NOTE: TITLES AND PAGE NUMBERS FOUND IN THIS AREA WITHIN THE INNER AND OUTER SHEET BORDER LINES ARE INCLUDED TO NAVIGATE THE SAMPLE DRAWINGS AND ARE NOT TO BE INCLUDED ON PROJECT SUBMISSIONS.



# MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
# HIGHWAY DIVISION

## MASSDOT PROJECT DEVELOPMENT & DESIGN GUIDE
## CHAPTER 18, VOL II: HIGHWAY CONSTRUCTION PLANS STYLE SAMPLES

JUNE 2026

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## General Notes

1. This sample plan set is provided for illustrative purposes only and is not intended to represent standard design practices or requirements for all MassDOT Highway Division projects. The design elements and project details shown herein may not reflect current or typical MassDOT design standards in all cases.

2. The primary purpose of VOL II: II: HIGHWAY CONSTRUCTION PLANS STYLE SAMPLES is to demonstrate standardized graphical presentation and to provide guidance on the formatting, organization, and drafting methods used in the preparation of MassDOT Highway Construction Plans. Users shall refer to the latest applicable MassDOT design manuals, standards, and project-specific requirements for actual design guidance.

3. The style sample plans demonstrate the applicable graphical and CAD standards required for MassDOT Highway Construction Plan submissions. Graphical standards (shown as red keynotes) refer to the drafted style of the plan and how the project information is conveyed. CAD standards (shown as blue keynotes) refer to the means and methods of drawing preparation using the MassDOT CAD Standards.

4. The samples and guidance provided within the sample plan set are intended to facilitate project drawing development, quality, and consistency. The sample plan set shall be used as a primary reference for the review of Highway Construction Plan submissions.

5. The information found within the graphical and CAD standards keynotes is intended to serve as a summary only. Users shall be directed to the most detailed information within the MassDOT PDDG or CAD Standards documentation.

## KEYNOTES LEGEND

[#] GRAPHICAL STANDARDS KEYNOTE

(#) CAD STANDARDS KEYNOTE

2.1 TITLE SHEET.DWG Plotted on 10-Dec-2025 12:41 PM

# MADOT-D.STB PLOT STYLE TABLE

| Plot Style | Color | Lineweight | Sample |
|---|---|---|---|
| Normal | (Object) | (Object) | |
| BORDER | Black | 0.002 | |
| BR 50% | Black | 0.006 | |
| BR 100% | Black | 0.01 | |
| BR 150% | Black | 0.015 | |
| BR 175% | Black | 0.021 | |
| BR 200% | Black | 0.024 | |
| BR XREF | Black | (Object) | |
| COLOR OBJECT | (Object) | (Object) | |
| ENVR EXIST | Grayscale | 0.0138 | |
| ENVR PROP | Black | 0.015 | |
| ENVR TEXT | Grayscale | 0.0138 | |
| GE-DETAILS | Black | (Object) | |
| Greyscale | Grayscale | (Object) | |
| OB TEXT 100% | Black | 0.008 | |
| OB TEXT 150% | Black | 0.015 | |
| ROW 100% | Black | 0.008 | |
| ROW 200% | Black | 0.024 | |
| ROW TEXT | Black | 0.008 | |
| SOLID 25% | Grayscale | 0.015 | |
| SOLID 50% | Grayscale | 0.015 | |
| SOLID 75% | Grayscale | 0.015 | |
| SOLID 90% | Black | (Object) | |
| SOLID 100% | Black | 0.015 | |
| SOLID 125% | Black | 0.0197 | |
| SOLID 200% | Black | 0.024 | |
| SOLID 300% | Black | 0.0315 | |
| SURVEY 80% | Grayscale | 0.0138 | |
| SURVEY 100% | Grayscale | 0.0138 | |
| SURVEY 125% | Grayscale | 0.0138 | |
| SURVEY 150% | Grayscale | 0.0138 | |
| UTILITY EXIST | Grayscale | 0.01 | |
| UTILITY PROP | Black | 0.015 | |
| WIPEOUT | (Object) | (Object) | |

## NOTES

1. The MADOT-D.stb plot style table shall be used to plot all sheets within the Highway Construction Plans excluding Drainage and Utility Plans.
2. Use the MassDOT-Design-36x24-PDF page setup for plotting to PDF using this plot style with a standard MassDOT border.
3. Refer to sheet 1.6 for a list of drawings to be plotted with this page setup/plot style.

2.2 MADOT-D.STB PLOT STYLE TABLE.DWG Plotted on 2-Dec-2025 10:34 AM

# MADOT-U.STB PLOT STYLE TABLE

| Plot Style | Color | Lineweight | Sample |
|---|---|---|---|
| Normal | (Object) | (Object) | |
| BORDER | Black | 0.002 | |
| BR 50% | Black | 0.006 | |
| BR 100% | Black | 0.01 | |
| BR 150% | Black | 0.015 | |
| BR 175% | Black | 0.0209 | |
| BR 200% | Black | 0.024 | |
| BR XREF | Black | (Object) | |
| COLOR OBJECT | (Object) | (Object) | |
| ENVR EXIST | Grayscale | 0.024 | |
| ENVR PROP | Black | 0.024 | |
| ENVR TEXT | Grayscale | 0.0138 | |
| GE-DETAILS | Black | (Object) | |
| Greyscale | Grayscale | (Object) | |
| OB TEXT 100% | Black | 0.008 | |
| OB TEXT 150% | Black | 0.015 | |
| ROW 100% | Purple | 0.008 | |
| ROW 200% | Purple | 0.024 | |
| ROW TEXT | Black | 0.008 | |
| SOLID 25% | Grayscale | 0.015 | |
| SOLID 50% | Grayscale | 0.015 | |
| SOLID 75% | Grayscale | 0.015 | |
| SOLID 90% | Grayscale | 0.015 | |
| SOLID 100% | Black | 0.015 | |
| SOLID 125% | Black | 0.0197 | |
| SOLID 200% | Black | 0.024 | |
| SOLID 300% | Black | 0.0315 | |
| SURVEY 80% | Grayscale | 0.0051 | |
| SURVEY 100% | Grayscale | 0.0051 | |
| SURVEY 125% | Grayscale | 0.0138 | |
| SURVEY 150% | Grayscale | 0.0051 | |
| UTILITY EXIST | (Object) | 0.0051 | |
| UTILITY PROP | (Object) | 0.0197 | |
| WIPEOUT | (Object) | (Object) | |

## NOTES

1. The MADOT-U.stb plot style table shall be used to plot all Drainage and Utility Plans within the Highway Construction Plans.
2. Use the MassDOT-Utility-36x24-PDF page setup for plotting to PDF using this plot style with a standard MassDOT border.
3. Refer to sheet 1.6 for a list of drawings to be plotted with this page setup/plot style.

CATV DRAINAGE ELECTRIC GAS SEWER TELEPHONE WATER

2.3 MADOT-U.STB PLOT STYLE TABLE.DWG Plotted on 2-Dec-2025 10:34 AM

# HIGHWAY DESIGN SYMBOLS

SOURCE DWG PATH:
...\MASSDOT\MASSDOT_CAD_STATE_KIT\C3D 2026\BLOCKS\HWYDESIGN_SYMBOLS.DWG

PEDESTRIAN CURB RAMP & DRIVEWAY-SIDEWALK CROSSING LAYOUT BLOCKS.DWG Plotted on 4-Nov-2021 4:11 PM

## Detail Features

BLOCK NAME: HD-OP
DESCRIPTION: ORNAMENTAL PLANTER
LAYER: PR-HD-DETL
SIZE: VARIES
ORIENTATION: ALIGNED
Dynamic block symbol of an ornamental planter shape and orientation grips.

BLOCK NAME: HD-FOUNTAIN
DESCRIPTION: FOUNTAIN
LAYER: PR-HD-DETL
SIZE: 0.1 IN.
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-P
DESCRIPTION: POST
LAYER: PR-HD-DETL
SIZE: 2 FT
ORIENTATION: VIEW

BLOCK NAME: HD-PCO
DESCRIPTION: CONCRETE POST
LAYER: PR-HD-DETL
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-PGR
DESCRIPTION: GRANITE POST
LAYER: PR-HD-DETL
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: HD-TBARRIER
DESCRIPTION: TL-2 TEMPORARY BARRIER - SINGLE
LAYER: PR-HD-BARRIER
SIZE: 2 FT W x 4 FT, 8 ft, 10 FT, AND 12 FT
ORIENTATION: ALIGNED
Single Temporary Concrete Jersey Barrier TL-2 dynamic block.
Adjust grip to choose barrier length and orientation.

BLOCK NAME: HD-TBARRIER-LINE-10FT
DESCRIPTION: 10 FT TL-2 TEMPORARY BARRIER - LINE
LAYER: PR-HD-BARRIER
SIZE: 2 FT W x 10 FT L
ORIENTATION: ALIGNED
Line of 10 ft Temporary Concrete Barriers TL-2 dynamic block.
Adjust grip to choose barrier installation length and orientation.

BLOCK NAME: HD-TBARRIER-LINE-12FT
DESCRIPTION: 12 FT TL-2 TEMPORARY BARRIER - LINE
LAYER: PR-HD-BARRIER
SIZE: 2 FT W x 12 FT L
ORIENTATION: ALIGNED
Line of 12 ft Temporary Concrete Barriers TL-2 dynamic block.
Adjust grip to choose barrier installation length and orientation.

BLOCK NAME: HD-MBX
DESCRIPTION: MAILBOX
LAYER: PR-HD-DETL
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: HD-TRASH
DESCRIPTION: TRASH CAN
LAYER: PR-HD-DETL
SIZE: 2 FT
ORIENTATION: HORIZONTAL

## Geotechnical

BLOCK NAME: HD-MW
DESCRIPTION: MONITOR WELL
LAYER: PR-GT-FEAT
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-BHL
DESCRIPTION: BORE HOLE
LAYER: PR-GT-FEAT
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-TEP
DESCRIPTION: TEST PIT
LAYER: PR-GT-FEAT
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

## Monumentation

BLOCK NAME: HD-SB
DESCRIPTION: STONE BOUND
LAYER: PR-RW-MONU
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-TBD
DESCRIPTION: TOWN BOUND
LAYER: PR-RW-MONU
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-MHB
DESCRIPTION: MASS HIGHWAY BOUND
LAYER: PR-RW-MONU
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-CTB
DESCRIPTION: COUNTY BOUND
LAYER: PR-RW-MONU
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-CTYBD
DESCRIPTION: CITY BOUND
LAYER: PR-RW-MONU
SIZE: 0.1 IN
ORIENTATION: ALIGNED

## Traffic

BLOCK NAME: HD-CONTROL-CABINET
DESCRIPTION: CONTROL CABINET
LAYER: PR-TR-FEAT
SIZE: 0.133 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-PB
DESCRIPTION: PULL BOX
LAYER: PR-TR-FEAT
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-LPL
DESCRIPTION: LIGHT POLE
LAYER: PR-TR-LGHT
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-LPDL
DESCRIPTION: DOUBLE LIGHT
LAYER: PR-TR-LGHT
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-PED
DESCRIPTION: PEDESTRIAN SIGNAL
LAYER: PR-TR-SGNL
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-PEDHEAD
DESCRIPTION: PEDESTRIAN SIGNAL HEAD
LAYER: PR-TR-SGNL
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-RRSG
DESCRIPTION: RAILROAD SIGNAL
LAYER: PR-TR-SGNL
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-SG
DESCRIPTION: SIGNAL
LAYER: PR-TR-SGNL
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-SIGN1
DESCRIPTION: 1-POST SIGN
LAYER: PR-TR-SGNS
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-SIGN2
DESCRIPTION: 2-POST SIGN
LAYER: PR-TR-SGNS
SIZE: 0.1 IN
ORIENTATION: ALIGNED

## Drainage

BLOCK NAME: HD-INLET-GRATE
DESCRIPTION: INLET GRATE
LAYER: PR-UT-DRAIN-STRC
SIZE: 2 FT
ORIENTATION: ALIGNED
Use at inlet locations on irregularly shaped drain inlet structures.

BLOCK NAME: HD-CB
DESCRIPTION: CATCH BASIN / DI TYPE C / DI TYPE D
LAYER: PR-UT-DRAIN-STRC
SIZE: 5 FT
ORIENTATION: ALIGNED

BLOCK NAME: HD-CBCI
DESCRIPTION: CATCH BASIN WITH CURB INLET
LAYER: PR-UT-DRAIN-STRC
SIZE: 5 FT
ORIENTATION: ALIGNED

BLOCK NAME: HD-CI
DESCRIPTION: GUTTER INLET WITH CURB INLET
LAYER: PR-UT-DRAIN-STRC
SIZE: 6 FT
ORIENTATION: ALIGNED

BLOCK NAME: HD-CBDB
DESCRIPTION: DOUBLE CATCH BASIN
LAYER: PR-UT-DRAIN-STRC
SIZE: 5 FT
ORIENTATION: ALIGNED

BLOCK NAME: HD-CB-ECCN
DESCRIPTION: ECCENTRIC CATCH BASIN
LAYER: PR-UT-DRAIN-STRC
SIZE: 5 FT
ORIENTATION: ALIGNED

BLOCK NAME: HD-CBCI-ECCN
DESCRIPTION: ECCENTRIC CATCH BASING WITH CURB INLET
LAYER: PR-UT-DRAIN-STRC
SIZE: 6 FT
ORIENTATION: ALIGNED

BLOCK NAME: HD-DI-SQ
DESCRIPTION: DROP INLET TYPE A / TYPE B
LAYER: PR-UT-DRAIN-STRC
SIZE: 3.17 FT W x 5.33 FT L
ORIENTATION: ALIGNED

BLOCK NAME: HD-MHD
DESCRIPTION: DRAIN MANHOLE
LAYER: PR-UT-DRAIN-STRC
SIZE: 5 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-MHD-COVER
DESCRIPTION: DRAIN MANHOLE COVER
LAYER: PR-UT-DRAIN-STRC
SIZE: 3 FT
ORIENTATION: HORIZONTAL
Use at cover locations on irregularly shaped structures.

## Gas

BLOCK NAME: HD-GGT
DESCRIPTION: GAS GATE VALVE
LAYER: PR-UT-GAS-STRC
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL
Annotative

BLOCK NAME: HD-MHG
DESCRIPTION: GAS MANHOLE
LAYER: PR-UT-GAS-STRC
SIZE: 5 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-MHG-COVER
DESCRIPTION: GAS MANHOLE COVER
LAYER: PR-UT-GAS-STRC
SIZE: 3 FT
ORIENTATION: HORIZONTAL
Use at cover locations on irregularly shaped structures.

