade | LF | 348.000 | 348.000 |
| 0178 | 650.5000 | Construction Staking Base | LF | 7,968.000 | 7,968.000 |
| 0180 | 650.6000 | Construction Staking Pipe Culverts | EACH | 11.000 | 11.000 |
| 0182 | 650.8000 | Construction Staking Resurfacing Reference | LF | 7,968.000 | 7,968.000 |
| 0184 | 650.8501 | Construction Staking Electrical Installations (project) 01. 6414-01-74 | EACH | 1.000 | 1.000 |
| 0186 | 650.9911 | Construction Staking Supplemental Control (project) 01. 6414-01-74 | EACH | 1.000 | 1.000 |
| 0188 | 650.9920 | Construction Staking Slope Stakes | LF | 881.000 | 881.000 |
| 0190 | 652.0700.S | Install Conduit into Existing Item | EACH | 8.000 | 8.000 |
| 0192 | 652.0800 | Conduit Loop Detector | LF | 566.000 | 566.000 |
| 0194 | 654.0113 | Concrete Bases Type 13 | EACH | 1.000 | 1.000 |
| 0196 | 655.0700 | Loop Detector Lead In Cable | LF | 1,352.000 | 1,352.000 |

6414-01-74

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0198 | 655.0800 | Loop Detector Wire | LF | 1,990.000 | 1,990.000 |
| 0200 | 657.0356 | Poles Type 12-Over Height | EACH | 1.000 | 1.000 |
| 0202 | 657.0515 | Monotube Arms 15-FT | EACH | 1.000 | 1.000 |
| 0204 | 690.0150 | Sawing Asphalt | LF | 248.000 | 248.000 |
| 0206 | 690.0250 | Sawing Concrete | LF | 867.000 | 867.000 |
| 0208 | 740.0440 | Incentive IRI Ride | DOL | 6,040.000 | 6,040.000 |
| 0210 | SPV.0060 | Special 01. 27-Inch Sanitary Plug Installation | EACH | 1.000 | 1.000 |
| 0212 | SPV.0060 | Special 02. Connect to Existing Sewer | EACH | 3.000 | 3.000 |
| 0214 | SPV.0060 | Special 03. Construction Staking Sanitary Sewer | EACH | 1.000 | 1.000 |
| 0216 | SPV.0090 | Special 01. 10-Inch PVC Sanitary Sewer | LF | 14.000 | 14.000 |
| 0218 | SPV.0090 | Special 02. 15-Inch PVC Sanitary Sewer | LF | 14.000 | 14.000 |
| 0220 | SPV.0090 | Special 03. 27-Inch PVC Sanitary Sewer | LF | 70.000 | 70.000 |
| 0222 | SPV.0090 | Special 04. 30-Inch PVC Sanitary Sewer | LF | 14.000 | 14.000 |
| 0224 | SPV.0090 | Special 05. Sanitary Sewer Service 4-Inch | LF | 10.000 | 10.000 |
| 0226 | SPV.0200 | Special 01. 60-Inch I.D. Sanitary Sewer Drop Manhole | VF | 18.000 | 18.000 |

REMOVAL ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | 203.0100 REMOVING SMALL PIPE CULVERTS EACH | 204.0100 REMOVING CONCRETE PAVEMENT SY | 204.0110 REMOVING ASPHALTIC SURFACE SY | 204.0165 REMOVING GUARDRAIL LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 0010 | 775+82 | - | 855+50 | PROJECT | - | 26,880 | - | - | 7" CONCRETE PAVEMENT |
| 0010 | 814+68 | - | 816+98 | C-49-04 | - | - | - | 460 | |
| 0010 | 788+67 | - | 788+75 | CULVERTS #49054007883 & 7884 | 2 | - | - | - | |
| 0010 | 791+13 | - | 792+33 | LINCOLN AVE | 1 | - | - | - | |
| 0010 | 820+53 | - | 821+17 | PLEASANT DR | 1 | - | - | - | |
| 0010 | 827+36 | - | 828+24 | HOOVER AVE (N) | 1 | - | - | - | |
| 0010 | 828+12 | - | 829+40 | HOOVER AVE (S) | 1 | - | - | - | |
| 0010 | 842+36 | - | 843+00 | OLD SOUTH WHITE RD | 1 | - | - | - | |
| 0010 | 775+82 | - | 855+50 | PROJECT | - | - | 420 | - | DRIVEWAYS |
| | | | | TOTAL 0010 | 7 | 26,880 | 420 | 460 | |

| CATEGORY | STATION | TO | STATION | LOCATION | 203.0100 REMOVING SMALL PIPE CULVERTS EACH | 204.0100 REMOVING CONCRETE PAVEMENT SY | 204.0110 REMOVING ASPHALTIC SURFACE SY | 204.0165 REMOVING GUARDRAIL LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 0020 | 815+60 | - | 816+50 | C-49-04 | 3 | - | - | - | |
| | | | | TOTAL 0020 | 3 | 0 | 0 | 0 | |
| | | | | PROJECT TOTAL | 10 | 26,880 | 420 | 460 | |

| DIVISION | FROM/TO STATION | LOCATION | 205.0100 COMMON EXCAVATION (1) CUT (2) | 205.0100 COMMON EXCAVATION (1) EBS EXCAVATION (3) | UNEXPANDED FILL | EXPANDED FILL (13) FACTOR 1.25 | MASS ORDINATE +/- (14) | WASTE | COMMENT |
|---|---|---|---|---|---|---|---|---|---|
| DIVISION 1 | 775+82 | 855+50 | 14,148 | - | 105 | 131 | 14,017 | 14,017 | |
| GRAND TOTAL | | | 14,148 | - | 105 | 131 | 14,017 | 14,017 | |
| TOTAL COMMON EXC | | | 14,148 | | | | | | |

NOTES:
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
(3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL. NOTE: THIS IS DESIGNERS CHOICE, CAN BE BACKFILLED WITH BORROW, OR CUT AS WELL.
(13) EXPANDED FILL FACTOR = 1.25
DEPENDING ON SELECTIONS: EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH - REDUCED EBS) * FILL FACTOR
OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED EBS) * FILL FACTOR
OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK - REDUCED MARSH) * FILL FACTOR
OR EXPANDED FILL = (UNEXPANDED FILL - EXPANDED ROCK) * FILL FACTOR
(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.



FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\030201-MQ.DWG PLOT DATE : 6/19/2026 9:47 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1" = 1'
LAYOUT NAME - 01
WISDOT/CADDS SHEET 42

AGGREGATE ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | 209.1500 BACKFILL GRANULAR GRADE 1 TON | 211.0101.01 PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) (01. 6414-01-74) EACH | 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON | * 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON | 624.0100 WATER MGAL | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 775+82 | - | 815+83 | MAINLINE | - | - | - | 1190 | - | 12' LANES BEGIN PROJECT TO C-49-04 |
| 0010 | 815+83 | - | 855+50 | MAINLINE | - | - | - | 1180 | - | 12' LANES C-49-04 TO END PROJECT |
| 0010 | 775+82 | - | 792+00 | LT/RT | - | - | 440 | 950 | - | SHOULDERS BEGIN PROJECT TO LINCOLN AVE |
| 0010 | 792+00 | - | 815+83 | LT/RT | - | - | 910 | 1510 | - | SHOULDERS LINCOLN AVE TO C-49-04 |
| 0010 | 815+83 | - | 855+50 | LT/RT | - | - | 1,340 | 2190 | - | SHOULDERS C-49-04 TO END PROJECT |
| 0010 | 788+17 | - | 789+25 | LT/RT | - | - | - | 360 | - | CULVERT REPLACEMENT |
| 0010 | 814+99 | - | 816+68 | C-49-04 | 30 | - | - | 560 | - | CULVERT REPLACEMENT |
| 0010 | 775+82 | - | 855+50 | INTERSECTIONS | - | - | 90 | 1,510 | - | |
| 0010 | | - | | UNDISTRIBUTED | - | - | 280 | 950 | - | |
| 0010 | | - | | PROJECT | - | 1 | - | - | 270 | |
| | | | | TOTAL 0010 | 30 | 1 | 3,060 | 10,400 | 270 | |

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

ASPHALT ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | 455.0605 TACK COAT GAL | 460.6223 HMA PAVEMENT 3 MT 58-28 S TON | 460.6424 HMA PAVEMENT 4 MT 58-28 H TON | 465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON | 465.0520 ASPHALTIC RUMBLE STRIPS, SHOULDER LF | 465.0560 ASPHALTIC RUMBLE STRIPS, CENTERLINE LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 775+82 | - | 815+83 | MAINLINE | 1,070 | 2,690 | 1,050 | - | - | - | BEGIN PROJECT TO C-49-04 |
| 0010 | 815+83 | - | 855+50 | MAINLINE | 1,060 | 2,670 | 1,040 | - | - | - | C-49-04 TO END PROJECT |
| 0010 | 775+82 | - | 820+42 | LT | 102 | 256 | 200 | - | - | - | SHOULDERS |
| 0010 | 776+65 | - | 782+32 | RT | 18 | 46 | 36 | - | - | - | SHOULDERS |
| 0010 | 783+11 | - | 791+13 | RT | 26 | 62 | 48 | - | - | - | SHOULDERS |
| 0010 | 792+30 | - | 827+92 | RT | 76 | 188 | 146 | - | - | - | SHOULDERS |
| 0010 | 828+53 | - | 855+50 | LT | 48 | 118 | 92 | - | - | - | SHOULDERS |
| 0010 | 829+53 | - | 842+29 | RT | 26 | 62 | 48 | - | - | - | SHOULDERS |
| 0010 | 843+02 | - | 855+50 | RT | 32 | 78 | 60 | - | - | - | SHOULDERS |
| 0010 | 775+82 | - | 792+00 | MAINLINE | - | - | - | - | 2,390 | - | 5' SHOULDER SECTION |
| 0010 | 775+82 | - | 855+50 | INTERSECTIONS | 140 | 350 | 270 | - | - | - | |
| 0010 | 775+82 | - | 855+50 | PROJECT | - | - | - | 70 | - | 5,570 | DRIVEWAYS |
| | | | | TOTAL 0010 | 2,598 | 6,520 | 2,990 | 70 | 2,390 | 5,570 | |

3

3

## CULVERT ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | 516.0610.S SHEET MEMBRANE WATERPROOFING FOR BURIED STRUCTURES SY | 522.0418 CULVERT PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF | 522.0424 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF | 522.0448 CULVERT PIPE REINFORCED CONCRETE CLASS IV 48-INCH LF | 522.0454 CULVERT PIPE REINFORCED CONCRETE CLASS IV 54-INCH LF | 522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH | 522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH | 522.1048 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH EACH | 522.1054 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 54-INCH EACH | 522.2424 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH LF | 522.2624 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH EACH | 633.5200 MARKERS CULVERT END EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | | - | 788+67 | LT/RT | - | - | - | - | - | - | - | - | - | 64 | 2 | 2 | |
| 0010 | | - | 788+75 | LT/RT | - | - | - | - | - | - | - | - | - | 64 | 2 | 2 | |
| 0010 | 791+13 | - | 792+33 | LINCOLN AVE | - | - | 120 | - | - | - | 2 | - | - | - | - | 2 | |
| 0010 | 820+53 | - | 821+17 | PLEASANT DR | - | - | 64 | - | - | - | 2 | - | - | - | - | 2 | |
| 0010 | 827+36 | - | 828+24 | HOOVER AVE (N) | - | - | 88 | - | - | - | 2 | - | - | - | - | 2 | |
| 0010 | 828+12 | - | 829+40 | HOOVER AVE (S) | - | - | 128 | - | - | - | 2 | - | - | - | - | 2 | |
| 0010 | 842+36 | - | 843+00 | OLD SOUTH WHITE RD | - | 64 | - | - | - | 2 | - | - | - | - | - | 2 | |
| | | | | TOTAL 0010 | 0 | 64 | 400 | 0 | 0 | 2 | 8 | 0 | 0 | 128 | 4 | 14 | |

| CATEGORY | STATION | TO | STATION | LOCATION | 516.0610.S SHEET MEMBRANE WATERPROOFING FOR BURIED STRUCTURES SY | 522.0418 CULVERT PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF | 522.0424 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF | 522.0448 CULVERT PIPE REINFORCED CONCRETE CLASS IV 48-INCH LF | 522.0454 CULVERT PIPE REINFORCED CONCRETE CLASS IV 54-INCH LF | 522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH | 522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH | 522.1048 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH EACH | 522.1054 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 54-INCH EACH | 522.2424 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH LF | 522.2624 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH EACH | 633.5200 MARKERS CULVERT END EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0020 | | - | 815+83 | C-49-04 | 103 | - | - | - | - | - | - | - | - | - | - | - | |
| 0020 | | - | 815+49 | LT/RT | - | - | - | 64 | - | - | - | 2 | - | - | - | 2 | |
| 0020 | | - | 815+61 | LT/RT | - | - | - | - | 56 | - | - | - | 2 | - | - | 2 | |
| 0020 | | - | 816+05 | LT/RT | - | - | - | - | 56 | - | - | - | 2 | - | - | 2 | |
| 0020 | | - | 816+18 | LT/RT | - | - | - | 64 | - | - | - | 2 | - | - | - | 2 | |
| | | | | TOTAL 0020 | 103 | 0 | 0 | 128 | 112 | 0 | 0 | 4 | 4 | 0 | 0 | 8 | |
| | | | | PROJECT TOTAL | 103 | 64 | 400 | 128 | 112 | 2 | 8 | 4 | 4 | 128 | 4 | 22 | |

## RIPRAP ITEMS

| CATEGORY | STATION | LOCATION | 606.0100 RIPRAP LIGHT CY | 606.0200 RIPRAP MEDIUM CY | 645.0120 GEOTEXTILE TYPE HR SY | 645.0130 GEOTEXTILE TYPE R SY | REMARKS |
|---|---|---|---|---|---|---|---|
| 0010 | 788+71 | LT/RT | 5 | - | - | 8 | |
| 0010 | | LINCOLN AVE | 2 | - | - | 3 | |
| 0010 | | C-49-04 | - | 150 | 300 | - | |
| 0010 | | PLEASANT DR | 2 | - | - | 3 | |
| 0010 | | HOOVER AVE | 4 | - | - | 6 | |
| 0010 | | OLD SOUTH WHITE RD | 2 | - | - | 3 | |
| | | TOTAL 0010 | 15 | 150 | 300 | 23 | |

## GUARDRAIL ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | 614.0396 GUARDRAIL MOW STRIP ASPHALT SY | 614.2300 MGS GUARDRAIL 3 LF | 614.2340 MGS GUARDRAIL 3 L LF | 614.2610 MGS GUARDRAIL TERMINAL EAT EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 0010 | 813+83 | - | 817+02 | RT | 52 | 101 | 113 | 2 | |
| 0010 | 814+64 | - | 817+95 | LT | 52 | 113 | 113 | 2 | |
| | | | | TOTAL 0010 | 104 | 214 | 226 | 4 | |

## EROSION CONTROL ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | 625.0100 TOPSOIL SY | 628.1504 SILT FENCE LF | 628.1520 SILT FENCE MAINTENANCE LF | 628.1905 MOBILIZATIONS EROSION CONTROL EACH | 628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH | 628.2008 EROSION MAT URBAN CLASS I TYPE B SY | 628.7504 TEMPORARY DITCH CHECKS LF | 628.7555 CULVERT PIPE CHECKS EACH | 628.7570 ROCK BAGS EACH | 629.0210 FERTILIZER TYPE B CWT | 630.0130 SEEDING MIXTURE NO. 30 LB | 630.0500 SEED WATER MGAL | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | | - | | SHORT DR | 76 | 74 | 74 | - | - | 76 | - | 6 | - | 0.1 | 4 | 2 | |
| 0010 | | - | | MOODIE DR | 158 | 164 | 164 | - | - | 158 | - | 6 | - | 0.1 | 8 | 3 | |
| 0010 | 788+37 | - | 789+12 | LT/RT | 206 | 184 | 184 | - | - | 206 | 12 | 12 | - | 0.2 | 10 | 4 | CULVERTS |
| 0010 | | - | | LINCOLN AVE | 198 | 182 | 182 | - | - | 198 | 12 | 6 | - | 0.2 | 9 | 4 | |
| 0010 | 814+06 | - | 815+43 | C-49-04 NW | 88 | 220 | 220 | - | - | 88 | - | 12 | 16 | 0.1 | 4 | 2 | GUARDRAIL |
| 0010 | 813+83 | - | 815+43 | C-49-04 SW | 118 | 244 | 244 | - | - | 118 | - | - | 16 | 0.1 | 6 | 2 | GUARDRAIL |
| 0010 | 816+22 | - | 818+75 | C-49-04 NE | 158 | 340 | 340 | - | - | 158 | - | 12 | 16 | 0.1 | 8 | 3 | GUARDRAIL |
| 0010 | 816+21 | - | 817+96 | C-49-04 SE | 162 | 264 | 264 | - | - | 162 | - | - | 16 | 0.2 | 8 | 3 | GUARDRAIL |
| 0010 | | - | | PLEASANT DR | 138 | 150 | 150 | - | - | 138 | - | 6 | - | 0.1 | 7 | 3 | |
| 0010 | | - | | HOOVER AVE (N) | 242 | 192 | 192 | - | - | 242 | - | 6 | - | 0.2 | 11 | 5 | |
| 0010 | | - | | HOOVER AVE (S) | 262 | 270 | 270 | - | - | 262 | - | 6 | - | 0.2 | 12 | 5 | |
| 0010 | | - | | OLD SOUTH WHITE RD | 166 | 166 | 166 | - | - | 166 | - | 6 | - | 0.2 | 8 | 3 | |
| 0010 | 790+75 | - | 791+00 | LT/RT | 276 | 90 | 90 | - | - | 276 | 2 | - | - | 0.2 | 13 | 5 | SANITARY SEWER |
| 0010 | | | | UNDISTRIBUTED | 500 | 620 | 620 | 3 | 3 | 500 | - | 30 | - | 1.0 | 24 | 10 | |
| | | | | TOTAL 0010 | 2,748 | 3,160 | 3,160 | 3 | 3 | 2,748 | 26 | 108 | 64 | 3.0 | 132 | 54 | |

## SIGN ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | 531.8990 ANCHOR ASSEMBLIES POLES ON STRUCTURES EACH | 634.0618 POSTS WOOD 4X6-INCH X 18-FT EACH | 637.2210 SIGNS TYPE II REFLECTIVE H SF | 638.2102 MOVING SIGNS TYPE II EACH | 638.2602 REMOVING SIGNS TYPE II EACH | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH | 654.0113 CONCRETE BASES TYPE 13 EACH | 657.0356 POLES TYPE 12-OVER HEIGHT EACH | 657.0515 MONOTUBE ARMS 15-FT EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 775+82 | - | 815+83 | LT/RT | - | 10 | - | 10 | - | - | - | - | - | BEGIN PROJECT TO C-49-04 |
| 0010 | 815+83 | - | 855+50 | LT/RT | - | 12 | - | 29 | - | - | - | - | - | C-49-04 TO END PROJECT |
| 0010 | | - | | HOOVER AVE | 1 | 1 | 12.5 | - | 2 | 2 | 1 | 1 | 1 | R1-1 SIGNS (30" X 30") |
| | | | | TOTAL 0010 | 1 | 23 | 12.5 | 39 | 2 | 2 | 1 | 1 | 1 | |

3

## TRAFFIC CONTROL ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | DURATION (DAYS) | 643.0300 TRAFFIC CONTROL DRUMS DAY | 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY | 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY | 643.0810 TRAFFIC CONTROL CONNECTED ARROW BOARDS DAY | 643.0900 TRAFFIC CONTROL SIGNS DAY | 643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH | 643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 775+82 | - | 855+50 | DETOUR | 60 | - | - | - | - | 6,600 | 21 | - | |
| 0010 | 775+82 | - | 855+50 | PROJECT LIMITS | 60 | - | 1,200 | 2,400 | - | 1,500 | - | 36 | |
| 0010 | | - | | LOOP DETECTORS | 5 | 245 | 15 | 85 | 10 | 45 | - | - | STAGE 1 |
| 0010 | | - | | LOOP DETECTORS | 5 | 70 | 5 | 35 | - | 20 | - | - | STAGE 2 |
| 0010 | 812+93 | - | 818+71 | C-49-04 | 12 | 600 | 96 | 192 | - | - | - | - | |
| | | | | TOTAL 0010 | | 915 | 1,316 | 2,712 | 10 | 8,165 | 21 | 36 | |

3

## PAVEMENT MARKING ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | 646.2020 MARKING LINE EPOXY 6-INCH LF YELLOW | 646.2020 MARKING LINE EPOXY 6-INCH LF WHITE | 646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH LF YELLOW | 646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH LF WHITE | 646.6120 MARKING STOP LINE EPOXY 18-INCH LF WHITE | 646.7120 MARKING DIAGONAL EPOXY 12-INCH LF WHITE | 648.0100 LOCATING NO-PASSING ZONES MI | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 775+82 | - | 815+83 | LT/RT | - | - | 3310 | 7,750 | - | - | - | BEGIN PROJECT TO C-49-04 |
| 0010 | 815+83 | - | 855+50 | LT/RT | 260 | 240 | 2180 | 7,420 | 130 | 134 | - | C-49-04 TO END PROJECT |
| 0010 | 775+82 | - | 855+50 | PROJECT | - | | - | - | - | - | 1.51 | |
| | | | | COLOR TOTAL | 260 | 240 | 5,490 | 15,170 | 130 | 134 | - | |
| | | | | TOTAL 0010 | 500 | | 20,660 | | 130 | 134 | 1.51 | |

## STAKING ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | 650.4500 CONSTRUCTION STAKING SUBGRADE LF | 650.5000 CONSTRUCTION STAKING BASE LF | 650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH | 650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF | 650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 6414-01-74) EACH | 650.9920 CONSTRUCTION STAKING SLOPE STAKES LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | 775+82 | - | 855+50 | PROJECT | - | 7,968 | 11 | 7,968 | 1 | - | |
| 0010 | 775+82 | - | 855+50 | LT/RT | 348 | - | - | - | - | - | SIDEROADS |
| 0010 | 813+83 | - | 817+95 | RT | - | - | - | - | - | 412 | C-49-04 |
| 0010 | 814+06 | - | 818+75 | LT | - | - | - | - | - | 469 | C-49-04 |
| | | | | TOTAL 0010 | 348 | 7,968 | 11 | 7,968 | 1 | 881 | |

3

## SAWING ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | 690.0150 SAWING ASPHALT LF | 690.0250 SAWING CONCRETE LF | REMARKS |
|---|---|---|---|---|---|---|---|
| 0010 | 775+82 | - | | BEGIN PROJECT | 42 | - | |
| 0010 | 776+09 | - | 776+37 | SHORT DR | - | 28 | |
| 0010 | 782+56 | - | 782+84 | MOODIE DR | - | 29 | |
| 0010 | 786+72 | - | 787+41 | LT | 35 | - | DRIVEWAY |
| 0010 | 791+63 | - | 792+01 | LINCOLN AVE | - | 38 | |
| 0010 | 802+95 | - | 803+33 | LT | 21 | - | DRIVEWAY |
| 0010 | 820+70 | - | 820+99 | PLEASANT DR | - | 29 | |
| 0010 | 827+45 | - | 827+63 | HOOVER AVE (N) | 25 | - | |
| 0010 | 829+16 | - | 829+36 | HOOVER AVE (S) | 27 | - | |
| 0010 | 833+99 | - | 834+27 | RT | 12 | - | DRIVEWAY |
| 0010 | 836+19 | - | 836+66 | LT | 18 | - | DRIVEWAY |
| 0010 | 842+57 | - | 842+80 | OLD SOUTH WHITE RD | - | 23 | |
| 0010 | 854+01 | - | 854+51 | RT | 14 | - | DRIVEWAY |
| 0010 | 855+50 | - | | END PROJECT | 39 | - | |
| | | | | TOTAL 0010 | 233 | 147 | |

3

## SANITARY SEWER ITEMS

| CATEGORY | STATION | TO | STATION | LOCATION | 612.0902.S.01 INSULATION BOARD POLYSTYRENE (INCH) (01. 2-INCH) SY | SPV.0060.01 SPECIAL (01. 27-INCH SANITARY PLUG INSTALLATION) EACH | SPV.0060.02 SPECIAL (02. CONNECT TO EXISTING SEWER) EACH | SPV.0060.03 SPECIAL (03. CONSTRUCTION STAKING SANITARY SEWER) EACH | SPV.0090.01 SPECIAL (01. 10-INCH PVC SANITARY SEWER) LF | SPV.0090.02 SPECIAL (02. 15-INCH PVC SANITARY SEWER) LF | SPV.0090.03 SPECIAL (03. 27-INCH PVC SANITARY SEWER) LF | SPV.0090.04 SPECIAL (04. 30-INCH PVC SANITARY SEWER) LF | SPV.0090.05 SPECIAL (05. SANITARY SEWER SERVICE 4-INCH) LF | SPV.0200.01 SPECIAL (01. 60-INCH I.D. SANITARY SEWER DROP MANHOLE) VF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0030 | 790+75 | - | 791+00 | LT/RT | 4 | 1 | 3 | 1 | 14 | 14 | 70 | 14 | 10 | 18 |
| | | | | TOTAL 0030 | 4 | 1 | 3 | 1 | 14 | 14 | 70 | 14 | 10 | 18 |

## REMOVING CURB AND GUTTER

| STATION - STATION | LOCATION | 204.0150 LF | COMMENTS |
|---|---|---|---|
| CATEGORY CODE 0040 | | | |
| 115+18 - 115+2 | LT | 9 | PB 8 - LOOP DETECTOR 63 / 66 |
| 115+42 - 115+45 | LT | 3 | PB 5 - LOOP DETECTOR 32 |
| 115+12 - 115+16 | LT | 4 | PB 6 - LOOP DETECTOR 31 |
| 115+12 - 115+20 | RT | 8 | PB 2 - LOOP DETECTOR 85 / 86 |
| 114+02 - 114+06 | RT | 4 | PB 1 - LOOP DETECTOR 81 / 82 |
| **TOTAL** | | **28** | |

## REMOVING CONCRETE SIDEWALK

| STATION - STATION | LOCATION | 204.0155 SY | COMMENTS |
|---|---|---|---|
| CATEGORY 0040 | | | |
| 115+12 - 115+20 | RT | 8 | PB2 - LOOP DETECTOR 85/86 |
| **TOTAL** | | **8** | |

## BASE AGGREGATE DENSE

| STATION - STATION | * 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON | COMMENTS |
|---|---|---|
| CATEGORY CODE 0040 | | |
| 114+91 - 115+53 | 80 | 63 / 66 |
| 114+93 - 115+45 | 30 | 31 / 32 |
| 115+01 - 115+53 | 34 | 85 / 86 |
| 113+94 - 114+08 | 26 | 81 / 82 |
| TOTAL | **170** | |

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

## CONCRETE PAVEMENT ITEMS

| STATION - STATION | LOCATION | LANE | 416.0610 DRILLED TIE BARS EACH | 416.0620 DRILLED DOWEL BARS EACH | 416.1720 CONCRETE PAVEMENT REPLACEMENT SY | 602.0415 CONCRETE SIDEWALK 6-INCH SF | * 690.0150 SAWING ASPHALT LF | * 690.0250 SAWING CONCRETE LF |
|---|---|---|---|---|---|---|---|---|
| CATEGORY CODE 0040 | | | | | | | | |
| 114+91 - 115+53 | LT | STH EB | 92 | 112 | 222 | -- | -- | 300 |
| 114+86 - 115+45 | LT | STH WB | 40 | 32 | 80 | -- | 15 | 145 |
| 115+01 - 115+59 | RT | STH WB | 54 | 64 | 118 | -- | -- | 165 |
| 113+76 - 114+08 | RT | STH WB | 20 | 48 | 85 | 65 | -- | 110 |
| **TOTALS** | | | **206** | **256** | **505** | **65** | **15** | **720** |

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

## ASPHALTIC ITEMS

| STATION - STATION | LOCATION | 465.0305 ASPHALTIC SURFACE SAFETY ISLANDS TON | COMMENTS |
|---|---|---|---|
| CATEGORY CODE 0040 | | | |
| 114+93 - 115+45 | LT | 1 | PB 5 / PB 6 |
| **TOTALS** | | **1** | |

## CONCRETE CURB AND GUTTER ITEMS

| STATION - STATION | LOCATION | 601.0405 CONCRETE CURB & GUTTER 18-INCH TYPE A LF | 601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF | COMMENTS |
|---|---|---|---|---|
| CATEGORY CODE 0040 | | | | |
| 115+18 - 115+25 | LT | -- | 9 | PB 8 |
| 115+42 - 115+45 | LT | 3 | -- | PB 5 |
| 115+12 - 115+16 | LT | 4 | -- | PB 6 |
| 115+12 - 115+20 | RT | -- | 8 | PB 2 |
| 114+02 - 114+06 | RT | -- | 4 | PB 1 |
| **TOTALS** | | **7** | **20** | |

## EROSION CONTROL AND RESTORATION ITEMS

| STATION - STATION | LOCATION | * 625.0100 TOPSOIL SY | 628.2006 EROSION MAT URBAN CLASS I TYPE A SY | * 629.0210 FERTILIZER TYPE B CWT | 630.0140 SEED MIX NO. 40 LBS | * 630.0500 SEED WATER MGAL | COMMENTS |
|---|---|---|---|---|---|---|---|
| CATEGORY CODE 0040 | | | | | | | |
| 115+18 - 115+25 | LT | 4 | 4 | 1 | 1 | 1 | PB 8 |
| 114+02 - 114+06 | RT | 3 | 3 | 1 | 1 | 1 | PB 1 |
| **TOTALS** | | **7** | **7** | **2** | **2** | **2** | |

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

## * PAVEMENT MARKING ITEMS

| STATION - STATION | LOCATION | 646.2025 MARKING LINE GROOVED BLACK EPOXY 6-INCH LF | 646.2040 * MARKING LINE GROOVED WET REF EPOXY 6-INCH WHITE LF | 646.2040 * MARKING LINE GROOVED WET REF EPOXY 6-INCH YELLOW LF | 646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH LF | 646.6120 * MARKING STOP LINE EPOXY 18-INCH LF | 646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| CATEGORY CODE 0040 | | | | | | | | |
| 114+91 - 115+51 | LT | -- | 100 | -- | 76 | 22 | 44 | STH 54 EB RT TURN LANE |
| 114+86 - 115+45 | LT | -- | 60 | 60 | -- | 12 | 12 | STH 54 WB LT TURN LANE |
| 115+01 - 115+59 | RT | -- | 40 | -- | 44 | 18 | 36 | STH 54 WB RT TURN LANE |
| 113+76 - 114+08 | RT | 6 | 32 | -- | 32 | -- | -- | STH 54 WB |
| | **TOTALS** | **6** | **232** | **60** | **152** | **52** | **92** | |
| | | | **292** | | | | | |

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

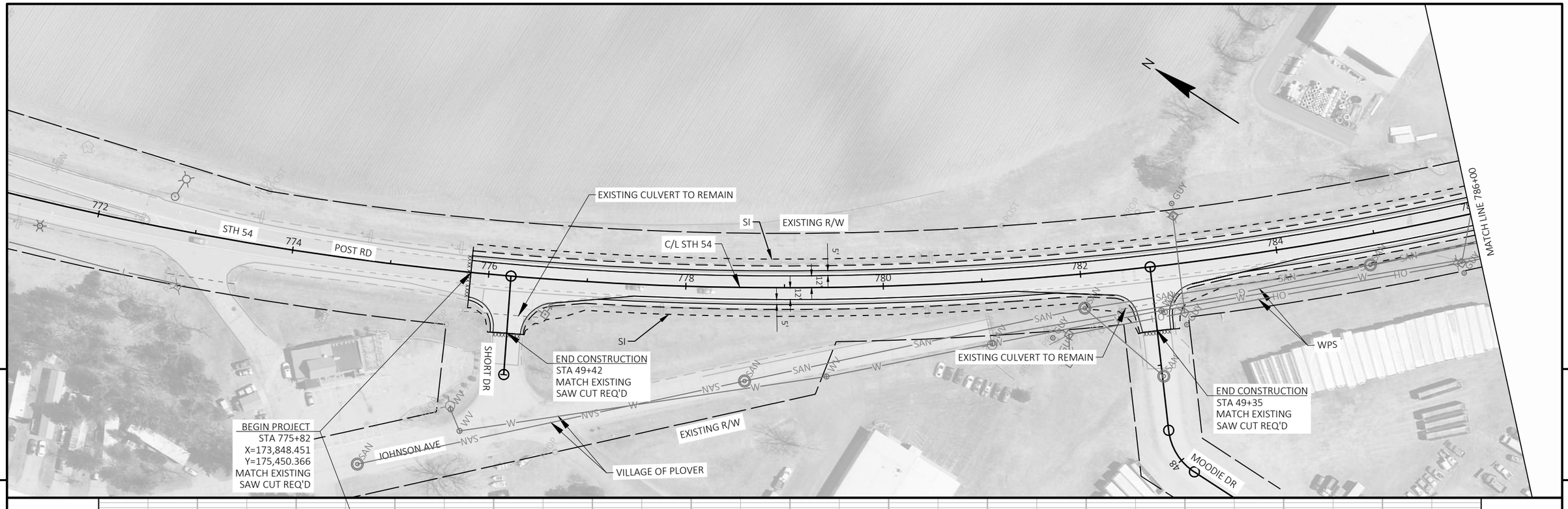
## CONSTRUCTION STAKING ITEMS

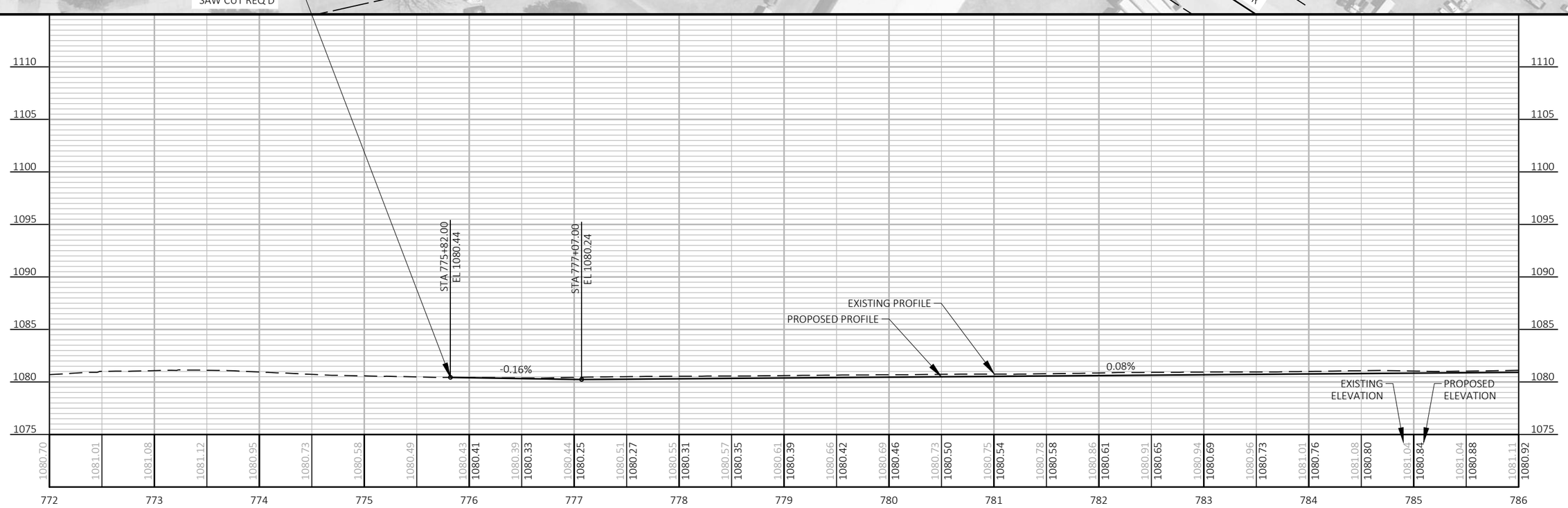
| STATION - STATION | LOCATION | 650.8501 ELECTRICAL INSTALLATIONS EACH |
|---|---|---|
| CATEGORY CODE 0040 | | |
| 113+94 - 115+49 | LT | 1 |
| | **TOTALS** | **1** |

## ELECTRICAL ITEMS

| LOOP NUMBER | *STATION | *OFFSET | SIZE (FT - FT) | NUMBER OF TURNS | 652.0800 CONDUIT LOOP DETECTOR LF | 655.0700 LOOP DETECTOR LEAD IN CABLE LF | 655.0800 LOOP DETECTOR WIRE LF | 652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EACH |
|---|---|---|---|---|---|---|---|---|
| CATEGORY CODE 0040 | | | | | | | | |
| 63 | STA 115+16 | 76' LT | 6X10 | 3 | 62 | 23 | 202 | 1 |
| 66 | STA 115+13 | 73' LT | 6X10 | 3 | 62 | 23 | 202 | 1 |
| 31 | STA 115+13 | 15' LT | 6X20 | 3 | 72 | 133 | 232 | 1 |
| 32 | STA 115+44 | 15' LT | 6X20 | 3 | 72 | 133 | 232 | 1 |
| 85 | STA 115+43 | 48' RT | 6X10 | 3 | 72 | 198 | 232 | 1 |
| 86 | STA 115+33 | 38' RT | 6X10 | 3 | 62 | 198 | 202 | 1 |
| 81 | STA 114+03 | 6' RT | 6X20 | 4 | 92 | 322 | 384 | 1 |
| 82 | STA 114+03 | 18' RT | 6X20 | 4 | 72 | 322 | 304 | 1 |
| | | | | **TOTALS** | **566** | **1,352** | **1,990** | **8** |

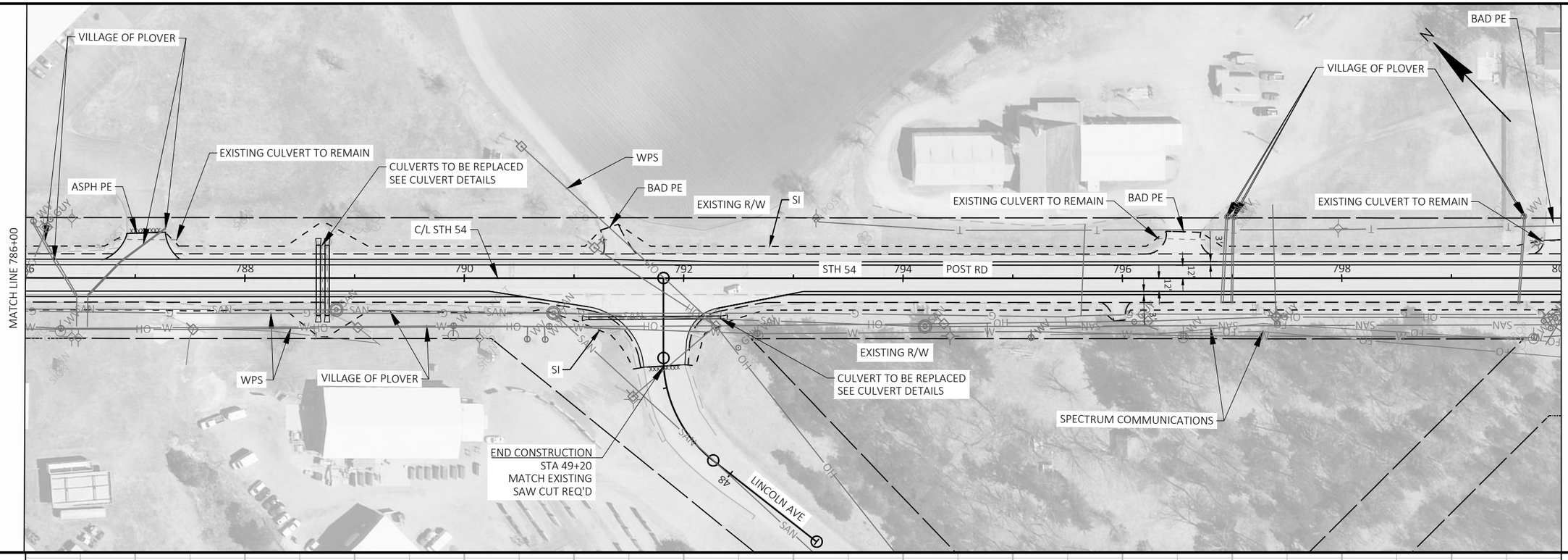
* STATION / OFFSET LOCATION IS TO FRONT CENTER OF AS-BUILT DETECTOR LOOP

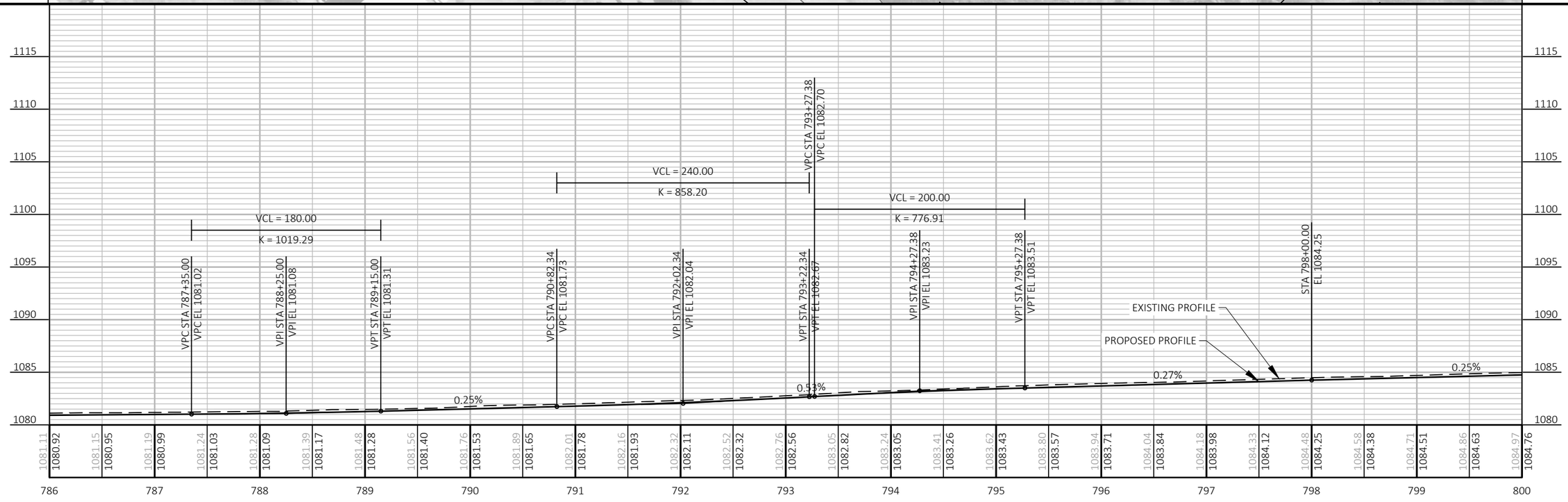



| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: STH 54 | SHEET 61 | E |
|---|---|---|---|---|---|

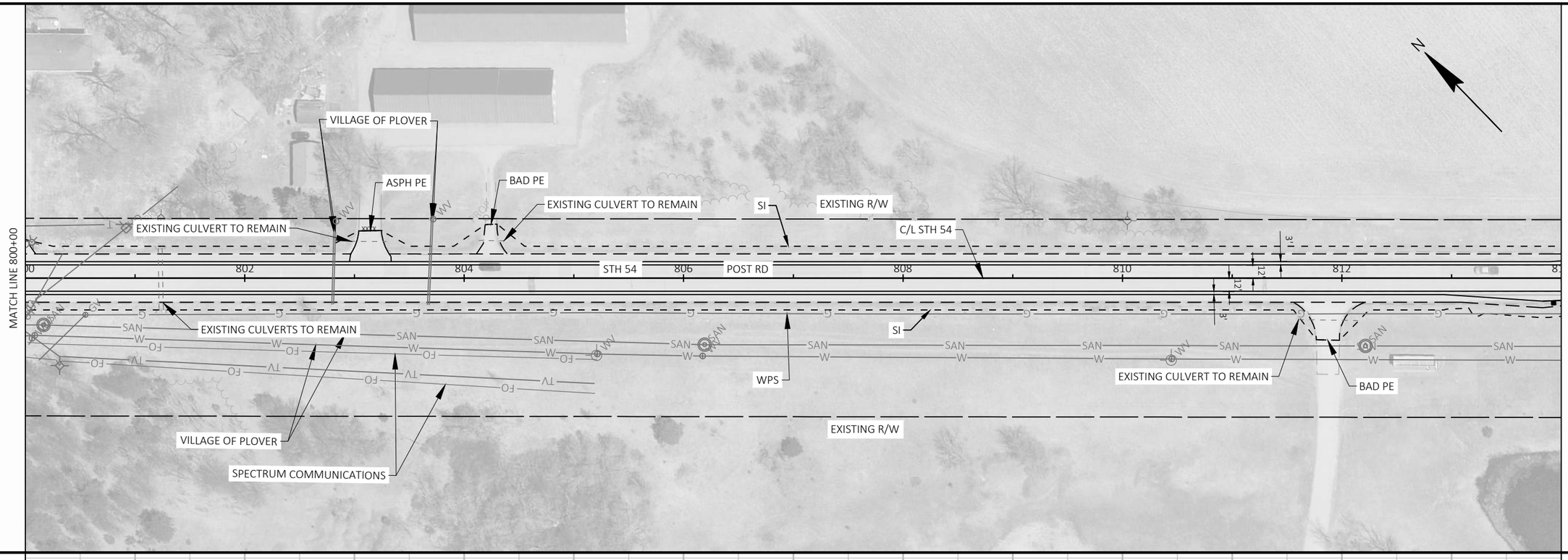
FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 01
PLOT DATE : 4/27/2026 10:11 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

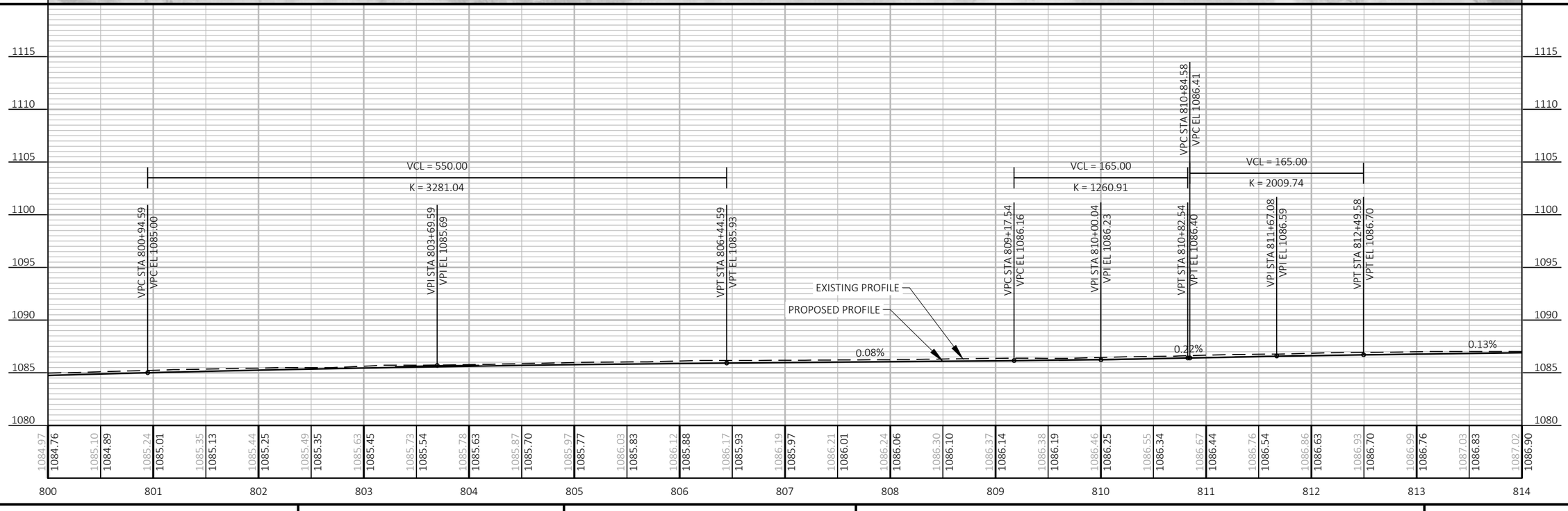



| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: STH 54 | SHEET 62 | E |
|---|---|---|---|---|---|

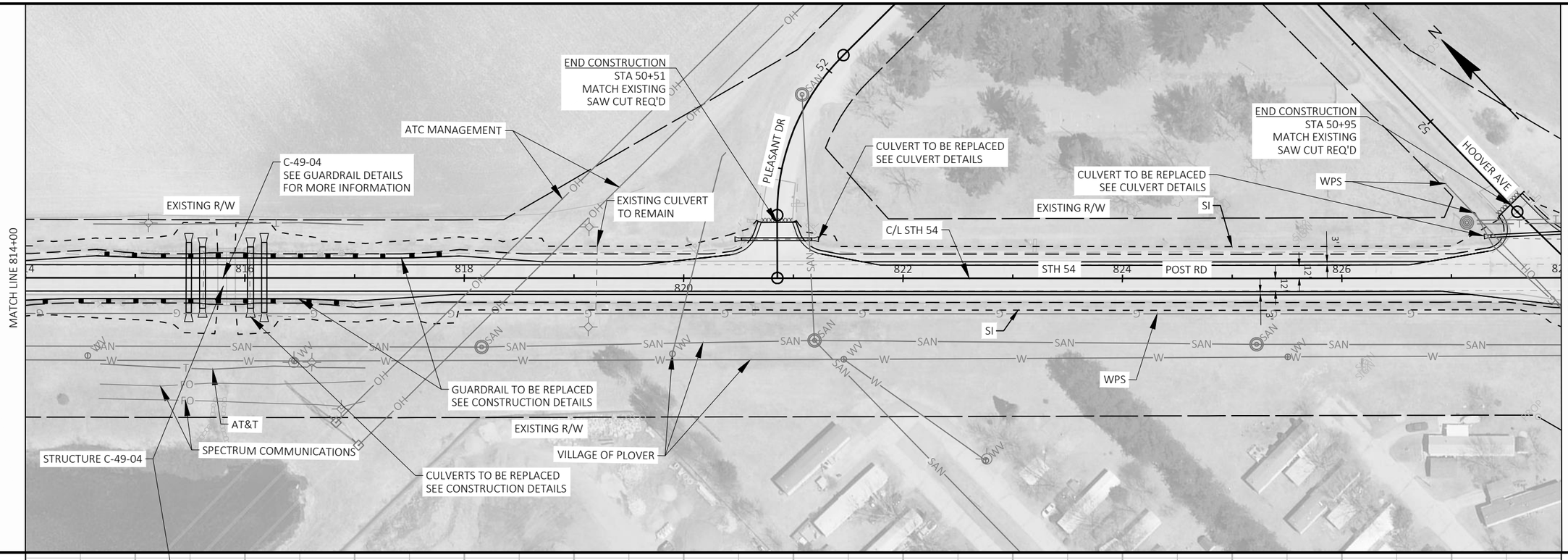

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 02
PLOT DATE : 4/27/2026 10:11 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

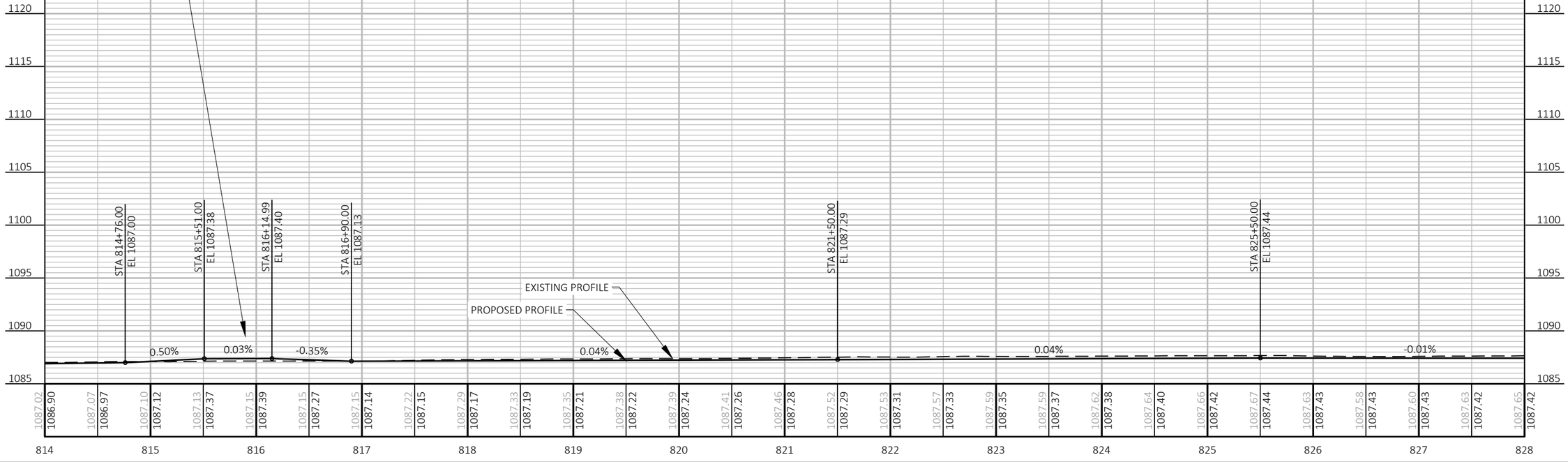



| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: STH 54 | SHEET 63 | E |
|---|---|---|---|---|---|

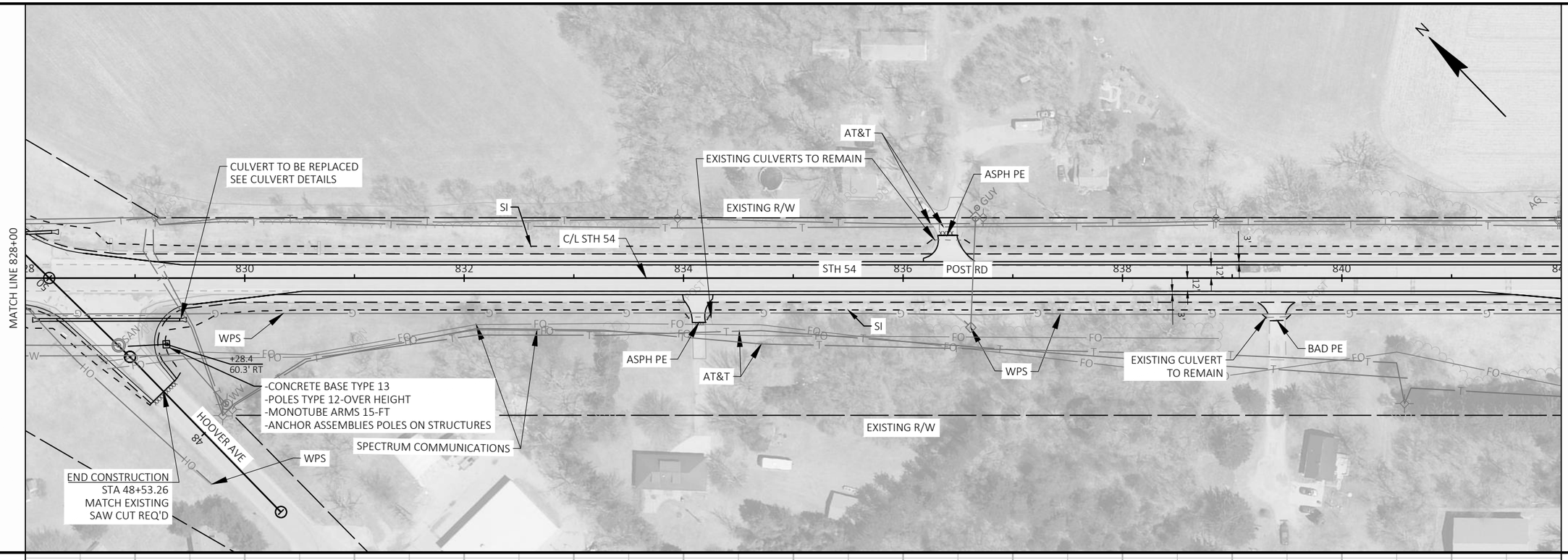
FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 03
PLOT DATE : 4/27/2026 10:11 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

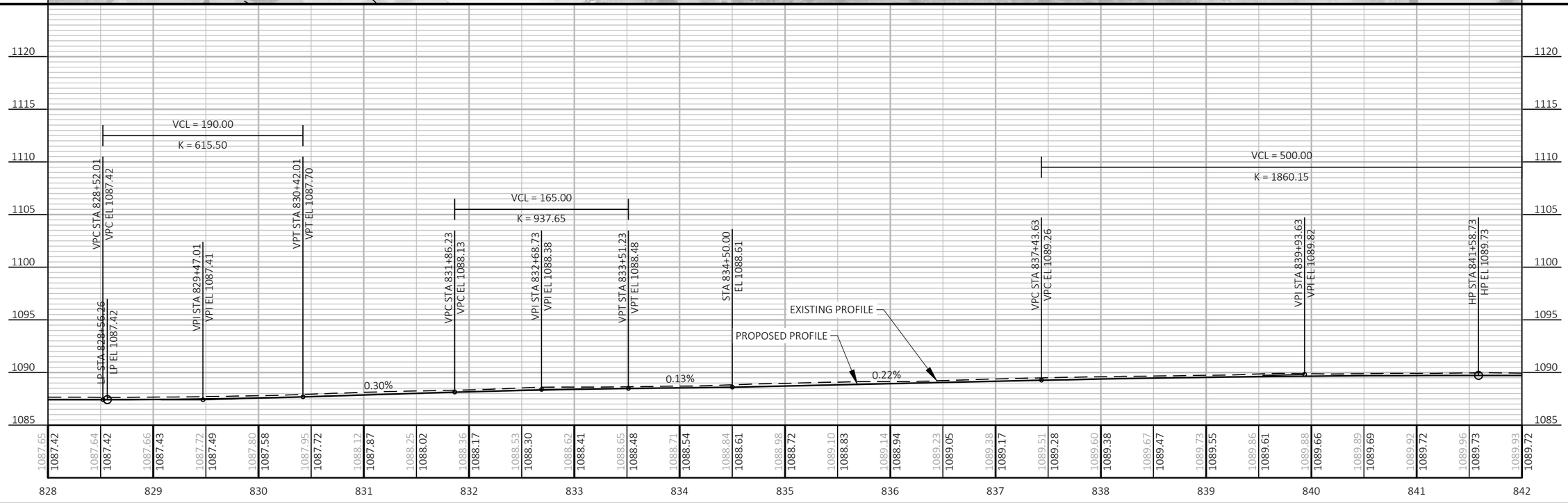



| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: STH 54 | SHEET 64 | E |
|---|---|---|---|---|---|

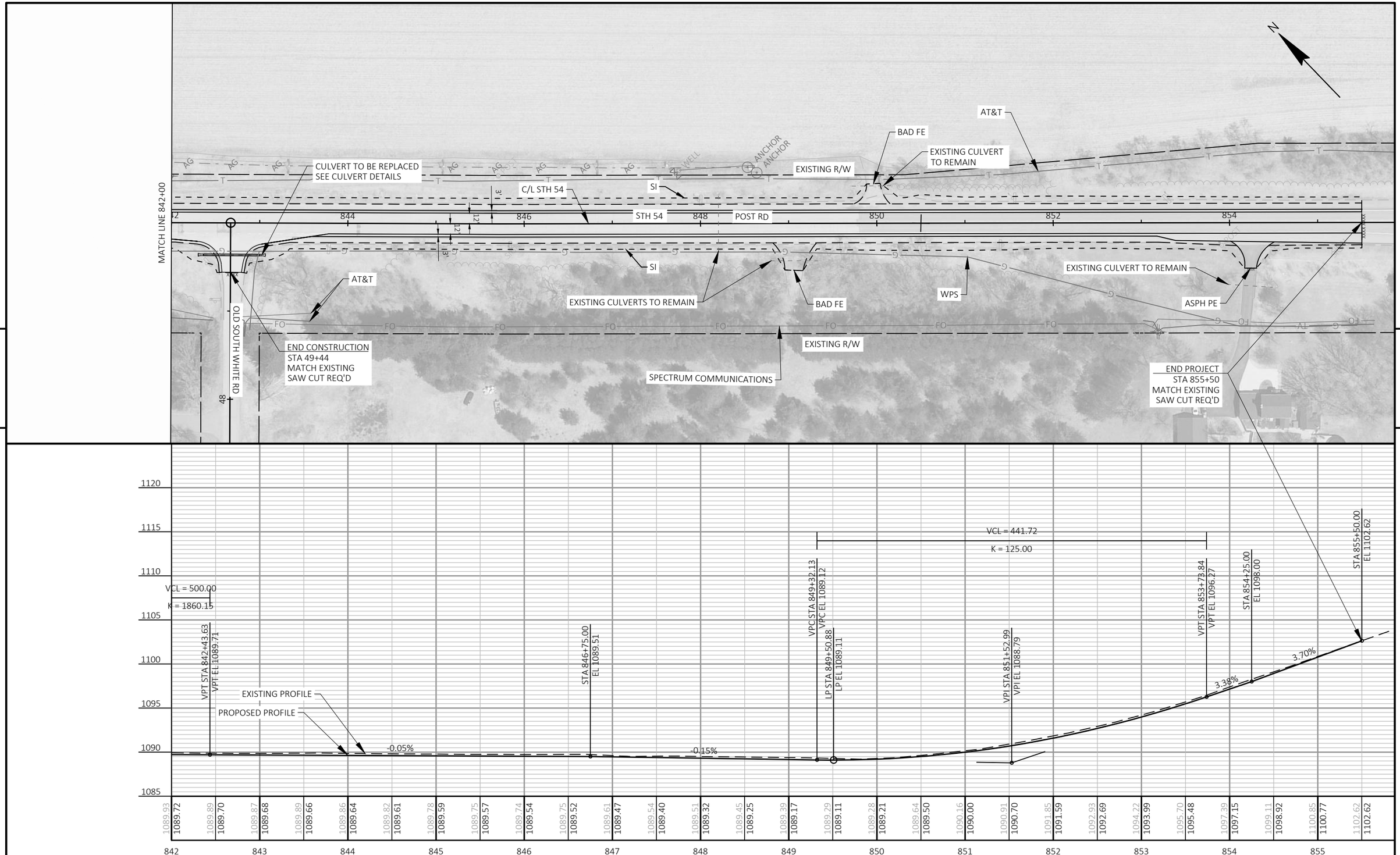
FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 04
PLOT DATE : 4/27/2026 10:11 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44




| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: STH 54 | SHEET 65 | E |
|---|---|---|---|---|---|

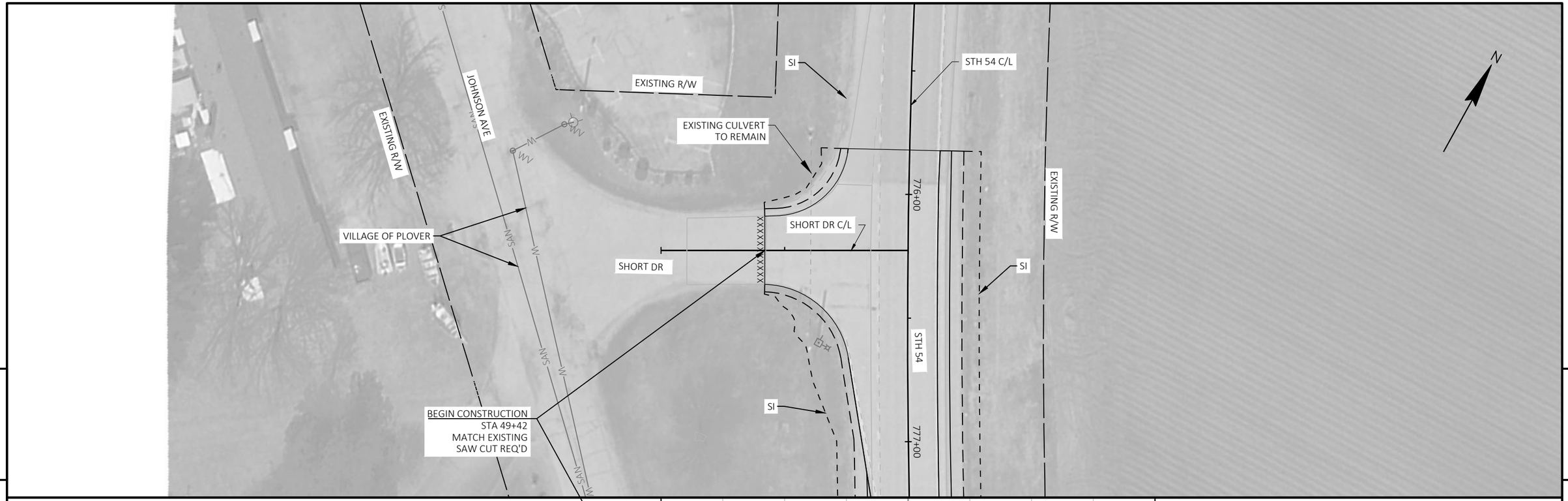

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 05
PLOT DATE : 4/27/2026 10:11 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

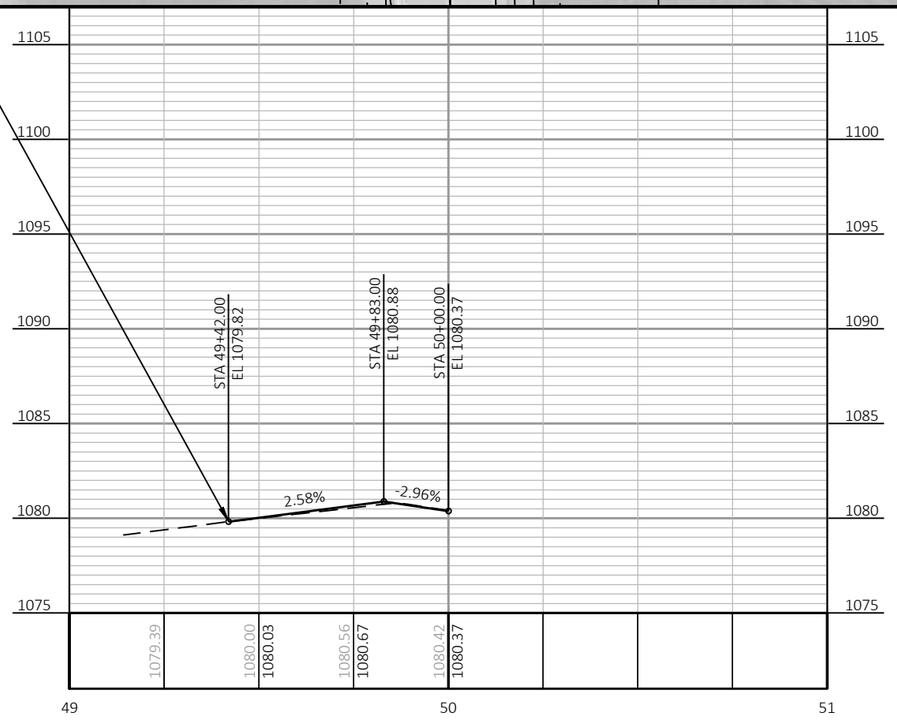



| | | | | |
|---|---|---|---|---|
| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: STH 54 | SHEET 66 E |

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 06
PLOT DATE : 4/27/2026 10:11 AM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:100 FT

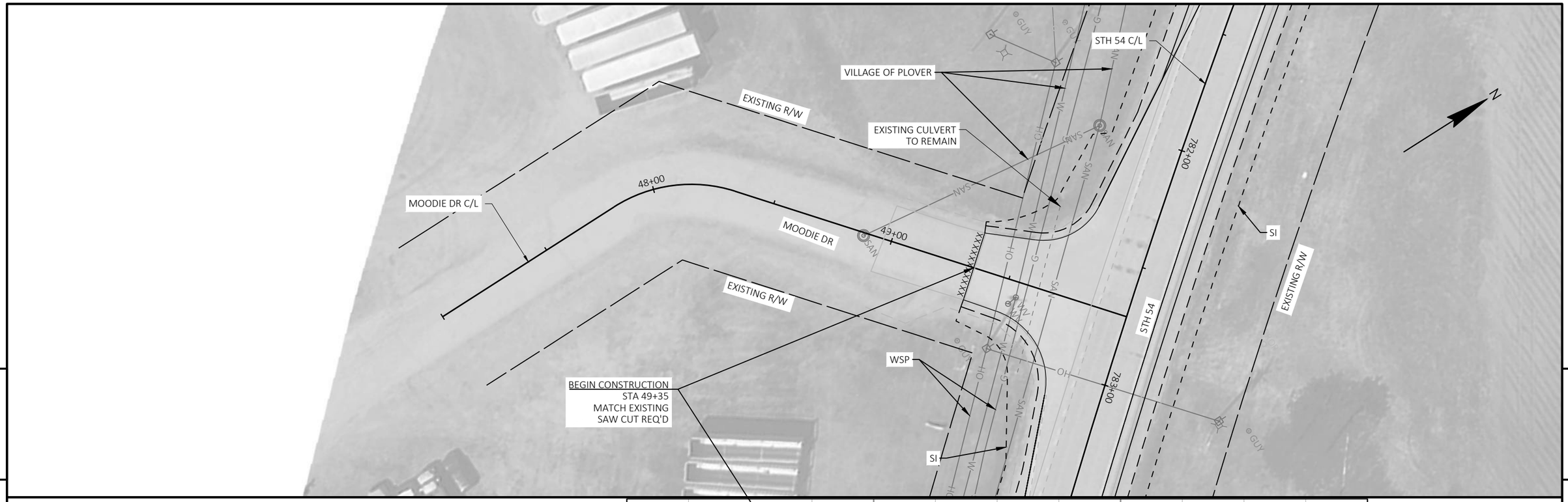
WISDOT/CADDS SHEET 44

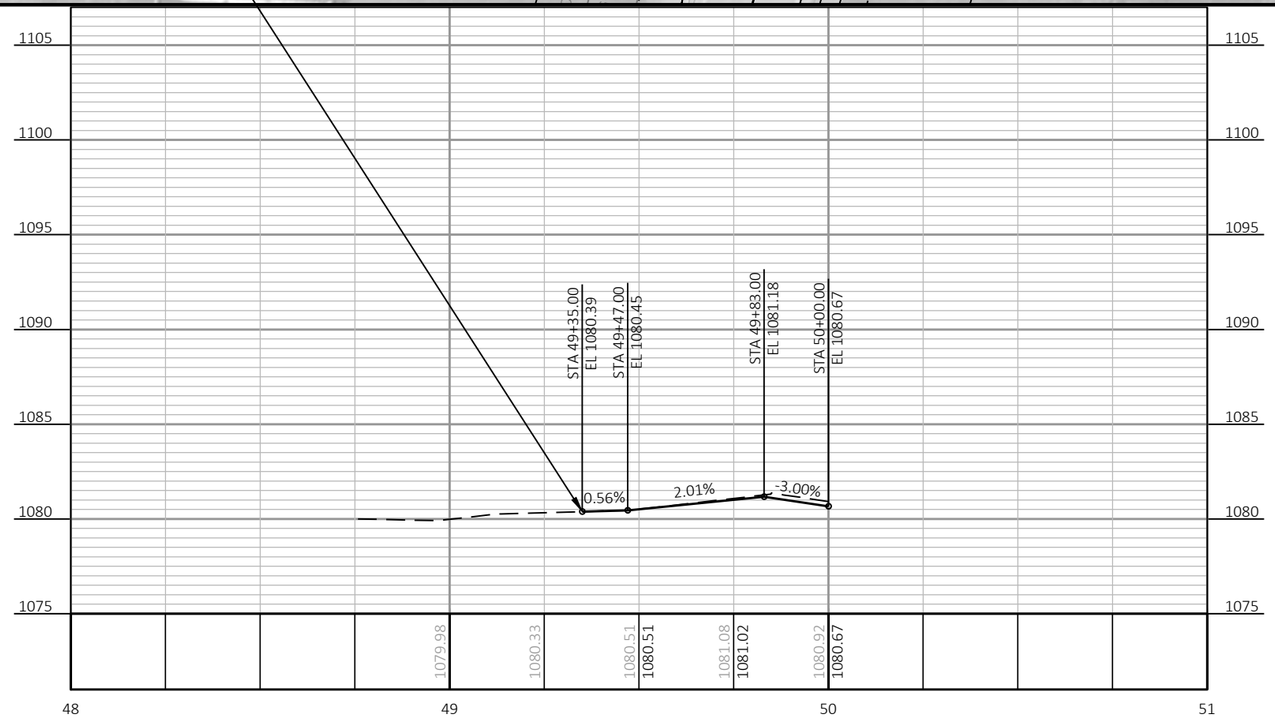



| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: SHORT DR | SHEET 67 | E |
|---|---|---|---|---|---|

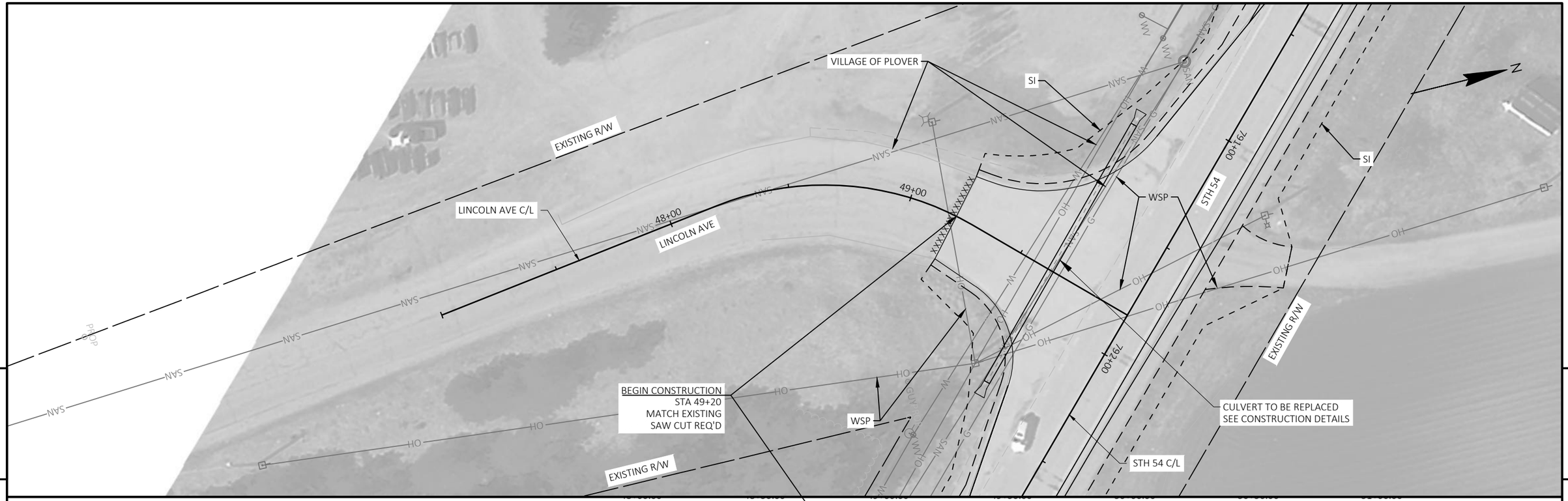
FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050102-PP.DWG
LAYOUT NAME - 01
PLOT DATE : 4/27/2026 10:15 AM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

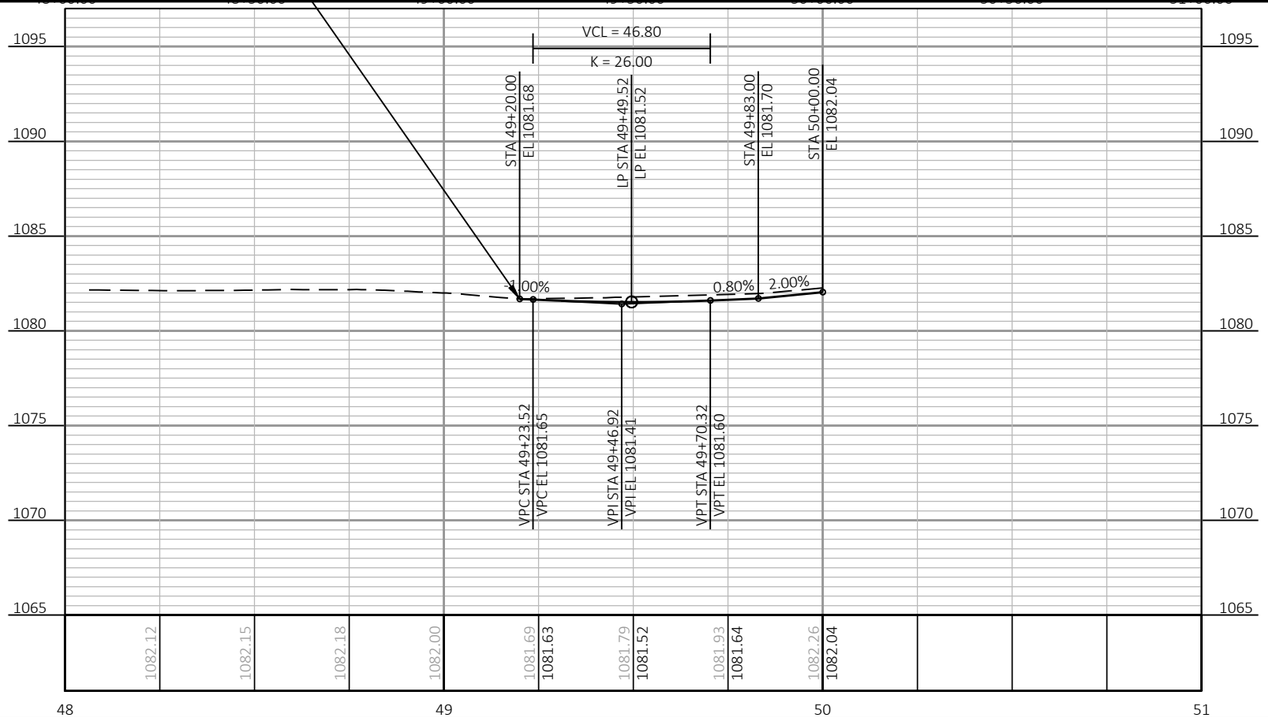



| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: MOODIE DR | SHEET 68 | E |
|---|---|---|---|---|---|

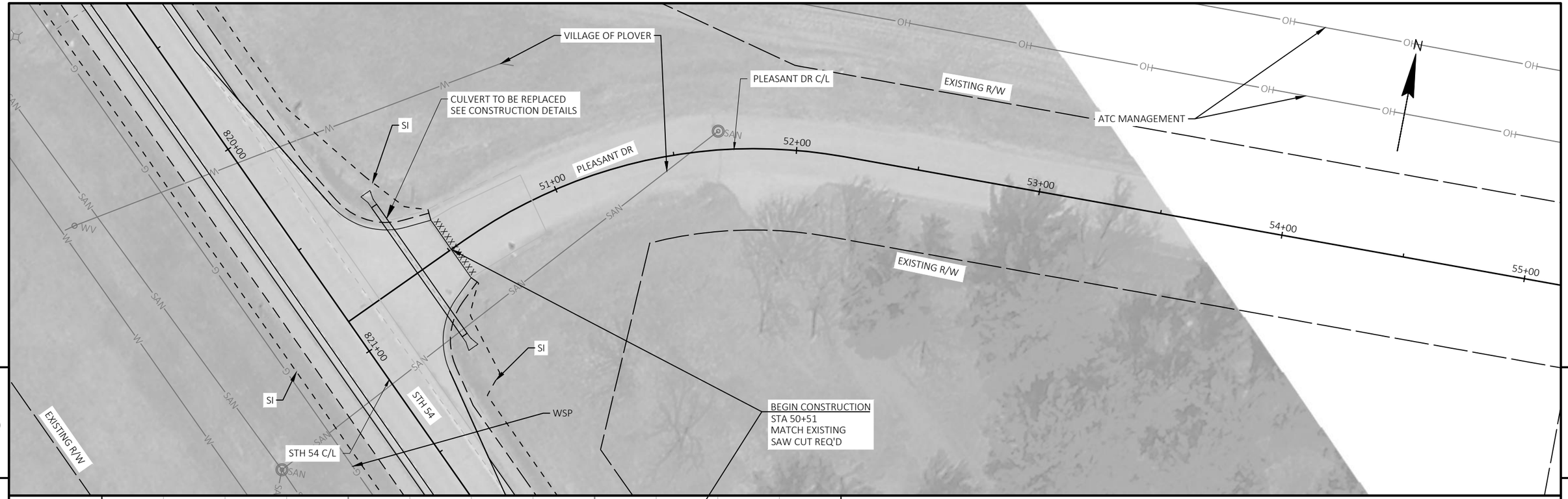
FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050102-PP.DWG
LAYOUT NAME - 02
PLOT DATE : 4/27/2026 10:15 AM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

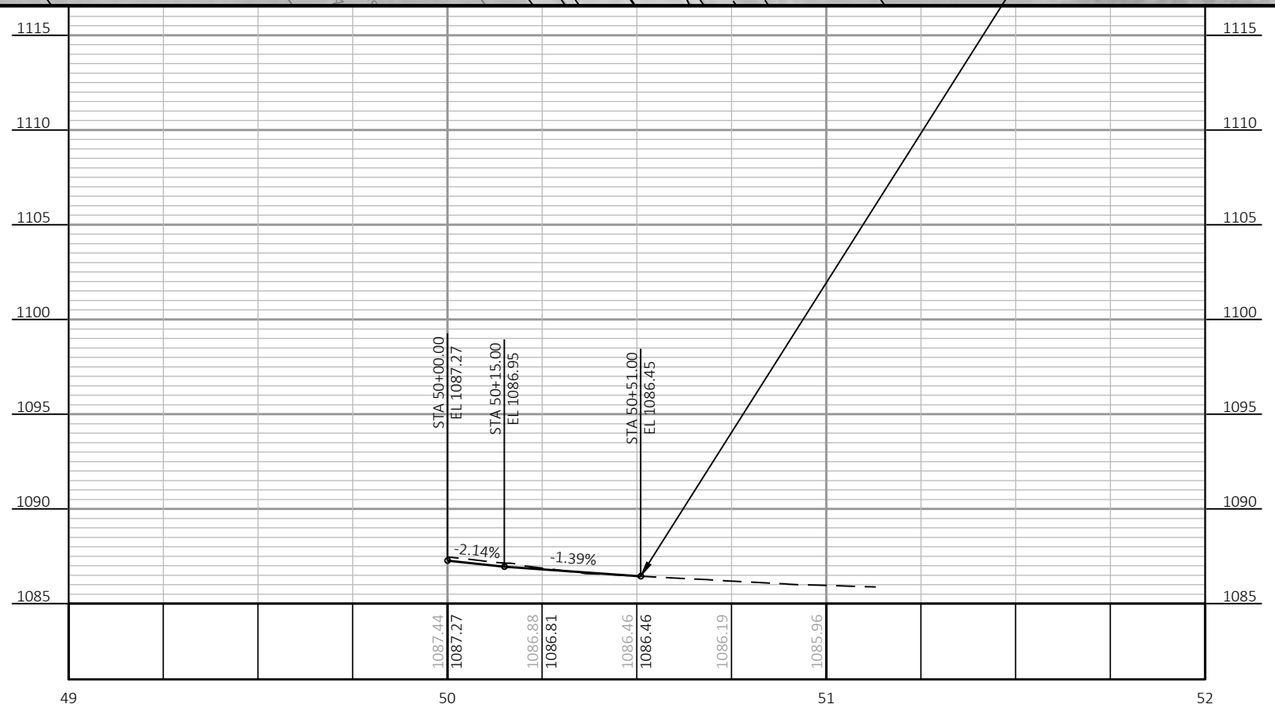



| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: LINCOLN AVE | SHEET 69 | E |
|---|---|---|---|---|---|

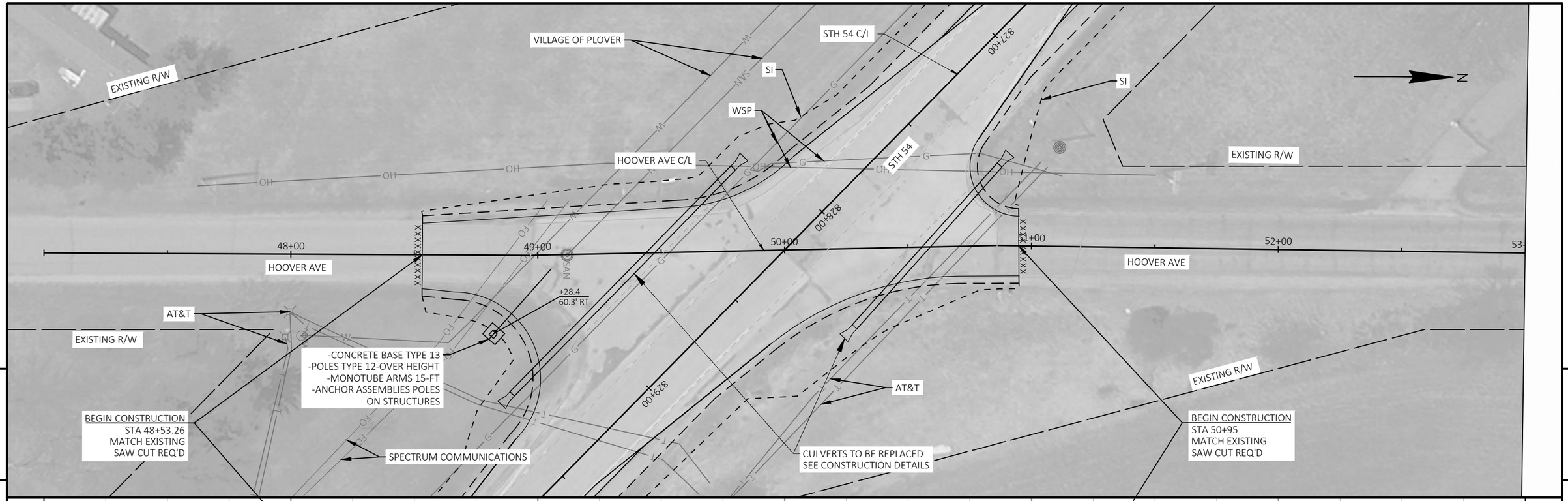
FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050102-PP.DWG
LAYOUT NAME - 03
PLOT DATE : 4/27/2026 10:15 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44



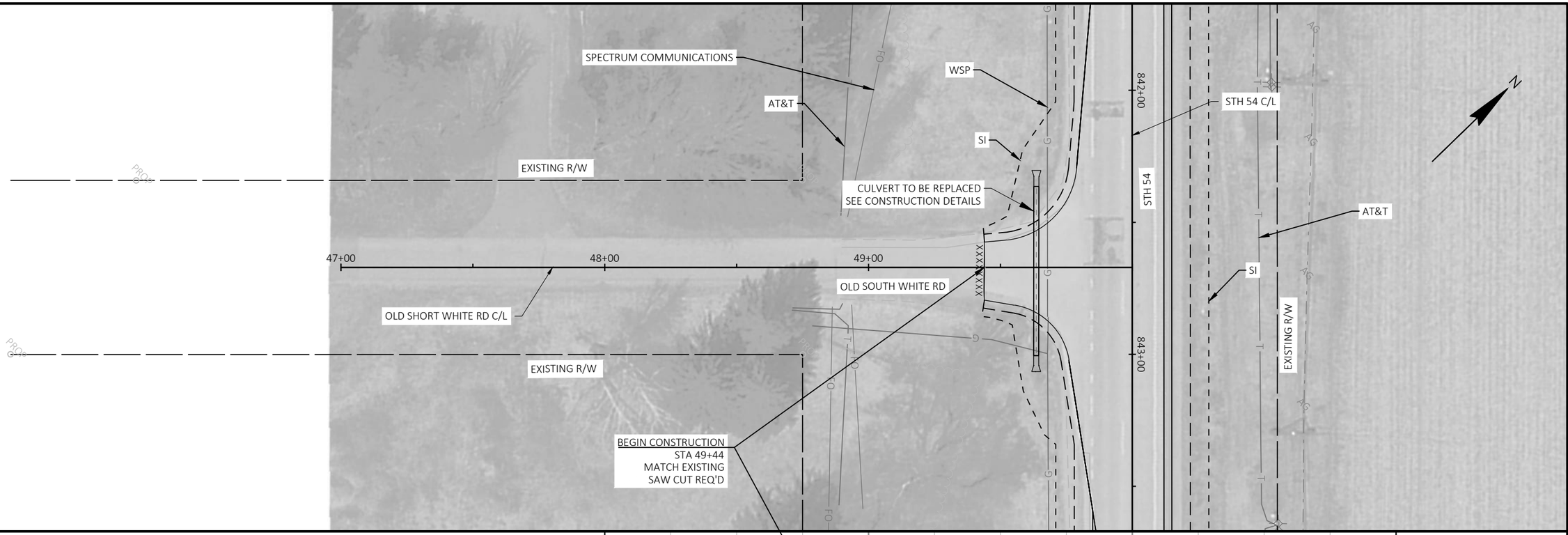

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: PLEASANT DR | SHEET 70 | E |
|---|---|---|---|---|---|

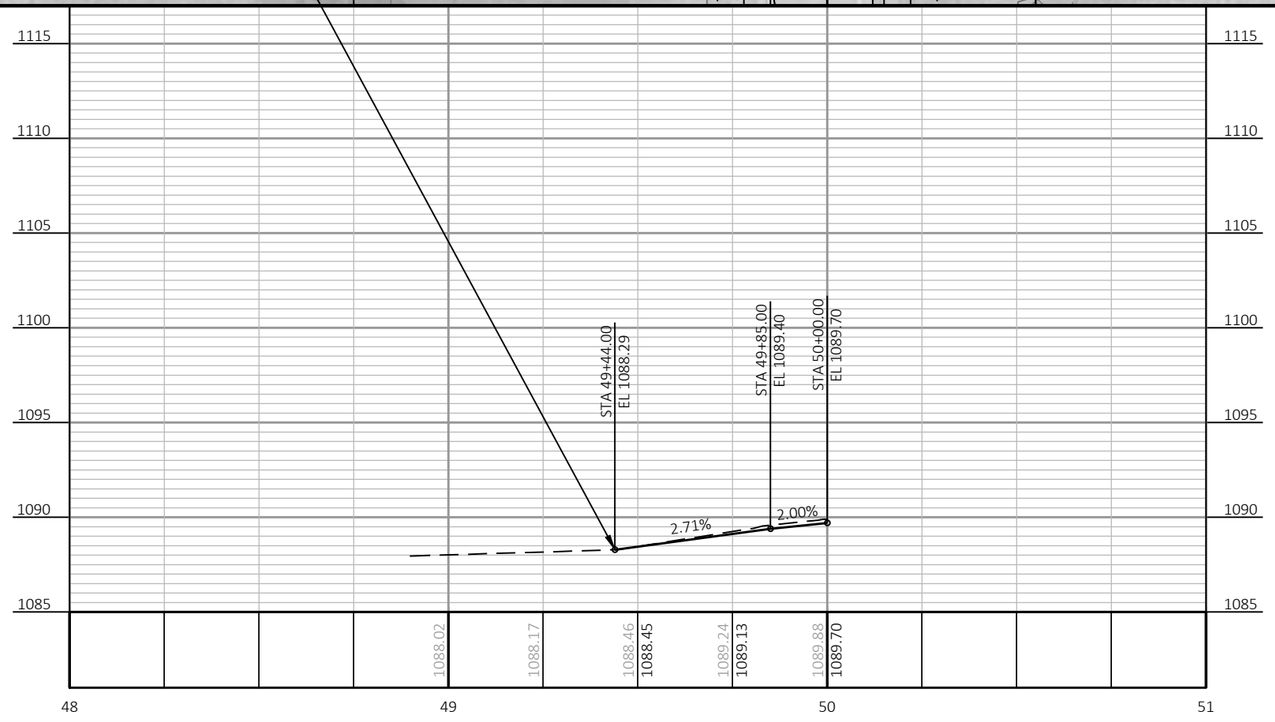

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050102-PP.DWG
LAYOUT NAME - 04
PLOT DATE : 4/27/2026 10:15 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44




| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: HOOVER AVE | SHEET 71 | E |
|---|---|---|---|---|---|


FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050102-PP.DWG
LAYOUT NAME - 05
PLOT DATE : 4/27/2026 10:15 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44



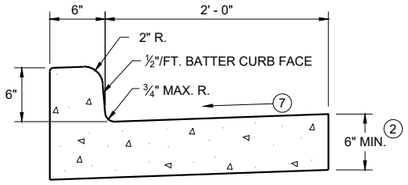

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | PLAN AND PROFILE: OLD SOUTH WHITE RD | SHEET 72 | E |
|---|---|---|---|---|---|


FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\050102-PP.DWG
LAYOUT NAME - 06
PLOT DATE : 4/27/2026 10:15 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

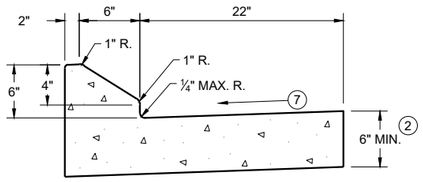
# Standard Detail Drawing List

| | |
|---|---|
| 08D01-24A | CONCRETE CURB & GUTTER |
| 08D01-24B | CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS |
| 08E08-03 | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06 | SILT FENCE |
| 08E15-01 | CULVERT PIPE CHECK |
| 08F01-11 | APRON ENDWALLS FOR CULVERT PIPE |
| 08F02-01 | APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE |
| 08F04-08 | JOINT TIES FOR CONCRETE PIPE  AND CONCRETE COLLAR DETAIL |
| 09A01-14A | AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND  D AND TEE INTERSECTION BYPASS LANE |
| 09A01-14B | AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2" |
| 09A14-01 | DRIVEWAYS WITHOUT CURB AND GUTTER |
| 09B02-10 | CONDUIT |
| 09B04-13 | PULL BOX |
| 09B16-04 | PULL BOX  NON-CONDUCTIVE |
| 09C12-10A | CONCRETE BASE TYPE 13 |
| 09C12-10B | CONCRETE BASE TYPE 13 |
| 09E12-03I | OVER HEIGHT TYPE 12 POLE 35'-55' MONOTUBE ARM |
| 09E12-03K | GENERAL NOTES AND HARDWARE FOR OVER HEIGHT TYPE 9, 10, 9/10 SPECIAL, 12 AND 13 POLES WITH MONOTUBE ARMS |
| 09F15-05B | LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2) |
| 13A10-03A | SHOULDER RUMBLE STRIPS - ASPHALT |
| 13A10-03G | SHOULDER AND EDGE LINE RUMBLE STRIPS - CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS |
| 13A10-03H | SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES |
| 13A11-04D | CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS |
| 13C01-19 | CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES |
| 13C09-18A | CONCRETE PAVEMENT REPAIR AND REPLACEMENT |
| 13C09-18B | CONCRETE PAVEMENT REPAIR AND REPLACEMENT |
| 13C09-18C | CONCRETE PAVEMENT REPAIR AND REPLACEMENT |
| 13C19-03 | HMA LONGITUDINAL JOINTS |
| 14B28-04A | GUARDRAIL MOW STRIP |
| 14B28-04B | GUARDRAIL MOW STRIP |
| 14B42-07A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-07B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-07C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-07D | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B43-04A | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 14B43-04B | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 14B43-04C | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 14B44-04A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END |
| 15C02-10A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-10B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES |
| 15C02-10C | DETOUR SIGNING FOR MAINLINE CLOSURES |
| 15C02-10H | MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING |
| 15C03-05 | BARRICADES AND SIGNS FOR SIDEROAD CLOSURES |
| 15C04-05 | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C08-24A | PERMANENT LONGITUDINAL PAVEMENT MARKINGS |
| 15C11-11B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS |
| 15C12-09A | TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION |
| 15C19-11A | MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY |
| 15C33-05 | STOP LINE AND CROSSWALK PAVEMENT MARKING |
| 15C35-06A | PAVEMENT MARKING (INTERSECTIONS) |
| 15D20-11A | TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY |
| 15D20-11B | TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY |
| 15D51-02 | TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY |

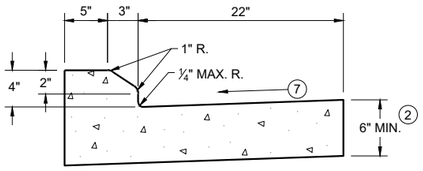
6



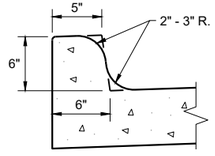

**TYPES A (1) & D**



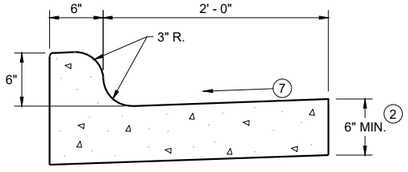

**6" SLOPED CURB TYPES G (1) & J**




**4" SLOPED CURB TYPES G (1) & J**

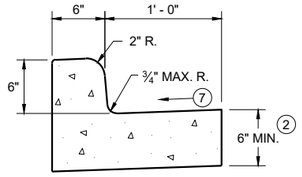



**TYPES K (1) & L**
(OPTIONAL CURB SHAPE)



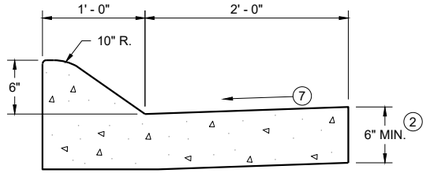

**TYPES K (1) & L**

**CONCRETE CURB AND GUTTER 30"**

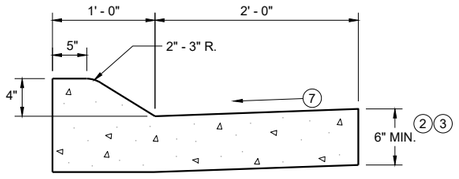



**TYPES A (1) & D**

**CONCRETE CURB AND GUTTER 18"**

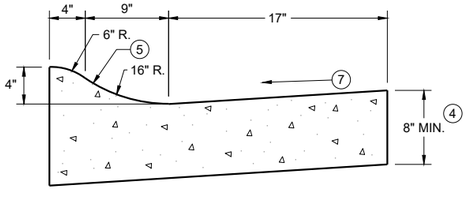



**6" SLOPED CURB TYPES A (1) & D**



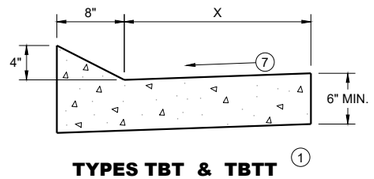

**4" SLOPED CURB TYPES A (1) & D**

**CONCRETE CURB AND GUTTER 36"**




**4" SLOPED CURB TYPES R (1) & T**
**CONCRETE CURB AND GUTTER 30"**

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

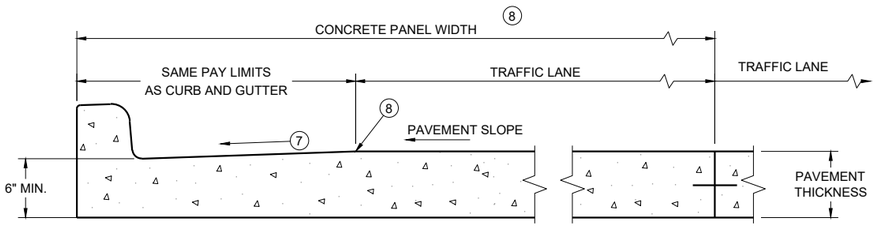



**TYPES TBT & TBTT (1)**

**CONCRETE CURB AND GUTTER**

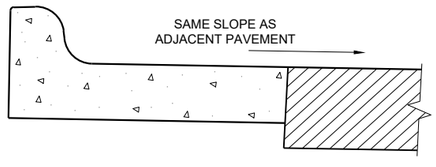
**PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE**

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




**PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER ***

* BIKE LANE IS NOT SHOWN




**REVERSE SLOPE GUTTER (6)**
(TYPICAL FOR ALL CURB & GUTTER TYPES)

## GENERAL NOTES

DETAILS OF CONSTRUCTION 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 AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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 GUTTERS 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.