## Electric

BLOCK NAME: HD-GPL
DESCRIPTION: GUY POLE
LAYER: PR-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-GUY
DESCRIPTION: GUY WIRE
LAYER: PR-UT-ELEC-STRC
SIZE: 5 FT
ORIENTATION: ALIGNED
Dynamic block with guy wire length and rotation grips.

BLOCK NAME: HD-MHE
DESCRIPTION: ELECTRIC MANHOLE
LAYER: PR-UT-ELEC-STRC
SIZE: 5 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-MHE-COVER
DESCRIPTION: ELECTRIC MANHOLE COVER
LAYER: PR-UT-ELEC-STRC
SIZE: 3 FT
ORIENTATION: HORIZONTAL
Use at cover locations on irregularly shaped structures.

BLOCK NAME: HD-TPL
DESCRIPTION: TROLLEY POLE
LAYER: PR-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-UPL
DESCRIPTION: UTILITY POLE
LAYER: PR-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-UFB
DESCRIPTION: UTILITY POLE WITH FIRE BOX
LAYER: PR-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-ULT
DESCRIPTION: UTILITY POLE WITH SINGLE LIGHT
LAYER: PR-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-UPDL
DESCRIPTION: UTILITY POLE WITH DOUBLE LIGHT
LAYER: PR-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

## Dynamic Annotation Blocks

BLOCK NAME: HD-SPANNING-LABEL
DESCRIPTION: SPANNING AREA LABEL
LAYER: PR-HD-TEXT
SIZE: N/A
ORIENTATION: HORIZONTAL
Place the block, choose between a single-line text, multiline text, or no text; set spanning area leader tip locations, edit leader landing distance, and flip leader attachment and text justification.

AREA

BLOCK NAME: HD-XS-LANE-ARROW
DESCRIPTION: TYP. SECTION LANE DIR. ARROW
LAYER: PR-HD-TEXT
SIZE: N/A
ORIENTATION: VIEW
Place the block over the centerline of the lane in a typical section and then choose the lane direction.

SB NB WB EB

LAKESHORE AVENUE
(ROUTE 112)

BLOCK NAME: HD-STREET_TITLE
DESCRIPTION: STREET TITLE LABEL
LAYER: PR-HD-BL-TEXT
SIZE: N/A
ORIENTATION: HORIZONTAL
Place the block, enter label text, set display components for route number or ROW information, and set rotation.

## Sewer

BLOCK NAME: HD-MHS
DESCRIPTION: SEWER MANHOLE
LAYER: PR-UT-SEWER-STRC
SIZE: 5 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-MHS-COVER
DESCRIPTION: SEWER MANHOLE COVER
LAYER: PR-UT-SEWER-STRC
SIZE: 3 FT
ORIENTATION: HORIZONTAL
Use at cover locations on irregularly shaped structures.

## Telephone/Communication

BLOCK NAME: HD-MHC
DESCRIPTION: CABLE MANHOLE
LAYER: PR-UT-CATV-STRC
SIZE: 5 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-MHC-COVER
DESCRIPTION: CABLE MANHOLE COVER
LAYER: PR-UT-CATV-STRC
SIZE: 3 FT
ORIENTATION: HORIZONTAL
Use at cover locations on irregularly shaped structures.

BLOCK NAME: HD-MHT
DESCRIPTION: TELEPHONE MANHOLE
LAYER: PR-UT-TELE-STRC
SIZE: 5 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-MHT-COVER
DESCRIPTION: TELEPHONE MANHOLE COVER
LAYER: PR-UT-TELE-STRC
SIZE: 3 FT
ORIENTATION: HORIZONTAL
Use at cover locations on irregularly shaped structures.

## Water Systems

BLOCK NAME: HD-HYD
DESCRIPTION: HYDRANT
LAYER: PR-UT-WATERSYS-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: HD-MHW
DESCRIPTION: WATER MANHOLE
LAYER: PR-UT-WATERSYS-STRC
SIZE: 5 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: HD-MHW-COVER
DESCRIPTION: WATER MANHOLE COVER
LAYER: PR-UT-WATERSYS-STRC
SIZE: 3 FT
ORIENTATION: HORIZONTAL
Use at cover locations on irregularly shaped structures.

BLOCK NAME: HD-WGT
DESCRIPTION: WATER GATE VALVE
LAYER: PR-UT-WATERSYS-STRC
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

## SYMBOL NOTES:

Each block symbol is labeled with the following display attributes:

1. Each symbol shown is named to match the corresponding block in the MassDOT CAD State Kit Block Tool Palettes.
2. The symbol's block name and layer is shown for each block. When using the MassDOT CAD State Kit Block Tool Palette the block will be inserted on the specified layer.
3. Size units given in feet (ft) correspond to actual model dimensions sizes and will have differing sizes based on the scale of the drawing view. Block size unit given in inches (in) corresponds to Annotative Scaling-enabled symbols that maintains a static size on plan sheets regardless of drawing scale.
4. Civil 3D Point Styles require source block definitions that are non-annotative. Any annotative symbol that is used in a point style has a matching non-annotative block definition suffixed "-NA" embedded in the Civil 3D templates. These -NA block definitions are not provided in the Massdot block symbol DWG's.
5. Horizontal symbol orientation indicates the symbol is to stay in a horizontal orientation on all drawing views so text within a symbol or other identifying features of the symbol icon remain easily readable.
6. An angular value given indicates the symbol is to maintain that symbol orientation on all sheet views similarly to Horizontal but at the angle indicated.
7. Aligned indicates that the symbol is to be aligned to some element in the model, such as signs to the direction of a roadway or catch basins to a curb line. When using the MassDOT CAD State Kit Block Tool Palette the block will be inserted and then the user will be prompted for the rotation angle.

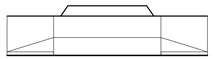
# CURB RAMP & DRIVEWAY LAYOUT BLOCKS

SOURCE DWG PATH:
...\MASSDOT\MASSDOT_CAD_STATE_KIT\C3D 2026\BLOCKS\HWYDESIGN_PCR_DRIVEWAY.DWG

PEDESTRIAN CURB RAMP & DRIVEWAY-SIDEWALK CROSSING LAYOUT BLOCKS.DWG Plotted on 4-Nov-2021 4:11 PM

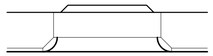
## Driveways

**Sidewalk Through Driveways Without Curb Returns: Const. Std. Det. # 701.1.1**

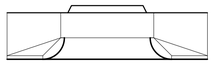


Block Name: HD-DWY-WLK
Layer:PR-HD-WALK

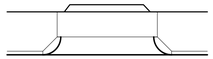
**Sidewalk Through Driveways With Curb Returns: Const. Std. Det. # 701.1.2**



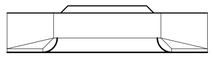
Block Name: HD-DWY-WLK-CR-TYPE-A
Layer: PR-HD-WALK
Add Flares? No Transition Flares



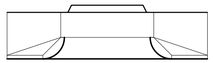
Block Name: HD-DWY-WLK-CR-TYPE-B
Layer: PR-HD-WALK
Add Flares? Add Transition Flares



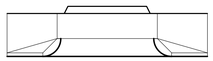
Block Name: HD-DWY-WLK-CR-TYPE-C
Layer: PR-HD-WALK
Add Flares? No Transition Flares



Block Name: HD-DWY-WLK-CR-TYPE-A
Layer: PR-HD-WALK
Add Flares? Add Transition Flares

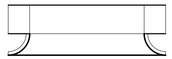


Block Name: HD-DWY-WLK-CR-TYPE-B
Layer: PR-HD-WALK
Add Flares? Add Transition Flares



Block Name: HD-DWY-WLK-CR-TYPE-C
Layer: PR-HD-WALK
Add Flares? Add Transition Flares

**Residential Driveways: Const. Std. Det. # 701.1.3**



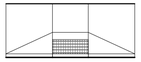
Block Name: HD-DWY-WLK-RES
Layer:PR-HD-WALK

### NOTES

1. Pedestrian Curb Ramp (PCR) and Driveway-Sidewalk Crossing (DWY) layout blocks are dynamic blocks intended to facilitate drafting of PCR's (for straight segments of curb only) and DWY's.
2. Each layout block has dynamic block grips that adjust block to the geometry of the connecting sidewalk, walk, or path.
3. Each block can be named with a block attribute, annotated with a label, and the dimension parameters of each inserted block can be tracked for use in the PCR and DWY detail tables on the project PCR AND DWY DETAILS sheets.

## Pedestrian Curb Ramps

**Pedestrian Curb Ramp Less Than 12'4" Sidewalk (Perpendicular Ramp): Const. Std. Det. # 701.2.3**

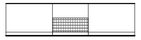




Block Name: HD-PCR-DWP
Layer:PR-HD-WALK-DWP

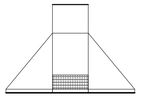
Block Name: HD-PCR
Layer:PR-HD-WALK

**Pedestrian Curb Ramp in Constrained Condition with Detectable Warning Panel (Parallel Ramp): Const. Std. Det. # 701.2.2**



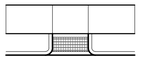
Block Name: HD-PCR-NARROW
Layer:PR-HD-WALK

**Pedestrian Curb Ramps Greater Than 12'-4" Sidewalk (Perpendicular Ramp): Const. Std. Det. # 701.2.4**



Block Name: HD-PCR-WIDE
Layer:PR-HD-WALK

**Pedestrian Curb Ramp with Width Less Than 12'-4": Const. Std. Det. # 701.2.7**



Block Name: HD-PCR-LSTRIP
Layer:PR-HD-WALK

### NOTES:

1. Pedestrian Curb Ramp (PCR) and Driveway-Sidewalk Crossing (DWY) layout blocks are dynamic blocks intended to facilitate drafting of PCR's (for straight segments of curb only) and DWY's.
2. Each layout block has dynamic block grips that adjust block to the geometry of the connecting sidewalk, walk, or path.
3. Each block can be named with a block attribute, annotated with a label, and the dimension parameters of each inserted block can be tracked for use in the PCR and DWY detail tables on the project PCR AND DWY DETAILS sheets.

10 0 10 20
SCALE: 1" = 10'

# DESIGN FLARED END SECTION SYMBOLS

SOURCE DWG PATH:
...\MASSDOT\MASSDOT_CAD_STATE_KIT\C3D 2026\BLOCKS\HWYDESIGN_FES.DWG

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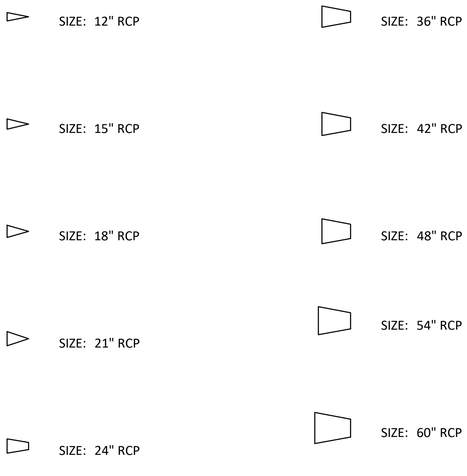
## 2D RCP Flared End Sections

BLOCK NAME: HD-FES-RCP
BLOCK DESCRIPTION: RCP (DYNAMIC)
Reinforced Concrete Pipe flared end section dynamic symbol block for all pipe sizes. Choose pipe size from dynamic block grip.

**SOURCE BLOCKS**
The following blocks are within the above dynamic block.

BLOCK NAME: HD-FES-RCP-##-PIPE
## = Pipe diameter in inches

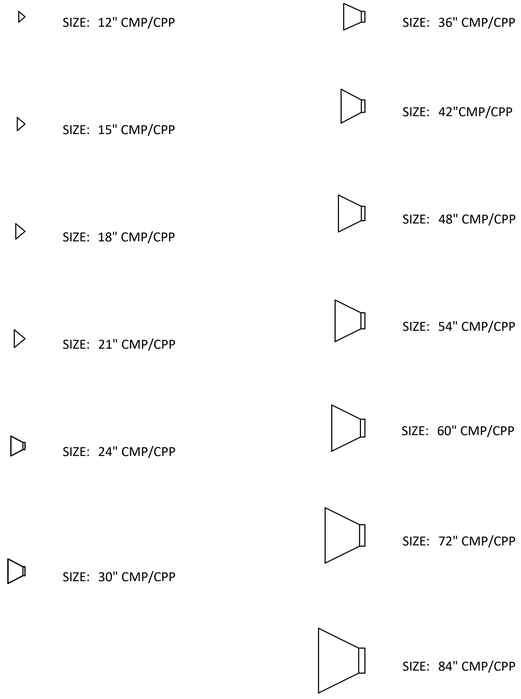



## 2D CMP or CPP Flared End Sections

BLOCK NAME: HD-FES-CMP-CPP
BLOCK DESCRIPTION: CMP/CPP (DYNAMIC)
Corrugated Metal or Corrugated Plastic Pipe flared end section dynamic symbol block for all pipe sizes. Choose pipe size from dynamic block grip.

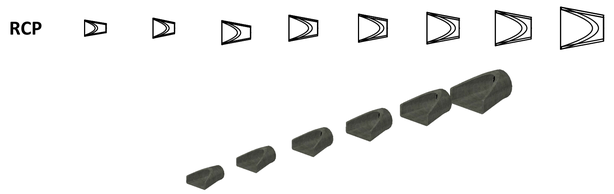
**SOURCE BLOCKS**
The following blocks are within the above dynamic block.

BLOCK NAME: HD-FES-##-PIPE
## = Pipe diameter in inches

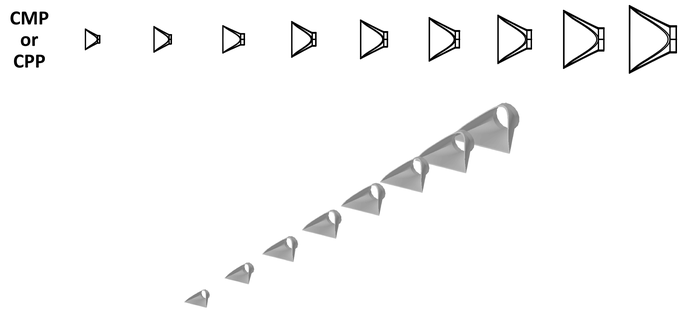



## 3D Flared End Sections: 24"-84"

BLOCK NAME: HD-FES-RCP-##-PIPE-3D
## = Pipe diameter in inches




BLOCK NAME: HD-FES-##-PIPE-3D
## = Pipe diameter in inches




## PIPE FLARED END SECTION SYMBOLS NOTES

1. All pipe flared end section symbol blocks are sized to exact model dimensions as found in MassDOT Construction Standard Details E 206.8.0 and 206.9.0.
2. When using the MassDOT CAD State Kit Block Tool Palettes the pipe flared end section block symbols will be inserted on layer PR-UT-DRAIN-STRC and the user will prompted to set the rotation to match the pipe orientation.

# DESIGN HEADWALL SYMBOLS

SOURCE DWG PATH:
...\MASSDOT\MASSDOT_CAD_STATE_KIT\C3D 2026\BLOCKS\HWYDESIGN_HW.DWG

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## 2:1 Backslope Headwalls

BLOCK NAME: HD-HW
PIPE DIAMETER: DYNAMIC
Headwall dynamic symbol block for all pipes daylighting to slopes 1.5:1 or greater. Choose pipe size and headwall type from dynamic block grip.

**SOURCE BLOCKS**
The following blocks are within the above dynamic block.

BLOCK NAME: HD-HW-##-PIPE
## = Pipe diameter in inches

- PIPE DIAMETER: 8"
- PIPE DIAMETER: 10"
- PIPE DIAMETER: 12"
- DIAMETER: 15"
- DIAMETER: 18"
- PIPE DIAMETER: 21"
- PIPE DIAMETER: 24"
- PIPE DIAMETER: 30"
- PIPE DIAMETER: 36"
- PIPE DIAMETER: 42"
- PIPE DIAMETER: 48"
- PIPE DIAMETER: 54"
- PIPE DIAMETER: 60"
- PIPE DIAMETER: 72"
- PIPE DIAMETER: 84"

## 1.5:1 Backslope Headwalls

BLOCK NAME: HD-HW-STEEP
PIPE DIAMETER: DYNAMIC
Headwall dynamic symbol block for all pipes daylighting to slopes 1.5:1 or greater. Choose pipe size and headwall type from dynamic block grip.

**SOURCE BLOCKS**
The following blocks are within the above dynamic block.

BLOCK NAME: HD-HW-STEEP-##-PIPE
## = Pipe diameter in inches

- PIPE DIAMETER: 8"
- PIPE DIAMETER: 10"
- PIPE DIAMETER: 12"
- DIAMETER: 15"
- DIAMETER: 18"
- PIPE DIAMETER: 21"
- PIPE DIAMETER: 24"
- PIPE DIAMETER: 30"
- PIPE DIAMETER: 36"
- PIPE DIAMETER: 42"
- PIPE DIAMETER: 48"
- PIPE DIAMETER: 54"
- PIPE DIAMETER: 60"
- PIPE DIAMETER: 72"
- PIPE DIAMETER: 84"

## Combination Headwalls

**PARENT DYNAMIC BLOCK**
BLOCK NAME: HD-HW-COMB
PIPE SIZE: DYNAMIC
Headwall dynamic symbol block for all pipe size combinations. Choose pipe size combination design from dynamic block grip.

**SOURCE BLOCKS**
The following blocks are within the above dynamic block.

BLOCK NAME: HD-HW-COMB-DES##
## = Design Number

- DESIGN 1 PIPE SIZE: 12"x12"
- DESIGN 2 PIPE SIZE: 12"x15"
- DESIGN 3 PIPE SIZE: 12"x18"
- DESIGN 4 PIPE SIZE: 12"x21"
- DESIGN 5 PIPE SIZE: 12"x24"
- DESIGN 6 PIPE SIZE: 12"x30"
- DESIGN 7 PIPE SIZE: 15"x15"
- DESIGN 8 PIPE SIZE: 15"x18"
- DESIGN 9 PIPE SIZE: 15"x21"
- DESIGN 10 PIPE SIZE: 15"x24"
- DESIGN 11 PIPE SIZE: 15"x30"
- DESIGN 12 PIPE SIZE: 18"x18"
- DESIGN 13 PIPE SIZE: 18"x21"
- DESIGN 14 PIPE SIZE: 18"x24"
- DESIGN 15 PIPE SIZE: 18"x30"
- DESIGN 16 PIPE SIZE: 21"x21"
- DESIGN 17 PIPE SIZE: 21"x24"
- DESIGN 18 PIPE SIZE: 21"x30"
- DESIGN 19 PIPE SIZE: 24"x24"
- DESIGN 20 PIPE SIZE: 24"x30"
- DESIGN 21 PIPE SIZE: 30"x30"

## HEADWALL SYMBOLS NOTES

1. All headwall symbol blocks are sized to exact model dimensions as found in MassDOT Construction Standard Details E 206.5.0 AND 206.6.0.
2. When using the MassDOT CAD State Kit Block Tool Palettes the headwall block symbols will be inserted on layer PR-UT-DRAIN-STRC and the user will be prompted to set the rotation to match the pipe orientation.

# LANDSCAPE SYMBOLS

SOURCE DWG PATH:
...\MASSDOT\MASSDOT_CAD_STATE_KIT\C3D 2026\BLOCKS\LANDSCAPE_SYMBOLS.DWG

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## Trees

BLOCK NAME: LD-TREE01
DESCRIPTION: TREE 1: DECIDUOUS 1
LAYER: PR-LD-TREE
SIZE: 8 FT, 10 FT, 15 FT, 20 FT, 30 FT, 40 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-TREE02
DESCRIPTION: TREE 2: DECIDUOUS 2
LAYER: PR-LD-TREE
SIZE: 8 FT, 10 FT, 15 FT, 20 FT, 30 FT, 40 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-TREE03
DESCRIPTION: TREE 3: DECIDUOUS 3
LAYER: PR-LD-TREE
SIZE: 8 FT, 10 FT, 15 FT, 20 FT, 30 FT, 40 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-TREE04
DESCRIPTION: TREE 4: DECIDUOUS 4
LAYER: PR-LD-TREE
SIZE: 8 FT, 10 FT, 15 FT, 20 FT, 30 FT, 40 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-TREE05
DESCRIPTION: TREE 5: DECIDUOUS 5
LAYER: PR-LD-TREE
SIZE: 8 FT, 10 FT, 15 FT, 20 FT, 30 FT, 40 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-TREE06
DESCRIPTION: TREE 6: DECIDUOUS 6
LAYER: PR-LD-TREE
SIZE: 8 FT, 10 FT, 15 FT, 20 FT, 30 FT, 40 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: PR-LD-TREE
DESCRIPTION: TREE 7: EVERGREEN 1
LAYER: PR-LD-TREE
SIZE: 8 FT, 10 FT, 15 FT, 20 FT, 30 FT, 40 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-TREE08
DESCRIPTION: TREE 8: EVERGREEN 2
LAYER: PR-LD-TREE
SIZE: 8 FT, 10 FT, 15 FT, 20 FT, 30 FT, 40 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-TREE09
DESCRIPTION: TREE 9: EVERGREEN 3
LAYER: PR-LD-TREE
SIZE: 8 FT, 10 FT, 15 FT, 20 FT, 30 FT, 40 FT
ORIENTATION: HORIZONTAL

## Shrubs

BLOCK NAME: LD-SHRB01
DESCRIPTION: SHRUB 1: DECIDUOUS 1
LAYER: PR-LD-SHRUB
SIZE: 2 FT, 3 FT, 4 FT, 5 FT, 6 FT, 8 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-SHRB02
DESCRIPTION: SHRUB 2: DECIDUOUS 2
LAYER: PR-LD-SHRUB
SIZE: 2 FT, 3 FT, 4 FT, 5 FT, 6 FT, 8 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-SHRB03
DESCRIPTION: SHRUB 3: DECIDUOUS 3
LAYER: PR-LD-SHRUB
SIZE: 2 FT, 3 FT, 4 FT, 5 FT, 6 FT, 8 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-SHRB04
DESCRIPTION: SHRUB 4: DECIDUOUS 4
LAYER: PR-LD-SHRUB
SIZE: 2 FT, 3 FT, 4 FT, 5 FT, 6 FT, 8 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-SHRB05
DESCRIPTION: SHRUB 5: DECIDUOUS 5
LAYER: PR-LD-SHRUB
SIZE: 2 FT, 3 FT, 4 FT, 5 FT, 6 FT, 8 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-SHRB06
DESCRIPTION: SHRUB 6: DECIDUOUS 6
LAYER: PR-LD-SHRUB
SIZE: 2 FT, 3 FT, 4 FT, 5 FT, 6 FT, 8 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-SHRB07
DESCRIPTION: SHRUB 7: EVERGREEN 1
LAYER: PR-LD-SHRUB
SIZE: 2 FT, 3 FT, 4 FT, 5 FT, 6 FT, 8 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-SHRB08
DESCRIPTION: SHRUB 8: EVERGREEN 2
LAYER: PR-LD-SHRUB
SIZE: 2 FT, 3 FT, 4 FT, 5 FT, 6 FT, 8 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-SHRB09
DESCRIPTION: SHRUB 9: EVERGREEN 3
LAYER: PR-LD-SHRUB
SIZE: 2 FT, 3 FT, 4 FT, 5 FT, 6 FT, 8 FT
ORIENTATION: HORIZONTAL

## Perennials

BLOCK NAME: LD-PERN01
DESCRIPTION: PERENNIAL 1
LAYER: PR-LD-PERNNL
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-PERN02
DESCRIPTION: PERENNIAL 2
LAYER: PR-LD-PERNNL
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-PERN03
DESCRIPTION: PERENNIAL 3
LAYER: PR-LD-PERNNL
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-PERN04
DESCRIPTION: PERENNIAL 4
LAYER: PR-LD-PERNNL
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-PERN05
DESCRIPTION: PERENNIAL 5
LAYER: PR-LD-PERNNL
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-PERN06
DESCRIPTION: PERENNIAL 6
LAYER: PR-LD-PERNNL
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

## Ornamental Grasses

BLOCK NAME: LD-PERN01
DESCRIPTION: ORNAMENTAL GRASS 1
LAYER: PR-LD-ORNGRASS
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-PERN02
DESCRIPTION: ORNAMENTAL GRASS 2
LAYER: PR-LD-ORNGRASS
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-PERN03
DESCRIPTION: ORNAMENTAL GRASS 3
LAYER: PR-LD-ORNGRASS
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-PERN04
DESCRIPTION: ORNAMENTAL GRASS 4
LAYER: PR-LD-ORNGRASS
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-PERN05
DESCRIPTION: ORNAMENTAL GRASS 5
LAYER: PR-LD-ORNGRASS
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: LD-PERN06
DESCRIPTION: ORNAMENTAL GRASS 6
LAYER: PR-LD-ORNGRASS
SIZE: 2 FT, 3 FT, 4 FT, 6 FT
ORIENTATION: HORIZONTAL

## SYMBOL NOTES:

Each block symbol is labeled with the following attributes:

1. Symbols are dynamic, when inserting these symbols into a project drawing use a scale 1. Then use the symbol drop down grip to assign diameter.
2. Each symbol shown is named to match the corresponding block in the MassDOT CAD State Kit Block Tool Palettes.
3. The symbol's block name and layer is shown for each block. When using the MassDOT CAD State Kit Block Tool Palette the block will be inserted on the specified layer.
4. Size units given in feet (ft) correspond to actual model dimensions sizes and will have differing sizes based on the scale of the drawing view.
5. Horizontal symbol orientation indicates the symbol is to stay in a horizontal orientation on all drawing views so text within a symbol or other identifying features of the symbol icon remain easily readable.
6. Trees are shown at their 8 ft dia size, shrubs, perrennials, and ornamental grasses are shown at their 6 ft dia size for clarity.

# SURVEY SYMBOLS

SOURCE DWG PATH:
....\MASSDOT\MASSDOT_CAD_STATE_KIT\C3D 2026\BLOCKS\SURVEY_SYMBOLS.DWG

PEDESTRIAN CURB RAMP & DRIVEWAY-SIDEWALK CROSSING LAYOUT BLOCKS.DWG Plotted on 4-Nov-2021 4:11 PM

## Monumentation

BLOCK NAME: SV-DH
DESCRIPTION: DRILL HOLE
LAYER: EX-SV-MONU
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-EPLP
DESCRIPTION: ESCUTCHEON PIN LEAD PLUG
LAYER: EX-SV-MONU
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-IP
DESCRIPTION: IRON PIPE
LAYER: EX-SV-MONU
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-MHB
DESCRIPTION: MASSACHUSETTS HIGHWAY BOUND
LAYER: EX-SV-MONU
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-MON
DESCRIPTION: MONUMENT
LAYER: EX-SV-MONU
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-SBD
DESCRIPTION: TOWN LINE ROAD STONE
LAYER: EX-SV-MONU
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-TBD
DESCRIPTION: TOWN BOUND
LAYER: EX-SV-MONU
SIZE: 2'
ORIENTATION: HORIZONTAL

## Survey Control

BLOCK NAME: SV-BM
DESCRIPTION: BENCHMARK
LAYER: EX-SV-BMRK
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

## Natural Features

BLOCK NAME: SV-BUSH
DESCRIPTION: BUSH
LAYER: EX-SV-VEGE
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-FL
DESCRIPTION: STREAM-RIVER FLOWLINE
LAYER: EX-SV-WETL
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-STU
DESCRIPTION: STUMP
LAYER: EX-SV-VEGE
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-SWP
DESCRIPTION: BENCHMARK
LAYER: EX-SV-WETL
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-TREE
DESCRIPTION: TREE (10" AND LARGER)
LAYER: EX-SV-VEGE
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-VGWF
DESCRIPTION: WETLAND FLAG
LAYER: EX-SV-WETL
SIZE: 2 FT
ORIENTATION: HORIZONTAL

## Detail Features

BLOCK NAME: SV-FPL
DESCRIPTION: FLAG POLE
LAYER: EX-SV-DETL
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-GATE
DESCRIPTION: FENCE - GATEPOST
LAYER: EX-SV-FNCE-OTHR
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-GFP
DESCRIPTION: GAS PUMP
LAYER: EX-SV-DETL
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-MBX
DESCRIPTION: MAILBOX
LAYER: EX-SV-DETL
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-OC
DESCRIPTION: OIL CAP
LAYER: EX-SV-DETL
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-PILCIR
DESCRIPTION: CIRCULAR PILE
LAYER: EX-SV-DETL
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-PILSQR
DESCRIPTION: SQUARE PILE
LAYER: EX-SV-DETL
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-POSTCIR
DESCRIPTION: CIRCULAR POST
LAYER: EX-SV-DETL
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-POSTSQR
DESCRIPTION: SQUARE POST
LAYER: EX-SV-DETL
SIZE: 2 FT
ORIENTATION: ALIGNED