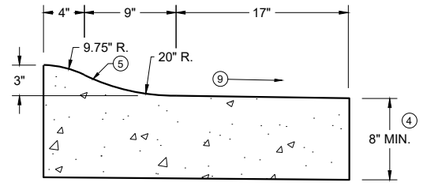
(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

(9) SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY




**3" SLOPED CURB TYPES R (1) & T**

**CONCRETE CURB AND GUTTER**

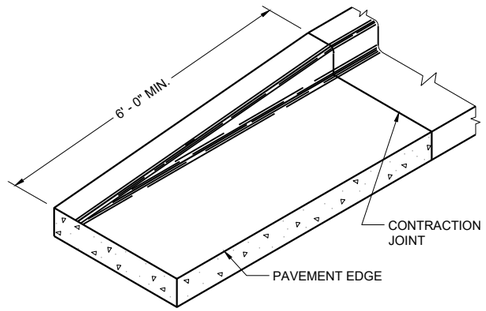
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



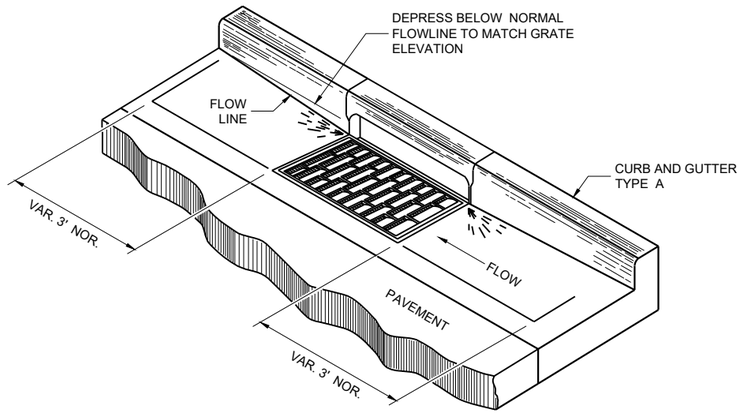


6

SDD 08D01-24a




## END SECTION CURB AND GUTTER




## DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

## GENERAL NOTES

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

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

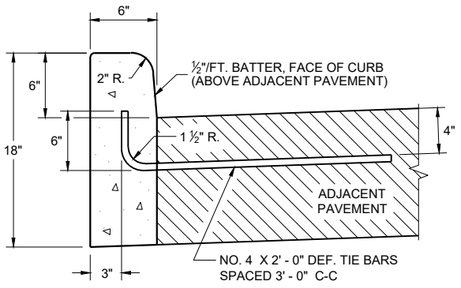
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

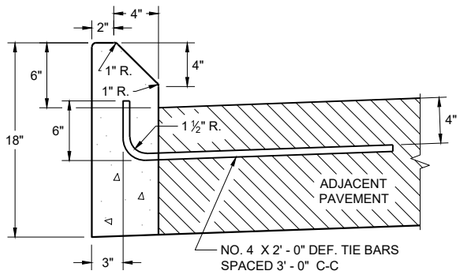
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

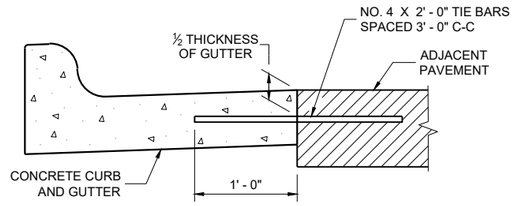



TYPES A (1) & D

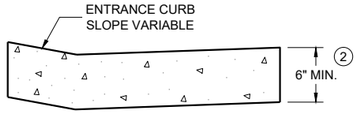



TYPES G (1) & J

## CONCRETE CURB

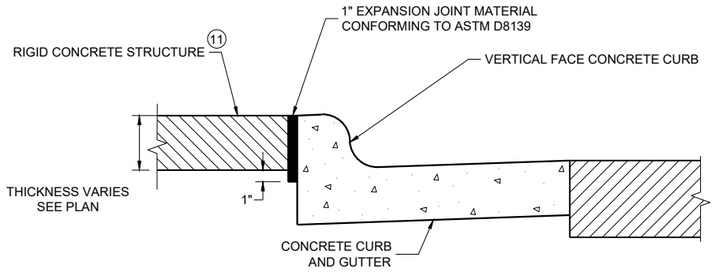



## TYPICAL TIE BAR LOCATION (1)

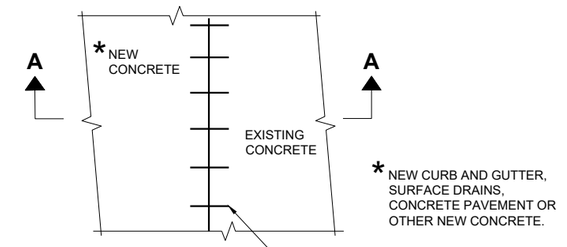



## DRIVEWAY ENTRANCE CURB (10)

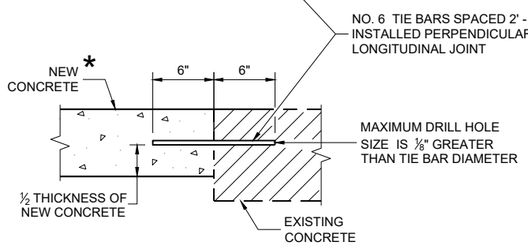
(WHEN DIRECTED BY THE ENGINEER)




## EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)




PLAN VIEW




SECTION A - A

## TIE BARS DRILLED INTO EXISTING PAVEMENT

**CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

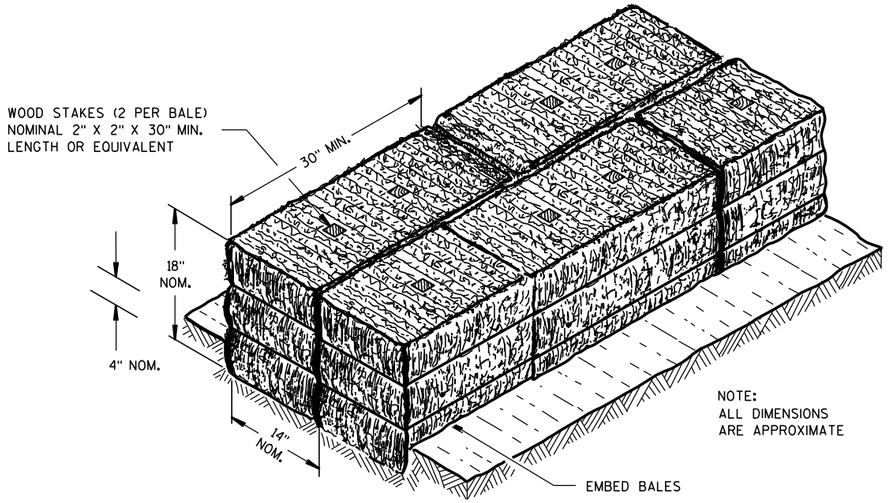


6

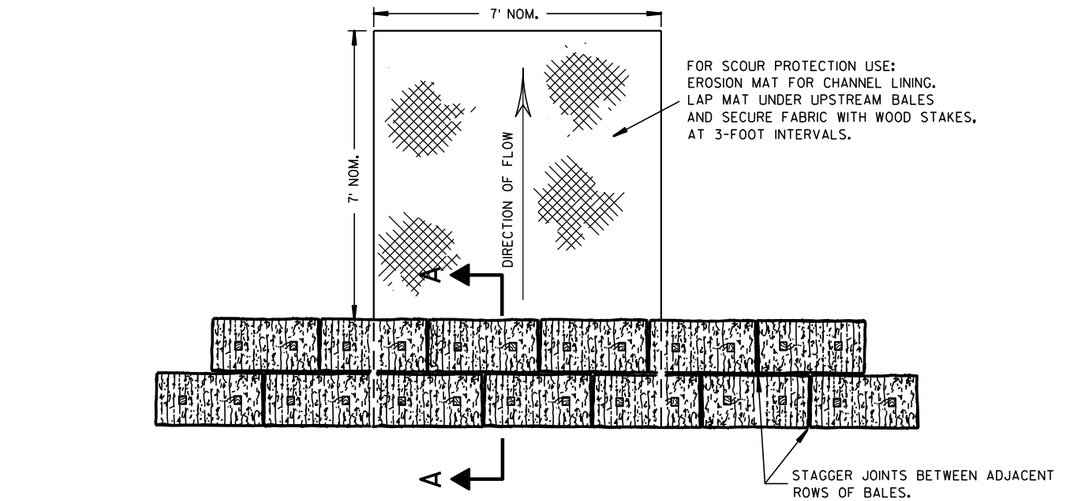
SDD 08D01-24b

6

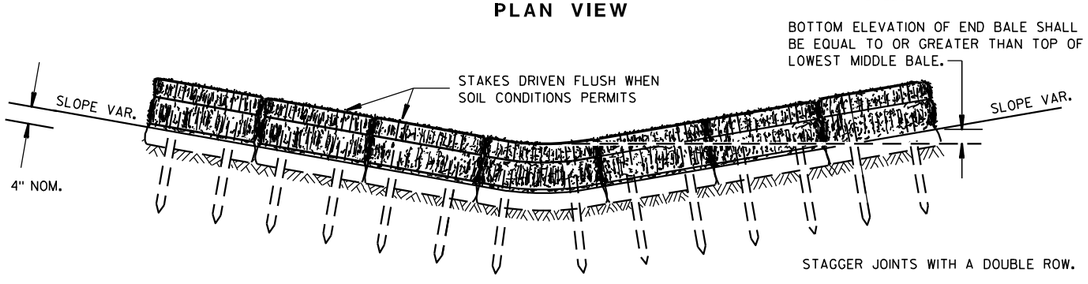
SDD 08D01-24b




**SECTION A-A**




**PLAN VIEW**



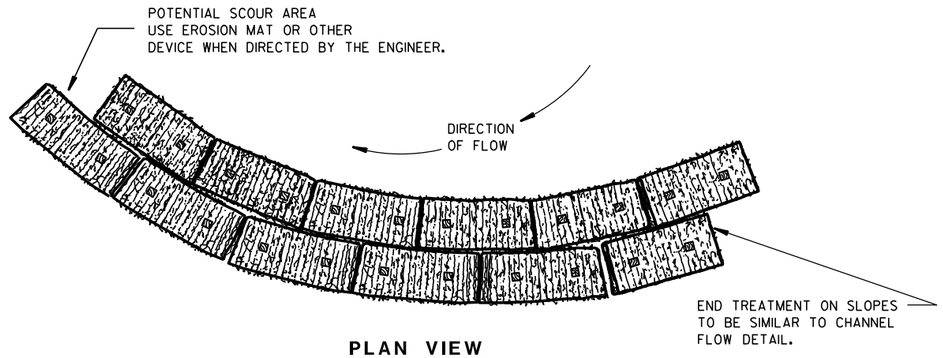

**FRONT ELEVATION**

## TEMPORARY DITCH CHECK USING EROSION BALES (1)

## GENERAL NOTES

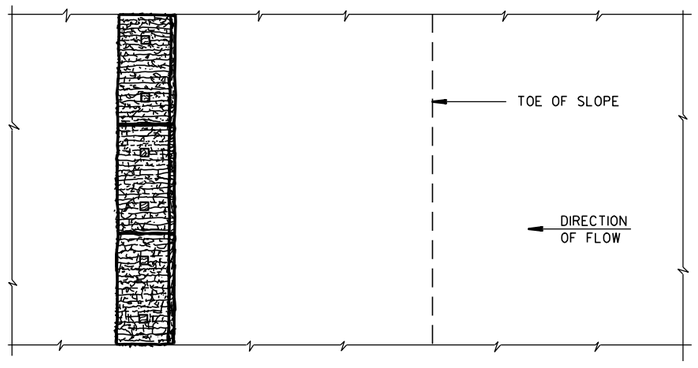
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

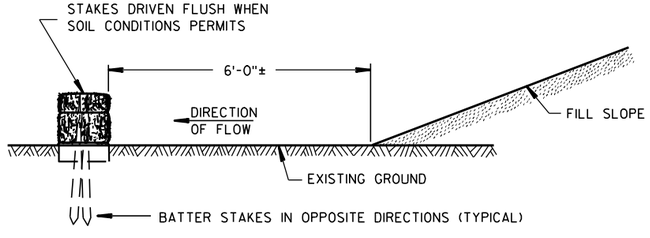



**PLAN VIEW**

WHEN ALTERING THE DIRECTION OF FLOW




**PLAN VIEW**




**FRONT ELEVATION**

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

## EROSION BALES FOR SHEET FLOW

**TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

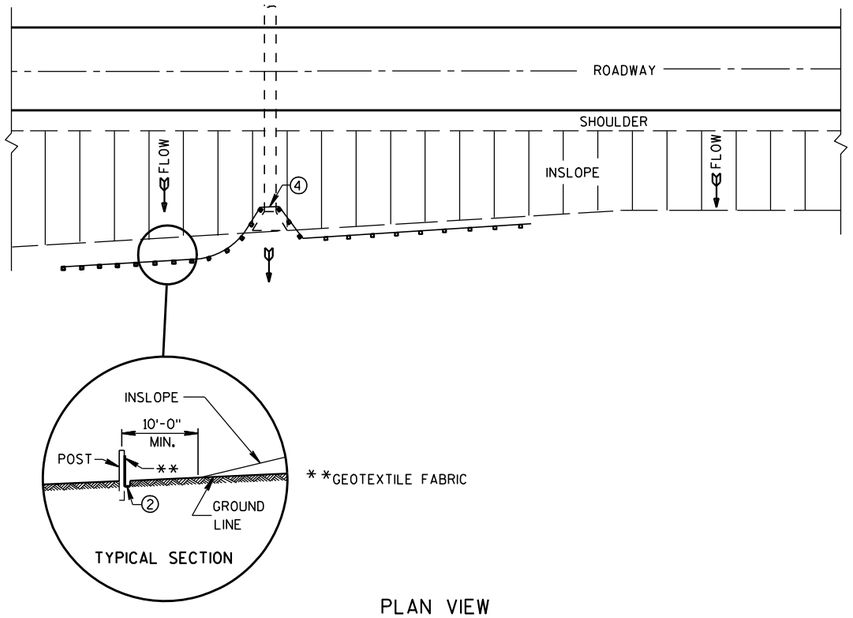
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



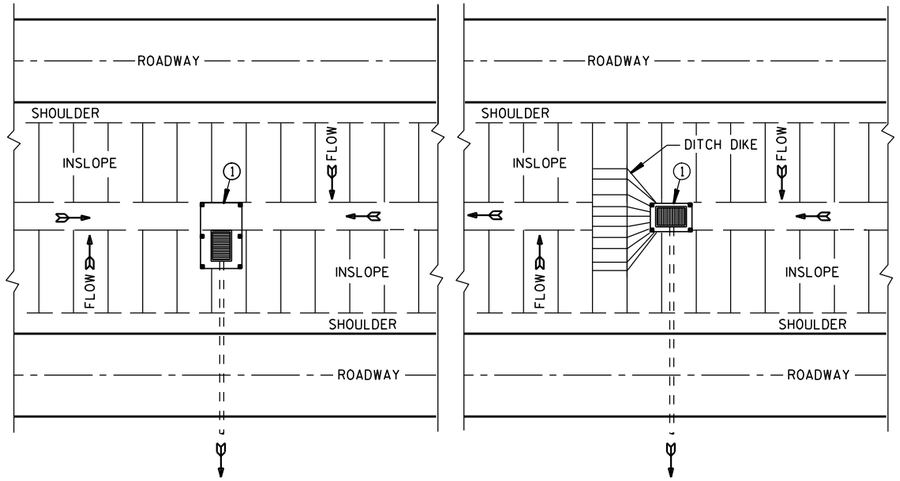
6

S.D.D. 8 E 8-3




PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE



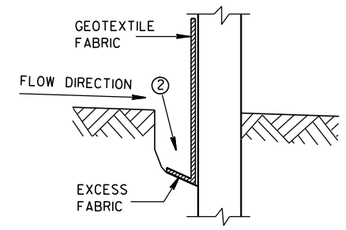

PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

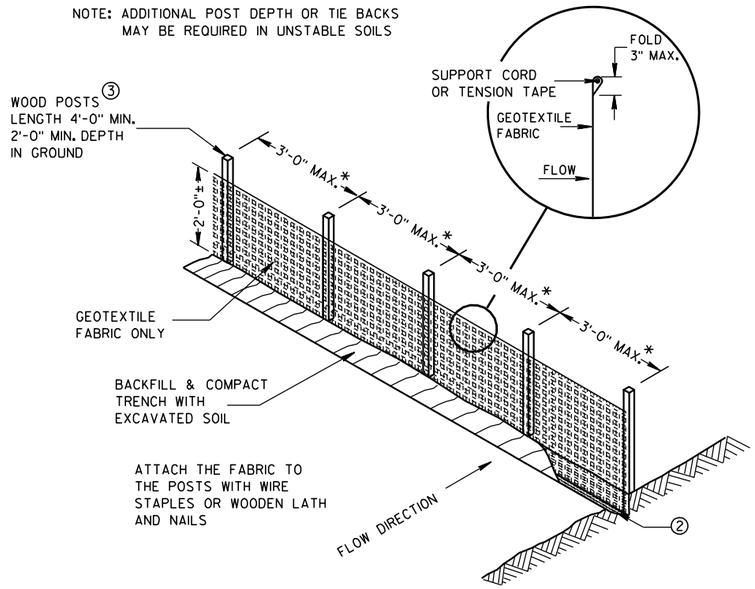
## GENERAL NOTES

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

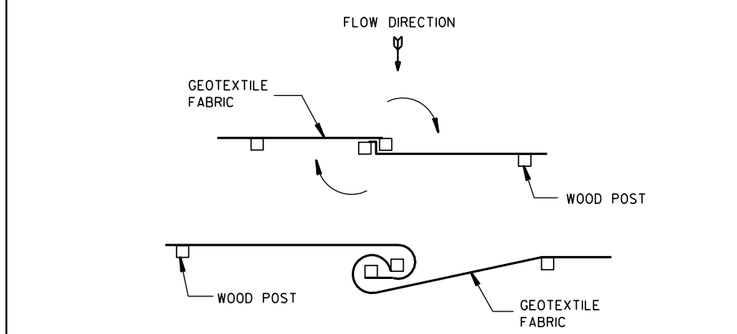
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



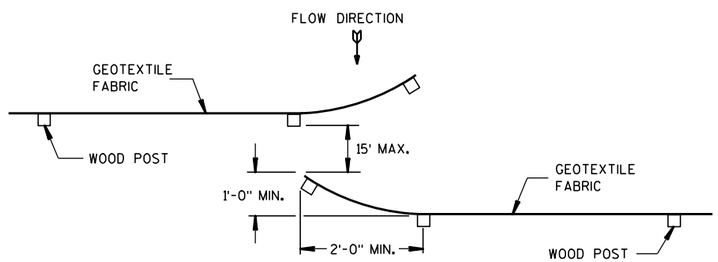

## TRENCH DETAIL




## SILT FENCE

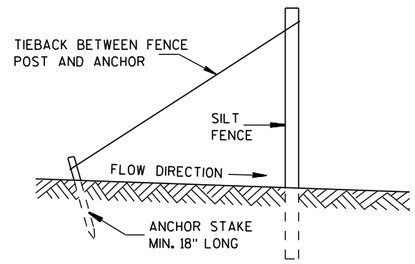



TWIST METHOD




HOOK METHOD

## JOINING TWO LENGTHS OF SILT FENCE 5

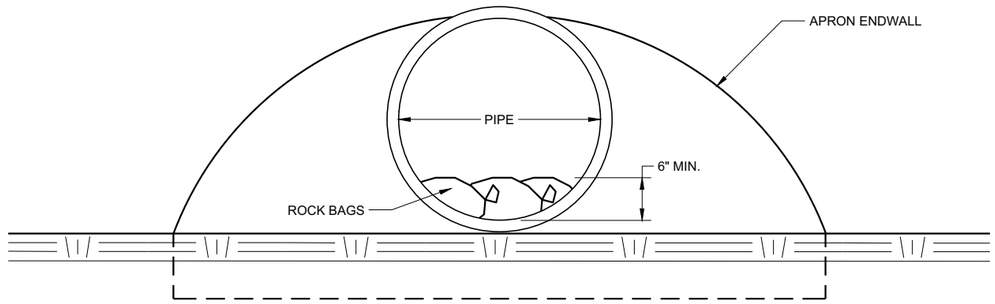



## SILT FENCE TIE BACK

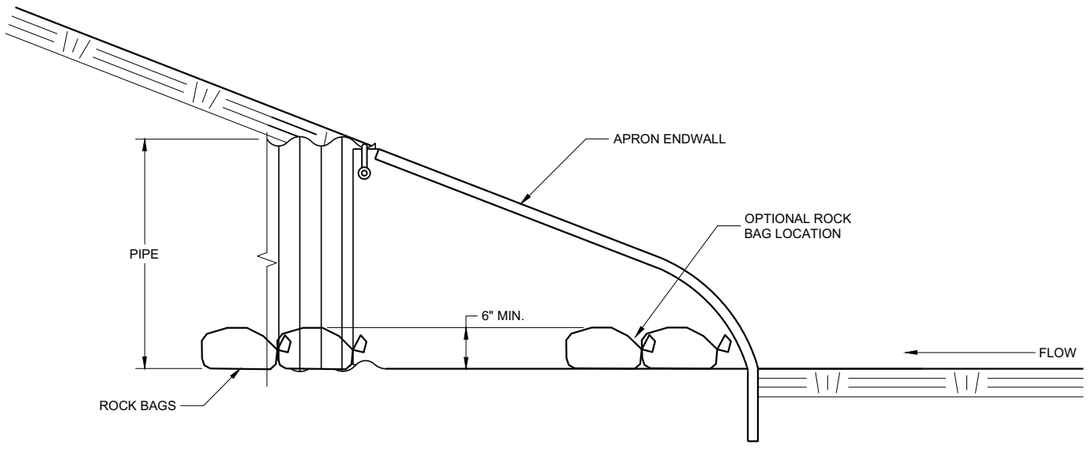
(WHEN REQUIRED BY THE ENGINEER)

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


6
S.D.D. 8 E 9-6




**END VIEW**




**SIDE VIEW**

## CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

| CULVERT PIPE CHECK | |
|---|---|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION | |
| APPROVED<br>May 2019<br>DATE | /S/ Daniel Schave<br>EROSION CONTROL ENGI |
| FHWA | |





6
SDD 08E15 - 01

## METAL APRON ENDWALLS

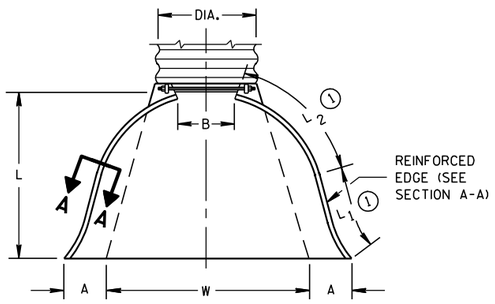
| PIPE DIA. (IN.) | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | .064 | .060 | 6 | 6 | 6 | 21 | 12 | 17 1/2 | 24 | 2 1/2 to 1 | 1 Pc. |
| 15 | .064 | .060 | 7 | 8 | 6 | 26 | 14 | 21 3/4 | 30 | 2 1/2 to 1 | 1 Pc. |
| 18 | .064 | .060 | 8 | 10 | 6 | 31 | 15 | 28 1/4 | 36 | 2 1/2 to 1 | 1 Pc. |
| 21 | .064 | .060 | 9 | 12 | 6 | 36 | 18 | 29 5/8 | 42 | 2 1/2 to 1 | 1 Pc. |
| 24 | .064 | .075 | 10 | 13 | 6 | 41 | 18 | 37 1/4 | 48 | 2 1/2 to 1 | 1 Pc. |
| 30 | .079 | .075 | 12 | 16 | 8 | 51 | 18 | 52 1/4 | 60 | 2 1/2 to 1 | 1 Pc. |
| 36 | .079 | .105 | 14 | 19 | 9 | 60 | 24 | 59 3/4 | 72 | 2 1/2 to 1 | 2 Pc. |
| 42 | .109 | .105 | 16 | 22 | 11 | 69 | 24 | 75 5/8 | 84 | 2 1/2 to 1 | 2 Pc. |
| 48 | .109 | .105 | 18 | 27 | 12 | 78 | 24 | 81 | 90 | 2 1/4 to 1 | 3 Pc. |
| 54 | .109 | .105 | 18 | 30 | 12 | 84 | 30 | 85 1/2 | 102 | 2 1/4 to 1 | 3 Pc. |
| 60 | .109× | .105× | 18 | 33 | 12 | 87 | — | — | 114 | 2 to 1 | 3 Pc. |
| 66 | .109× | .105× | 18 | 36 | 12 | 87 | — | — | 120 | 2 to 1 | 3 Pc. |
| 72 | .109× | .105× | 18 | 39 | 12 | 87 | — | — | 126 | 2 to 1 | 3 Pc. |
| 78 | .109× | .105× | 18 | 42 | 12 | 87 | — | — | 132 | 1 1/2 to 1 | 3 Pc. |
| 84 | .109× | .105× | 18 | 45 | 12 | 87 | — | — | 138 | 1 1/2 to 1 | 3 Pc. |
| 90 | .109× | .105× | 18 | 37 | 12 | 87 | — | — | 144 | 1 1/2 to 1 | 3 Pc. |
| 96 | .109× | .105× | 18 | 35 | 12 | 87 | — | — | 150 | 1 1/2 to 1 | 3 Pc. |

× EXCEPT CENTER PANEL SEE GENERAL NOTES

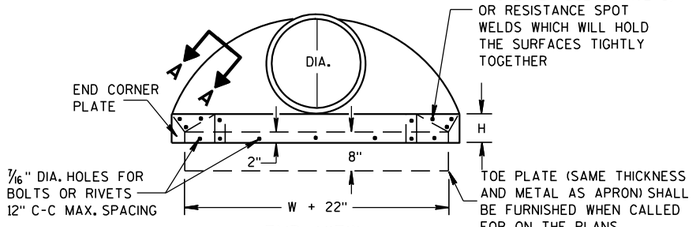
## REINFORCED CONCRETE APRON ENDWALLS

| PIPE DIA. (IN.) | DIMENSIONS (Inches) T | A | B | C | D | E | G | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|
| 12 | 2 | 4 | 24 | 48 7/8 | 72 1/8 | 24 | 2 | 3 to 1 |
| 15 | 2 1/4 | 6 | 27 | 46 | 73 | 30 | 2 1/4 | 3 to 1 |
| 18 | 2 1/2 | 9 | 27 | 46 | 73 | 36 | 2 1/2 | 3 to 1 |
| 21 | 2 3/4 | 9 | 36 | 37 1/2 | 73 1/2 | 42 | 2 3/4 | 3 to 1 |
| 24 | 3 | 9 1/2 | 43 1/2 | 30 | 73 1/2 | 48 | 3 | 3 to 1 |
| 27 | 3 1/4 | 10 1/2 | 49 1/2 | 24 | 73 1/2 | 54 | 3 1/4 | 3 to 1 |
| 30 | 3 1/2 | 12 | 54 | 19 3/4 | 73 1/2 | 60 | 3 1/2 | 3 to 1 |
| 36 | 4 | 15 | 63 | 34 3/4 | 97 3/4 | 72 | 4 | 3 to 1 |
| 42 | 4 1/2 | 21 | 63 | 35 | 98 | 78 | 4 1/2 | 3 to 1 |
| 48 | 5 | 24 | 72 | 26 | 98 | 84 | 5 | 3 to 1 |
| 54 | 5 1/2 | 27 | 65 | * 33 1/4 - ** 35 | * 98 1/4 - ** 100 | 90 | 5 1/2 | 2 2/5 to 1 |
| 60 | 6 | * 30 - ** 35 | 60 | 39 | 99 | 96 | 5 | 2 to 1 |
| 66 | 6 1/2 | * 24 - ** 30 | * 72 - ** 78 | * 21 - ** 27 | 99 | 102 | 5 1/2 | 2 to 1 |
| 72 | 7 | * 24 - ** 36 | 78 | 21 | 99 | 108 | 6 | 2 to 1 |
| 78 | 7 1/2 | * 24 - ** 36 | 78 | 21 | 99 | 114 | 6 1/2 | 2 to 1 |
| 84 | 8 | 36 | 90 1/2 | 21 | 111 1/2 | 120 | 6 1/2 | 1 1/2 to 1 |
| 90 | 8 1/2 | 41 | 87 1/2 | 24 | 111 1/2 | 132 | 6 1/2 | 1 1/2 to 1 |

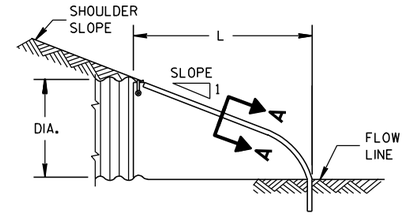
*MINIMUM
**MAXIMUM




PLAN VIEW

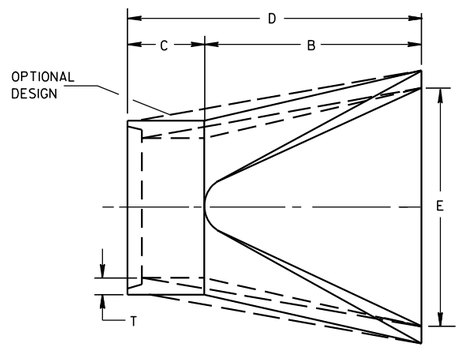



END VIEW

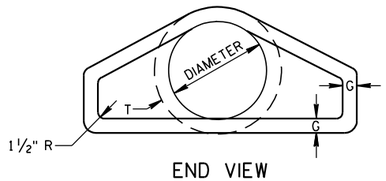



SIDE ELEVATION

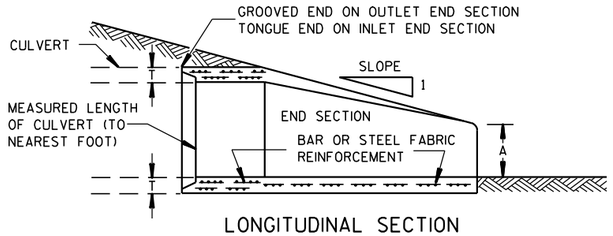
## METAL ENDWALLS




PLAN

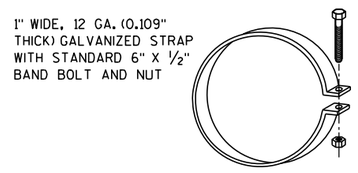



END VIEW



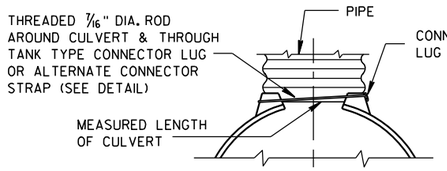

LONGITUDINAL SECTION

## CONCRETE ENDWALLS

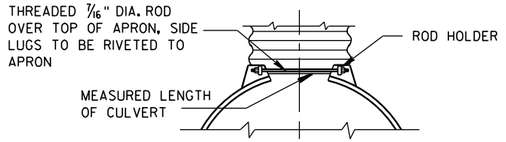



ALTERNATE FOR TYPE 1 CONNECTION

## END SECTION CONNECTOR STRAP



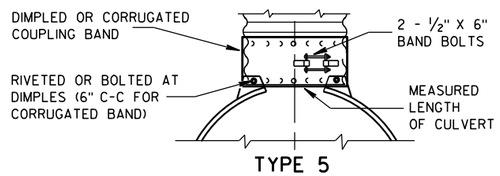

TYPE 1
FOR 12" THRU 24" CORR. PIPE




TYPE 2
FOR 30" THRU 96" CORR. PIPE




TYPE 3
FOR 42" THRU 96" CORR. PIPE




TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

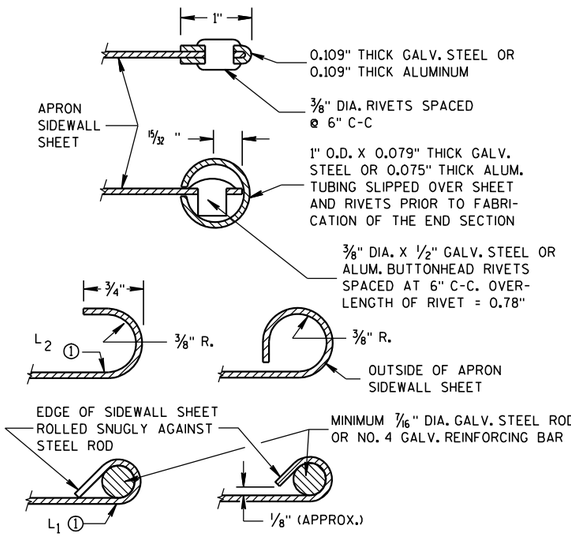
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

## CONNECTION DETAILS




## SECTION A-A

## 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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

# APRON ENDWALLS FOR CULVERT PIPE

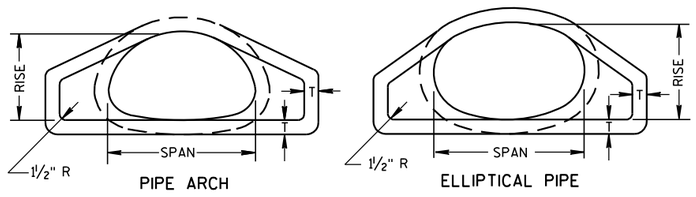
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

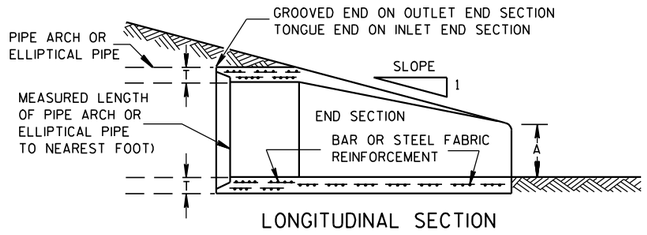



6

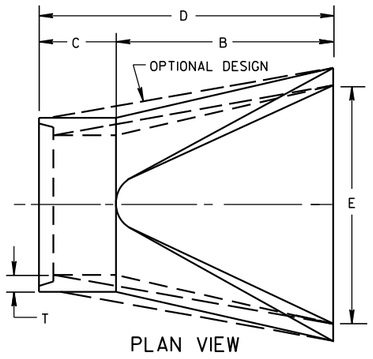
S.D.D. 8 F 1-11




END VIEW

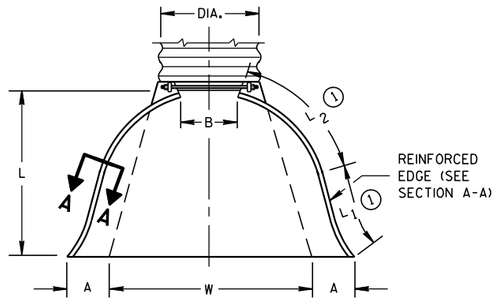



LONGITUDINAL SECTION

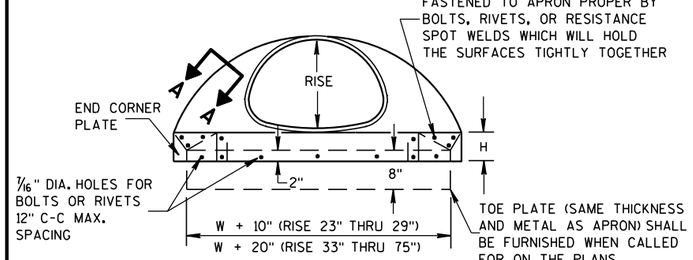



PLAN VIEW

# CONCRETE ENDWALLS

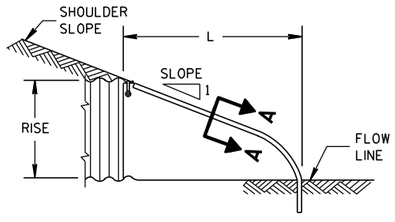



PLAN VIEW



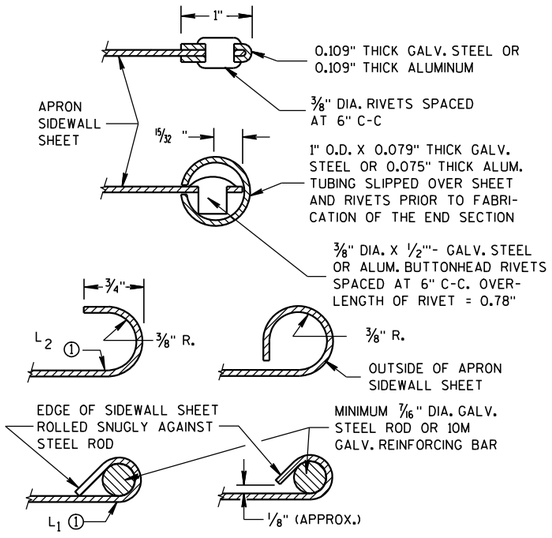

END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

END VIEW




SIDE ELEVATION

# METAL ENDWALLS




SECTION A-A

## 2- 2/3" X 1/2" CORRUGATIONS

| EQUIV. DIA. (Inches) | (Inches) SPAN | (Inches) RISE | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 17 | 13 | .064 | .060 | 7 | 9 | 6 | 19 | 14 | 16 | 30 | 2½ to 1 | 1 Pc. |
| 18 | 21 | 15 | .064 | .060 | 7 | 10 | 6 | 23 | 14 | 19⅜ | 36 | 2½ to 1 | 1 Pc. |
| 21 | 24 | 18 | .064 | .060 | 8 | 12 | 6 | 28 | 18 | 21¾ | 42 | 2½ to 1 | 1 Pc. |
| 24 | 28 | 20 | .064 | .060 | 9 | 14 | 6 | 32 | 18 | 27½ | 48 | 2½ to 1 | 1 Pc. |
| 30 | 35 | 24 | .079 | .075 | 10 | 16 | 6 | 39 | 18 | 37⅝ | 60 | 2½ to 1 | 1 Pc. |
| 36 | 42 | 29 | .079 | .075 | 12 | 18 | 8 | 46 | 24 | 45⅜ | 75 | 2½ to 1 | 1 Pc. |
| 42 | 49 | 33 | .109 | .105 | 13 | 21 | 9 | 53 | 24 | 54¾ | 85 | 2½ to 1 | 2 Pc. |
| 48 | 57 | 38 | .109 | .105 | 18 | 26 | 12 | 63 | 24 | 68 | 90 | 2½ to 1 | 3 Pc. |
| 54 | 64 | 43 | .109 | .105 | 18 | 30 | 12 | 70 | 24 | 72¾ | 102 | 2¼ to 1 | 3 Pc. |
| 60 | 71 | 47 | .109* | .105* | 18 | 33 | 12 | 77 | 30 | 82¼ | 114 | 2¼ to 1 | 3 Pc. |
| 66 | 77 | 52 | .109* | .105* | 18 | 36 | 12 | 77 | — | — | 126 | 2 to 1 | 3 Pc. |
| 72 | 83 | 57 | .109* | .105* | 18 | 39 | 12 | 77 | — | — | 138 | 2 to 1 | 3 Pc. |

## 3" X 1" CORRUGATIONS

| EQUIV. DIA. (Inches) | (Inches) SPAN | (Inches) RISE | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 48 | 53 | 41 | .109 | .105 | 18 | 26 | 12 | 63 | 24 | 72¾ | 90 | 2½ to 1 | 2 Pc. |
| 54 | 60 | 46 | .109 | .105 | 18 | 30 | 12 | 70 | 30 | 82¼ | 102 | 2 to 1 | 2 Pc. |
| 60 | 66 | 51 | .109* | .105* | 18 | 33 | 12 | 77 | — | — | 114 | 1½ to 1 | 3 Pc. |
| 66 | 73 | 55 | .109* | .105* | 18 | 36 | 12 | 77 | — | — | 126 | 1½ to 1 | 3 Pc. |
| 72 | 81 | 59 | .109* | .105* | 18 | 39 | 12 | 77 | — | — | 138 | 2 to 1 | 3 Pc. |
| 78 | 87 | 63 | .109* | .105* | 22 | 38 | 12 | 77 | — | — | 148 | 1½ to 1 | 3 Pc. |
| 84 | 95 | 67 | .109* | .105* | 22 | 34 | 12 | 77 | — | — | 162 | 1½ to 1 | 3 Pc. |
| 90 | 103 | 71 | .109* | .105* | 22 | 38 | 12 | 77 | — | — | 174 | 1½ to 1 | 3 Pc. |
| 96 | 112 | 75 | .109* | .105* | 24 | 40 | 12 | 77 | — | — | 174 | 1½ to 1 | 3 Pc. |

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

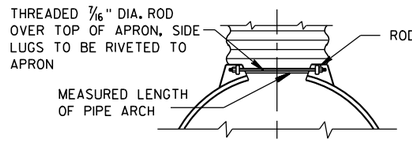
## REINFORCED CONCRETE PIPE ARCH

| EQUIV. DIA. (Inches) | DIMENSIONS (Inches) ** SPAN | ** RISE | T | A | B | C | D | E | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|---|
| 24 | 29 | 18 | 3 | 8½ | 39 | 33 | 72 | 48 | 3 to 1 |
| 30 | 36 | 22 | 3½ | 9½ | 50 | 46 | 96 | 60 | 3 to 1 |
| 36 | 44 | 27 | 4 | 11⅛ | 60 | 36 | 96 | 72 | 3 to 1 |
| 42 | 51 | 31 | 4½ | 15 13/16 | 60 | 36 | 96 | 78 | 3 to 1 |
| 48 | 58 | 36 | 5 | 21 | 60 | 36 | 96 | 84 | 3 to 1 |
| 54 | 65 | 40 | 5½ | 25½ | 60 | 36 | 96 | 90 | 3 to 1 |
| 60 | 73 | 45 | 6 | 31 | 60 | 36 | 96 | 96 | 3 to 1 |
| 72 | 88 | 54 | 7 | 31 | 60 | 39 | 99 | 120 | 2 to 1 |
| 84 | 102 | 62 | 8 | 28½ | 83 | 19 | 102 | 144 | 2 to 1 |

## REINFORCED CONCRETE ELLIPTICAL PIPE

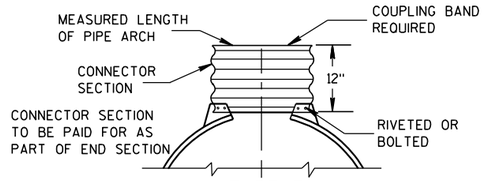
| EQUIV. DIA. (Inches) | DIMENSIONS (Inches) ** SPAN | ** RISE | T | A | B | C | D | E | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|---|
| 24 | 30 | 19 | 3¼ | 8½ | 39 | 33 | 72 | 48 | 3 to 1 |
| 30 | 38 | 24 | 3¾ | 9½ | 54 | 18 | 72 | 60 | 3 to 1 |
| 36 | 45 | 29 | 4½ | 11⅛ | 60 | 24 | 84 | 72 | 2½ to 1 |
| 42 | 53 | 34 | 5 | 15¾ | 60 | 36 | 96 | 78 | 2½ to 1 |
| 48 | 60 | 38 | 5½ | 21 | 60 | 36 | 96 | 84 | 2½ to 1 |
| 54 | 68 | 43 | 6 | 25½ | 60 | 36 | 96 | 90 | 2½ to 1 |
| 60 | 76 | 48 | 6½ | 30 | 60 | 36 | 96 | 96 | 2½ to 1 |

**NOMINAL SIZE



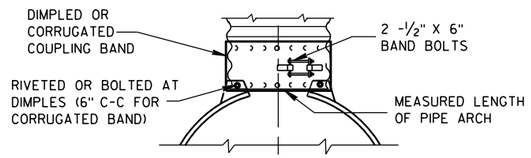

TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH




TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH




TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

# CONNECTION DETAILS

# 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.

CONCRETE APRON ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM APRON ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

**APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE**

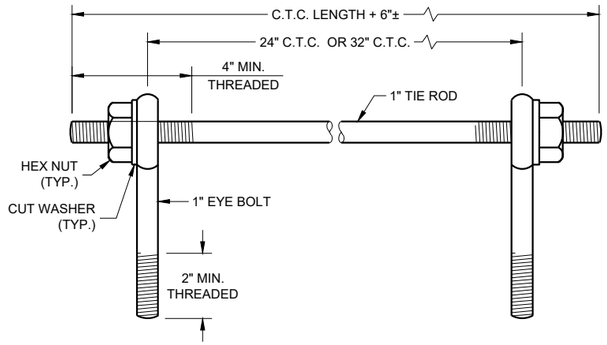
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

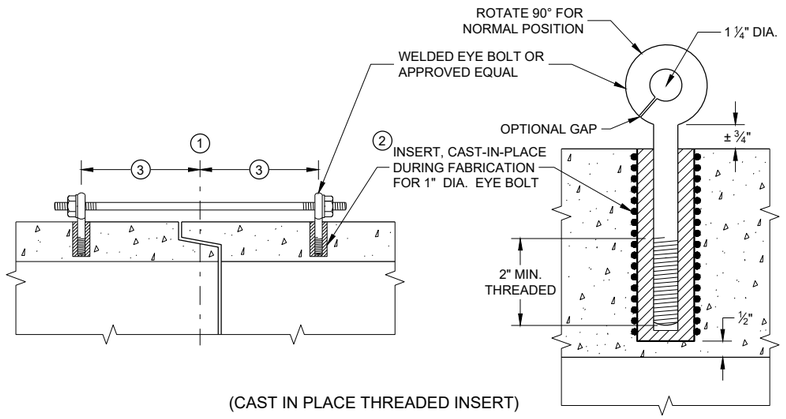
11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA




**EYE BOLTS AND TIE ROD**




(CAST IN PLACE THREADED INSERT)

**LONGITUDINAL SECTIONS**

## EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

## GENERAL NOTES

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

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

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

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

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

(2) THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

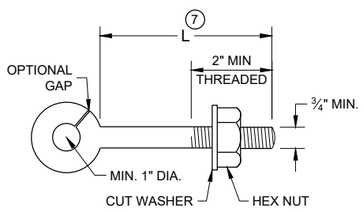
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

(4) BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

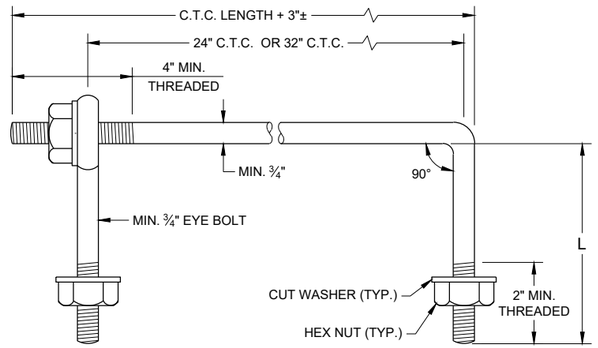
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

(7) EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

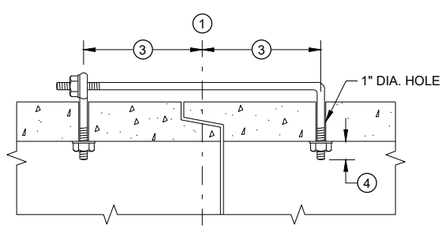



**EYE BOLT** (7)

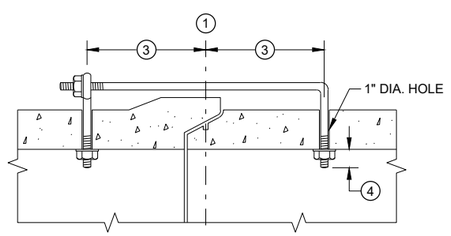
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.




**EYE BOLT AND TIE ROD**




(TONGUE AND GROOVE PIPE)




(MODIFIED BELL PIPE)

**LONGITUDINAL SECTION**

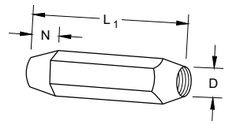
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

## EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

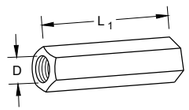
ADJUSTABLE TIE ROD TABLE

| PIPE DIAMETER | TIE ROD DIAMETER | D | $L_1$ | N |
|---|---|---|---|---|
| 12 - 60 | ⅝ | ⅝ | 5 | ½ |
| 66 - 84 | ¾ | ¾ | 5 | ½ |
| 90 - 144 | 1 | 1 | 7 | 1 7/16 |

DIMENSIONS SHOWN ARE IN INCHES



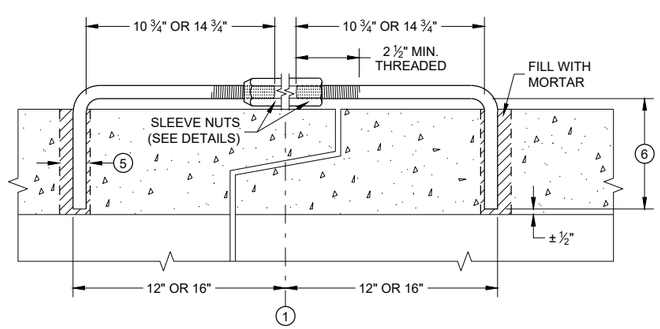

TAPERED




PLAIN

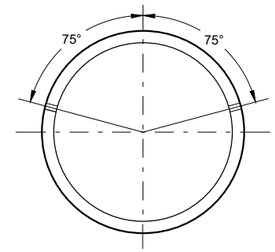
RIGHT AND LEFT THREADS

**SLEEVE NUTS**



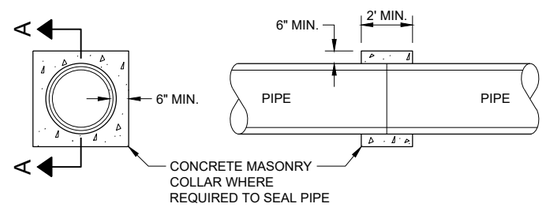

**LONGITUDINAL SECTION**

## ADJUSTABLE TIE ROD (ALTERNATE NO. 3)




PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

**TRANSVERSE SECTION**




**SECTION A - A**

## CONCRETE COLLAR DETAIL

**JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL**

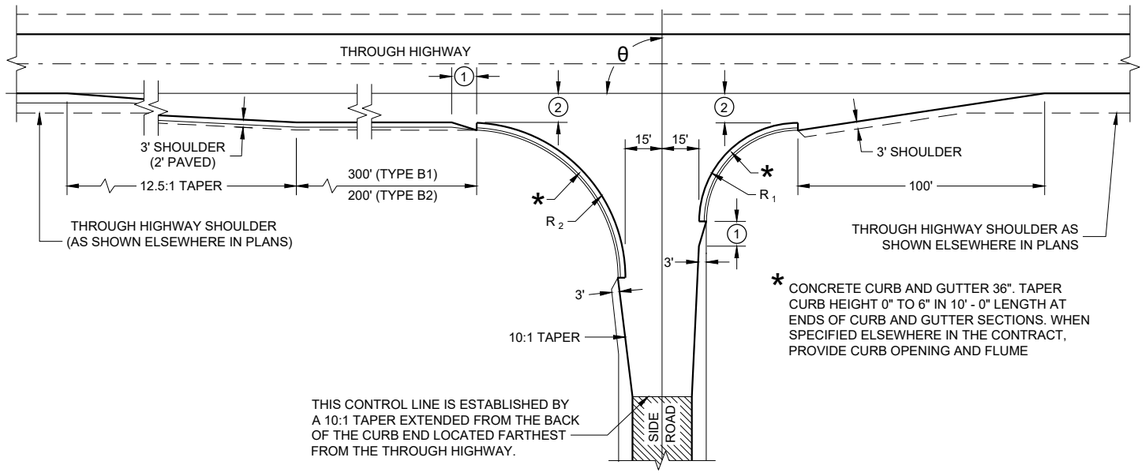
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA



SDD 08F04 - 08

SDD 08F04 - 08




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

## TYPE "B1" AND "B2"

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

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

## GENERAL NOTES

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

SIDE ROAD SURFACING NOTE

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

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

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

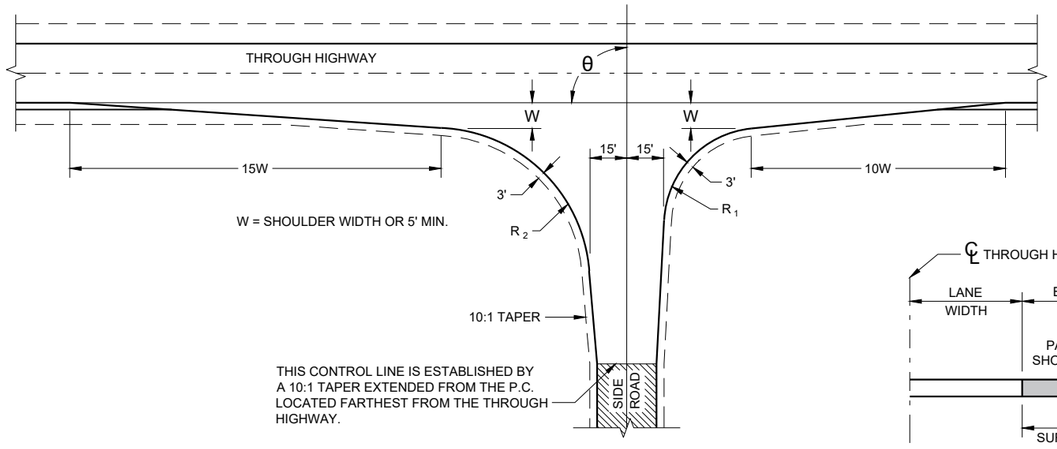
(1) 10-FT TYPICAL.

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

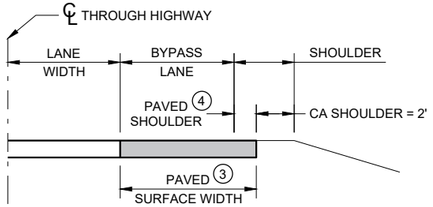
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

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

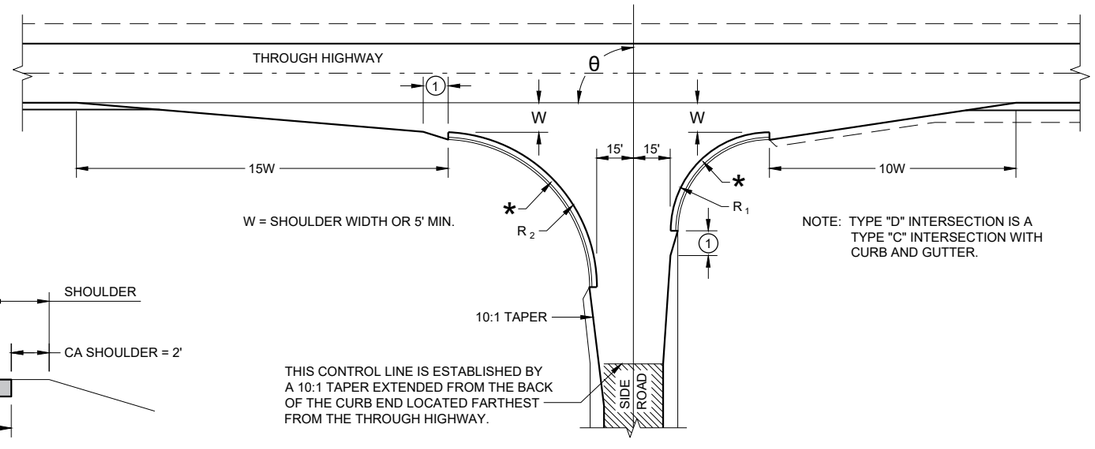
(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.




## TYPE "C"

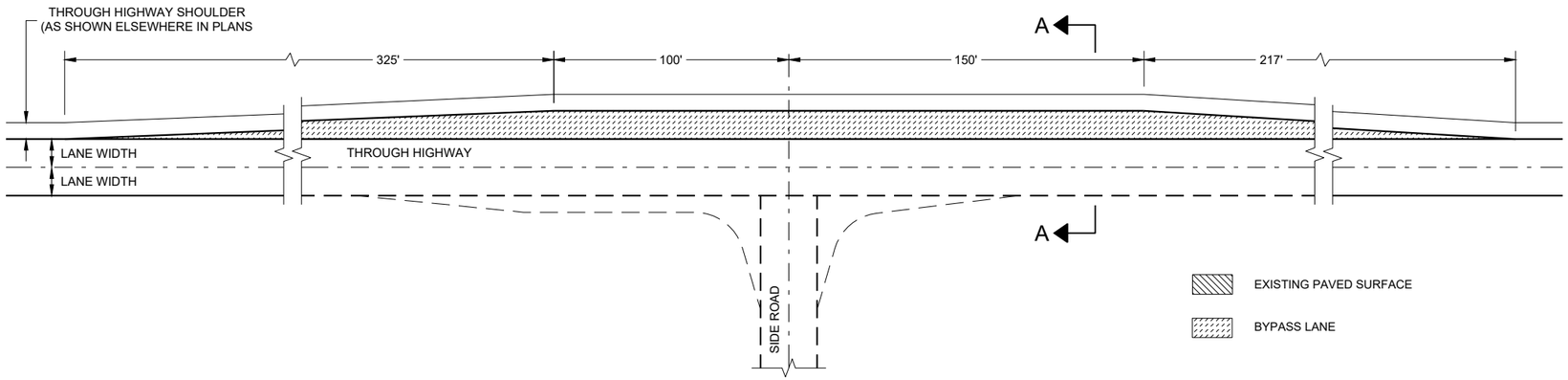



## SECTION A - A
(SHOWING BYPASS LANE AND SHOULDER)




NOTE: TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB AND GUTTER.

## TYPE "D"




## TEE INTERSECTION BYPASS LANE DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

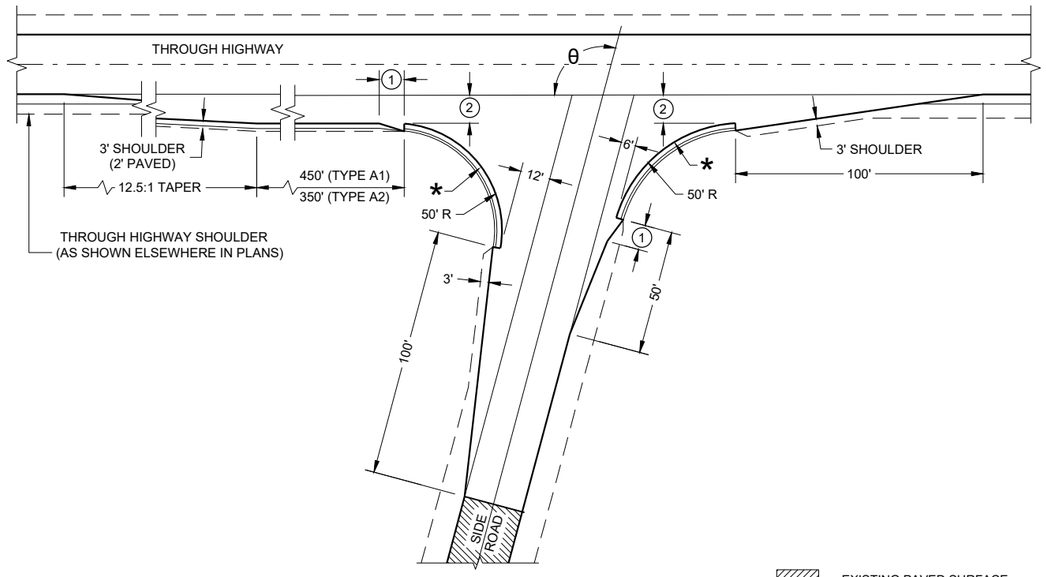


6

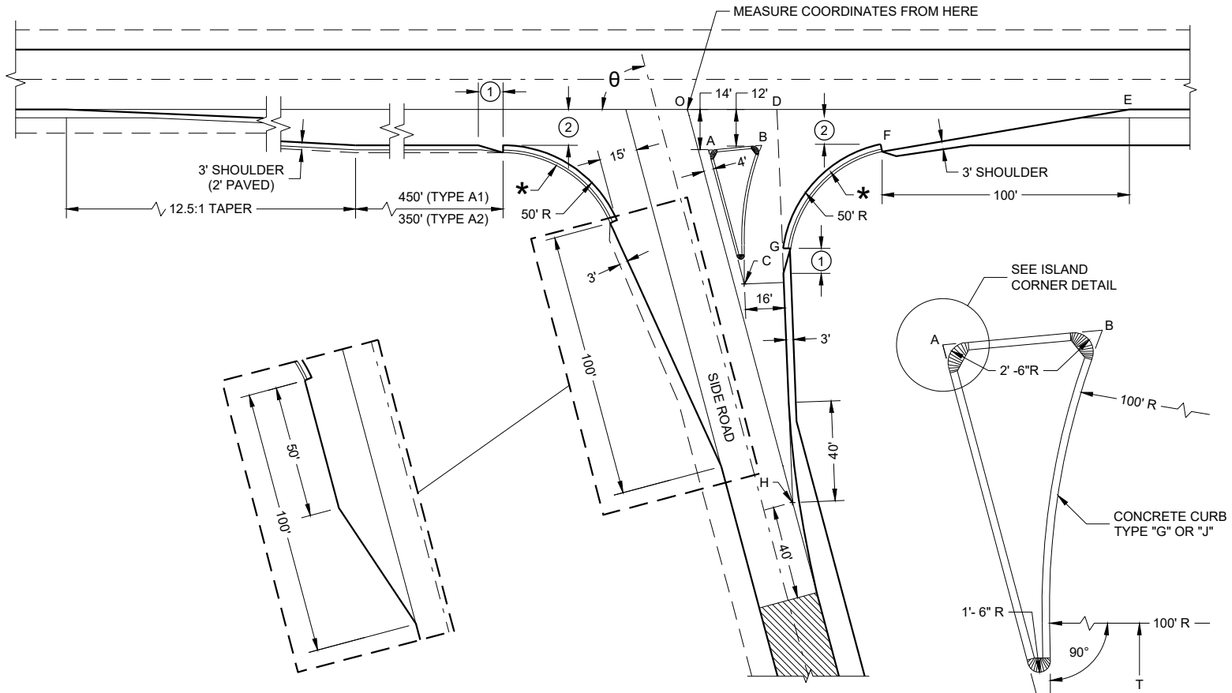
SDD 09A01 - 14a

6

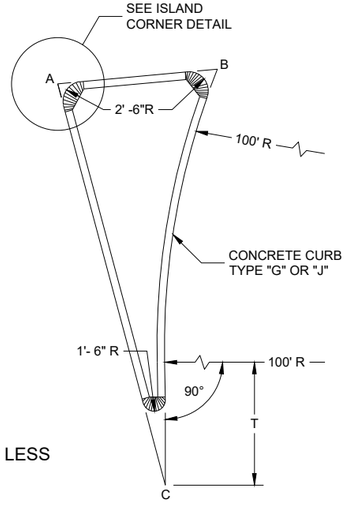
SDD 09A01 - 14a



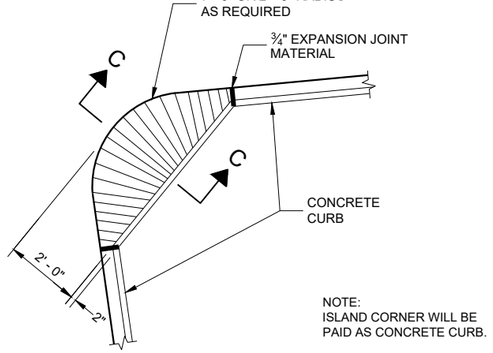

θ = MORE THAN 80°



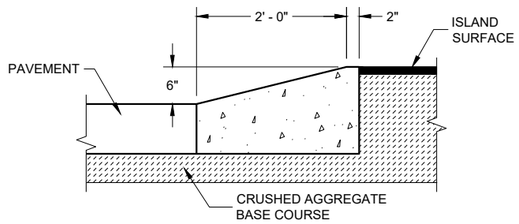

SIDE ROAD WIDENING AND TAPER REQUIRED WHERE
THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
θ = ACUTE ANGLES 70° OR LESS




θ = ACUTE ANGLES 80° OR LESS




**PLAN VIEW**




**SECTION C - C**

## ISLAND CORNER DETAIL

(TO BE CONSTUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES

(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

| ANGLE θ DEGREES | COORDINATES IN FEET (MEASURED FROM POINT 'O') X / Y | | | | | | | | LENGTH IN FEET | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | AB | AC | T | OJ | OH |
| 60 | 12.7 / -14.0 | 44.9 / -12.0 | 46.4 / -72.4 | 41.9 / 0.0 | 205.0 / 0.0 | 104.6 / -12.0 | 64.0 / -75.5 | 85.0 / -147.1 | 32.3 | 67.4 | 4.9 | 85.9 | 169.9 |
| 65 | 10.9 / -14.0 | 39.0 / -12.0 | 37.8 / -71.6 | 39.4 / 0.0 | 196.1 / 0.0 | 95.7 / -12.0 | 54.1 / -71.5 | 70.5 / -151.3 | 28.2 | 63.6 | 8.5 | 80.9 | 166.9 |
| 70 | 9.4 / -14.0 | 33.9 / -12.0 | 29.8 / -70.1 | 37.4 / 0.0 | 188.3 / 0.0 | 87.8 / -12.0 | 45.6 / -67.5 | 56.1 / -154.2 | 24.6 | 59.7 | 11.5 | 76.1 | 164.1 |
| 75 | 7.9 / -14.0 | 29.3 / -12.0 | 22.3 / -67.9 | 35.7 / 0.0 | 181.2 / 0.0 | 80.7 / -12.0 | 38.2 / -63.4 | 41.8 / -155.9 | 21.5 | 55.8 | 13.8 | 71.4 | 161.4 |
| 80 | 6.5 / -14.0 | 25.4 / -12.0 | 15.6 / -65.2 | 34.4 / 0.0 | 174.8 / 0.0 | 74.4 / -12.0 | 31.8 / -59.3 | 27.6 / -156.5 | 18.9 | 52.0 | 15.6 | 66.9 | 158.9 |

## TYPE 'A1" AND "A2" SIDE ROAD INTERSECTION DETAILS

**AT GRADE SIDE ROAD INTERSECTIONS**
**TYPES "A1" AND "A2"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

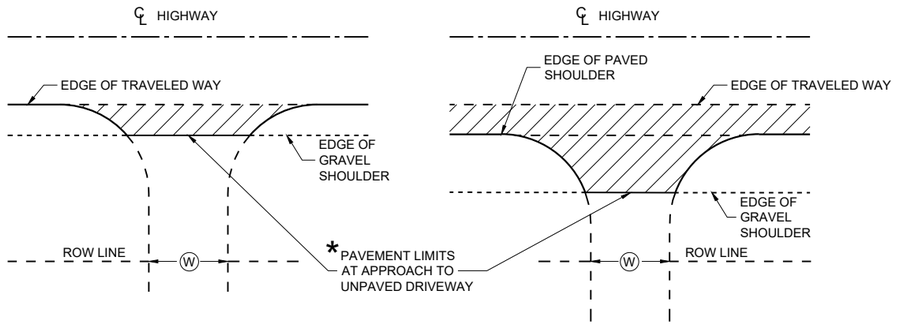
APPROVED
November 2022 — DATE
/S/ John Jenkins — ROADWAY STANDARDS DEVE ENGINEER
FHWA



SDD 09A01 - 14b

6

SDD 09A01 - 14b

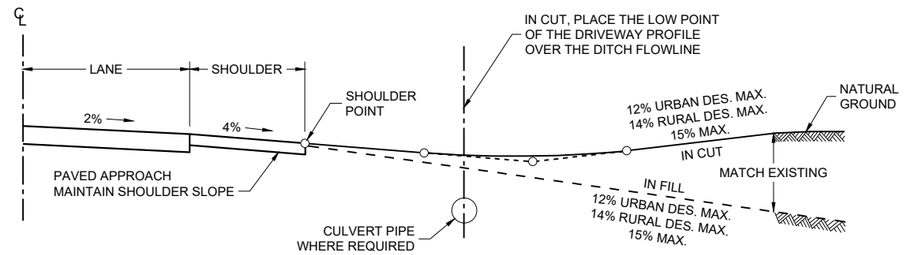



* WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

**PLAN VIEW**
(UNPAVED SHOULDER ON HIGHWAY)

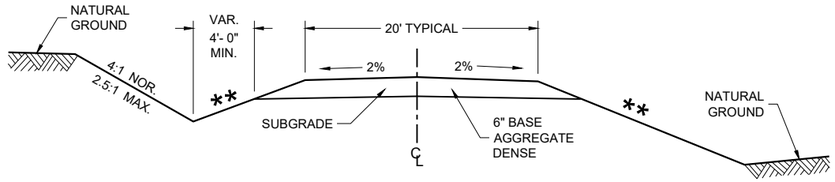
**PLAN VIEW**
(PAVED SHOULDER ON HIGHWAY)

## RURAL DRIVEWAY INTERSECTION DETAIL (NO CURB AND GUTTER OR SIDEWALK)




## TYPICAL DRIVEWAY PROFILES

Ⓦ : DRIVEWAY WIDTHS (MEASURED AT ROW LINE)
~ COMMERCIAL & INDUSTRIAL 16' MIN. - 35' MAX.
~ RESIDENTIAL & AGRICULTURAL (NONCOMMERCIAL) 16' MIN. - 24' MAX.

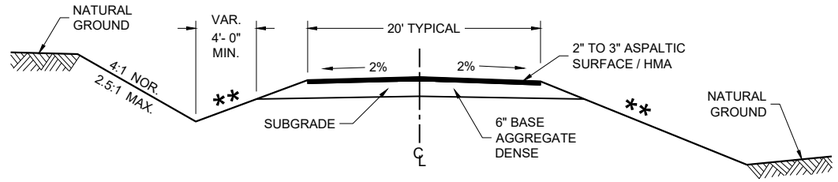



IN CUT IN FILL

## TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

| POSTED SPEED MPH | MAX. SLOPE |
|---|---|
| <35 | 4:1 |
| ≥ 35 TO < 60 | 6:1 |
| ≥60 | 10:1 |




IN CUT IN FILL

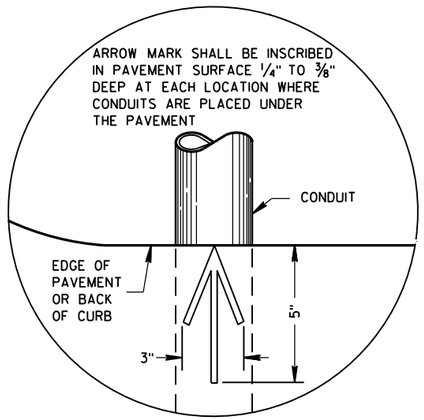
## TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE

## DRIVEWAYS WITHOUT CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

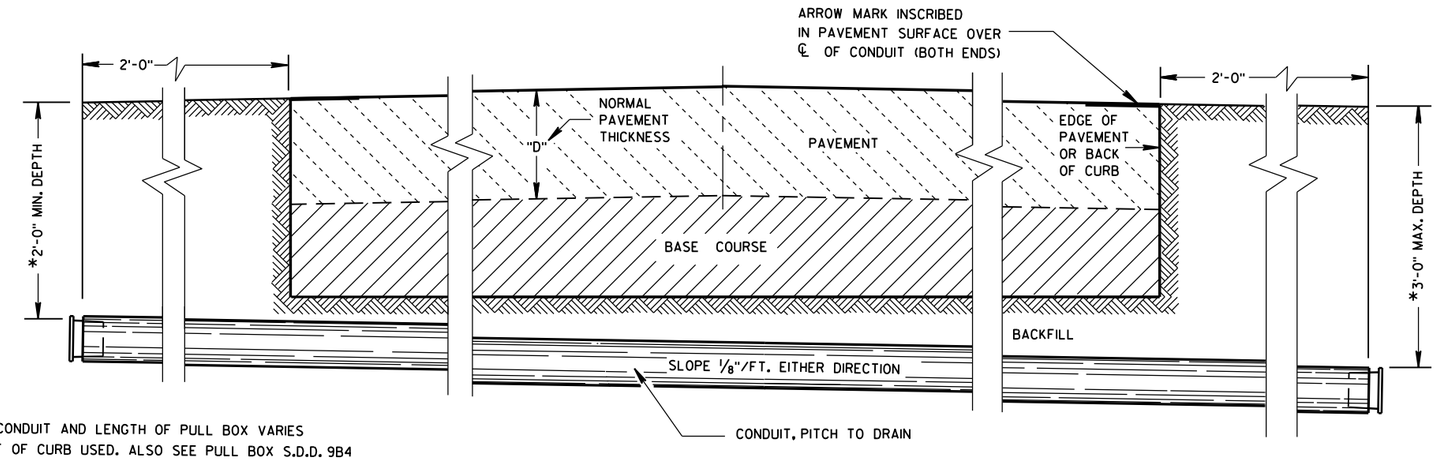
APPROVED
November 2025 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA


6
SDD 09A14-01




**PLAN VIEW**

## ARROW MARK




*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

**SIDE ELEVATION**

## DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

## GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

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

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

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.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

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.

# CONDUIT

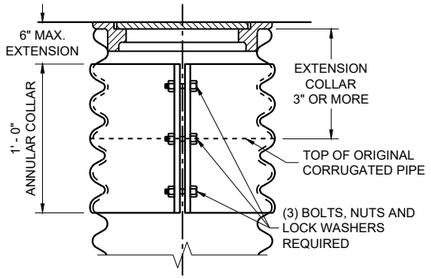
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

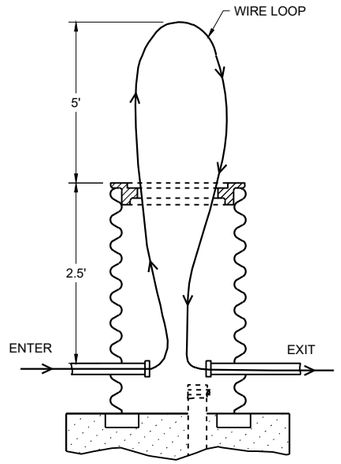



6

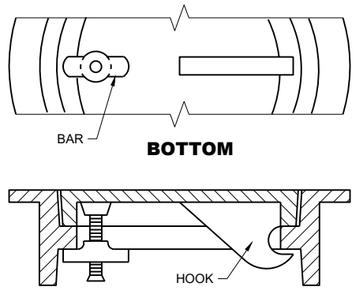
S.D.D. 9 B 2-10




**CORRUGATED PIPE EXTENDER**




**MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX**




**BOTTOM**

**SECTION**

**ALTERNATE COVER (LOCKING)**

TIGHTENING BAR TYPE

## GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

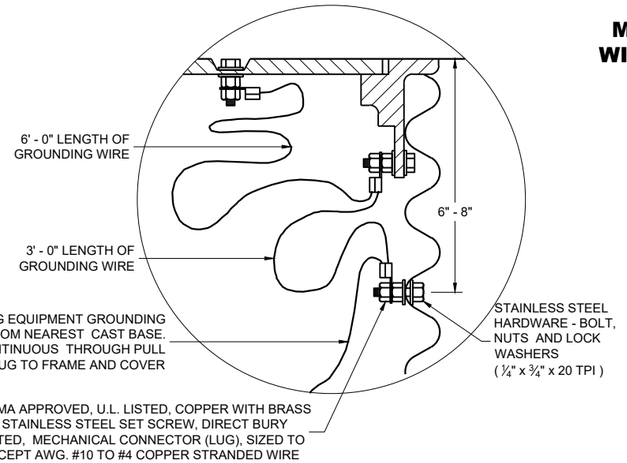
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN ¼".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

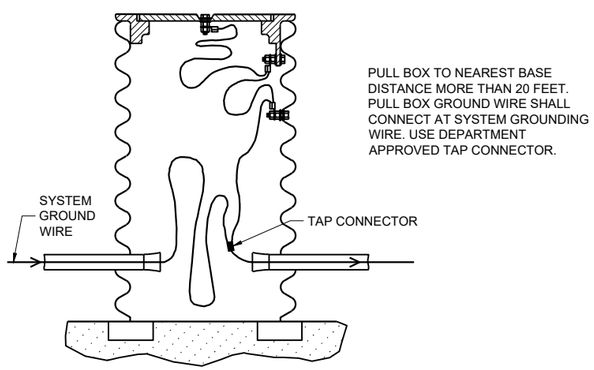
GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

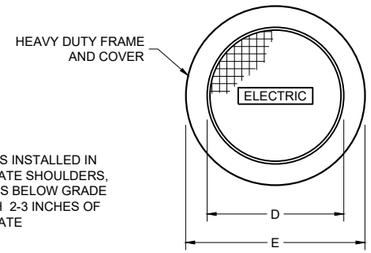
WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



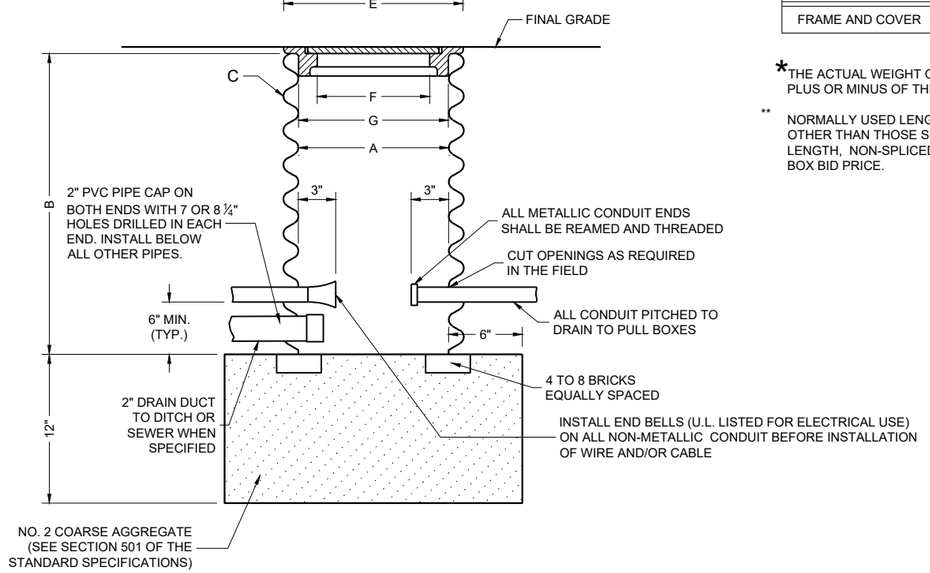

**EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES**




**EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES**




WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE




**PULL BOX**

### TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

| DIMENSION IN INCHES | | CORRUGATED STEEL PIPE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PIPE DIAMETER (INSIDE) | A | 12 | 12 | 12 | 18 | 18 | 18 | 24 | 24 | 24 |
| PIPE LENGTH ** | B | 24 | 30 | 36 | 24 | 30 | 36 | 36 | 42 | 48 |
| WALL THICKNESS | C | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 |
| COVER | D | 10 ¼ | 10 ¼ | 10 ¼ | 16 ¼ | 16 ¼ | 16 ¼ | 22 ¼ | 22 ¼ | 22 ¼ |
| FRAME | E | 14 ½ | 14 ½ | 14 ½ | 20 ½ | 20 ½ | 20 ½ | 26 ½ | 26 ½ | 26 ½ |
| FRAME | F | 8 ½ | 8 ½ | 8 ½ | 14 ½ | 14 ½ | 14 ½ | 20 ½ | 20 ½ | 20 ½ |
| FRAME | G | 11 ½ | 11 ½ | 11 ½ | 17 ½ | 17 ½ | 17 ½ | 23 ½ | 23 ½ | 23 ½ |
| **WEIGHT IN POUNDS*** | | | | | | | | | | |
| FRAME AND COVER | | 60 | 60 | 60 | 110 | 110 | 110 | 155 | 155 | 155 |

*THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

**PULL BOX**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

FHWA





6

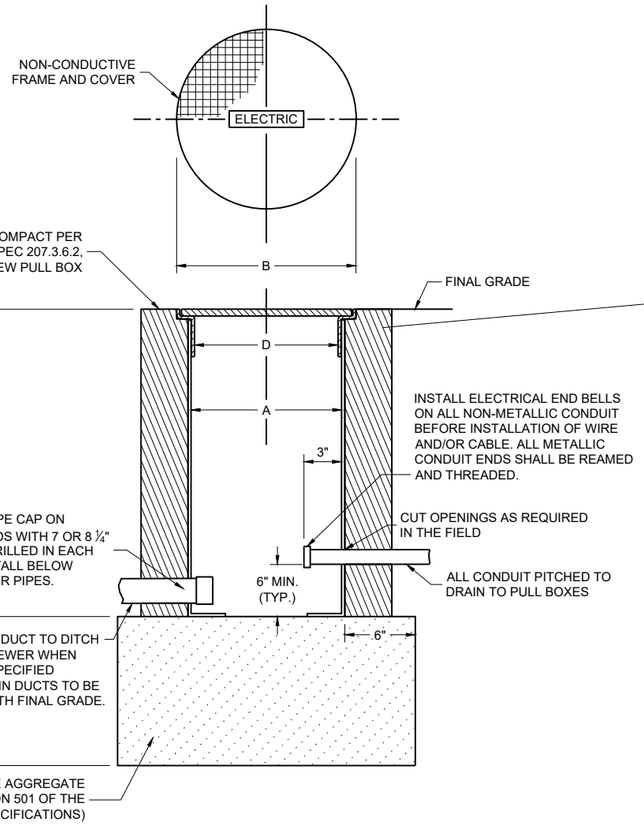
SDD 09B04-13

TABLE OF NOMINAL DIMENSIONS
AND WEIGHTS

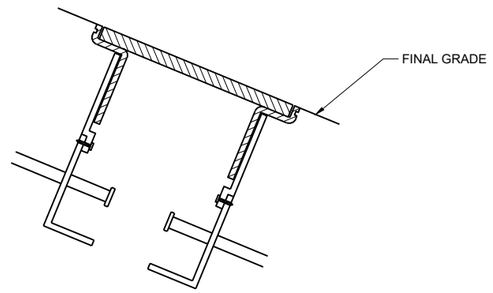
| DIMENSION IN INCHES | | NON- CONDUCTIVE PULL BOX | |
|---|---|---|---|
| BOX DIAMETER ** (INSIDE) | A | 24 | 24 |
| BOX OVERALL OUTSIDE DIAMETER | B | 27 | 27 |
| BOX LENGTH | C | 36 | 42 |
| FRAME OPENING | D | 22 ½ | 22 ½ |
| WEIGHT IN POUNDS * | | | |
| COVER | | 50 | 50 |
| BOX ONLY | | 75 | 85 |

*THE ACTUAL WEIGHT OF THE COVER OR BOX ONLY MAY VARY NOT TO EXCEED 100 LBS INDIVIDUALLY.

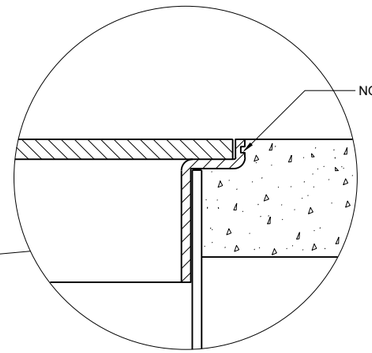
** DIAMETER VARIES FROM TOP TO BOTTOM WITH THE DIAMETER LARGER AT THE BOTTOM TO PREVENT FROST HEAVE.