## Traffic

BLOCK NAME: SV-MTR
DESCRIPTION: PARKING METER
LAYER: EX-SV-TR-FEAT
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-RRSG
DESCRIPTION: RAILROAD SIGNAL
LAYER: EX-SV-RRTR
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-TFCC
DESCRIPTION: TRAFFIC SIGNAL CONTROLLER CABINET
LAYER: EX-SV-TR-FEAT
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-TFHS
DESCRIPTION: HCP SYMBOL
LAYER: EX-SV-PM-SOLID
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-TFS
DESCRIPTION: TRAFFIC SIGNAL - POST MOUNTED
LAYER: EX-SV-TR-FEAT
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-TFS1
DESCRIPTION: SIGN
LAYER: EX-SV-TR-FEAT
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-TFS2
DESCRIPTION: SMALL SIGN - DOUBLE POST
LAYER: EX-SV-TR-FEAT
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-TPD
DESCRIPTION: TRAFFIC SIGNAL PEDESTRIAN
LAYER: EX-SV-TR-FEAT
SIZE: 0.1 IN
ORIENTATION: ALIGNED

## Geotechnical

BLOCK NAME: SV-BHL
DESCRIPTION: BORING HOLE
LAYER: EX-GT-FEAT
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-MWL
DESCRIPTION: MONITORING WELL
LAYER: EX-GT-FEAT
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-TEP
DESCRIPTION: TEST PIT
LAYER: EX-GT-FEAT
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

## Line Label Symbols

BLOCK NAME: SV-PL
DESCRIPTION: PROPERTY LINE
LAYER: EX-SV-LN-PROP
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-Z
DESCRIPTION: Z-LINE
LAYER: EX-SV-LN-PROP-COMMON
SIZE: 0.1 IN
ORIENTATION: ALIGNED

## Drainage

BLOCK NAME: SV-CB
DESCRIPTION: CATCH BASIN
LAYER: EX-UT-DRAIN-STRC
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-CB-BCE
DESCRIPTION: CATCH BASIN - BACK CENTER EDGE
LAYER: EX-UT-DRAIN-STRC
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-CBDB
DESCRIPTION: CB, DOUBLE
LAYER: EX-UT-DRAIN-STRC
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-CBDF
DESCRIPTION: CATCH BASIN - D FRAME
LAYER: EX-UT-DRAIN-STRC
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-CBR
DESCRIPTION: CATCH BASIN - ROUND
LAYER: EX-UT-DRAIN-STRC
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-CBCI
DESCRIPTION: CB CURB INLET, GUTTER INLET
LAYER: EX-UT-DRAIN-STRC
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-DI-SQ
DESCRIPTION: DROP INLET, SQUARE
LAYER: EX-UT-DRAIN-STRC
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-FES
DESCRIPTION: FLARED END SECTIONS
LAYER: EX-UT-DRAIN-STRC
SIZE: 2 FT
ORIENTATION: ALIGNED
Dynamic block with FES width, pipe diameter, and length grips

BLOCK NAME: SV-MHD
DESCRIPTION: DRAIN MANHOLE
LAYER: EX-UT-DRAIN-STRC
SIZE: 2 FT
ORIENTATION: HORIZONTAL

## Miscellaneous Utility

BLOCK NAME: SV-MHC
DESCRIPTION: CATV MANHOLE
LAYER: EX-UT-CATV-STRC
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-MHO
DESCRIPTION: MANHOLE - MISC
LAYER: EX-UT-OTHR-STRC
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-MHS
DESCRIPTION: SEWER MANHOLE
LAYER: EX-UT-SEWER-STRC
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-MHST
DESCRIPTION: STEAM MANHOLE
LAYER: EX-UT-STEAM-STRC
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-PIPE_END
DESCRIPTION: PIPE TO UNKNOWN END OR CONT.
LAYER: VARIES
SIZE: VARIES ACCORDING TO UTIL LINE SIZE
ORIENTATION: ALIGNED
Set the utility line end symbol to either Unknown End or Continuation

BLOCK NAME: SV-VP
DESCRIPTION: VENT PIPE
LAYER: EX-UT-OTHR-STRC
SIZE: 2 FT
ORIENTATION: HORIZONTAL

## Electric

BLOCK NAME: SV-EMT
DESCRIPTION: ELECTRIC METER
LAYER: EX-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-GWA
DESCRIPTION: GUY WIRE ANCHOR
LAYER: EX-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-LPDL
DESCRIPTION: LIGHT POLE DOUBLE LIGHT
LAYER: EX-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-LPL
DESCRIPTION: LIGHT POLE SINGLE LIGHT
LAYER: EX-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-MHE
DESCRIPTION: ELECTRIC MANHOLE
LAYER: EX-UT-ELEC-STRC
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-PBX
DESCRIPTION: ELECTRIC HAND HOLE
LAYER: EX-UT-ELEC-STRC
SIZE: 2 FT
ORIENTATION: ALIGNED

BLOCK NAME: SV-TPL
DESCRIPTION: TROLLEY POLE
LAYER: EX-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-TRNP
DESCRIPTION: CROSS COUNTRY TRANSMISSION POLE
LAYER: EX-UT-ELEC-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

## Gas

BLOCK NAME: SV-GGT
DESCRIPTION: GAS GATE
LAYER: EX-UT-GAS-STRC
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-MHG
DESCRIPTION: GAS MANHOLE
LAYER: EX-UT-GAS-STRC
SIZE: 2 FT
ORIENTATION: HORIZONTAL

## Telephone/Communication

BLOCK NAME: SV-GPL
DESCRIPTION: GUY POLE
LAYER: EX-UT-TELE-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-MHT
DESCRIPTION: TELEPHONE MANHOLE
LAYER: EX-UT-TELE-STRC
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-UFB
DESCRIPTION: POLE & FIRE BOX
LAYER: EX-UT-TELE-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-ULT
DESCRIPTION: POLE SINGLE LIGHT
LAYER: EX-UT-TELE-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-UPDL
DESCRIPTION: POLE DOUBLE LIGHT
LAYER: EX-UT-TELE-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-UPL
DESCRIPTION: POLE
LAYER: EX-UT-TELE-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

## Water Systems

BLOCK NAME: SV-HYD
DESCRIPTION: HYDRANT
LAYER: EX-UT-WATERSYS-STRC
SIZE: 0.1 IN
ORIENTATION: ALIGNED

BLOCK NAME: SV-MHW
DESCRIPTION: WATER MANHOLE
LAYER: EX-UT-WATERSYS-STRC
SIZE: 2 FT
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-SP
DESCRIPTION: STAND PIPE
LAYER: EX-UT-WATERSYS-STRC
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-WELL
DESCRIPTION: WELL
LAYER: EX-UT-WATERSYS-STRC
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-WGT
DESCRIPTION: WATER GATE
LAYER: EX-UT-WATERSYS-STRC
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

BLOCK NAME: SV-WMT
DESCRIPTION: WATER METER
LAYER: EX-UT-WATERSYS-STRC
SIZE: 0.1 IN
ORIENTATION: HORIZONTAL

## SYMBOL NOTES:

Each block symbol is labeled with the following attributes:

1. Each symbol shown is named to match the corresponding block in the MassDOT CAD State Kit Block Tool Palettes.
2. The symbol's block name and layer is shown for each block. When using the MassDOT CAD State Kit Block Tool Palette the block will be inserted on the specified layer.
3. Size units given in feet (ft) correspond to actual model dimensions sizes and will have differing sizes based on the scale of the drawing view. Block size unit given in inches (in) corresponds to Annotative Scaling-enabled symbols that maintains a static size on plan sheets regardless of drawing scale.
4. Civil 3D Point Styles require source block definitions that are non-annotative. Any annotative symbol that is used in a point style has a matching non-annotative block definition suffixed "-NA" embedded in the Civil 3D templates. These -NA block definitions are not provided in the Massdot block symbol DWG's.
5. Horizontal symbol orientation indicates the symbol is to stay in a horizontal orientation on all drawing views so text within a symbol or other identifying features of the symbol icon remain easily readable.
6. An angular value given indicates the symbol is to maintain that symbol orientation on all sheet views similarly to Horizontal but at the angle indicated.
7. Aligned indicates that the symbol is to be aligned to some element in the model, such as signs to the direction of a roadway or catch basins to a curb line. When using the MassDOT CAD State Kit Block Tool Palette the block will be inserted and then the user will be prompted for the rotation angle.
8. These sheets are solely intended to depict plotted symbols, and any associated text required with these (e.g., sewer elevations) should be as represented in Volume III.

# CROSS SECTION DETAIL SYMBOLS

SOURCE DWG PATH:
...\MASSDOT\MASSDOT_CAD_STATE_KIT\C3D 2026\BLOCKS\HWYDESIGN_XS.DWG

Plotted on 4-Nov-2021 4:11 PM
CROSS SECTION DETAIL SYMBOLS.DWG

## Section Detail Point Symbols

SYMBOL NAME: Existing Tree
SYMBOL
DESCRIPTION: Tree symbol in section view.

BLOCK NAME: HD-XS-TREE
LAYER: PR-HD-XSECT-EX
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or tree point objects can be projected into cross section views using a projection style.

SYMBOL NAME: Existing Well - Cesspool
SYMBOL
DESCRIPTION: Well or septic system components symbol in section view.

BLOCK NAME: HD-XS-WELL-CESS
LAYER: PR-HD-XSECT-EX
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or well/septic point objects can be projected into cross section views using a projection style.

SYMBOL NAME: Existing Pole
SYMBOL
DESCRIPTION: Pole symbol in section view.

BLOCK NAME: HD-XS-POLE
LAYER: PR-HD-XSECT-EX
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or utility pole point objects can be projected into cross section views using a projection style.

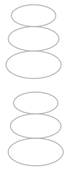
SYMBOL NAME: Existing Hydrant
SYMBOL
DESCRIPTION: Hydrant symbol in section view.

BLOCK NAME: HD-XS-HYD
LAYER: PR-HD-XSECT-EX
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or hydrant point objects can be projected into cross section views using a projection style.

SYMBOL NAME: Existing Mailbox
SYMBOL
DESCRIPTION: Mailbox symbol in section view.

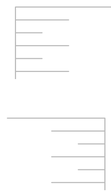
BLOCK NAME: HD-XS-MAILBOX
LAYER: PR-HD-XSECT-EX
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or mailbox objects can be projected into cross section views using a projection style.

## Section Detail Crossing Line Symbols



SYMBOL NAME: Existing Balanced Wall
SYMBOL
DESCRIPTION: Balanced wall symbol in section view.

BLOCK NAME: HD-XS-BAL-WALL-TOP (Top), HD-XS-BAL-WALL-BOT (Bot.)
LAYER: PR-HD-XSECT-EX
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or balanced wall can be projected into cross section views using a projection style. Two symbols provided, one for inserting along the top of wall elevation reference point and one for the bottom of wall elevation reference point.



SYMBOL NAME: Existing Retaining Wall
SYMBOL
DESCRIPTION: Retaining wall symbol in section view.

BLOCK NAME: HD-XS-RET-WALL-R (Top), HD-XS-RET-WALL-L (Bot.)
LAYER: PR-HD-XSECT-EX
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or retaining wall can be projected into cross section views using a projection style.

SYMBOL NAME: Existing Post & Rail Fence
SYMBOL
DESCRIPTION: Post & rail fence symbol in section view.

BLOCK NAME: HD-XS-FENCE
LAYER: PR-HD-XSECT-EX
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or post & rail fence can be projected into cross section views using a projection style.

SYMBOL NAME: Existing Wood & Rail Fence
SYMBOL
DESCRIPTION: Wood & rail fence symbol in section view.

BLOCK NAME: HD-XS-FENCE-WRL
LAYER: PR-HD-XSECT-EX
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or post & rail fence can be projected into cross section views using a projection style.

## Steel Post Highway Guard

SYMBOL NAME: Existing Single-Face Guardrail, W-Beam, Steel Post, Left/Right
SYMBOL
DESCRIPTION: Single-Face Guardrail, W-Beam panel, steel post, insertion side based on roadway side.

BLOCK NAME: HD-XS-GR-WB-SP-SF-L/HD-XS-GR-WB-SP-SF-R
LAYER: EX-SV-GRDL-STBM
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or guardrail can be projected into cross section views using a projection style.

SYMBOL NAME: Existing Single-Face Guardrail, Thrie-Beam, Steel Post, Left/Right
SYMBOL
DESCRIPTION: Single-Face Guardrail, Thrie-Beam panel, steel post, insertion side based on roadway side.

BLOCK NAME: HD-XS-GR-TB-SP-SF-L/HD-XS-GR-TB-SP-SF-R
LAYER: EX-SV-GRDL-STBM
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or guardrail can be projected into cross section views using a projection style.

SYMBOL NAME: Existing Double-Face Guardrail, W-Beam, Steel Post
SYMBOL
DESCRIPTION: Double-Face Guardrail, W-Beam panel, steel post.

BLOCK NAME: HD-XS-GR-WB-SP-DF
LAYER: EX-SV-GRDL-STBM
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or guardrail can be projected into cross section views using a projection style.

SYMBOL NAME: Existing Double-Face Guardrail, Thrie-Beam, Steel Post
SYMBOL
DESCRIPTION: Double-Face Guardrail, Thrie-Beam panel, steel post.

BLOCK NAME: HD-XS-GR-TB-SP-DF
LAYER: EX-SV-GRDL-STBM
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or guardrail can be projected into cross section views using a projection style.

## Wood Post Highway Guard

SYMBOL NAME: Existing Single-Face Guardrail, W-Beam, Wood Post, Left/Right
SYMBOL
DESCRIPTION: Single-Face Guardrail, W-Beam panel, wood Post, insertion side based on roadway side.

BLOCK NAME: HD-XS-GR-WB-SP-SF-L/HD-XS-GR-WB-SP-SF-R
LAYER: EX-SV-GRDL-WOOD
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or guardrail can be projected into cross section views using a projection style.

SYMBOL NAME: Existing Single-Face Guardrail, Thrie-Beam, Wood Post, Left/Right
SYMBOL
DESCRIPTION: Single-Face Guardrail, Thrie-Beam panel, wood Post, insertion side based on roadway side.

BLOCK NAME: HD-XS-GR-TB-WP-SF-L/HD-XS-GR-TB-WP-SF-R
LAYER: EX-SV-GRDL-WOOD
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or guardrail can be projected into cross section views using a projection style.

SYMBOL NAME: Existing Double-Face Guardrail, W-Beam, Wood Post
SYMBOL
DESCRIPTION: Double-Face Guardrail, W-Beam panel, wood post.

BLOCK NAME: HD-XS-GR-WB-WP-DF
LAYER: EX-SV-GRDL-WOOD
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or guardrail can be projected into cross section views using a projection style.

SYMBOL NAME: Existing Double-Face Guardrail, Thrie-Beam, Wood Post
SYMBOL
DESCRIPTION: Double-Face Guardrail, Thrie-Beam panel, wood post.

BLOCK NAME: HD-XS-GR-TB-WP-DF
LAYER: EX-SV-GRDL-WOOD
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or guardrail can be projected into cross section views using a projection style.

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

# HIGHWAY CONSTRUCTION PLAN SUPPORTING CIVIL 3D STYLES

## POINT STYLES

### STANDARD SIZE POINT STYLES

249
12.34
RAW DESCRIPTION
POINT STYLE: _MassDOT Standard
LABEL STYLE: _MassDOT_PR_STANDARD

RAW DESCRIPTION
POINT STYLE: _MassDOT Standard
LABEL STYLE: _MassDOT_PR_DESC

12.34
POINT STYLE: _MassDOT Standard
LABEL STYLE: _MassDOT_PR_ELEV

12.34
RAW DESCRIPTION
POINT STYLE: _MassDOT Standard
LABEL STYLE: _MassDOT_PR_ELEV_DESC

265
POINT STYLE: _MassDOT Standard
LABEL STYLE: _MassDOT_PR_PT#

269
RAW DESCRIPTION
POINT STYLE: _MassDOT Standard
LABEL STYLE: _MassDOT_PR_PT#_DESC

273
12.34
POINT STYLE: _MassDOT Standard
LABEL STYLE: _MassDOT_PR_PT#_ELEV

### REDUCED SIZE POINT STYLES

252
67.890
RAW DESCRIPTION
POINT STYLE: _MassDOT_Quarter_X
LABEL STYLE: MassDOT_PR_STANDARD_0.5X

RAW DESCRIPTION
POINT STYLE: _MassDOT_Quarter_X
LABEL STYLE: MassDOT_PR_DESC_0.5X

67.890
POINT STYLE: _MassDOT_Quarter_X
LABEL STYLE: _MassDOT_PR_ELEV_0.5X

67.890
RAW DESCRIPTION
POINT STYLE: _MassDOT_Quarter_X
LABEL STYLE: _MassDOT_PR_ELEV_DESC_0.5X

266
POINT STYLE: _MassDOT_Quarter_X
LABEL STYLE: _MassDOT_PR_PT#_0.5X

272
RAW DESCRIPTION
POINT STYLE: _MassDOT_Quarter_X
LABEL STYLE: _MassDOT_PR_PT#_DESC_0.5X

276
67.890
POINT STYLE: _MassDOT_Quarter_X
LABEL STYLE: _MassDOT_PR_PT#_ELEV_0.5X

## GENERAL LINE LABEL STYLES

**PARENT STYLE: MassDOT_SV_EX_BL_Arrow_Crows_Feet**

MassDOT_HD_PR_BL_Arrow_Crows_Feet

**PARENT STYLE: MassDOT_SV_EX_BL_B_D**

N90°00'00"E
72.30'

N90°00'00"E

MassDOT_HD_PR_BL_B

N90°00'00"E
72.30'

MassDOT_HD_PR_BL_B_D

72.30'

MassDOT_HD_PR_BL_D

N90°00'00"E

MassDOT_SV_EX_BL_B

N90°00'00"E
72'±

MassDOT_SV_EX_BL_B_D_PLUS-MINUS

72.30'

MassDOT_SV_EX_BL_D

**PARENT STYLE: MassDOT_SV_EX_BL_Crows_Feet**

MassDOT_HD_PR_BL_Crows_Feet

**MassDOT_SV_EX_LN_Arrow_Crows_Feet**

**PARENT STYLE: MassDOT_SV_EX_LN_B_D**

N90°00'00"E
72.30'

N90°00'00"E

MassDOT_SV_EX_LN_B

N90°00'00"E
72'±

MassDOT_SV_EX_LN_B_D_PLUS-MINUS

N90°00'00"E
72.30'

MassDOT_SV_EX_LN_D

MassDOT_SV_EX_LN_Crows_Feet

℄

MassDOT_SV_EX_LN_PL Symbol

Z

MassDOT_SV_EX_LN_Z Symbol

## GENERAL CURVE LABEL STYLES

**PARENT STYLE: MassDOT_HD_PR_BL_Dlt_R_L_T**

Δ=56°08'42"
R=85.00'
L=83.29'
T=45.33'

MassDOT_HD_PR_BL_Arrow_Crows_Feet

Δ=56°08'42"

MassDOT_HD_PR_BL_Dlt

L=83.29'

MassDOT_HD_PR_BL_L

R=85.00'

MassDOT_HD_PR_BL_R

R=85.00'
L=83.29'
T=45.33'
MassDOT_HD_PR_BL_R_L_T

**PARENT STYLE: MassDOT_SV_EX_LN_Dlt_R_L_T**

Δ=56°08'42"
R=85.00'
L=83.29'
T=45.33'

MassDOT_SV_EX_LN_Arrow_Crows_Feet

Δ=56°08'42"

MassDOT_SV_EX_LN_Dlt

L=83.29'

MassDOT_SV_EX_LN_L

R=85.00'

MassDOT_SV_EX_LN_R

R=85.00'
L=83.29'
T=45.33'
MassDOT_SV_EX_LN_R_L_T

**PARENT STYLE: MassDOT_SV_EX_BL_Dlt_R_L_T**

Δ=56°08'42"
R=85.00'
L=83.29'
T=45.33'

MassDOT_SV_EX_BL_Arrow_Crows_Feet

Δ=56°08'42"

MassDOT_SV_EX_BL_Dlt

L=83.29'

MassDOT_SV_EX_BL_L

R=85.00'

MassDOT_SV_EX_BL_R

R=85.00'
L=83.29'
T=45.33'
MassDOT_SV_EX_BL_R_L_T

## NOTE LABEL STYLES

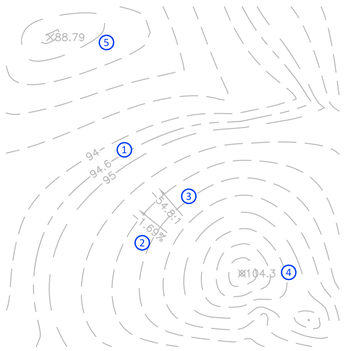
MassDOT_Flood Plain Callout

FLOOD PLAIN ELEV.

MassDOT_Northing-Easting

N 130.0000
E 1315.0000

# SURFACE STYLES

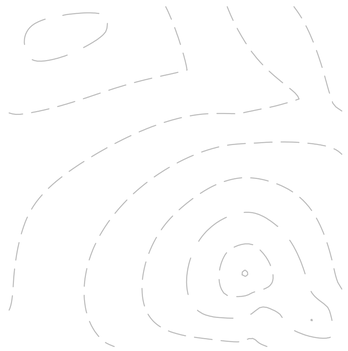



Surface Style:
**MassDOT_Existing Contours (1-5)**

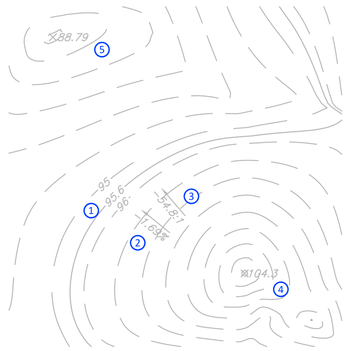
**Contour Label Styles:**
MassDOT_EXIST (1)
MassDOT_EXIST_User_Defined

**Slope Label Styles:**
MassDOT_SURVEY - % Grade (2)
MassDOT_SURVEY - Run_Rise (3)

**Spot Grade Label Styles:**
MassDOT_SURVEY (.1) (4)
MassDOT_SURVEY (.01) (5)



Surface Style:
**MassDOT_Existing Contours (2-10)**




Surface Style:
**MassDOT_Existing PHOTO Contours (1-5)**

**Contour Label Styles:**
MassDOT_EXIST PHOTO (1)
MasDOT_EXIST PHOTO_User_Defined

**Slope Label Styles:**
MassDOT_EXIST PHOTO - % Grade (2)
MassDOT_EXIST PHOTO - Run_Rise (3)

**Spot Grade Label Styles:**
MassDOT_EXIST PHOTO (.1) (4)
MassDOT_EXIST PHOTO (.01) (5)

Surface Style:
**MassDOT_Existing PHOTO Contours (2-10)**

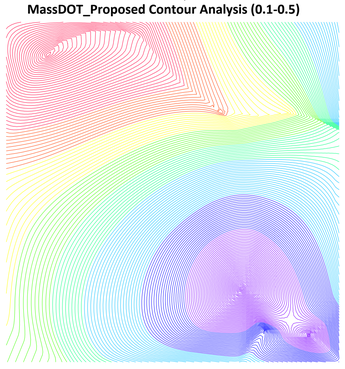
Surface Style:
**MassDOT_Proposed Contours (1-5)**

**Contour Label Styles:**
MassDOT_DESIGN (1)
MassDOT_DESIGN_User_Defined

**Slope Label Styles:**
MassDOT_DESIGN - % Grade (2)
MassDOT_DESIGN - Run_Rise (3)

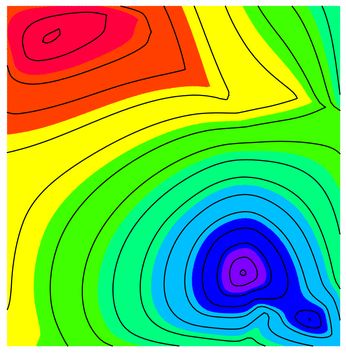
**Spot Grade Label Styles:**
MassDOT_DESIGN (.1) (4)
MassDOT_DESIGN (.01) (5)

Surface Style:
**MassDOT_Proposed Contour Analysis (0.1-0.5)**



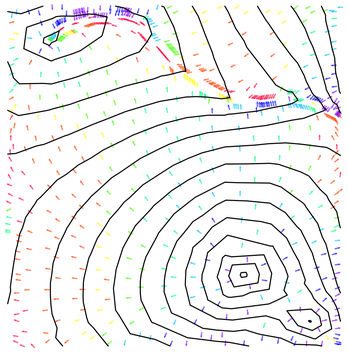
| CONTOUR LEGEND | | |
|---|---|---|
| NO. | MIN. ELEVATION | MAX. ELEVATION |
| 1 | 88.70 | 92.00 |
| 2 | 92.00 | 93.00 |
| 3 | 93.00 | 94.00 |
| 4 | 94.00 | 95.00 |
| 5 | 95.00 | 96.00 |
| 6 | 96.00 | 98.00 |
| 7 | 98.00 | 100.00 |
| 8 | 100.00 | 104.00 |

Surface Style:
**MassDOT_Proposed Elevation Banding Analysis**



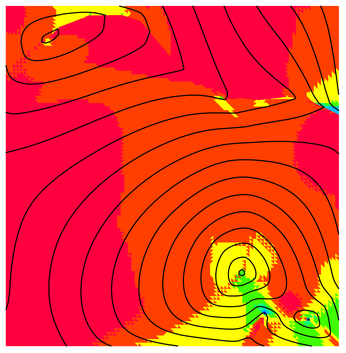
| ELEVATION LEGEND | | | |
|---|---|---|---|
| NO. | MIN. ELEVATION | MAX. ELEVATION | COLOR |
| 1 | 88.70 | 90.65 | |
| 2 | 90.65 | 92.60 | |
| 3 | 92.60 | 94.55 | |
| 4 | 94.55 | 96.50 | |
| 5 | 96.50 | 98.45 | |
| 6 | 98.45 | 100.40 | |
| 7 | 100.40 | 102.35 | |
| 8 | 102.35 | 104.30 | |

Surface Style:
**MassDOT_Proposed Slope Arrow Analysis**



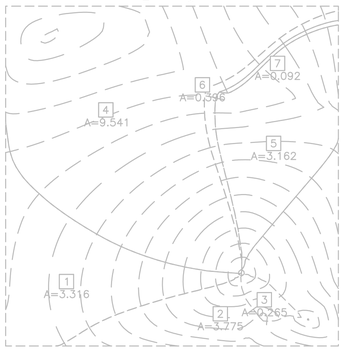
| SLOPE ARROW LEGEND | | | |
|---|---|---|---|
| NO. | MIN. SLOPE | MAX. SLOPE | COLOR |
| 1 | 0.18% | 0.80% | |
| 2 | 0.80% | 1.20% | |
| 3 | 1.20% | 1.30% | |
| 4 | 1.30% | 1.50% | |
| 5 | 1.50% | 1.90% | |
| 6 | 1.90% | 2.30% | |
| 7 | 2.30% | 3.10% | |
| 8 | 3.10% | 6.90% | |

Surface Style:
**MassDOT_Proposed Slope Banding Analysis**

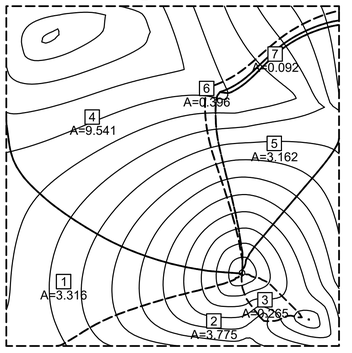


| SURFACE SLOPE LEGEND | | | |
|---|---|---|---|
| NO. | MIN. SLOPE | MAX. SLOPE | COLOR |
| 1 | 0.24% | 1.40% | |
| 2 | 1.40% | 2.50% | |
| 3 | 2.50% | 3.60% | |
| 4 | 3.60% | 4.70% | |
| 5 | 4.70% | 5.70% | |
| 6 | 5.70% | 6.80% | |
| 7 | 6.80% | 7.00% | |
| 8 | 7.00% | 9.10% | |