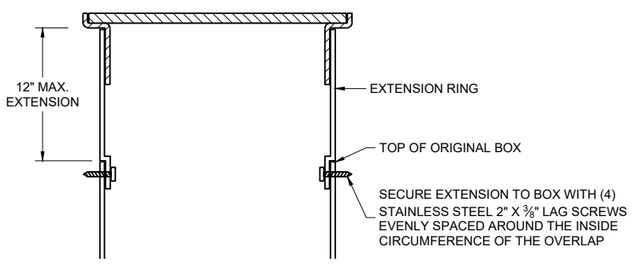

**NON-CONDUCTIVE PULL BOX**




**INSTALLED IN SOD
OR CRUSHED AGGREGATE**




**INSTALLED IN SIDEWALK**




**BOX EXTENSION**

## GENERAL NOTES

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

ALL BOXES, FRAMES AND COVERS SHALL BE SUITABLE FOR TIER 15 LOADING AS SPECIFIED IN ANSI/SCTE 77.

PROVIDE AN OPENING FOR TOOL ASSISTED COVER REMOVAL NOT LARGE ENOUGH TO PERMIT PASSAGE OF A SPHERE MORE THAN ½" DIAMETER

ENSURE COVER SURFACE IS SKID RESISTANT WITH A COEFFICIENT OF FRICTION OF AT LEAST 0.5 AND VERTICAL SURFACE DICONTINUITIES LESS THAN ¼".

COVER SHALL BE MAGNETICALLY LOCATABLE.

BOXES AND EXTENSIONS ARE TRIMMABLE FOR CUSTOM LENGTHS. TRIMMED PIECES SHALL MAINTAIN A UNIFORM LENGTH.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN ¼".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS AND MAGNETIC LOCATABLE DEVICE.

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE.

LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL AND LIGHTING SYSTEMS, "WISDOT ITS" FOR COMMUNICATIONS AND ITS EQUIPMENT SYSTEMS.

INSTALL PULL BOX TO MATCH GRADE UP TO 3:1 MAX.

RING SHALL BE FLUSH WITH TOP OF PULL BOX.

COMPACT AROUND PULL BOX.




**MEASUREMENT DETAIL FOR
WIRE/CABLE IN THE PULL BOX**

**PULL BOXES
NON-CONDUCTIVE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2026 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL ENGINEER

FHWA




6
SDD 09B16-04

## GENERAL NOTES

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

BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, 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.

TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.

CONDUIT SIZE AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4 ½ INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.

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.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE 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.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL 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, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.

(2) (6) 1 ¾" DIA. X 7' - 2" ANCHOR RODS

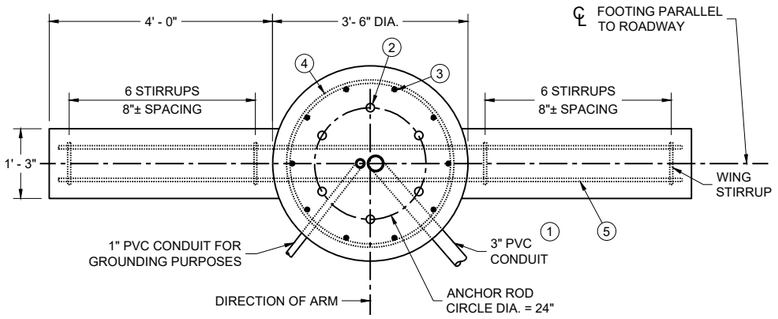
(3) (10) NO. 6 X 14' - 1" BAR STEEL VERTICAL REINFORCEMENT.

(4) (22) NO. 5 X 11'- 0" BAR STEEL REINFORCEMENT @ 8" MAX. C-C.

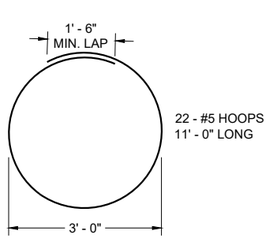
(5) (10) NO. 5 X 11' - 0" BAR STEEL HORIZONTAL REINFORCEMENT

CONCRETE MASONRY.....fc = 3,500 p.s.i
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60.....fy = 60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 ( IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATION).....fy = 55,000 p.s.i.
TEMPLATES, ASTM A709, GRADE 36.....fy = 36,000 p.s.i.

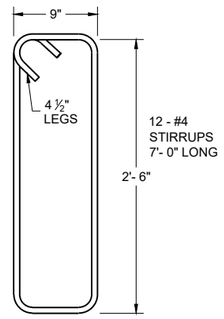
** RODENT PROTECTION REQUIRED



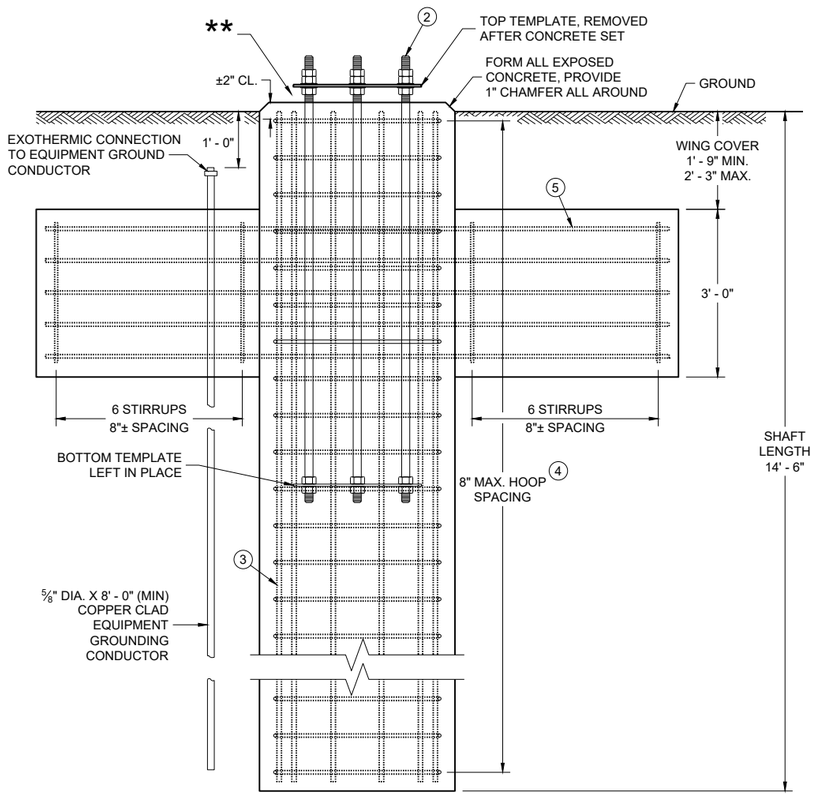

**PLAN VIEW**



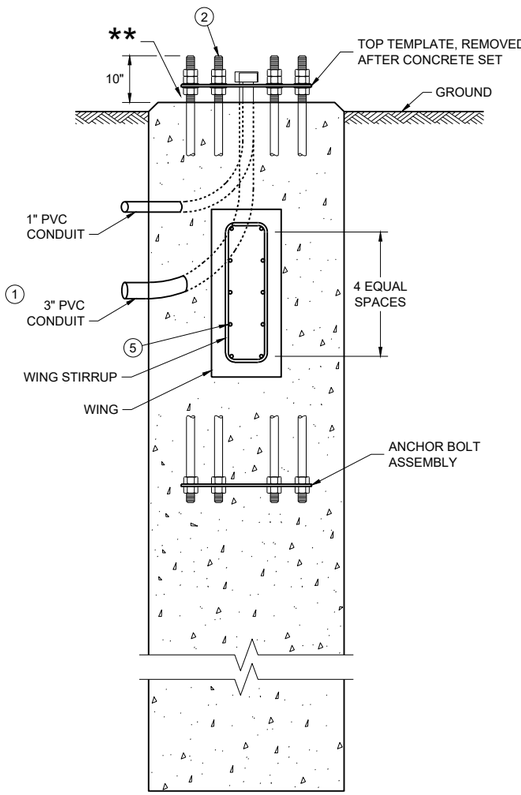

**HOOP DETAIL**




**WING STIRRUP DETAIL**




**ELEVATION VIEW**
(CONDUITS NOT SHOWN ON THIS VIEW FOR CLARITY)




(HOOPS AND VERTICAL SHAFT REINFORCEMENT NOT SHOWN ON THIS VIEW FOR CLARITY)

## CONCRETE BASE, TYPE 13

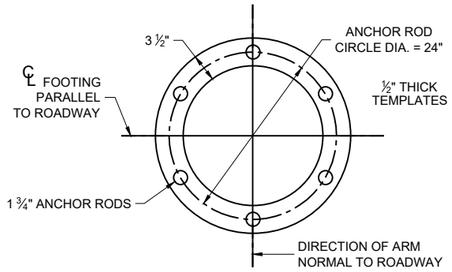
### (FOR TYPE 12, TYPE 13 AND OVER HEIGHT (OH) POLES)

CONCRETE = 6.3 CUBIC YARD
H.S. REINFORCEMENT = 635 LBS.

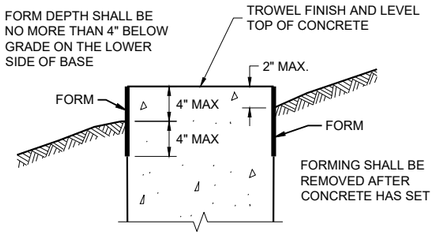
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE 9C13 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION

**CONCRETE BASE TYPE 13**

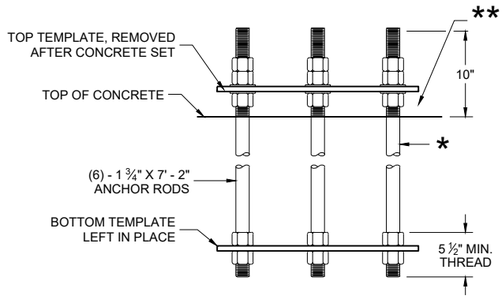
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




**TOP AND BOTTOM TEMPLATE**




**FORMING DETAIL**




**ANCHOR ROD ASSEMBLY DETAILS**

* THREAD TOP 11" OF ANCHOR ROD FOR 3 NUTS AND 2 WASHERS AND BOTTOM 5 ½" FOR 2 NUTS PER ANCHOR ROD. HOT DIP GALVANIZE THE ENTIRE LENGTH OF THE ANCHOR ROD (ASTM A123) AND HOT DIP NUTS AND WASHERS (ASTM A153. USE ZINC COATED NUTS MANUFACTURED WITH SUFFICIENT ALLOWANCE TO ALLOW NUTS TO RUN FREELY ON THE THREADS.

** RODENT PROTECTION REQUIRED

**CONCRETE BASE TYPE 13**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

November 2025
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

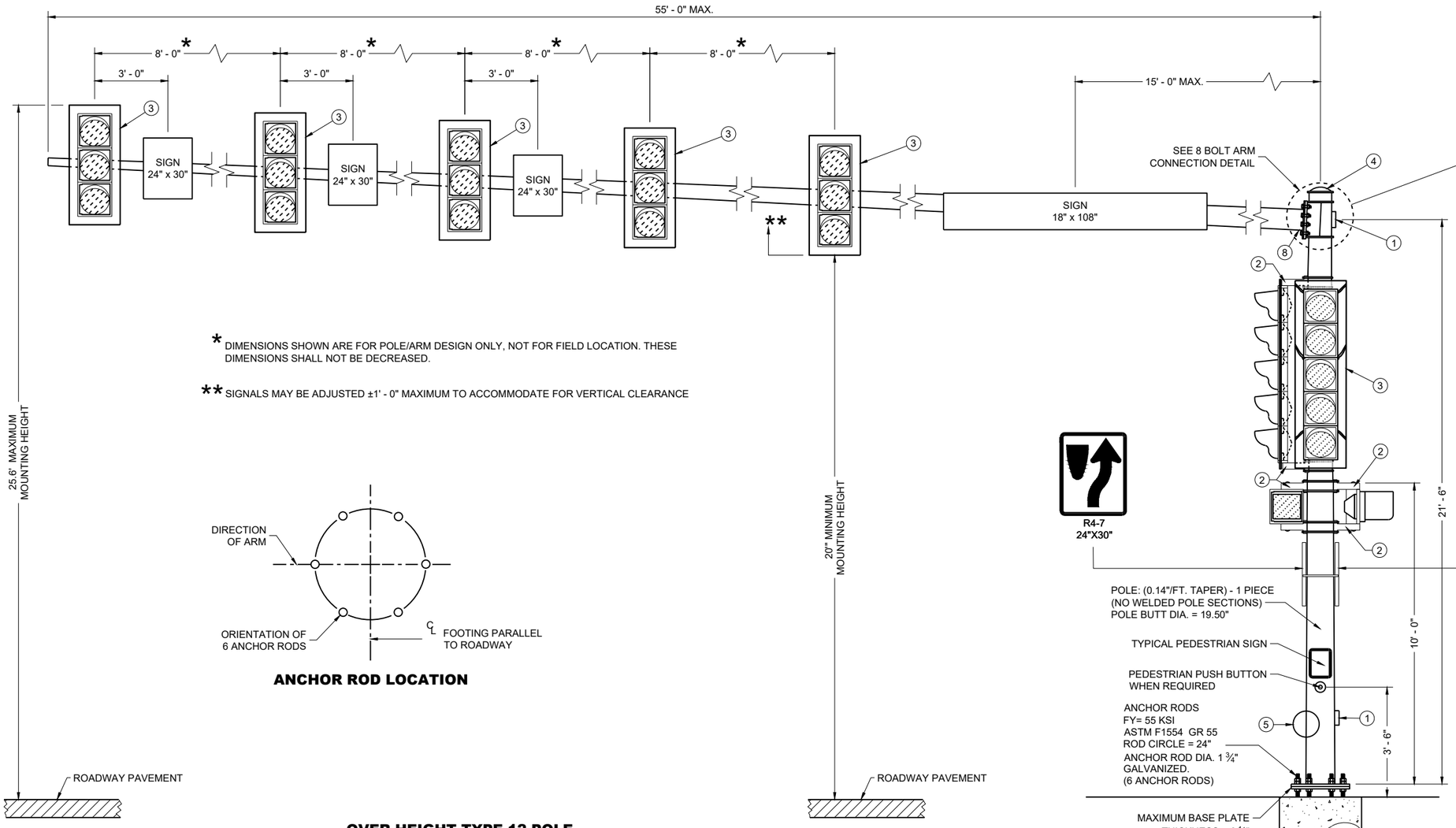
FHWA



6



SDD 09C12-10b



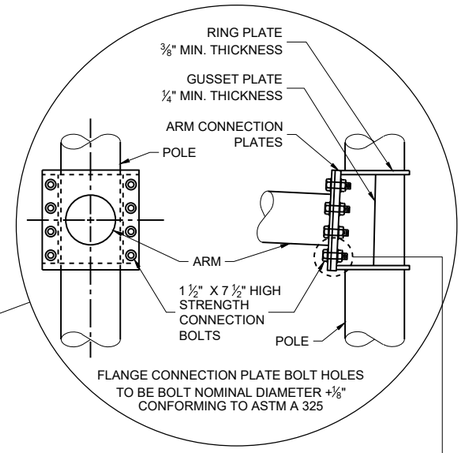

* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ±1' - 0" MAXIMUM TO ACCOMMODATE FOR VERTICAL CLEARANCE

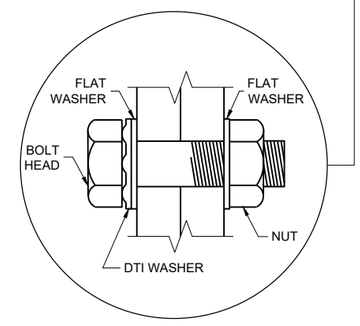



**ANCHOR ROD LOCATION**

**OVER HEIGHT TYPE 12 POLE**
**35' - 55' MONOTUBE ARM**
(MAXIMUM LOAD)




**8 BOLT ARM CONNECTION DETAIL**




**RECOMMENDED BOLT ASSEMBLY DETAIL**

**OVER HEIGHT TYPE 12 POLE**
**35' - 55' MONOTUBE ARM**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 09E12-03i

## GENERAL NOTES

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

OVER HEIGHT POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15 FOOT TO 30 FOOT.

OVER HEIGHT POLE TYPES 9 SPECIAL AND 10 SPECIAL ARE FOR ARM LENGTHS 35 FOOT, 40 FOOT, AND 45 FOOT

OVER HEIGHT POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35 FOOT TO 55 FOOT.

MONOTUBE POLES AND ARMS SHALL BE GALVANIZED STEEL.

RING STIFFENED BUILT UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3% ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATION SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING INTERIM REVISIONS)" AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR THE LIGHTING STRUCTURES AS FOLLOWS:

CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF OVER HEIGHT TYPE 9 AND TYPE 10 STRUCTURES.

CATEGORY II FATIGUE LOADS OF TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF OVER HEIGHT TYPE 9 SPECIAL AND TYPE 10 SPECIAL STRUCTURES. IN LIEU OF DESIGNING FOR GALLOPING, A VIBRATION DAMPER MITIGATION DEVICE IS REQUIRED TO BE SUPPLIED AND INSTALLED AT THE END OF THE MAST ARM.

CATEGORY II FATIGUE FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF OVER HEIGHT TYPE 12 AND TYPE 13 STRUCTURES.

115 MPH (700 YEAR MRI BASIC WIND SPEED).

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH ¾" STAINLESS STEEL BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

(1) DESIGN FOR MAXIMUM ALLOWABLE HAND HOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

(2) SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING (SEE SPECIFICATION SECTION 658).

(3) SECURELY MOUNT BACK PLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

(4) THE TOP OF THE POLE SHAFT AND THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

(5) FACTORY WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HAND HOLD, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

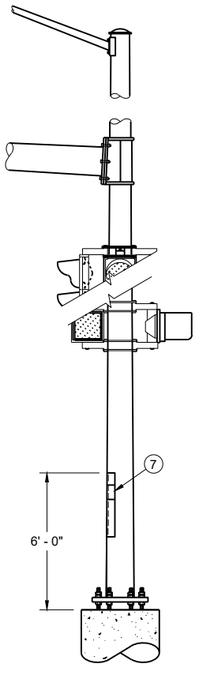
(6) FACTORY WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

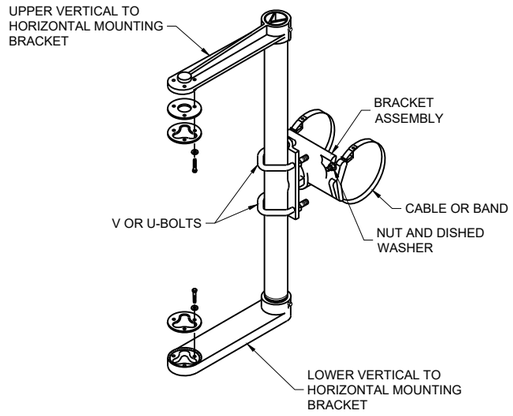
STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 6' - 0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

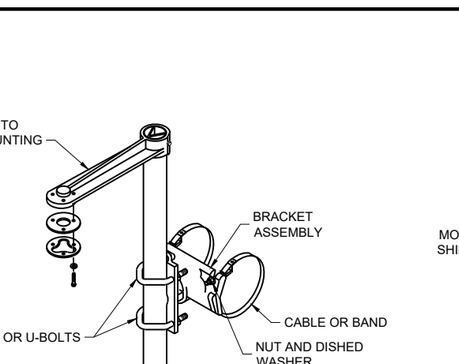



**STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT**



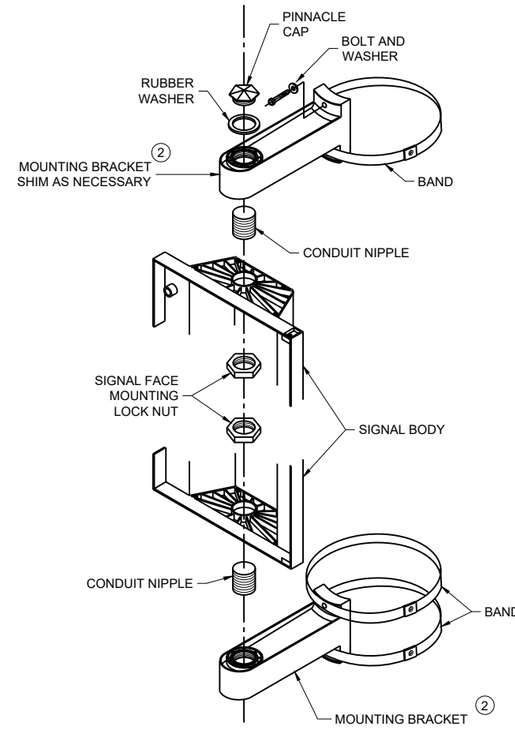

**SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM**

(MOUNT PER MANFACTURER'S RECOMMENDATION)

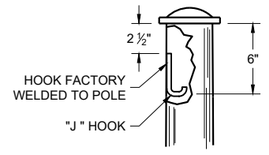



**TYPICAL GROUNDING CONNECTIONS** (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL




**SIGNAL FACE VERTICAL MOUNTING DETAIL**




(6)

**TYPICAL "J" HOOK WIRE SUPPORT**

**GENERAL NOTES AND HARDWARE FOR OVER HEIGHT TYPE 9, 10, 9/10 SPECIAL, 12 AND 13 POLES WITH MONOTUBE ARMS**

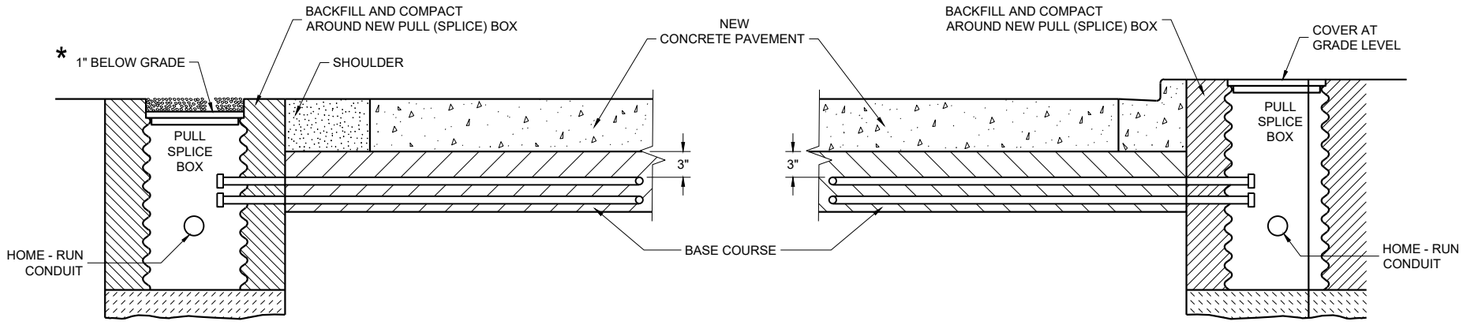
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2026
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

FHWA


6
SDD 09E12-03k




**SECTION A - A**
**NO CURB AND GUTTER**

**SECTION B - B**
**CURB AND GUTTER**

* RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

## LOOP DETECTOR INSTALLATION DETAIL

## GENERAL NOTES

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

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

LOOP SIZE, LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READING TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

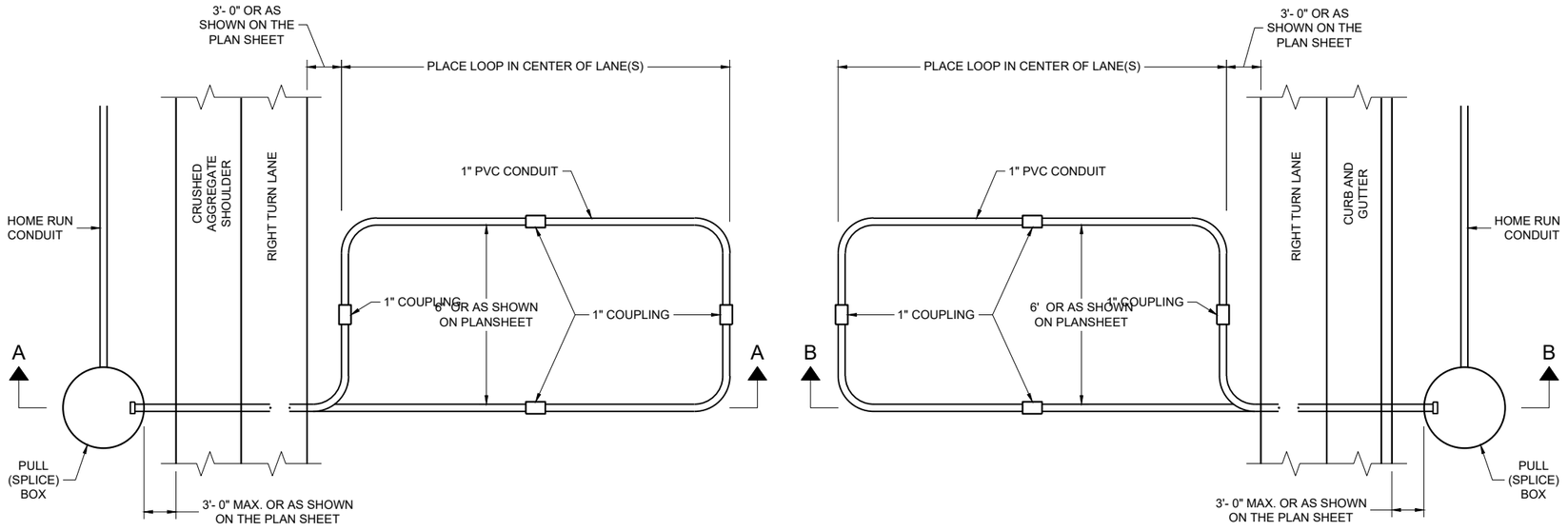
THE #12 AWG LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

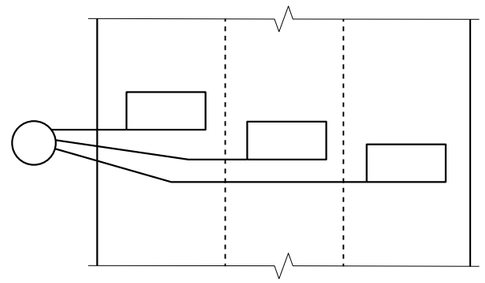
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE NON-SPLICED, CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.




**TYPICAL PLAN LOOP DETECTOR**
**WITH 24" PULL (SPLICE) BOX**



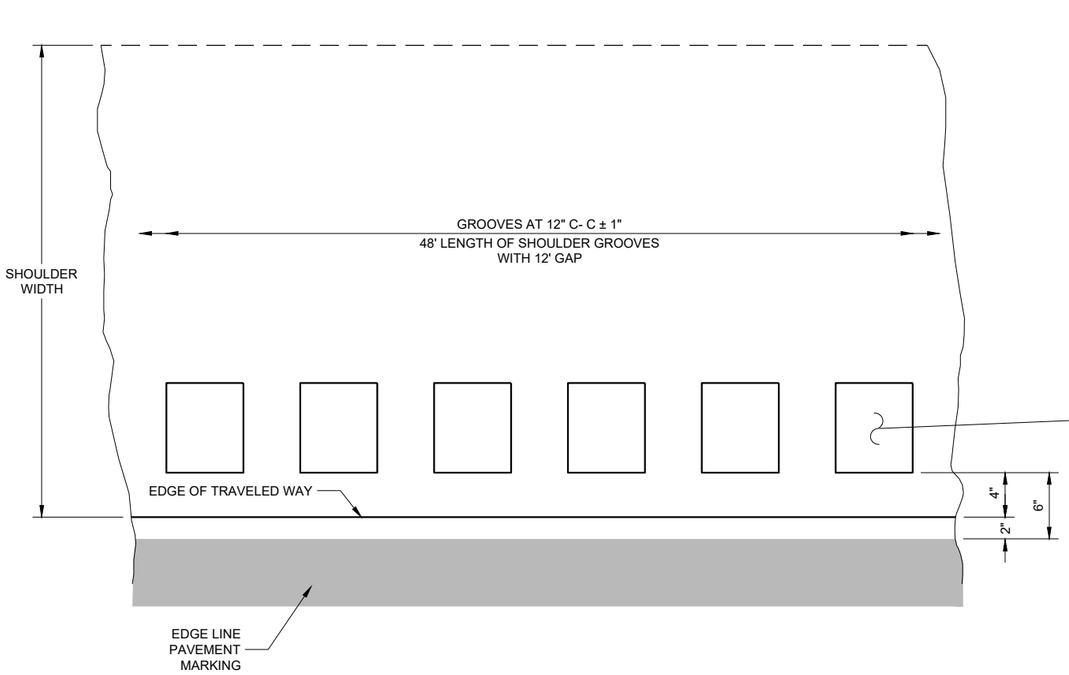
**MULTI-LANE**
**INSTALLATION**

**LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)**

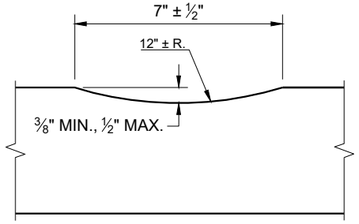
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

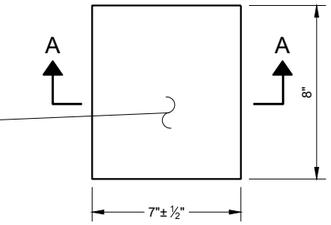
SDD 09F15-05b




**PLAN DETAIL VIEW**
**SHOULDER WITH GROOVES**




**SECTION A - A**

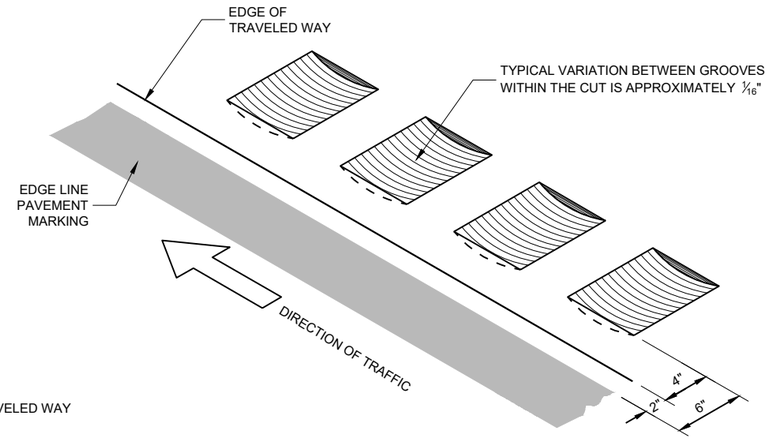


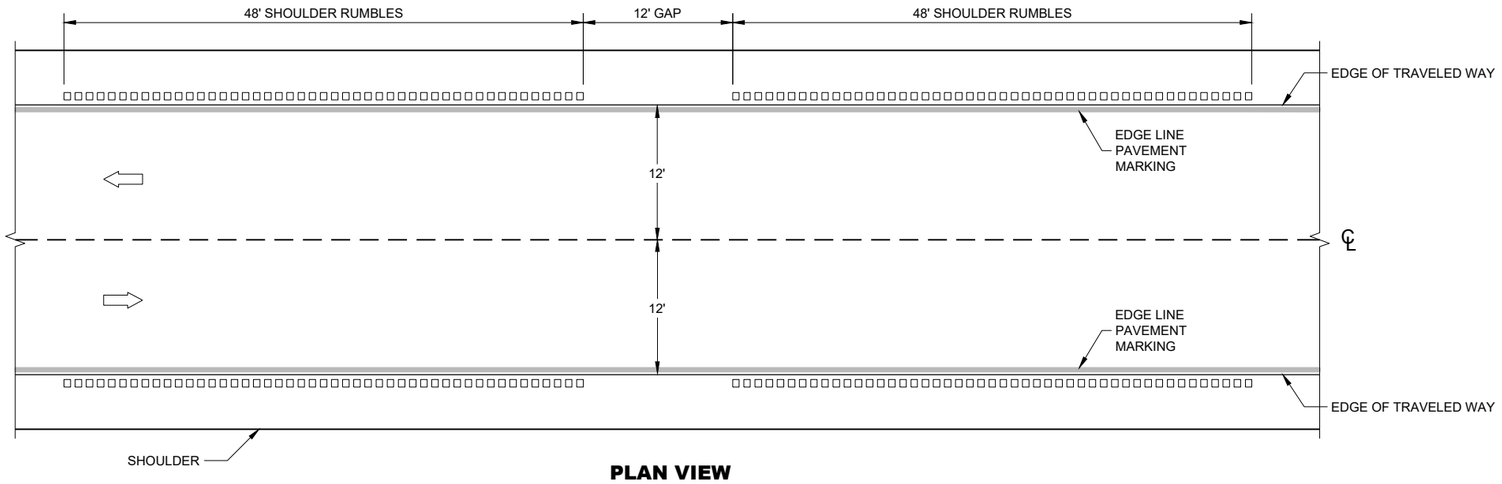

**PLAN VIEW**
**(SINGLE GROOVE)**

## GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.




**PLAN VIEW**

**SHOULDER RUMBLE STRIPS - ASPHALT**

6

SDD 13A10 - 03a

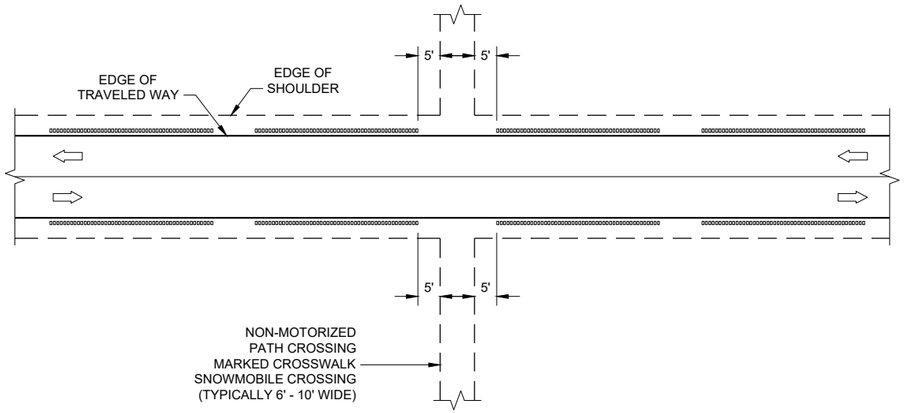
**SHOULDER RUMBLE STRIPS ASPHALT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

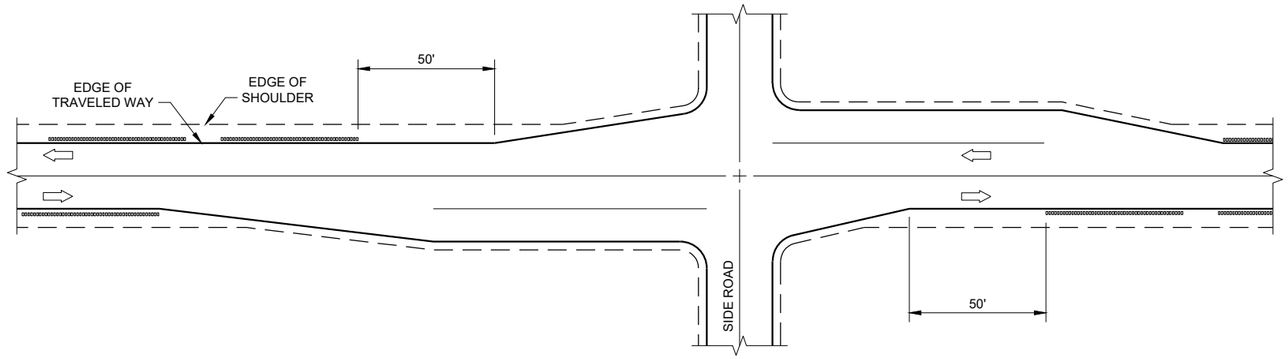


6

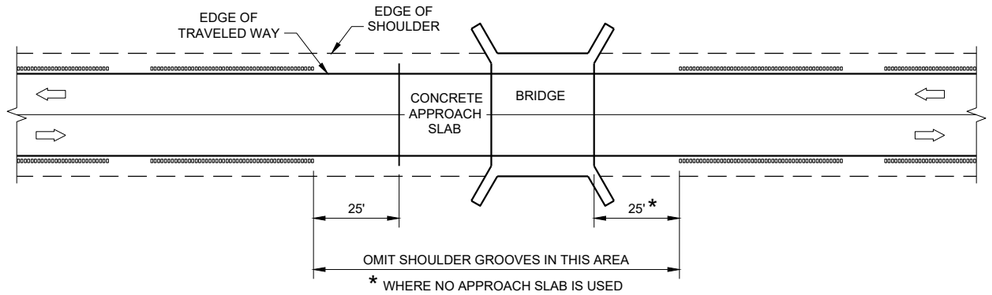
SDD 13A10 - 03a



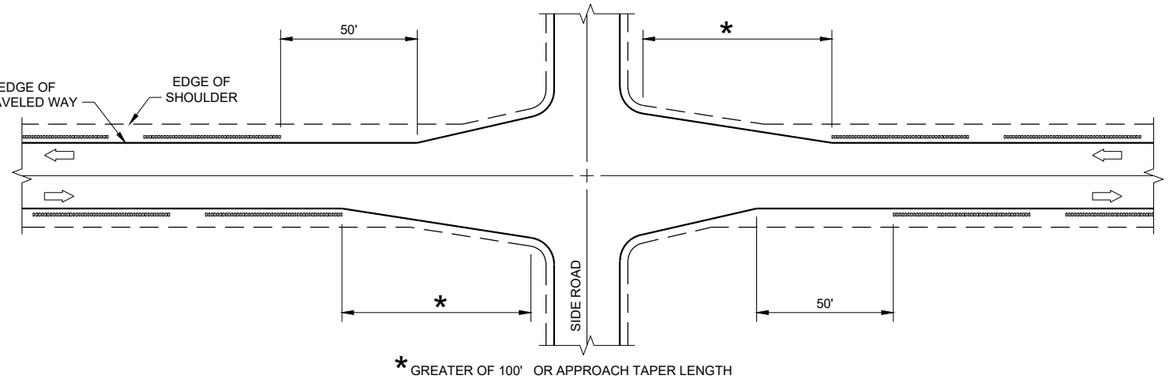

## GROOVES AT MISCELLANEOUS CROSSINGS



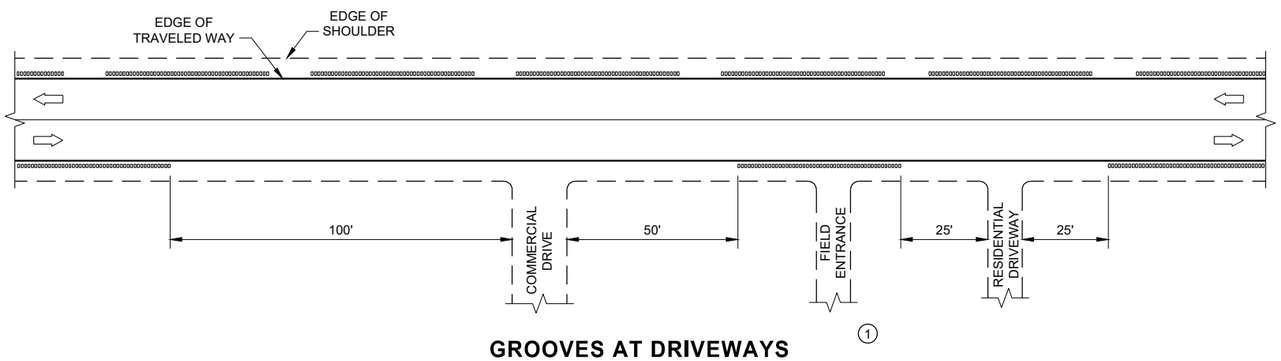

## GROOVES AT RIGHT TURN LANE




## GROOVES AT BRIDGES




## GROOVES AT INTERSECTIONS WITH APPROACH TAPER




## GROOVES AT DRIVEWAYS ①

### GENERAL NOTES

① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

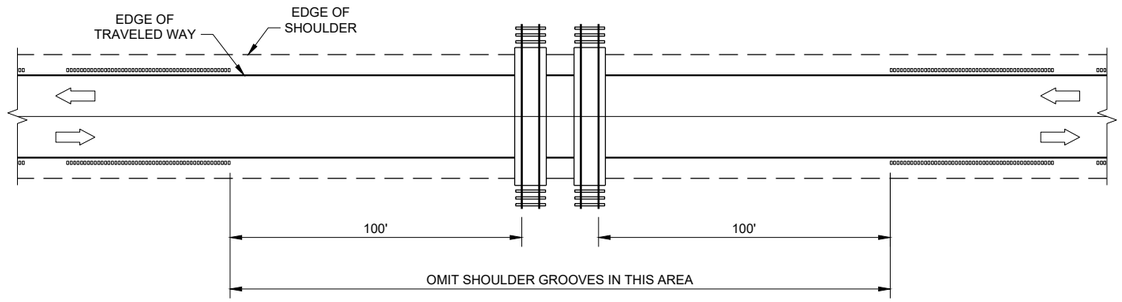
**SHOULDER AND EDGE LINE RUMBLE STRIPS CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

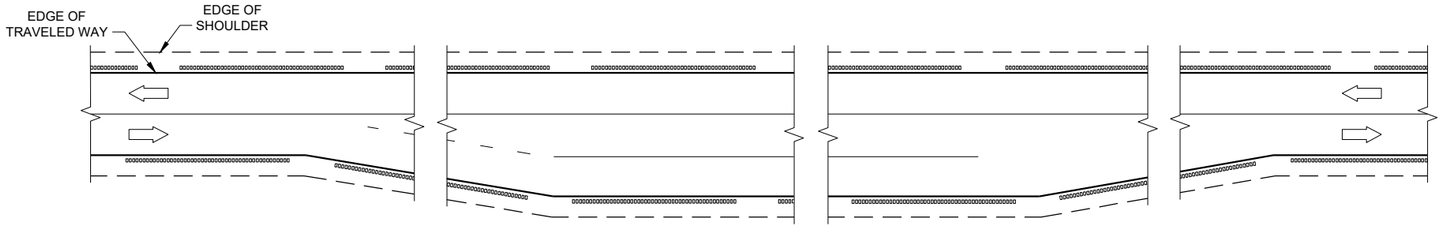



6

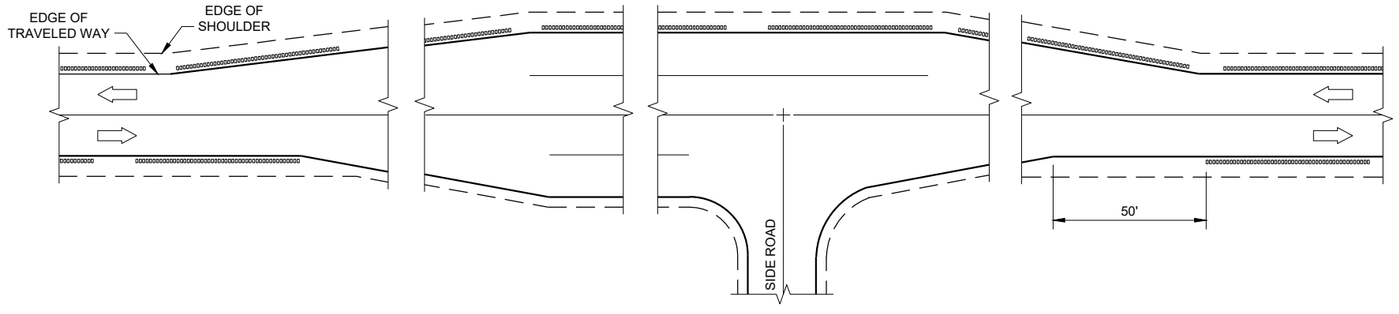
SDD 13A10 - 03g
SDD 13A10 - 03g




**GROOVES AT RAILROADS**




**GROOVES AT PASSING AND CLIMBING LANES**




**GROOVES AT BYPASS LANES**

6

6

SDD 13A10 - 03h

SDD13A10 - 03h

**SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES**

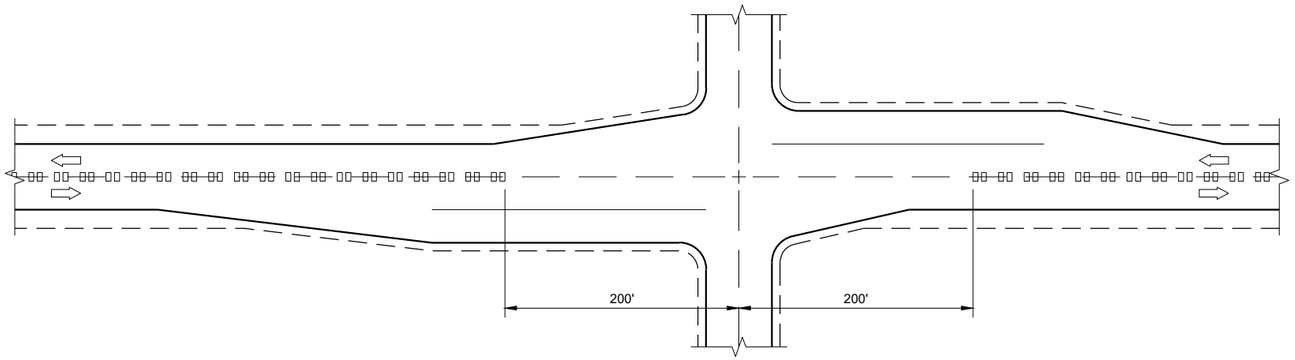
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

/S/ John Jenkins
ROADWAY STANDARDS DEVE ENGINEER

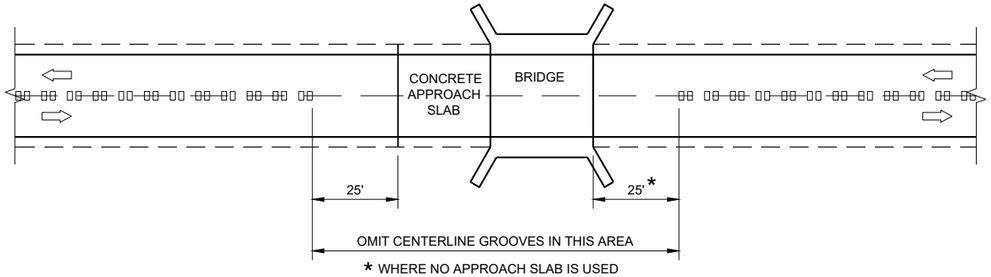
FHWA



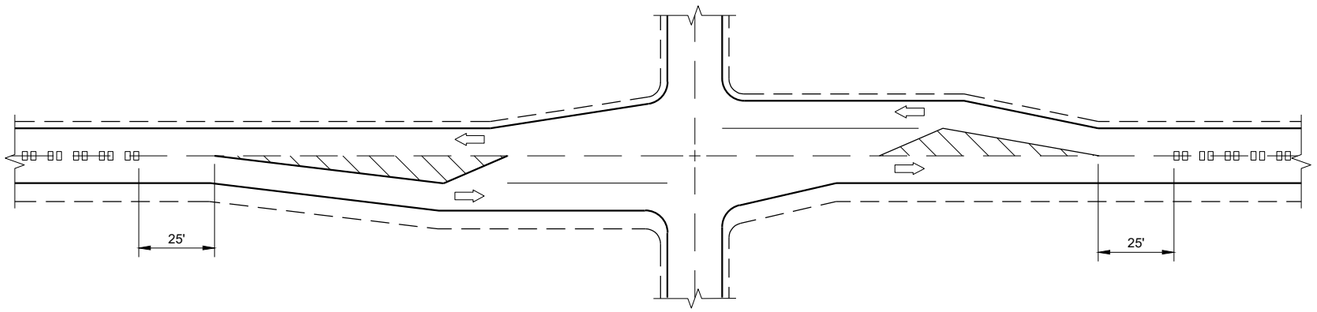

## CENTERLINE GROOVES AT INTERSECTIONS

## GENERAL NOTES

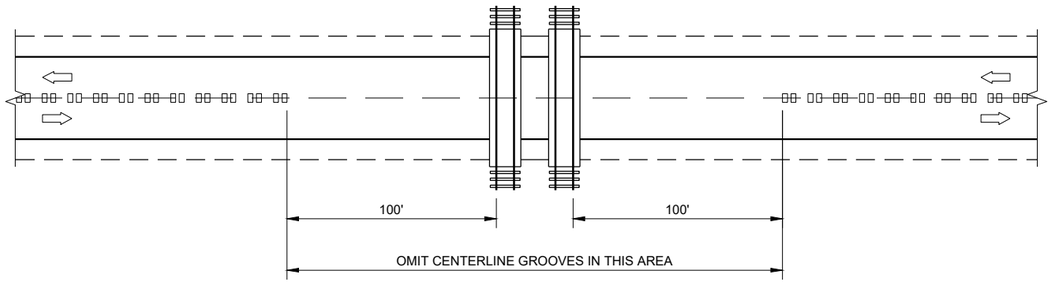
1. CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



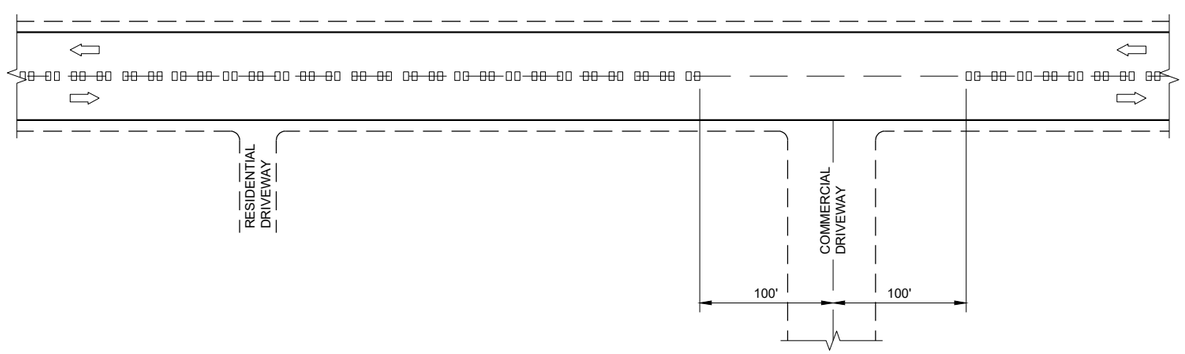

## CENTERLINE GROOVES AT BRIDGES




## CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)




## CENTERLINE GROOVES AT RAILROADS




## CENTERLINE GROOVES AT DRIVEWAYS (1)

# CENTER LINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAIL ROADS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

/S/ John Jenkins
ROADWAY STANDARDS DEVE ENGINEER

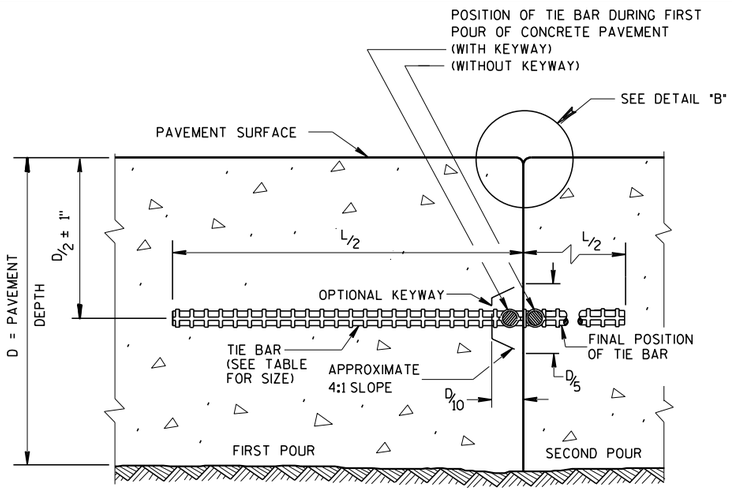
FHWA



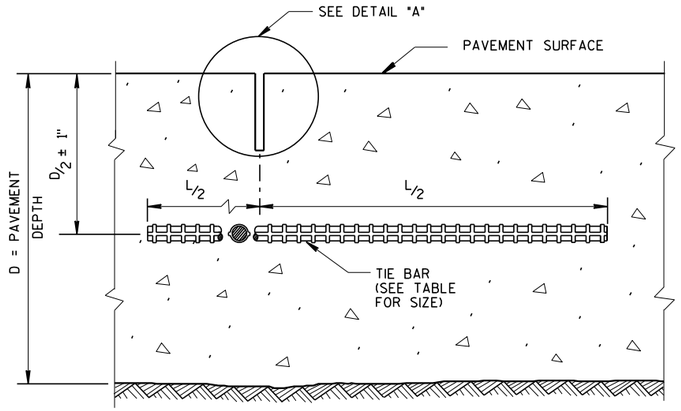


6

SDD 13A11 - 04d




## CONSTRUCTION JOINT




## SAWED JOINT

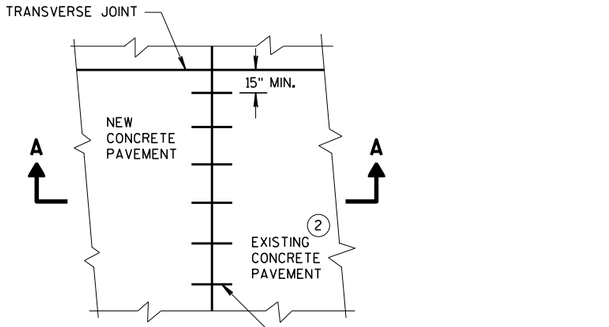
## GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

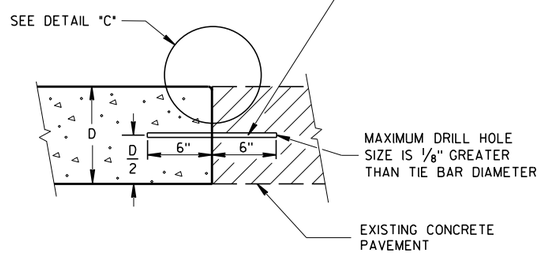
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

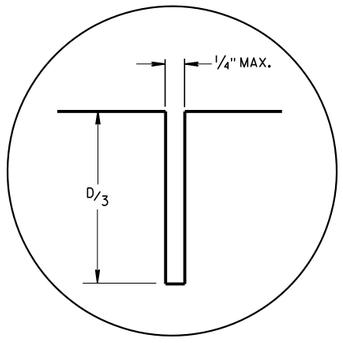



PLAN VIEW

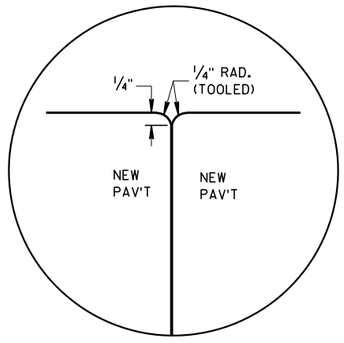



SECTION A-A

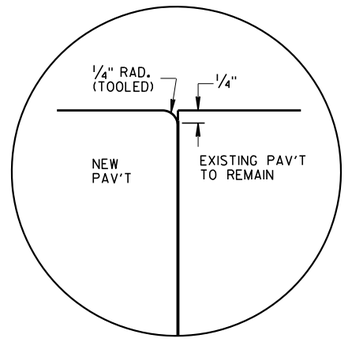
## LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT




DETAIL "A"




DETAIL "B"



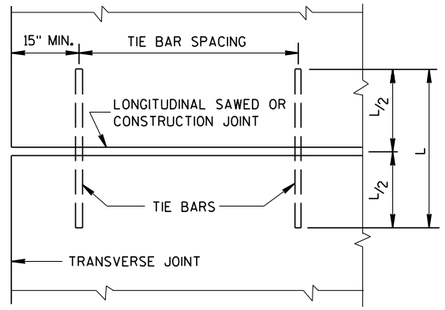

DETAIL "C"

### 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
March 2018 — DATE
/S/ Peter Kemp — PAVEMENT SUPE
FHWA

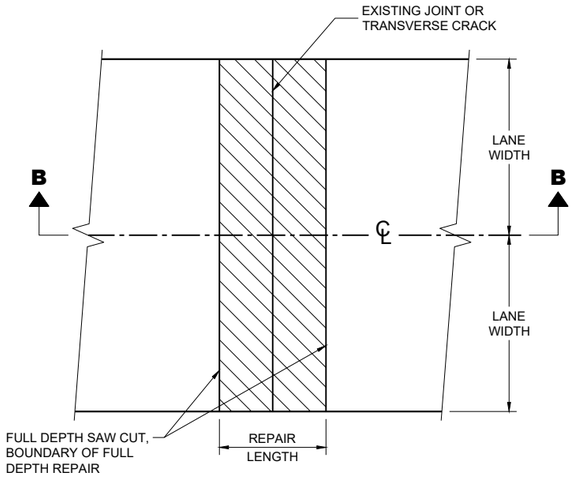


6

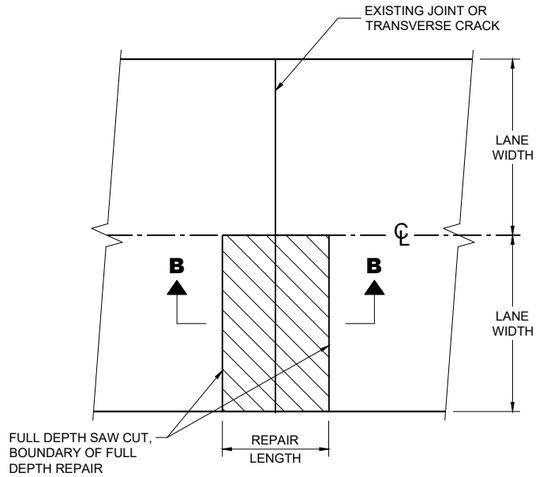
S.D.D. 13 C 1-19

6

S.D.D. 13 C 1-19




**PLAN VIEW**
**(DOUBLE LANE REPAIR)**




**PLAN VIEW**
**(SINGLE LANE REPAIR)**

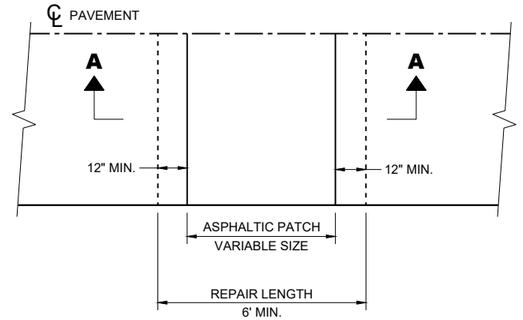
## GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

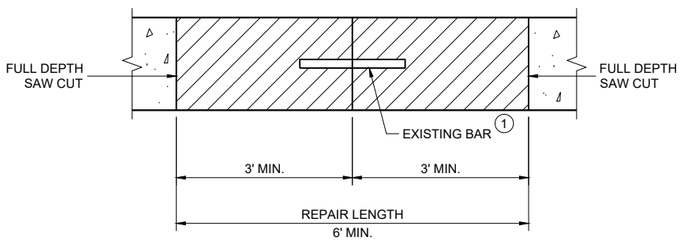
THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

(1) DOWEL BARS MAY NOT BE PRESENT.



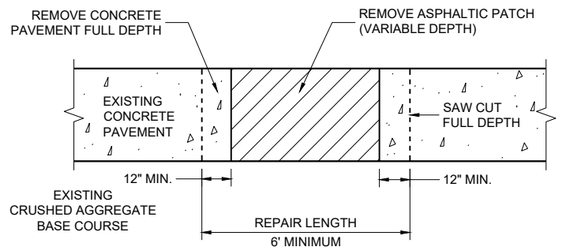

**PLAN VIEW**

## FULL DEPTH CONCRETE PAVEMENT REMOVAL




**SECTION B - B**

**CONCRETE REMOVAL**



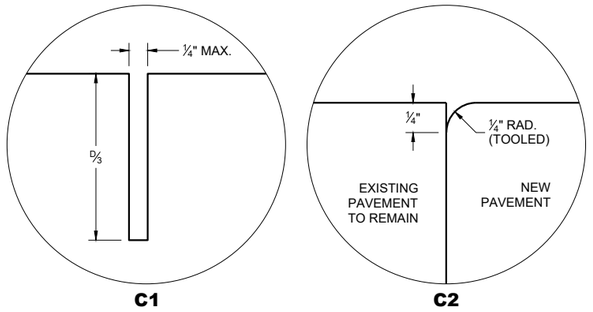

**SECTION A - A**

**HMA PATCH REMOVAL**

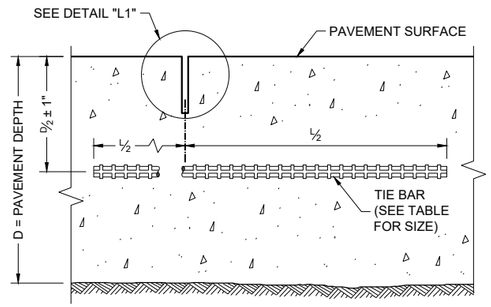
**CONCRETE PAVEMENT**
**REPAIR AND REPLACEMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION


6
SDD 13C09-18a

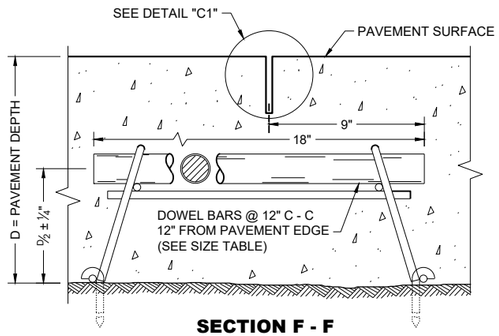



**TRANSVERSE JOINTS**




**SECTION C - C**

**SAWED LONGITUDINAL JOINT**




**SECTION F - F**

**DOWELED CONTRACTION JOINT**

## GENERAL NOTES

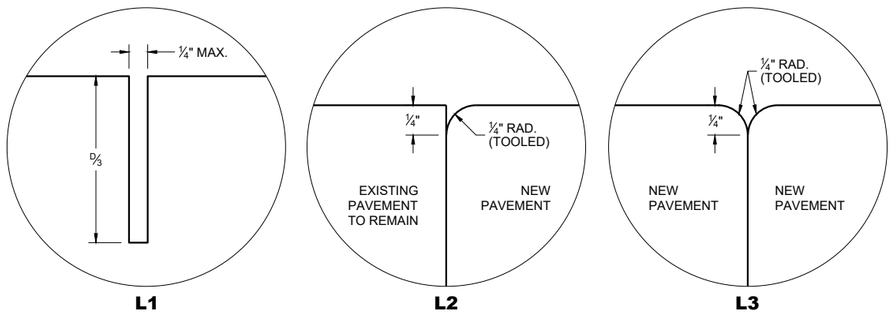
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

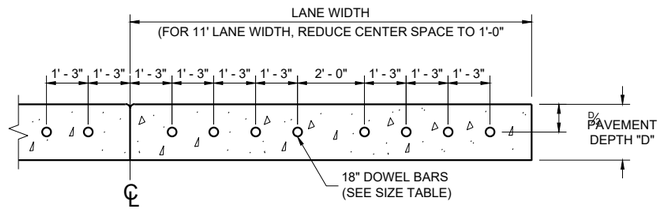
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

(1) APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

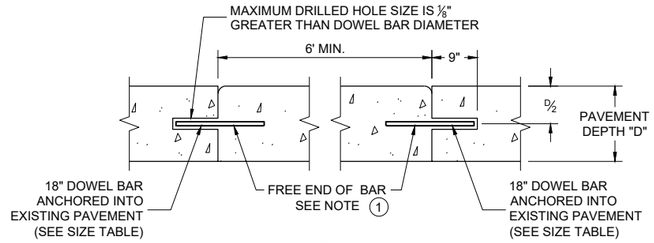



**LONGITUDINAL JOINTS**




**SECTION E - E**

**DRILLED DOWEL BAR CONSTRUCTION JOINT**




**SECTION D - D**

### TIE BAR TABLE

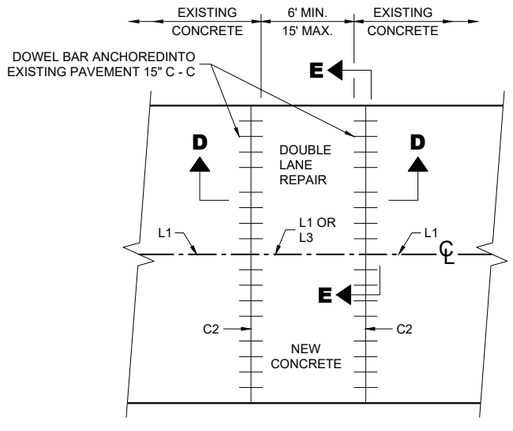
| PAVEMENT DEPTH (D) | TIE BAR SIZE | TIE BAR LENGTH (L) | MAX. TIE BAR SPACING |
|---|---|---|---|
| < 10 ½" | NO. 4 | 30" | 36" |
| ≥ 10 ½" | NO. 5 | 36" | 36" |
| | NO. 4* | 30" | 24" ** |

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

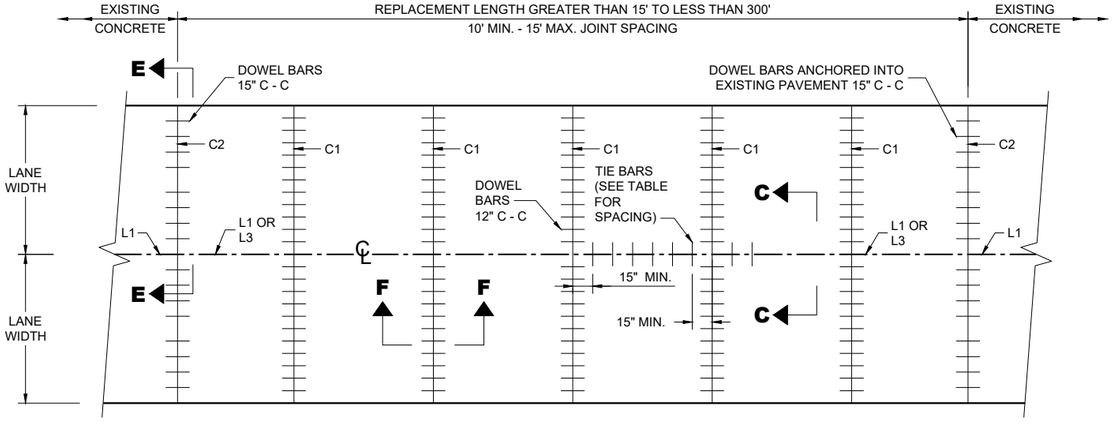
### PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

| PAVEMENT DEPTH (D) | DOWEL BAR DIAMETER | DRILLED DOWEL BAR DIAMETER | CONTRACTION JOINT SPACING |
|---|---|---|---|
| 6", 6 ½" | NONE | NONE | 12' |
| 7", 7 ½" | 1" | 1" | 14' |
| 8" & ABOVE | 1 ¼" | 1 ¼" | 15' |




**PLAN VIEW**

**MULTILANE CONCRETE PAVEMENT REPAIR**

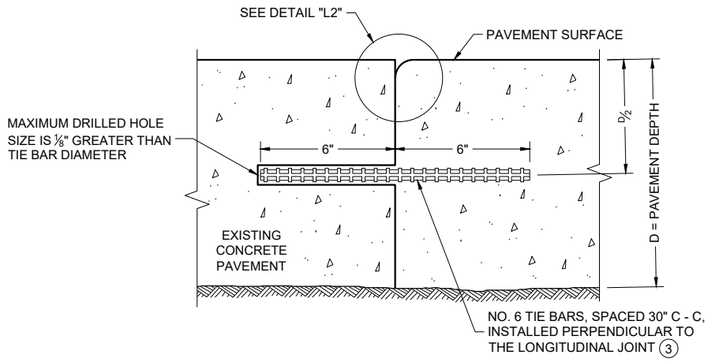



**PLAN VIEW**

**MULTILANE CONCRETE PAVEMENT REPLACEMENT**

**CONCRETE PAVEMENT REPAIR AND REPLACEMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

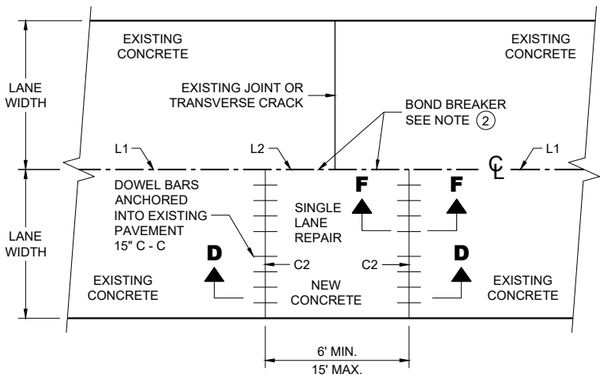



**SECTION G - G**

## TIE BARS ANCHORED INTO EXISTING PAVEMENT

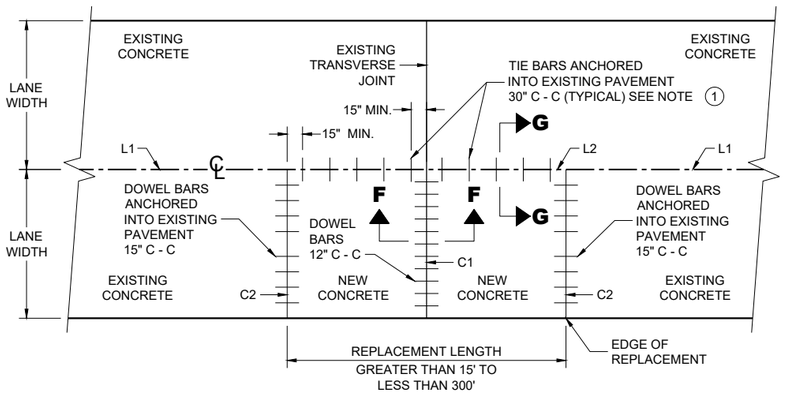
## GENERAL NOTES

1. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
2. USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.
3. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.




**PLAN VIEW**

## SINGLE LANE CONCRETE PAVEMENT REPAIR




**PLAN VIEW**

## SINGLE LANE CONCRETE PAVEMENT REPLACEMENT





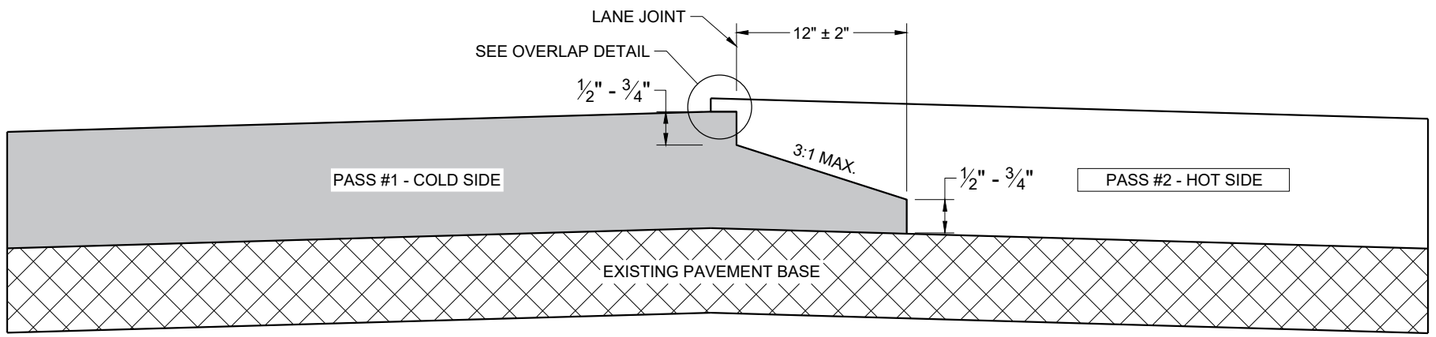
**CONCRETE REPAIR AND REPLACEMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

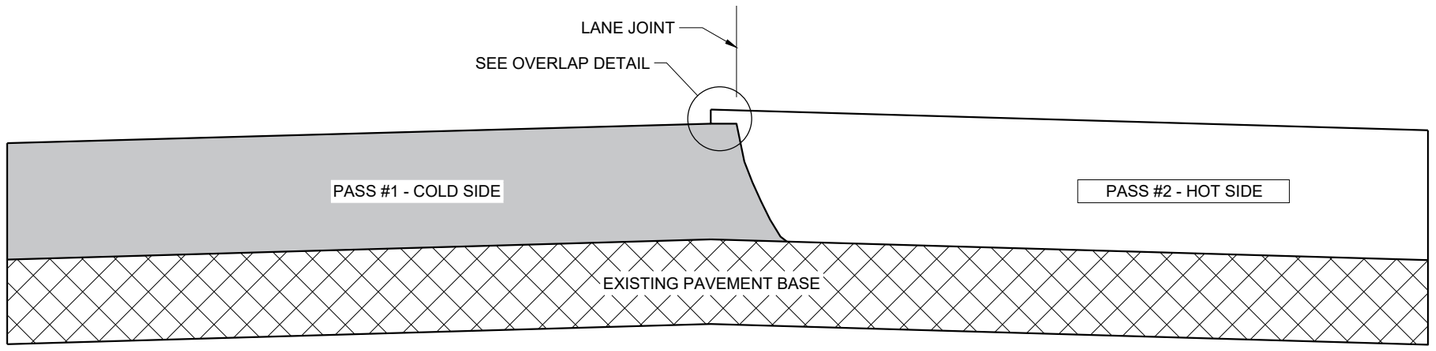


6

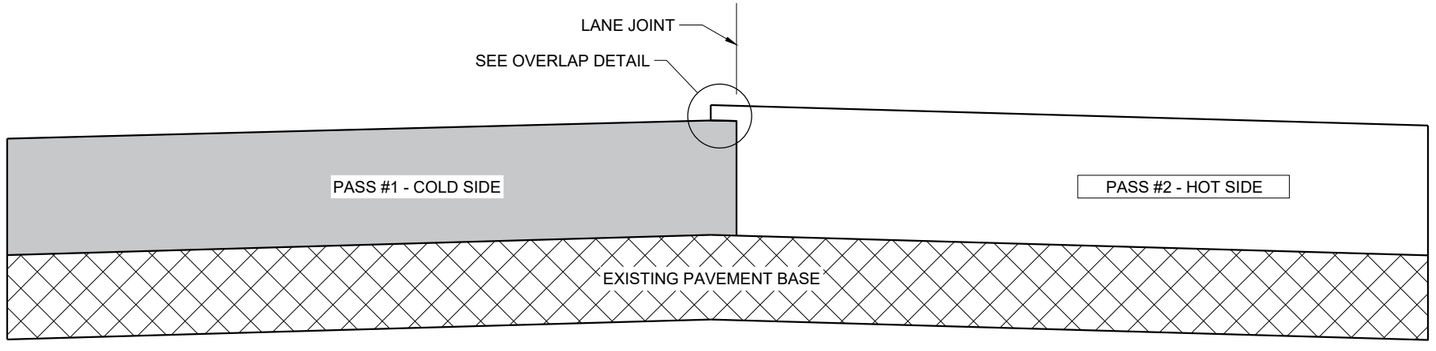
SDD 13C09-18c




**TYPICAL PAVEMENT CROSS SECTION**
**NOTCHED WEDGE JOINT**




**TYPICAL PAVEMENT CROSS SECTION**
**VERTICAL JOINT**




**TYPICAL PAVEMENT CROSS SECTION**
**VERTICAL JOINT (MILLED)**

## GENERAL NOTES

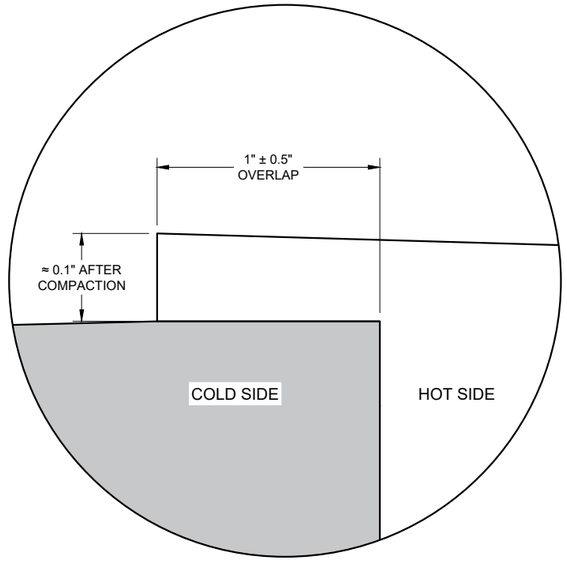
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.




**OVERLAP DETAIL (TYPICAL)**

| | |
|---|---|
| **HMA LONGITUDINAL JOINTS** | |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION | |
| APPROVED<br>November 2020<br>DATE | /S/ Steven Hefel<br>HMA PAVEMENT ENGIN |

FHWA

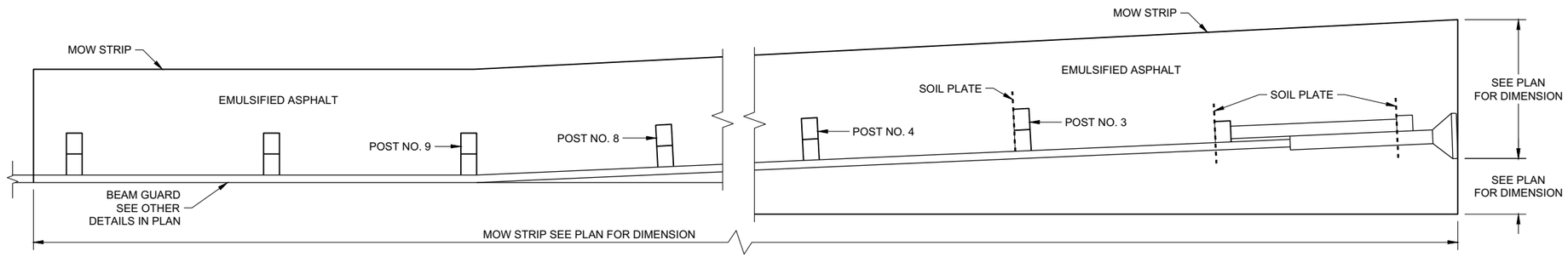


6

SDD 13C19 - 03

6

SDD 13C19 - 03



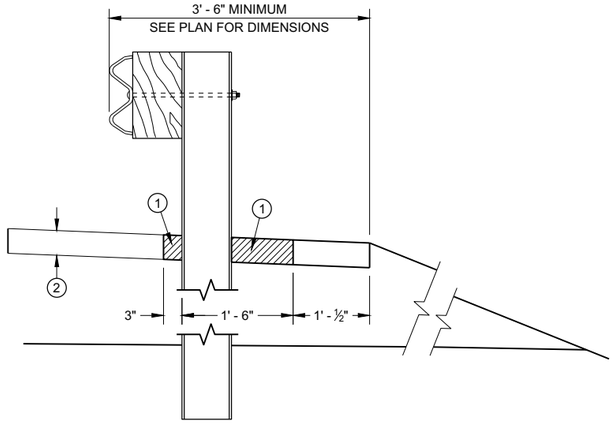

**PLAN VIEW**

## MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

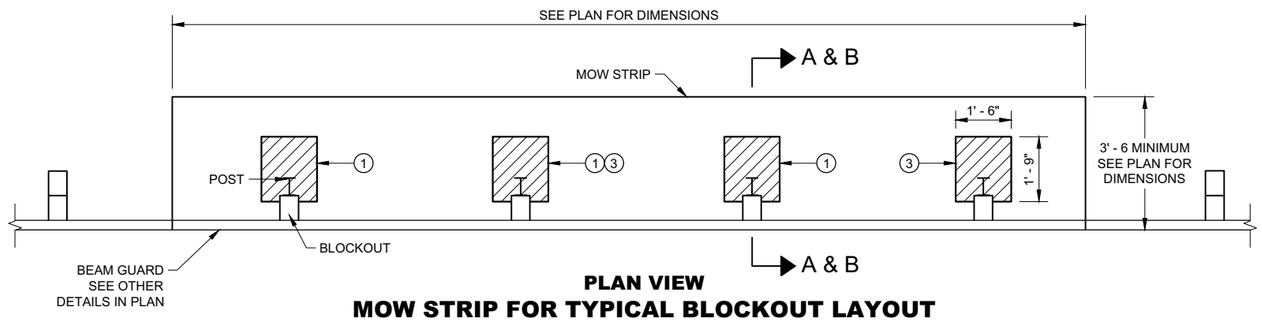
## GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

1. CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
2. DEPTH OF MOW STRIP:
   ASPHALT - 4"
   CONCRETE - 4"
   EMULSIFIED ASPHALT - 1" OR LESS
3. FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)

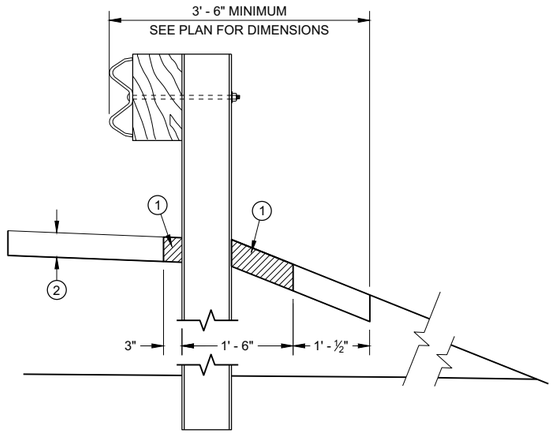



**SECTION A - A**

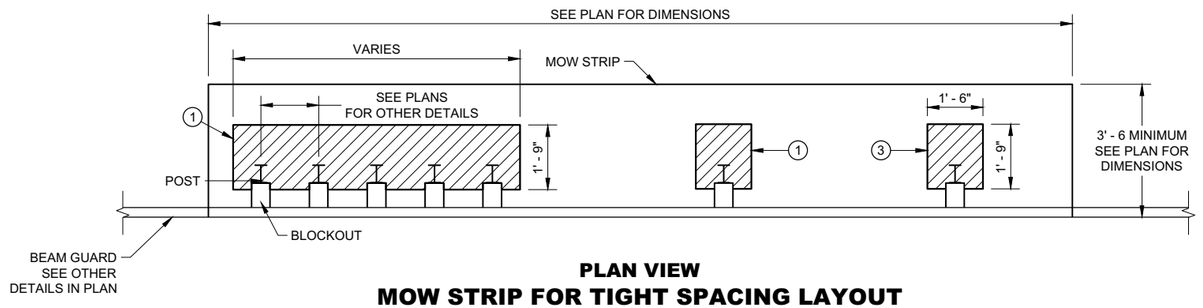



**PLAN VIEW**

## MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT

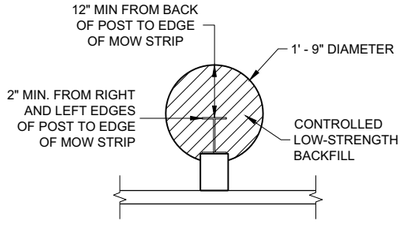



**SECTION B - B**

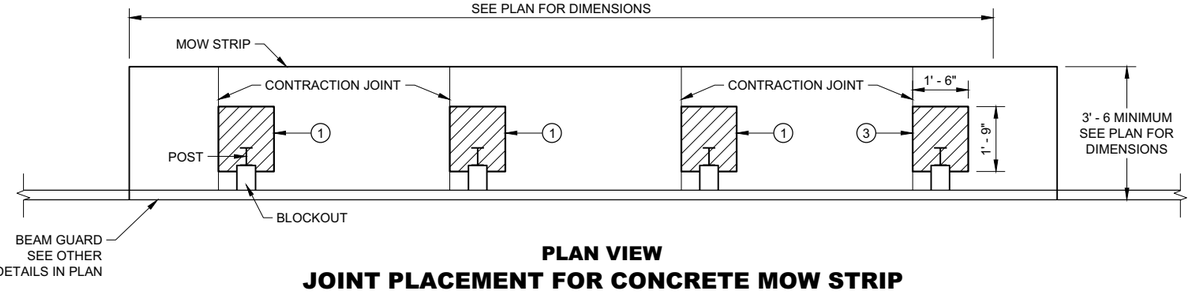



**PLAN VIEW**

## MOW STRIP FOR TIGHT SPACING LAYOUT




## ALTERNATIVE HMA MOW STRIP DESIGN




**PLAN VIEW**

## JOINT PLACEMENT FOR CONCRETE MOW STRIP

**GUARDRAIL MOW STRIP**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




6


SDD 14B28 - 04a

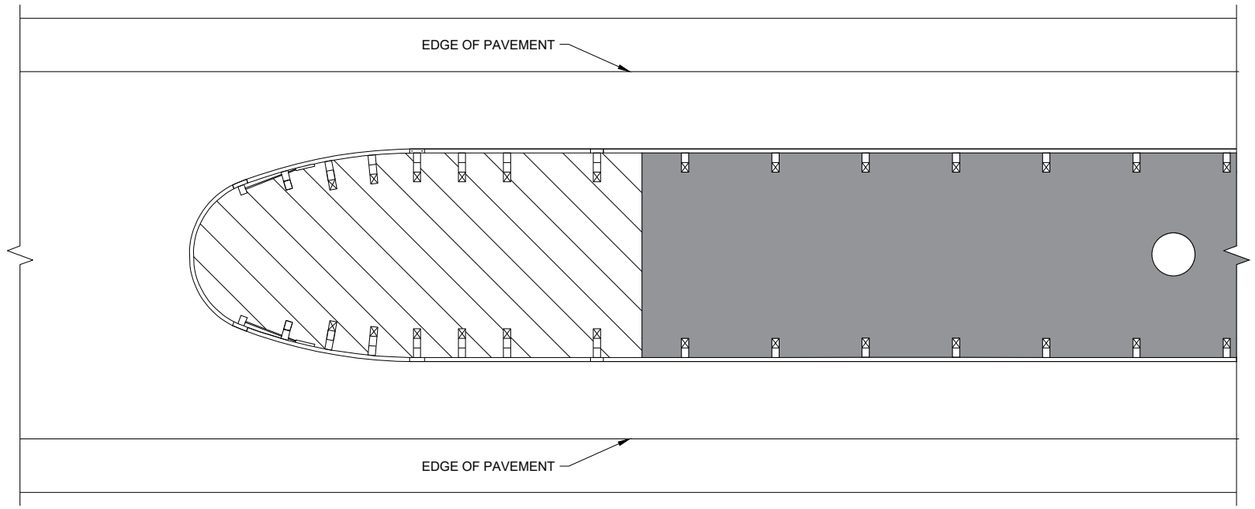
## LEGEND

CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

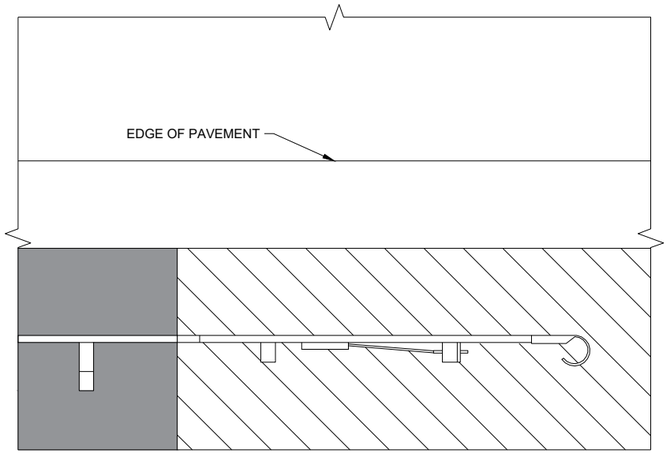
EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

## GENERAL NOTES

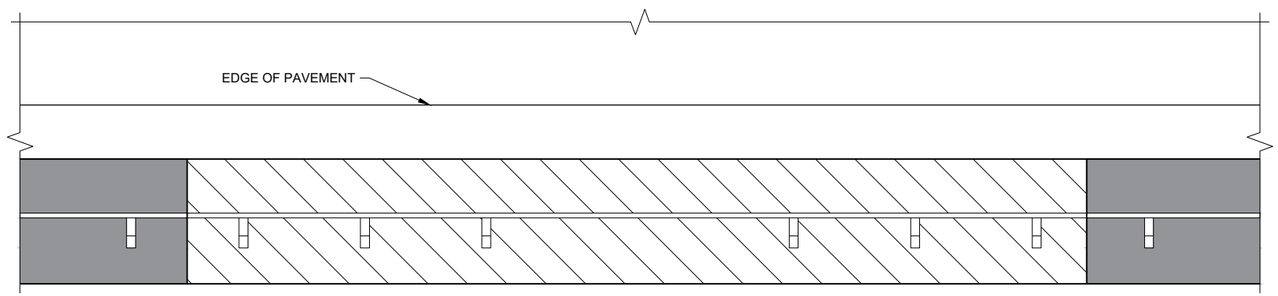
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



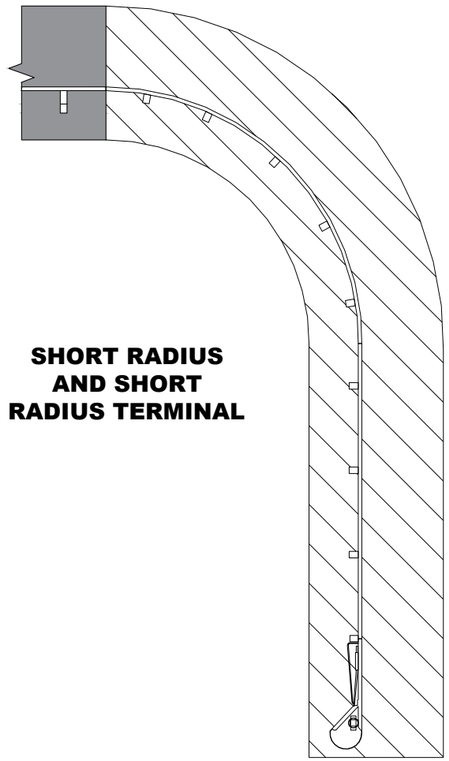

**THRIE BEAM BULLNOSE**




**TYPE 2 TERMINAL**




**LONG - SPAN**



**SHORT RADIUS AND SHORT RADIUS TERMINAL**

**GUARDRAIL MOW STRIP**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
ENGINEER

FHWA



6

SDD 14B28 - 04b

6

SDD 14B28 - 04b

(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.

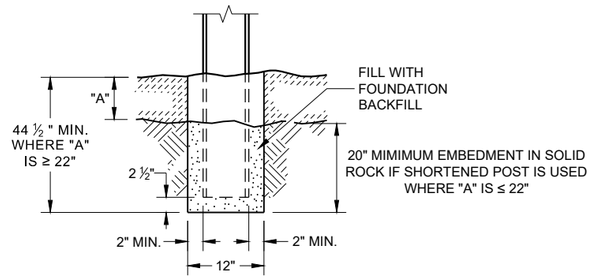
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE 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).

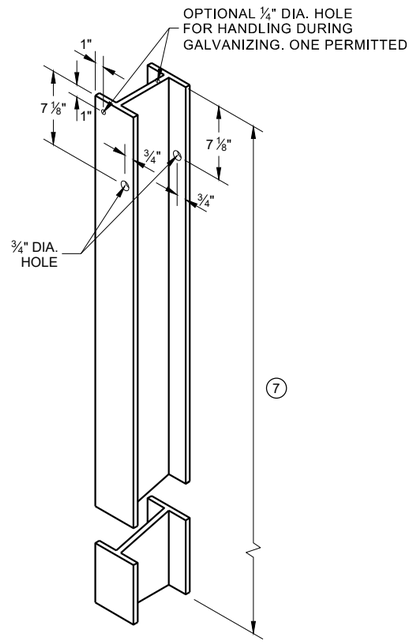
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(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.

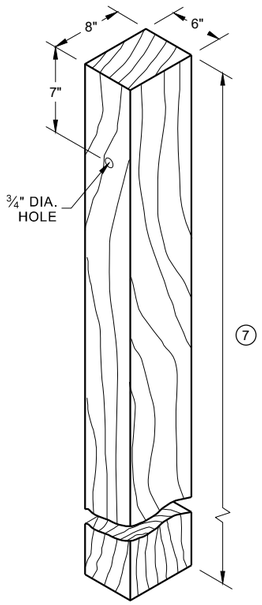
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



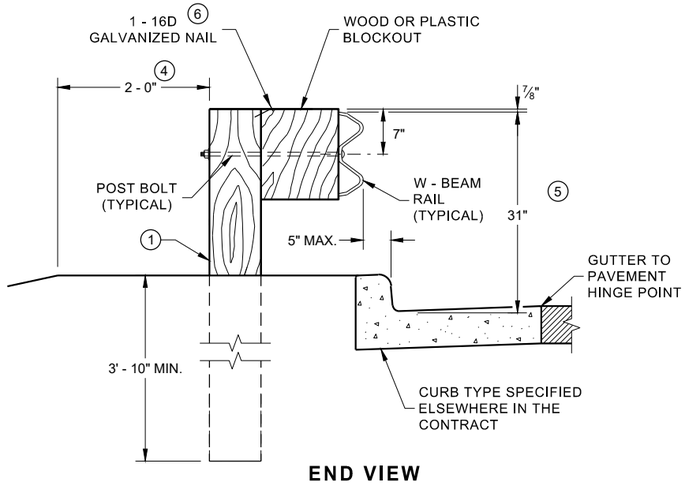

END VIEW
**SETTING STEEL OR WOOD POST IN ROCK** (3)



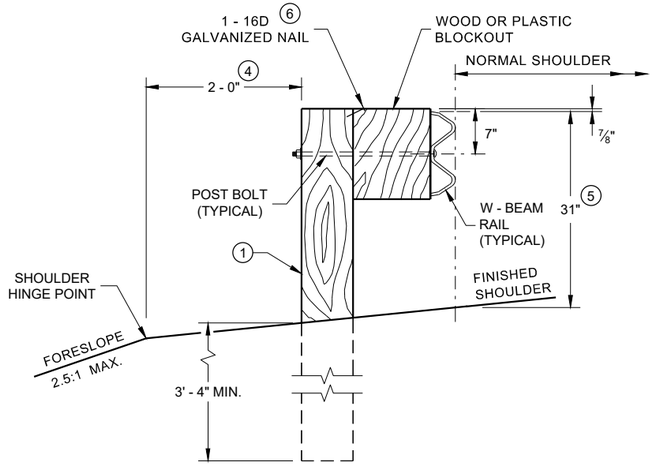

**STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9)** (1)



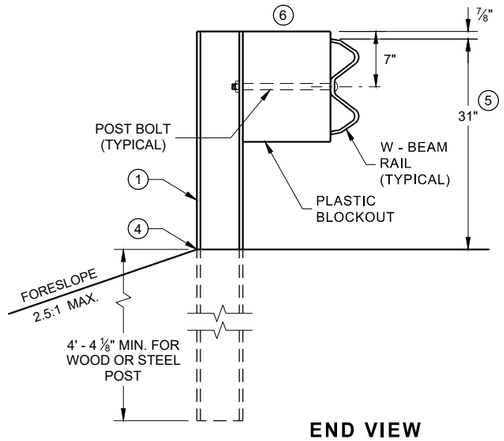

**WOOD POST (6" X 8") NOMINAL** (1)



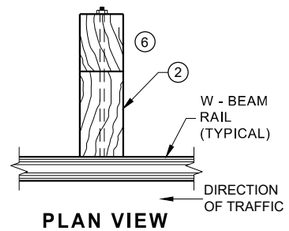

END VIEW
**LOCATED ALONG A CURBED ROADWAY**



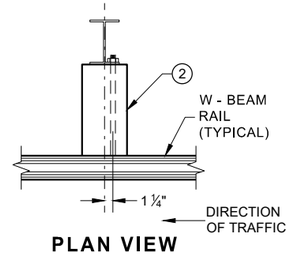

END VIEW
**LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION**



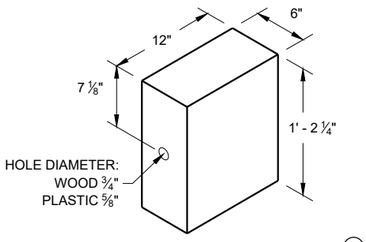

END VIEW
**MGS LONGER POST AT HALFPOST SPACING W BEAM (K)**




PLAN VIEW
**WOOD POST, BLOCKOUT & BEAM**




PLAN VIEW
**STEEL POST, PLASTIC BLOCKOUT & BEAM**




**WOOD OR PLASTIC BLOCKOUT** (2)

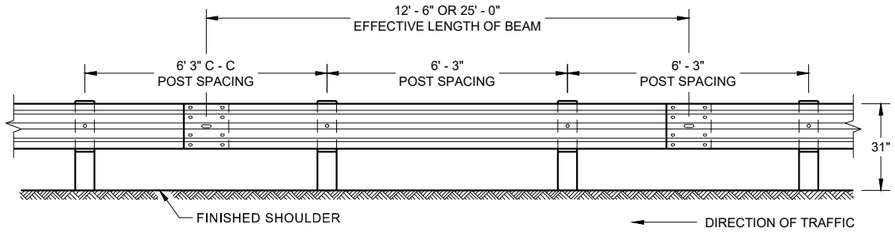
**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

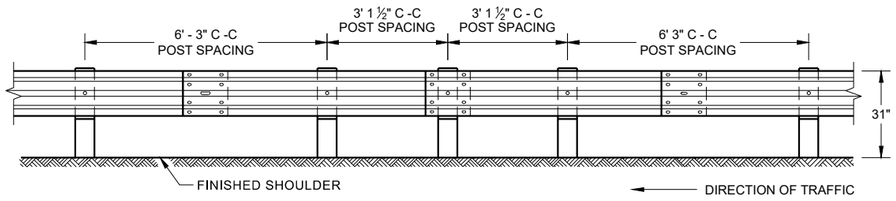


SDD 14B42 - 07a

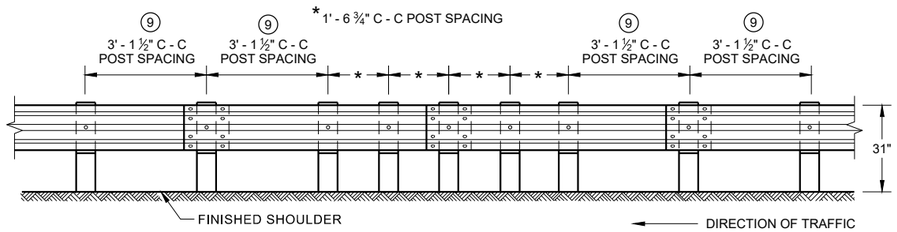
SDD 14B42 - 07a



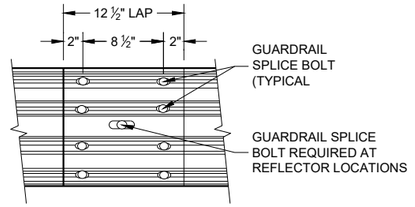

**FRONT VIEW**
**POST SPACING STANDARD INSTALLATION**



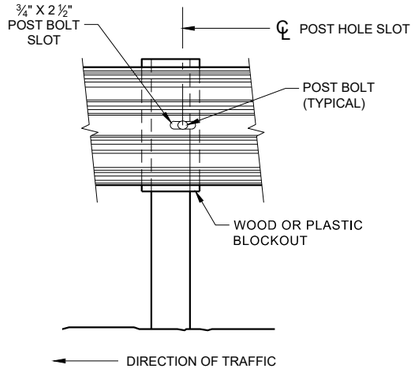

**FRONT VIEW**
**HALF POST SPACING (HS) AND**
**HALF POST SPACING WITH LONGER POSTS (K)**



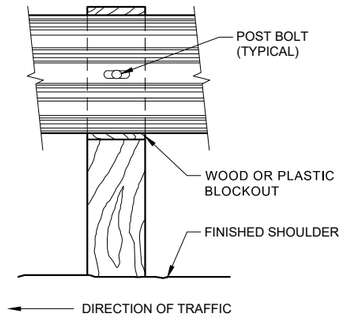

**FRONT VIEW**
**QUARTER POST SPACING (QS)**



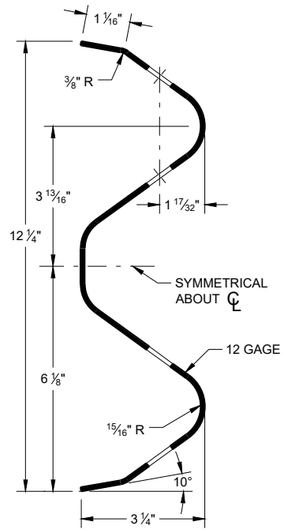

**FRONT VIEW**
**MID-SPAN BEAM SPLICE**



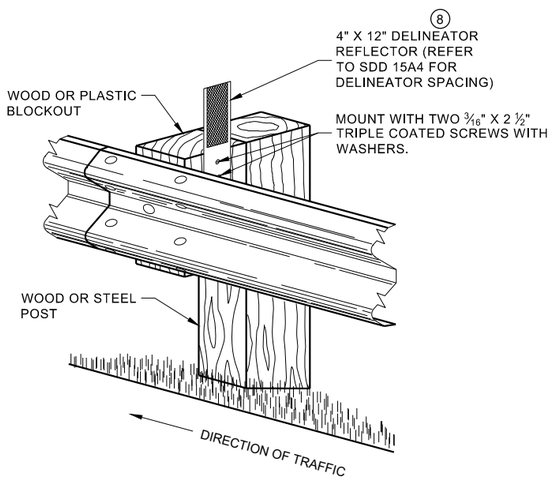

**FRONT VIEW AT STEEL POST**




**FRONT VIEW AT WOOD POST**




**SECTION THRU W-BEAM RAIL**




**ONE SIDED REFLECTOR DETAIL**
**AND TYPICAL INSTALLATION**

## GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

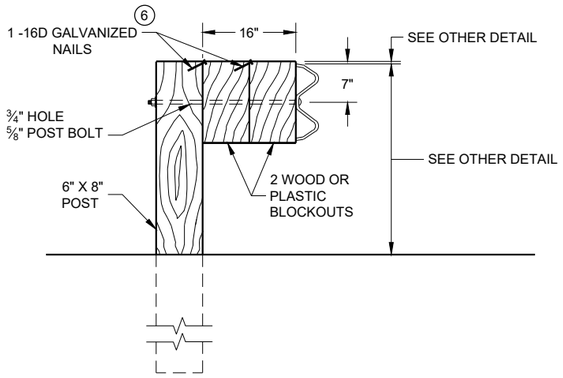
POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

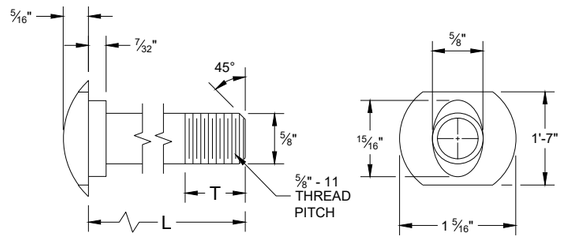



## DETAIL FOR 16" BLOCKOUT DEPTH

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.

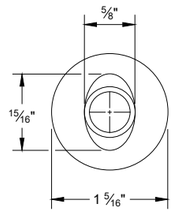
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

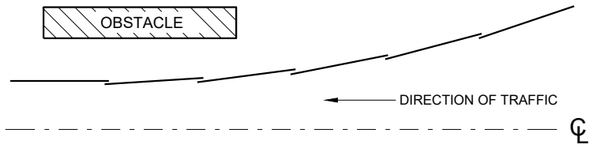



## POST BOLT TABLE

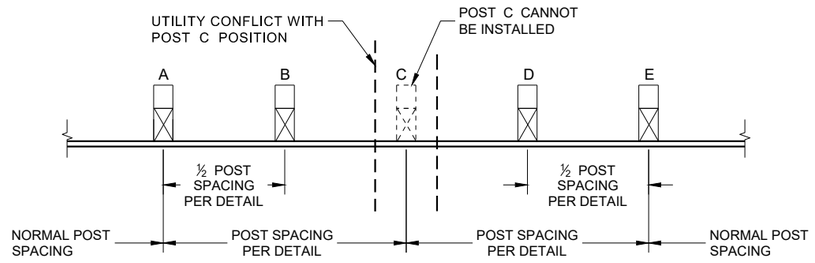
| L | T (MIN.) |
|---|---|
| 1 ¼" | 1 ⅛" |
| 2" | 1 ¾" |
| 10" | 4" |
| 14" | 4 1/16" |
| 18" | 4" |
| 21" | 4 1/16" |
| 25" | 4" |



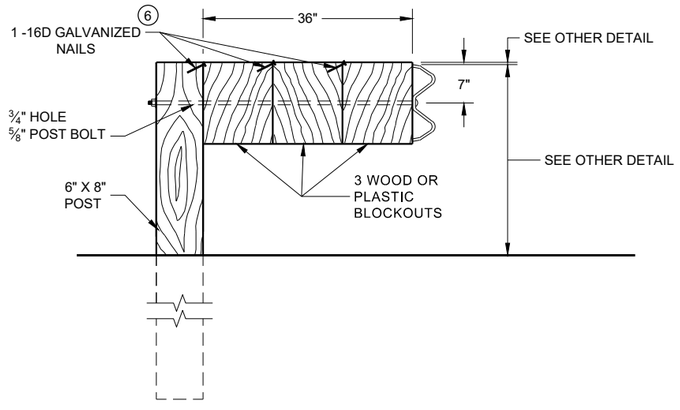

## ALTERNATE BOLT HEAD



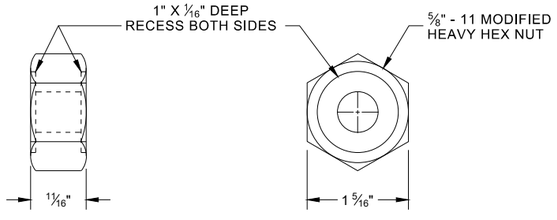

## PLAN VIEW
## BEAM LAPPING DETAIL



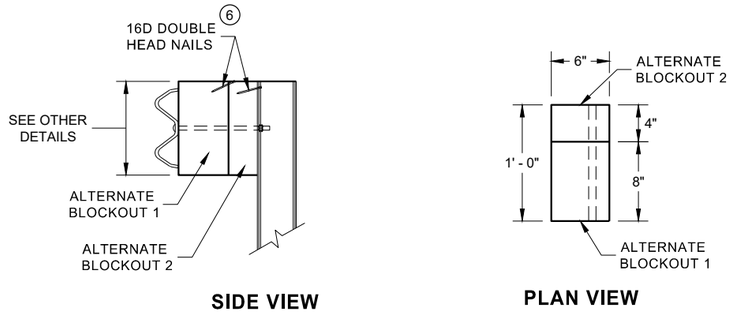

## POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION




## DETAIL FOR 36" BLOCKOUT DEPTH




## POST BOLT, SPLICE BOLT AND RECESS NUT




SIDE VIEW

PLAN VIEW

## ALTERNATE WOOD BLOCKOUT DETAIL

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.

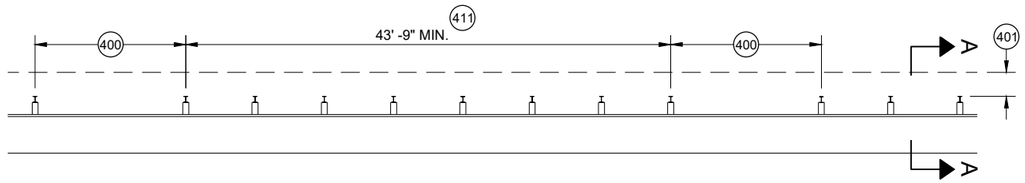
(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

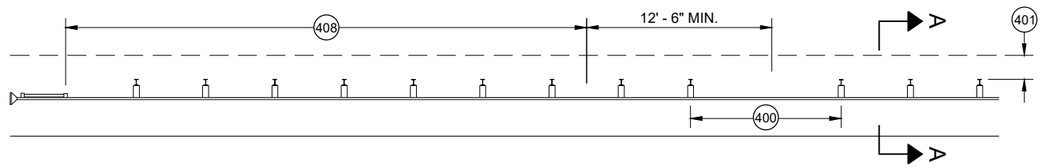


6

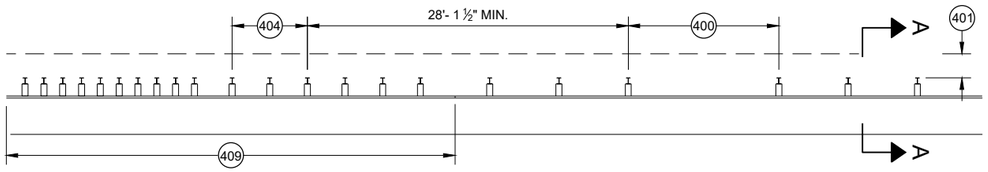
SDD 14B42 - 07c



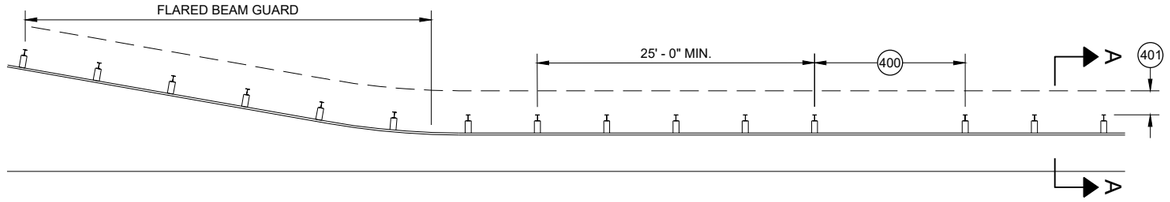

**MISSING POST IN MGS GUARDRAIL**



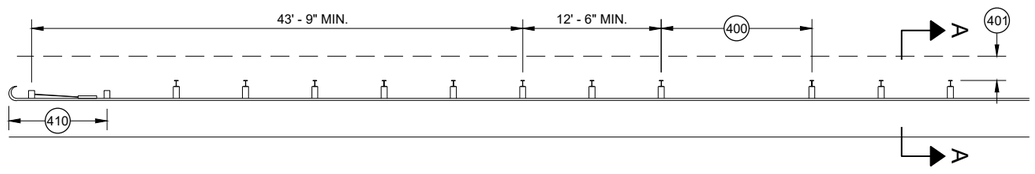

**MISSING POST IN MGS GUARDRAIL NEAR EAT**



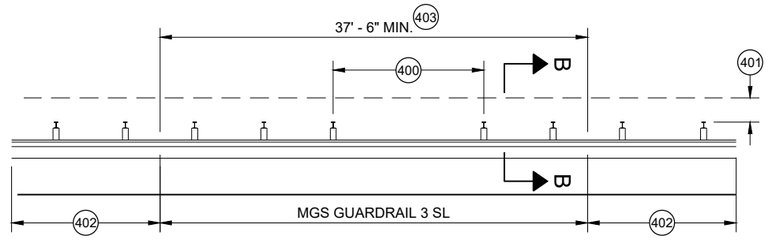

**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**




**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

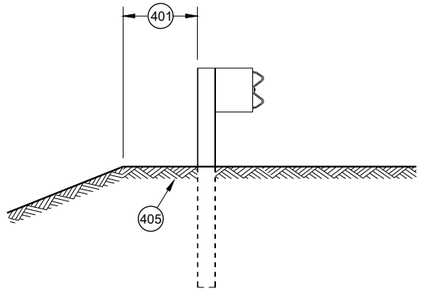



**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

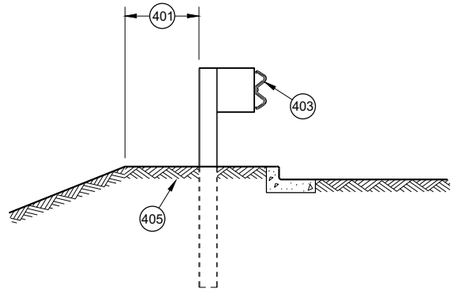



**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)** 407

(400) MAX SPAN 12' - 6"
(401) 2' MIN.
(402) MGS GUARDRAIL 3
(403) NESTING BEAM GUARD
(404) ASYMMETRIC TRANSITION
(405) SOIL WELL DRAINED AND COMPACTED
(406) SEE OTHER DRAWINGS IN THIS SDD
(407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
(408) SEE SDD 14B44
(409) SEE SDD 14B45
(410) SEE SDD 14B47
(411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.




**SECTION A - A** 406




**SECTION B - B** 406

**MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA




6


SDD 14B42 - 07d

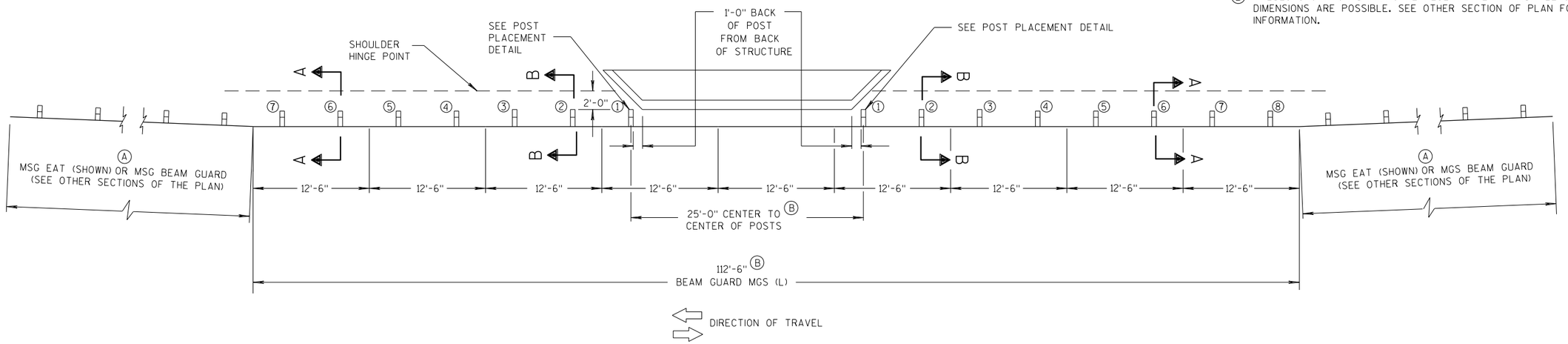
## GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

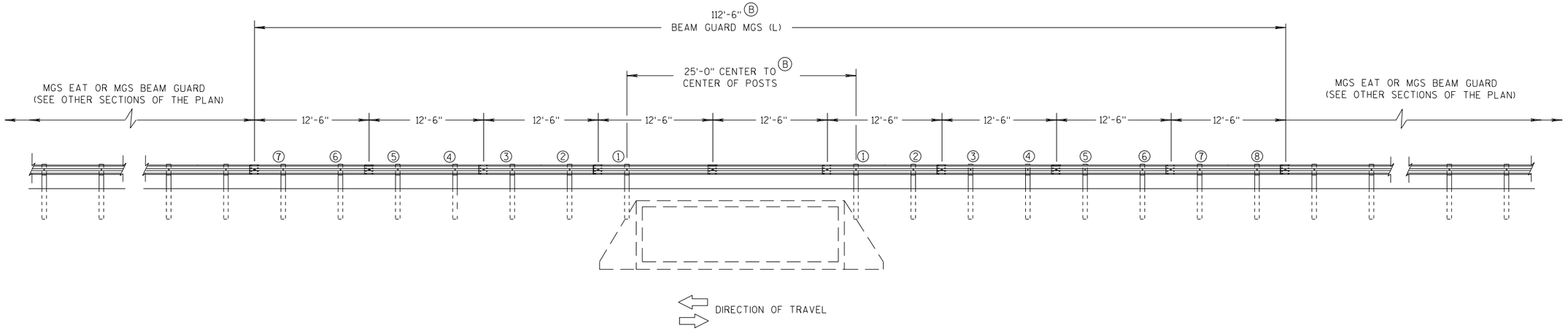
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.




**PLAN VIEW**




**ELEVATION VIEW**

# MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

**MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




6

S.D.D. 14 B 43-4a

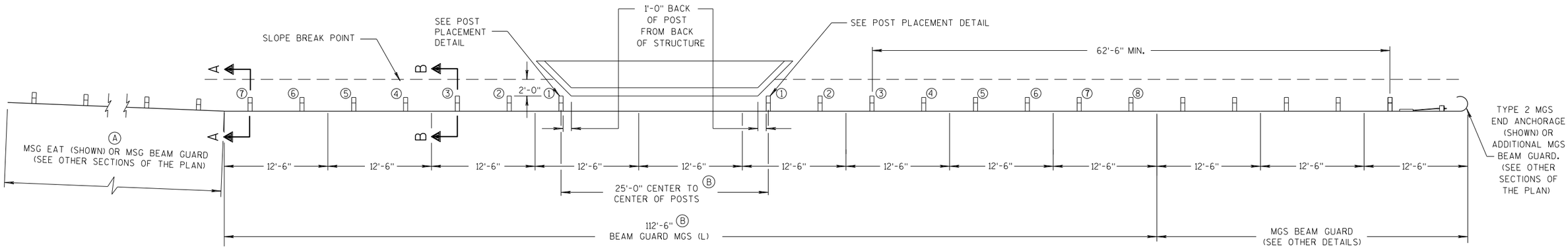
## GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

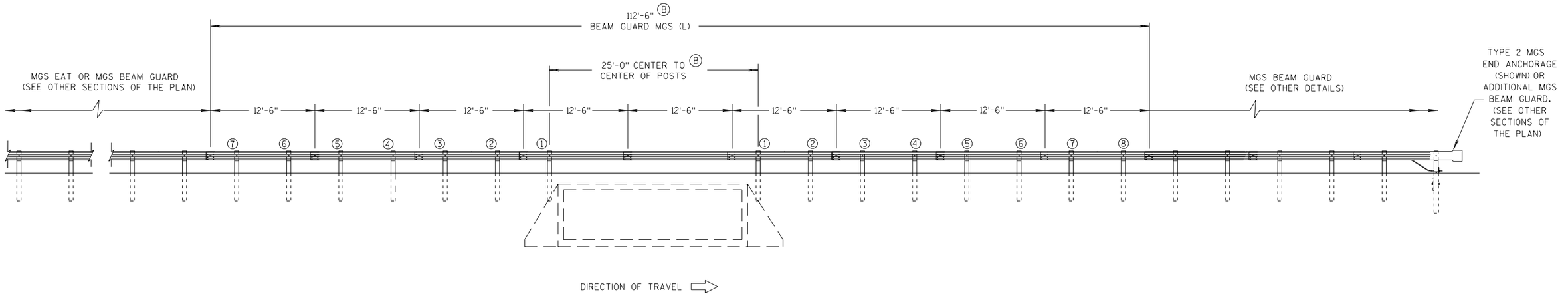
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.




**PLAN VIEW**



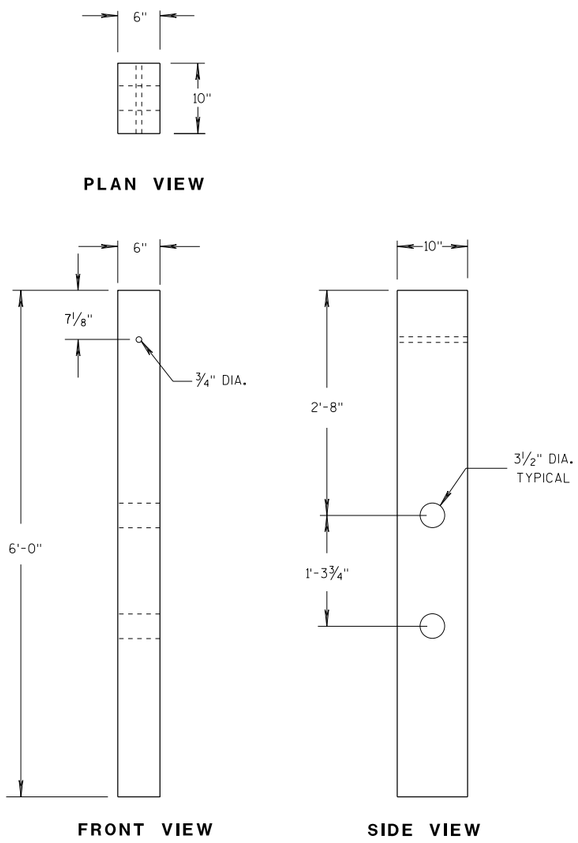

**ELEVATION VIEW**

# MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

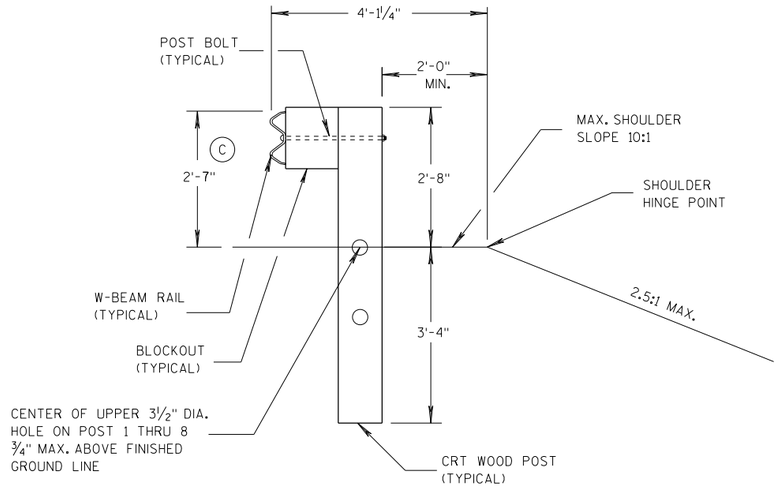
| MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) | |
|---|---|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | 109 |


6

S.D.D. 14 B 43-4b



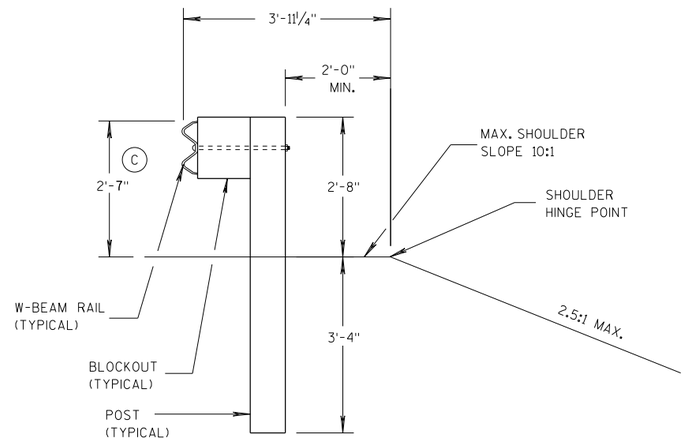

## CRT WOOD POST




**SECTION B-B**

## POSTS NO. 1-3

SEE OTHER DETAILS



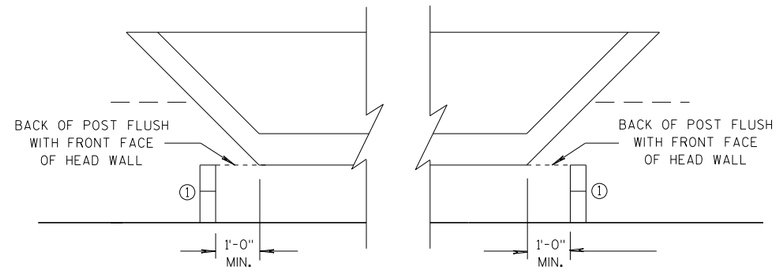

**SECTION A-A**

## POSTS NO. 4-8

SEE OTHER DETAILS

## GENERAL NOTES

(C) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".




## POST PLACEMENT DETAIL

## MIDWEST GUARDRAIL SYSTEM
## LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D 110 NT
ENGINEER

6

S.D.D. 14 B 43-4c

6

S.D.D. 14 B 43-4c

## 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 MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

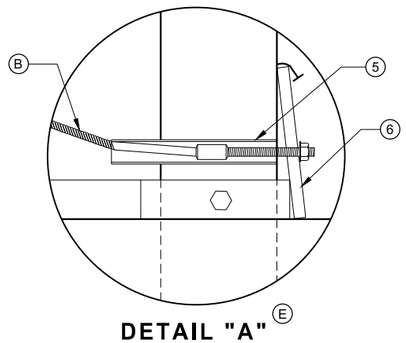
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

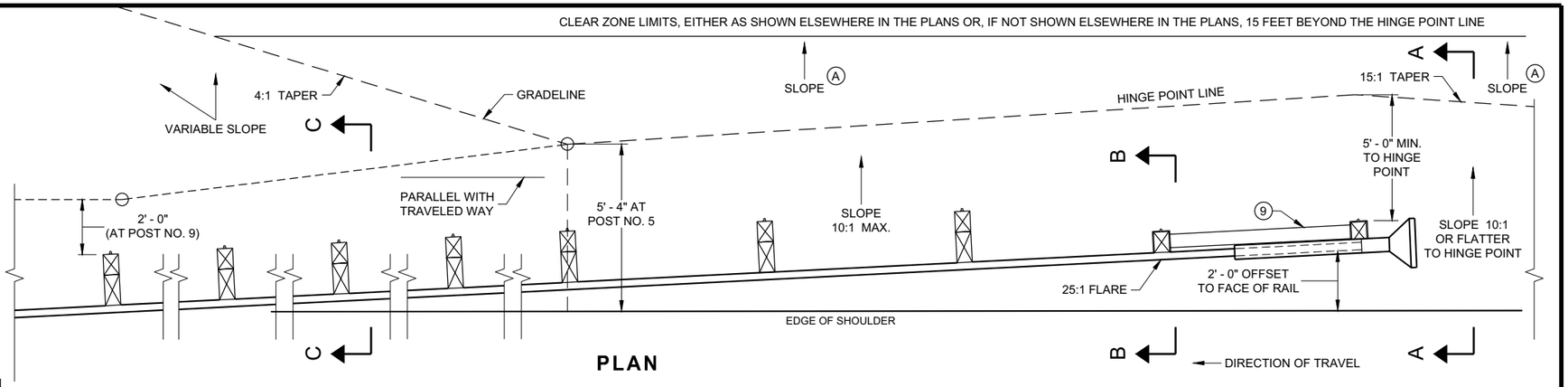
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

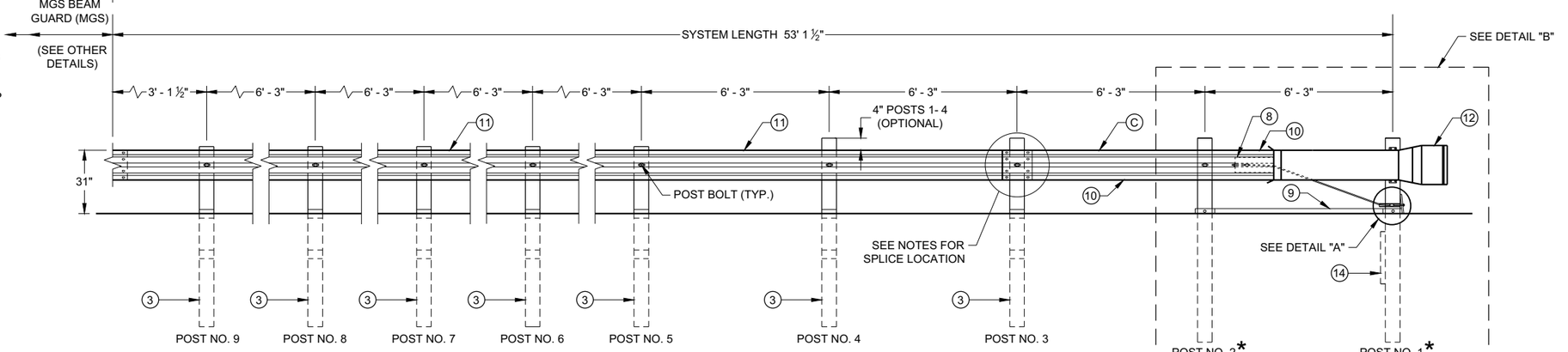
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



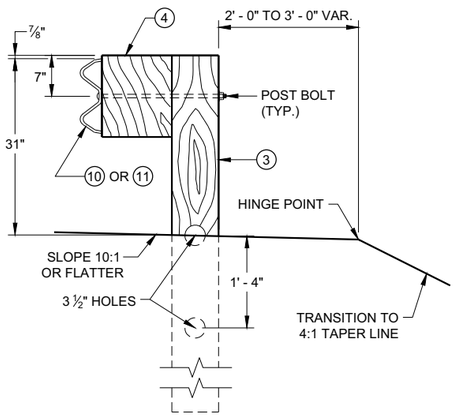

DETAIL "A" (E)



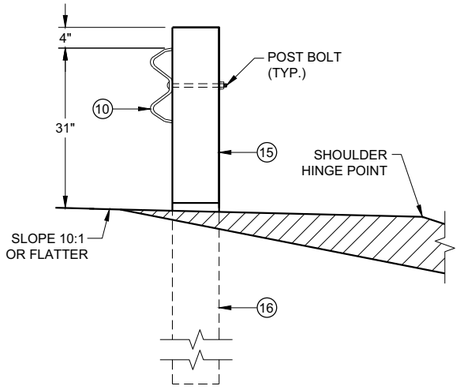

PLAN



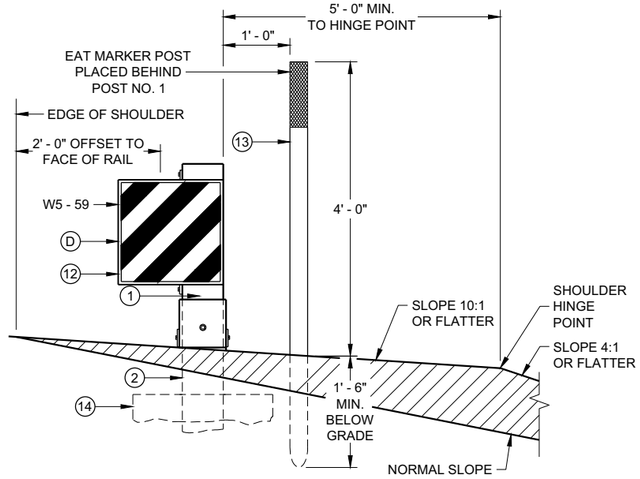

ELEVATION



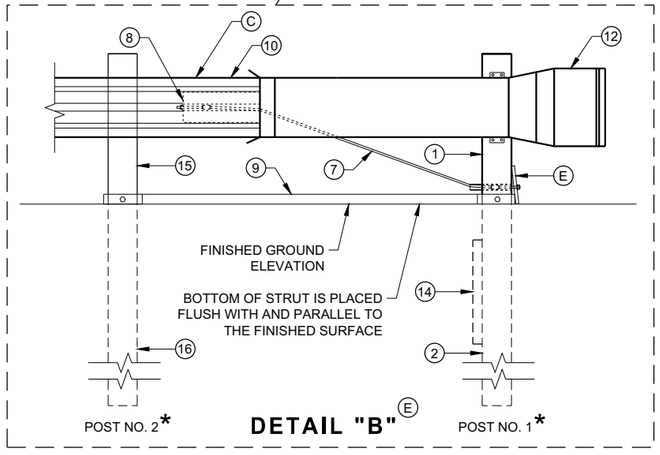

SECTION C - C
TYPICAL AT POST NOS. 3 - 9




SECTION B - B
TYPICAL AT POST NO. 2*




SECTION A - A
TYPICAL AT POST NO. 1*




DETAIL "B" (E)

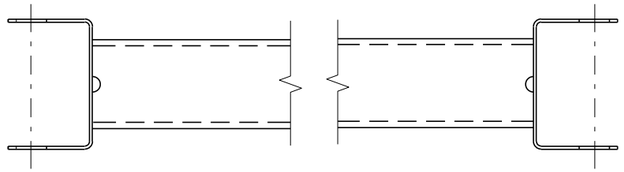
**MIDWEST GUARDRAIL SYSTEM**
**ENERGY ABSORBING TERMINAL (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a



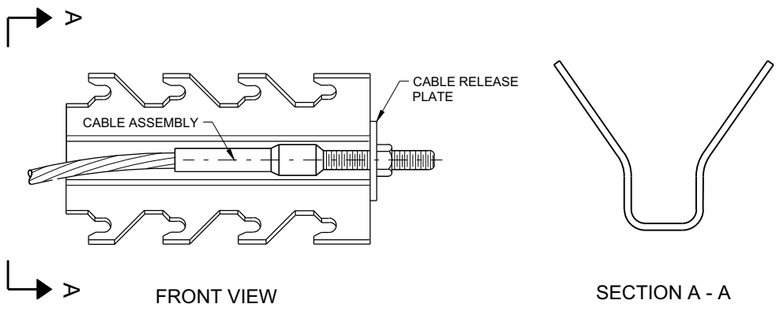
SDD 14B44 - 04a



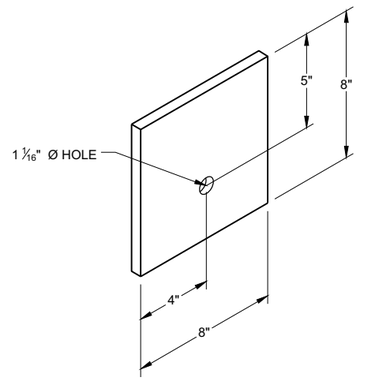
## GENERIC GROUND STRUT ⑨ Ⓔ

## BILL OF MATERIALS

| PART NO. | DESCRIPTION<br>MATERIALS PROVIDED BY MGS EAT MANUFACTURER.<br>SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION. |
|---|---|
| ① | UPPER POST NO. 1 6" X 6" TUBE |
| ② | LOWER POST NO. 1 |
| 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.<br>SECTIONS VARY IN LENGTH. |
| ⑫ | IMPACT HEAD |
| ⑬ | EAT MARKER POST - YELLOW<br>(SEE APPROVED PRODUCTS LIST) |
| ⑭ | SOIL PLATE |
| ⑮ | UPPER POST NO. 2 |
| ⑯ | LOWER POST NO. 2 |




## GENERIC ANCHOR CABLE BOX ⑧ Ⓔ




## BEARING PLATE ⑥ Ⓔ

6

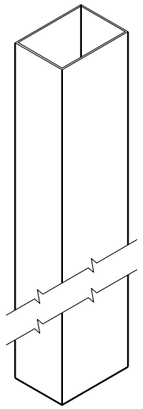
6

SDD 14B44 - 04b

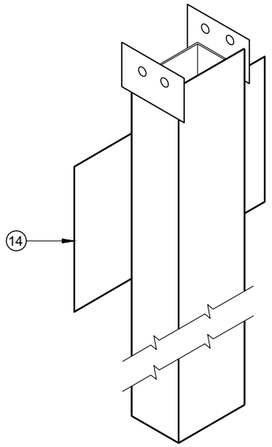
SDD 14B44 - 04b

**MIDWEST GUARDRAIL SYSTEM**
**ENERGY ABSORBING TERMINAL**
**(MGS)**

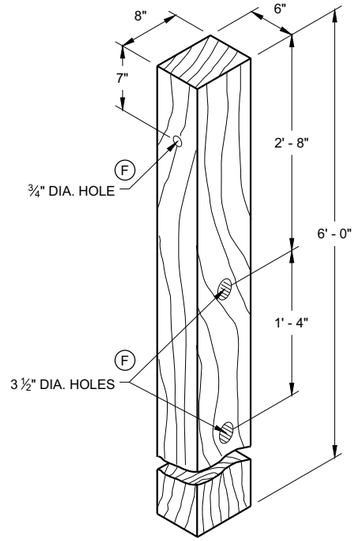
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



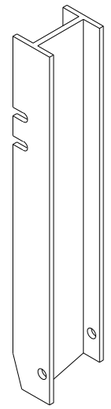
**UPPER POST NO. 1** (1) (E)



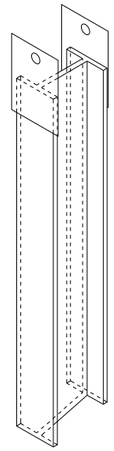

**LOWER POST NO. 1** (2) (E)



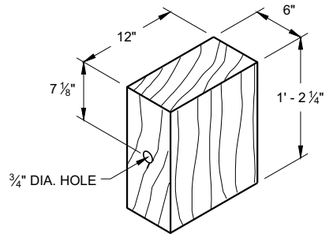

**WOOD CRT POST** (3) (E)
POSTS NUMBER 3-9



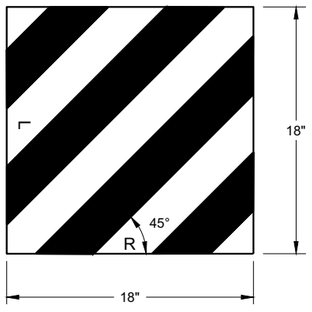
**UPPER POST NO. 2** (15) (E)



**LOWER POST NO. 2** (16) (E)

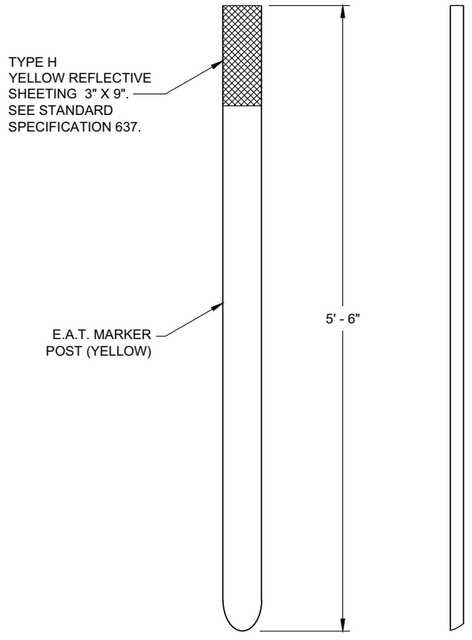



**WOOD BLOCKOUT** (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



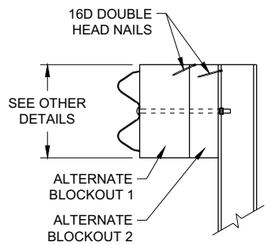

W5 - 59

**REFLECTIVE SHEETING DETAIL** (E)

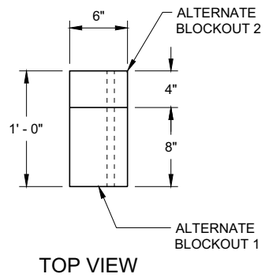



FRONT VIEW SIDE VIEW

**E.A.T. MARKER POST** (13)




SIDE VIEW




TOP VIEW

**ALTERNATE WOOD BLOCKOUT DETAIL**

**MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

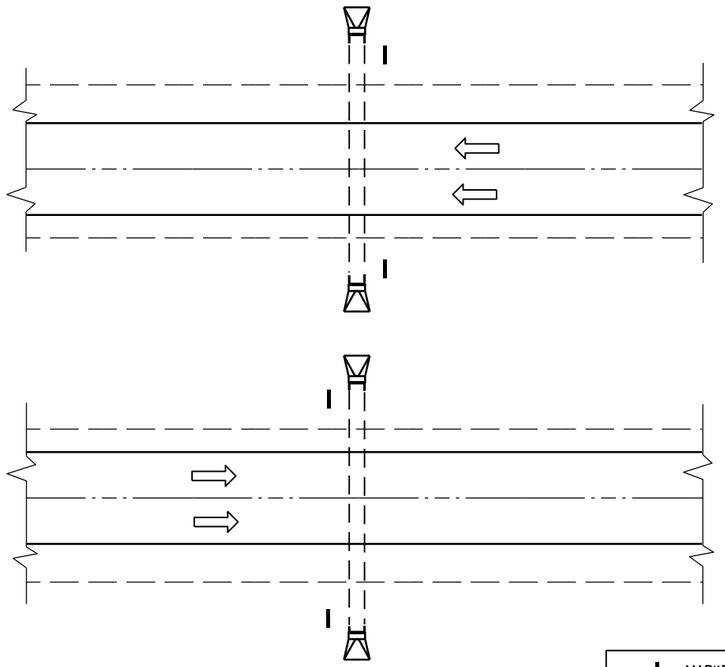
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA



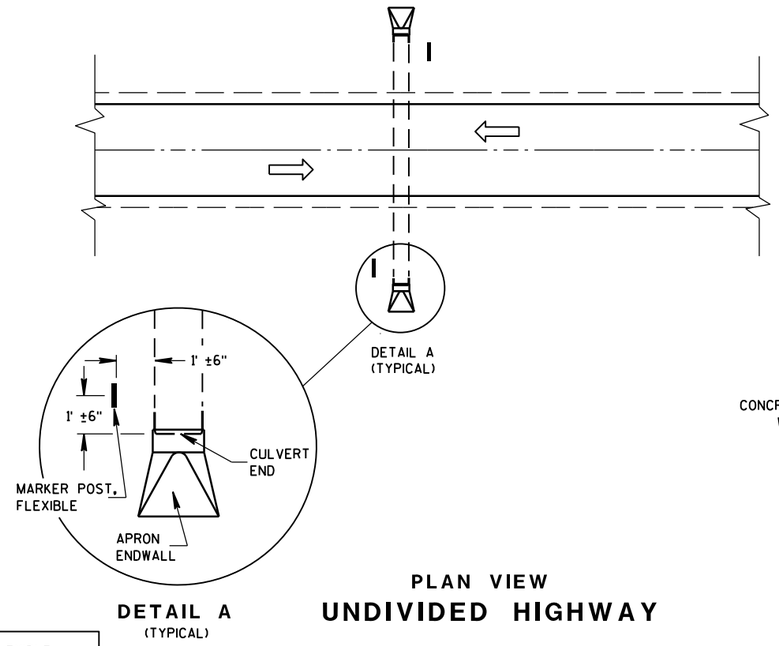

6


SDD 14B44 - 04c



PLAN VIEW

## DIVIDED HIGHWAY




DETAIL A
(TYPICAL)

PLAN VIEW

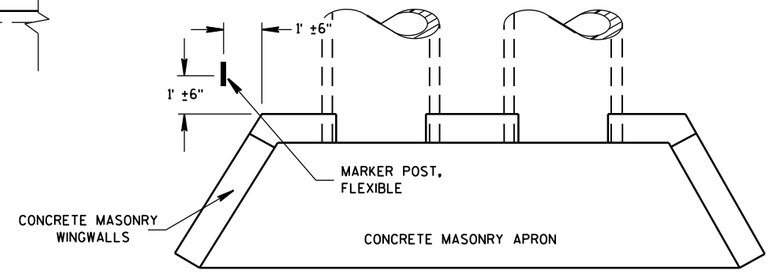
## UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

## GENERAL NOTES

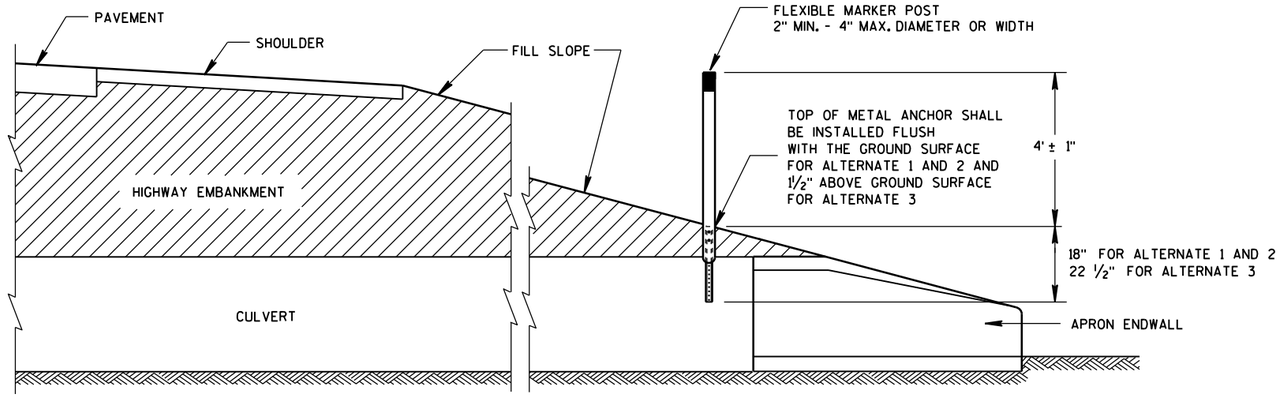
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.




PLAN VIEW

## CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

## FLEXIBLE MARKER POST LOCATION




CROSS SECTION

## FLEXIBLE MARKER POST

**FLEXIBLE MARKER POST FOR CULVERT END**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

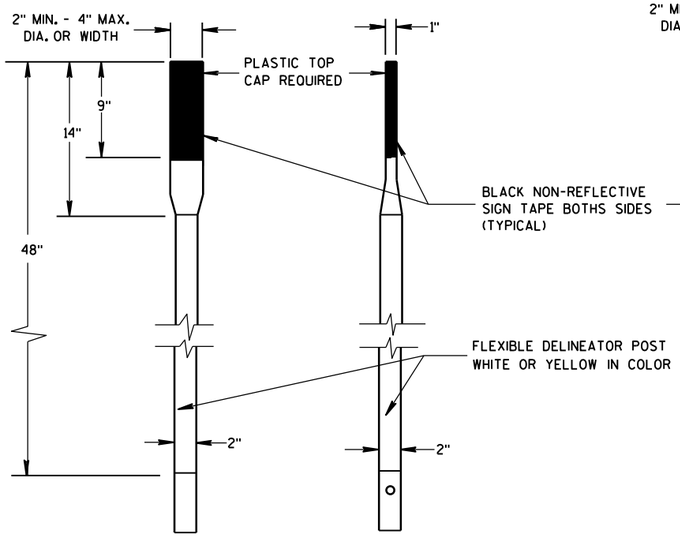


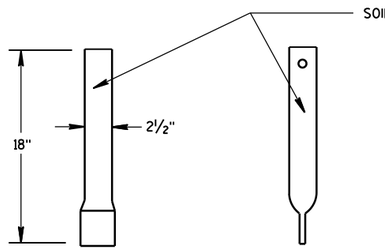
6

S.D.D. 15 A 3-2a

6

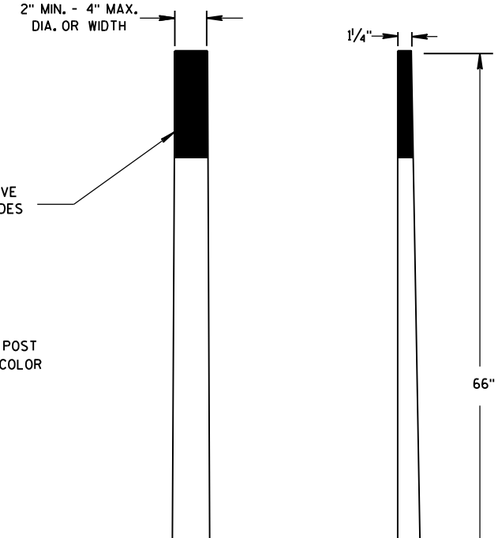
S.D.D. 15 A 3-2a



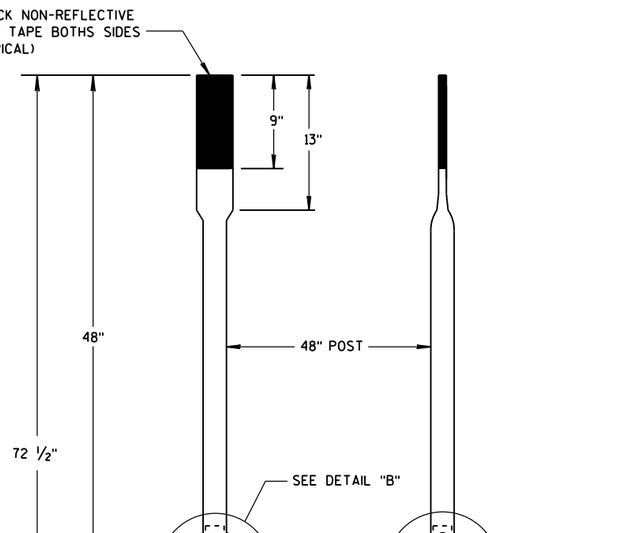

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

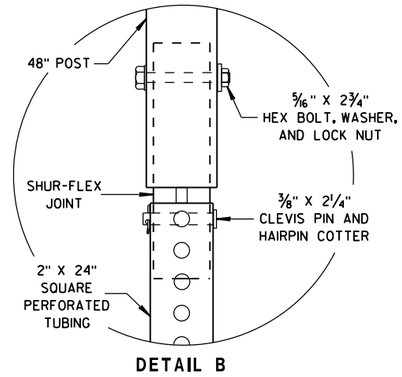
ALTERNATE 2



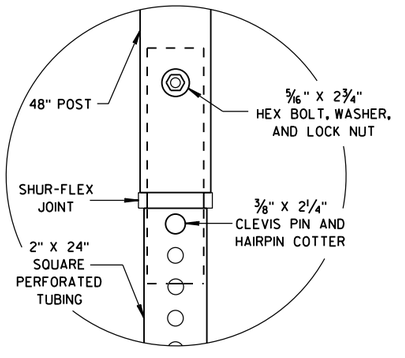

FRONT VIEW SIDE VIEW

ALTERNATE 3

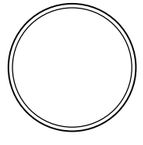
## FLEXIBLE MARKER POSTS



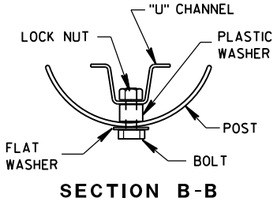

DETAIL B



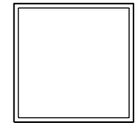

DETAIL C



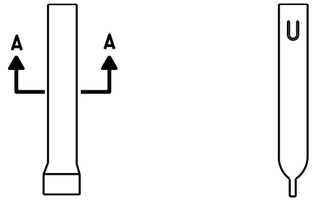
SECTION A-A




SECTION B-B

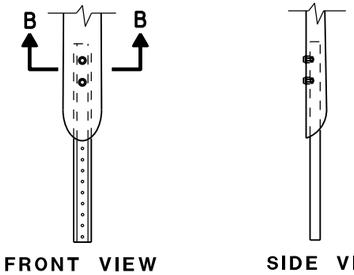


SECTION C-C



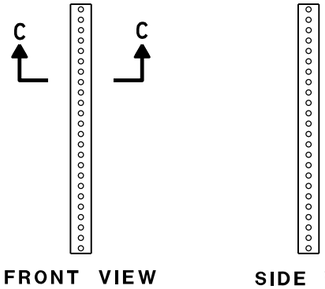

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

ALTERNATE 2




FRONT VIEW SIDE VIEW

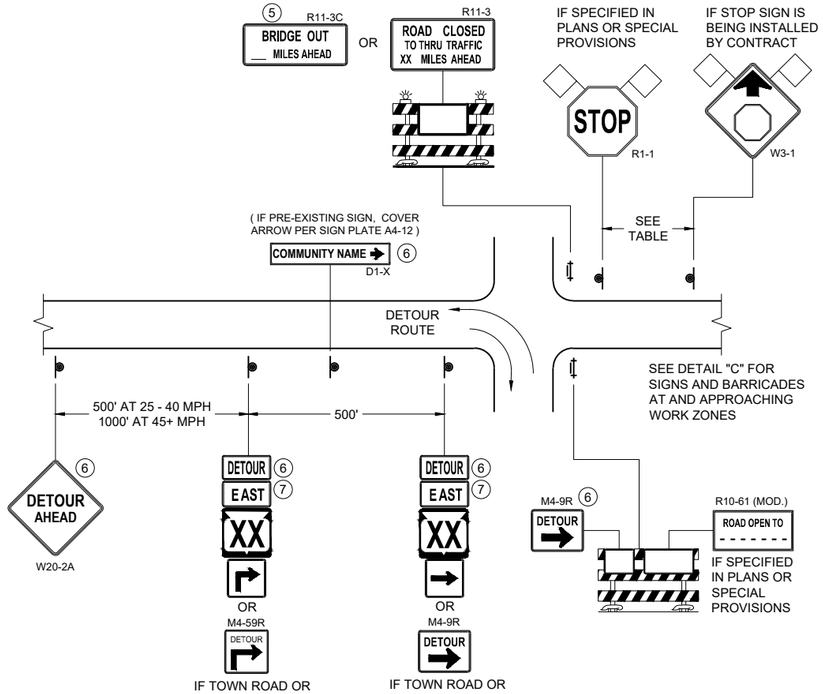
ALTERNATE 3

## FLEXIBLE MARKER POST ANCHORS

| | |
|---|---|
| FLEXIBLE MARKER POST FOR CULVERT END | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED | |
| 10/1/2012 DATE | /S/ Travis Feltes STATE TRAFFIC ENGINEER |
| FHWA | |



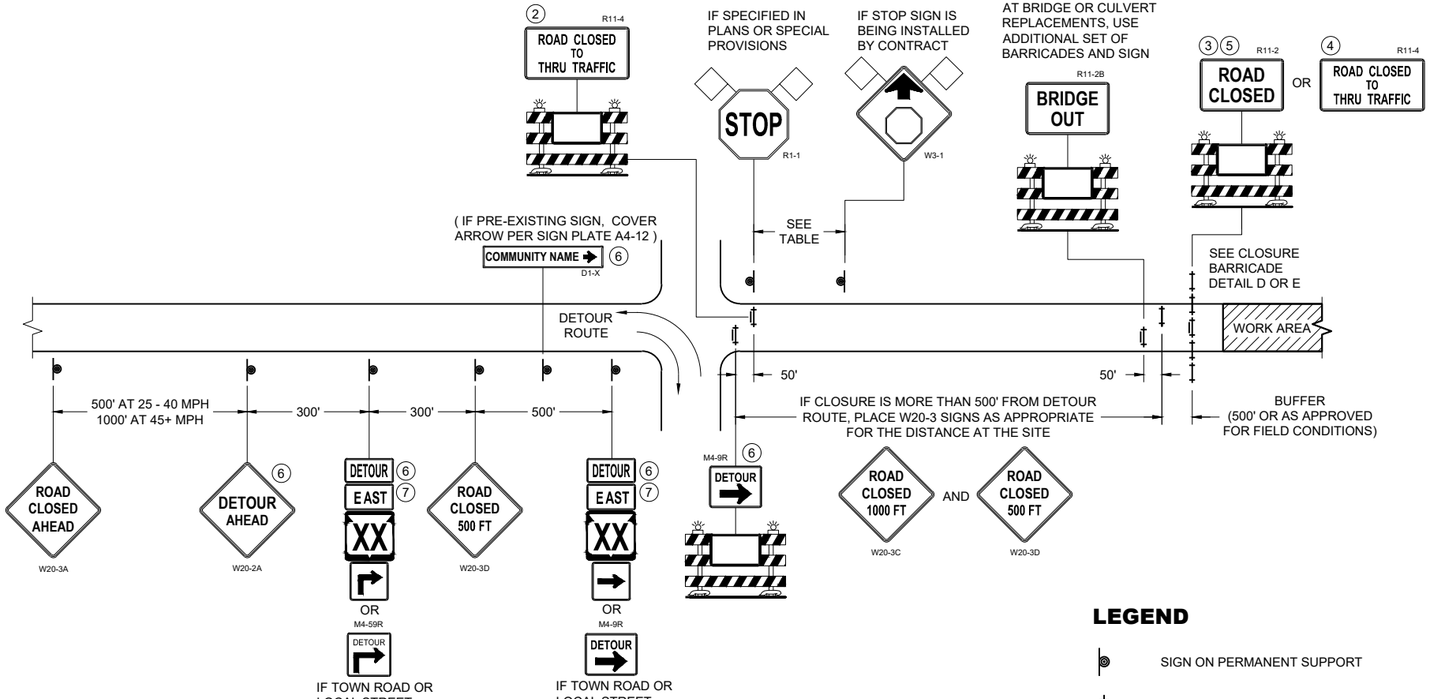
6
S.D.D. 15 A 3-2b




**DETAIL A**

**MAINLINE CLOSURE WITH POSTED DETOUR**

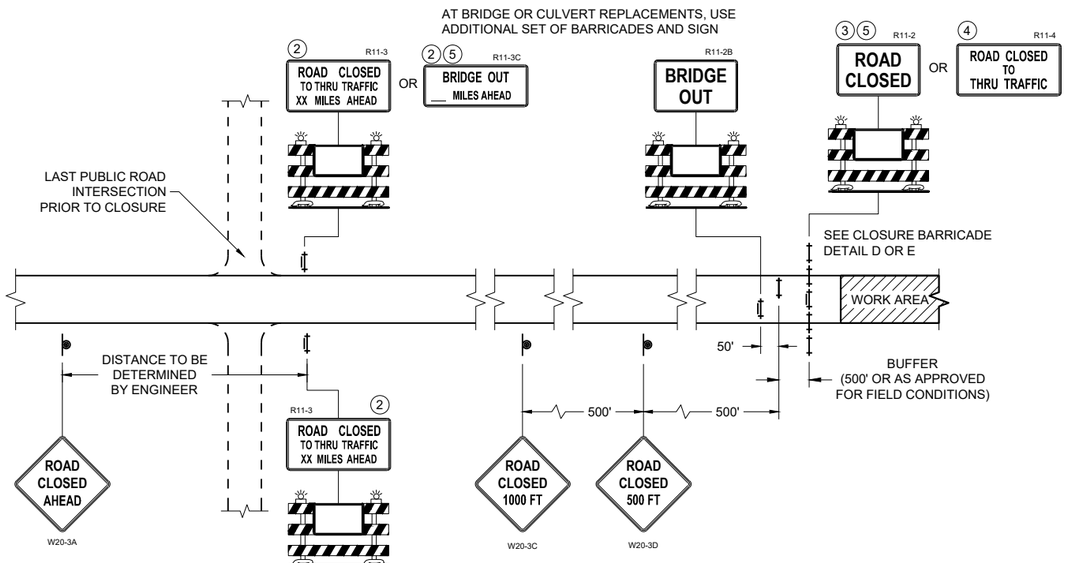
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE ( 1000 FEET IF URBAN )




**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 |

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES (1) THROUGH (7)

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

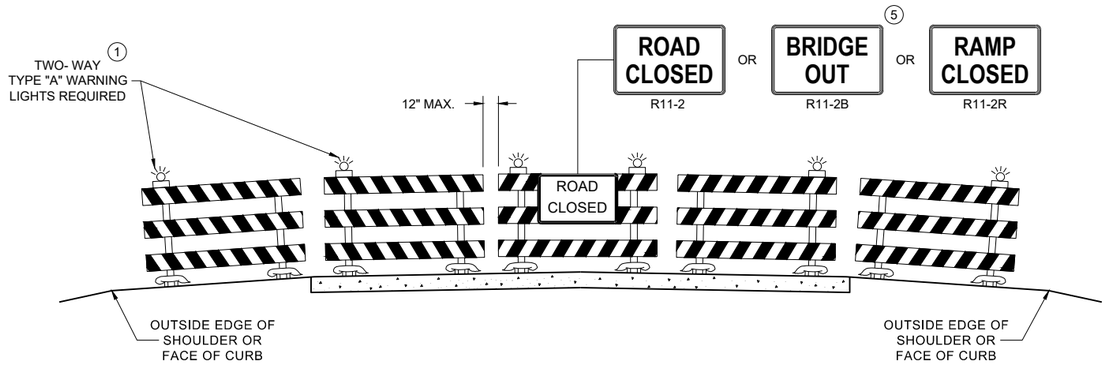
DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

# BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

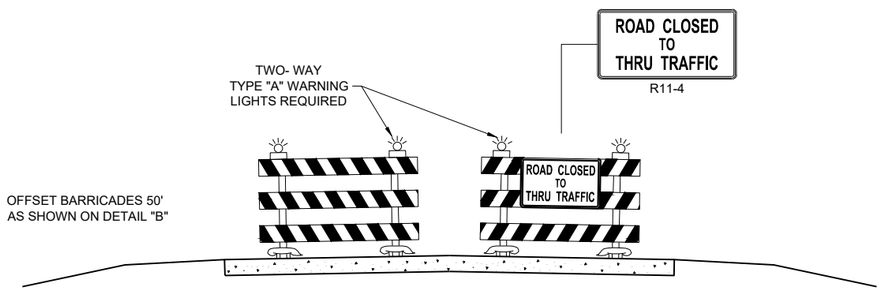

6
SDD 15C02-10a




**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.

PARTIAL NUMBERS ON SIGNS SHALL BE DISPLAYED AS A WHOLE NUMBER(AS NEEDED) FOLLOWED BY A FRACTION. SIGNS SHALL NOT DISPLAY NUMBERS IN DECIMAL FORM.

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

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

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

SIGNS PLACED ON TYPE III BARRICADES THAT ARE SIZES OTHER THAN 48"X30" SHALL HAVE A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE.

(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 AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE 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 VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA


6
SDD 15C02-10b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

## LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

## GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

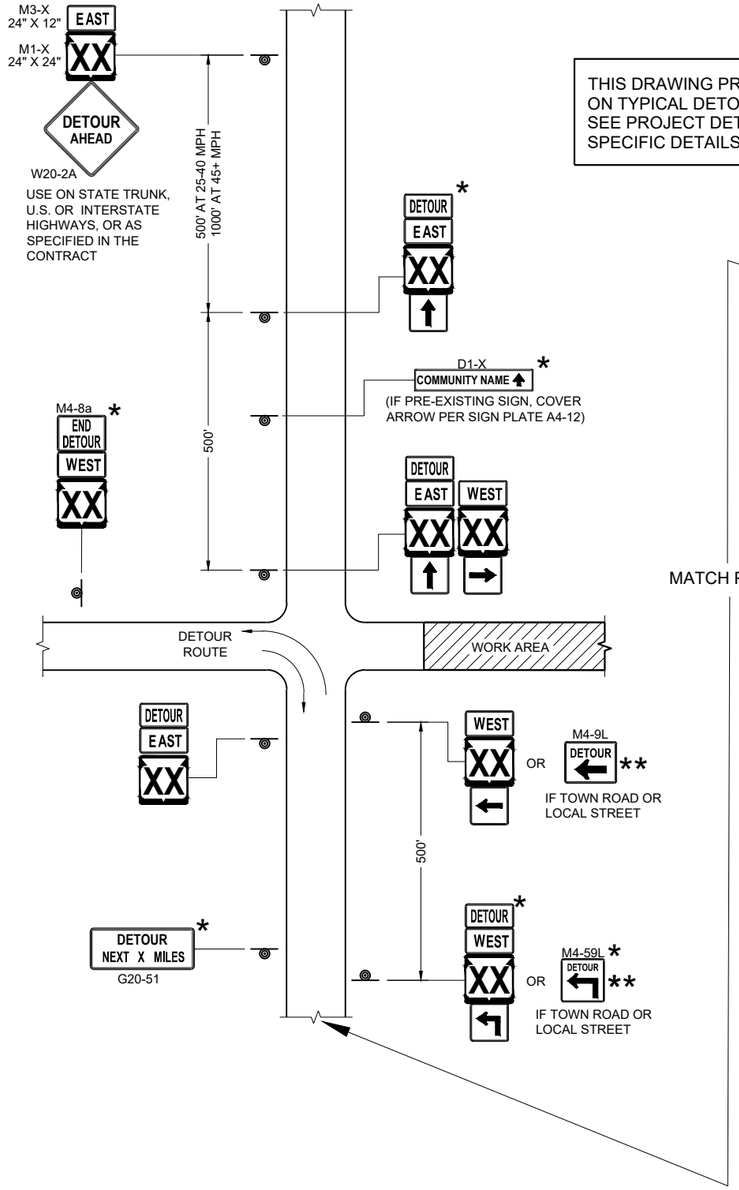
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

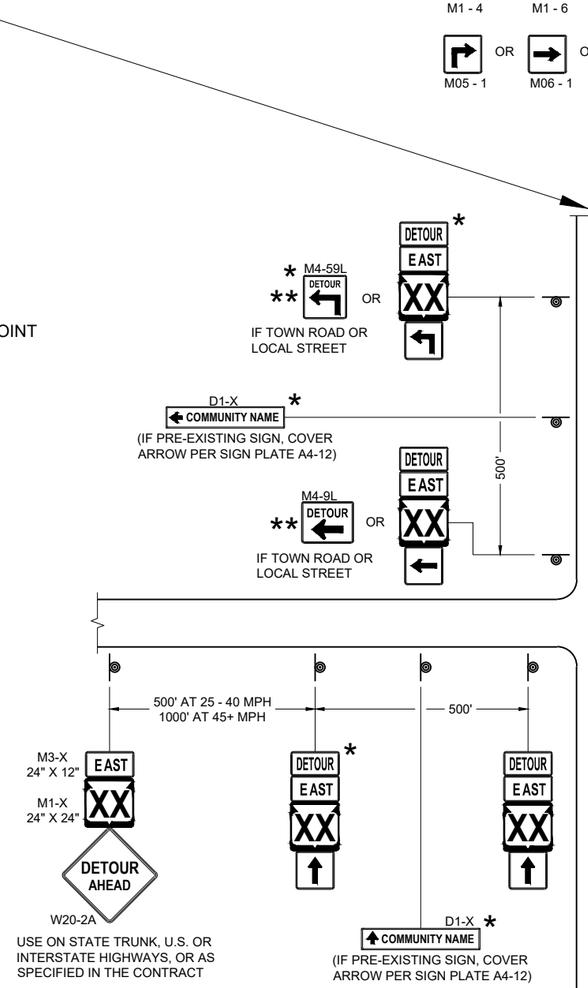
SIGN SIZES SHALL BE AS FOLLOWS:

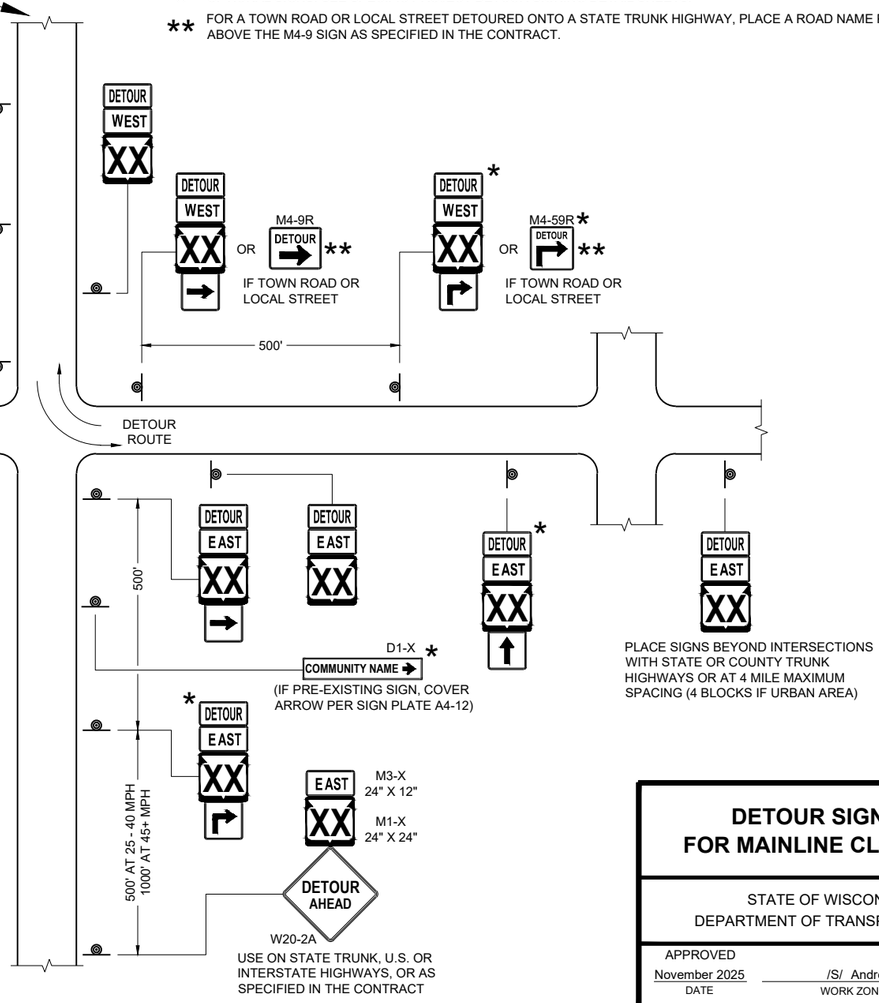
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.




SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

**DETAIL F**
**DETOUR SIGNING**

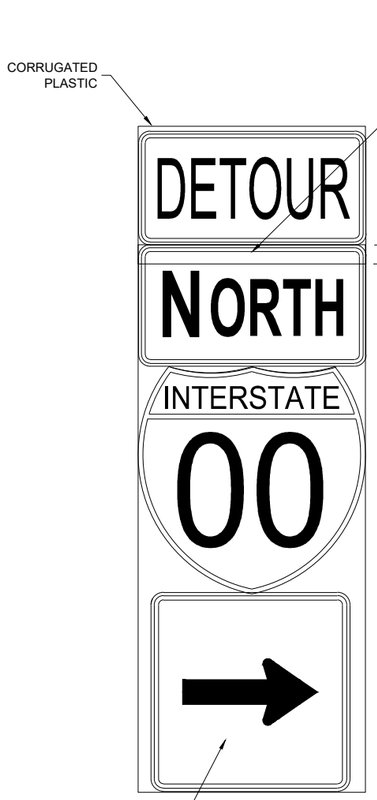
## DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

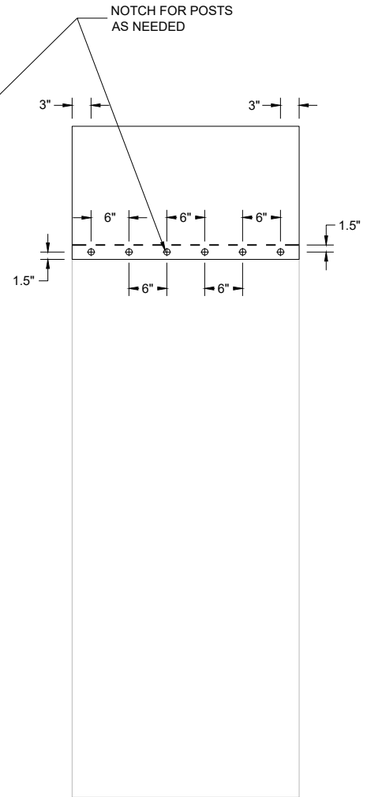
APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

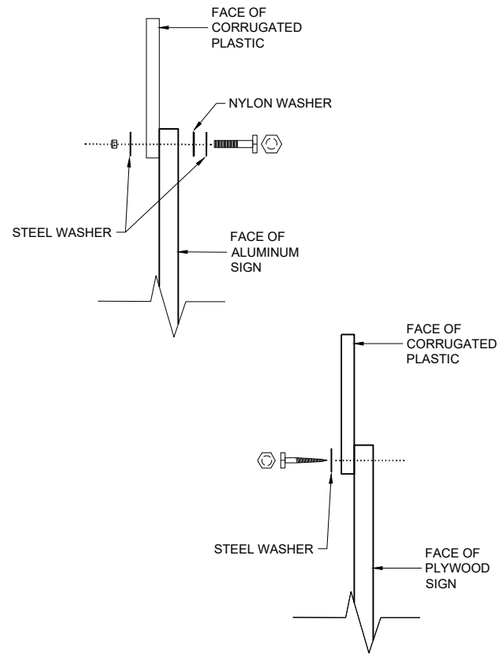
**FRONT SIDE**




**BACK SIDE**




**SIDE VIEW**




COVER EXISTING ARROW WITH APPROPRIATE DETOUR ARROW

## GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3.
B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC3

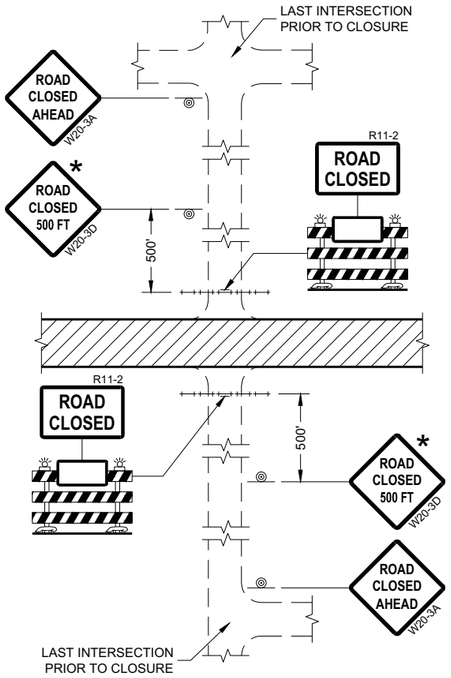
THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

PLYWOOD SIGNS:
LAG SCREWS - 5/16" x 1"
ALUMINUM SIGNS:
MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS
WASHERS:
1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
1-1/4" O.D. x 3/8" I.D. x .080 NYLON

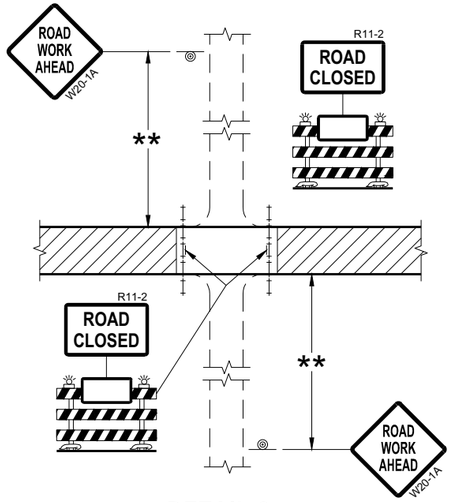
## MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

| MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING | |
|---|---|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED November 2025 DATE | /S/ Andrew Heidtke WORK ZONE ENGINEER |
| FHWA | |


6
SDD 15C02-10h




**DETAIL 1**
(NO ACCESS TO PROJECT)




**DETAIL 2**
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO 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 (500 FEET DESIRABLE) 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 REESTABLISHED.

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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.

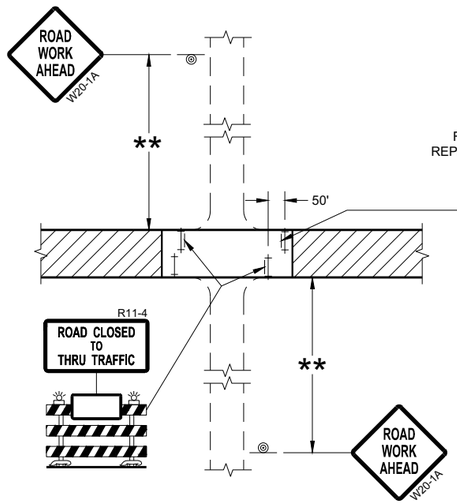
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

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.

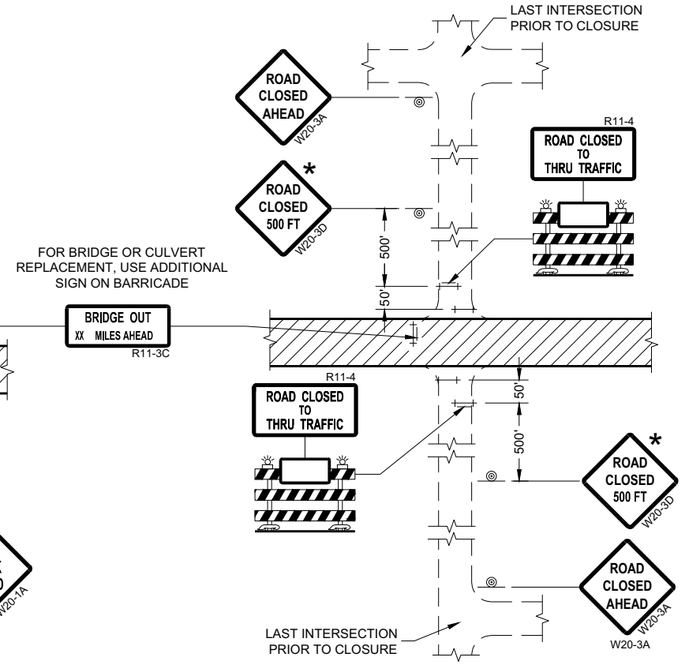
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.




**DETAIL 3**
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)




**DETAIL 4**
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

## LEGEND

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

**BARRICADES AND SIGNS FOR SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA





6

SDD 15C03 - 05

## GENERAL NOTES

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

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

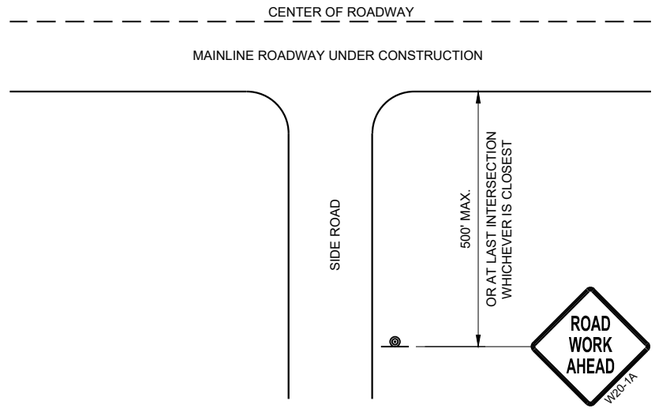
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

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

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



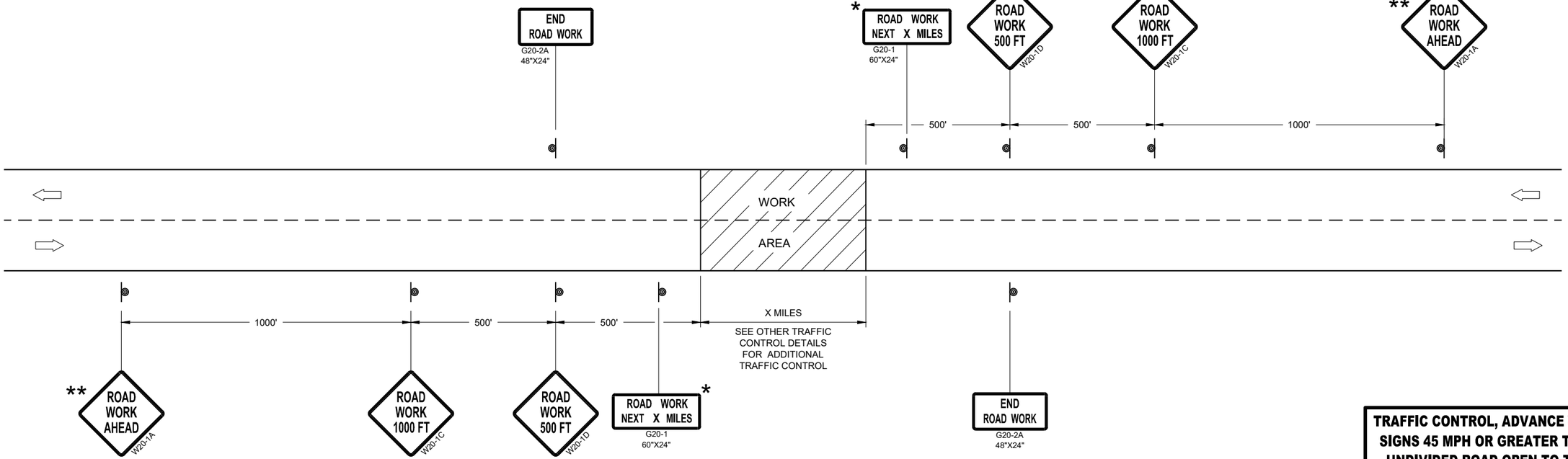

**TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL**

## LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA




**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER**

**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA




6


SDD 15C04 - 05

## GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

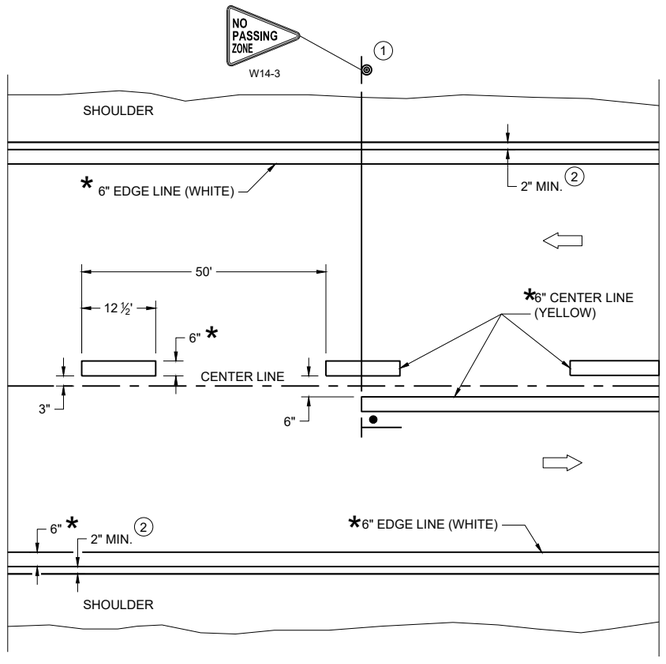
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

## LEGEND

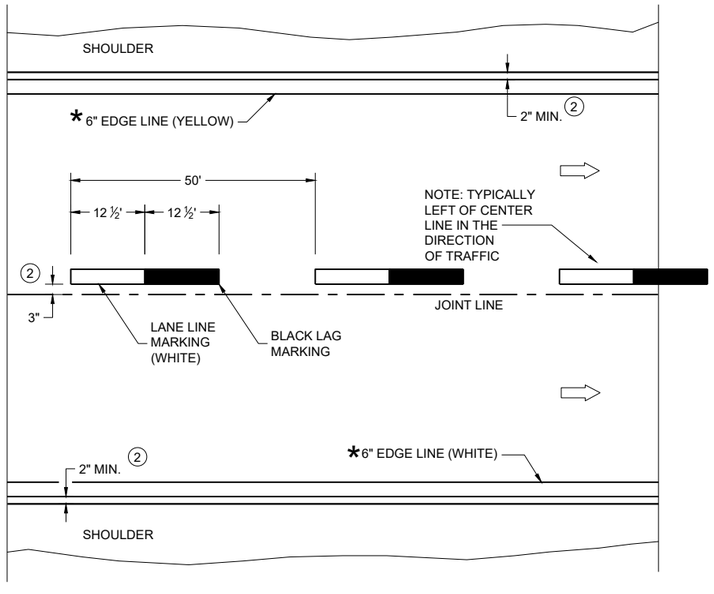
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC




TWO WAY TRAFFIC




ONE WAY TRAFFIC

**PERMANENT PAVEMENT MARKING**

6

**PERMANENT LONGITUDINAL PAVEMENT MARKINGS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA



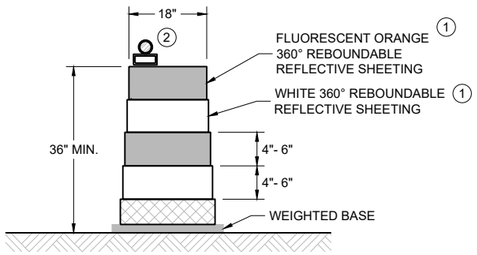


SDD 15C08-24a

## GENERAL NOTES

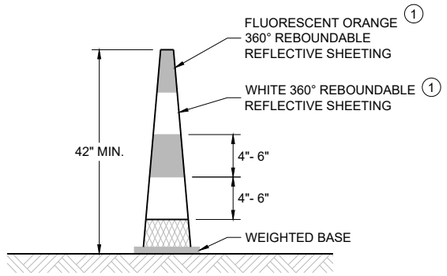
(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

(2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.