Surface Style:
**MassDOT_Existing Watersheds**




Surface Style:
**MassDOT_Proposed Watersheds**




| WATERSHED TABLE | | | | |
|---|---|---|---|---|
| ID | TYPE | DRAINS TO | DESCRIPTION | AREA (AC) |
| 1 | BOUNDARY SEGMENT | | DESCRIPTION 1 | 3.316 |
| 2 | BOUNDARY SEGMENT | | DESCRIPTION 2 | 3.775 |
| 3 | DEPRESSION | 2 | DESCRIPTION 3 | 0.265 |
| 4 | DEPRESSION | | DESCRIPTION 4 | 9.541 |
| 5 | DEPRESSION | 6 | DESCRIPTION 5 | 3.162 |
| 6 | DEPRESSION | 4 | DESCRIPTION 6 | 0.396 |
| 7 | MULTI-DRAIN | 5, 6 | DESCRIPTION 7 | 0.092 |

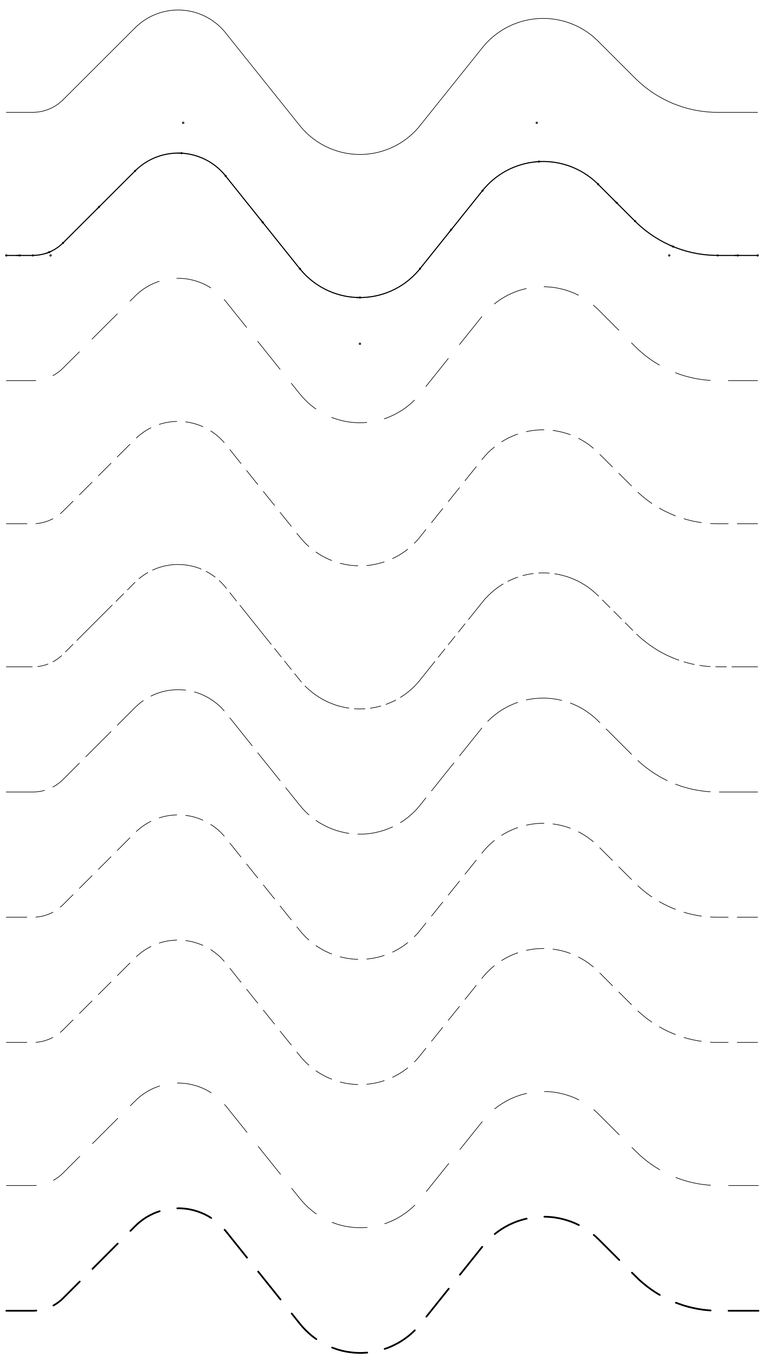
## NOTES

1. Only special grading areas on Grading Plans and Curb Tie & Grading Plan shall show existing or proposed contours within a Highway Construction Plan set. All other sheets do not show surface contours.
2. When creating any surface, it is best practice to create a dedicated object layer with the surface name added as a suffix and delimited with a dash, such as OB-SURFACE-FG-Roadway.
3. Surface styles MassDOT_No Display and MassDOT_Border Only not shown.

2.11 SURFACE STYLES.DWG Plotted on 2-Dec-2025 10:35 AM

# BASELINE ALIGNMENT OBJECT AND LABEL STYLES

## Alignment Styles



_MassDOT_Standard

Shows the alignment using the layer properties of the alignment's object layer.

E.G. If an alignment is on an object layer that uses DASHED2 as the linetype, the alignment will be displayed using the DASHED2 linetype as set in the layer.

_MassDOT_Target

Non-plotting style to be applied to alignments that corridors use as offset target objects.

_MassDOT_EX_County Baseline

_MassDOT_EX_Miscellaneous Baseline

_MassDOT_EX_Railroad Baseline

_MassDOT_EX_SHLO Baseline

_MassDOT_EX_Survey Baseline

_MassDOT_EX_Town-City Baseline

_MassDOT_EX_Turnpike Authority Baseline

MassDOT_Proposed Construction Baseline

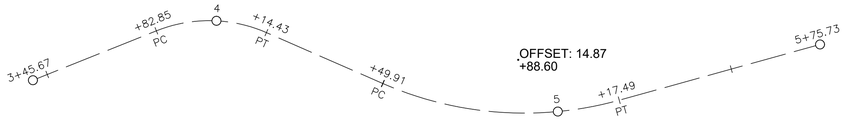
20 0 20 40
SCALE: 1" = 20'

## Alignment Label Set and Station Offset Label Styles

**STATION LABELING NOTE:**

All station labels must be created or placed on the layers indicated below. Label components such as ticks and leader lines will not plot with the correct lineweight unless the labels are created or placed on the layer indicated.

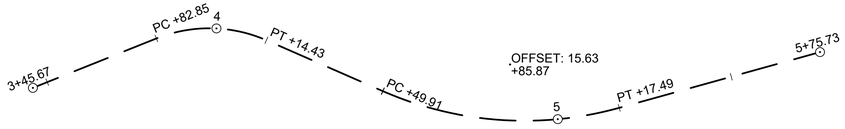
### MassDOT_Existing




Label all existing baselines using the MassDOT_Existing label set style.

Create or place the labels on layer EX-SV-BL-GEOM.

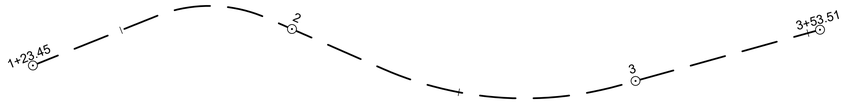
### MassDOT_Proposed




Label all proposed construction baselines using the MassDOT_Proposed label set style.

Create or place the labels on layer PR-HD-BL-TEXT.

### MassDOT_Proposed_Major and Minor Only



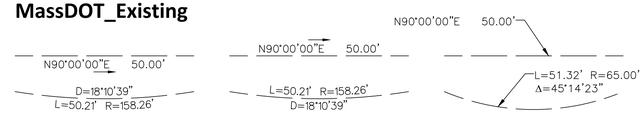

Label all proposed construction baselines on Key Plans using the MassDOT_Proposed_Major and Minor Only label set style.

Create or place the labels on layer PR-HD-BL-TEXT.

## Alignment Segment Label Styles

AS-INSERTED FLIPPED DRAGGED STATE

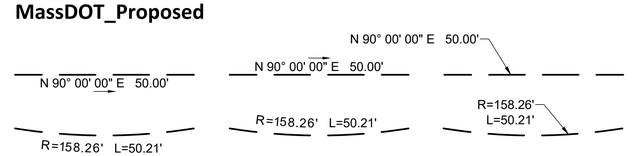
### MassDOT_Existing




Label all existing baseline segments using the MassDOT_Existing line and curve label styles.

Place all labels on layer EX-SV-BL-GEOM.

### MassDOT_Proposed




Label all proposed construction baseline segments using the MassDOT_Proposed label set style.

Place all labels on layer PR-HD-BL-GEOM.

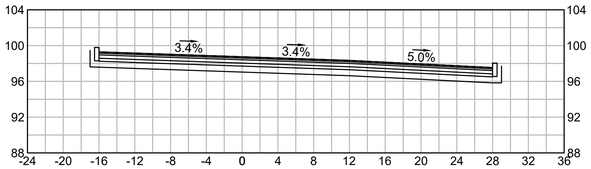
**SEGMENT LABELING NOTES:**

1. Plans possessing a significant amount of linework and annotation in close proximity to the construction baseline should use line and curve tag labels in conjunction with a line and curve data table as shown on the next sheet.
2. All segment labels must be created or placed on the layers indicated at right. Label components such as arrows and leader lines will not plot with the correct lineweight unless the label is created or placed on the layer indicated.

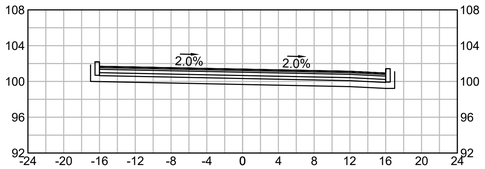
ALIGNMENT STYLES.DWG Plotted on 2-Dec-2025 11:07 AM

ALIGNMENT STYLES.DWG Plotted on 2-Dec-2025 11:11 AM

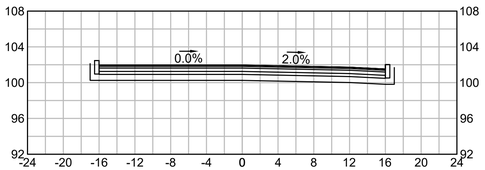
# ALIGNMENT SUPERELEVATION AND CURB TIE LABEL STYLES



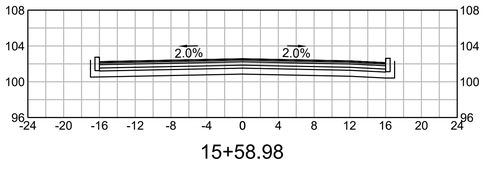

18+09.33



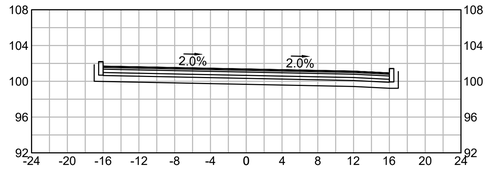

16+36.62



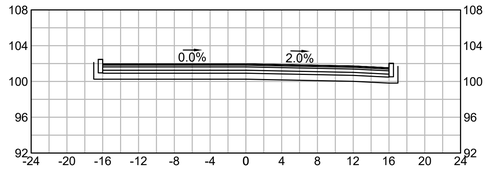

15+97.80



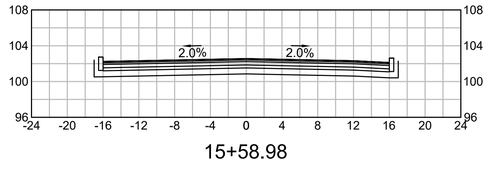

15+58.98




16+36.62



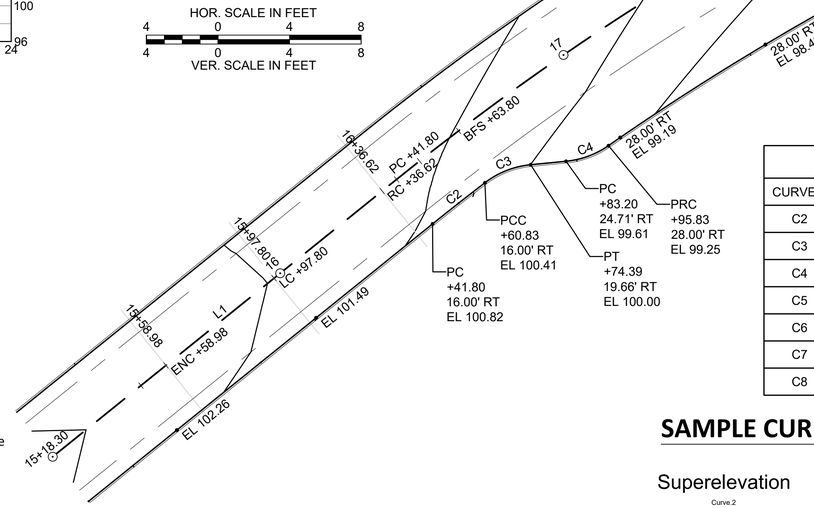

15+97.80




15+58.98

## SUPERELEVATION CRITICAL STATION SECTIONS

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET




| CURVE TABLE | | | |
|---|---|---|---|
| CURVE # | DELTA | RADIUS | LENGTH |
| C2 | 1°25'31" | 749.00 | 18.63 |
| C3 | 31°53'53" | 25.00 | 13.92 |
| C4 | 29°16'36" | 25.00 | 12.77 |
| C5 | 13°02'24" | 737.00 | 167.74 |
| C6 | 29°16'36" | 25.00 | 12.77 |
| C7 | 31°53'53" | 25.00 | 13.92 |
| C8 | 5°23'13" | 749.00 | 70.42 |

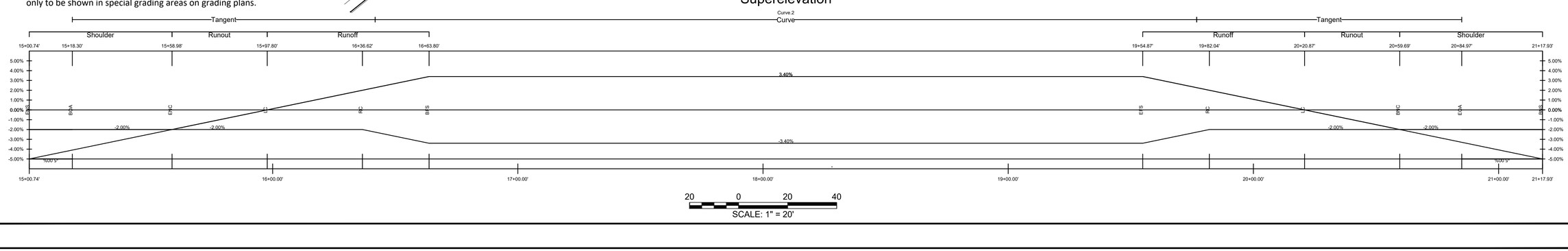
| ROUTE 110 CONSTRUCTION BASELINE DATA | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NUMBER | STARTING STATION | NORTHING | EASTING | CURVE DATA | LINE DATA | ENDING STATION | NORTHING | EASTING |
| L1 | 15+18.30 | 81.797 | 3011.714 | | N51°06'38"E 123.50' | 16+41.80 | 159.332 | 3107.841 |
| C1 | 16+41.80 | 159.332 | 3107.841 | R=765.00' Δ=25°05'43" L=335.06' T=170.26' | | 19+76.87 | 306.824 | 3405.719 |
| L2 | 19+76.87 | 306.824 | 3405.719 | | N76°12'20"E 108.10' | 20+84.97 | 332.600 | 3510.705 |