### DRUM

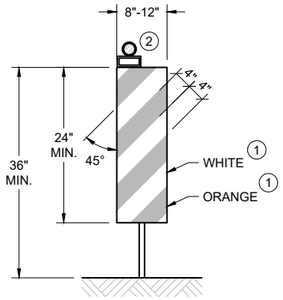
BALLAST WIDTHS
RANGE FROM 24"-36"




### 42" CONE

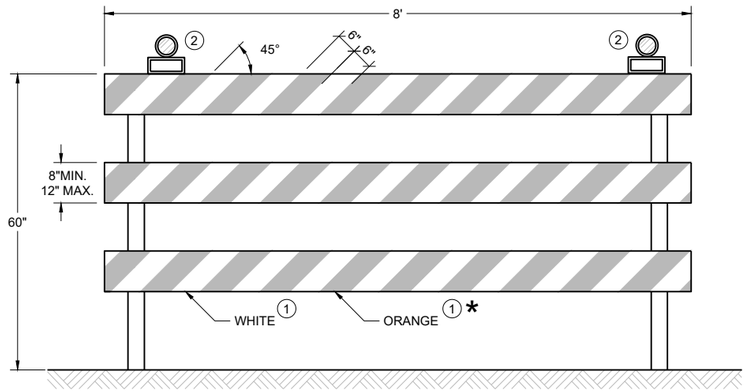
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"




### VERTICAL PANEL

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




### TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

**CHANNELIZING DEVICES**
**DRUMS, CONES, BARRICADES**
**AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2026 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA



6
SDD 15C11-11b

## LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

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

## GENERAL NOTES

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

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

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

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

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

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

## FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

## TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

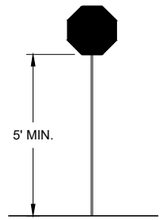
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



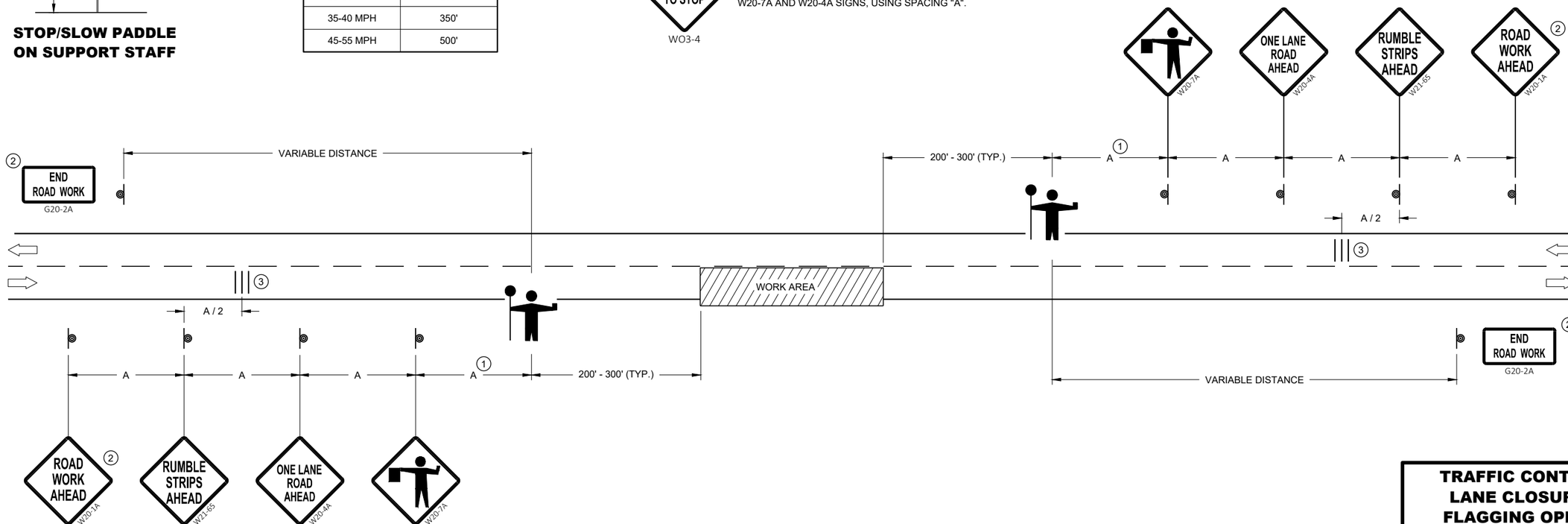

**STOP/SLOW PADDLE ON SUPPORT STAFF**

## SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

| SPEED LIMIT | SPACING "A" |
|---|---|
| 25-30 MPH | 200' |
| 35-40 MPH | 350' |
| 45-55 MPH | 500' |

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".




**TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA



6

SDD 15C12 - 09a

6

SDD 15C12 - 09a

## LEGEND

**V1** LEAD VEHICLE

**V2** MARKING VEHICLE

**V3** SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

## GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH

WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

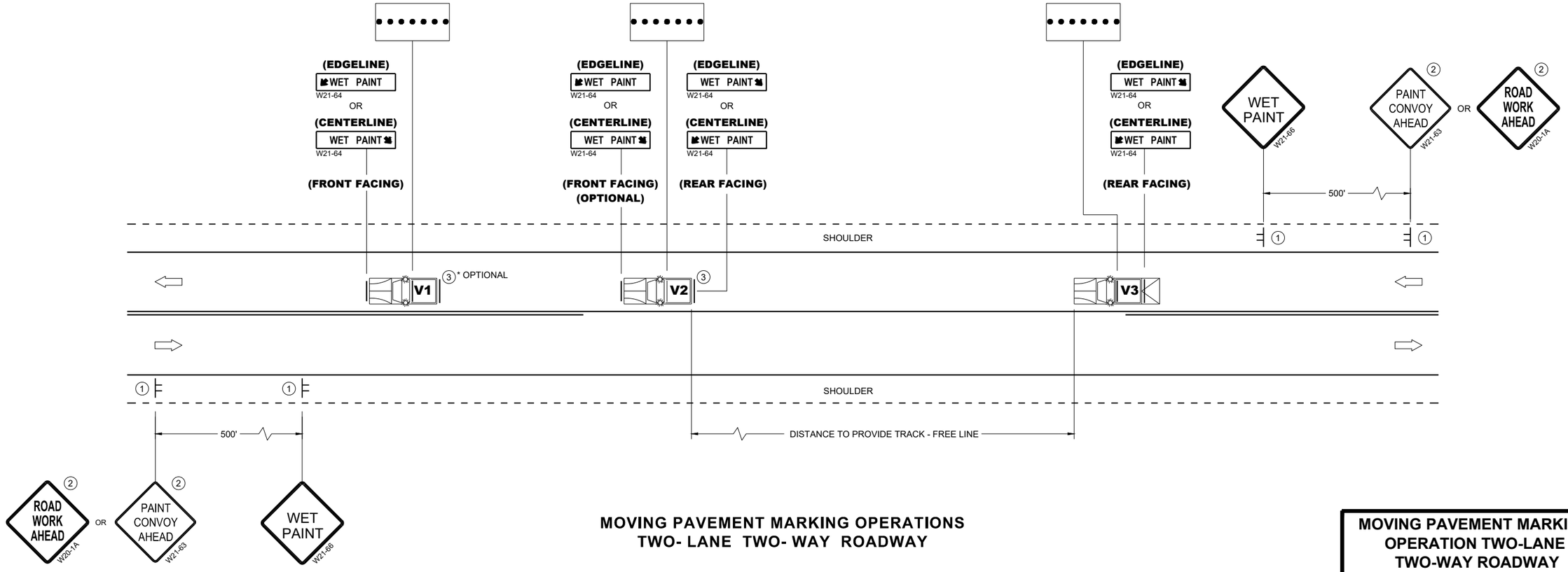
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY MAJOR INTERSECTION.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

(3) V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.




**MOVING PAVEMENT MARKING OPERATIONS**
**TWO- LANE TWO- WAY ROADWAY**

**MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — STATE ELECTRICAL ENGINEER

FHWA



6

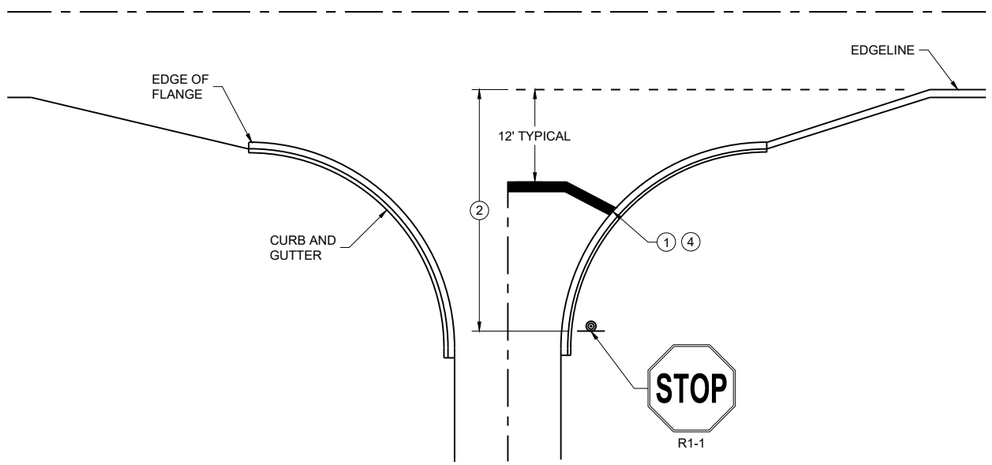
SDD 15C19-11a

SDD 15C19-11a

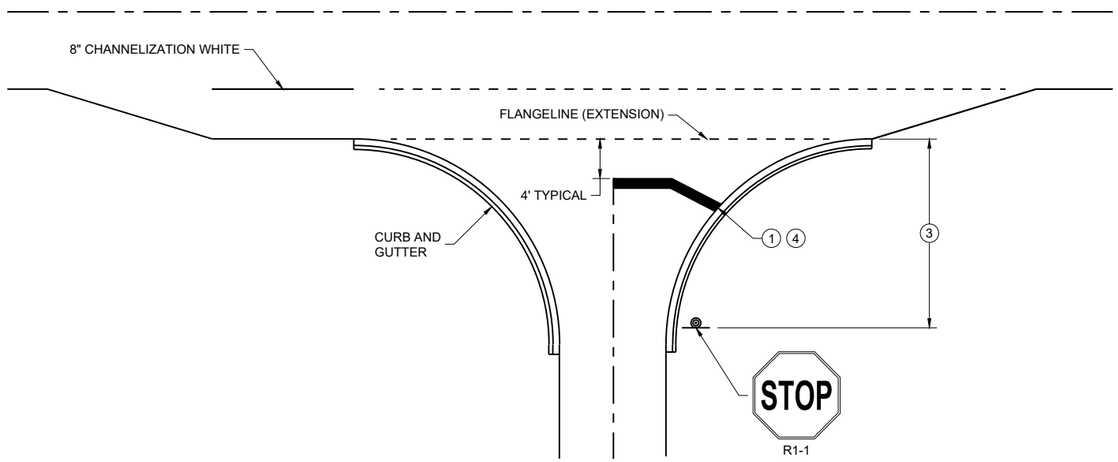
## GENERAL NOTES

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

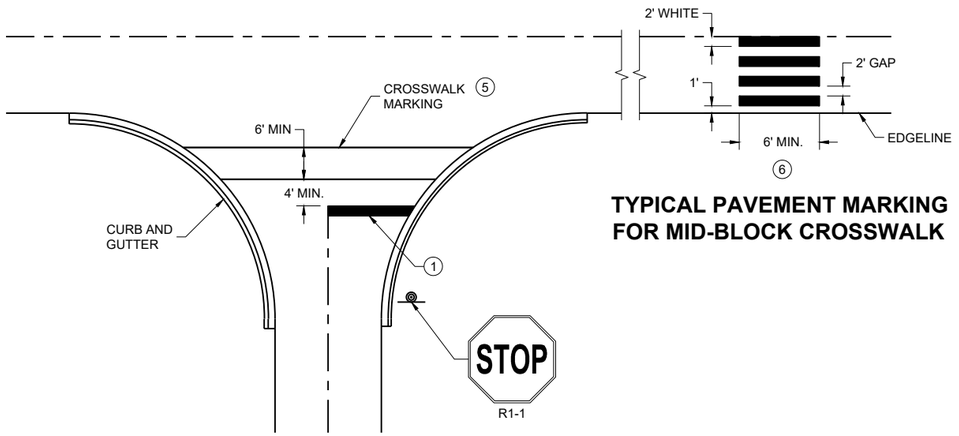
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
6. POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS




**TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER**

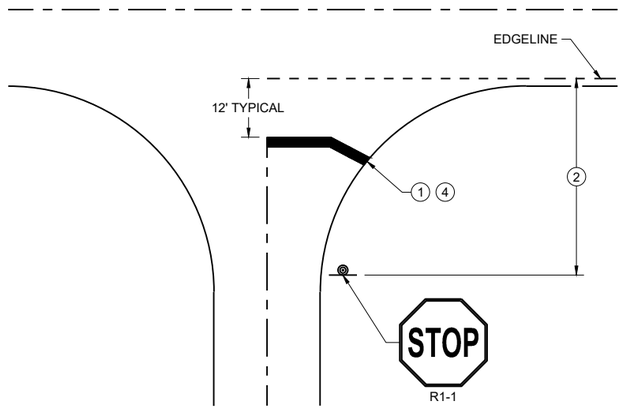



**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE**




**TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK** (5)

**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING**




**TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER**

**STOP LINE AND CROSSWALK PAVEMENT MARKING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

March 2024 — DATE

/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

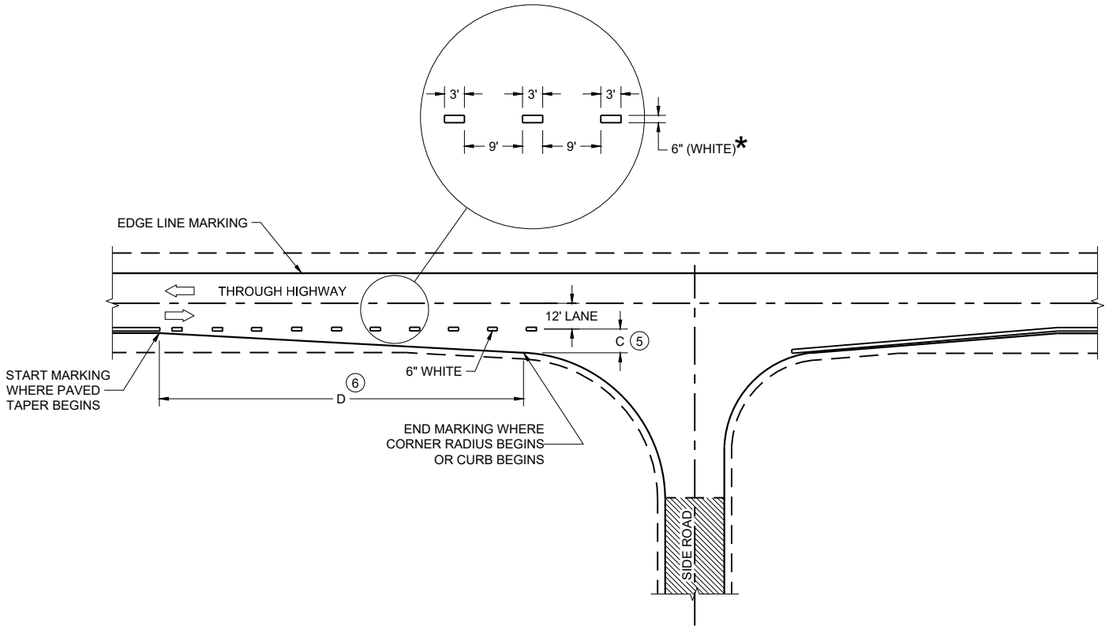
FHWA



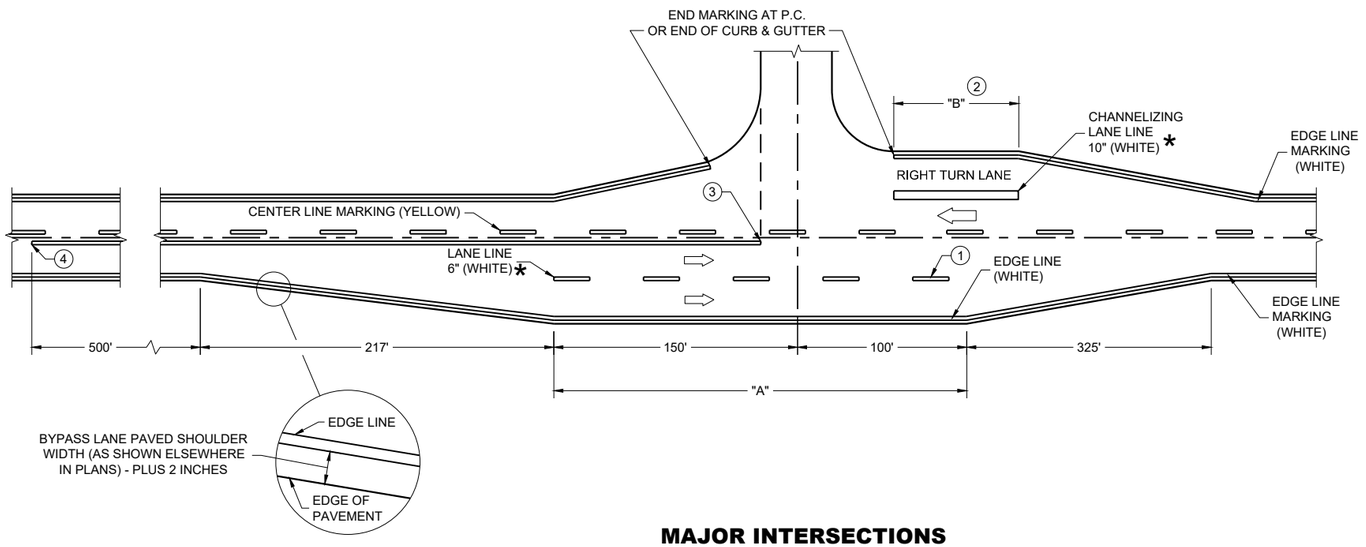


6

SDD 15C33-05




**MINOR INTERSECTION**




**MAJOR INTERSECTIONS**

**(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)**

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

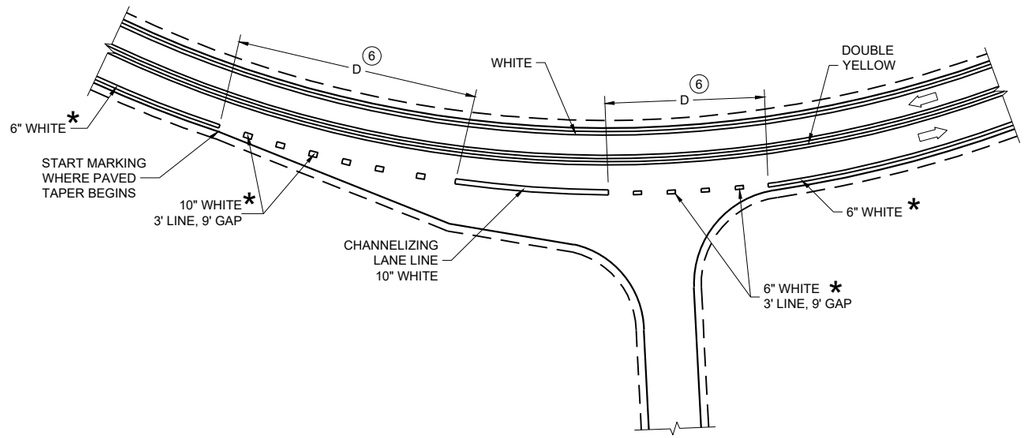
## GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
6. WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

## LEGEND

DIRECTION OF TRAVEL




**INTERSECTION ON OUTSIDE OF CURVE**

**PAVEMENT MARKING (INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER

## GENERAL NOTES

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45MPH, USE SDD 15D12.

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE 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.

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 TEMPORARY SUPPORTS.

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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

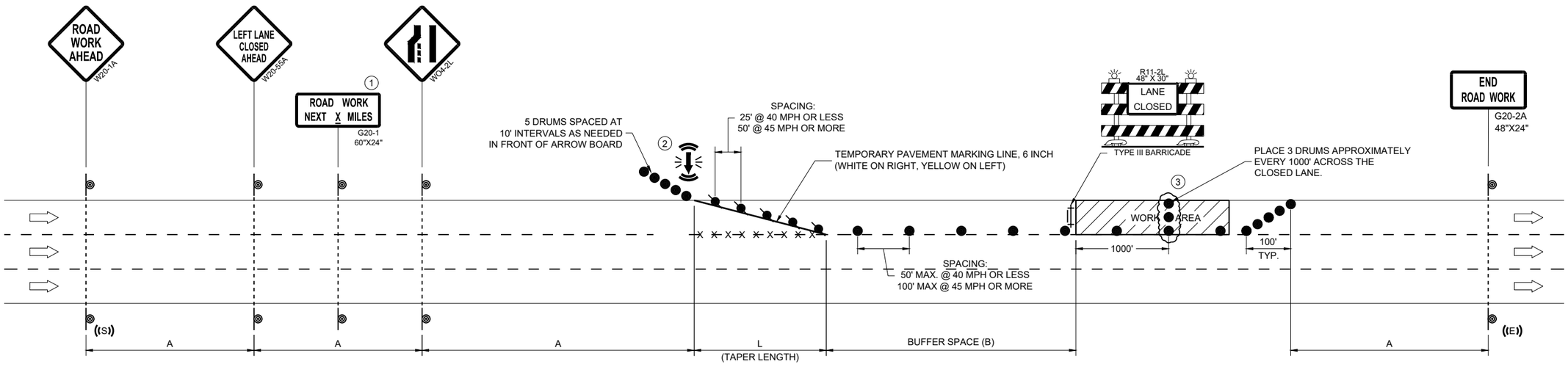
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

(2) WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO PLACE THE ARROW BOARD AS SHOWN, PLACE THE ARROW BOARD AT THE END OF THE TAPER.

(3) DRUMS IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.




| POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH) | ADVANCE WARNING SIGN SPACING (A) FEET | TAPER LENGTH (12 FT. LANE) (L) FEET | BUFFER SPACE (B) FEET |
|---|---|---|---|
| 25 | 200' | 125' | 155' |
| 30 | 200' | 180' | 200' |
| 35 | 350' | 245' | 250' |
| 40 | 350' | 320' | 305' |
| 45 | 500' | 540' | 360' |

# TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA



6
SDD 15D20-11a

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- CONNECTED ARROW BOARD
- WZ START LOCATION MARKER
- WZ END LOCATION MARKER

## GENERAL NOTES

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE 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.

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 TEMPORARY SUPPORTS.

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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

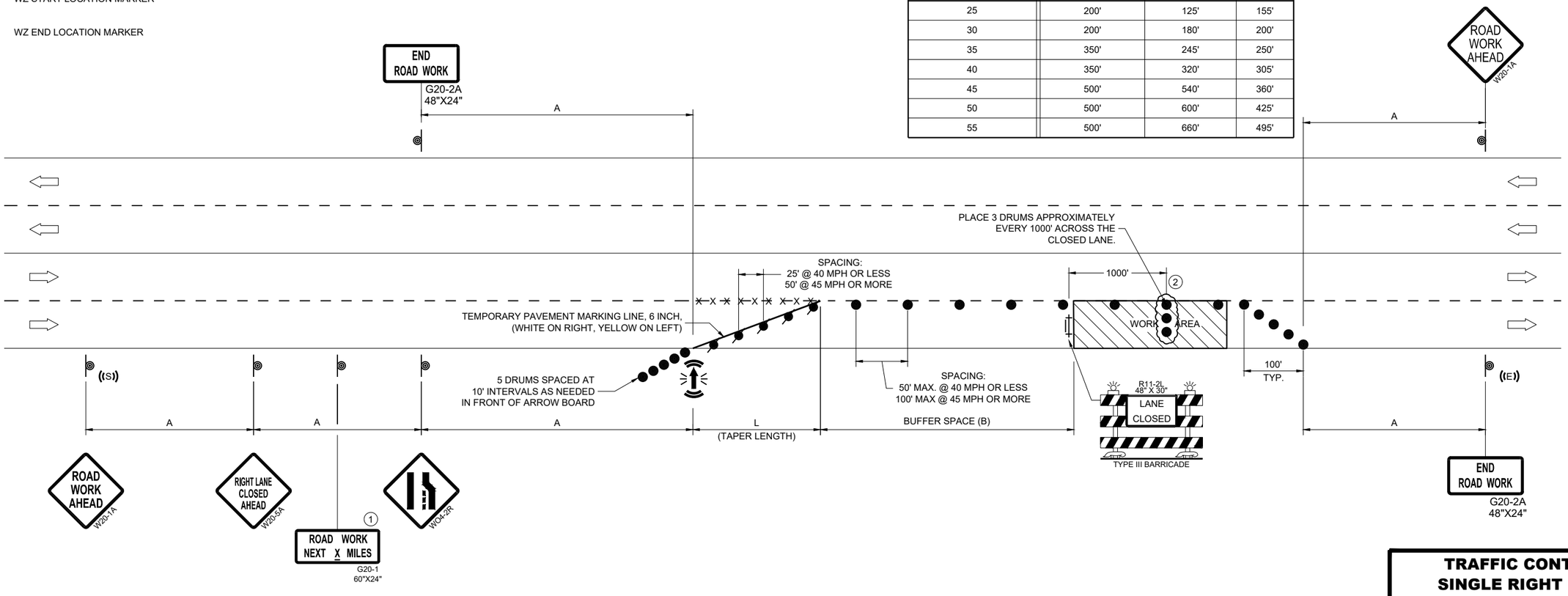
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

(2) DRUMS IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

| POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH) | ADVANCE WARNING SIGN SPACING (A) FEET | TAPER LENGTH (12 FT. LANE) (L) FEET | BUFFER SPACE (B) FEET |
|---|---|---|---|
| 25 | 200' | 125' | 155' |
| 30 | 200' | 180' | 200' |
| 35 | 350' | 245' | 250' |
| 40 | 350' | 320' | 305' |
| 45 | 500' | 540' | 360' |
| 50 | 500' | 600' | 425' |
| 55 | 500' | 660' | 495' |




**TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA



6
SDD 15D20-11b

## LEGEND

V1 WORK VEHICLE

V2 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

FLASHING ARROW PANEL (CAUTION)

WORK AREA

DIRECTION OF TRAFFIC

| POSTED SPEED PRIOR TO WORK STARTING (MPH) | DECISION SIGHT DISTANCE (D) |
|---|---|
| 0 - 25 | 550' |
| 30 | 550' |
| 35 | 700' |
| 40 | 700' |
| 45 | 900' |
| 50 | 900' |
| 55 | 1200' |

## GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

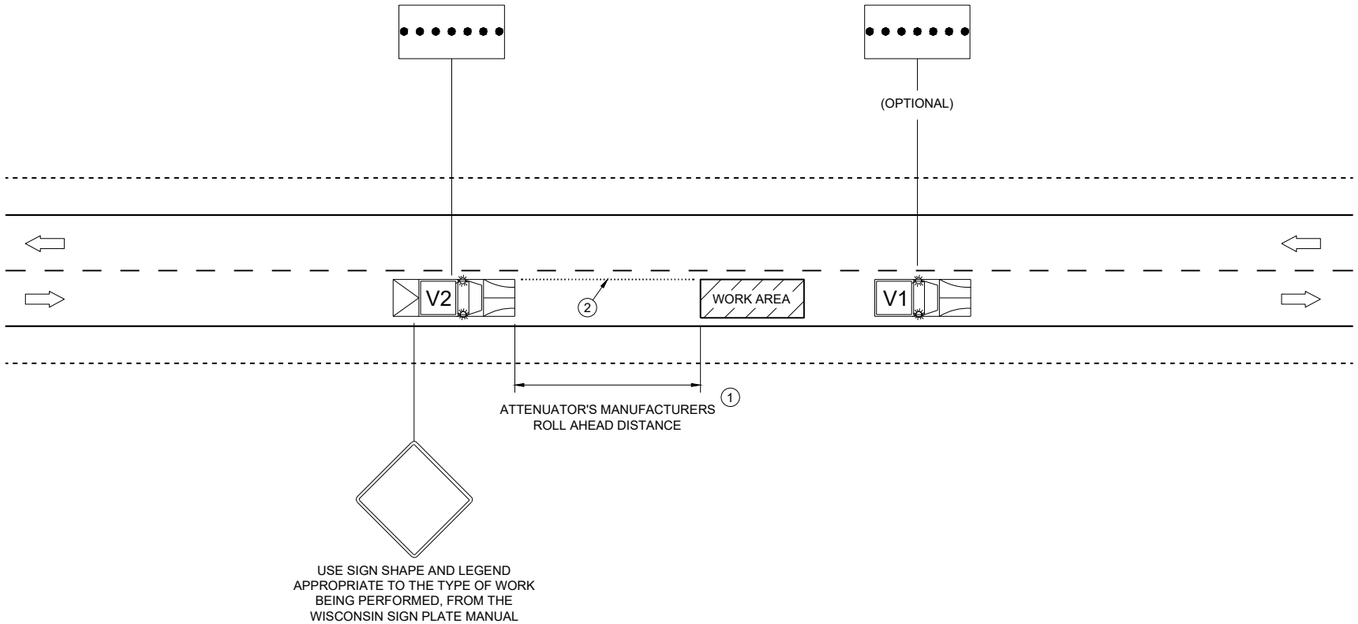
ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

(1) DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

(2) ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



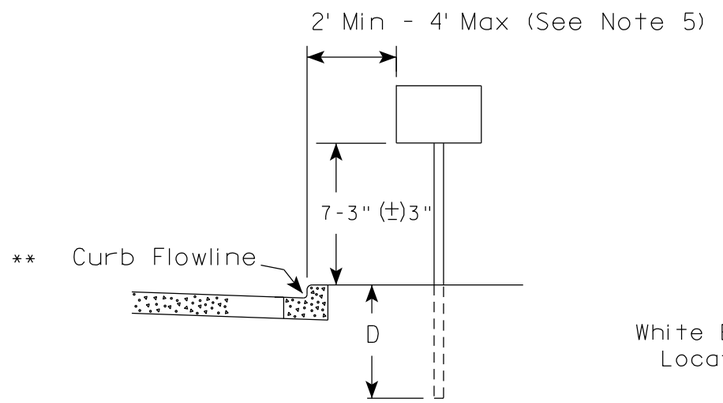

**TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

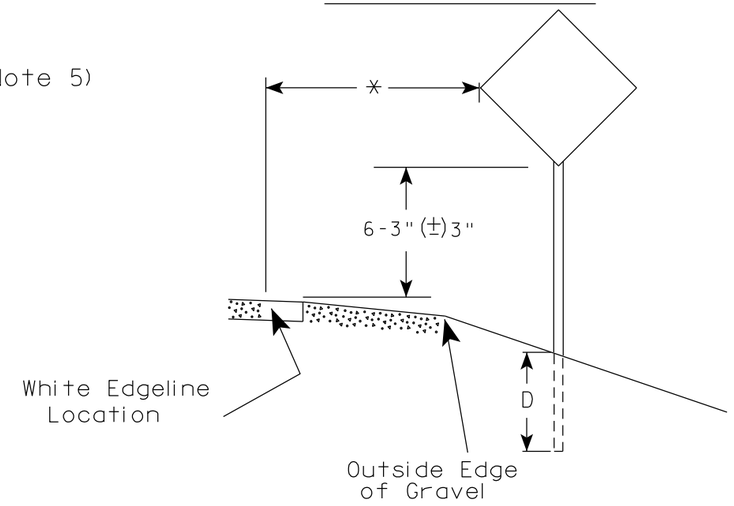
APPROVED
November 2025 — DATE
/S/ Andrew Heidtke — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

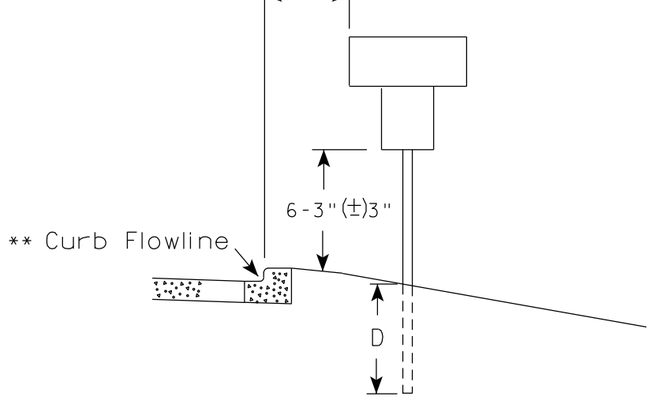

6
SDD 15D51-02

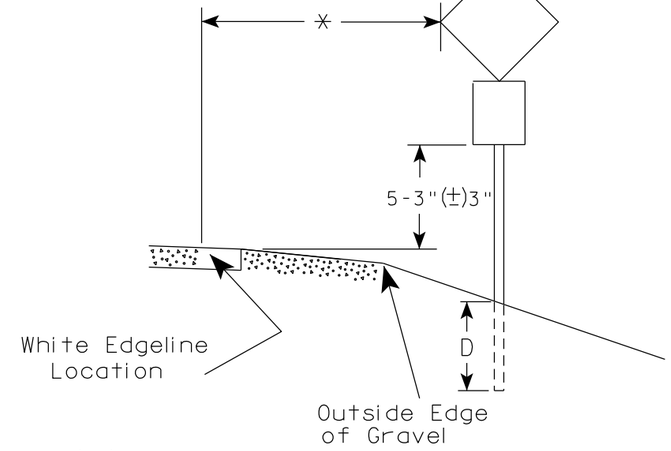
## URBAN AREA




## RURAL AREA (See Note 2)




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

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

### POST EMBEDMENT DEPTH

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

### GENERAL NOTES

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

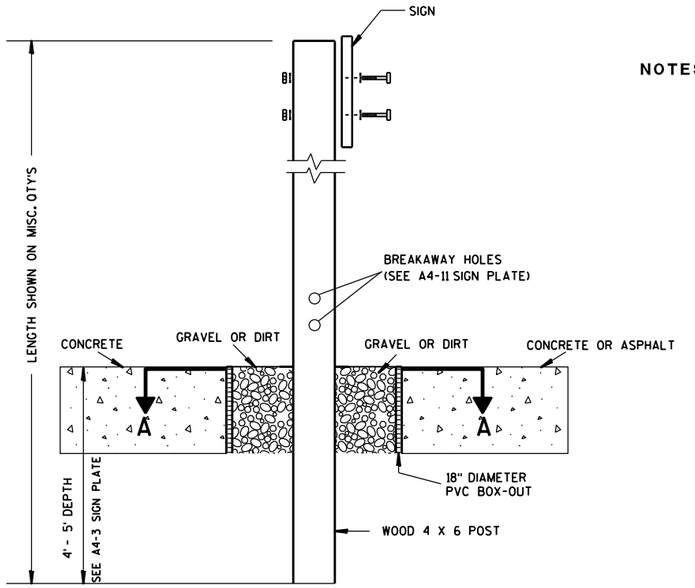
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

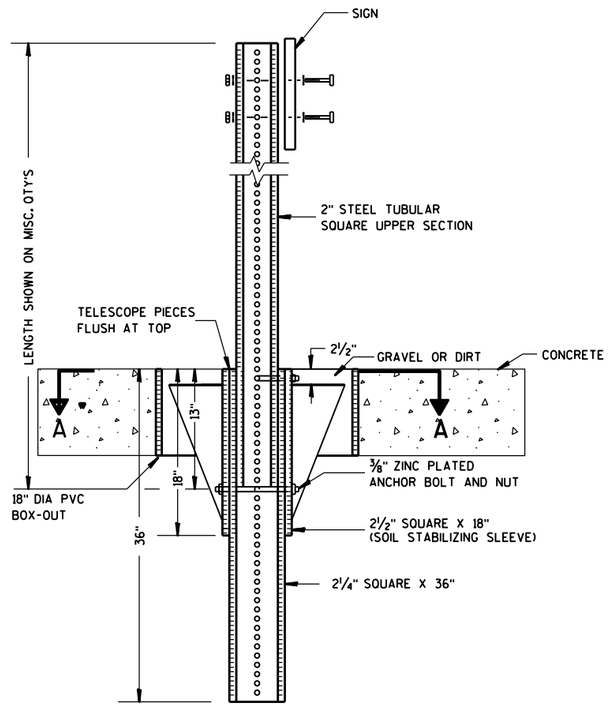
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 131 | E |
|---|---|---|---|---|---|




**ELEVATION VIEW**

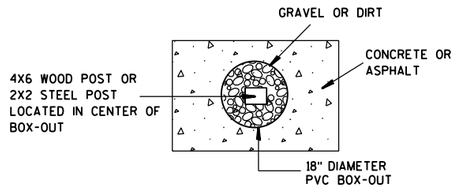
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.




**ELEVATION VIEW**

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




**PLAN VIEW**

**FOR NEW CONCRETE/ASPHALT INSTALLATIONS**

# SIGN POST BOX-OUTS A4-3B

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

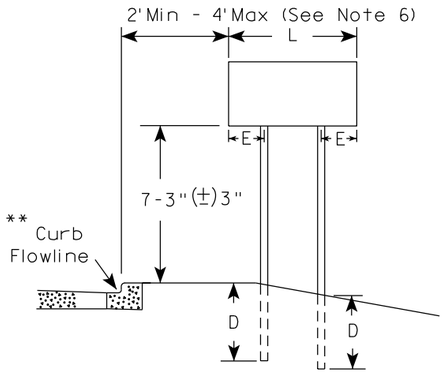
DATE 1/27/14 PLATE NO. A4-3B.1

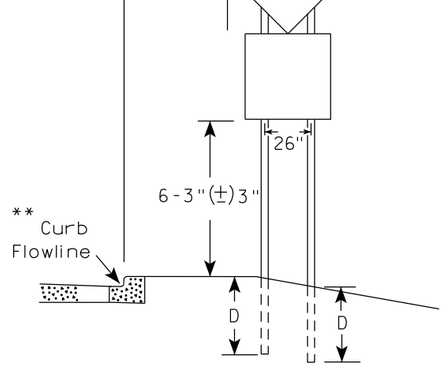


| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

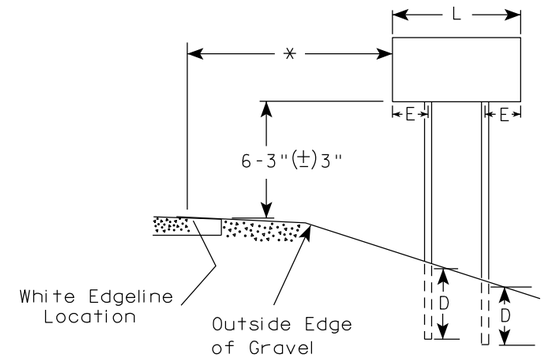
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

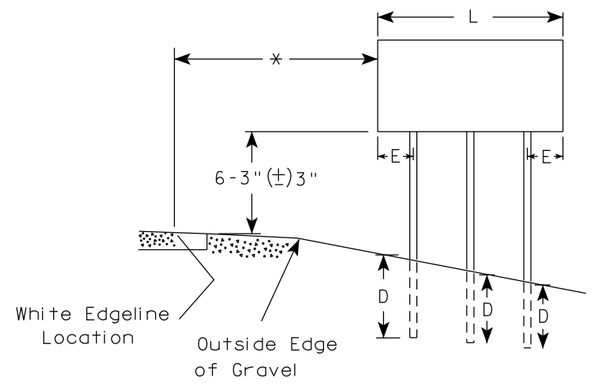
## URBAN AREA

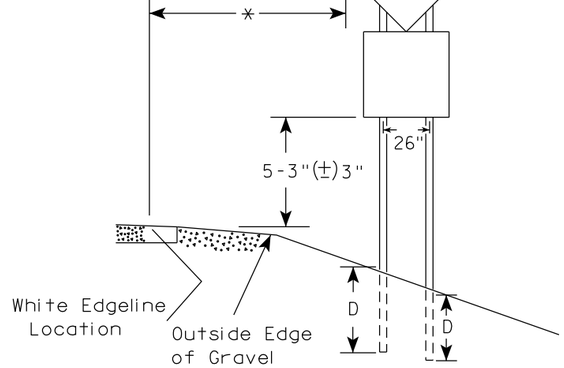



## RURAL AREA (See Note 3)




48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

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

| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) | |
|---|---|
| L | E |
| Greater than 108" to 144" | 12" |

### GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±) 3".

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

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

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

### POST EMBEDMENT DEPTH

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

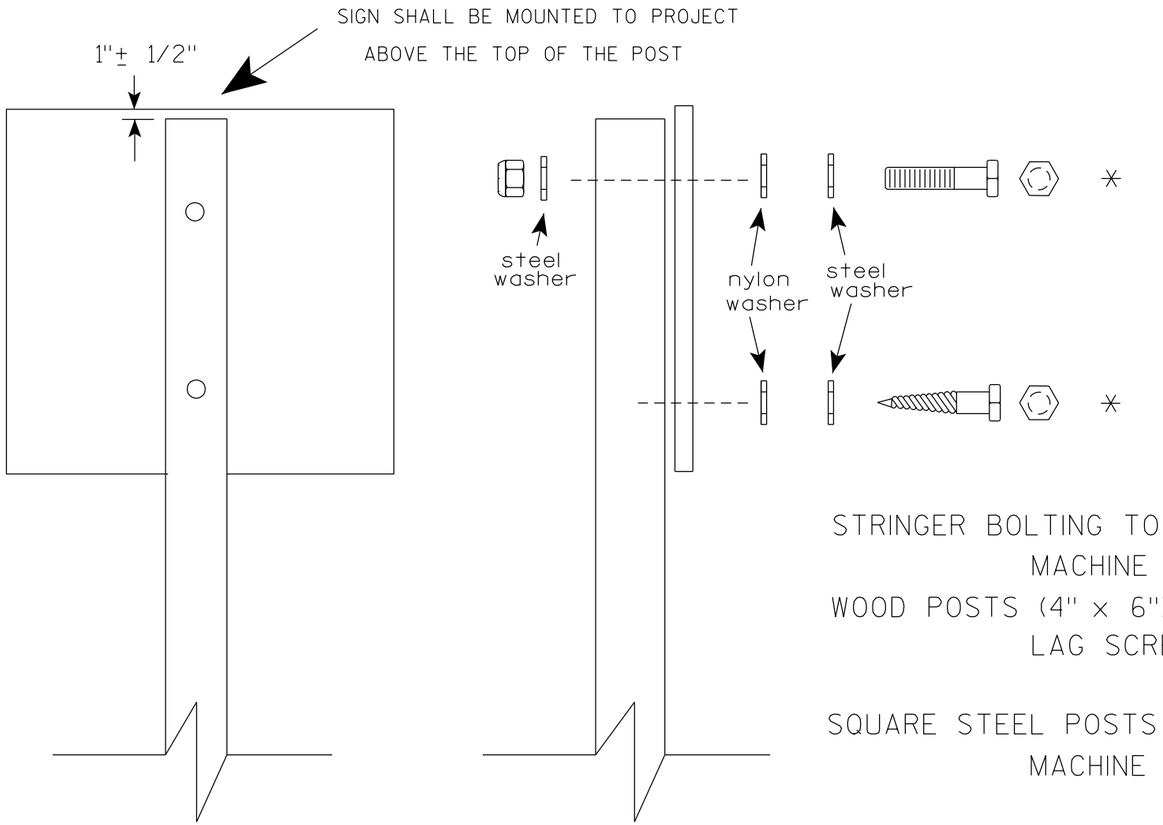
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 133 | E |
|---|---|---|---|---|---|




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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

# ATTACHMENT OF SIGNS TO POSTS

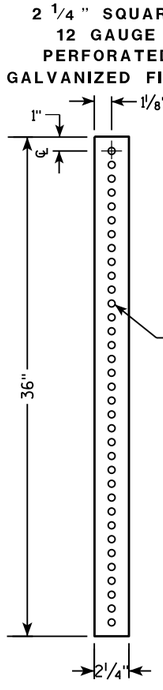
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

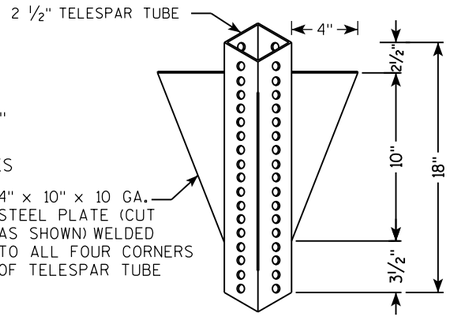
DATE 4/1/2020 PLATE NO. A4-8.9

## TELESCOPIC TUBING ANCHORS
## TWO PIECE SYSTEM

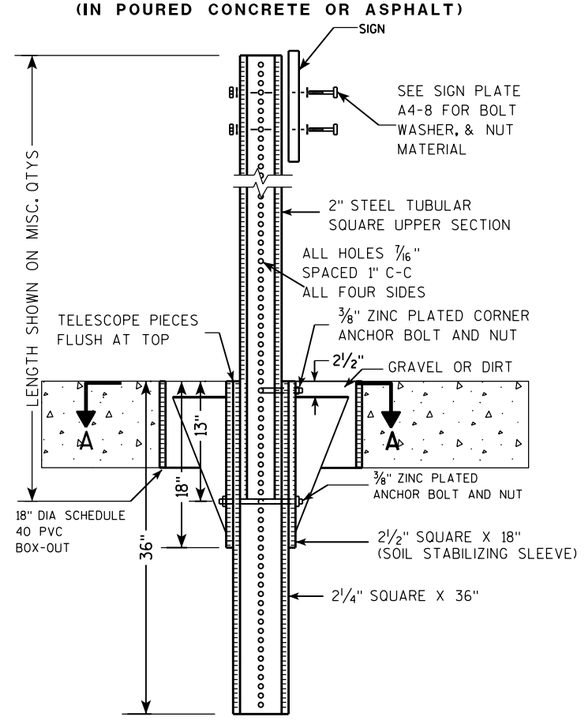
**2 1/4 " SQUARE**
**12 GAUGE**
**PERFORATED**
**GALVANIZED FINISH**



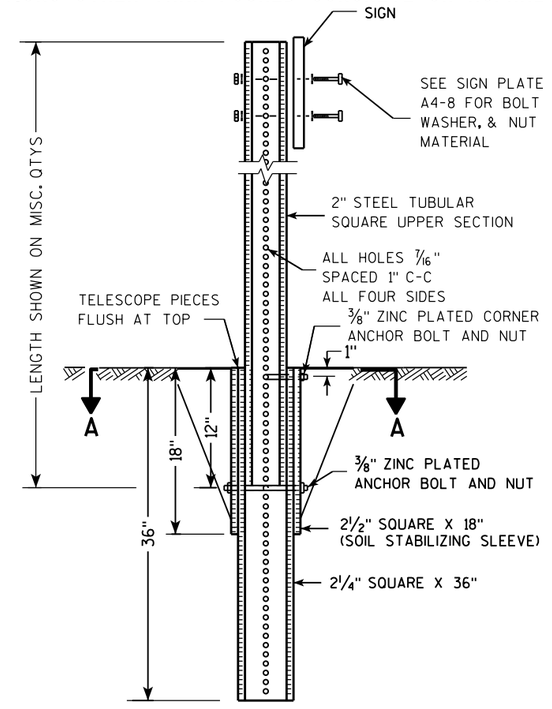

**2 1/2 " SQUARE**
**12 GAUGE**
**OMNI-DIRECTIONAL**
**PERFORATED**
**SOIL STABILIZING SLEEVE**
**GALVANIZED FINISH**

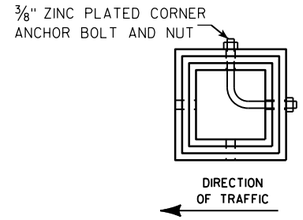



## DETAIL OF TUBULAR STEEL SIGN POST
**(IN POURED CONCRETE OR ASPHALT)**




## DETAIL OF TUBULAR STEEL SIGN POST
**(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**




**SECTION A-A**

| Area of Sign Installation (Sq. Ft.) | Number of Required Posts |
|---|---|
| 9 or less | 1 |
| Greater than 9 less than or equal to 18 | 2 |
| Greater than 18 less than or equal to 27 | 3 |

**Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).**

TUBULAR STEEL
SIGN POST
A4-9

*WISCONSIN DEPT OF TRANSPORTATION*

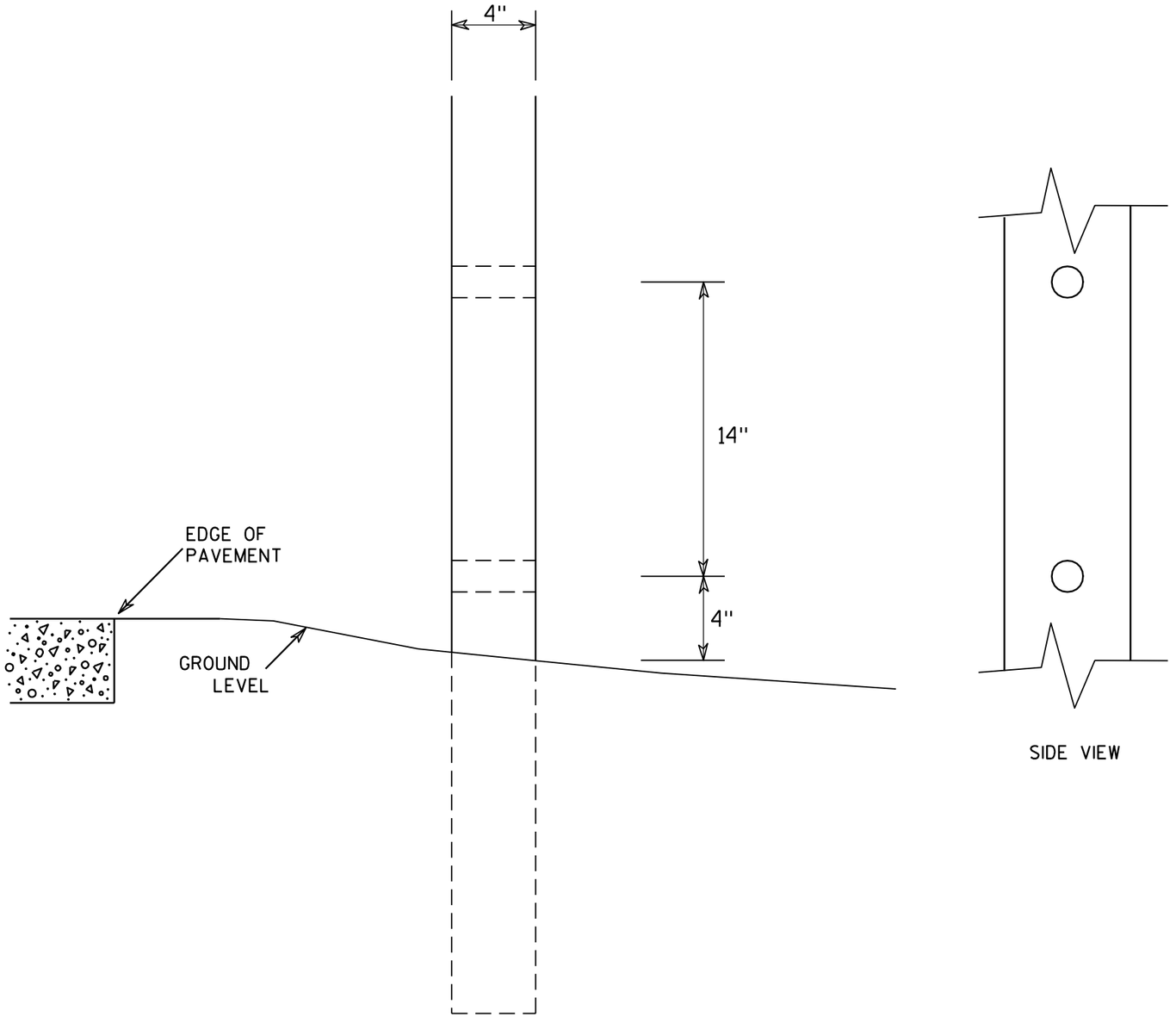
APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

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



FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000
WISDOT/CADDS SHEET 42






SIDE VIEW

GENERAL NOTES

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

7

7

# 4 X 6 WOOD POST MODIFICATIONS

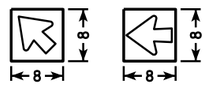
WISCONSIN DEPT OF TRANSPORTATION

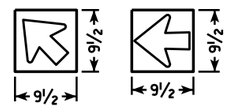
APPROVED Chester J Spang
for State Traffic Engineer

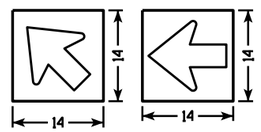
DATE 3/27/97 PLATE NO. A4-11.2

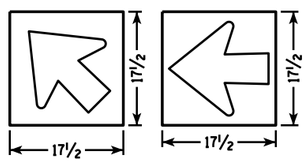
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 136 | E |
|---|---|---|---|---|---|

# SIGN LAYOUT WITH VARIOUS SIZED MESSAGES







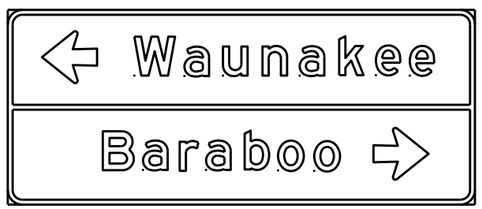



## GENERAL NOTES

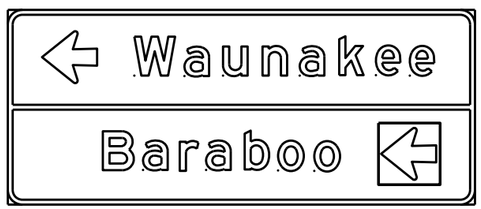
1. Materials shall conform to Standard Specification Section 637.
   Base - Sheet Aluminum 0.040" Thickness
   Sheeting - Orange Type F Reflective
   Arrow - Black Non-Reflective
2. Arrow signs shall be fastened to permanent sign by either aluminum rivets or aluminum self-tapping sheet metal screws. There shall be a minmum of 2 fasteners used per arrow sign.
3. There shall be a spacer consisting of a 0.08" nylon washer between the back of the arrow sign and the face of the permanent sign.
4. Arrows are per standard plate A1-2
5. Use separate arrow sign for each destination
6. Tilt arrow is always at 45 degrees
7. Arrow is centered on arrow sign

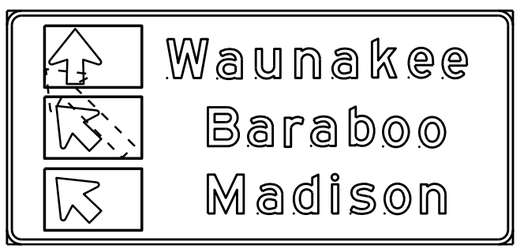
| Lower Case Copy Size | Standard Width (Single Arrow) | 2 Line Tilt Arrow Cover Width | 3 Line Tilt Arrow Cover Width | Height |
|---|---|---|---|---|
| 3¾" Series C | 8 | 9 ½ | 14 ½ | 8 |
| 4½" Series D & E | 9 ½ | 10 | 15 | 9 ½ |
| 6" Series D & E | 14 | 16 | 20 ½ | 14 |
| 8" Series E | 17 ½ | 20 ½ | 25 | 17 ½ |

## BEFORE



## AFTER




DESTINATION DIRECTIONAL ARROW FOR DETOUR SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/08/14

A4-12.2

PROJECT NO:

SHEET NO: E

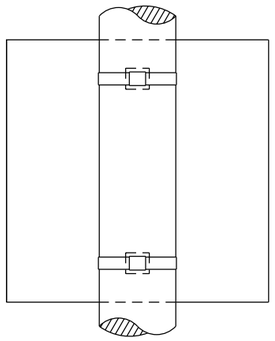


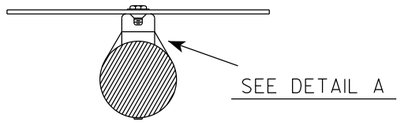
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A412.DGN PLOT DATE : 08-OCT-2014 11:50 PLOT BY : mscsja

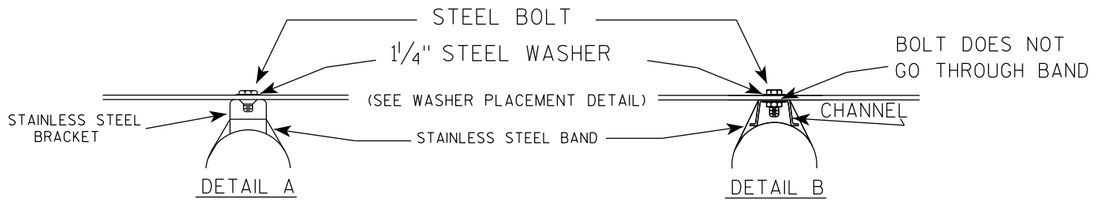
WISDOT/CADDS SHEET 42

# BANDING

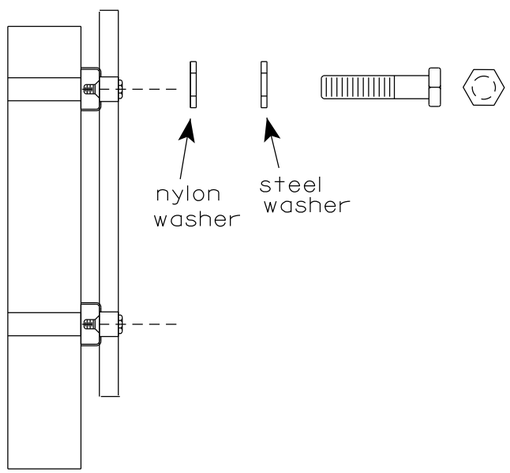
SINGLE SIGN






WASHER PLACEMENT

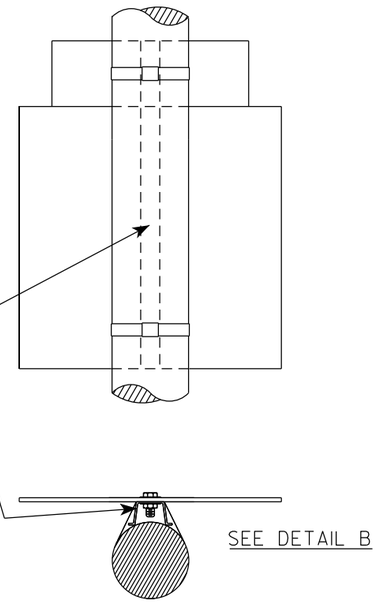



WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY




STANDARD SIGN
SIGN BANDING DETAILS

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

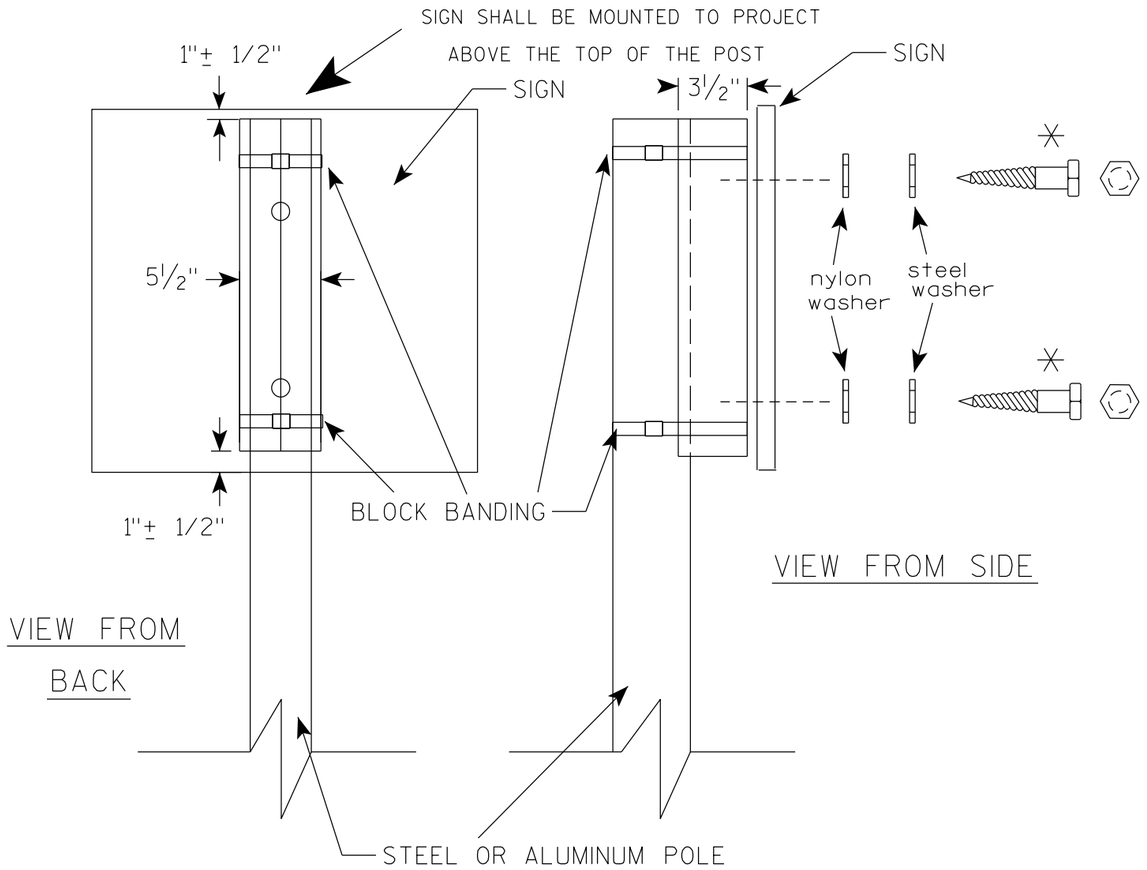
DATE 6/10/19 PLATE NO. A5-9.4

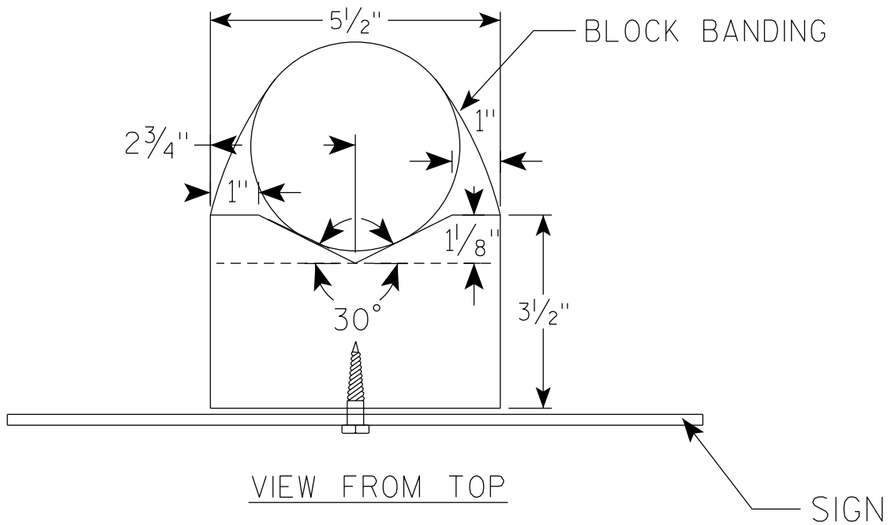
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 138 | E |
|---|---|---|---|---|---|

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7




## GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

# BLOCK BANDING DETAIL ( V-BLOCK OPTION )

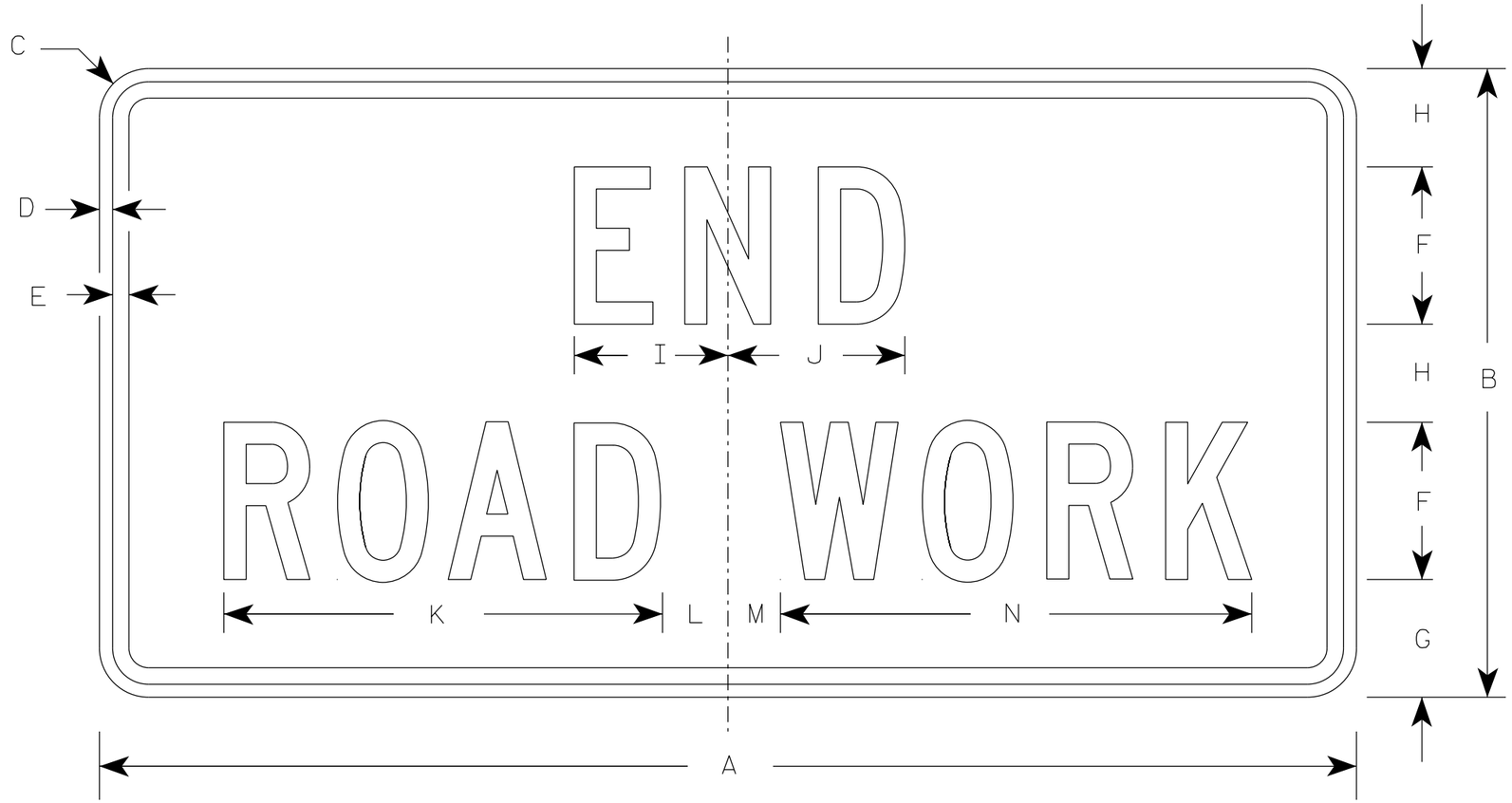
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 139 E




G20-2A

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 4 | 3 3/4 | 2 1/2 | 4 1/8 | 4 1/8 | 11 1/8 | 2 | 1 | 12 1/8 | | | | | | | | | | | | | 4.5 |
| 2 | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 |
| 2M | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 |
| 3 | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 |
| 4 | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 |
| 5 | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 |

STANDARD SIGN

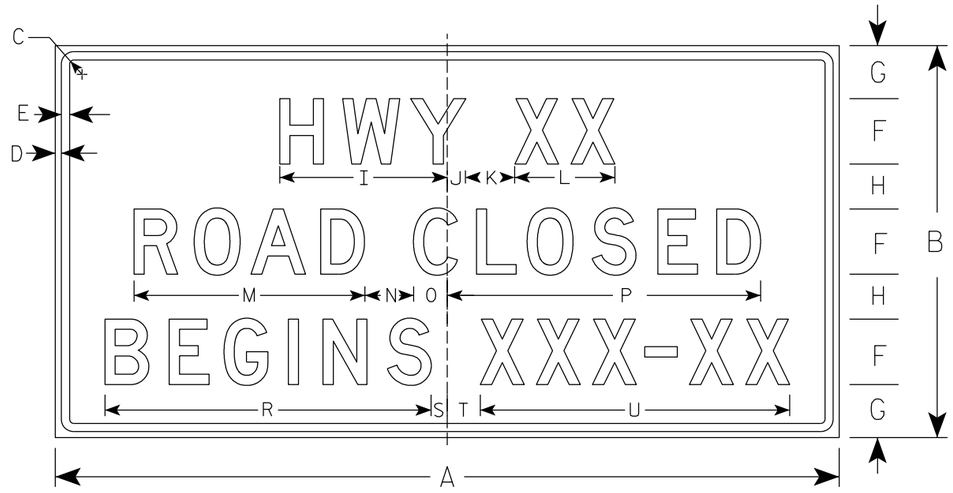
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

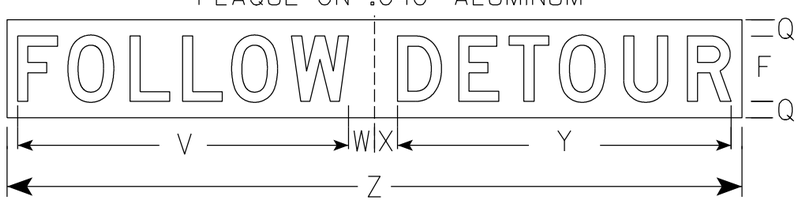
DATE 1/26/2023 PLATE NO. G20-2A.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 140 E




G20-57C

PLAQUE ON .040" ALUMINUM




USE ONLY ONCE WHEN ROAD IS CLOSED

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Substitute appropriate numeral and adjust spacing to achieve proper balance.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 72 | 36 | 1 1/8 | 1/2 | 5/8 | 6 | 5 | 4 | 15 5/8 | 1 5/8 | 5 | 9 1/4 | 21 1/8 | 5 | 2 7/8 | 29 | 2 | 30 | 1 3/4 | 3 1/4 | 28 3/8 | 40 1/2 | 2 | 2 | 29 3/4 | 66 | 18.0 |
| 4 | 96 | 48 | 2 1/4 | 3/4 | 1 | 8 | 6 1/2 | 5 1/2 | 20 5/8 | 2 1/4 | 6 | 12 1/4 | 28 1/4 | 6 | 4 1/8 | 38 3/8 | 2 | 39 7/8 | 2 | 4 | 37 7/8 | 29 3/4 | 3 1/8 | 2 7/8 | 40 7/8 | 90 | 32.0 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

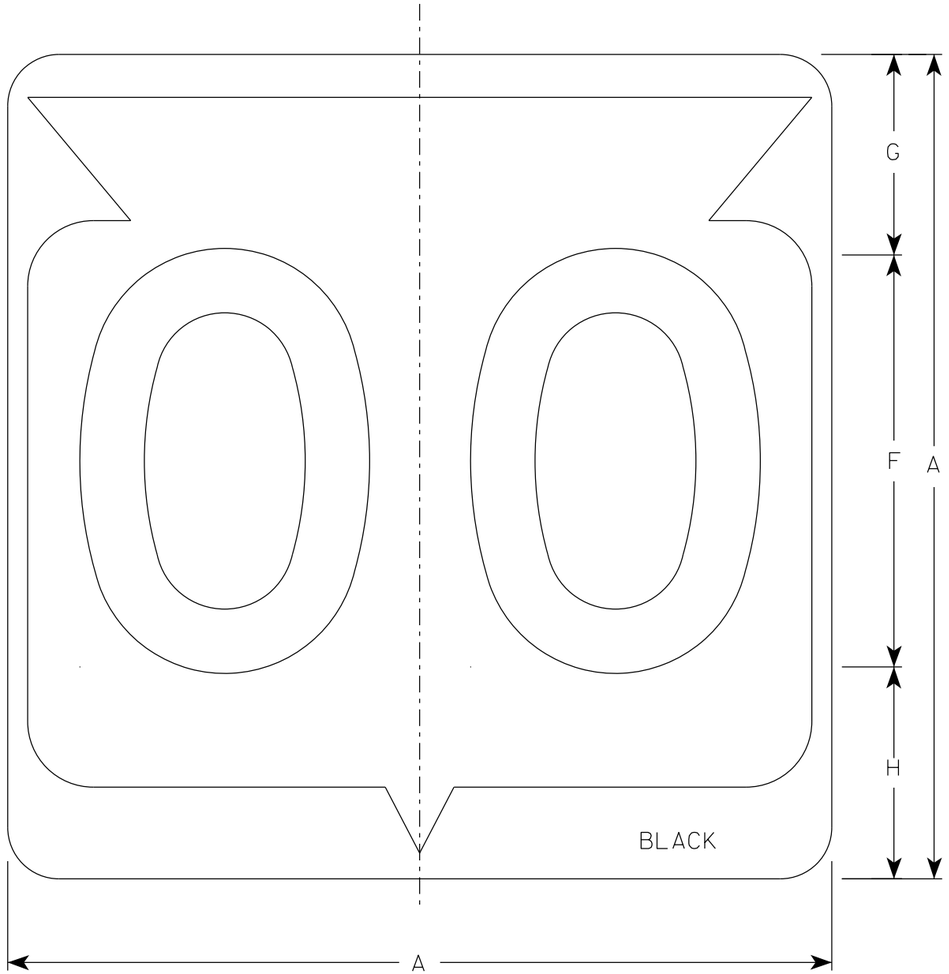
STANDARD SIGN
G20-57C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/25/19 PLATE NO. G20-57C.1

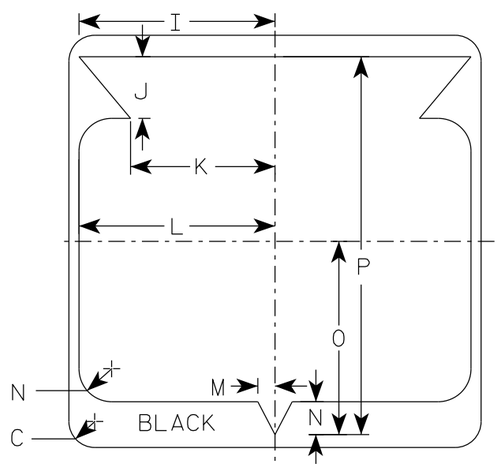
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 141 E




M1-6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | | 1 1/2 | | | 12 | 5 1/2 | 6 1/2 | 10 1/4 | 2 1/2 | 8 7/8 | 11 1/2 | 1 | 1 7/8 | 11 1/4 | 21 7/8 | | | | | | | | | | | 4.0 |
| 2M | 24 | | 1 1/2 | | | 12 | 5 1/2 | 6 1/2 | 10 1/4 | 2 1/2 | 8 7/8 | 11 1/2 | 1 | 1 7/8 | 11 1/4 | 21 7/8 | | | | | | | | | | | 4.0 |
| 3 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 |
| 4 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 |
| 5 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 |

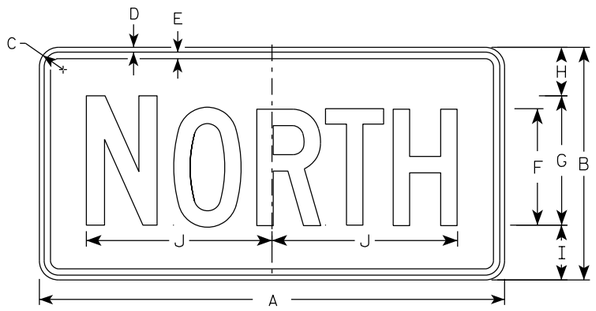
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

*WISCONSIN DEPT OF TRANSPORTATION*

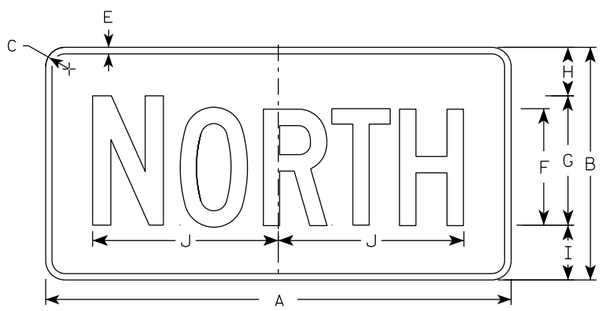
APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

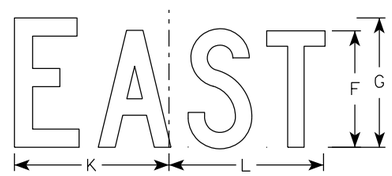
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 142 | E |
|---|---|---|---|---|---|




M3-1
MM3-1
MP3-1

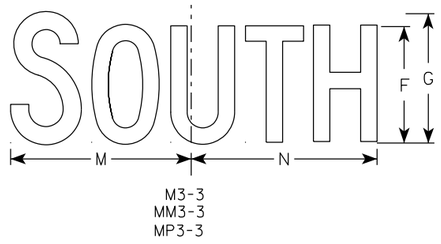



MB3-1
MK3-1
MN3-1

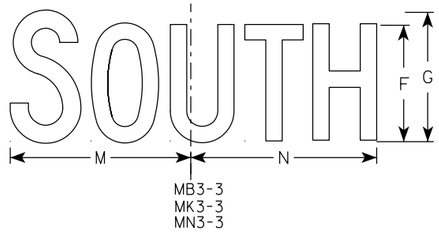



M3-2
MM3-2
MP3-2

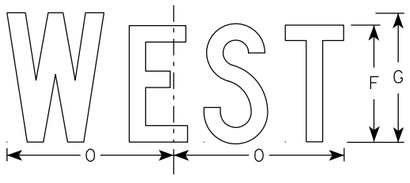
MB3-2
MK3-2
MN3-2



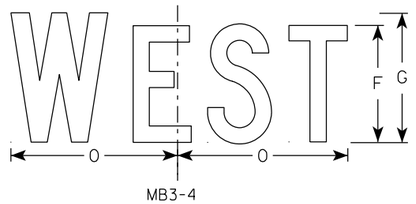

M3-3
MM3-3
MP3-3




MB3-3
MK3-3
MN3-3




M3-4
MM3-4
MP3-4




MB3-4
MK3-4
MN3-4

## NOTES

1. All Signs Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 24 | 12 | 1 1/2 | 3/8 | 3/8 | 6 | 7 | 2 1/4 | 2 3/4 | 10 1/4 | 7 7/8 | 8 3/8 | 10 1/4 | 9 3/4 | 8 3/4 | | | | | | | | | | | | 2.00 |
| 2M | 24 | 12 | 1 1/2 | 3/8 | 3/8 | 6 | 7 | 2 1/4 | 2 3/4 | 10 1/4 | 7 7/8 | 8 3/8 | 10 1/4 | 9 3/4 | 8 3/4 | | | | | | | | | | | | 2.00 |
| 3 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | | | | | | | | | | 4.5 |
| 4 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | | | | | | | | | | 4.5 |
| 5 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | | | | | | | | | | 4.5 |

STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

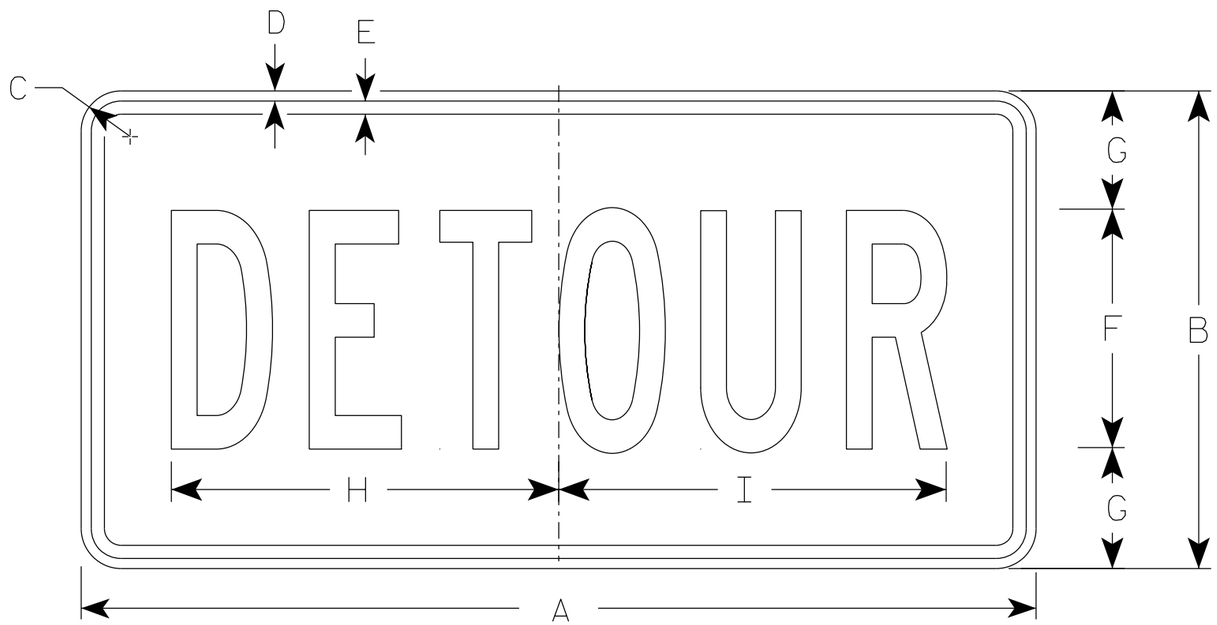
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 143 | E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.




M4-8

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 12 | 1 1/2 | 3/8 | 3/8 | 6 | 3 | 10 | 10 1/4 | | | | | | | | | | | | | | | | | | 2.0 |
| 2M | 24 | 12 | 1 1/2 | 3/8 | 3/8 | 6 | 3 | 10 | 10 1/4 | | | | | | | | | | | | | | | | | | 2.0 |
| 3 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 | | | | | | | | | | | | | | | | | | 4.5 |
| 4 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 | | | | | | | | | | | | | | | | | | 4.5 |
| 5 | 36 | 18 | 1 1/2 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 | | | | | | | | | | | | | | | | | | 4.5 |

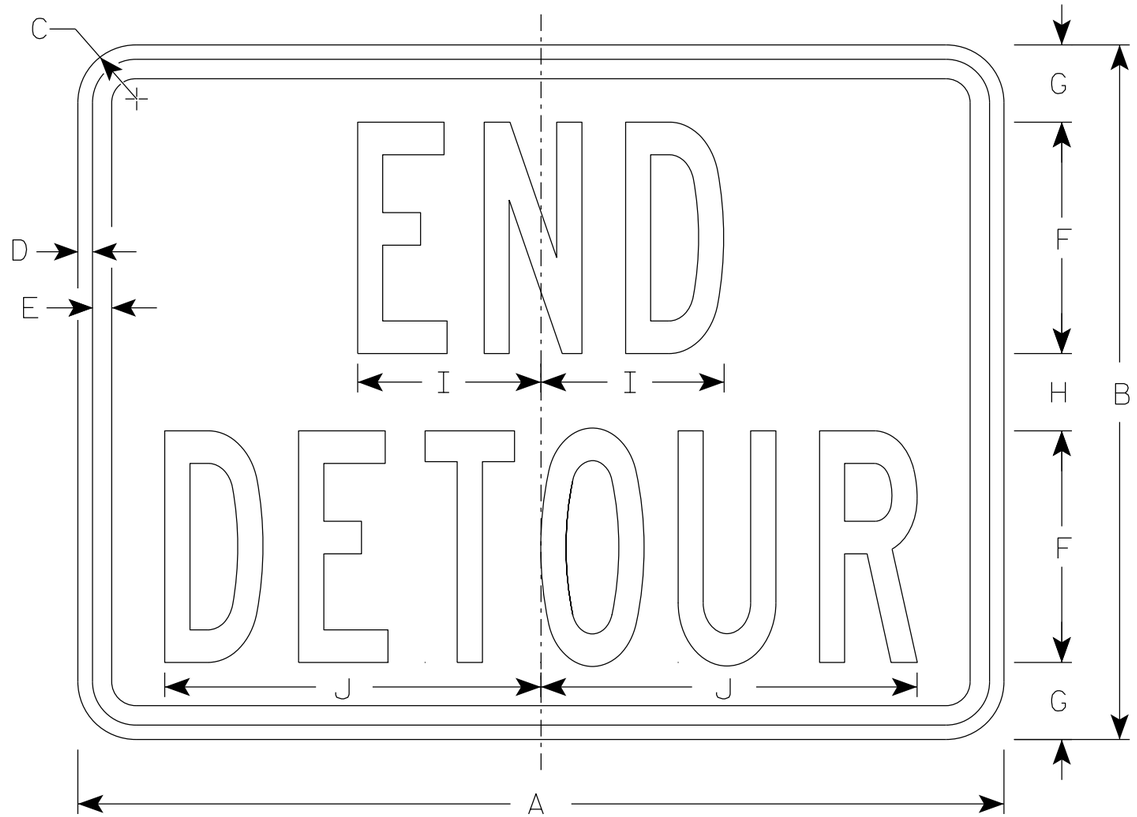
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 144 | E |
|---|---|---|---|---|---|




M4-8A

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 18 | 1 ½ | ⅜ | ½ | 6 | 2 | 2 | 4 ¾ | 9 ¾ | | | | | | | | | | | | | | | | | 3.0 |
| 2M | 24 | 18 | 1 ½ | ⅜ | ½ | 6 | 2 | 2 | 4 ¾ | 9 ¾ | | | | | | | | | | | | | | | | | 3.0 |
| 3 | 30 | 24 | 1 ½ | ⅜ | ½ | 8 | 2 ½ | 3 | 6 ¾ | 13 | | | | | | | | | | | | | | | | | 5.0 |
| 4 | 30 | 24 | 1 ½ | ⅜ | ½ | 8 | 2 ½ | 3 | 6 ¾ | 13 | | | | | | | | | | | | | | | | | 5.0 |
| 5 | 30 | 24 | 1 ½ | ⅜ | ½ | 8 | 2 ½ | 3 | 6 ¾ | 13 | | | | | | | | | | | | | | | | | 5.0 |

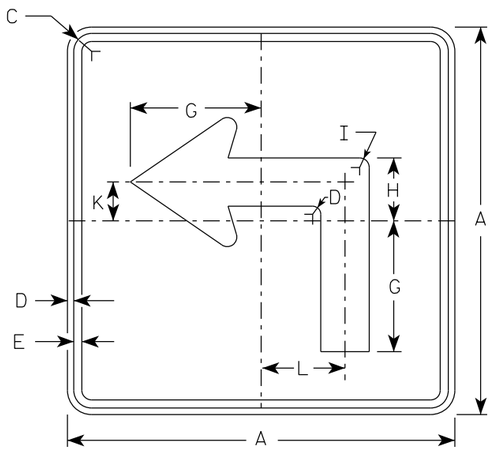
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

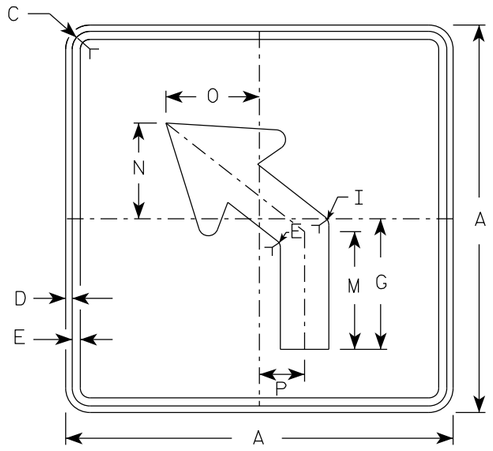
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4

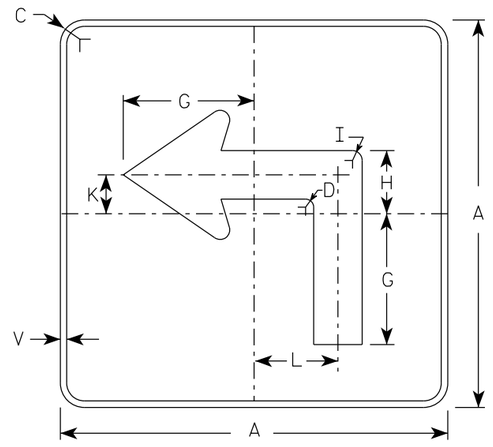
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 145 | E



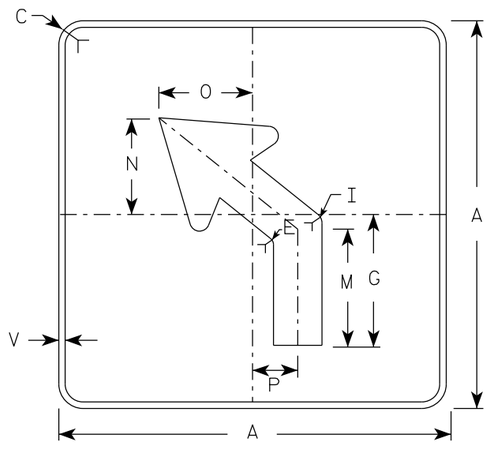

M5-1L
MM5-1L
MO5-1L
MP5-1L




M5-2L
MM5-2L
MO5-2L
MP5-2L




MB5-1L
MK5-1L
MN5-1L
MR5-1L

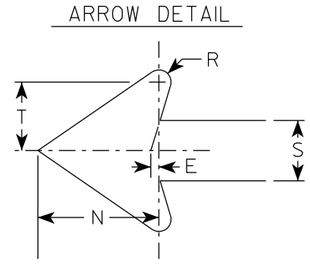



MB5-2L
MK5-2L
MN5-2L
MR5-2L

## NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 21 | | 1 1/2 | 3/8 | 3/8 | | 7 | 3 3/8 | 5/8 | | 2 1/8 | 4 1/2 | 6 3/8 | 5 1/4 | 5 | 2 1/2 | | 1/2 | 2 5/8 | 3 | | 1/2 | | | | | 3.06 |
| 2M | 21 | | 1 1/2 | 3/8 | 3/8 | | 7 | 3 3/8 | 5/8 | | 2 1/8 | 4 1/2 | 6 3/8 | 5 1/4 | 5 | 2 1/2 | | 1/2 | 2 5/8 | 3 | | 1/2 | | | | | 3.06 |
| 3 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | | 1/2 | | | | | 6.25 |
| 4 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | | 1/2 | | | | | 6.25 |
| 5 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | | 1/2 | | | | | 6.25 |

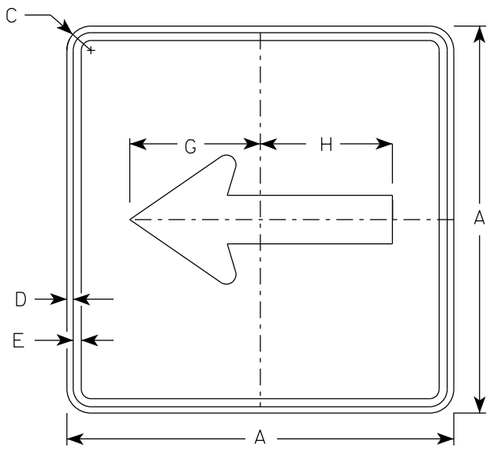
# STANDARD SIGN
# M5-1 & M5-2

*WISCONSIN DEPT OF TRANSPORTATION*

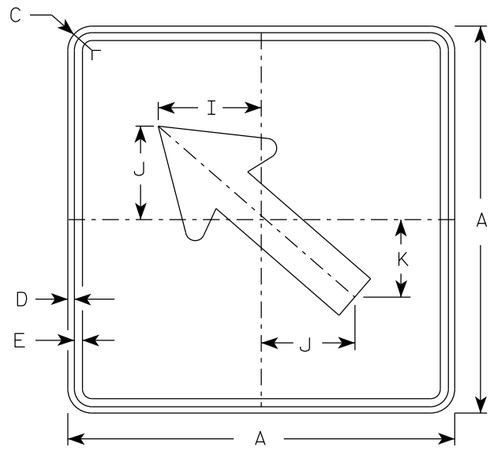
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

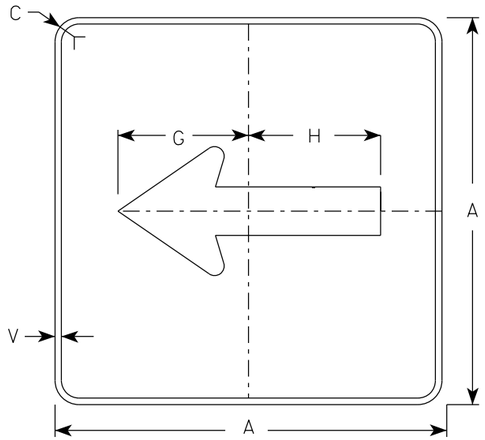
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 146 | E



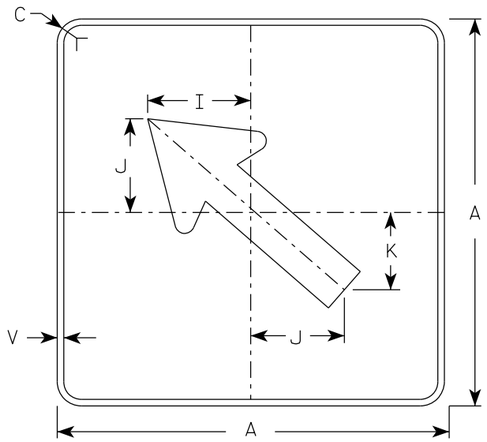

M6-1
MM6-1
MO6-1
MP6-1




M6-2
MM6-2
MO6-2
MP6-2




MB6-1
MK6-1
MN6-1
MR6-1

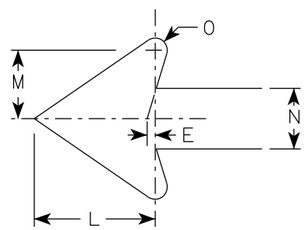



MB6-2
MK6-2
MN6-2
MR6-2

NOTES

1. Signs are Type II - Type H Reflective except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow

ARROW DETAIL




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 21 | | 1 1/2 | 3/8 | 3/8 | | 7 1/2 | 7 1/8 | 5 5/8 | 5 | 4 1/4 | 5 1/4 | 3 | 2 5/8 | 1/2 | | | | | | | 1/2 | | | | | 3.06 |
| 2M | 21 | | 1 1/2 | 3/8 | 3/8 | | 7 1/2 | 7 1/8 | 5 5/8 | 5 | 4 1/4 | 5 1/4 | 3 | 2 5/8 | 1/2 | | | | | | | 1/2 | | | | | 3.06 |
| 3 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | | 1/2 | | | | | 6.25 |
| 4 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | | 1/2 | | | | | 6.25 |
| 5 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | | 1/2 | | | | | 6.25 |

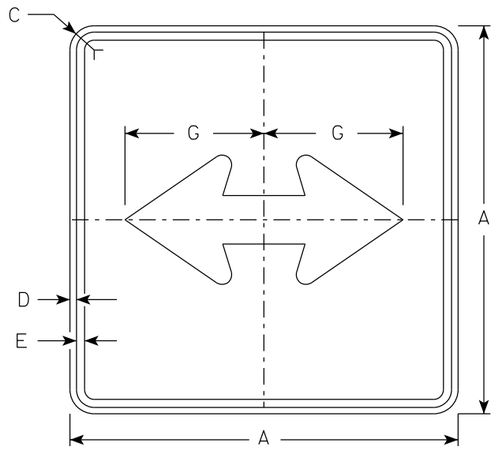
# STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

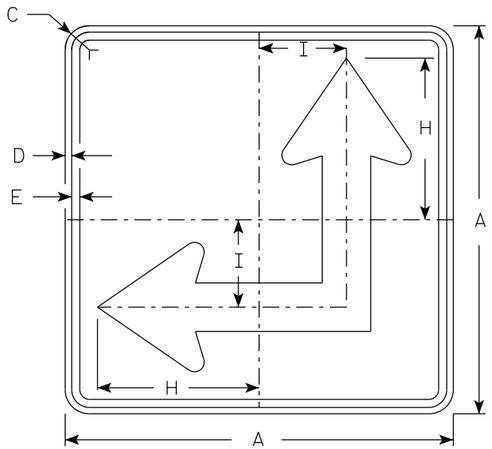
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

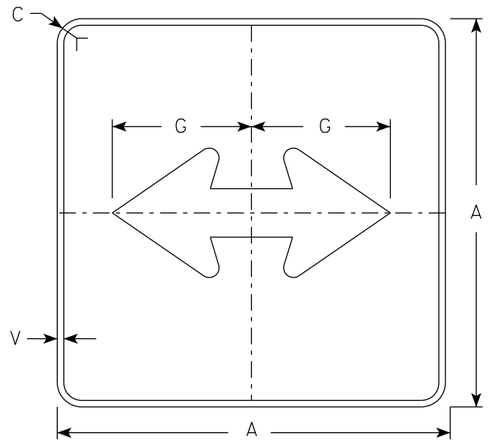
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 147 | E



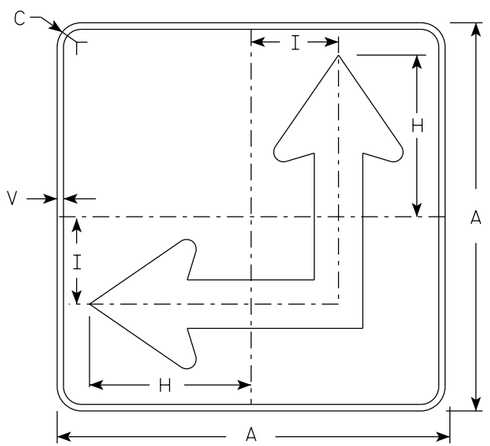

M6-4
MM6-4
MO6-4
MP6-4




M6-6
MM6-6
MO6-6
MP6-6




MB6-4
MK6-4
MN6-4
MR6-4

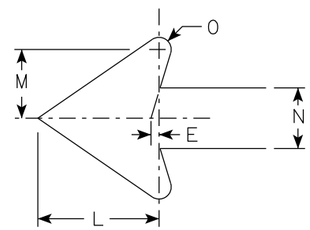



MB6-6
MK6-6
MN6-6
MR6-6

## NOTES

1. Signs are Type II - Type H Reflective except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.

ARROW DETAIL




| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 21 | | 1 1/2 | 3/8 | 3/8 | | 7 1/2 | 8 3/4 | 4 1/4 | | | 5 1/4 | 3 | 2 5/8 | 1/2 | | | | | | | 1/2 | | | | | 3.06 |
| 2M | 21 | | 1 1/2 | 3/8 | 3/8 | | 7 1/2 | 8 3/4 | 4 1/4 | | | 5 1/4 | 3 | 2 5/8 | 1/2 | | | | | | | 1/2 | | | | | 3.06 |
| 3 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 3/4 | 12 1/2 | 6 3/4 | | | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | | 1/2 | | | | | 6.25 |
| 4 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 3/4 | 12 1/2 | 6 3/4 | | | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | | 1/2 | | | | | 6.25 |
| 5 | 30 | | 1 7/8 | 1/2 | 5/8 | | 10 3/4 | 12 1/2 | 6 3/4 | | | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | | 1/2 | | | | | 6.25 |

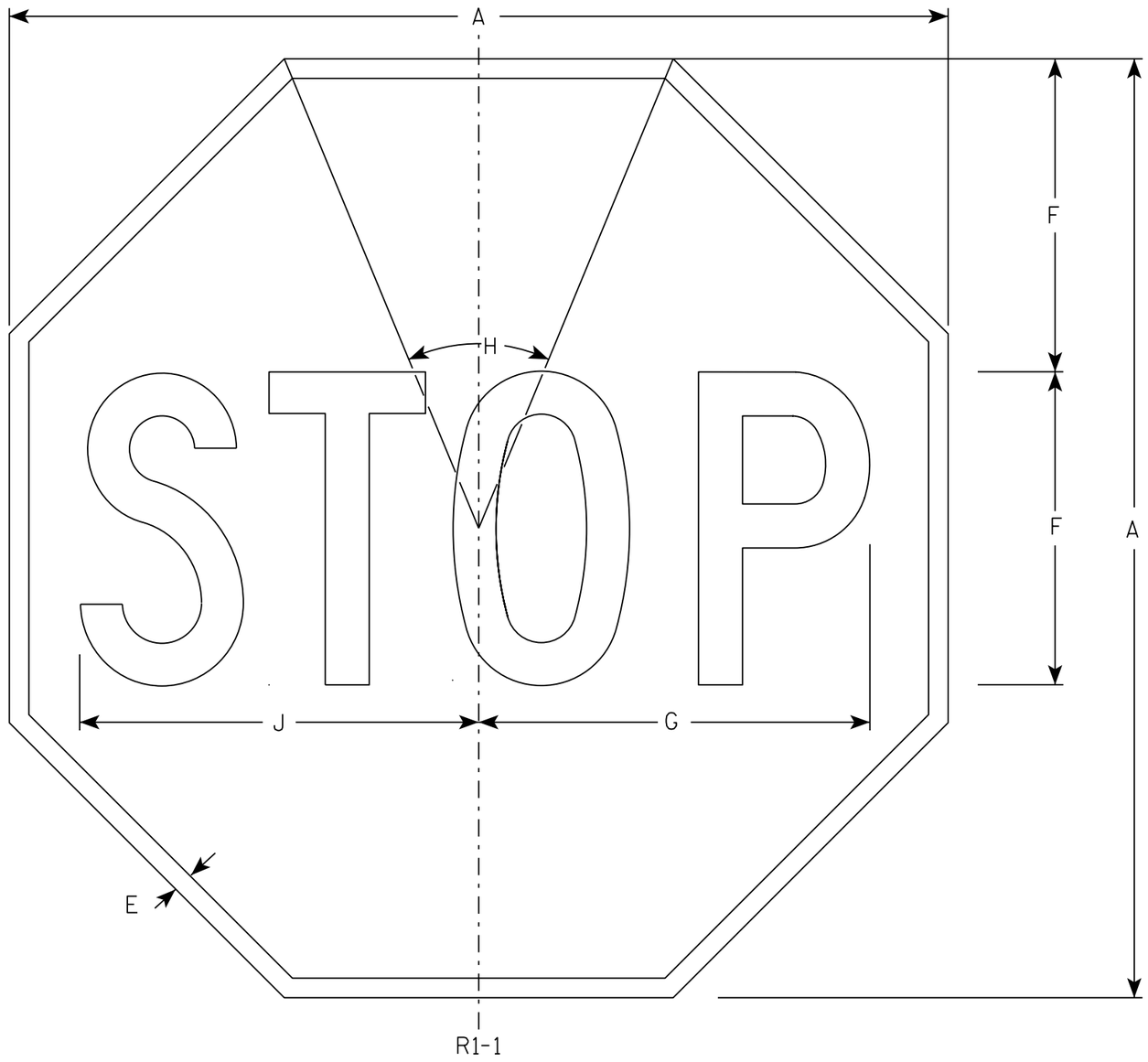
# STANDARD SIGN M6-4 & M6-6 SERIES

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-4.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 148 | E




NOTES

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

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

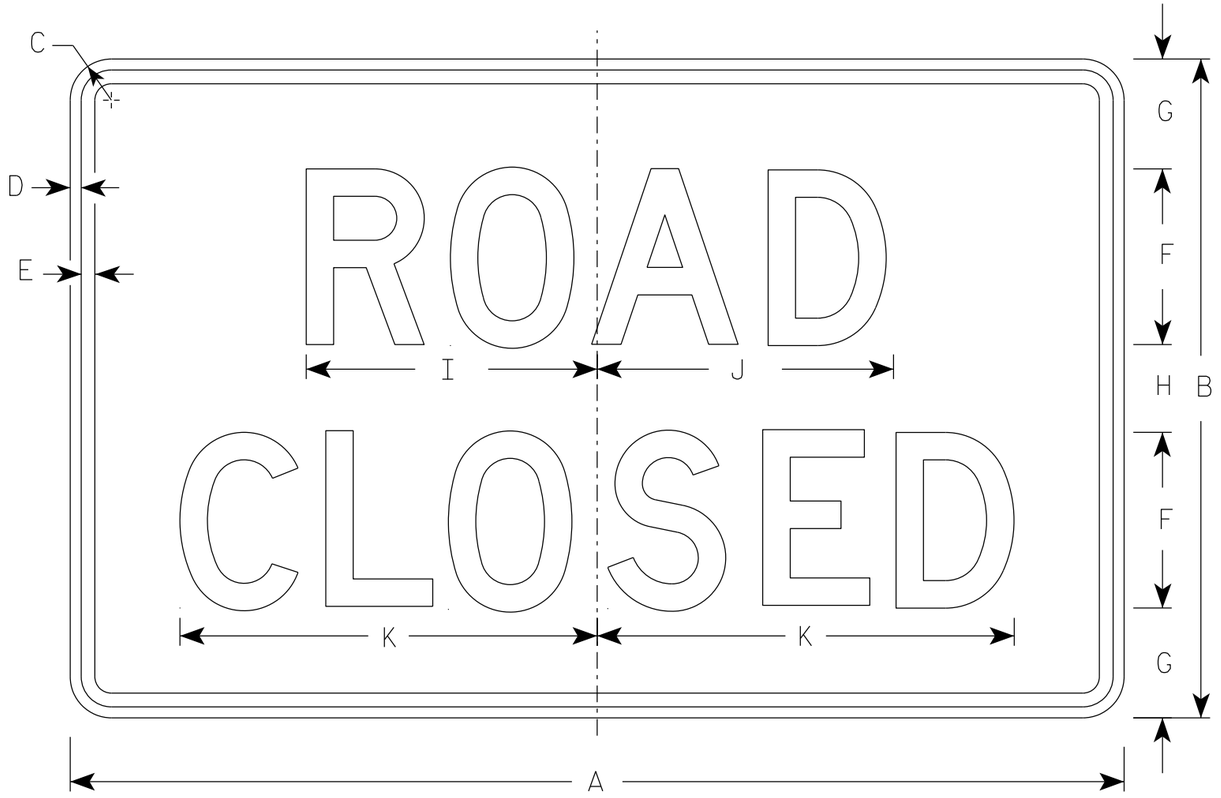
# STANDARD SIGN
# R1-1

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

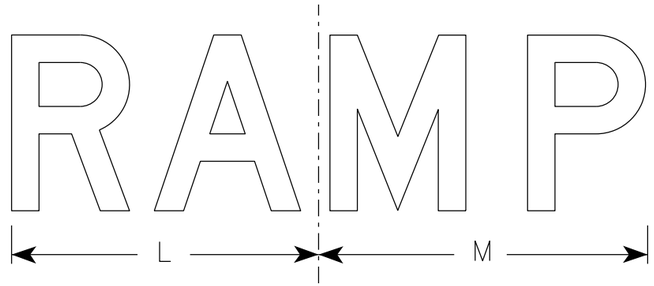
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 149 | E |
|---|---|---|---|---|---|



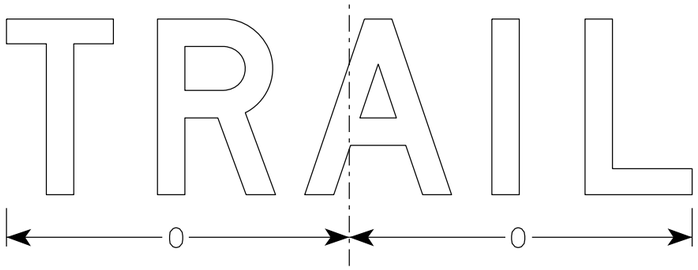

R11-2

NOTES

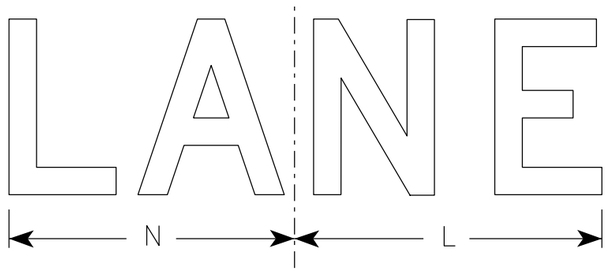
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.




R11-2R




R11-2T




R11-2L

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | | | | | | | | | | | | 10.0 |
| 2M | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | | | | | | | | | | | | 10.0 |
| 3 | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | | | | | | | | | | | | 10.0 |
| 4 | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | | | | | | | | | | | | 10.0 |
| 5 | 48 | 30 | 1 7/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | 15 5/8 | | | | | | | | | | | | 10.0 |

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

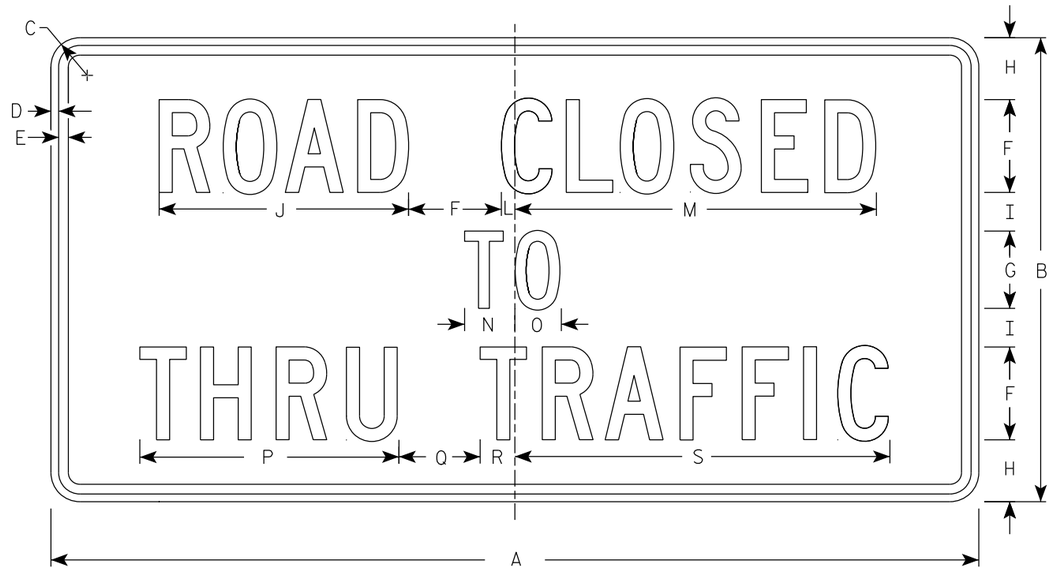
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-2.12

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




FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112.dgn PLOT DATE : 5-FEB 2024 2:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42




R11-4

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 60 | 30 | 1 7/8 | 1/2 | 5/8 | 6 | 5 | 4 | 2 1/2 | 16 1/8 | | 7/8 | 23 3/8 | 3 1/4 | 3 | 16 3/4 | 5 1/4 | 2 1/4 | 24 1/4 | | | | | | | | 12.5 |
| 2M | 60 | 30 | 1 7/8 | 1/2 | 5/8 | 6 | 5 | 4 | 2 1/2 | 16 1/8 | | 7/8 | 23 3/8 | 3 1/4 | 3 | 16 3/4 | 5 1/4 | 2 1/4 | 24 1/4 | | | | | | | | 12.5 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

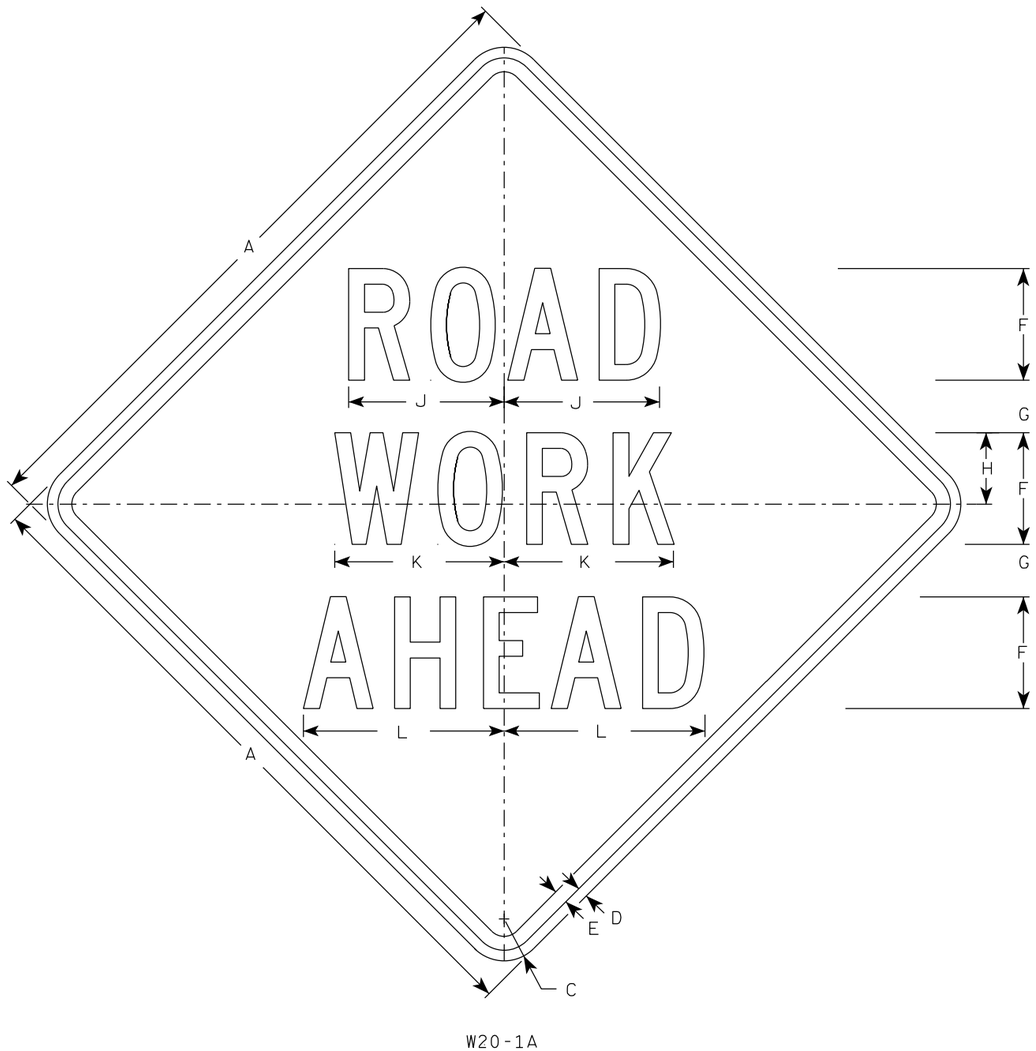
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

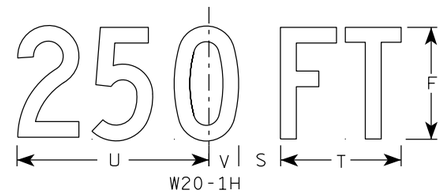
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-4.4

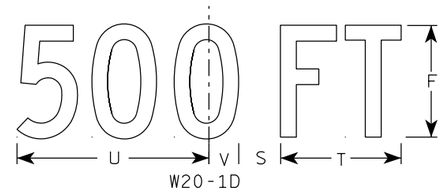
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 151 | E



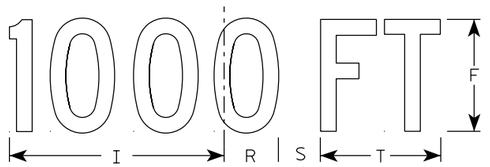

W20-1A



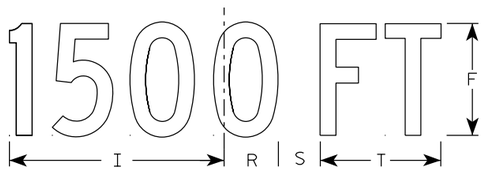

W20-1H




W20-1D



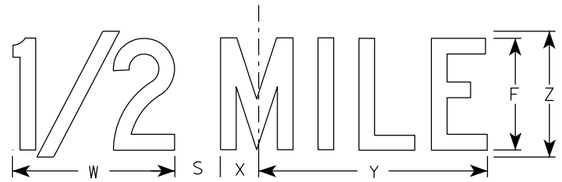

W20-1C



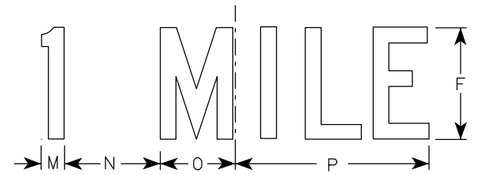

W20-1B

NOTES

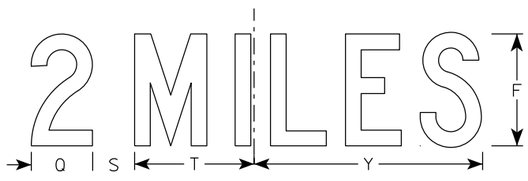
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.




W20-1G




W20-1F




W20-1E

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 2 1/4 | 5/8 | 3/4 | 5 | 2 5/8 | 3 1/4 | 10 1/8 | 7 | 7 5/8 | 8 7/8 | 1 1/8 | 4 1/2 | 3 1/2 | 9 | 3 1/4 | 2 1/2 | 2 1/4 | 5 5/8 | 9 | 1 3/8 | 8 | 1 3/4 | 10 3/4 | 6 | 9.0 |
| 2S | 48 | | 3 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 2M | 48 | | 3 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 3 | 48 | | 3 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 4 | 48 | | 3 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 5 | 48 | | 3 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-1.12

PROJECT NO:

SHEET NO: E

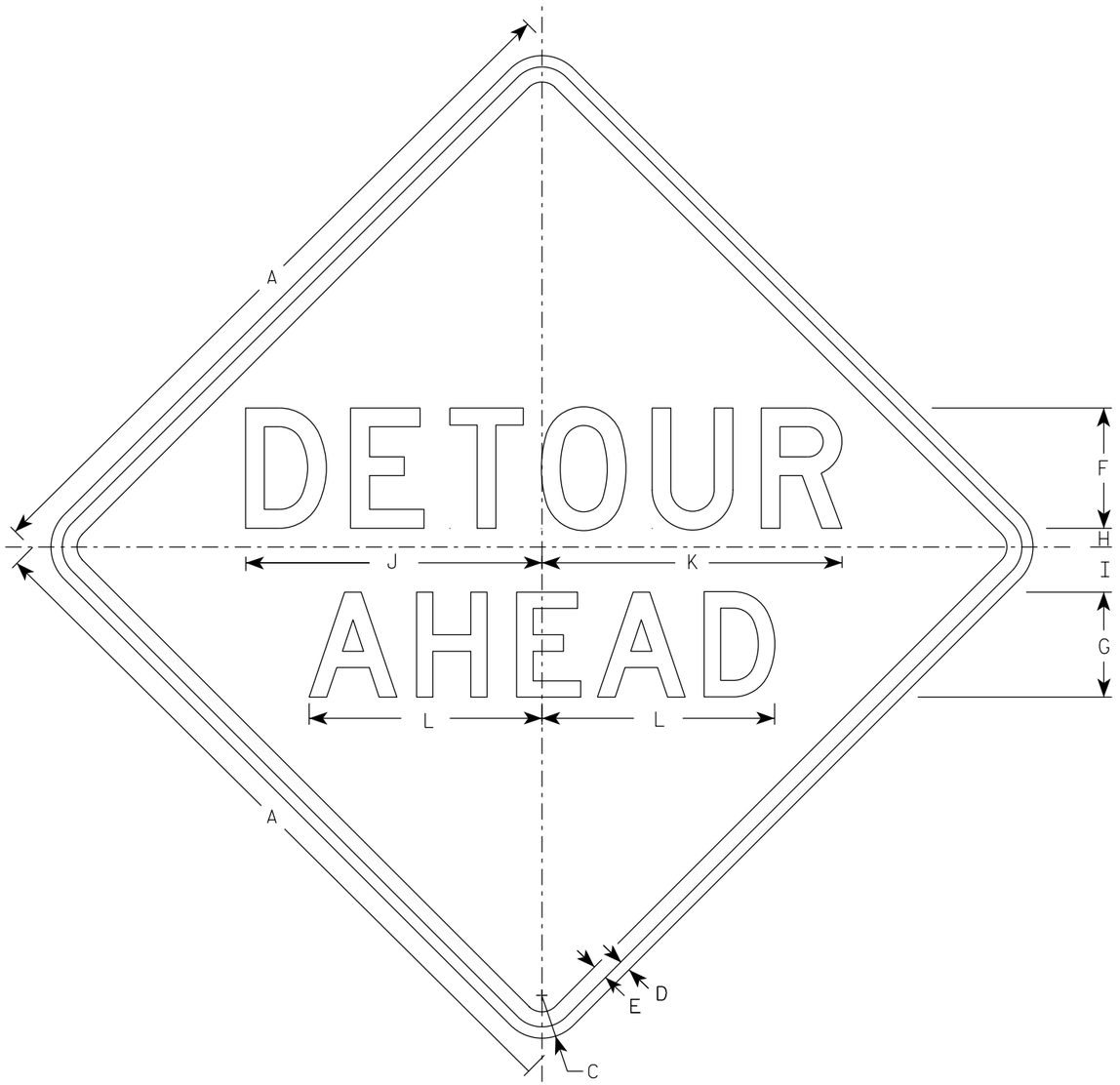


FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 10-JAN 2024 11:16 PLOT BY : dotc4c

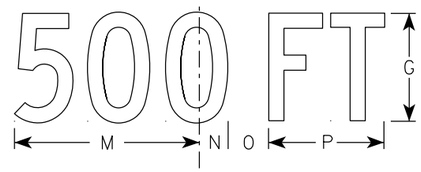
WISDOT/CADDS SHEET 42

7

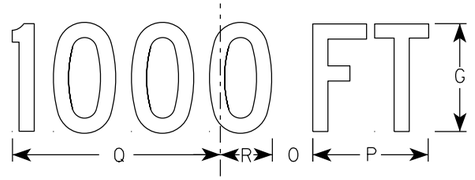
7



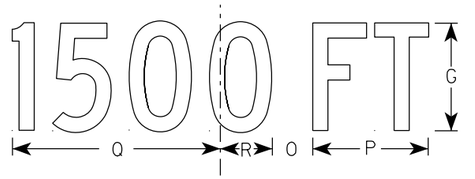

W20-2A



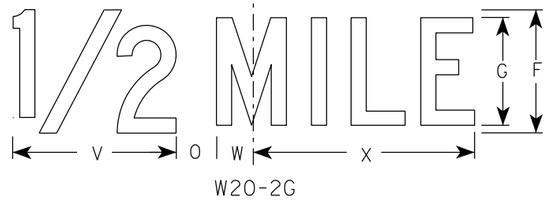

W20-2D



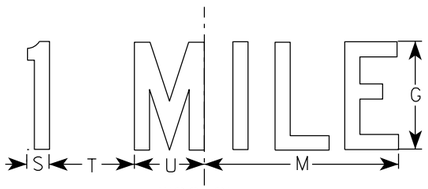

W20-2C




W20-2B




W20-2G




W20-2F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 2 1/4 | 5/8 | 3/4 | 6 | 5 | 1 | 2 1/4 | 14 3/4 | 15 | 11 5/8 | 9 | 1 3/8 | 1 7/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 1/8 | 4 1/2 | 3 1/2 | 8 | 1 3/4 | 10 3/4 | | | 9.0 |
| 2S | 48 | | 3 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 2M | 48 | | 3 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 3 | 48 | | 3 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 4 | 48 | | 3 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 5 | 48 | | 3 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

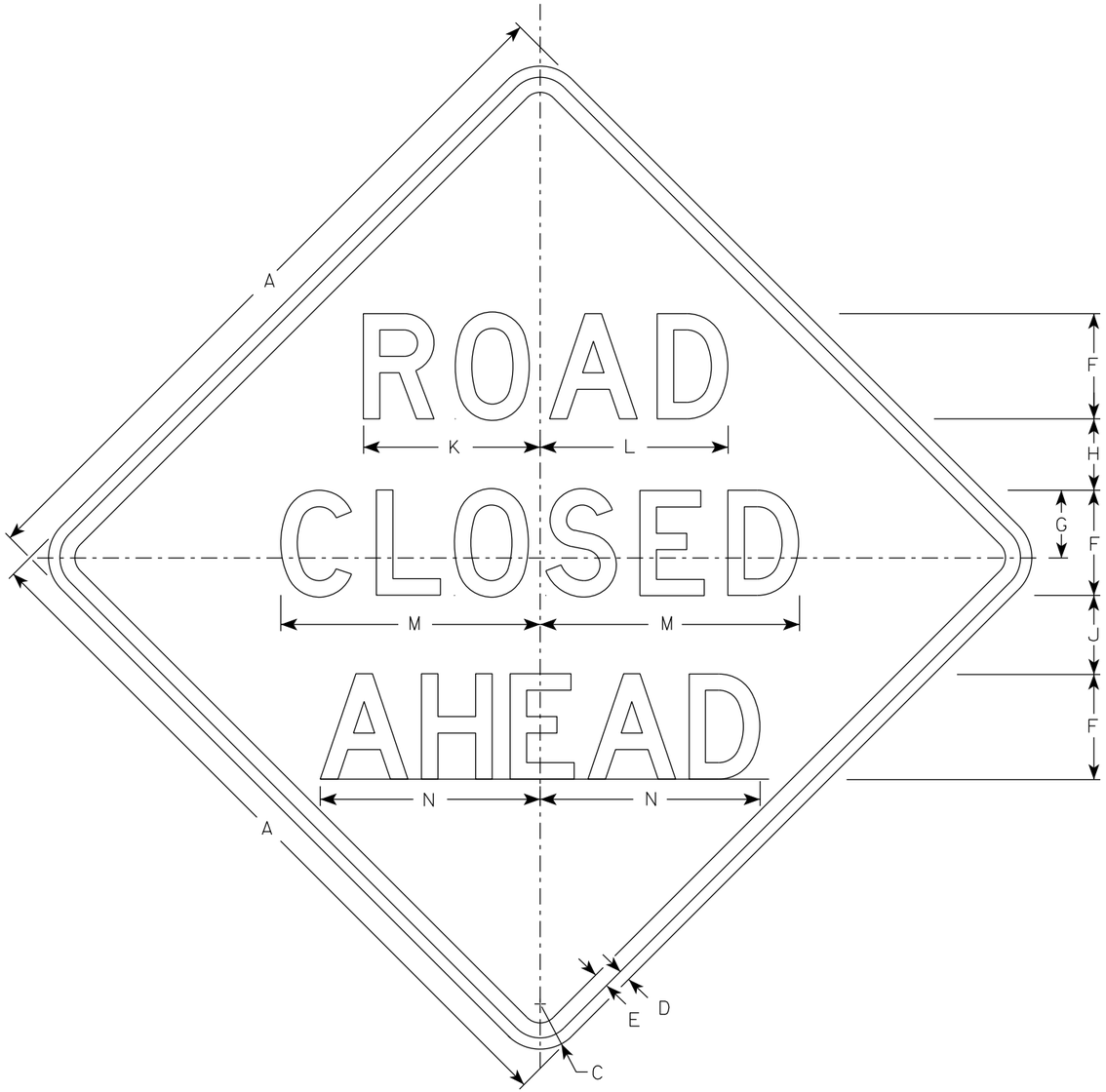
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-2.7

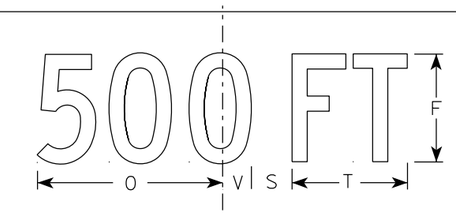
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: E |
|---|---|---|---|---|



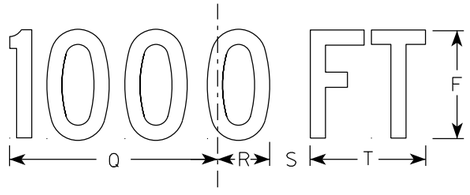
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W202.DGN PLOT DATE : 10-JAN 2024 11:36 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



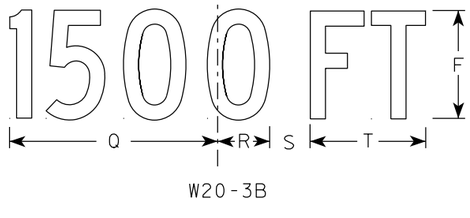

W20-3A



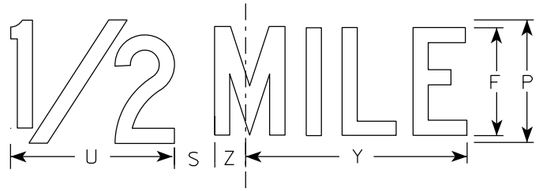

W20-3D



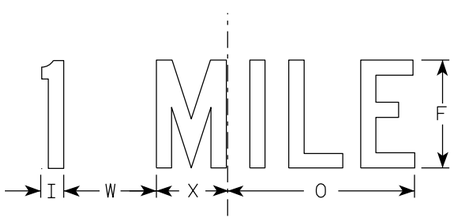

W20-3C




W20-3B




W20-3G




W20-3F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

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

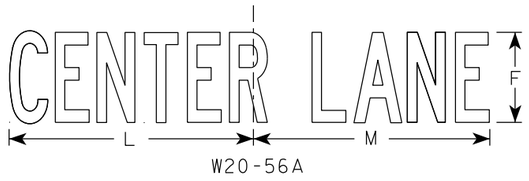
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

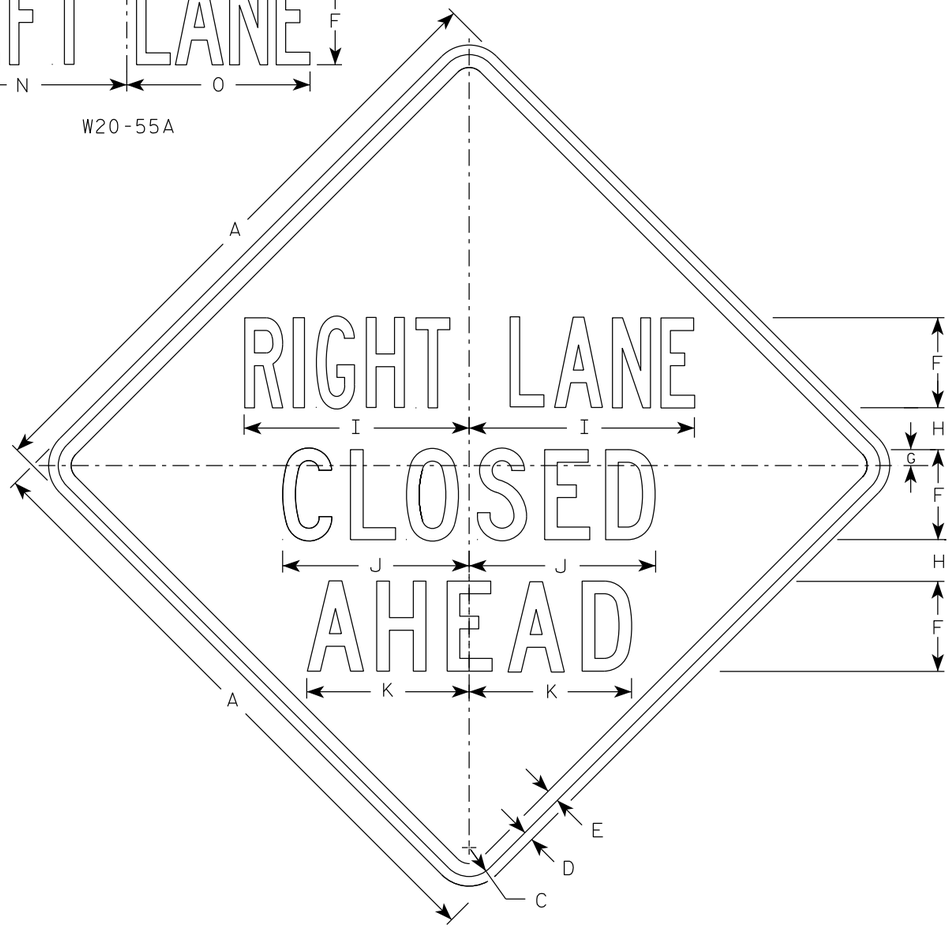
DATE 1/10/2024 PLATE NO. W20-3.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 154 | E

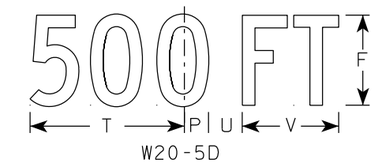



W20-56A

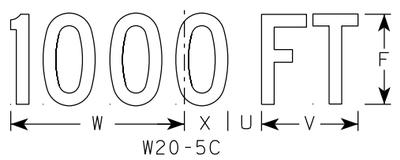
W20-55A



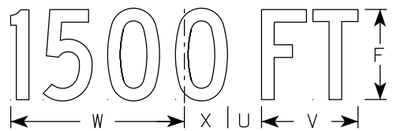

W20-5A



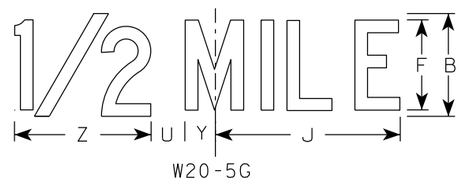

W20-5D



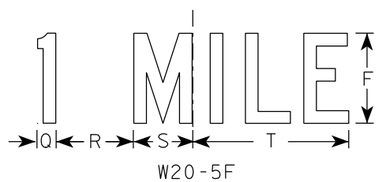

W20-5C




W20-5B




W20-5G




W20-5F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | 6 | 2 1/4 | 5/8 | 3/4 | 5 | 7/8 | 2 1/2 | 13 1/8 | 10 3/4 | 9 1/2 | 14 1/4 | 13 5/8 | 12 | 12 | 1 3/8 | 1 1/8 | 4 1/2 | 3 1/2 | 9 | 1 7/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 3/4 | 8 | 9.0 |
| 2S | 48 | 8 | 3 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 2M | 48 | 8 | 3 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 3 | 48 | 8 | 3 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 4 | 48 | 8 | 3 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 5 | 48 | 8 | 3 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |

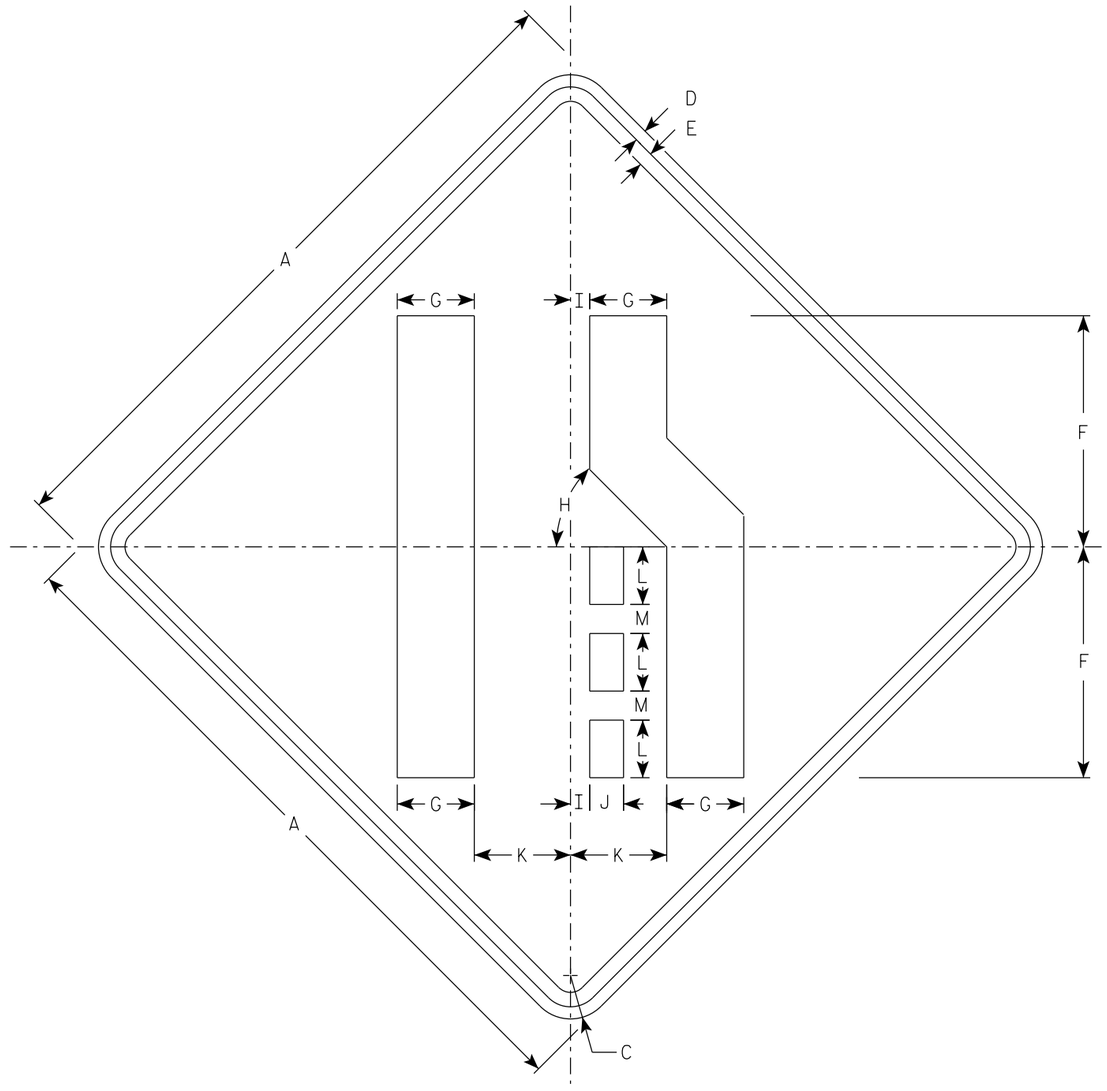
STANDARD SIGN
W20-5A, B, C, D, F & G

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/27/24 PLATE NO. W20-5.12

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 155 | E |
|---|---|---|---|---|---|




W04-2R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 2 1/4 | 5/8 | 3/4 | 12 | 4 | 45° | 1 | 1 3/4 | 5 | 3 | 1 1/2 | | | | | | | | | | | | | | 9.0 |
| 2S | 48 | | 3 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 2M | 48 | | 3 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 3 | 48 | | 3 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 4 | 48 | | 3 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 3 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |

STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/25/2024 PLATE NO. W04-2.2

PROJECT NO:

SHEET NO: E

DIVISION 1 - STH 54

| STATION | REAL STATION | DISTANCE | AREA (SF) | | INCREMENTAL VOL (CY) (UNADJUSTED) | | CUMULATIVE VOL (CY) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | CUT | FILL | CUT | FILL | CUT | EXPANDED FILL | MASS ORDINATE |
| | | | | | | | 1.00 | 1.25 | |
| | | | | | NOTE 1 | NOTE 3 | NOTE 1 | | NOTE 8 |
| 775+82.00 | 77582.00 | 0 | 22.84 | 0.00 | 0 | 0 | 0 | 0 | 0 |
| 776+00.00 | 77600.00 | 18 | 22.48 | 0.00 | 15 | 0 | 15 | 0 | 15 |
| 776+22.64 | 77622.64 | 23 | 23.61 | 0.00 | 19 | 0 | 34 | 0 | 34 |
| 776+50.00 | 77650.00 | 27 | 25.10 | 0.00 | 25 | 0 | 59 | 0 | 59 |
| 777+00.00 | 77700.00 | 50 | 38.14 | 0.00 | 59 | 0 | 118 | 0 | 118 |
| 777+50.00 | 77750.00 | 50 | 38.69 | 0.00 | 71 | 0 | 189 | 0 | 189 |
| 778+00.00 | 77800.00 | 50 | 38.95 | 0.00 | 72 | 0 | 261 | 0 | 261 |
| 778+50.00 | 77850.00 | 50 | 38.35 | 0.00 | 72 | 0 | 333 | 0 | 333 |
| 779+00.00 | 77900.00 | 50 | 38.01 | 0.00 | 71 | 0 | 404 | 0 | 404 |
| 779+50.00 | 77950.00 | 50 | 38.66 | 0.00 | 71 | 0 | 475 | 0 | 475 |
| 780+00.00 | 78000.00 | 50 | 39.71 | 0.00 | 73 | 0 | 548 | 0 | 548 |
| 780+50.00 | 78050.00 | 50 | 38.71 | 0.00 | 73 | 0 | 621 | 0 | 621 |
| 781+00.00 | 78100.00 | 50 | 38.16 | 0.00 | 71 | 0 | 692 | 0 | 692 |
| 781+50.00 | 78150.00 | 50 | 39.43 | 0.00 | 72 | 0 | 764 | 0 | 764 |
| 782+00.00 | 78200.00 | 50 | 41.24 | 0.00 | 75 | 0 | 839 | 0 | 839 |
| 782+50.00 | 78250.00 | 50 | 32.01 | 0.00 | 68 | 0 | 907 | 0 | 907 |
| 782+70.92 | 78270.92 | 21 | 31.81 | 0.00 | 25 | 0 | 932 | 0 | 932 |
| 783+00.00 | 78300.00 | 29 | 32.42 | 0.00 | 35 | 0 | 967 | 0 | 967 |
| 783+50.00 | 78350.00 | 50 | 41.07 | 0.00 | 68 | 0 | 1035 | 0 | 1035 |
| 784+00.00 | 78400.00 | 50 | 39.13 | 0.00 | 74 | 0 | 1109 | 0 | 1109 |
| 784+50.00 | 78450.00 | 50 | 40.36 | 0.15 | 74 | 0 | 1183 | 0 | 1183 |
| 785+00.00 | 78500.00 | 50 | 38.72 | 0.18 | 73 | 0 | 1256 | 0 | 1256 |
| 785+50.00 | 78550.00 | 50 | 37.38 | 0.19 | 70 | 0 | 1326 | 0 | 1326 |
| 786+00.00 | 78600.00 | 50 | 36.94 | 0.29 | 69 | 0 | 1395 | 0 | 1395 |
| 786+50.00 | 78650.00 | 50 | 39.08 | 0.10 | 70 | 0 | 1465 | 0 | 1465 |
| 787+00.00 | 78700.00 | 50 | 37.94 | 0.00 | 71 | 0 | 1536 | 0 | 1536 |
| 787+50.00 | 78750.00 | 50 | 46.40 | 0.00 | 78 | 0 | 1614 | 0 | 1614 |
| 788+00.00 | 78800.00 | 50 | 43.30 | 0.00 | 83 | 0 | 1697 | 0 | 1697 |
| 788+17.00 | 78817.00 | 17 | 85.80 | 0.00 | 41 | 0 | 1738 | 0 | 1738 |
| 788+67.00 | 78867.00 | 67 | 261.17 | 0.05 | 378 | 0 | 2116 | 0 | 2116 |
| 788+75.00 | 78875.00 | 8 | 259.15 | 0.13 | 77 | 0 | 2193 | 0 | 2193 |
| 789+25.00 | 78925.00 | 50 | 85.00 | 0.00 | 319 | 0 | 2512 | 0 | 2512 |
| 789+50.00 | 78950.00 | 75 | 41.00 | 0.00 | 417 | 0 | 2929 | 0 | 2929 |
| 790+00.00 | 79000.00 | 50 | 44.19 | 0.00 | 79 | 0 | 3008 | 0 | 3008 |
| 790+50.00 | 79050.00 | 50 | 46.50 | 0.00 | 84 | 0 | 3092 | 0 | 3092 |
| 791+00.00 | 79100.00 | 50 | 49.65 | 0.00 | 89 | 0 | 3181 | 0 | 3181 |
| 791+50.00 | 79150.00 | 50 | 26.68 | 0.00 | 71 | 0 | 3252 | 0 | 3252 |
| 791+81.63 | 79181.63 | 32 | 33.49 | 0.00 | 35 | 0 | 3287 | 0 | 3287 |
| 792+00.00 | 79200.00 | 18 | 32.91 | 0.00 | 23 | 0 | 3310 | 0 | 3310 |
| 792+50.00 | 79250.00 | 50 | 48.14 | 0.00 | 75 | 0 | 3385 | 0 | 3385 |

| NOTES: | |
|---|---|
| 1 - CUT | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL |
| 3 - FILL | DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME |
| 8 - MASS ORDINATE | IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)] |
| 8 - MASS ORDINATE | IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)] |
| 8 - MASS ORDINATE | IF MARSH AND EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - EXPANDED ROCK) * FILL FACTOR)] |
| 8 - MASS ORDINATE | IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - EXPANDED ROCK) * FILL FACTOR)] |

DIVISION 1 - STH 54

| STATION | REAL STATION | DISTANCE | AREA (SF) | | INCREMENTAL VOL (CY) (UNADJUSTED) | | CUMULATIVE VOL (CY) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | CUT | FILL | CUT | FILL | CUT | EXPANDED FILL | MASS ORDINATE |
| | | | | | | | 1.00 | 1.25 | |
| | | | | | NOTE 1 | NOTE 3 | NOTE 1 | | NOTE 8 |
| 793+00.00 | 79300.00 | 50 | 44.73 | 0.00 | 86 | 0 | 3471 | 0 | 3471 |
| 793+50.00 | 79350.00 | 50 | 41.70 | 0.00 | 80 | 0 | 3551 | 0 | 3551 |
| 794+00.00 | 79400.00 | 50 | 40.60 | 0.00 | 76 | 0 | 3627 | 0 | 3627 |
| 794+50.00 | 79450.00 | 50 | 39.00 | 0.00 | 74 | 0 | 3701 | 0 | 3701 |
| 795+00.00 | 79500.00 | 50 | 41.26 | 0.00 | 74 | 0 | 3775 | 0 | 3775 |
| 795+50.00 | 79550.00 | 50 | 42.42 | 0.00 | 77 | 0 | 3852 | 0 | 3852 |
| 796+00.00 | 79600.00 | 50 | 34.70 | 0.00 | 71 | 0 | 3923 | 0 | 3923 |
| 796+50.00 | 79650.00 | 50 | 33.80 | 0.00 | 63 | 0 | 3986 | 0 | 3986 |
| 797+00.00 | 79700.00 | 50 | 39.70 | 0.00 | 68 | 0 | 4054 | 0 | 4054 |
| 797+50.00 | 79750.00 | 50 | 39.84 | 0.00 | 74 | 0 | 4128 | 0 | 4128 |
| 798+00.00 | 79800.00 | 50 | 38.57 | 0.00 | 73 | 0 | 4201 | 0 | 4201 |
| 798+50.00 | 79850.00 | 50 | 38.43 | 0.00 | 71 | 0 | 4272 | 0 | 4272 |
| 799+00.00 | 79900.00 | 50 | 38.90 | 0.00 | 72 | 0 | 4344 | 0 | 4344 |
| 799+50.00 | 79950.00 | 50 | 40.15 | 0.00 | 73 | 0 | 4417 | 0 | 4417 |
| 800+00.00 | 80000.00 | 50 | 33.67 | 0.00 | 68 | 0 | 4485 | 0 | 4485 |
| 800+50.00 | 80050.00 | 50 | 42.16 | 0.00 | 70 | 0 | 4555 | 0 | 4555 |
| 801+00.00 | 80100.00 | 50 | 41.97 | 0.00 | 78 | 0 | 4633 | 0 | 4633 |
| 801+50.00 | 80150.00 | 50 | 39.94 | 0.05 | 76 | 0 | 4709 | 0 | 4709 |
| 802+00.00 | 80200.00 | 50 | 41.42 | 0.00 | 75 | 0 | 4784 | 0 | 4784 |
| 802+50.00 | 80250.00 | 50 | 37.80 | 0.00 | 73 | 0 | 4857 | 0 | 4857 |
| 803+00.00 | 80300.00 | 50 | 33.00 | 0.00 | 66 | 0 | 4923 | 0 | 4923 |
| 803+50.00 | 80350.00 | 50 | 40.90 | 0.00 | 68 | 0 | 4991 | 0 | 4991 |
| 804+00.00 | 80400.00 | 50 | 39.80 | 0.00 | 75 | 0 | 5066 | 0 | 5066 |
| 804+50.00 | 80450.00 | 50 | 38.70 | 0.00 | 73 | 0 | 5139 | 0 | 5139 |
| 805+00.00 | 80500.00 | 50 | 38.70 | 0.00 | 72 | 0 | 5211 | 0 | 5211 |
| 805+50.00 | 80550.00 | 50 | 38.65 | 0.00 | 72 | 0 | 5283 | 0 | 5283 |
| 806+00.00 | 80600.00 | 50 | 38.50 | 0.00 | 71 | 0 | 5354 | 0 | 5354 |
| 806+50.00 | 80650.00 | 50 | 39.50 | 0.00 | 72 | 0 | 5426 | 0 | 5426 |
| 807+00.00 | 80700.00 | 50 | 39.06 | 0.00 | 73 | 0 | 5499 | 0 | 5499 |
| 807+50.00 | 80750.00 | 50 | 40.91 | 0.00 | 74 | 0 | 5573 | 0 | 5573 |
| 808+00.00 | 80800.00 | 50 | 41.10 | 0.00 | 76 | 0 | 5649 | 0 | 5649 |
| 808+50.00 | 80850.00 | 50 | 41.70 | 0.00 | 77 | 0 | 5726 | 0 | 5726 |
| 809+00.00 | 80900.00 | 50 | 41.30 | 0.00 | 77 | 0 | 5803 | 0 | 5803 |
| 809+50.00 | 80950.00 | 50 | 41.72 | 0.00 | 77 | 0 | 5880 | 0 | 5880 |
| 810+00.00 | 81000.00 | 50 | 40.50 | 0.00 | 76 | 0 | 5956 | 0 | 5956 |
| 810+50.00 | 81050.00 | 50 | 41.27 | 0.00 | 76 | 0 | 6032 | 0 | 6032 |
| 811+00.00 | 81100.00 | 50 | 40.99 | 0.00 | 76 | 0 | 6108 | 0 | 6108 |
| 811+50.00 | 81150.00 | 50 | 38.98 | 0.00 | 74 | 0 | 6182 | 0 | 6182 |
| 812+00.00 | 81200.00 | 50 | 33.23 | 0.00 | 67 | 0 | 6249 | 0 | 6249 |
| 812+50.00 | 81250.00 | 50 | 41.03 | 0.00 | 69 | 0 | 6318 | 0 | 6318 |

DIVISION 1 - STH 54

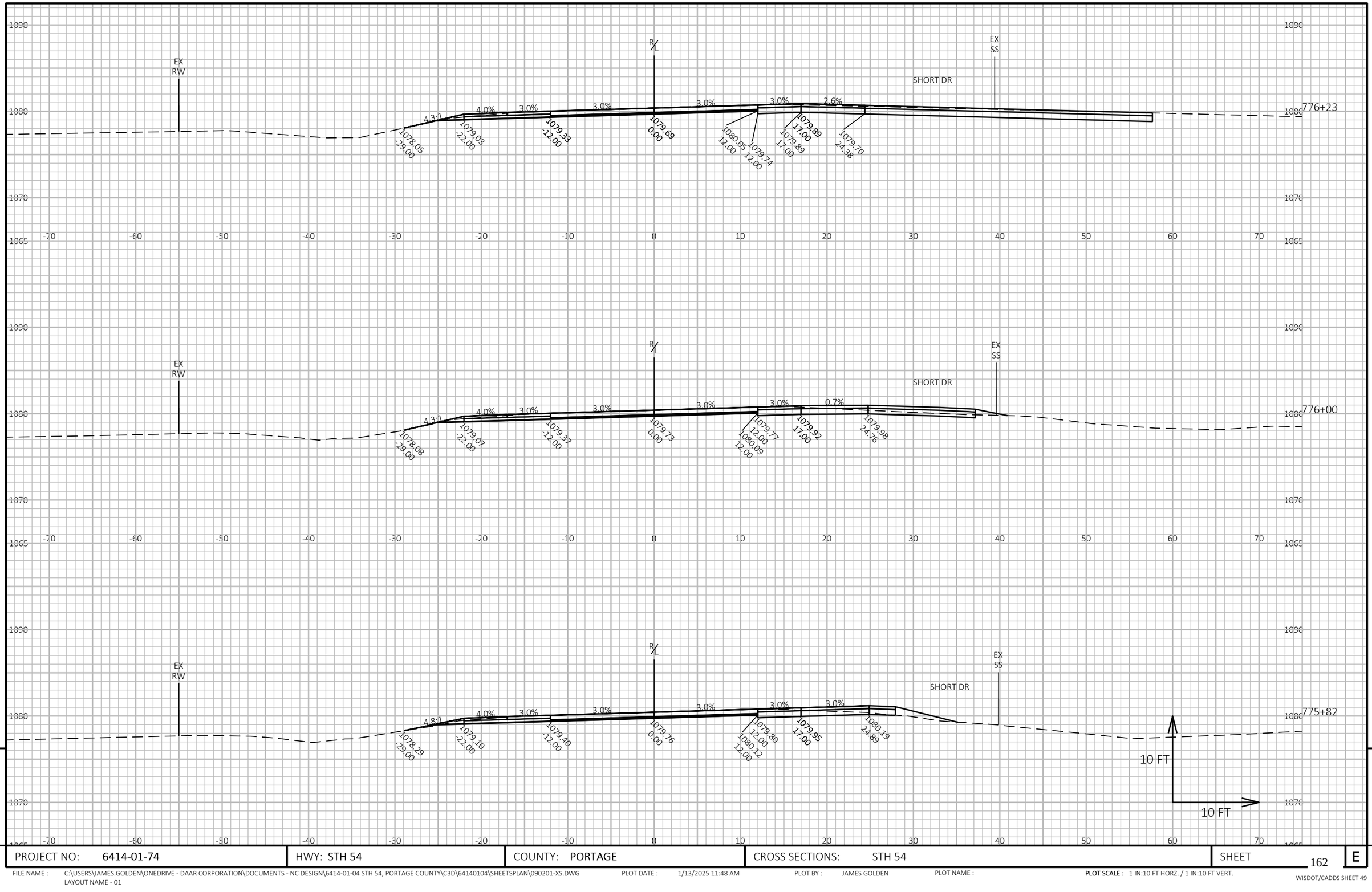
| STATION | REAL STATION | DISTANCE | AREA (SF) | | INCREMENTAL VOL (CY) (UNADJUSTED) | | CUMULATIVE VOL (CY) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | CUT | FILL | CUT | FILL | CUT | EXPANDED FILL | MASS ORDINATE |
| | | | | | | | 1.00 | 1.25 | |
| | | | | | NOTE 1 | NOTE 3 | NOTE 1 | | NOTE 8 |
| 813+08.00 | 81308.00 | 58 | 40.30 | 0.00 | 87 | 0 | 6405 | 0 | 6405 |
| 813+33.00 | 81333.00 | 25 | 39.90 | 0.00 | 37 | 0 | 6442 | 0 | 6442 |
| 813+58.00 | 81358.00 | 25 | 39.30 | 3.15 | 37 | 1 | 6479 | 1 | 6478 |
| 813+83.00 | 81383.00 | 25 | 38.20 | 6.19 | 36 | 4 | 6515 | 6 | 6509 |
| 814+08.00 | 81408.00 | 25 | 37.00 | 2.41 | 35 | 4 | 6550 | 11 | 6539 |
| 814+33.00 | 81433.00 | 25 | 35.40 | 2.91 | 34 | 2 | 6584 | 14 | 6570 |
| 814+65.00 | 81465.00 | 32 | 34.20 | 11.69 | 41 | 9 | 6625 | 25 | 6600 |
| 814+90.00 | 81490.00 | 25 | 31.10 | 9.78 | 30 | 10 | 6655 | 38 | 6618 |
| 815+15.00 | 81515.00 | 25 | 67.10 | 7.14 | 45 | 8 | 6700 | 48 | 6653 |
| 815+49.00 | 81549.00 | 34 | 214.29 | 0.00 | 177 | 4 | 6877 | 53 | 6825 |
| 815+61.00 | 81561.00 | 12 | 217.91 | 0.00 | 96 | 0 | 6973 | 53 | 6921 |
| 815+83.00 | 81583.00 | 22 | 64.92 | 0.00 | 115 | 0 | 7088 | 53 | 7036 |
| 816+05.00 | 81605.00 | 22 | 228.73 | 0.00 | 120 | 0 | 7208 | 53 | 7156 |
| 816+18.00 | 81618.00 | 13 | 360.91 | 0.00 | 142 | 0 | 7350 | 53 | 7298 |
| 816+52.00 | 81652.00 | 34 | 64.60 | 12.56 | 268 | 8 | 7618 | 63 | 7556 |
| 816+77.00 | 81677.00 | 25 | 29.10 | 9.06 | 43 | 10 | 7661 | 75 | 7586 |
| 817+02.00 | 81702.00 | 25 | 31.80 | 9.00 | 28 | 8 | 7689 | 85 | 7604 |
| 817+27.00 | 81727.00 | 25 | 32.10 | 2.92 | 30 | 6 | 7719 | 93 | 7627 |
| 817+46.00 | 81746.00 | 19 | 32.10 | 7.30 | 23 | 4 | 7742 | 98 | 7645 |
| 817+71.00 | 81771.00 | 25 | 33.10 | 11.46 | 30 | 9 | 7772 | 109 | 7663 |
| 817+96.00 | 81796.00 | 25 | 33.10 | 9.68 | 31 | 10 | 7803 | 121 | 7682 |
| 818+21.00 | 81821.00 | 25 | 33.40 | 3.47 | 31 | 6 | 7834 | 129 | 7705 |
| 818+46.00 | 81846.00 | 25 | 34.20 | 0.00 | 31 | 2 | 7865 | 131 | 7734 |
| 818+71.00 | 81871.00 | 25 | 34.40 | 0.00 | 32 | 0 | 7897 | 131 | 7766 |
| 819+00.00 | 81900.00 | 29 | 37.96 | 0.00 | 55 | 0 | 7952 | 131 | 7821 |
| 819+50.00 | 81950.00 | 50 | 39.04 | 0.00 | 71 | 0 | 8023 | 131 | 7892 |
| 820+00.00 | 82000.00 | 50 | 39.57 | 0.00 | 73 | 0 | 8096 | 131 | 7965 |
| 820+50.00 | 82050.00 | 50 | 29.36 | 0.00 | 64 | 0 | 8160 | 131 | 8029 |
| 820+85.37 | 82085.37 | 35 | 29.73 | 0.00 | 39 | 0 | 8199 | 131 | 8068 |
| 821+00.00 | 82100.00 | 15 | 29.78 | 0.00 | 16 | 0 | 8215 | 131 | 8084 |
| 821+50.00 | 82150.00 | 50 | 43.12 | 0.00 | 67 | 0 | 8282 | 131 | 8151 |
| 822+00.00 | 82200.00 | 50 | 40.50 | 0.00 | 77 | 0 | 8359 | 131 | 8228 |
| 822+50.00 | 82250.00 | 50 | 40.70 | 0.00 | 75 | 0 | 8434 | 131 | 8303 |
| 823+00.00 | 82300.00 | 50 | 41.57 | 0.00 | 76 | 0 | 8510 | 131 | 8379 |
| 823+50.00 | 82350.00 | 50 | 40.49 | 0.00 | 76 | 0 | 8586 | 131 | 8455 |
| 824+00.00 | 82400.00 | 50 | 41.31 | 0.00 | 76 | 0 | 8662 | 131 | 8531 |
| 824+50.00 | 82450.00 | 50 | 41.69 | 0.00 | 77 | 0 | 8739 | 131 | 8608 |
| 825+00.00 | 82500.00 | 50 | 41.08 | 0.00 | 77 | 0 | 8816 | 131 | 8685 |
| 825+50.00 | 82550.00 | 50 | 39.88 | 0.00 | 75 | 0 | 8891 | 131 | 8760 |
| 826+00.00 | 82600.00 | 50 | 40.41 | 0.00 | 74 | 0 | 8965 | 131 | 8834 |

DIVISION 1 - STH 54

| STATION | REAL STATION | DISTANCE | AREA (SF) | | INCREMENTAL VOL (CY) (UNADJUSTED) | | CUMULATIVE VOL (CY) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | CUT | FILL | CUT | FILL | CUT | EXPANDED FILL | MASS ORDINATE |
| | | | | | | | 1.00 | 1.25 | |
| | | | | | NOTE 1 | NOTE 3 | NOTE 1 | | NOTE 8 |
| 826+50.00 | 82650.00 | 50 | 38.30 | 0.00 | 73 | 0 | 9038 | 131 | 8907 |
| 827+00.00 | 82700.00 | 50 | 38.80 | 0.00 | 71 | 0 | 9109 | 131 | 8978 |
| 827+50.00 | 82750.00 | 50 | 30.49 | 0.00 | 64 | 0 | 9173 | 131 | 9042 |
| 828+00.00 | 82800.00 | 50 | 22.20 | 0.00 | 49 | 0 | 9222 | 131 | 9091 |
| 828+50.00 | 82850.00 | 50 | 21.79 | 0.00 | 41 | 0 | 9263 | 131 | 9132 |
| 829+00.00 | 82900.00 | 50 | 37.55 | 0.00 | 55 | 0 | 9318 | 131 | 9187 |
| 829+50.00 | 82950.00 | 50 | 33.79 | 0.00 | 66 | 0 | 9384 | 131 | 9253 |
| 830+00.00 | 83000.00 | 50 | 38.87 | 0.00 | 67 | 0 | 9451 | 131 | 9320 |
| 830+50.00 | 83050.00 | 50 | 41.23 | 0.00 | 74 | 0 | 9525 | 131 | 9394 |
| 831+00.00 | 83100.00 | 50 | 41.28 | 0.00 | 76 | 0 | 9601 | 131 | 9470 |
| 831+50.00 | 83150.00 | 50 | 40.31 | 0.00 | 76 | 0 | 9677 | 131 | 9546 |
| 832+00.00 | 83200.00 | 50 | 38.21 | 0.00 | 73 | 0 | 9750 | 131 | 9619 |
| 832+50.00 | 83250.00 | 50 | 37.90 | 0.00 | 70 | 0 | 9820 | 131 | 9689 |
| 833+00.00 | 83300.00 | 50 | 38.85 | 0.00 | 71 | 0 | 9891 | 131 | 9760 |
| 833+50.00 | 83350.00 | 50 | 37.68 | 0.00 | 71 | 0 | 9962 | 131 | 9831 |
| 834+00.00 | 83400.00 | 50 | 29.92 | 0.00 | 63 | 0 | 10025 | 131 | 9894 |
| 834+50.00 | 83450.00 | 50 | 36.98 | 0.00 | 62 | 0 | 10087 | 131 | 9956 |
| 835+00.00 | 83500.00 | 50 | 38.07 | 0.00 | 69 | 0 | 10156 | 131 | 10025 |
| 835+50.00 | 83550.00 | 50 | 39.62 | 0.00 | 72 | 0 | 10228 | 131 | 10097 |
| 836+00.00 | 83600.00 | 50 | 39.92 | 0.00 | 74 | 0 | 10302 | 131 | 10171 |
| 836+50.00 | 83650.00 | 50 | 33.00 | 0.00 | 68 | 0 | 10370 | 131 | 10239 |
| 837+00.00 | 83700.00 | 50 | 40.40 | 0.00 | 68 | 0 | 10438 | 131 | 10307 |
| 837+50.00 | 83750.00 | 50 | 39.81 | 0.00 | 74 | 0 | 10512 | 131 | 10381 |
| 838+00.00 | 83800.00 | 50 | 39.89 | 0.00 | 74 | 0 | 10586 | 131 | 10455 |
| 838+50.00 | 83850.00 | 50 | 40.12 | 0.00 | 74 | 0 | 10660 | 131 | 10529 |
| 839+00.00 | 83900.00 | 50 | 39.69 | 0.00 | 74 | 0 | 10734 | 131 | 10603 |
| 839+50.00 | 83950.00 | 50 | 32.77 | 0.00 | 67 | 0 | 10801 | 131 | 10670 |
| 840+00.00 | 84000.00 | 50 | 40.09 | 0.00 | 67 | 0 | 10868 | 131 | 10737 |
| 840+50.00 | 84050.00 | 50 | 40.29 | 0.00 | 74 | 0 | 10942 | 131 | 10811 |
| 841+00.00 | 84100.00 | 50 | 40.55 | 0.00 | 75 | 0 | 11017 | 131 | 10886 |
| 841+50.00 | 84150.00 | 50 | 40.80 | 0.00 | 75 | 0 | 11092 | 131 | 10961 |
| 842+00.00 | 84200.00 | 50 | 39.55 | 0.00 | 74 | 0 | 11166 | 131 | 11035 |
| 842+50.00 | 84250.00 | 50 | 27.44 | 0.00 | 62 | 0 | 11228 | 131 | 11097 |
| 842+67.09 | 84267.09 | 17 | 27.25 | 0.00 | 17 | 0 | 11245 | 131 | 11114 |
| 843+00.00 | 84300.00 | 33 | 27.23 | 0.00 | 33 | 0 | 11278 | 131 | 11147 |
| 843+50.00 | 84350.00 | 50 | 40.34 | 0.00 | 63 | 0 | 11341 | 131 | 11210 |
| 844+00.00 | 84400.00 | 50 | 39.92 | 0.00 | 74 | 0 | 11415 | 131 | 11284 |
| 844+50.00 | 84450.00 | 50 | 40.02 | 0.00 | 74 | 0 | 11489 | 131 | 11358 |
| 845+00.00 | 84500.00 | 50 | 39.99 | 0.00 | 74 | 0 | 11563 | 131 | 11432 |
| 845+50.00 | 84550.00 | 50 | 40.76 | 0.00 | 75 | 0 | 11638 | 131 | 11507 |

DIVISION 1 - STH 54

| STATION | REAL STATION | DISTANCE | AREA (SF) | | INCREMENTAL VOL (CY) (UNADJUSTED) | | CUMULATIVE VOL (CY) | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | CUT | FILL | CUT | FILL | CUT | EXPANDED FILL | MASS ORDINATE |
| | | | | | | | 1.00 | 1.25 | |
| | | | | | NOTE 1 | NOTE 3 | NOTE 1 | | NOTE 8 |
| 846+00.00 | 84600.00 | 50 | 39.00 | 0.00 | 74 | 0 | 11712 | 131 | 11581 |
| 846+50.00 | 84650.00 | 50 | 39.10 | 0.00 | 72 | 0 | 11784 | 131 | 11653 |
| 847+00.00 | 84700.00 | 50 | 35.40 | 0.00 | 69 | 0 | 11853 | 131 | 11722 |
| 847+50.00 | 84750.00 | 50 | 35.80 | 0.00 | 66 | 0 | 11919 | 131 | 11788 |
| 848+00.00 | 84800.00 | 50 | 38.60 | 0.00 | 69 | 0 | 11988 | 131 | 11857 |
| 848+50.00 | 84850.00 | 50 | 40.30 | 0.00 | 73 | 0 | 12061 | 131 | 11930 |
| 849+00.00 | 84900.00 | 50 | 34.40 | 0.00 | 69 | 0 | 12130 | 131 | 11999 |
| 849+50.00 | 84950.00 | 50 | 45.37 | 0.00 | 74 | 0 | 12204 | 131 | 12073 |
| 850+00.00 | 85000.00 | 50 | 35.91 | 0.00 | 75 | 0 | 12279 | 131 | 12148 |
| 850+50.00 | 85050.00 | 50 | 47.96 | 0.00 | 78 | 0 | 12357 | 131 | 12226 |
| 851+00.00 | 85100.00 | 50 | 44.95 | 0.00 | 86 | 0 | 12443 | 131 | 12312 |
| 851+50.00 | 85150.00 | 50 | 47.00 | 0.00 | 85 | 0 | 12528 | 131 | 12397 |
| 852+00.00 | 85200.00 | 50 | 47.55 | 0.00 | 88 | 0 | 12616 | 131 | 12485 |
| 852+50.00 | 85250.00 | 50 | 45.66 | 0.00 | 86 | 0 | 12702 | 131 | 12571 |
| 853+00.00 | 85300.00 | 50 | 45.81 | 0.00 | 85 | 0 | 12787 | 131 | 12656 |
| 853+50.00 | 85350.00 | 50 | 46.13 | 0.00 | 85 | 0 | 12872 | 131 | 12741 |
| 854+00.00 | 85400.00 | 50 | 48.19 | 0.00 | 87 | 0 | 12959 | 131 | 12828 |
| 854+50.00 | 85450.00 | 50 | 46.06 | 0.00 | 87 | 0 | 13046 | 131 | 12915 |
| 855+00.00 | 85500.00 | 50 | 35.35 | 0.00 | 75 | 0 | 13121 | 131 | 12990 |
| 855+50.00 | 85550.00 | 50 | 31.56 | 0.00 | 62 | 0 | 13183 | 131 | 13052 |
| | INTERSECTIONS | | | | 965 | 0 | 14148 | 131 | 14017 |



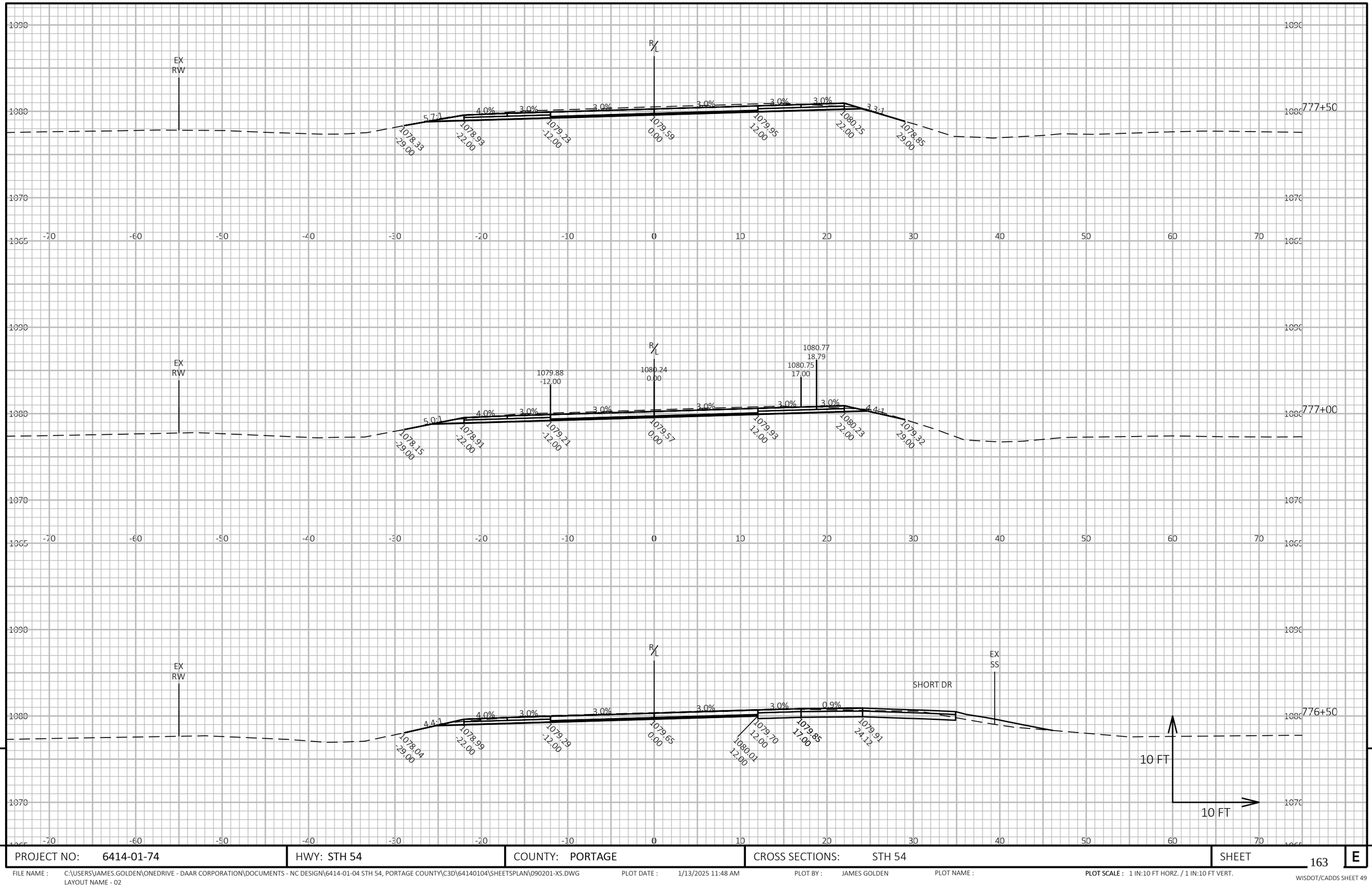

9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 162 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 1/13/2025 11:48 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



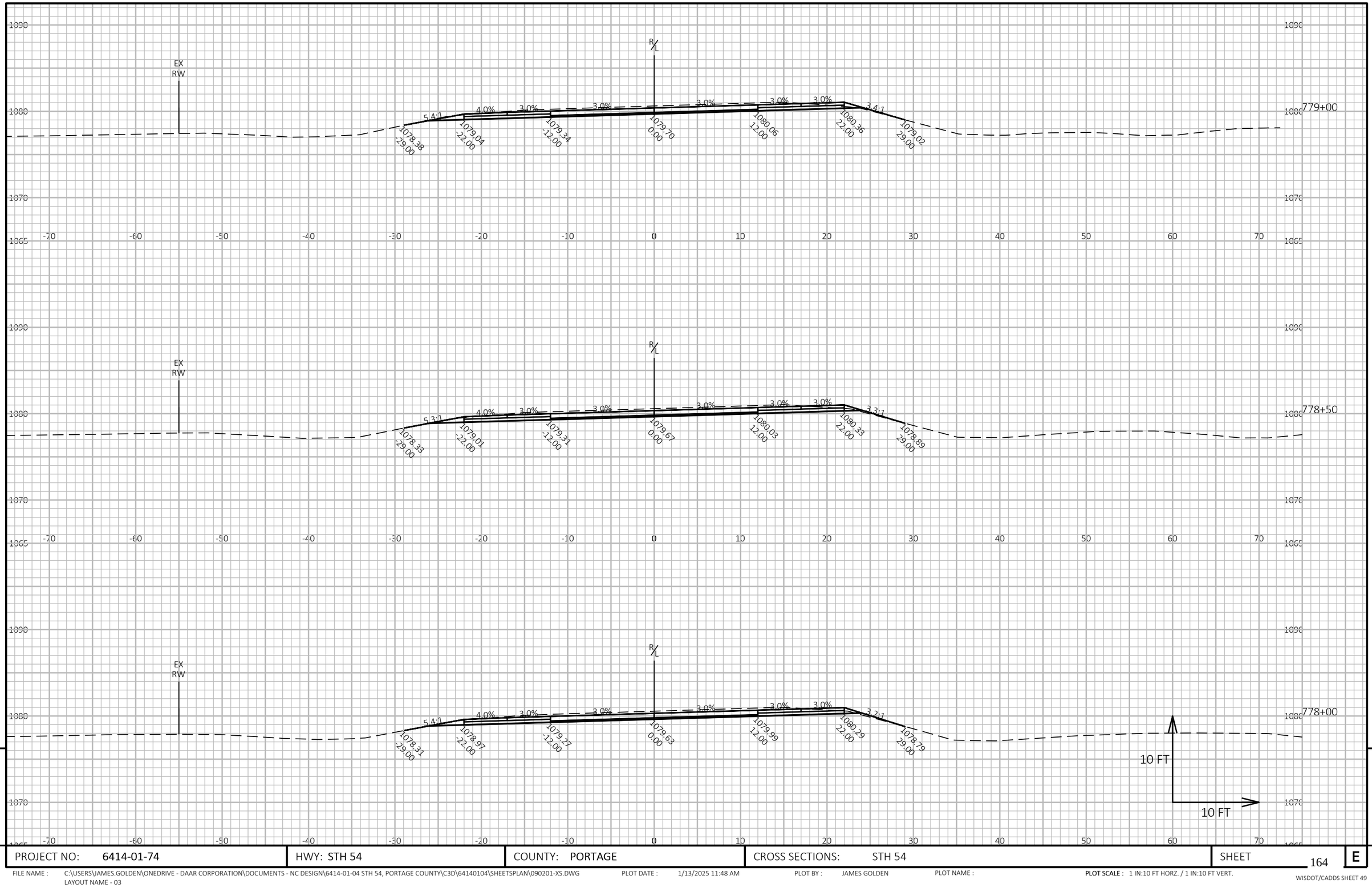

9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 163 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 02

PLOT DATE : 1/13/2025 11:48 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

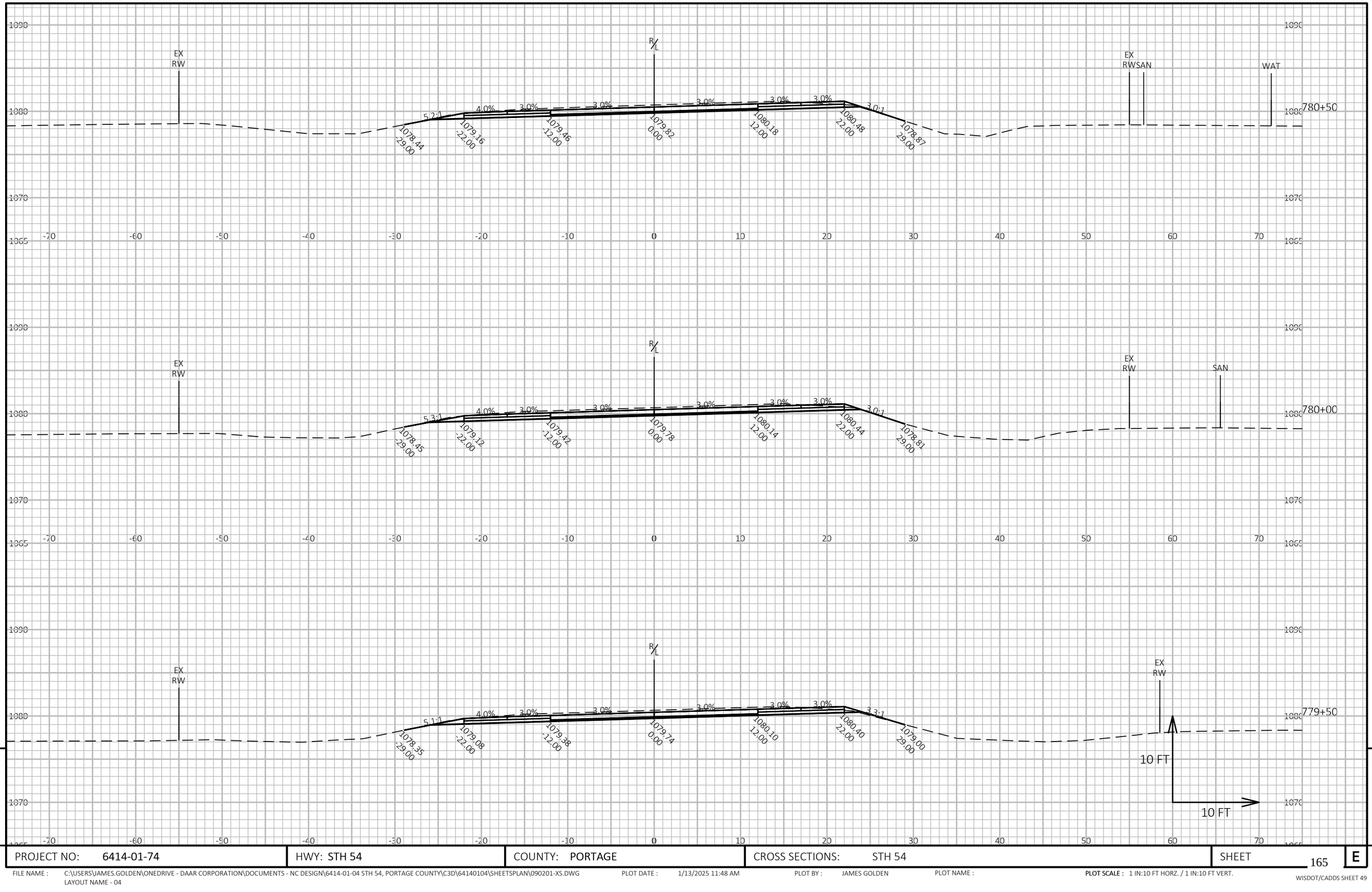



9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 164 | E |
|---|---|---|---|---|---|


FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 03
PLOT DATE : 1/13/2025 11:48 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

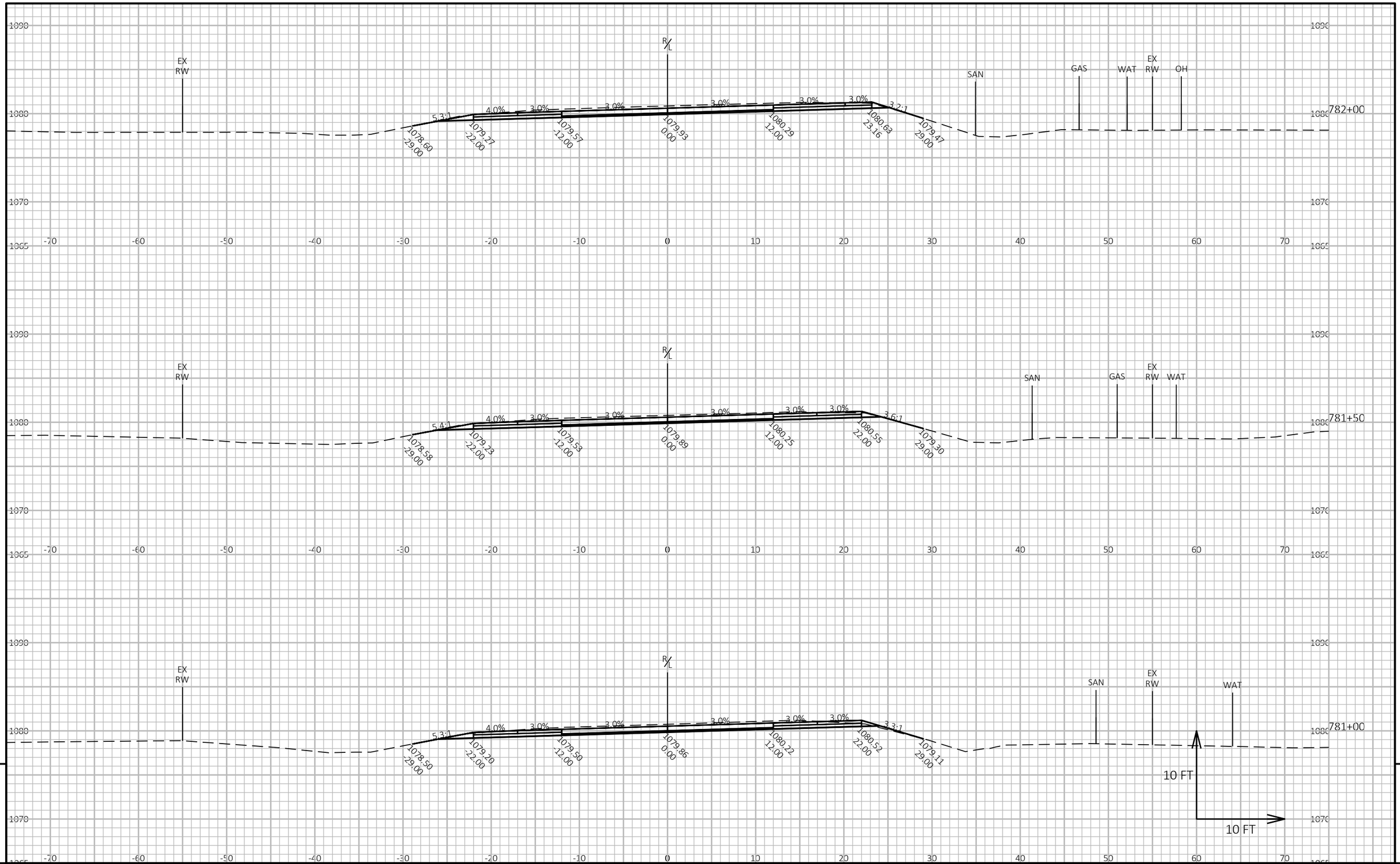



9 9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 165 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 04

PLOT DATE : 1/13/2025 11:48 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