**NOTES**

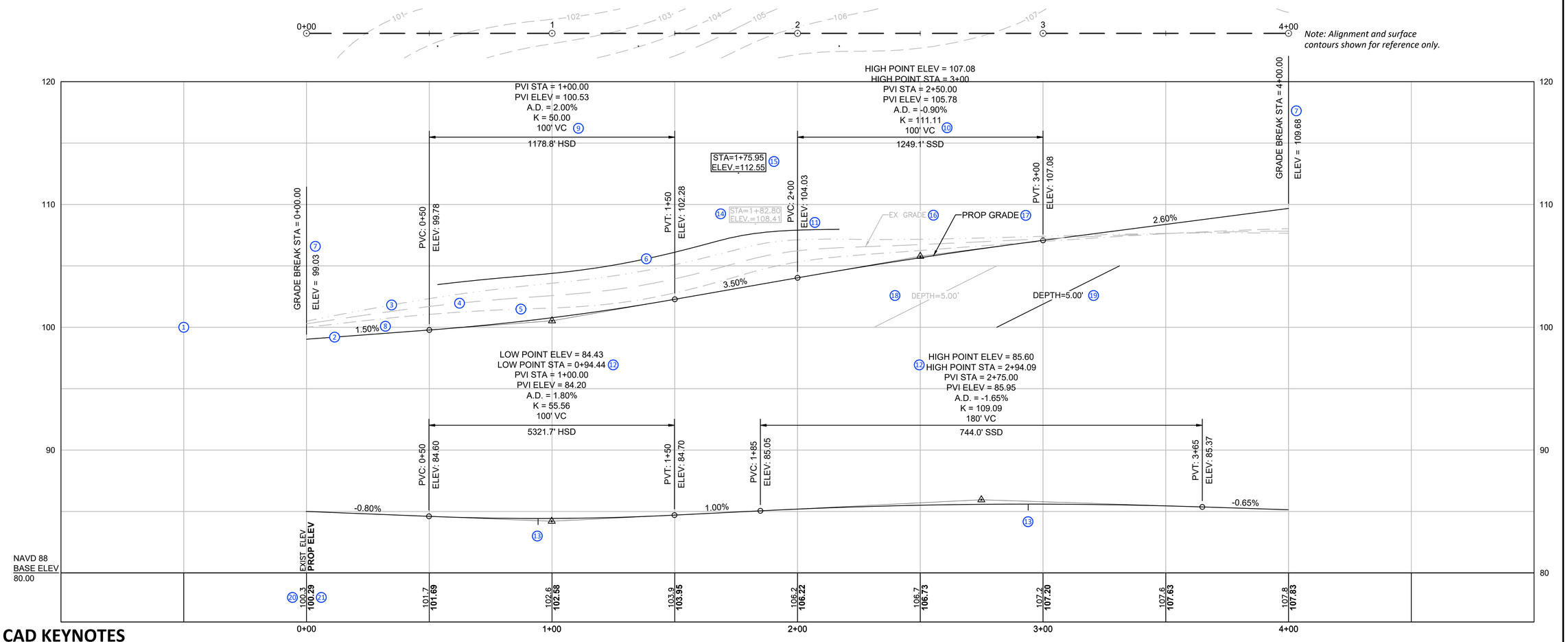
1. Sections shown here for reference only and is not depicting appearance of a standard cross section view. See the sheet regarding Section Styles for standard appearance of cross sections.
2. Superelevation view shown for reference only and is a working style that is not to be shown in the Highway Construction Plan set.
3. Contours shown here for reference, only. Proposed contours are only to be shown in special grading areas on grading plans.

## SAMPLE CURB-TIE PLAN LABEL AND TABLE STYLES

Superelevation



# PROFILE STYLES




## CAD KEYNOTES

| # | KEYNOTE DESCRIPTION |
|---|---|
| 1 | Profile View Style: MassDOT_Standard<br><br>Use profile band set MassDOT_EG_FG. Follow the keynotes placed in the profile band set at the bottom of the profile for more information.<br><br>This grid is shown as created using the automatic stationing option including a horizontal grid padding factor of 1. Users can override the grid padding by adjusting the profile view station range in the profile view properties Stations tab to best fit the drawing sheet for that station range.<br><br>Users can override the elevation grid padding by adjusting the profile view elevation range in the profile view properties Elevations tab to best fit the drawing sheet for that elevation range. |
| 2 | Profile Style: MassDOT_Design |
| 3 | Profile Style: MassDOT_Existing_Right_Sampling |
| 4 | Profile Style: MassDOT_Existing |
| 5 | Profile Style: MassDOT_Existing_Left_Sampling |
| 6 | Profile Style: MassDOT_Design Superimposed |

| # | KEYNOTE DESCRIPTION |
|---|---|
| 7 | PVI Label Style: MassDOT_Design<br><br>Marks the beginning and end of the layout profile and any grade breaks.<br><br>Apply to layout profile using label set style MassDOT_MHD_Design. |
| 8 | Profile Line Label Style: MassDOT_Design<br><br>Denotes the slope of the vertical tangent.<br><br>Apply to layout profile using label set style MassDOT_MHD_Design. |
| 9 | Sag Curve Label Style: MassDOT_Sag_Curve_HSD<br><br>Denotes sag curves only on the layout profile.<br><br>This profile sag curve indicates no low point in the curve and therefore the label style automatically omits the low point portion of the curve data and low point tick. See profile below for label with low point annotation added.<br><br>Apply to layout profile using label set style MassDOT_MHD_Design. |

| # | KEYNOTE DESCRIPTION |
|---|---|
| 10 | Crest Curve Label Style: MassDOT_Crest_Curve_SSD<br><br>Denotes crest curves only on the layout profile.<br><br>This profile crest curve indicates no high point in the curve and therefore the label style automatically omits the high point portion of the curve data and low point tick. See profile below for label with high point annotation added.<br><br>Apply to layout profile using label set style MassDOT_MHD_Design. |
| 11 | Always place curve labels so all curve data is readable with no line through text.<br><br>Draw a masking object where needed on layer GE-MASKING. |
| 12 | For profile curves having a high or low point, high or low point station and elevation are shown as part of the curve data label. |
| 13 | For profile curves having a high or low point, a tick is added to the profile at the station and elevation of the high or low point. |
| 14 | Profile View Station Elevation Label Style: MassDOT_EXISTING<br><br>Put on layer PR-HD-PROF-EX-TEXT. |

| # | KEYNOTE DESCRIPTION |
|---|---|
| 15 | Profile View Station Elevation Label Style: MassDOT_DESIGN<br><br>Put on layer PR-HD-PROF-FG-TEXT. |
| 16 | Profile View Station Elevation Label Style: MassDOT_EX GRADE<br><br>Put on layer PR-HD-PROF-EG-TEXT. |
| 17 | Profile View Station Elevation Label Style: MassDOT_PROP GRADE<br><br>Put on layer PR-HD-PROF-FG-TEXT. |
| 18 | Profile View Depth Label Style: MassDOT_EXISTING<br><br>Put on layer PR-HD-PROF-EX-TEXT. |
| 19 | Profile View Depth Label Style: MassDOT_DESIGN<br><br>Put on layer PR-HD-PROF-FG-TEXT. |

| # | KEYNOTE DESCRIPTION |
|---|---|
| 20 | Set the Profile1 band to the existing grade profile object.<br><br>In the profile view properties, go to the Bands tab and assign the profile object in the Profile1 column to the EG surface profile. |
| 21 | Set the Profile2 elevation in the Band set style to use the proposed grade profile.<br><br>In the profile view properties, go to the Bands tab and assign the profile object in the Profile2 column to the proposed grade layout profile. |
| 22 | Set the Construction Plan reference sheet number using a sheet set sheet number reference.<br><br>Refer to the MSPT Highway Construction Plans Help Doc for more detailed instructions. |

HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

22
FOR CONSTRUCTION PLAN:
SEE SHEET NO. XX

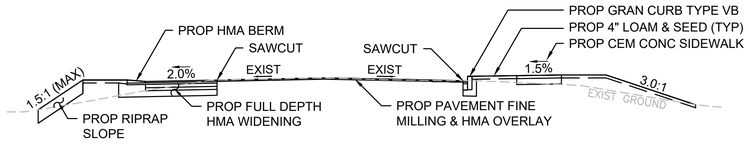
2.14 PROFILE STYLES.DWG Plotted on 2-Dec-2025 11:24 AM

2.16 MCMT ASSEMBLY AND CORRIDOR STYLES.DWG Plotted on 2-Dec-2025 10:35 AM

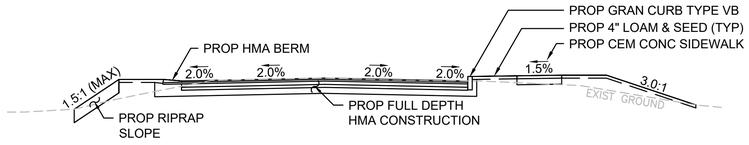
# CODE SET STYLES FOR ASSEMBLIES

## Typical Section Examples

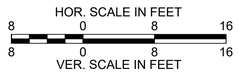
The following code set style samples are based on the simplified typical section examples below.




TYPICAL SECTION - RESURFACING AND WIDENING




TYPICAL SECTION - FULL DEPTH CONSTRUCTION




## PAVEMENT NOTES

### FULL DEPTH HMA CONSTRUCTION

| | |
|---|---|
| SURFACE COURSE: | 1.75" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER |
| | 2.25" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC-19.0) OVER |
| BASE: | 4.5" SUPERPAVE BASE COURSE - 37.5 (SBC-37.5) OVER |
| SUBBASE: | 4" DENSE GRADED CRUSHED STONE OVER |
| | 8" GRAVEL BORROW TYPE B (OR SUITABLE EXIST MATERIAL) |

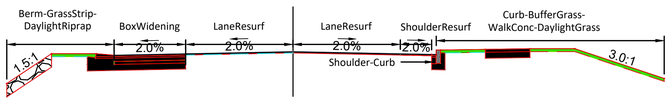
### PAVEMENT FINE MILLING & HMA OVERLAY

| | |
|---|---|
| SURFACE COURSE: | 1.75" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER |
| SURFACE MILLING: | VARIABLE DEPTH (1.75" ± 0.75") PAVEMENT FINE MILLING |

### CEMENT CONCRETE SIDEWALKS

| | |
|---|---|
| SURFACE COURSE: | 4" CEMENT CONC (AIR ENTRAINED 4000 PSI, 3/4", 610) OVER |
| SUBBASE: | 8" GRAVEL BORROW TYPE B |

## Assembly Code Set Styles: Composing Assemblies

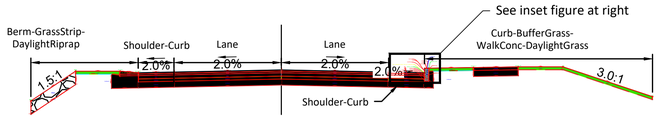



**RESURFACING SECTION ASSEMBLY**

**(SCREEN DISPLAY)**

**Code Set Style: MassDOT_MCMT-Assembly Codes**

Use the MCMT Assembly Codes code set style to display assemblies and corridors with color coded shapes.




**FULL DEPTH SECTION ASSEMBLY**

**(SCREEN DISPLAY)**

**Code Set Style: MassDOT_MCMT-Assembly Codes with Code Labels**

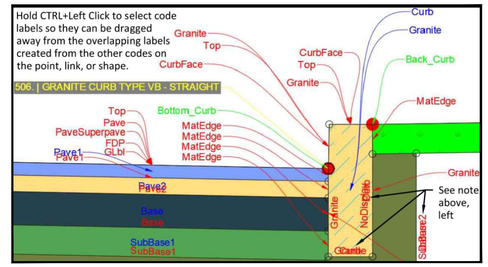
Use the MCMT Assembly Codes with Code Labels code set style to compose assemblies by leveraging the information read from the code labels that indicate how the corridor region will be modeled. Newly created assemblies use this style by default.

## Subassembly Code Labels and Symbols

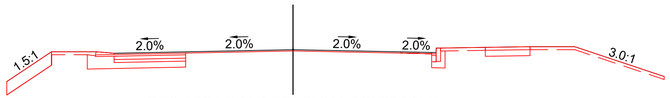
Use subassembly code labels and symbols to aid creation of assemblies. Identify the correct subassembly setup prior to corridor creation and quickly assess coding issues in the corridor.

**LEGEND**

Red Label: Link Codes
Green Labels: Point Codes
Blue Labels: Shape Codes
Yellow Labels: QTO Codes
● Feature Line Point




## Section Code Set Styles: Configuring Subassembly Links for Accurate Section Drafting

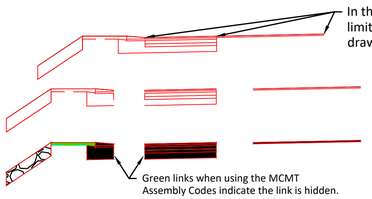



**RESURFACING SECTION ASSEMBLY**

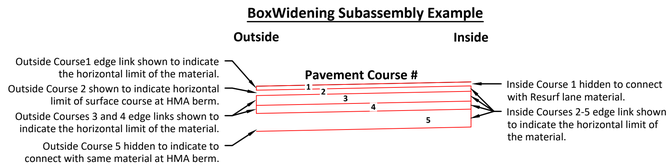
**(SCREEN DISPLAY)**

**Code Set Style: MassDOT_MCMT-Section Codes**

**Use the MCMT Section Codes code set style to display assemblies and corridors as they would appear in section view to preview how the corridor will draft a corridor cross section.**




**BoxWidening Subassembly Example**

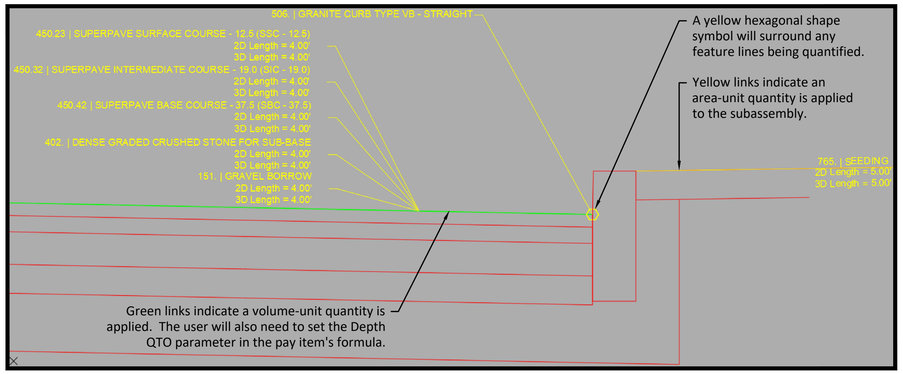



| --BOUNDARY LINK CONTROL-- | ------ |
|---|---|
| Show Inside Course1 Link? | No |
| Show Inside Course 2 Link? | Yes |
| Show Inside Course 3 Link? | Yes |
| Show Inside Course 4 Link? | Yes |
| Show Inside Course 5 Link? | Yes |
| Show Outside Course 1 Link? | Yes |
| Show Outside Course 2 Link? | No |
| Show Outside Course 3 Link? | Yes |
| Show Outside Course 4 Link? | Yes |
| Show Outside Course 5 Link? | No |

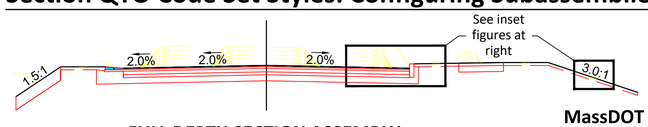
Each material edge link in a subassembly has a toggle control to display or hide the link in the subassembly's input parameters.

These input parameters show/hide the inside or outside material edge links for the BoxWidening subassembly at left.

Note the Yes/No values correspond with the visibility of the edge link on the subassembly shown above.




## Section QTO Code Set Styles: Configuring Subassemblies for QTO




**FULL DEPTH SECTION ASSEMBLY**

**(SCREEN DISPLAY)**

**Code Set Style: MassDOT_MCMT-Section QTO Codes with Labels**

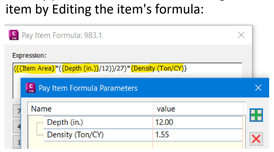
**Use the MCMT Section QTO Codes with Labels code set style to set up subassemblies that will perform QTO analysis on corridors.**

**Once an assembly has the necessary subassemblies attached, the MCMT Section QTO Codes with Labels code set style can be utilized on the assembly to correctly set pay item codes in the attached subassemblies. See the inset plans at right.**

**Users should first consult the MQTO pay item criteria documentation to identify the proper pay item codes to be applied to each point or link. Shapes are not calculated using pay items. See the MQTO User Guide for more detailed information regarding calculating quantities.**

### MassDOT QTO (MQTO) for Corridors Workflow

1. Set assemblies to use the MassDOT_MCMT-Section QTO Codes with Labels code set style.
2. Assign pay item codes to subassembly points and links.
3. Set the corridor to use MassDOT_MCMT-Corridor QTO Codes code set style.
4. For any links calculating a volume (green links), configure the Depth and Density parameters in the QTO Manager Formula column for each volume item by Editing the item's formula:




5. Configure takeoff calculation settings and run the Takeoff command.

### Assigning Pay Item Codes to Assemblies

Typically, pay item codes can be entered into the subassembly coding parameters that use string-entry.

Type the pay item number(s) as subassembly codes into the geometry of the applicable subassemblies. Use a comma to delimit codes as shown below:

| ----SUBASSEMBLY CODING PARAMETER... | ---------- |
|---|---|
| Inside Point Code | None |
| Outside Point Code | None |
| Apply ETW Code to Outside Point Code? | No |
| Surface Link Code | Top,Pave,450.23,450.32,450.42,402,,151. |

| --USER CODES-- | ----- |
|---|---|
| Bottom of Curb Point Codes: String Entry | None |
| Paved Surface Course Shape Codes: String Entry | None |
| Bottom Course Shape Codes: String Entry | SubBase2 |
| Treatment 1 Point Codes: String Entry | None |
| Treatment 1 Top Link Codes: String Entry | 765. |
| Treatment 1 Shape Codes: String Entry | None |
| Treatment 2 Point Codes: String Entry | None |
| Treatment 2 Top Link Codes: String Entry | 701,151, |
| Treatment 2 Shape Codes: String Entry | None |

Other codes are set using dropdowns.

For example, the curbing quantification code is set from the Curbing QTO Code (curbing type) dropdown followed by telling the subassembly if the curb is to be quantified as curved curbing:

| ----SUBASSEMBLY CODING PARAMETERS---- | ---------- |
|---|---|
| Curbing QTO Code | Type VB |
| Radius 10' or Less | No |

None
Type VA1
Type VA2
Type VA3
Type VA4
Type VA5
Type VB
Transition Curb

This input parameter sets the curbing type.

This input parameter will quantify the curbing as curved curbing, usually set using a parameter override in section editor.

## Subassembly QTO Code Labels and Symbols

Use subassembly QTO code labels and symbols to aid the setup of subassemblies in performing Civil 3D QTO on corridor objects. Identify the correct subassembly setup prior to performing quantity takeoffs and validation of QTO coding setup.

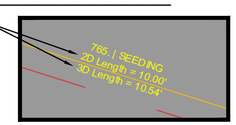
QTO point codes can generate linear quantities and QTO link codes can generate area and material volume quantities.

To generate a material volume quantity, the Civil 3D QTO criteria file must have the MQTO formula file loaded. Each volume item will have a parameter for depth that needs to be set. When a quantity takeoff calculation is performed, Civil 3D uses the depth parameter and link area to calculate a volume. See the MQTO User Guide for more detailed workflow information.

## Compare 2D vs. 3D Area

Users can compare 2D and 3D lengths on steep slopes for determining when a 3D calculation is necessary.

On this 3:1 sideslope a 2D takeoff calculation will not return an accurate quantity.




Steep slopes will not generate the correct quantity based on a 2D projection of its area. For these slopes, the quantity shall be quantified using the 3D slope length.

The labels shown for each link pay item shows the 2D link length and the 3D slope length so users can distinguish any differences in 2D vs. a 3D takeoff.

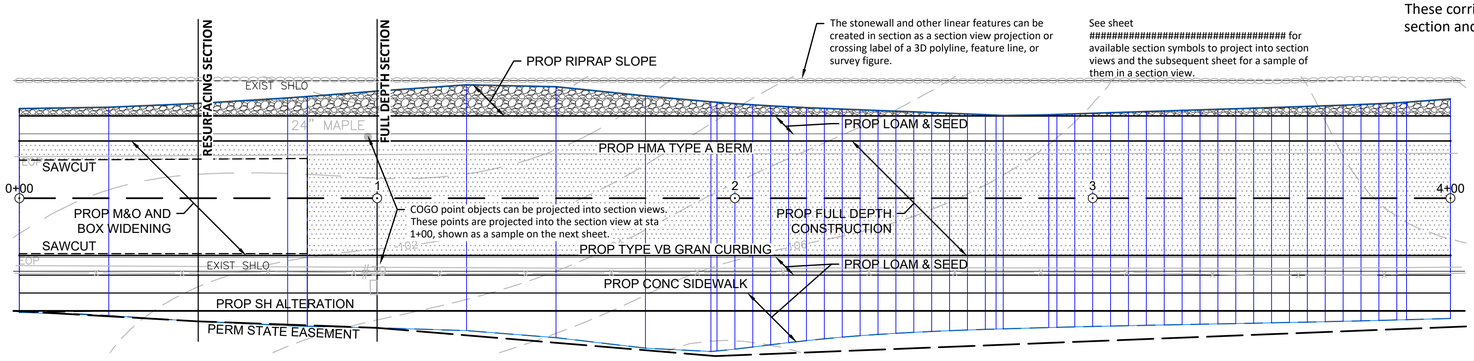
# PLAN-VIEW CORRIDOR STYLES

These corridor sample styles are developed from the typical section and assemblies developed on the previous sheet.

## Corridor Plan View Styles:

### Plotting Corridors

**Corridor Style: MassDOT Standard**
**Corridor Code Set Style: MassDOT_MCMT-Corridor Codes**



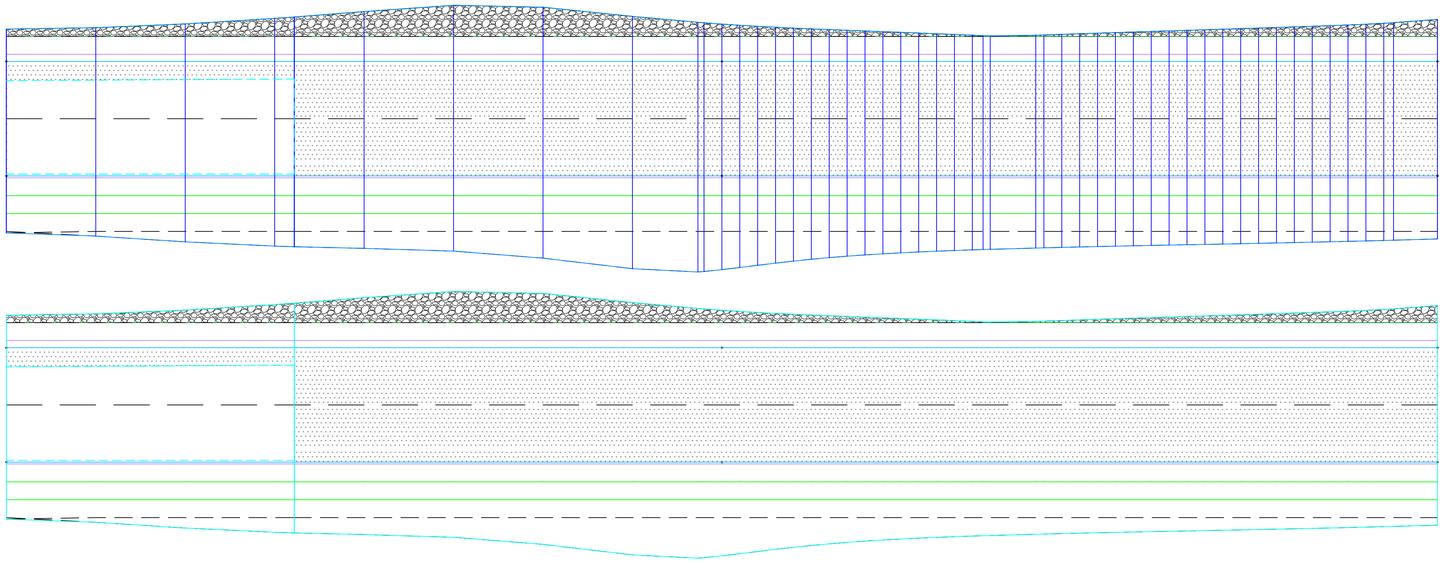

### Viewing Corridor Section Stations

**Corridor Style: MassDOT_Working_All On**
**Corridor Code Set Style: MassDOT_MCMT-Corridor Codes**

**The corridor's assembly insertion stations will be shown in the same color as the corridor's object layer.**

**E.g. If a corridor is placed on an object layer and the color is dark blue, the assembly insertion stations will appear dark blue as shown at right.**

**Alternatively, users can leave the MassDOT_Standard corridor style current and change the code set style to either MassDOT_MCMT-Assembly Codes or MassDOT_MCMT-Section QTO Codes to view the assembly insertion stations as a red color.**



### Viewing Corridor Region Limits

**Corridor Style: MassDOT MassDOT_Working_Regions Only**
**Corridor Code Set Style: MassDOT_MCMT-Corridor Codes**

**The corridor's regions can be isolated to view where roadway sections change and the limits of the corridor. At left the cyan region limit line shows the boundary between the Resurfacing section and the Full Depth section.**

### Quantifying Corridors

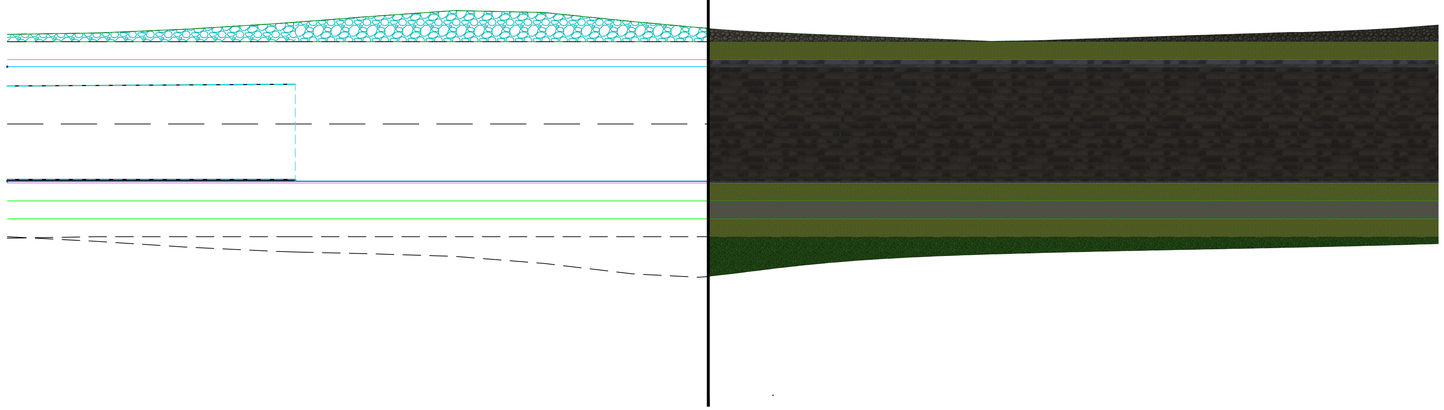
**Corridor Style: Any**
**Corridor Code Set Style: MassDOT_MCMT-Corridor QTO Codes**

**As stated on the previous sheet under the MQTO for Corridors