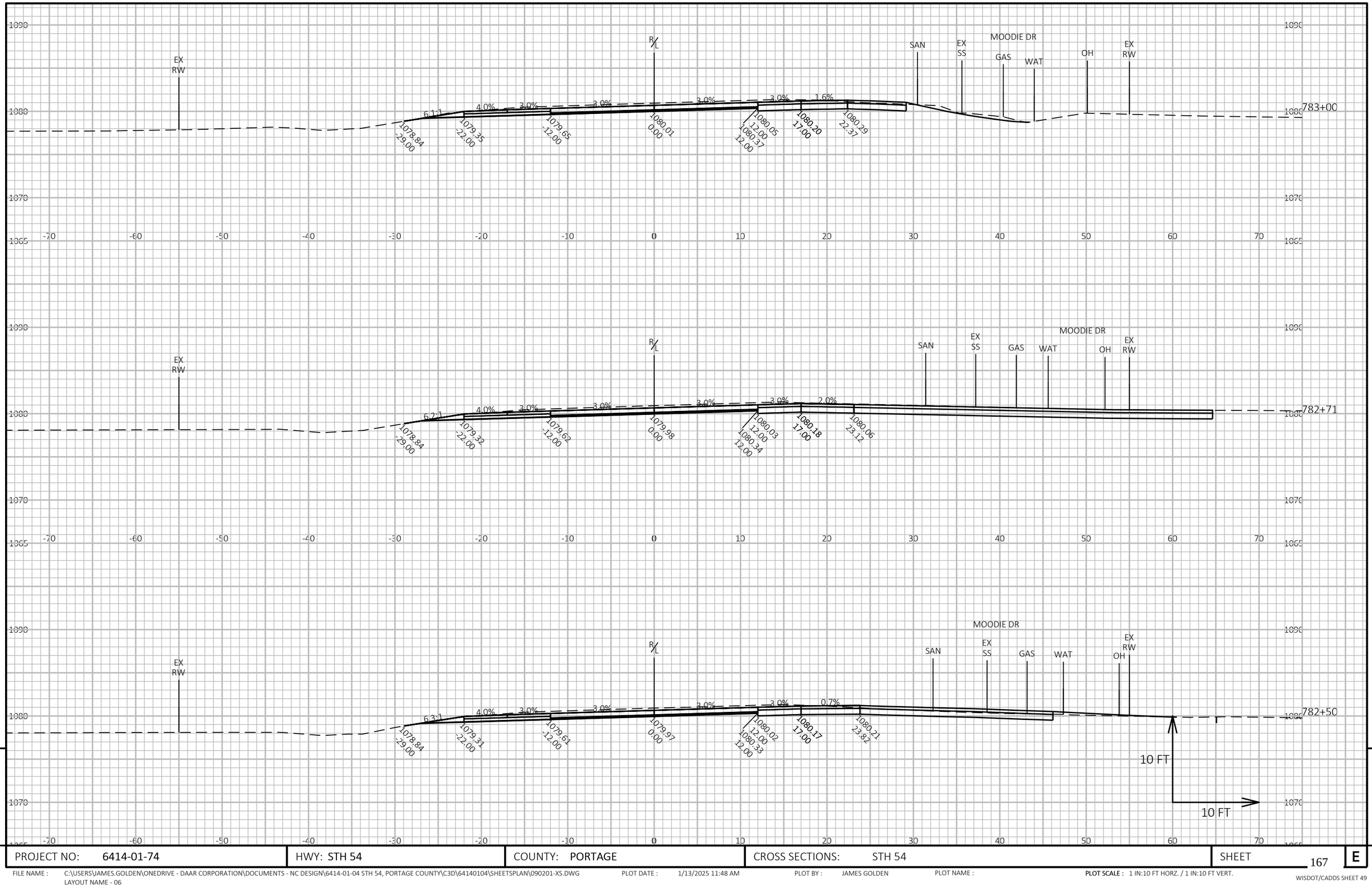

9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 166 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 05

PLOT DATE : 1/13/2025 11:48 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



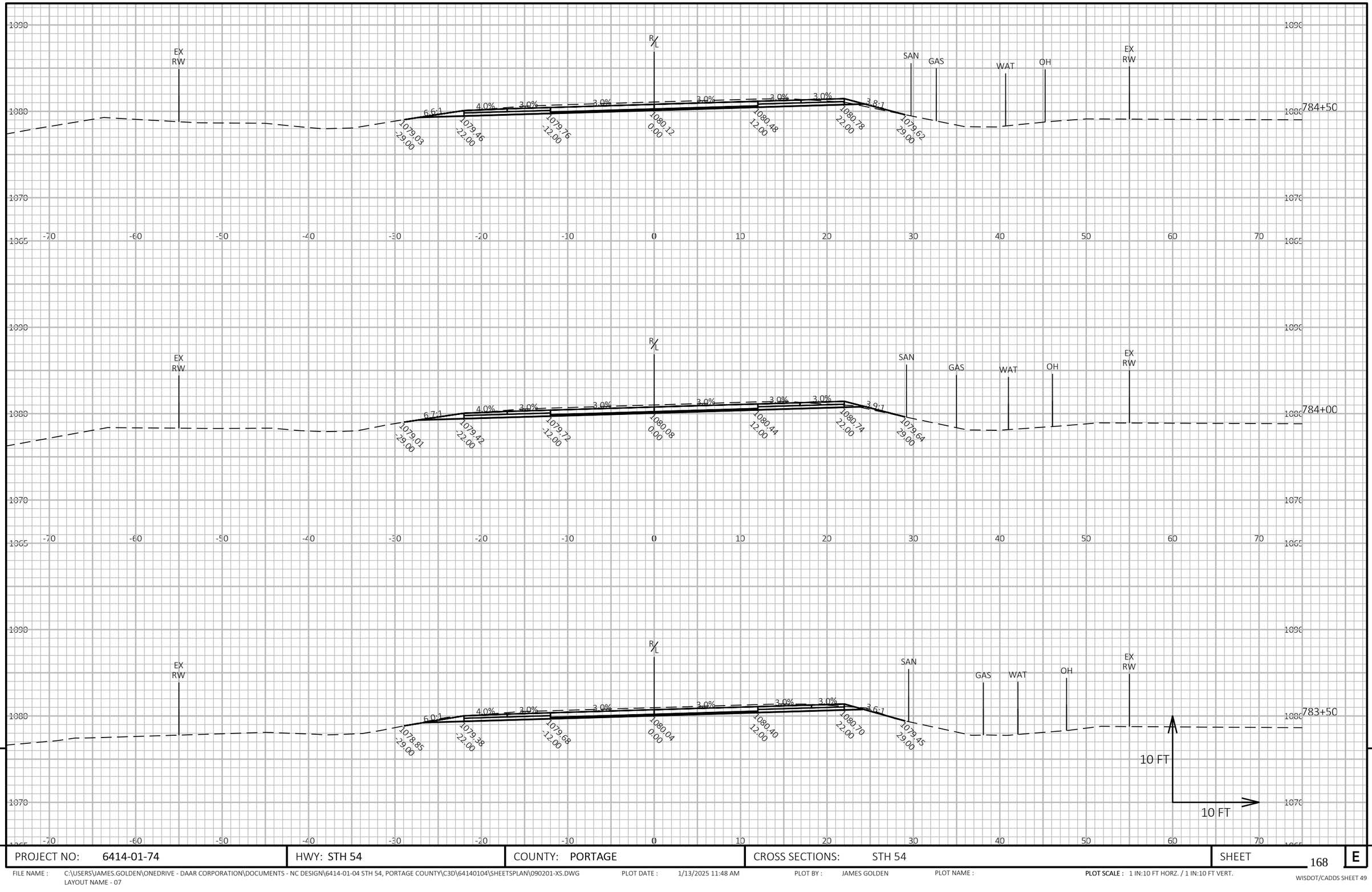

9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 167 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 06

PLOT DATE : 1/13/2025 11:48 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

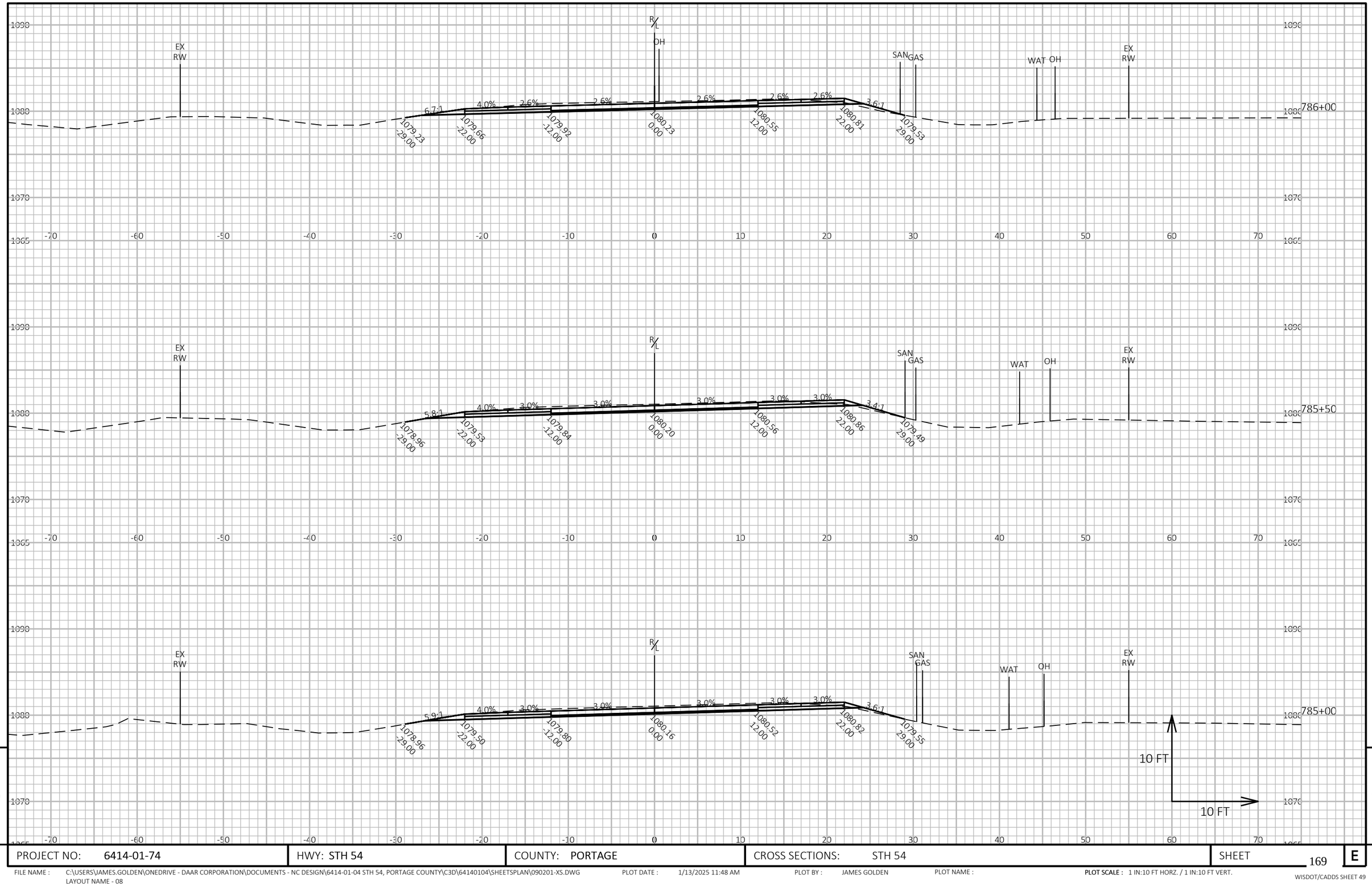



9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 168 | E |
|---|---|---|---|---|---|


FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 07
PLOT DATE : 1/13/2025 11:48 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

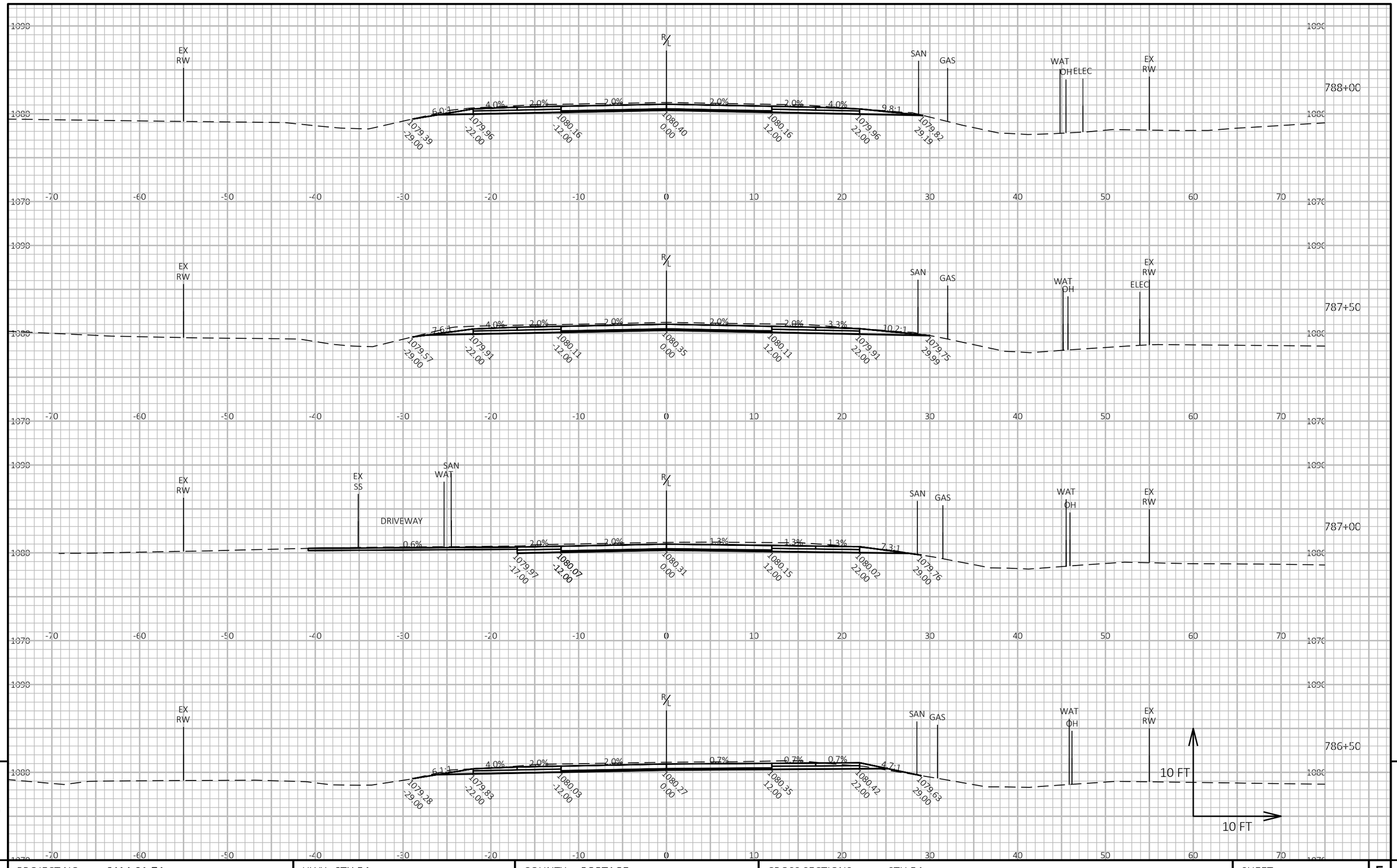



9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 169 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 08
PLOT DATE : 1/13/2025 11:48 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49




9

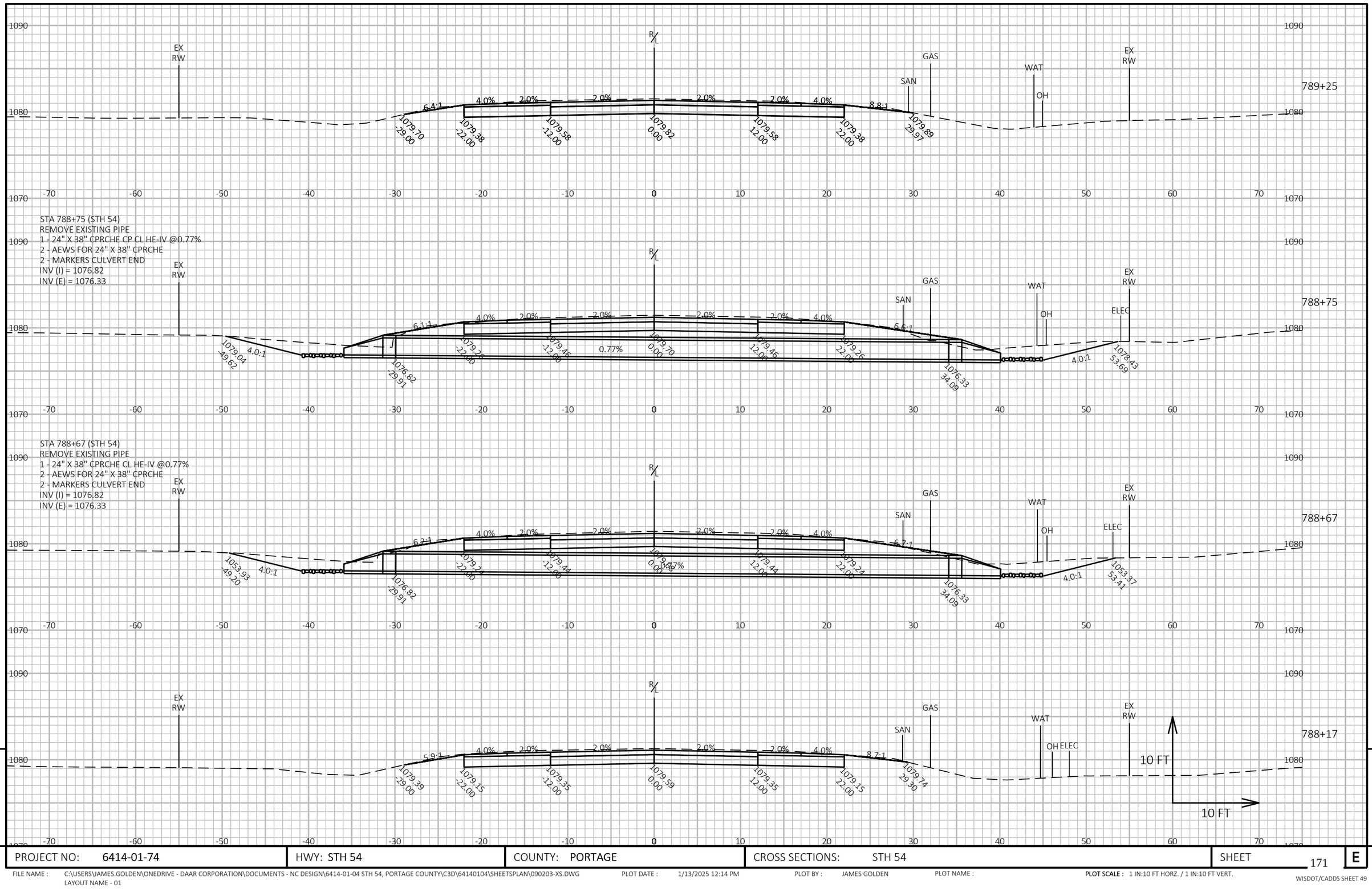
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 170 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 09

PLOT DATE : 1/13/2025 11:48 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 171 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090203-XS.DWG
LAYOUT NAME - 01

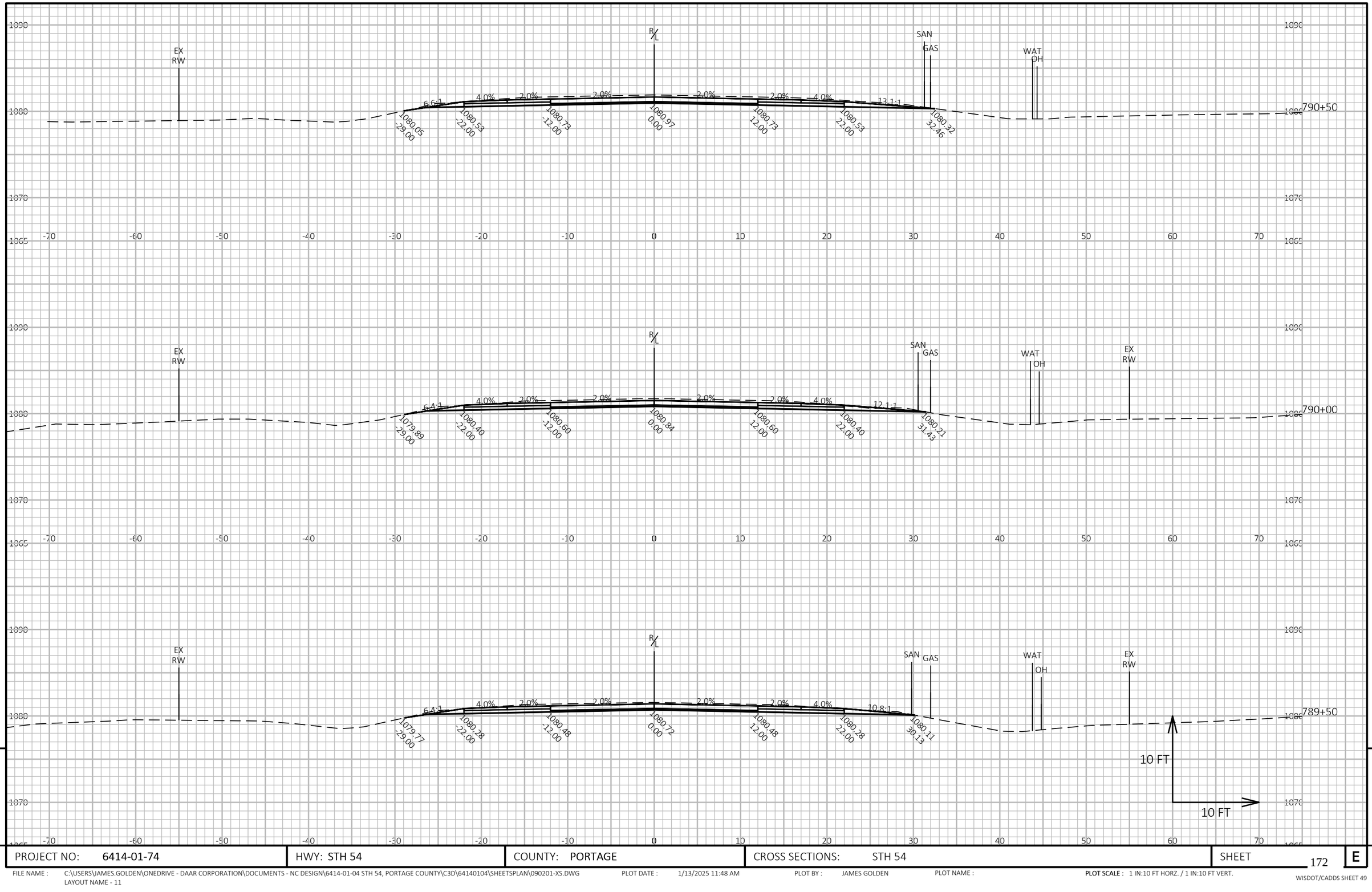
PLOT DATE : 1/13/2025 12:14 PM

PLOT BY : JAMES GOLDEN

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

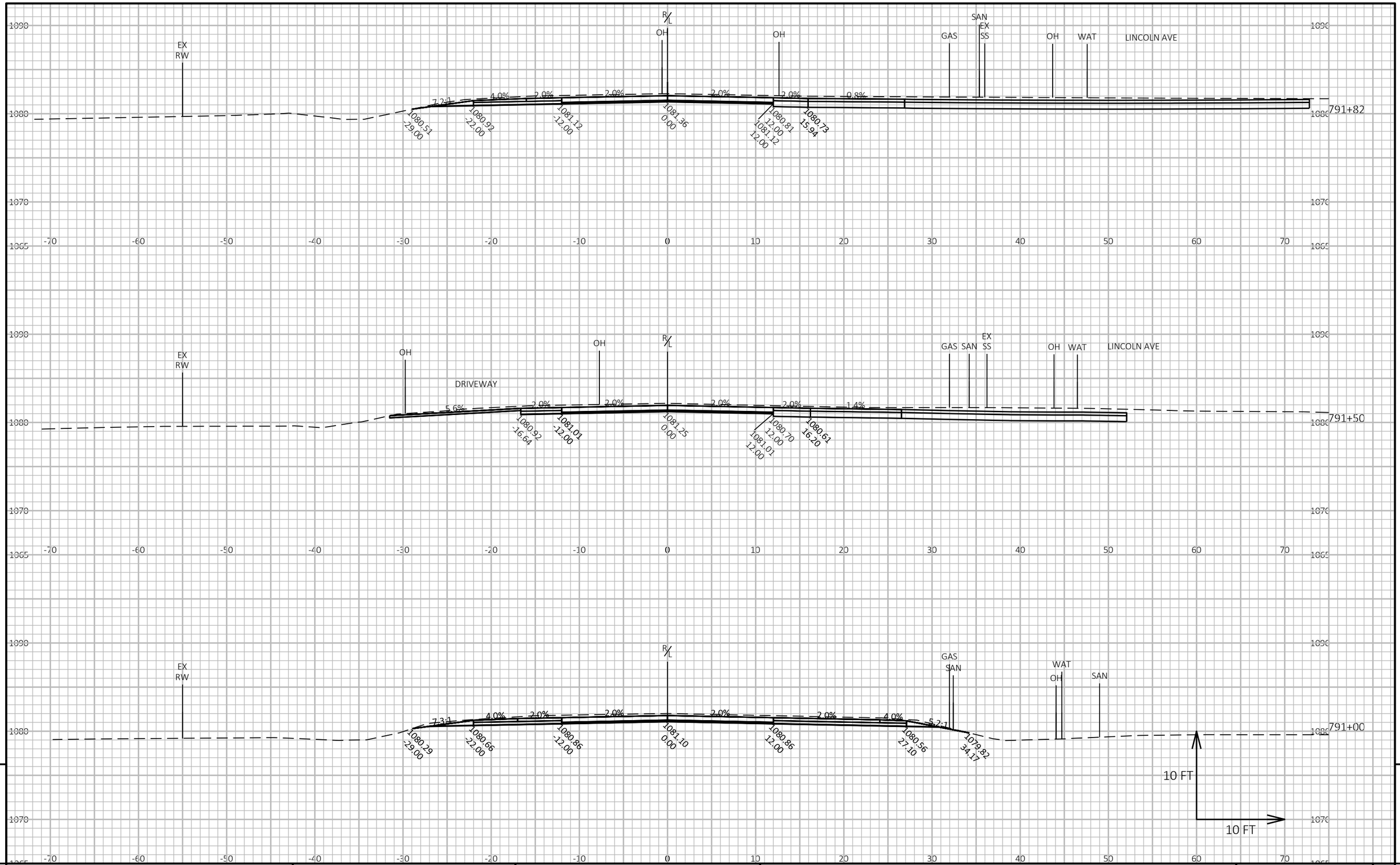



| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 172 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 11

PLOT DATE : 1/13/2025 11:48 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

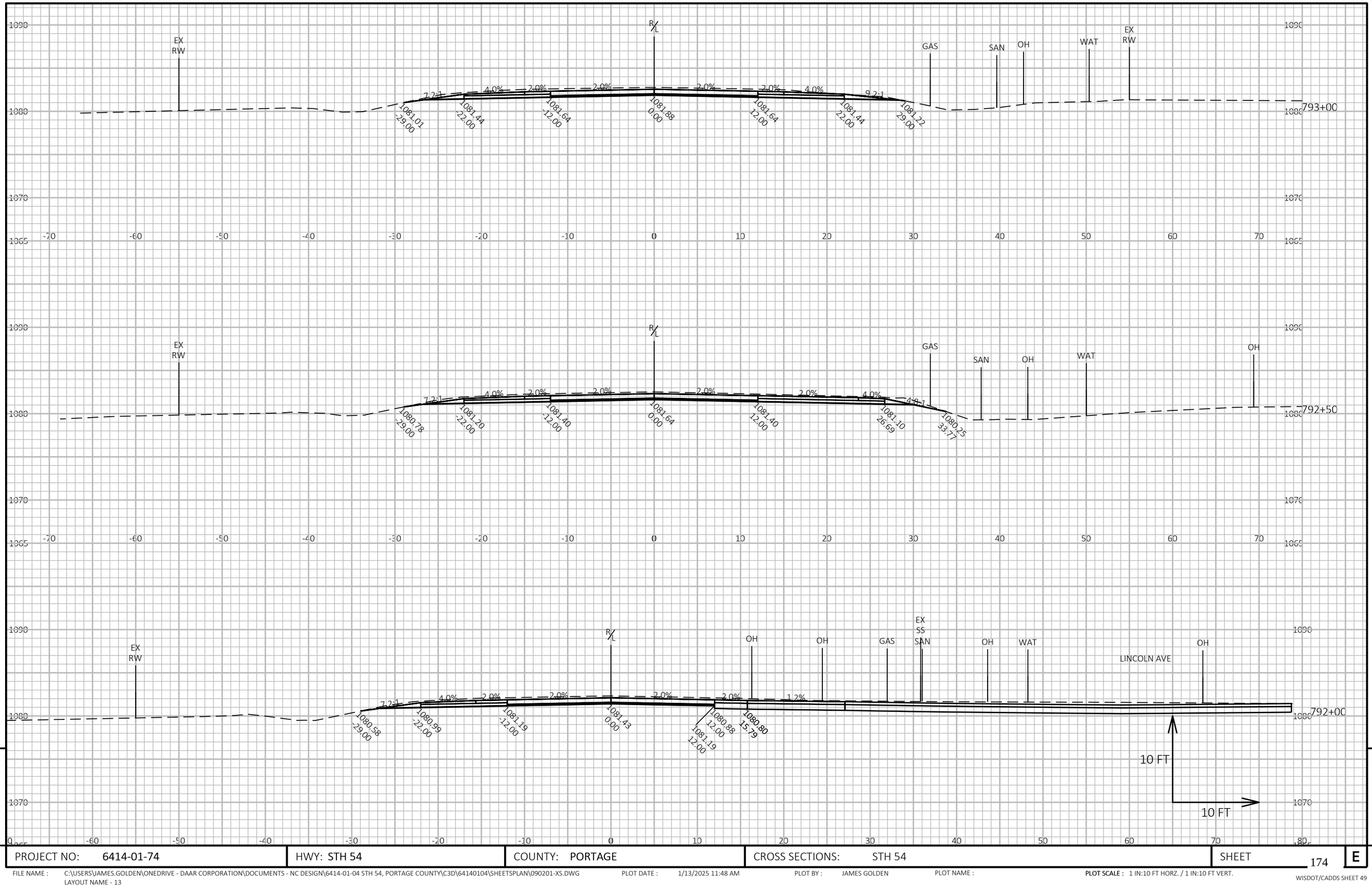



9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 173 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 12
PLOT DATE : 1/13/2025 11:48 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49




9

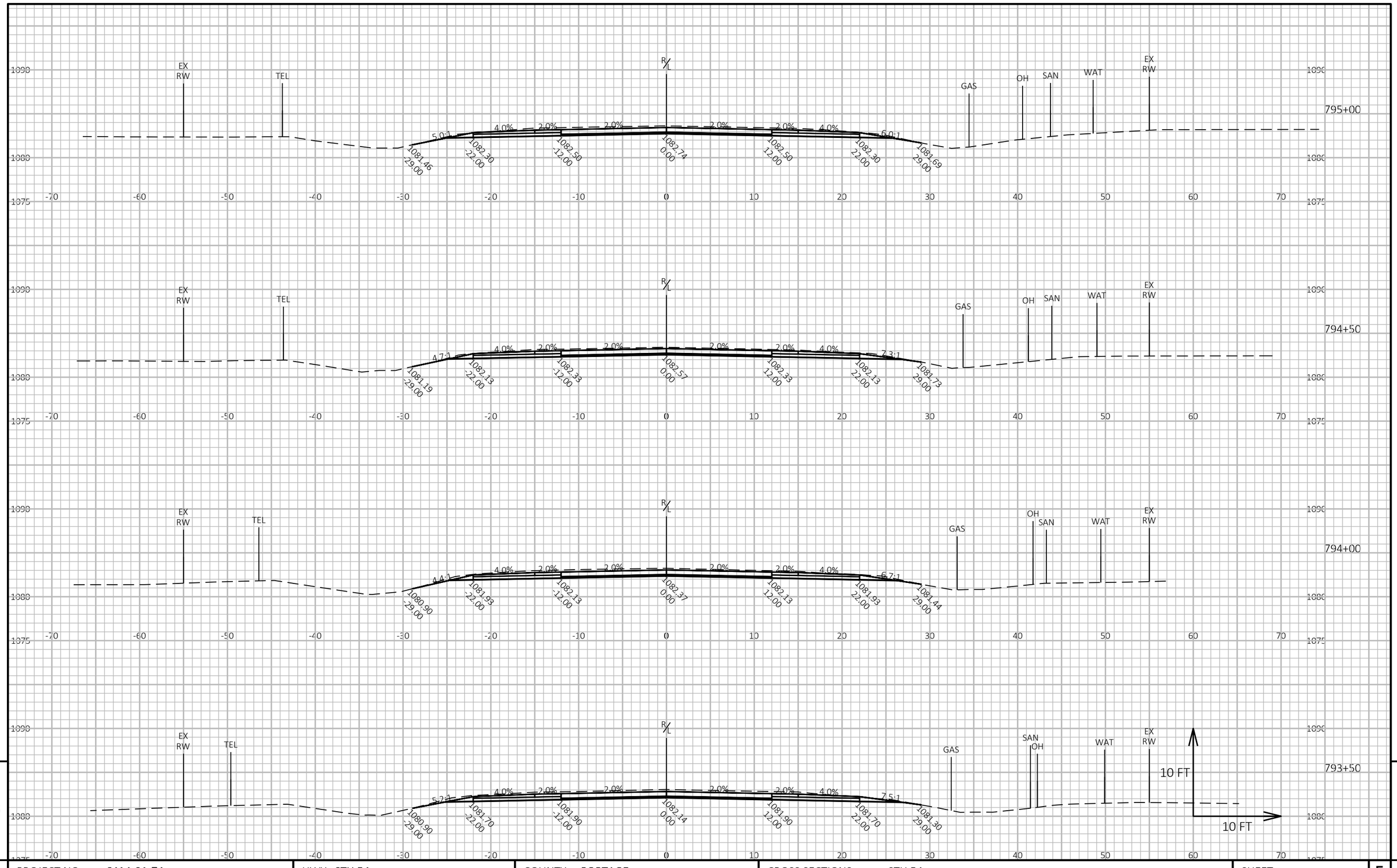
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 174 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 13

PLOT DATE : 1/13/2025 11:48 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

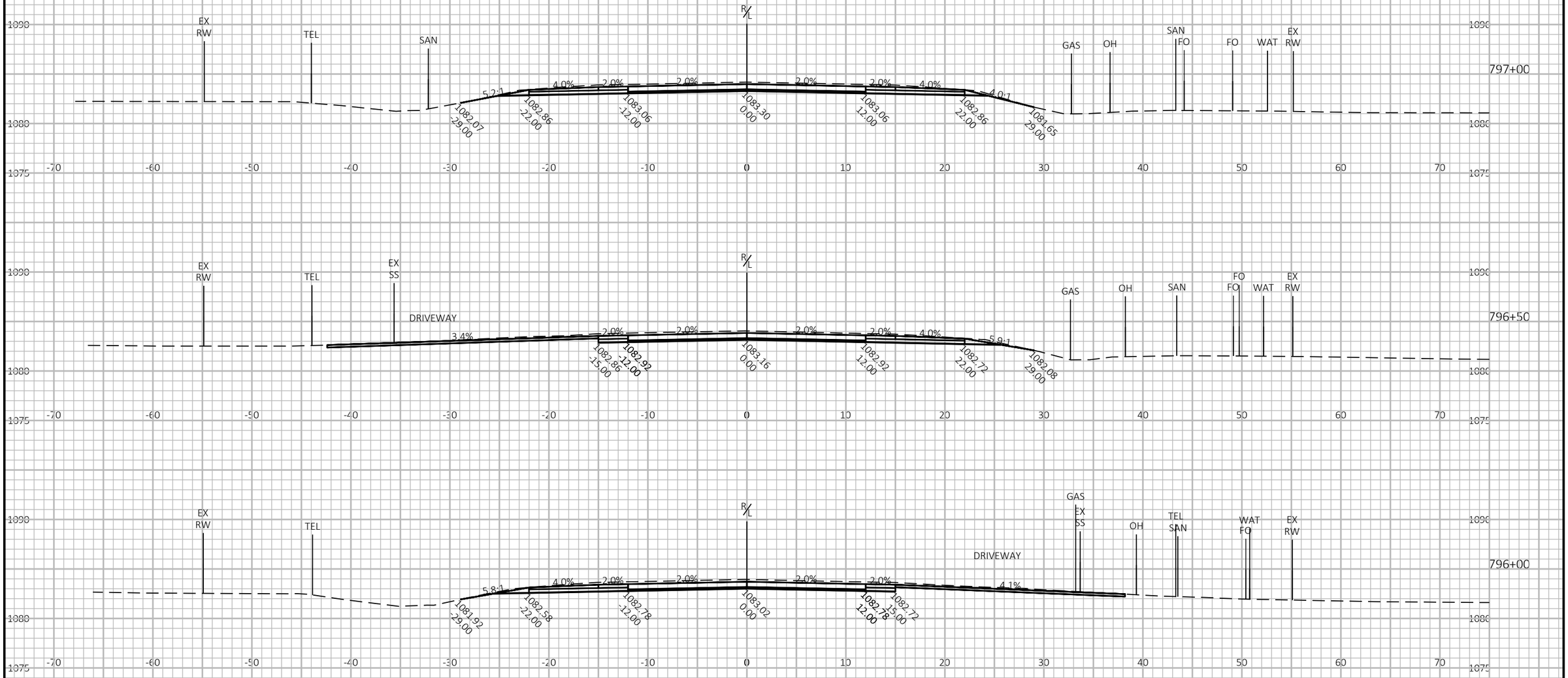
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 175 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 14

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

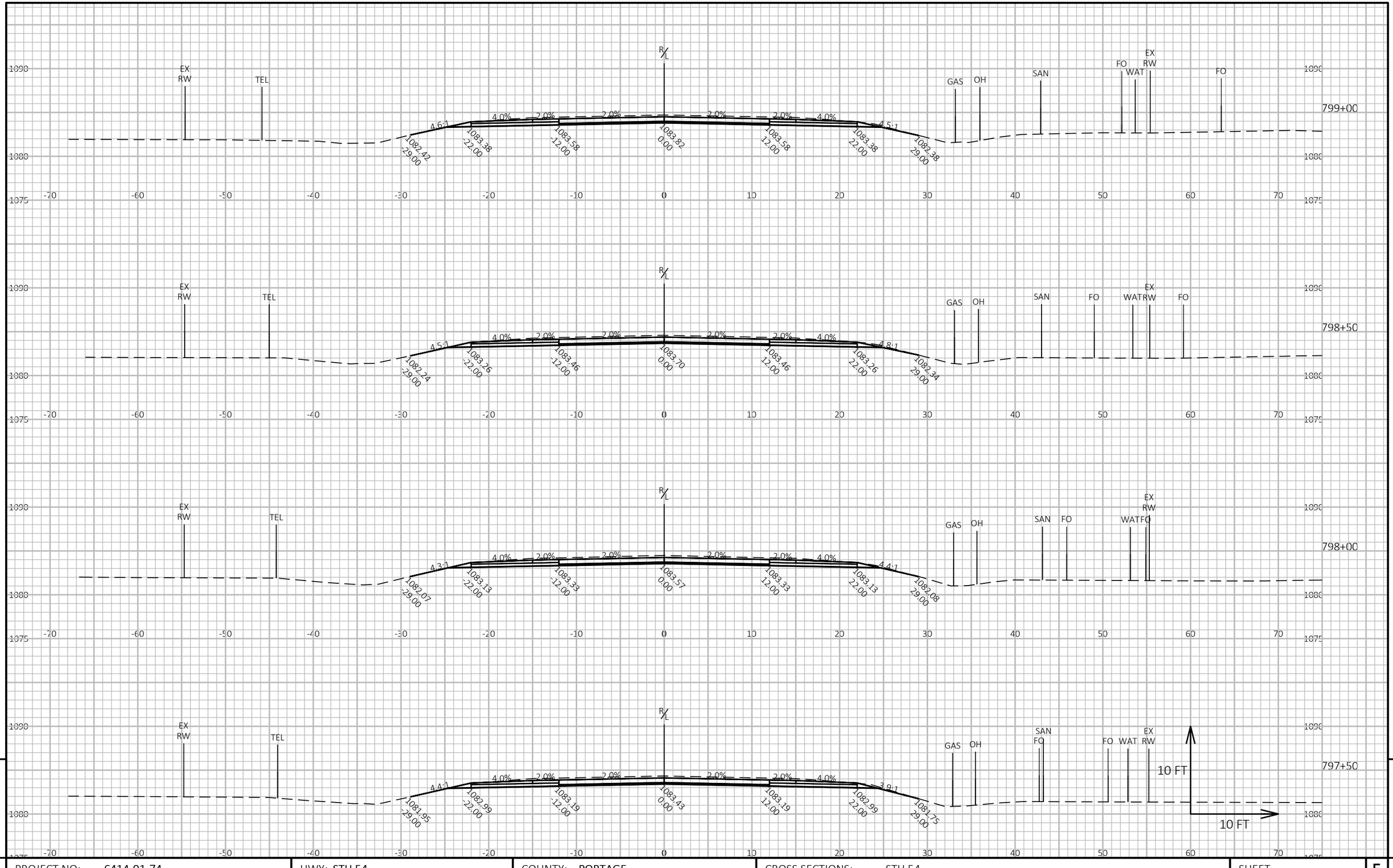
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 176 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 15

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

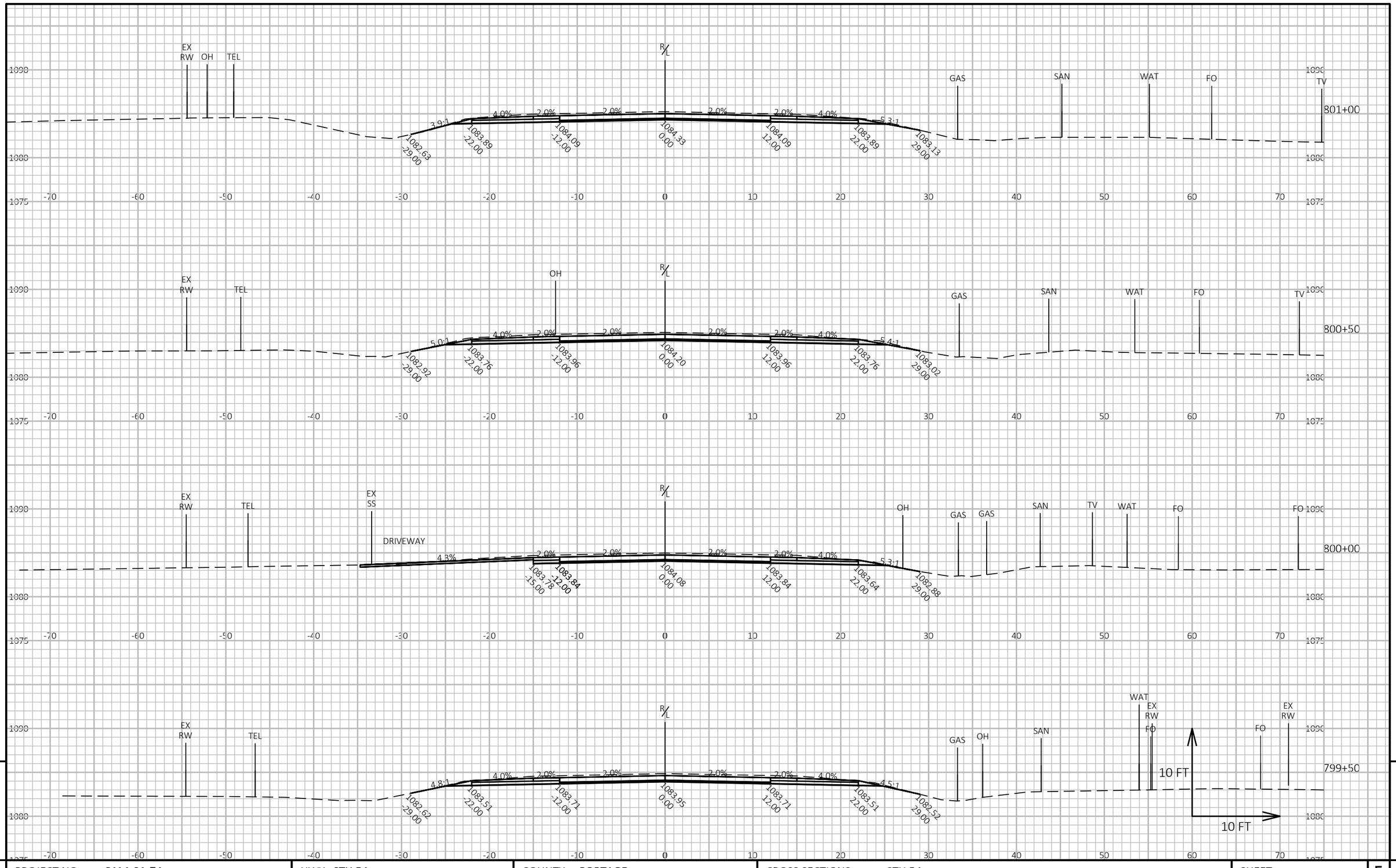
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 177 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 16

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 178 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 17

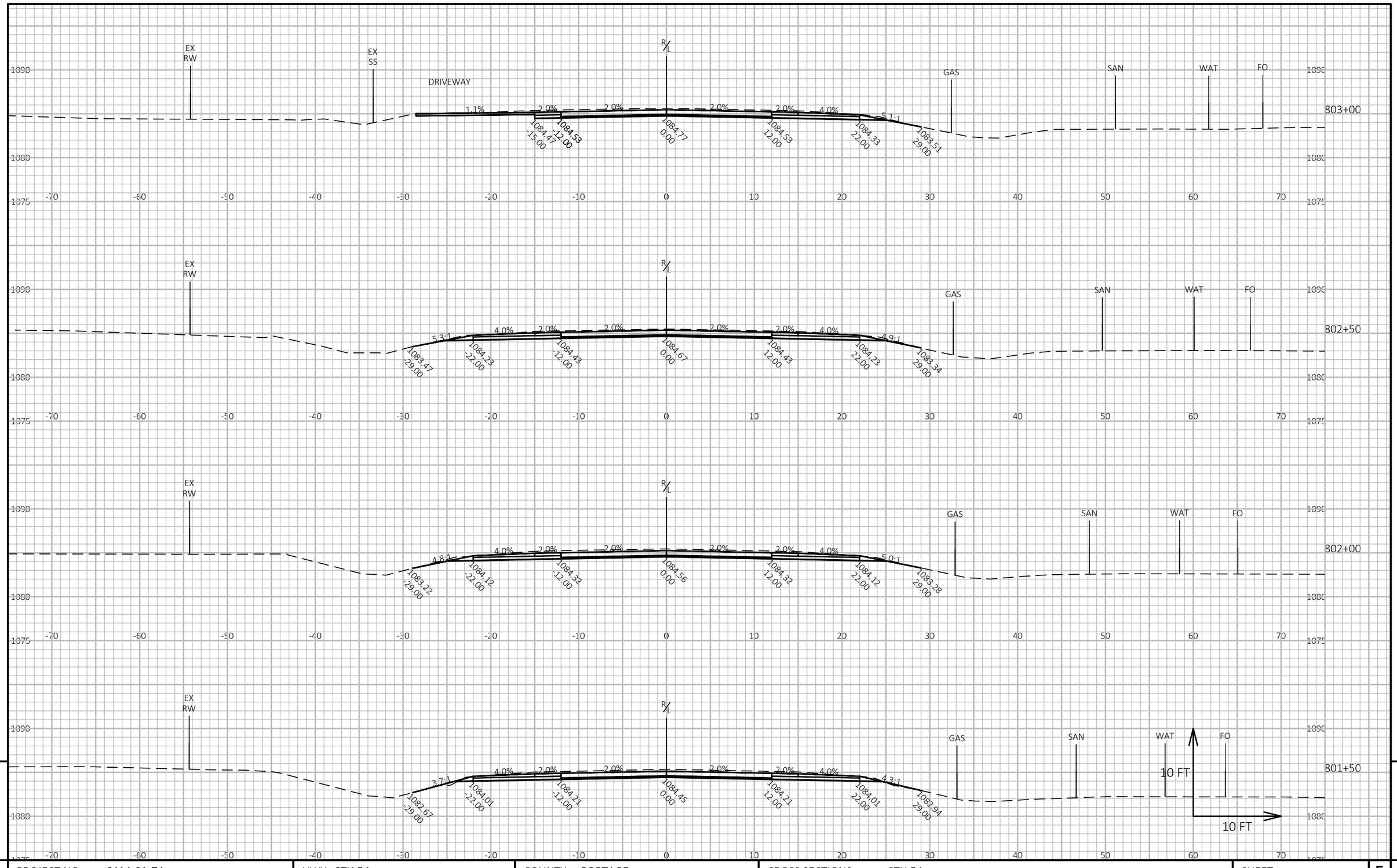
PLOT DATE : 1/13/2025 11:49 AM

PLOT BY : JAMES GOLDEN

PLOT NAME :

**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

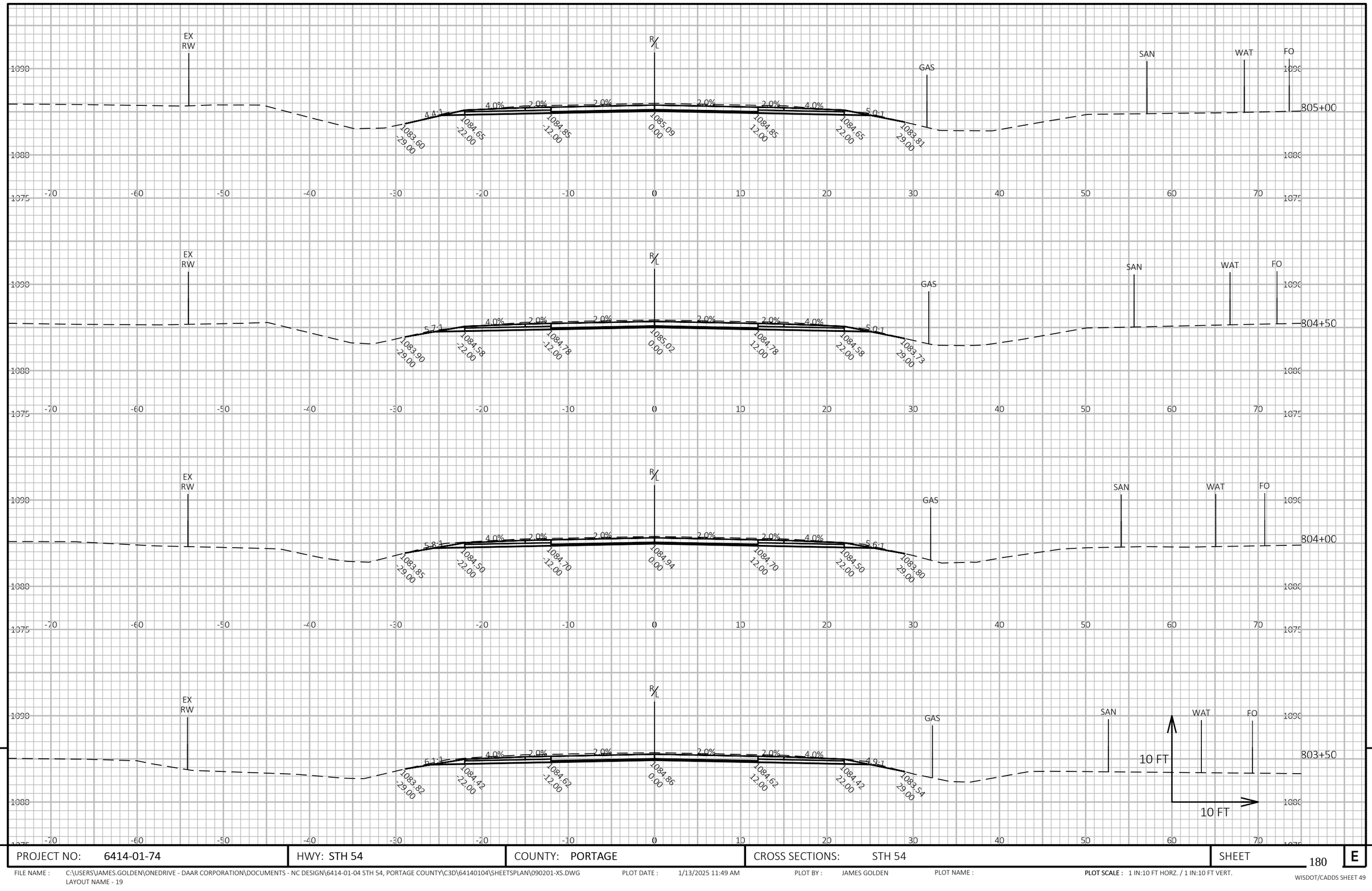
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 179 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 18

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



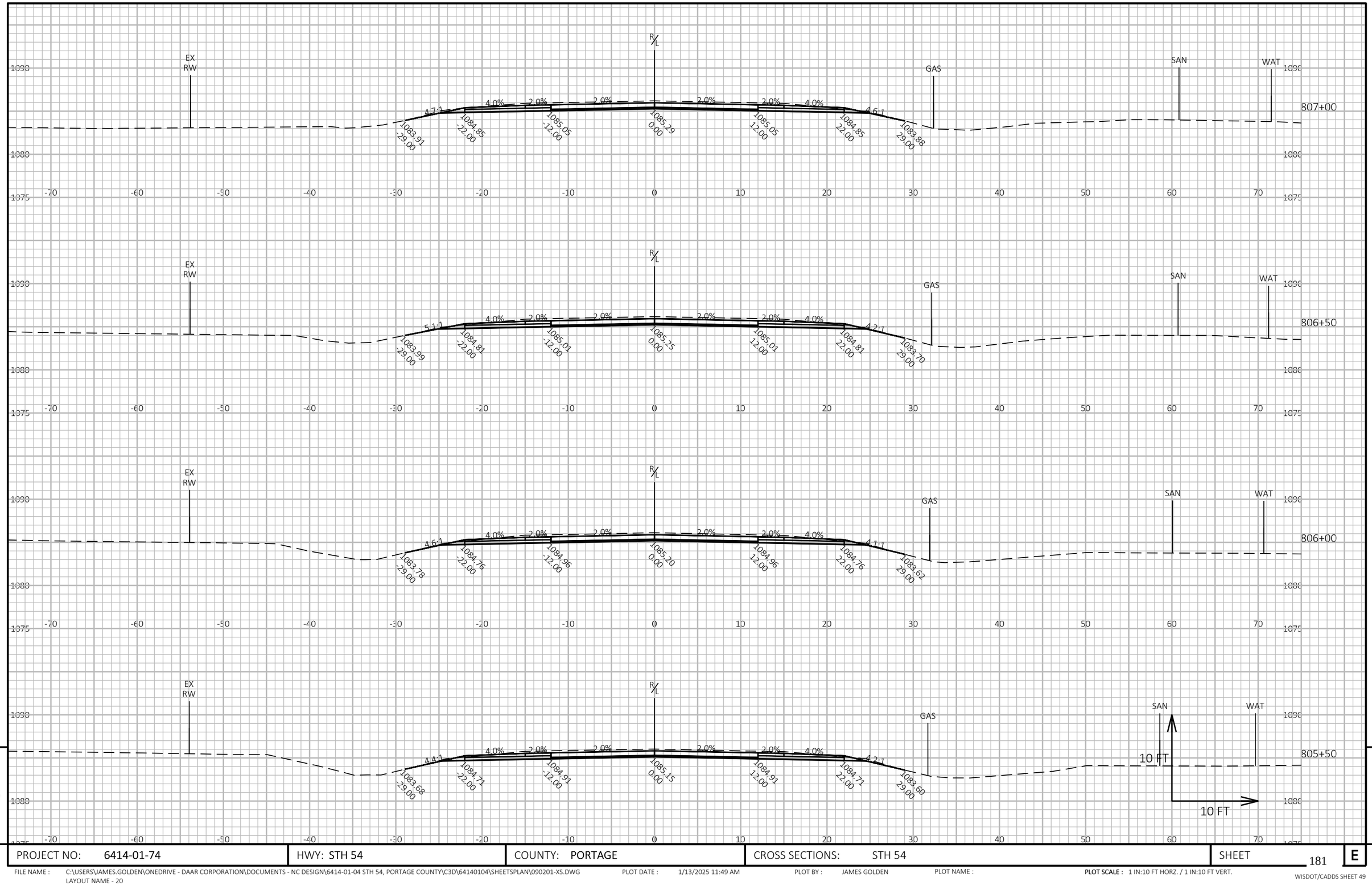

9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 180 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 19

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.




9

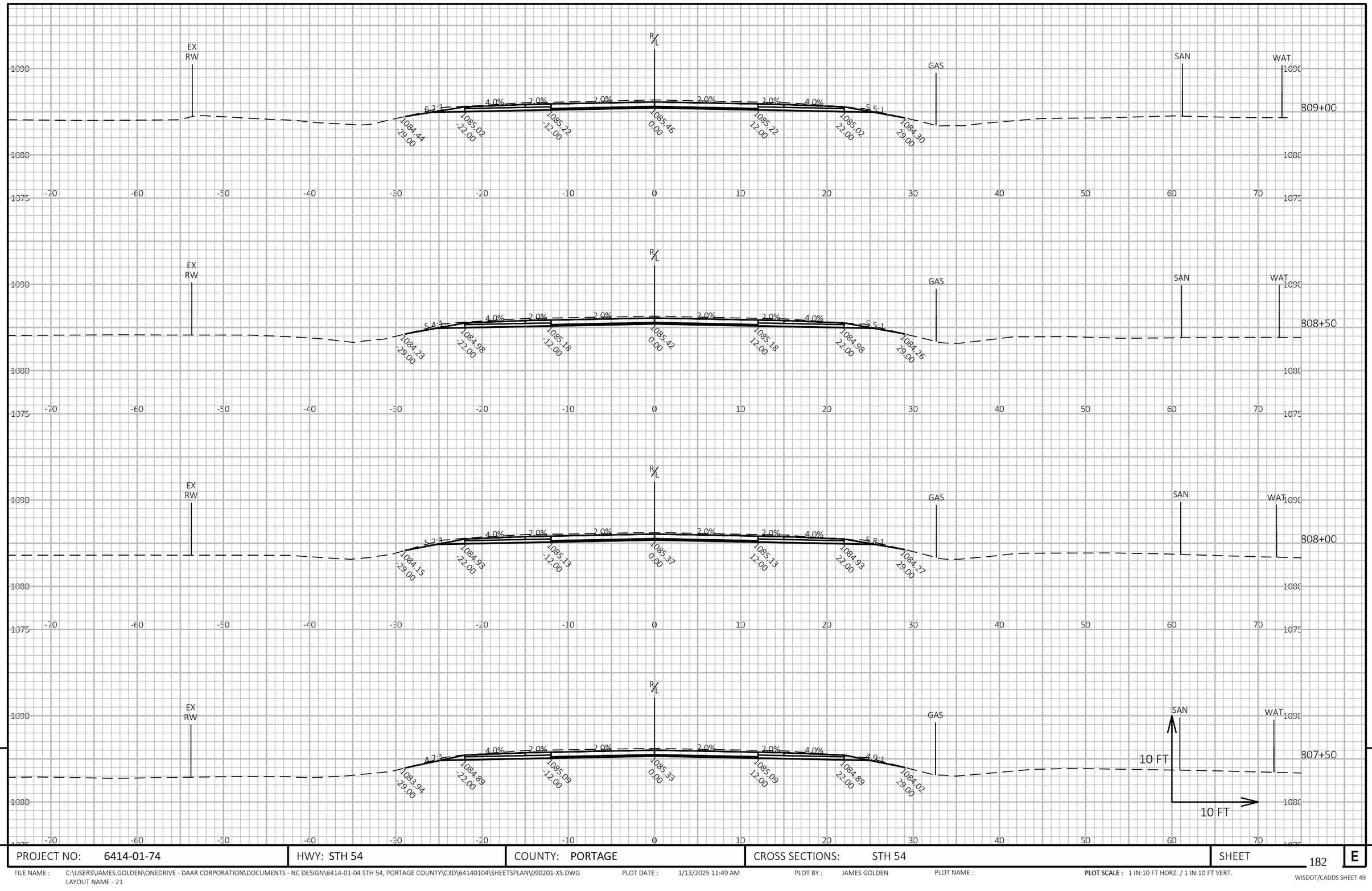
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 181 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 20

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

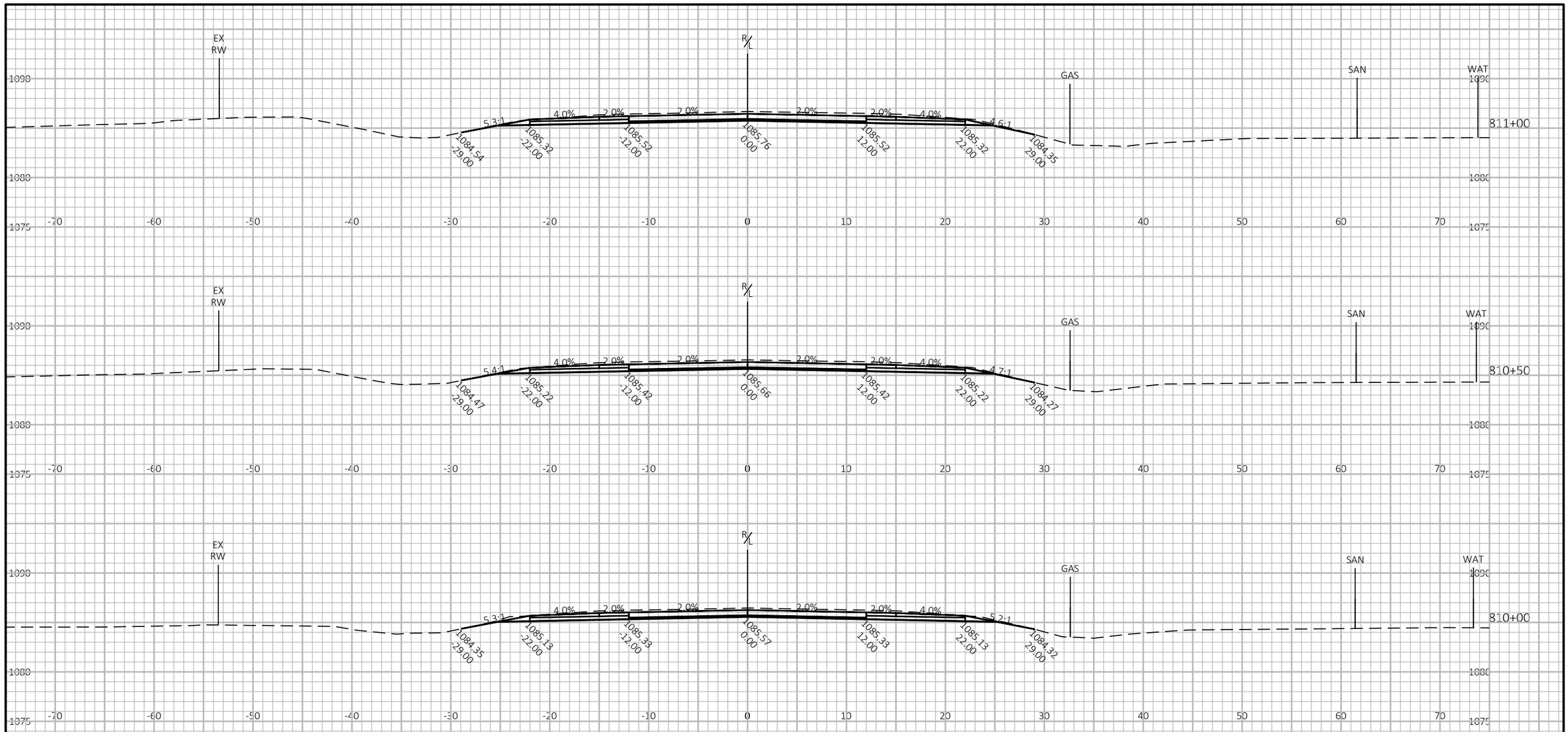
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 182 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 21

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



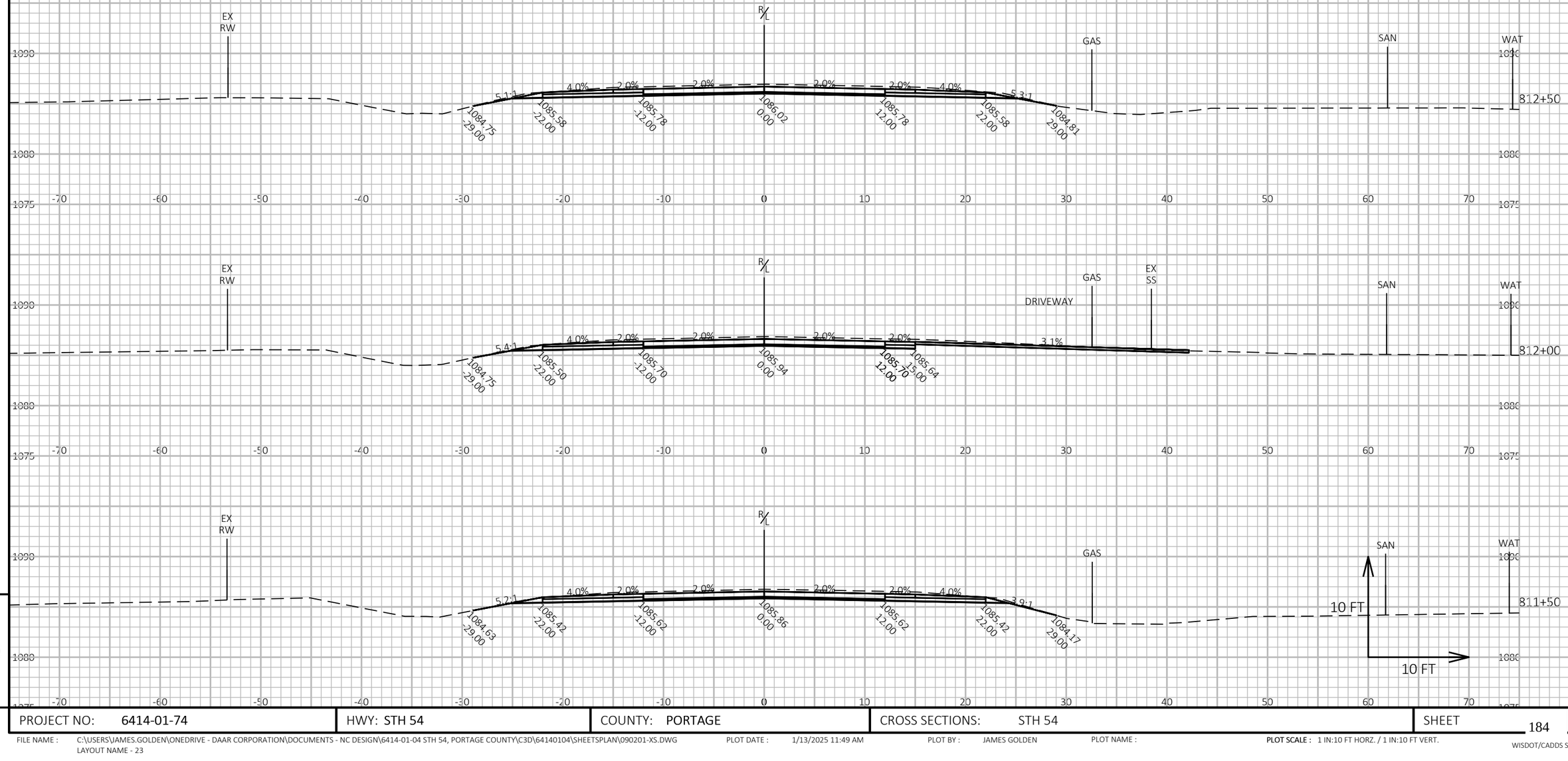

9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 183 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 22

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.




9

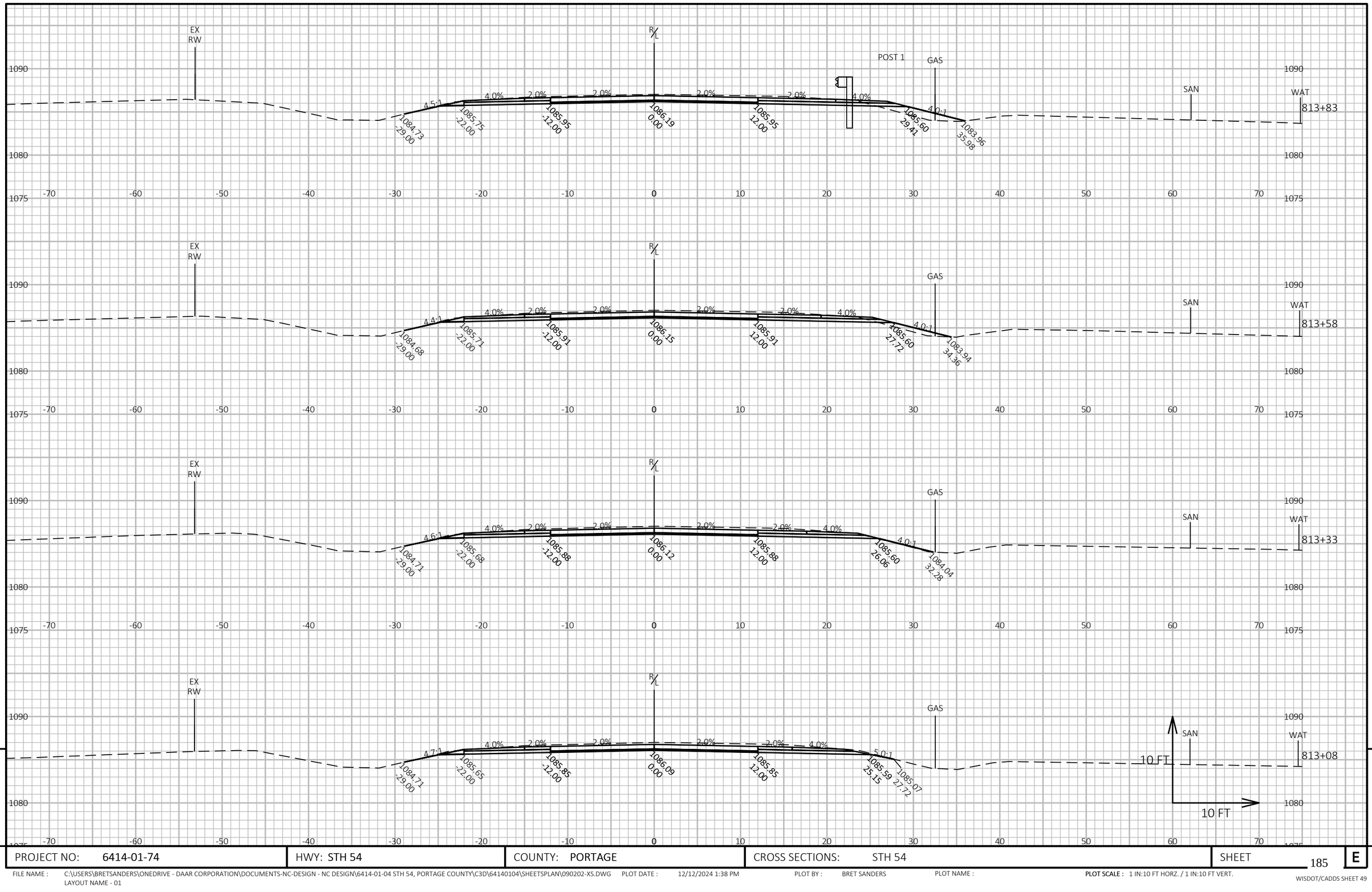
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 184 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 23

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

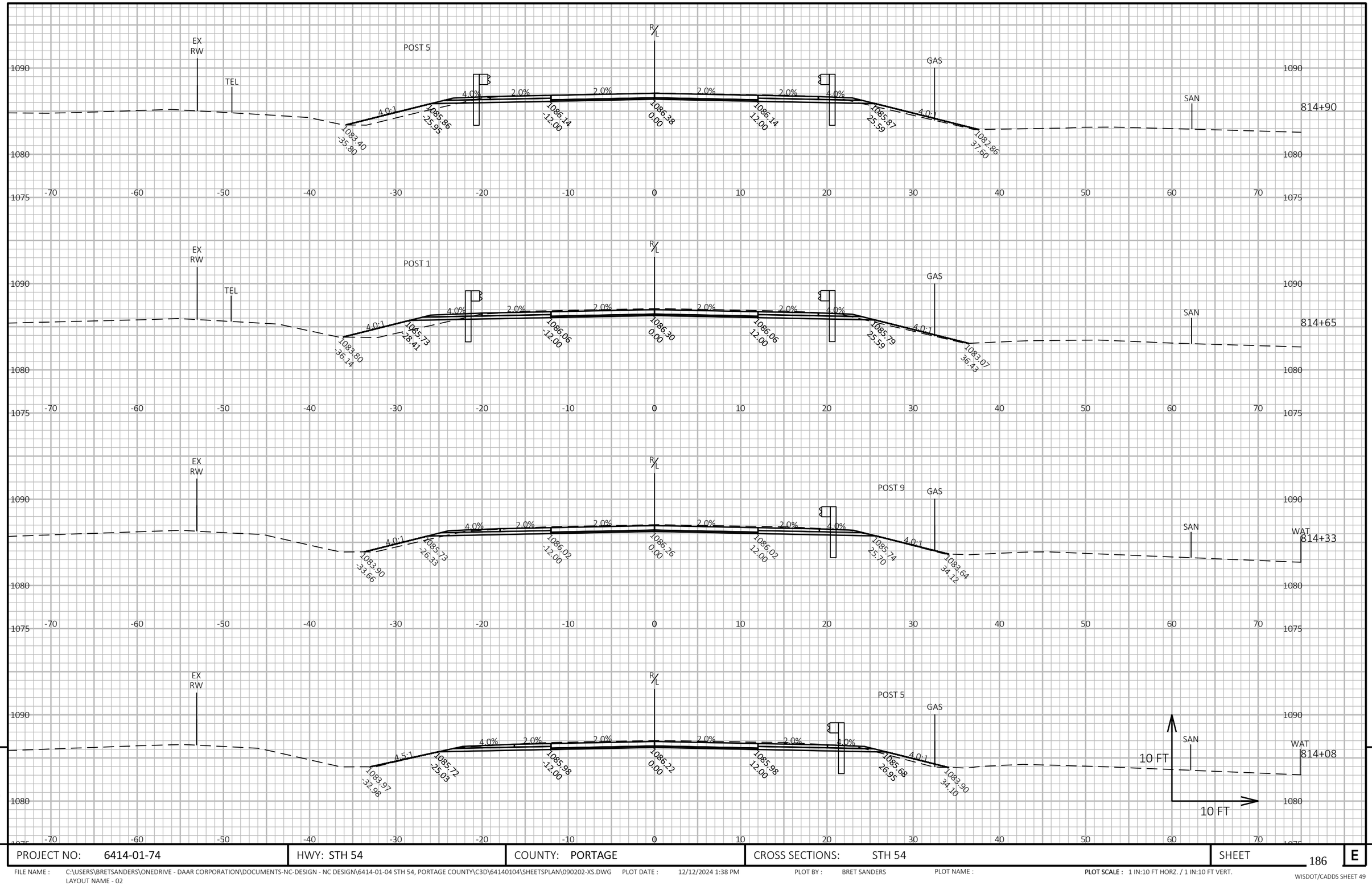



9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 185 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\BRETSANDERS\ONEDRIVE - DAAR CORPORATION\DOCUMENTS-NC-DESIGN - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090202-XS.DWG PLOT DATE : 12/12/2024 1:38 PM PLOT BY : BRET SANDERS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
LAYOUT NAME - 01
WISDOT/CADDS SHEET 49




9

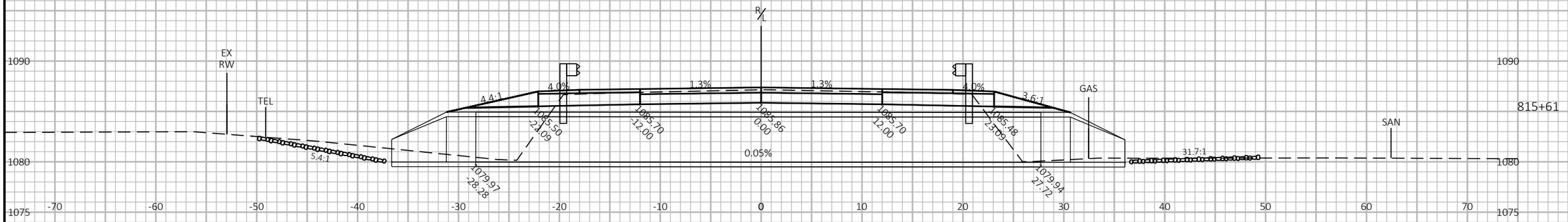
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 186 | E |
|---|---|---|---|---|---|

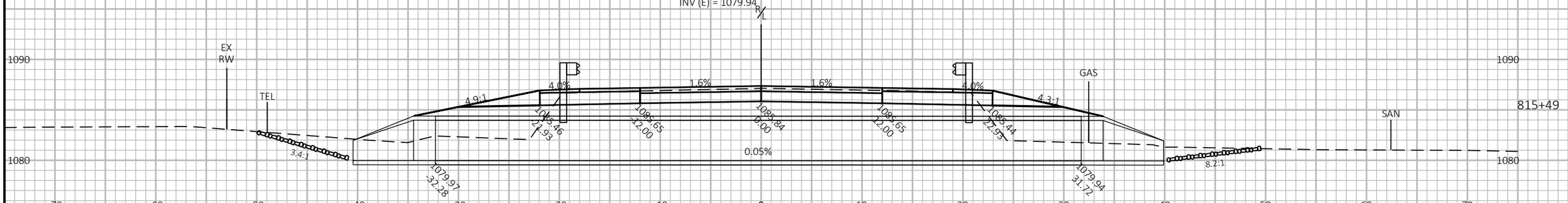
FILE NAME : C:\USERS\BRETSANDERS\ONEDRIVE - DAAR CORPORATION\DOCUMENTS-NC-DESIGN - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090202-XS.DWG PLOT DATE : 12/12/2024 1:38 PM PLOT BY : BRET SANDERS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
LAYOUT NAME - 02

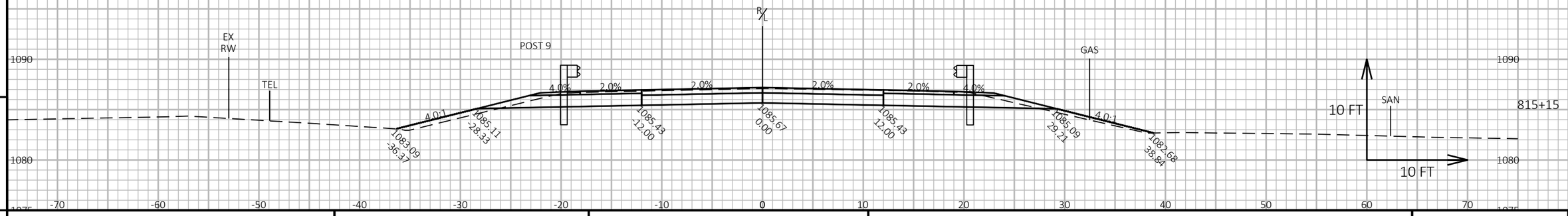
WISDOT/CADDS SHEET 49

STA 815+61
1 - 54-INCH CPRC CL IV @0.05%
2 - AEWS FOR CPRC 54-INCH
2 - MARKERS CULVERT END
INV (I) = 1079.97
INV (E) = 1079.94




STA 815+49
1 - 48-INCH CPRC CL IV @0.05%
2 - AEWS FOR CPRC 48-INCH
2 - MARKERS CULVERT END
INV (I) = 1079.97
INV (E) = 1079.94



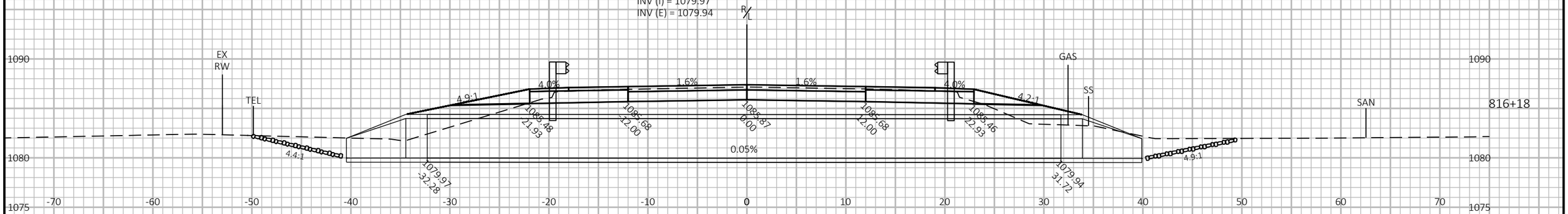

9

9

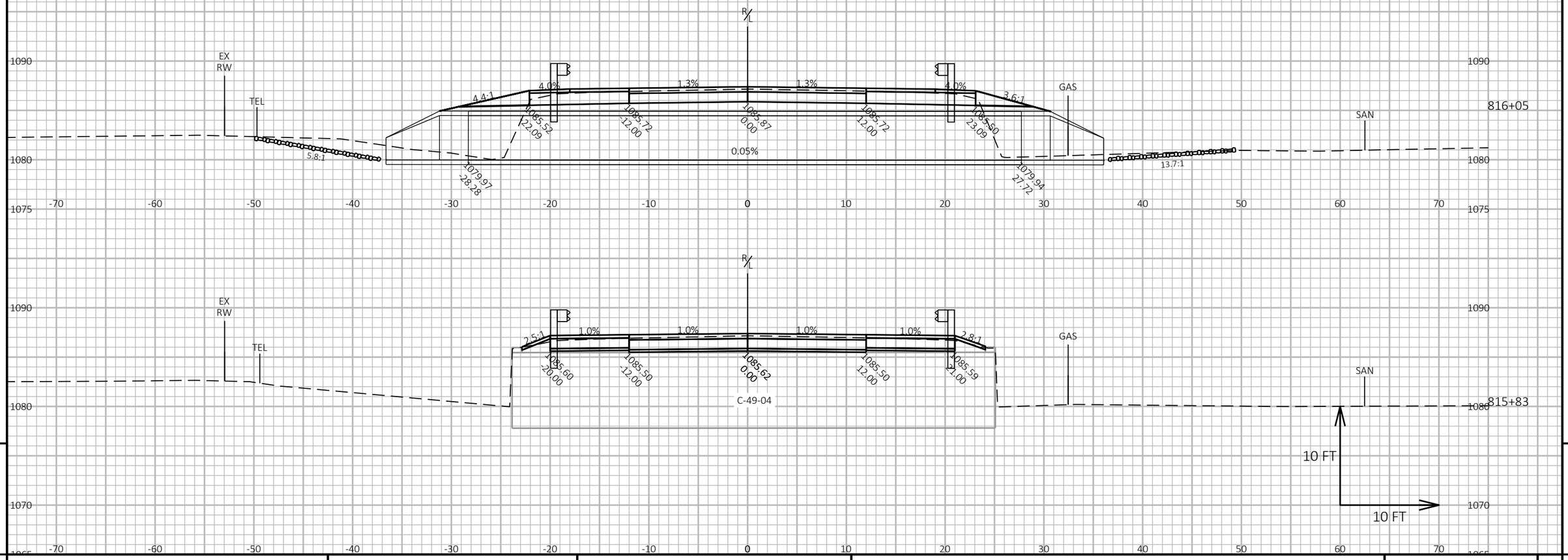
| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 187 | E |
|---|---|---|---|---|---|


FILE NAME : C:\USERS\BRETSANDERS\ONEDRIVE - DAAR CORPORATION\DOCUMENTS-NC-DESIGN - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090202-XS.DWG PLOT DATE : 12/12/2024 1:38 PM PLOT BY : BRET SANDERS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
LAYOUT NAME - 03
WISDOT/CADDS SHEET 49

STA 816+18
1 - 48-INCH CPRC CL IV @0.05%
2 - AEWS FOR CPRC 48-INCH
2 - MARKERS CULVERT END
INV (I) = 1079.97
INV (E) = 1079.94




STA 816+05
1 - 54-INCH CPRC CL IV @0.05%
2 - AEWS FOR CPRC 54-INCH
2 - MARKERS CULVERT END
INV (I) = 1079.97
INV (E) = 1079.94



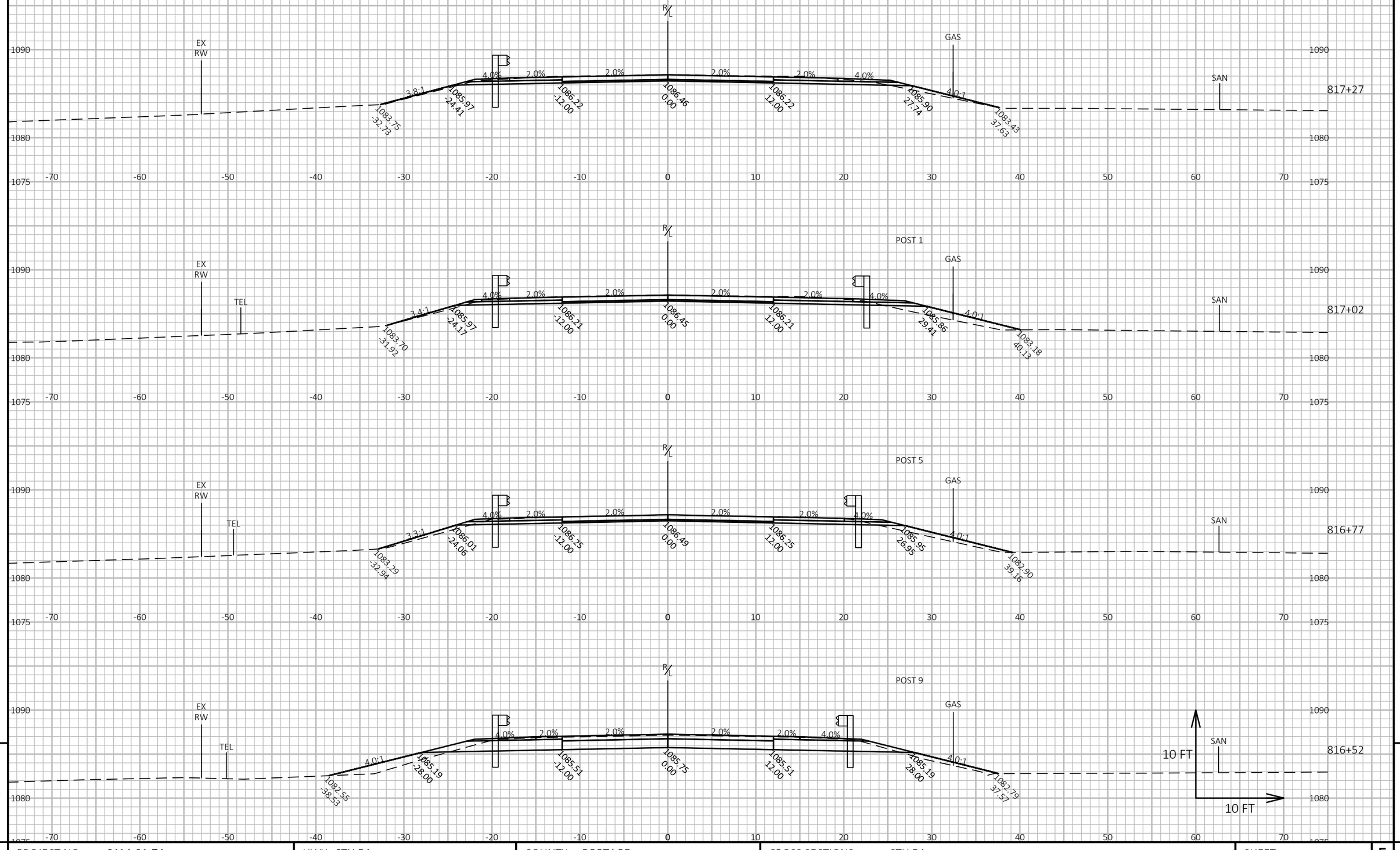

9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 188 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\BRETSANDERS\ONEDRIVE - DAAR CORPORATION\DOCUMENTS-NC-DESIGN - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090202-XS.DWG PLOT DATE : 12/12/2024 1:38 PM PLOT BY : BRET SANDERS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
LAYOUT NAME - 04

WISDOT/CADDS SHEET 49

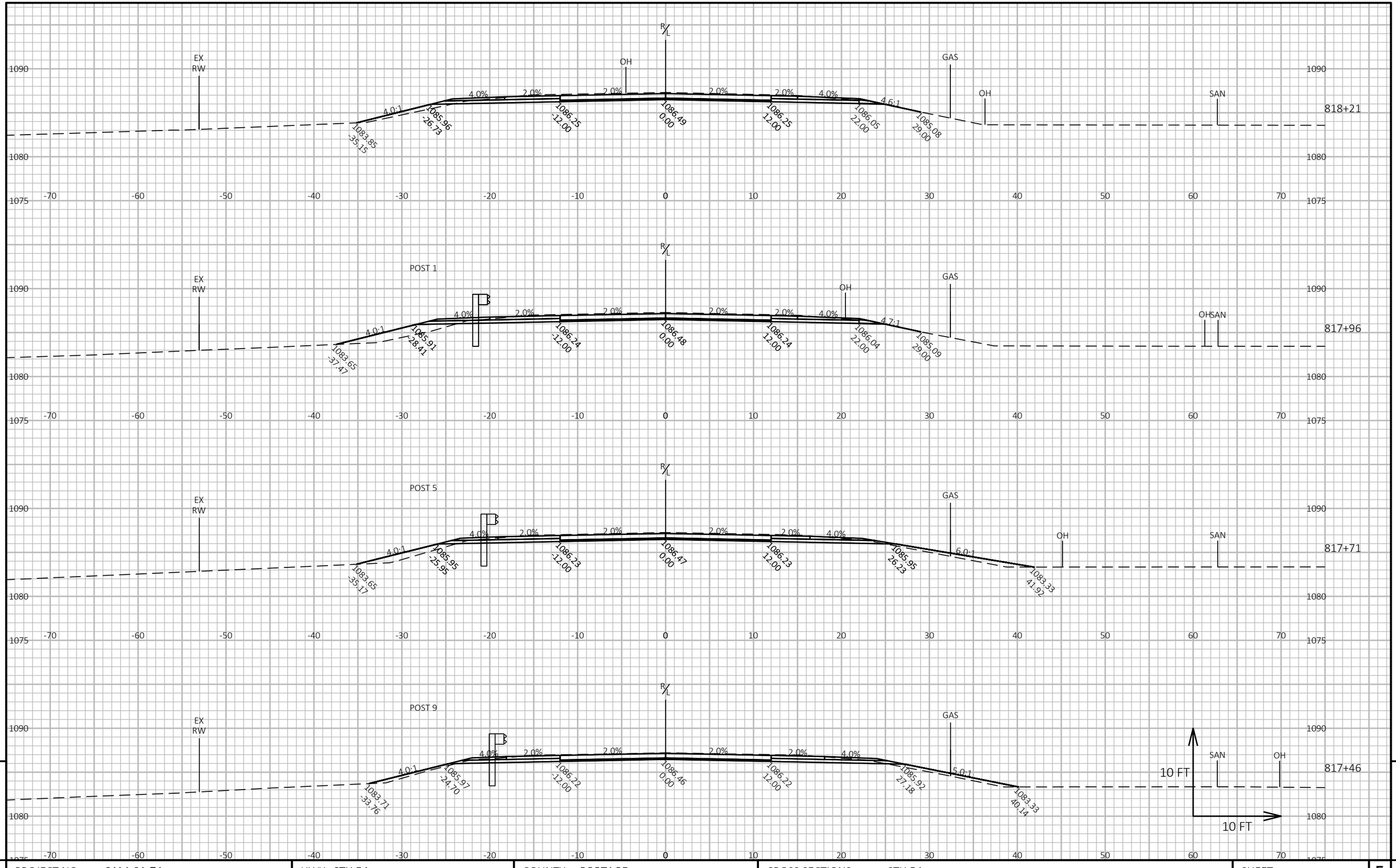



9

9

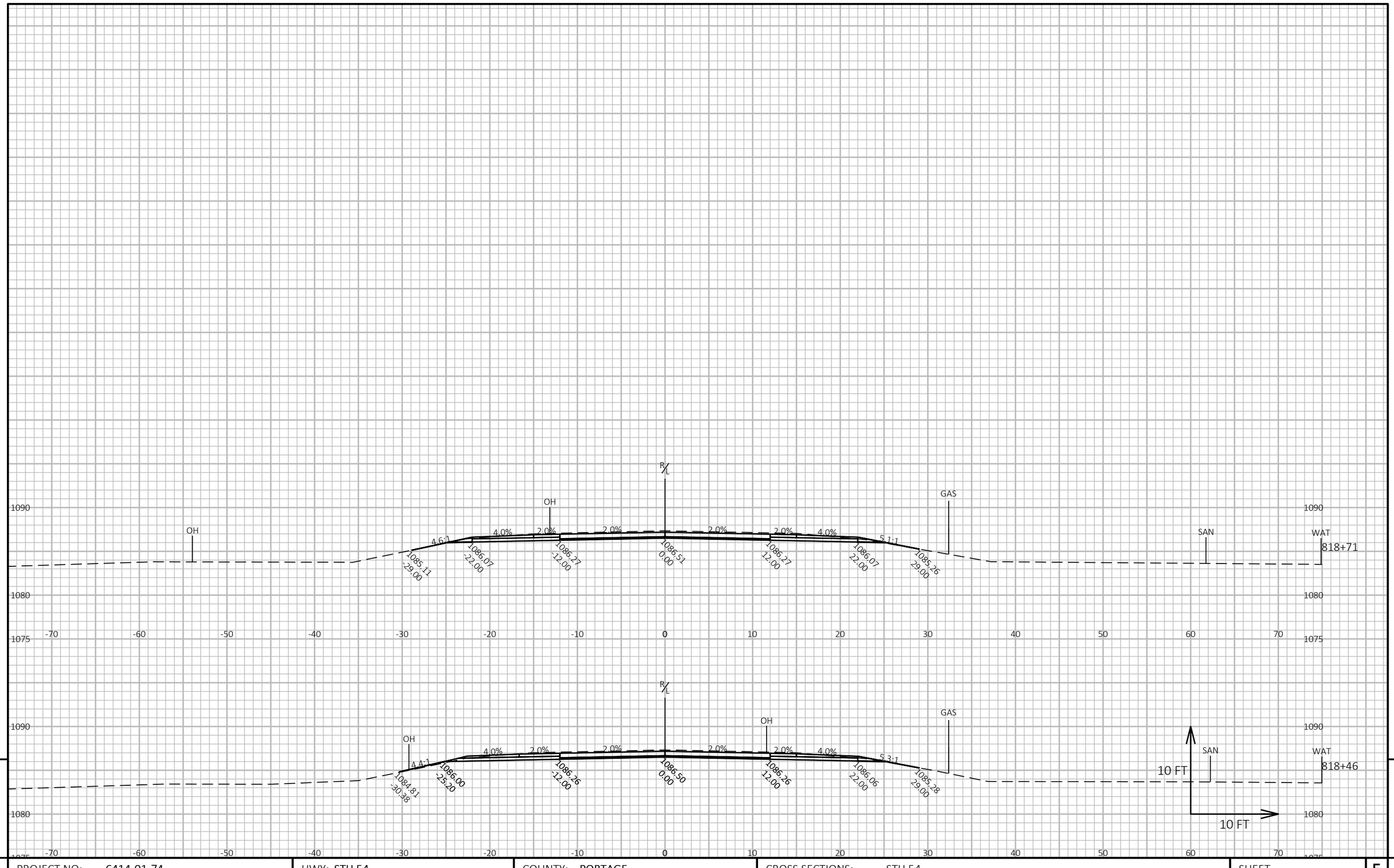
| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 189 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\BRETSANDERS\ONEDRIVE - DAAR CORPORATION\DOCUMENTS-NC-DESIGN - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090202-XS.DWG PLOT DATE : 12/12/2024 1:38 PM PLOT BY : BRET SANDERS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
LAYOUT NAME - 05




| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 190 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\BRETSANDERS\ONEDRIVE - DAAR CORPORATION\DOCUMENTS-NC-DESIGN - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090202-XS.DWG PLOT DATE : 12/12/2024 1:38 PM PLOT BY : BRET SANDERS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
LAYOUT NAME - 06
WISDOT/CADDS SHEET 49

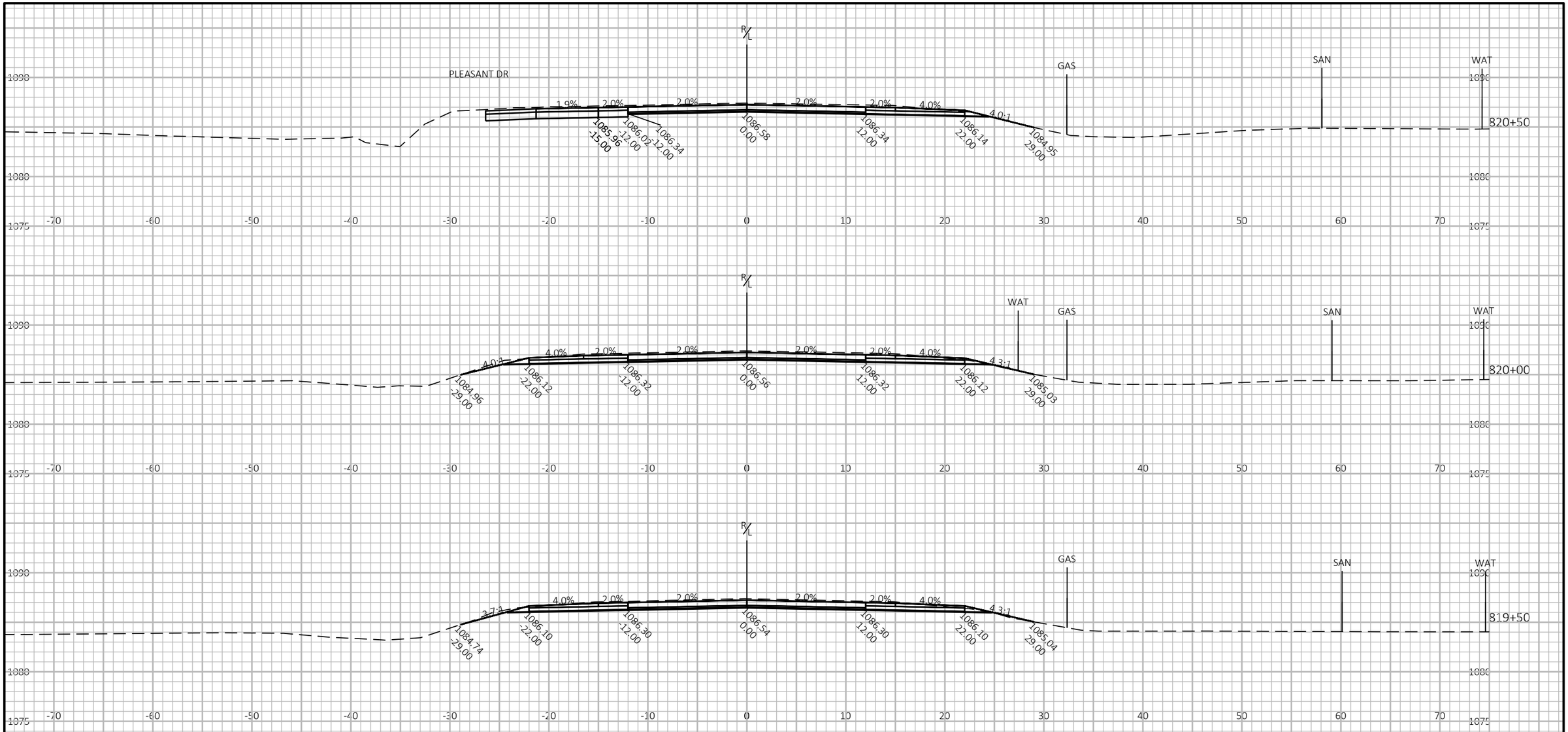



9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 191 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\BRETSANDERS\ONEDRIVE - DAAR CORPORATION\DOCUMENTS-NC-DESIGN - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090202-XS.DWG PLOT DATE : 12/12/2024 1:38 PM PLOT BY : BRET SANDERS PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
LAYOUT NAME - 07




9

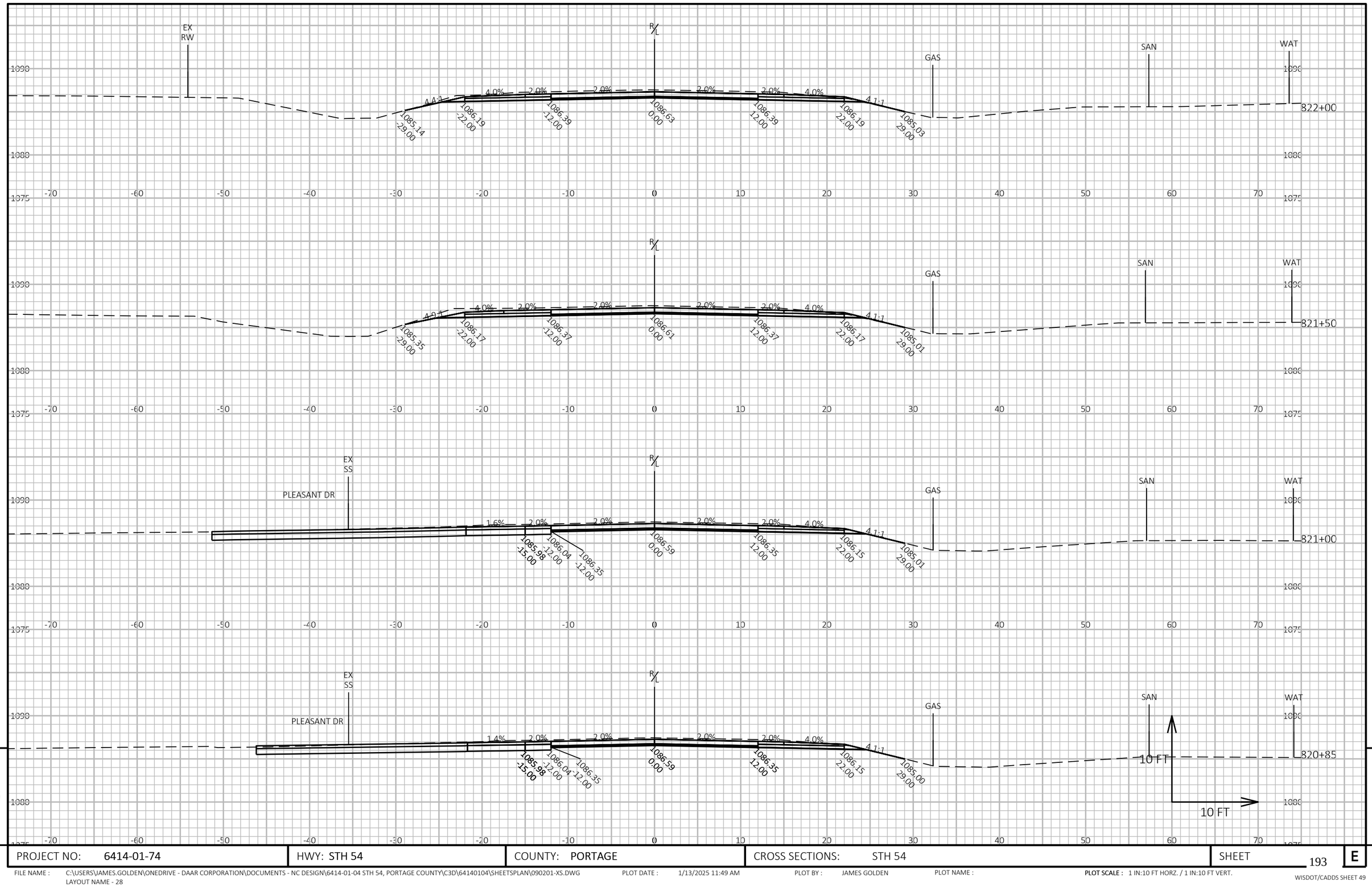
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 192 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 27

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

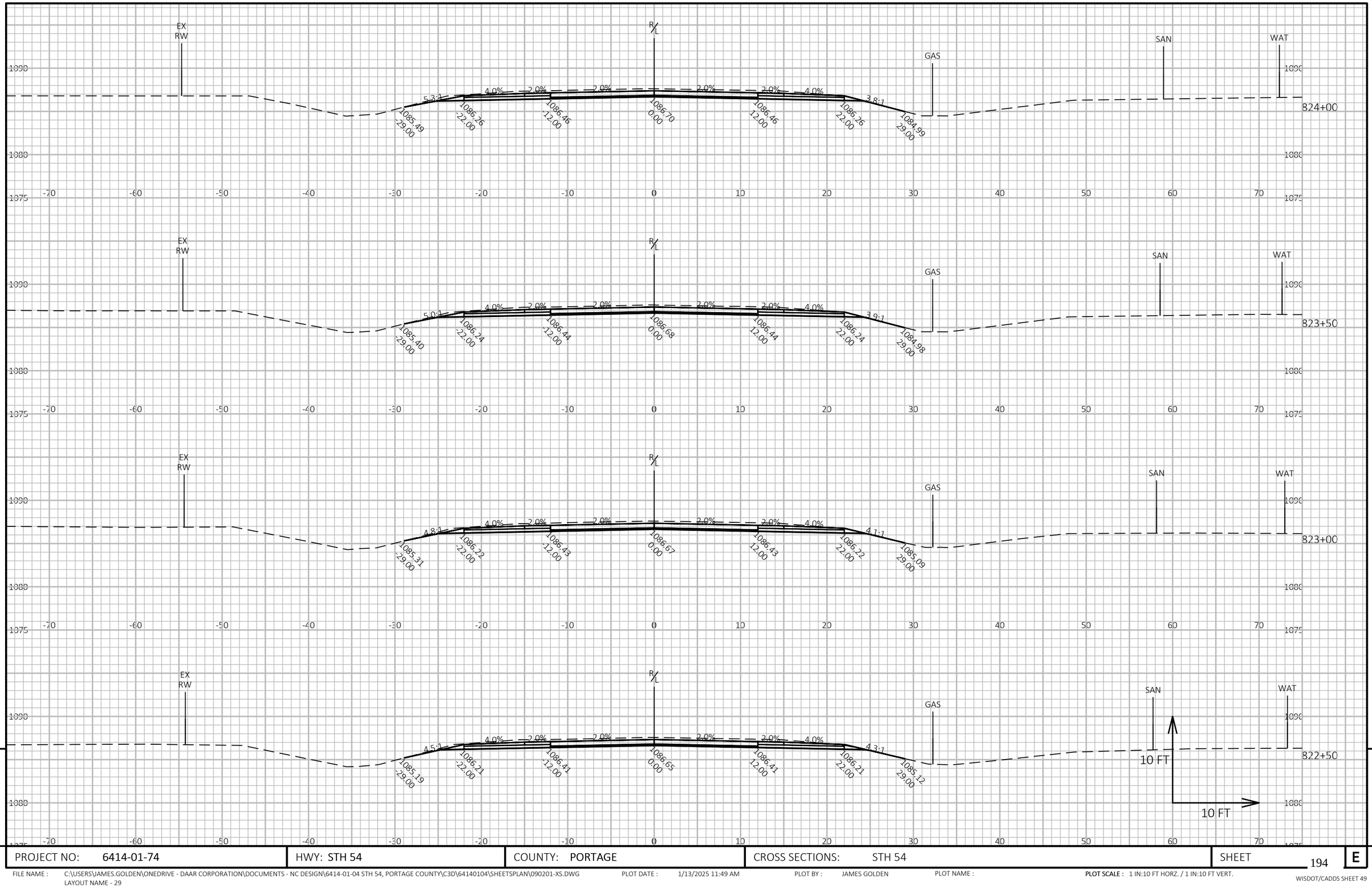
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 193 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 28

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

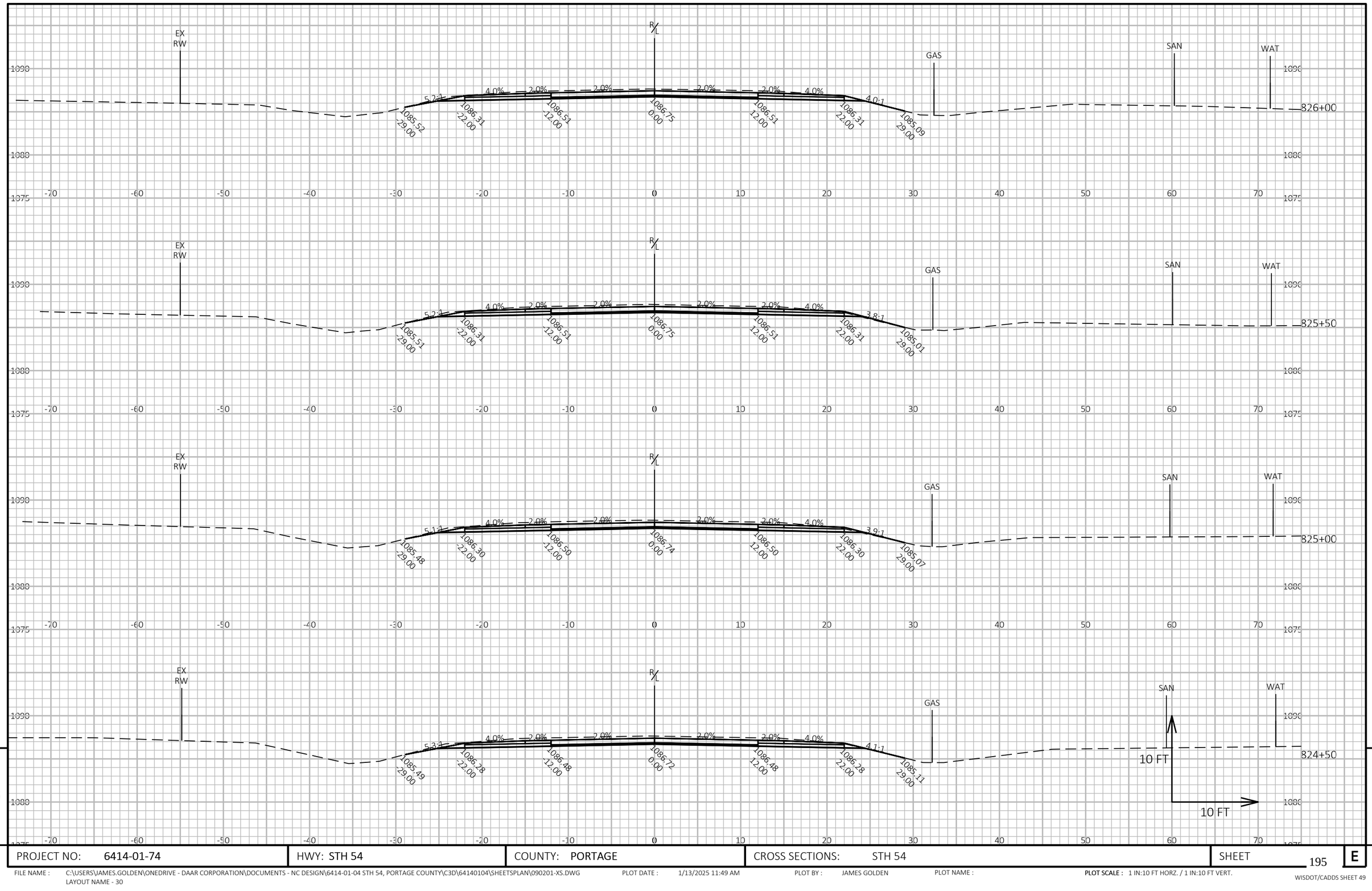
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 194 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 29

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

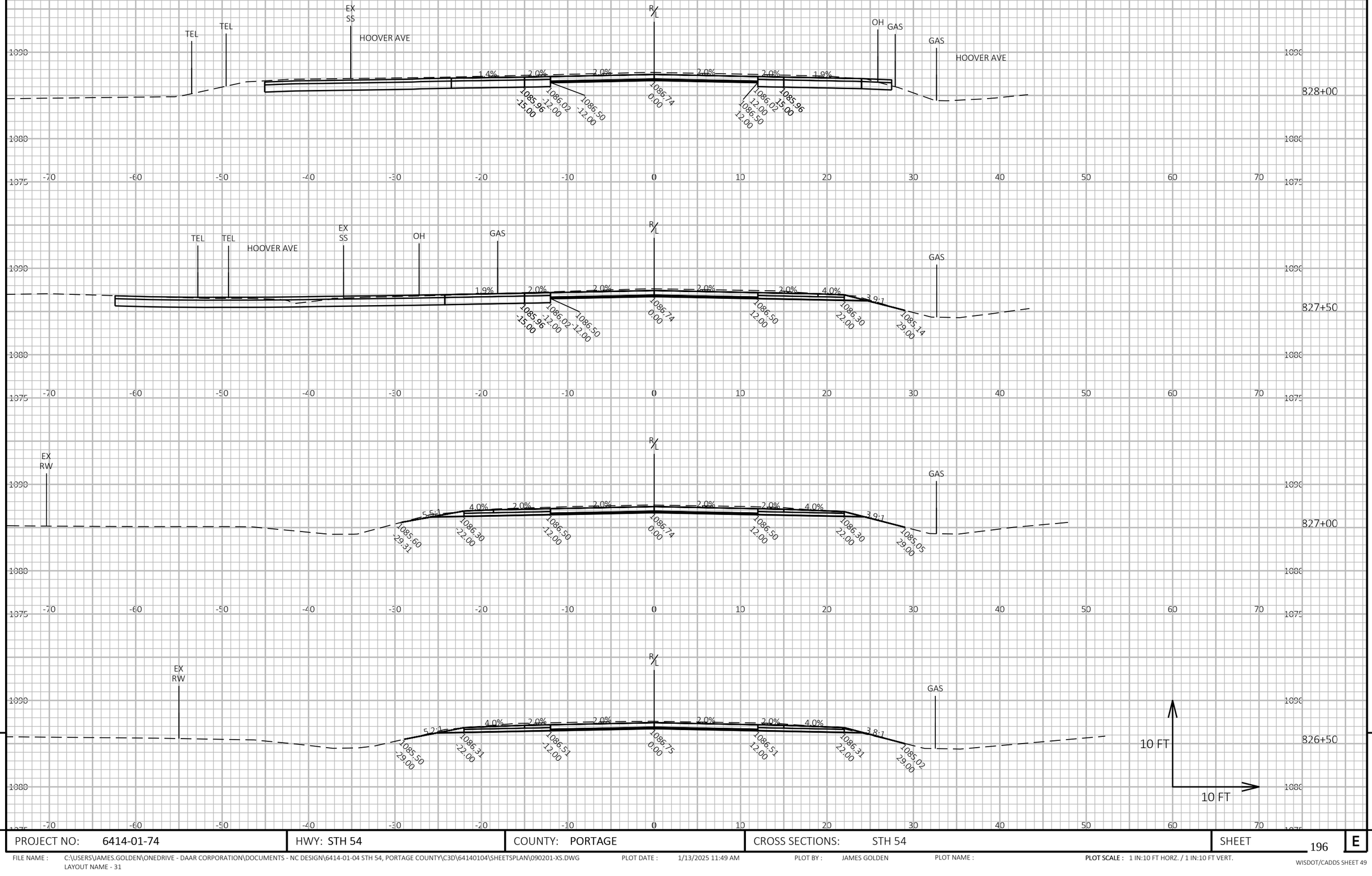
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 195 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 30

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

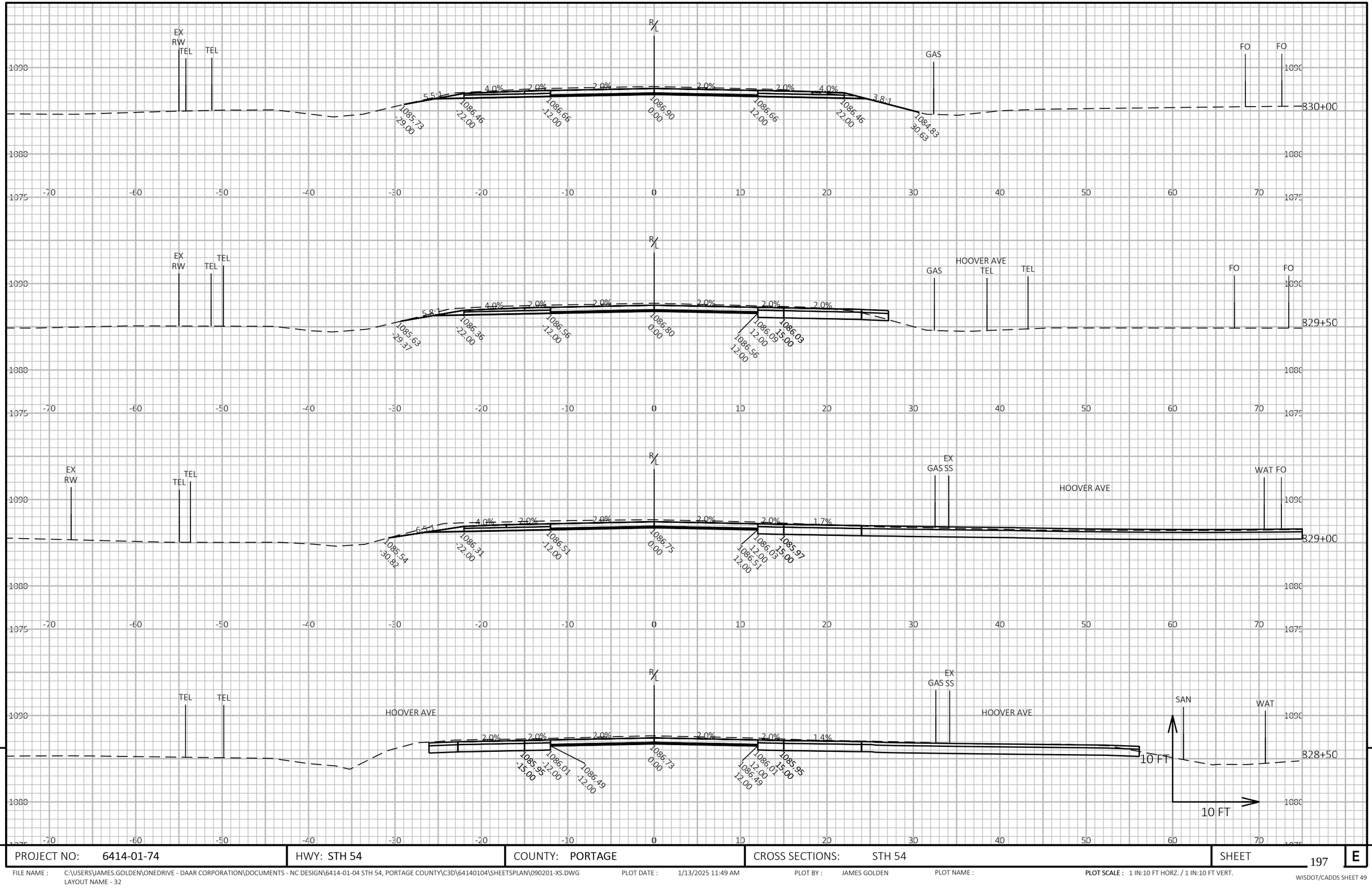
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 196 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 31

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

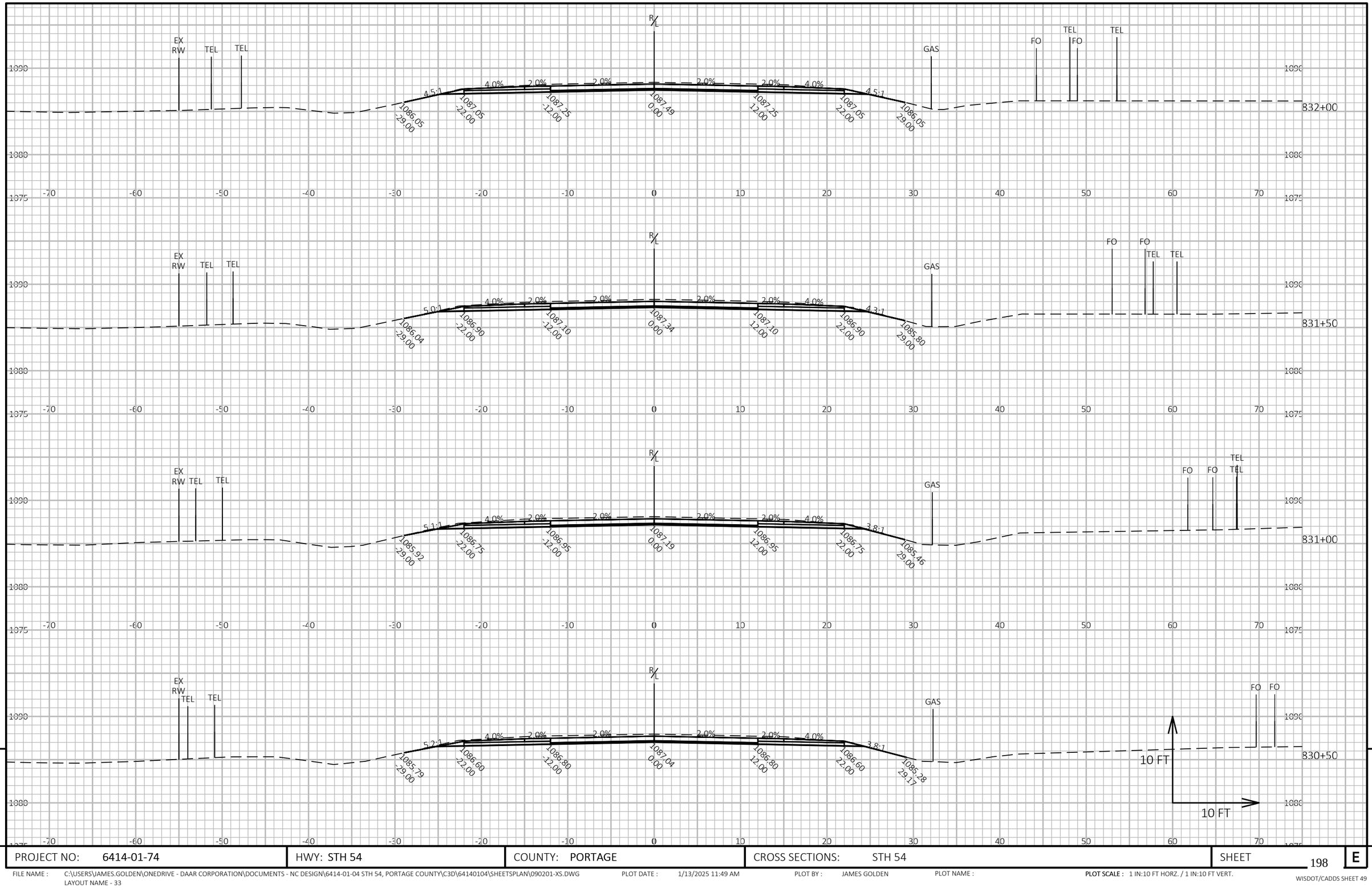
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 197 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 32

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

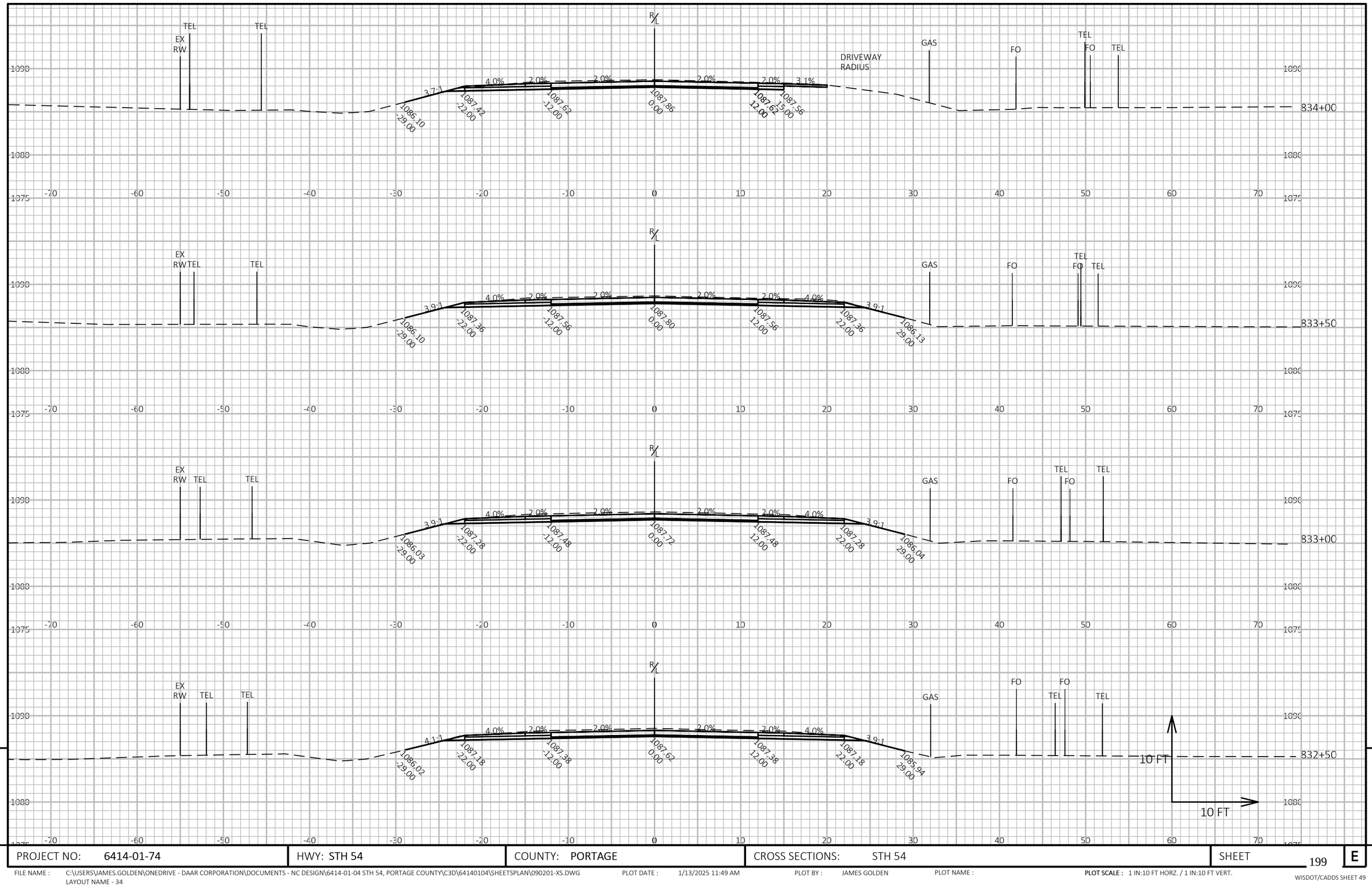



9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 198 | E |
|---|---|---|---|---|---|


FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 33
PLOT DATE : 1/13/2025 11:49 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



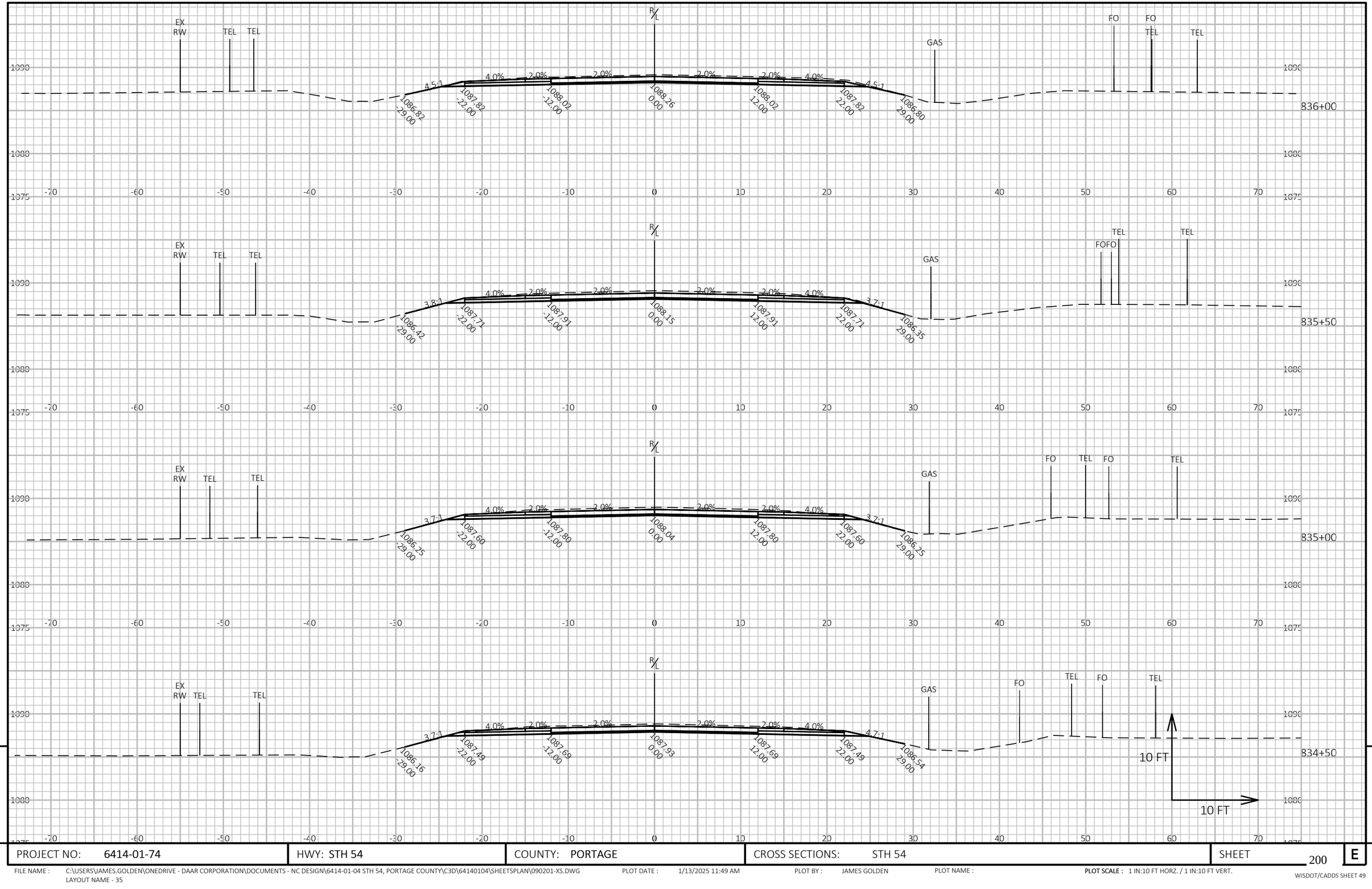

9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 199 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 34

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.




9

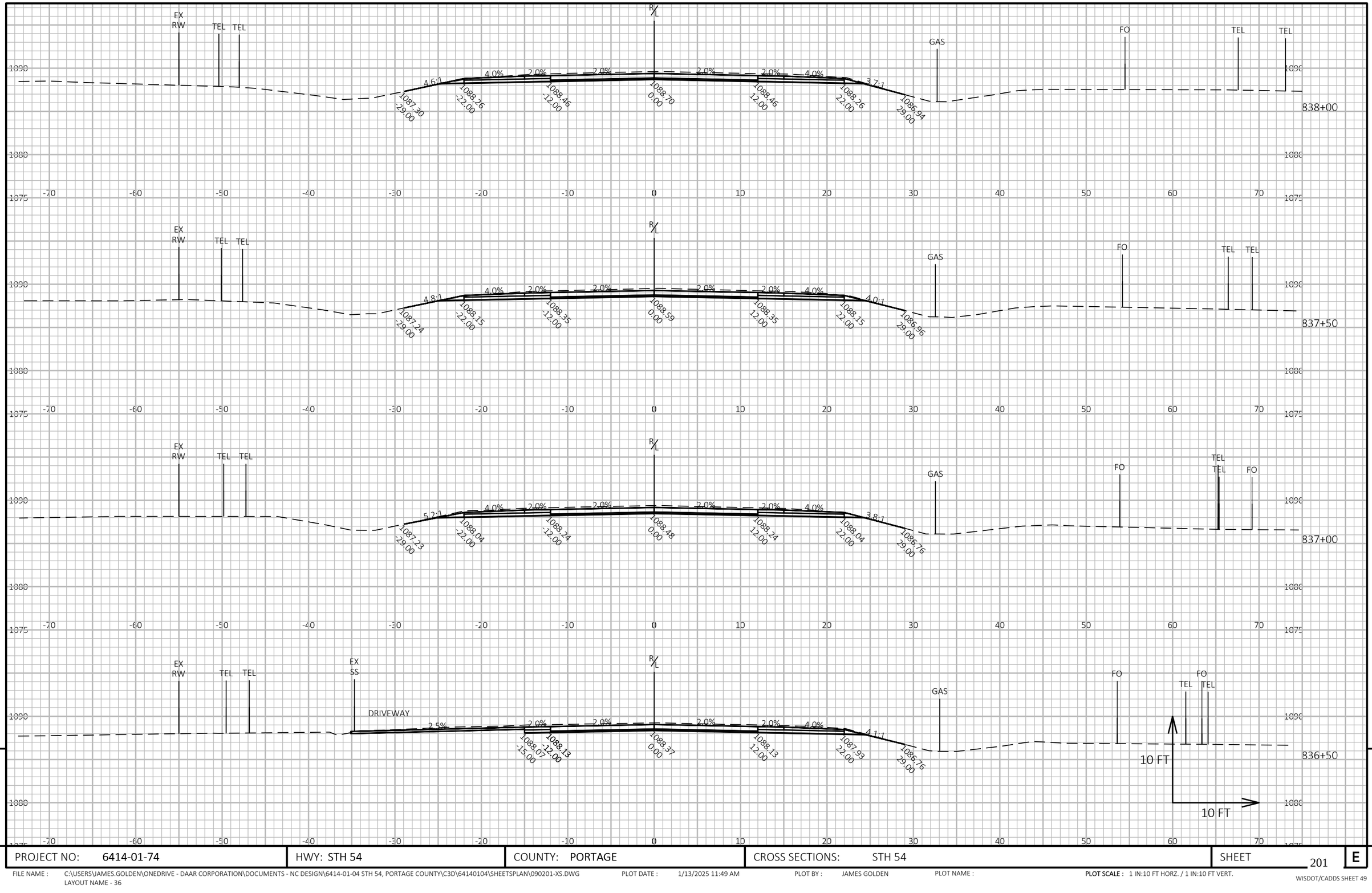
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 200 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 35

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

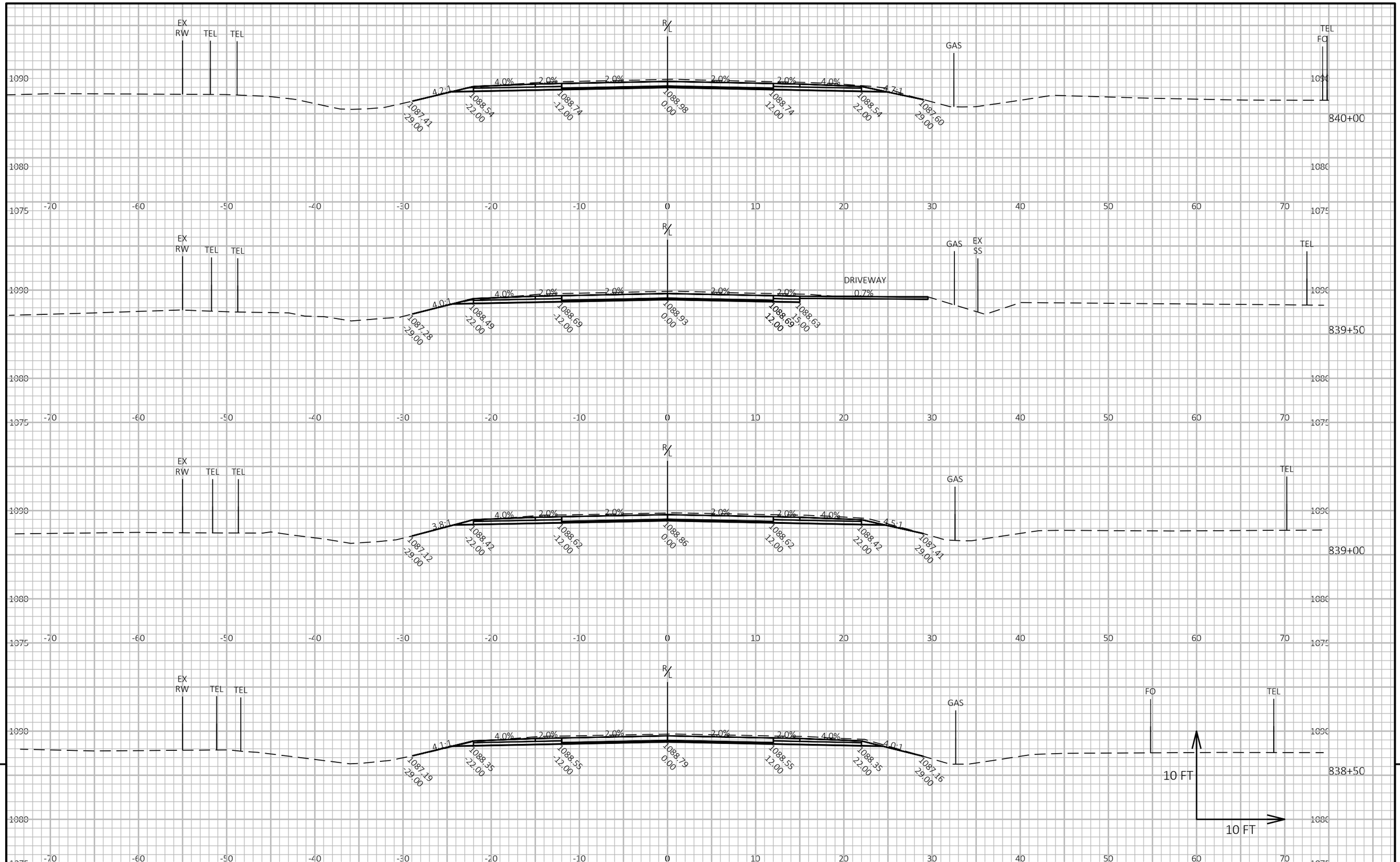
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 201 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 36

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

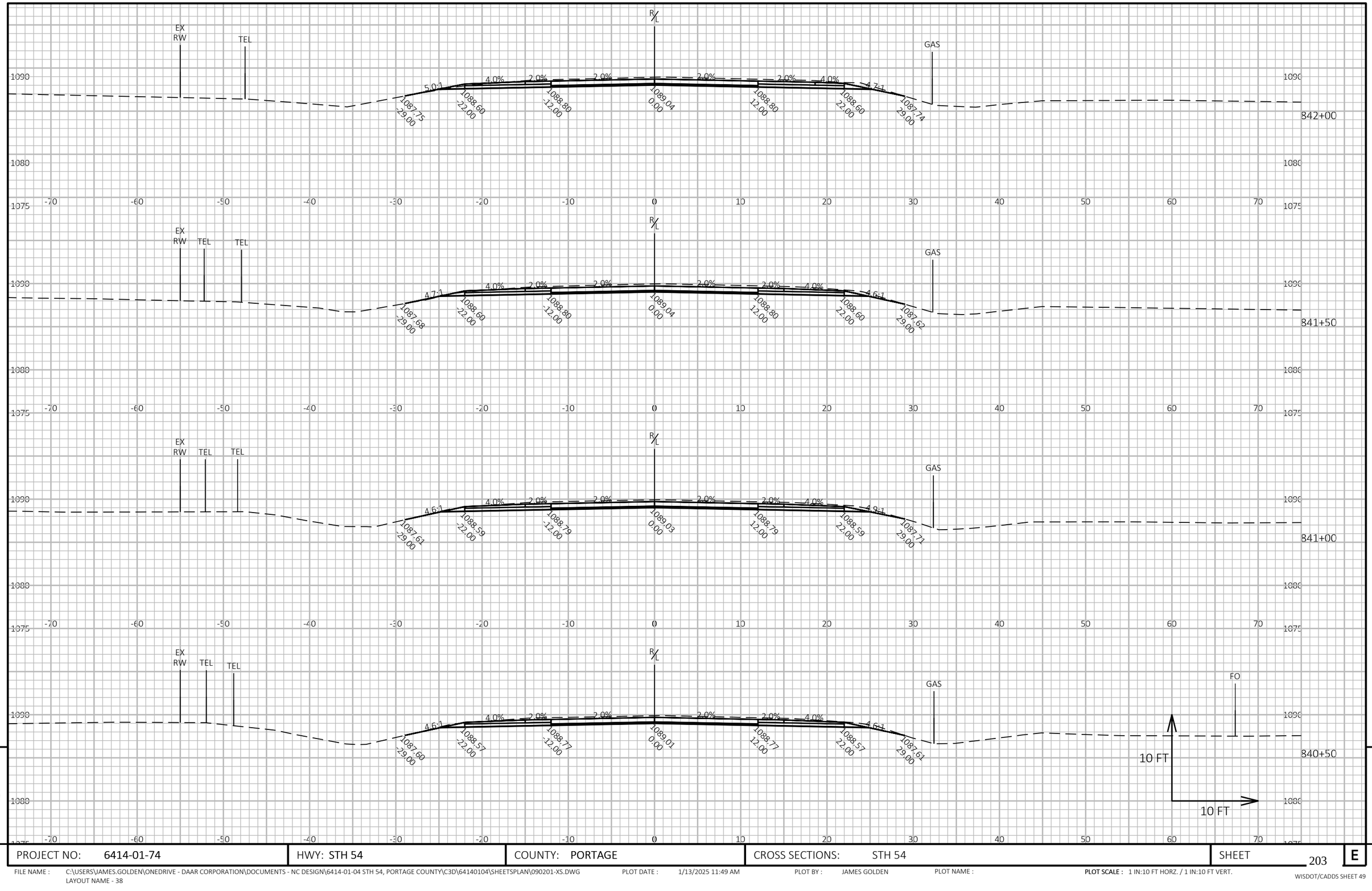
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 202 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 37

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

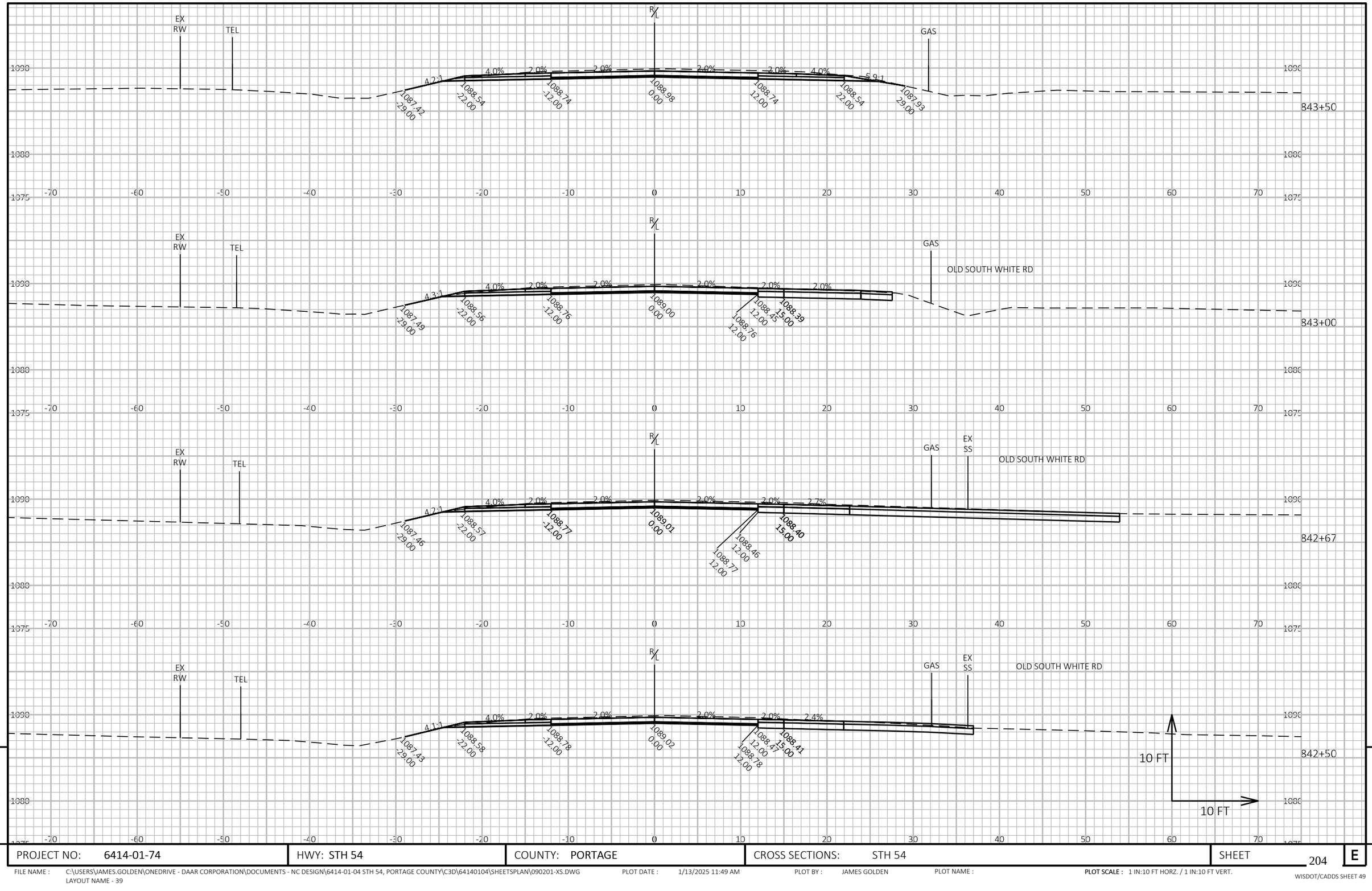
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 203 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 38

PLOT DATE : 1/13/2025 11:49 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

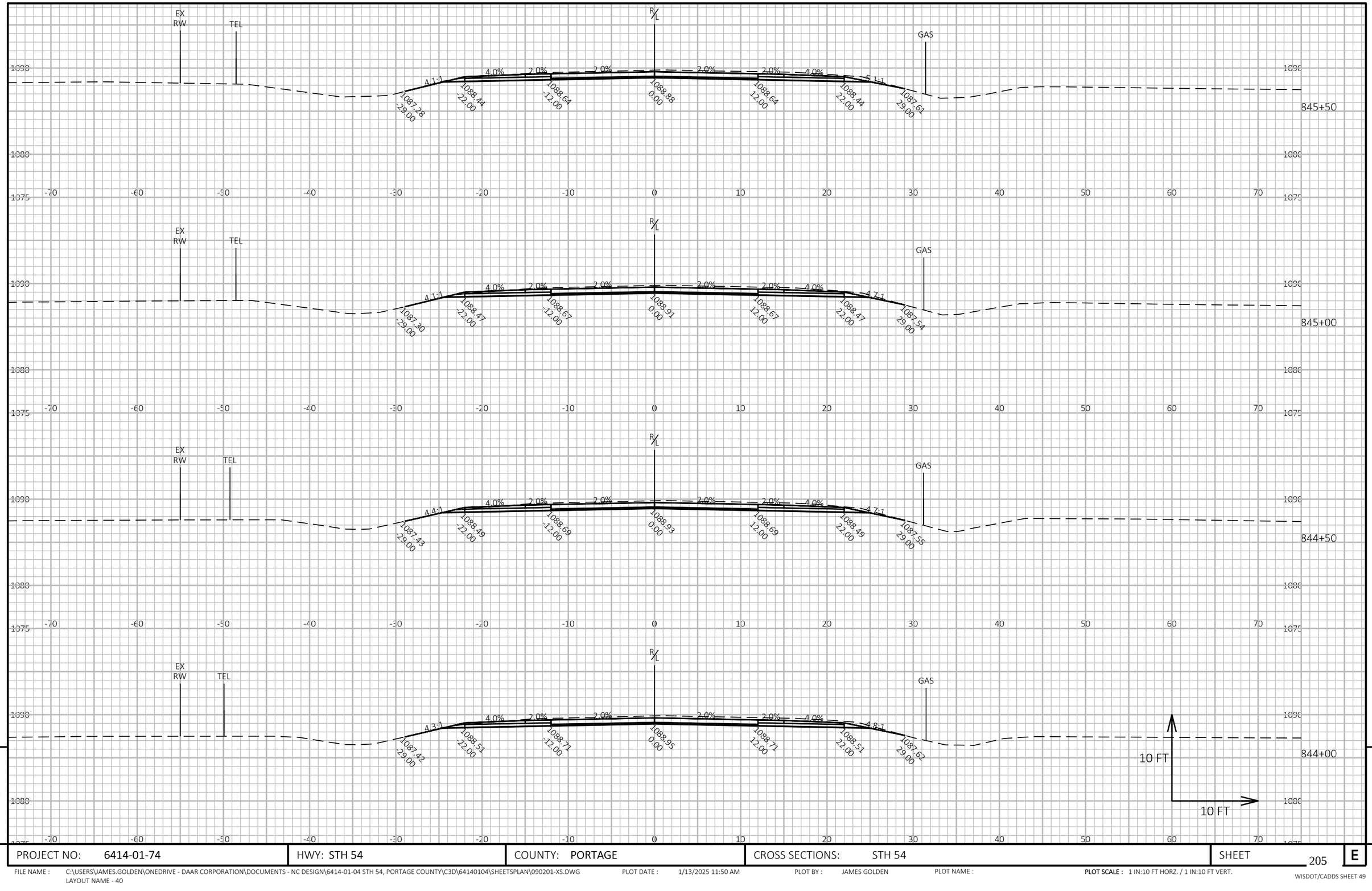



9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 204 | E |
|---|---|---|---|---|---|


FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 39
PLOT DATE : 1/13/2025 11:49 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49




9

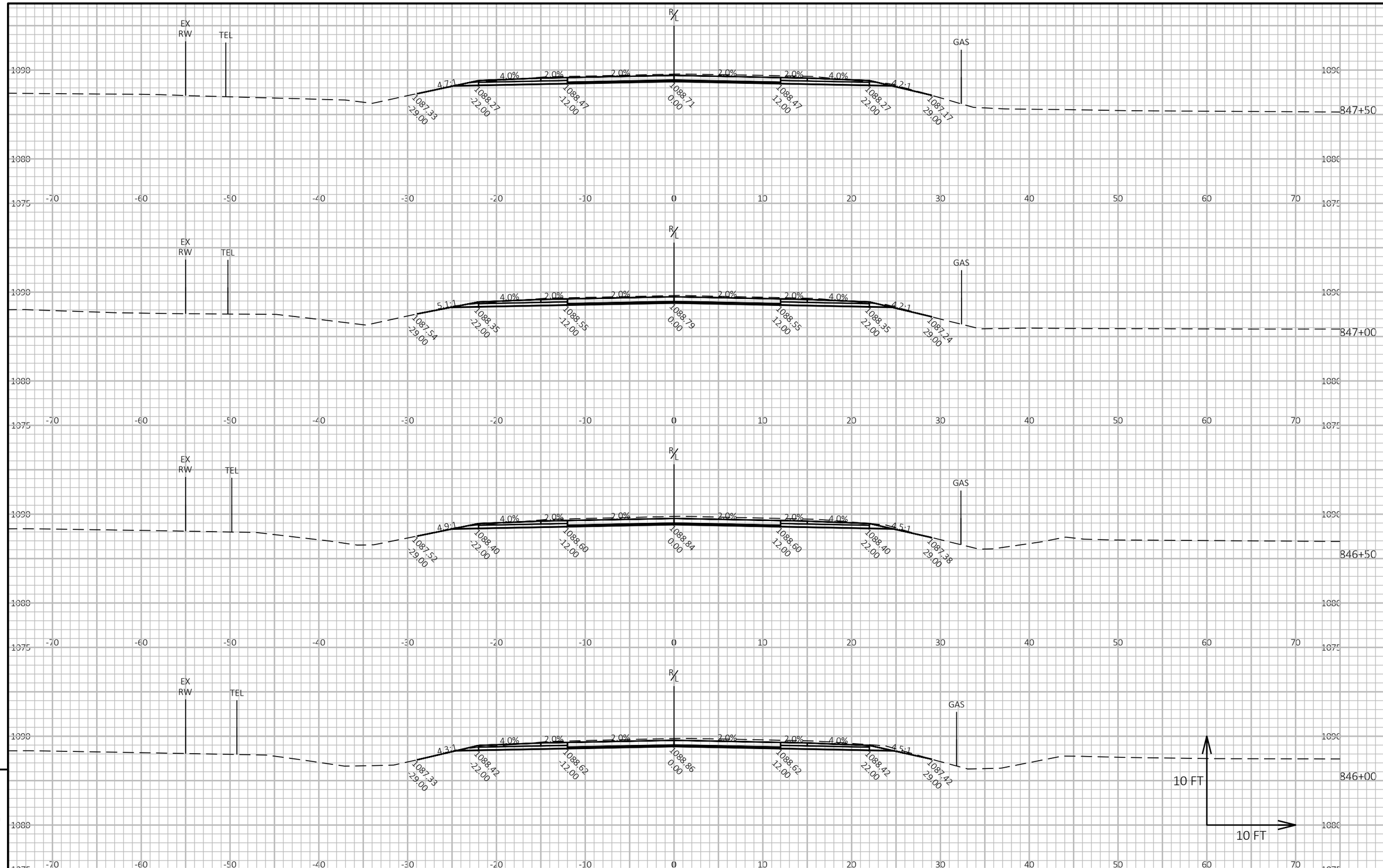
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 205 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 40

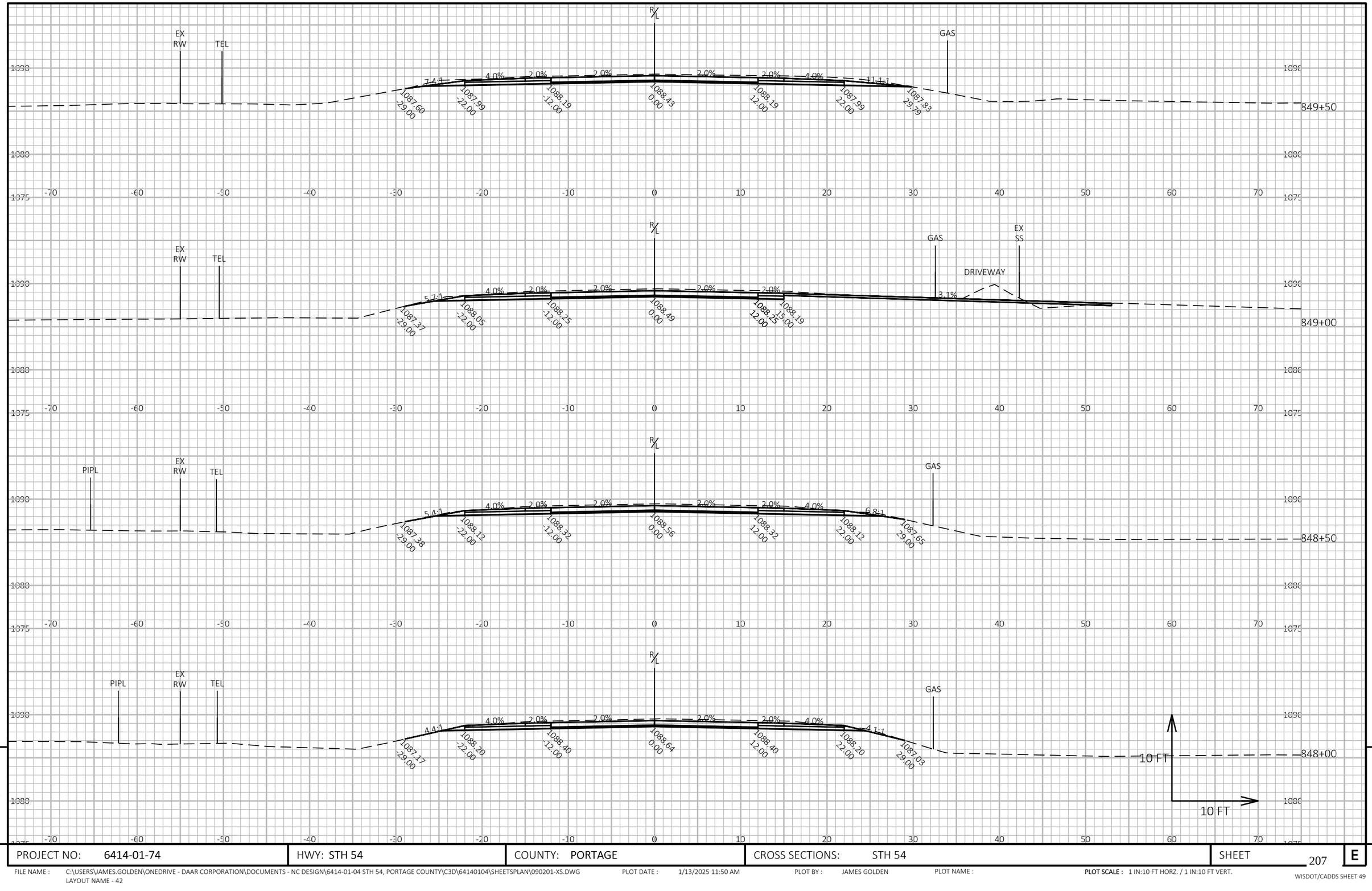
PLOT DATE : 1/13/2025 11:50 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 206 E |
|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 41
PLOT DATE : 1/13/2025 11:50 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.




9

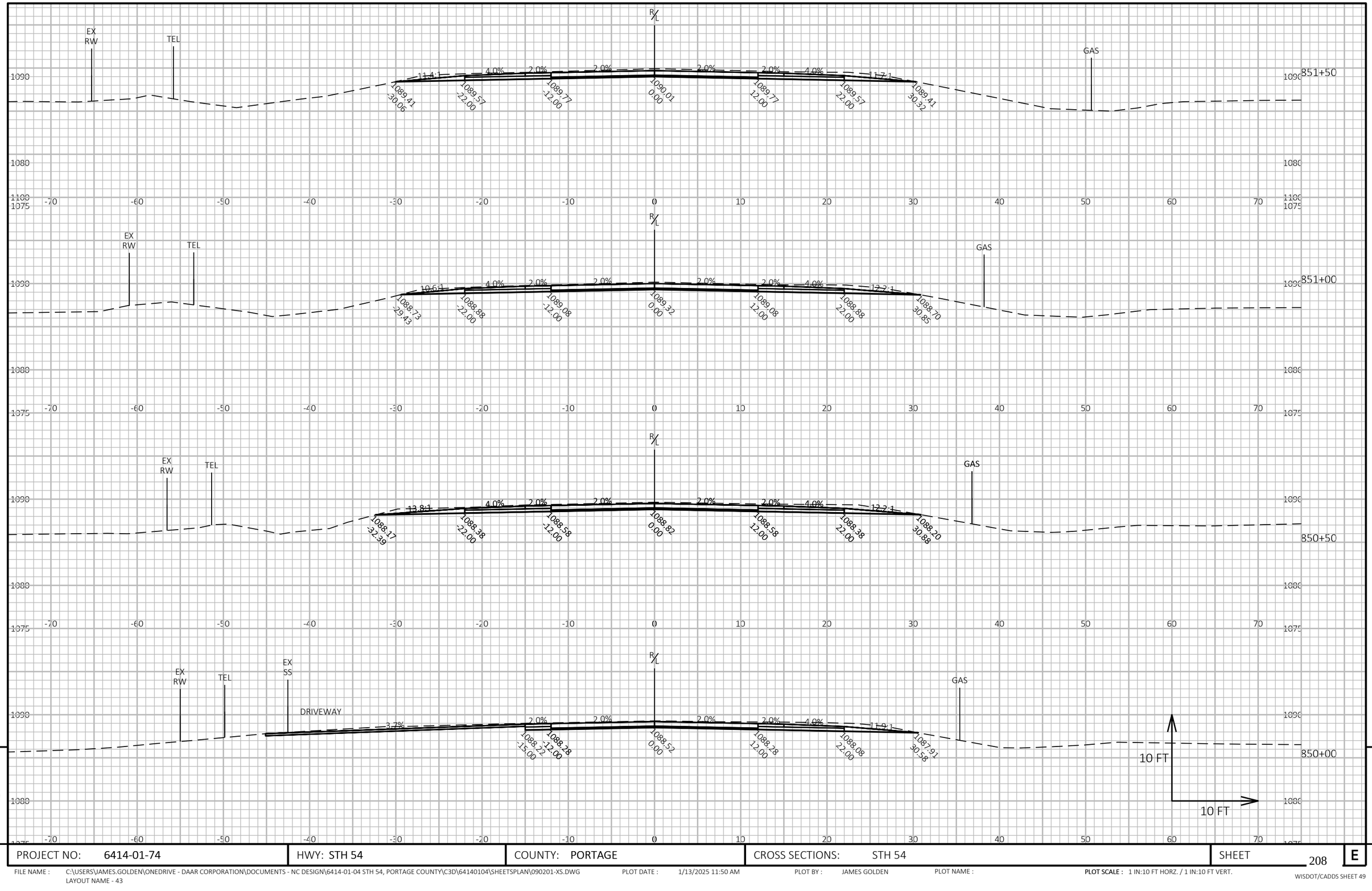
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 207 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 42

PLOT DATE : 1/13/2025 11:50 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

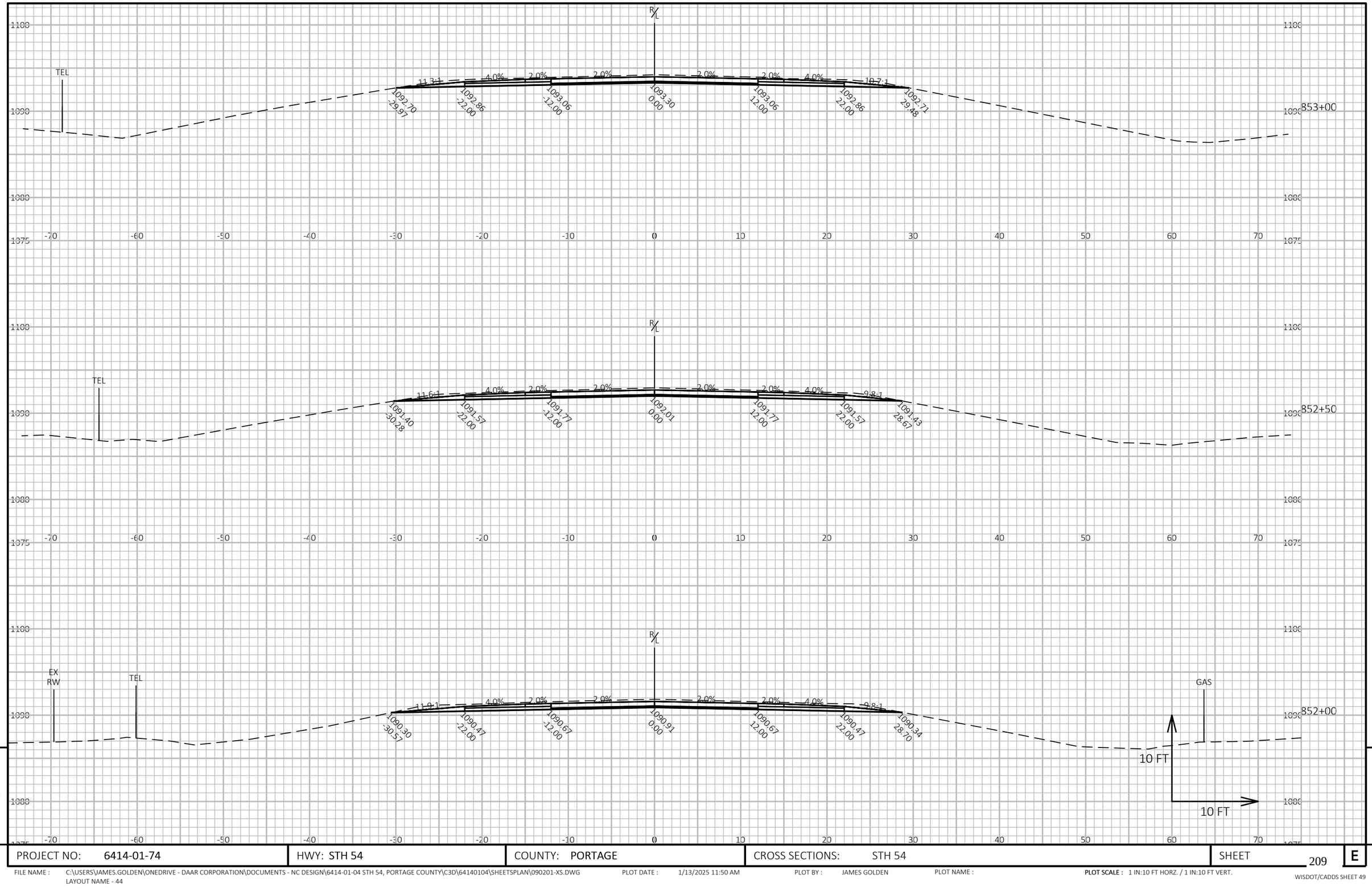
9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 208 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 43

PLOT DATE : 1/13/2025 11:50 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

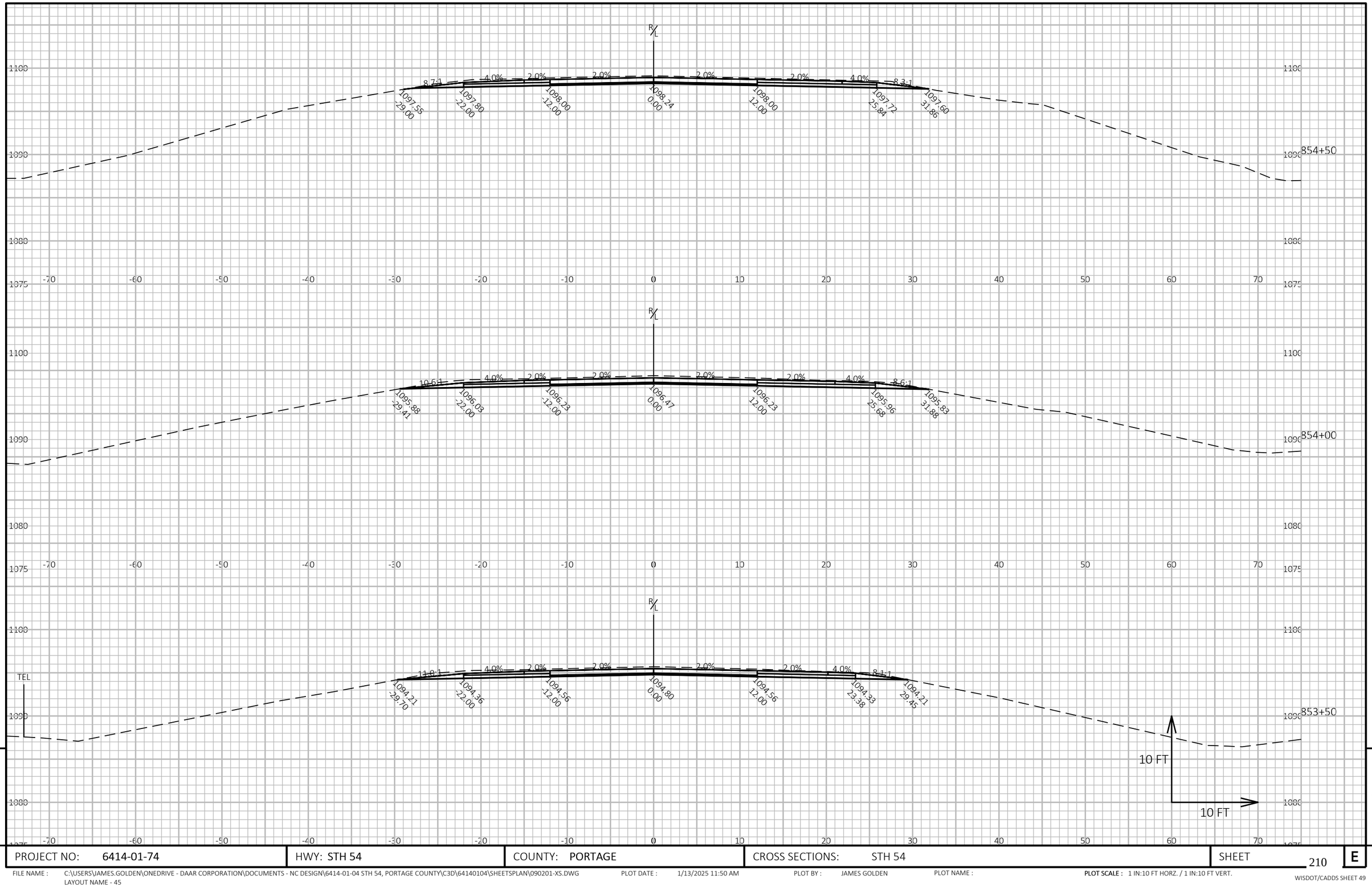



9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 209 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 44
PLOT DATE : 1/13/2025 11:50 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49

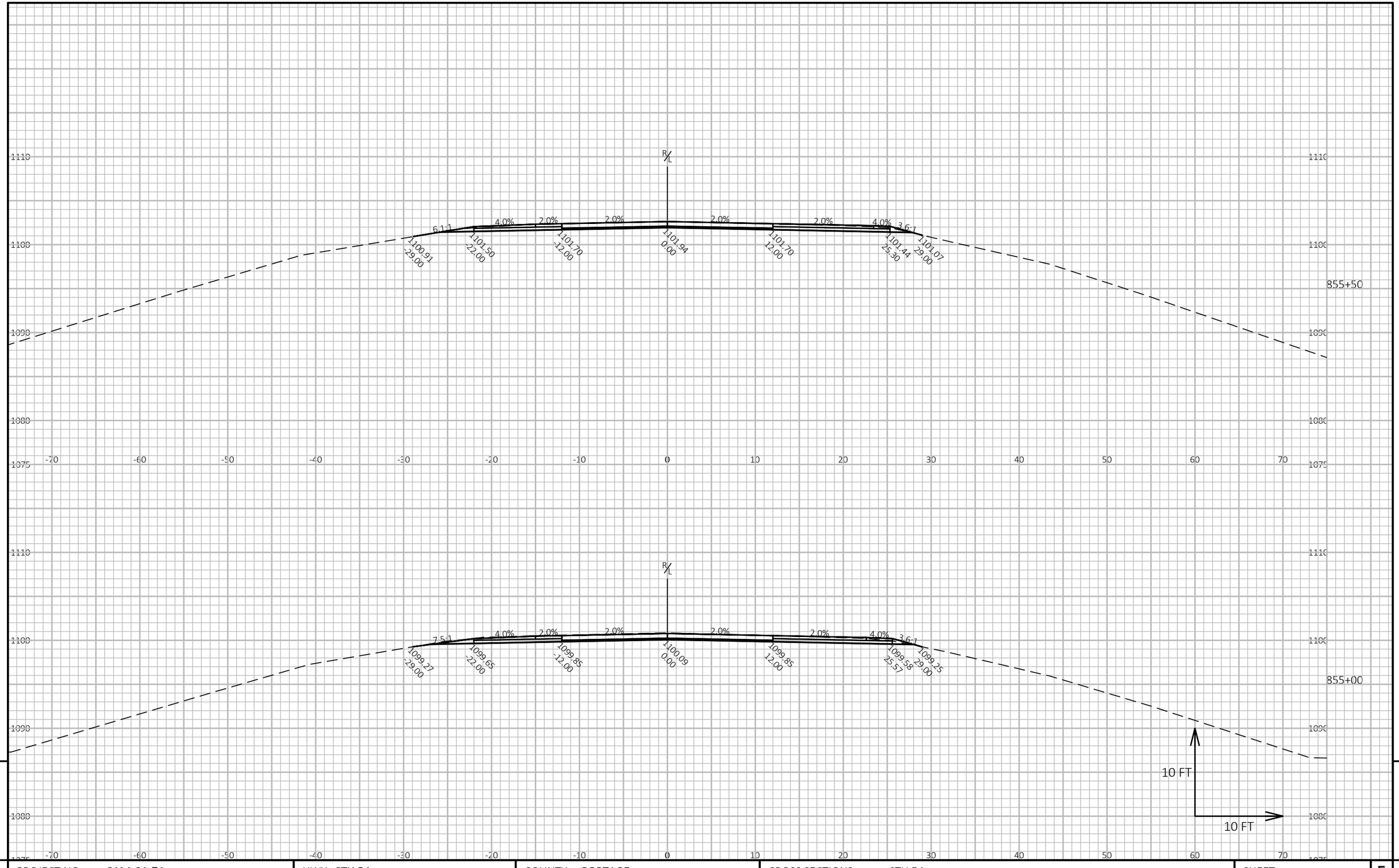



9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 210 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 45
PLOT DATE : 1/13/2025 11:50 AM
PLOT BY : JAMES GOLDEN
PLOT NAME :
**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: STH 54 | SHEET 211 | E |
|---|---|---|---|---|---|

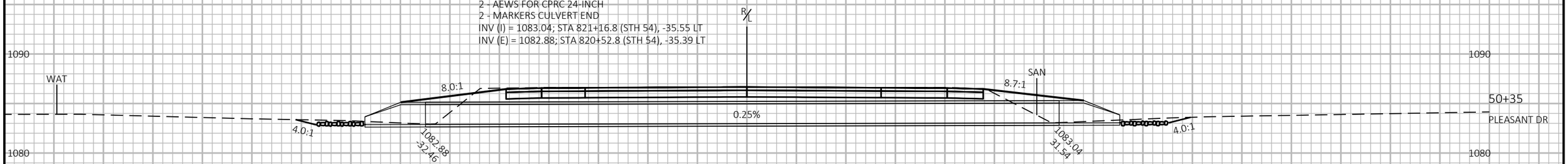
FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 46

PLOT DATE : 1/13/2025 11:50 AM PLOT BY : JAMES GOLDEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

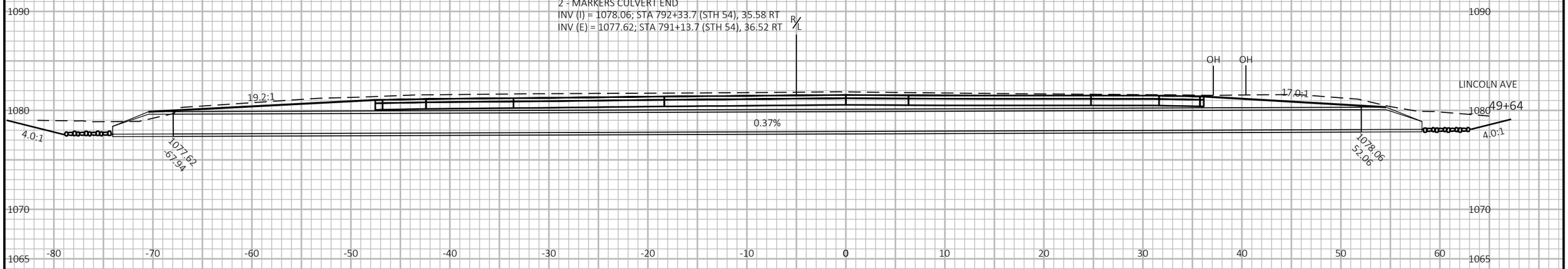
WISDOT/CADDS SHEET 49

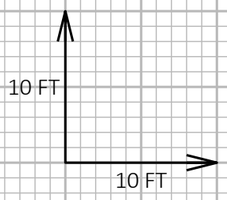
SIDEROAD CULVERTS ARE SKEWED TO MATCH DITCH LOCATION. CROSS SECTIONS ARE NOT REPRESENTATIVE OF EXACT STATION/OFFSETS. STATION/OFFSETS TO STH 54 ARE PROVIDED.

STA 50+35 (PLEASANT DR)
REMOVE EXISTING PIPE
1 - 24-INCH CPRC CL IV @0.25%
2 - AEWS FOR CPRC 24-INCH
2 - MARKERS CULVERT END
INV (I) = 1083.04; STA 821+16.8 (STH 54), -35.55 LT
INV (E) = 1082.88; STA 820+52.8 (STH 54), -35.39 LT




STA 49+64 (LINCOLN AVE)
REMOVE EXISTING PIPE
1 - 24-INCH CPRC CL IV @0.37%
2 - AEWS FOR CPRC 24-INCH
2 - MARKERS CULVERT END
INV (I) = 1078.06; STA 792+33.7 (STH 54), 35.58 RT
INV (E) = 1077.62; STA 791+13.7 (STH 54), 36.52 RT




9

9

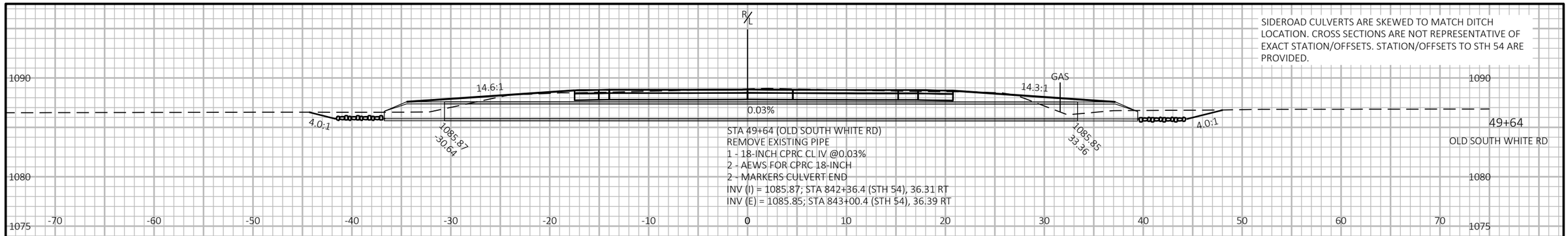
| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 212 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090203-XS.DWG
LAYOUT NAME - 02

PLOT DATE : 1/13/2025 12:14 PM PLOT BY : JAMES GOLDEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

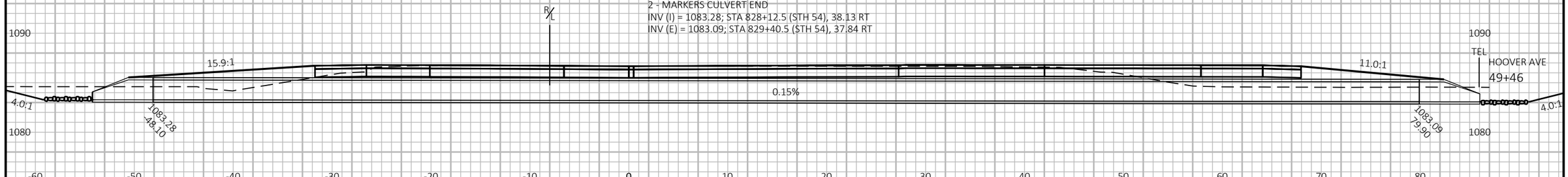
WISDOT/CADDS SHEET 49

SIDEROAD CULVERTS ARE SKEWED TO MATCH DITCH LOCATION. CROSS SECTIONS ARE NOT REPRESENTATIVE OF EXACT STATION/OFFSETS. STATION/OFFSETS TO STH 54 ARE PROVIDED.

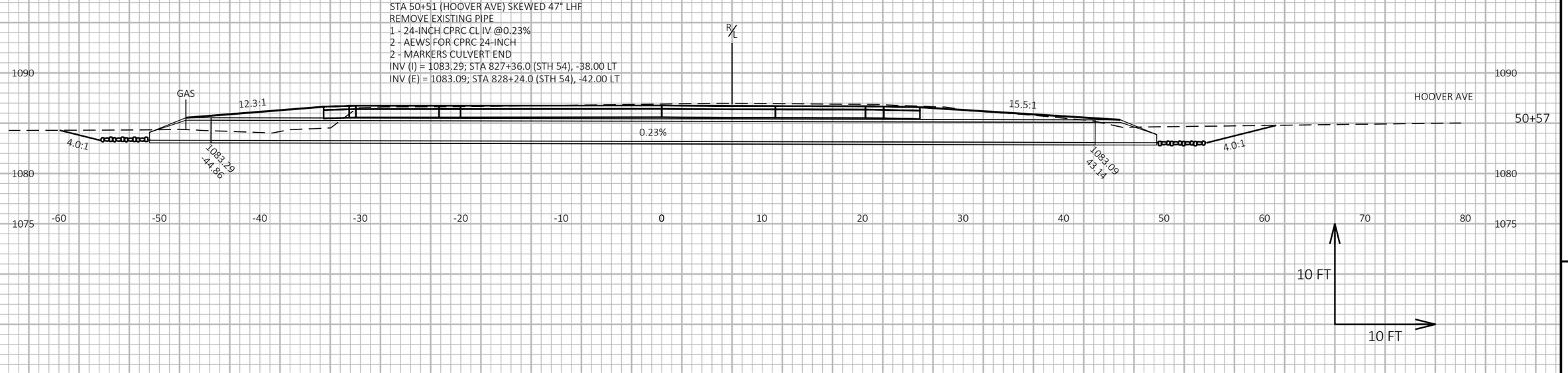



STA 49+64 (OLD SOUTH WHITE RD)
REMOVE EXISTING PIPE
1 - 18-INCH CPRC CL IV @0.03%
2 - AEWS FOR CPRC 18-INCH
2 - MARKERS CULVERT END
INV (I) = 1085.87; STA 842+36.4 (STH 54), 36.31 RT
INV (E) = 1085.85; STA 843+00.4 (STH 54), 36.39 RT

STA 49+51 (HOOVER AVE) SKEWED 44° LHF
REMOVE EXISTING PIPE
1 - 24-INCH CPRC CL IV @0.15%
2 - AEWS FOR CPRC 24-INCH
2 - MARKERS CULVERT END
INV (I) = 1083.28; STA 828+12.5 (STH 54), 38.13 RT
INV (E) = 1083.09; STA 829+40.5 (STH 54), 37.84 RT




STA 50+51 (HOOVER AVE) SKEWED 47° LHF
REMOVE EXISTING PIPE
1 - 24-INCH CPRC CL IV @0.23%
2 - AEWS FOR CPRC 24-INCH
2 - MARKERS CULVERT END
INV (I) = 1083.29; STA 827+36.0 (STH 54), -38.00 LT
INV (E) = 1083.09; STA 828+24.0 (STH 54), -42.00 LT




9

9

| PROJECT NO: 6414-01-74 | HWY: STH 54 | COUNTY: PORTAGE | CROSS SECTIONS: CULVERTS | SHEET 213 | E |
|---|---|---|---|---|---|

FILE NAME : C:\USERS\JAMES.GOLDEN\ONEDRIVE - DAAR CORPORATION\DOCUMENTS - NC DESIGN\6414-01-04 STH 54, PORTAGE COUNTY\C3D\64140104\SHEETSPLAN\090203-XS.DWG
LAYOUT NAME - 03
PLOT DATE : 1/13/2025 12:14 PM
PLOT BY : JAMES GOLDEN
PLOT NAME :
**PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

**Wisconsin Department of Transportation**

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov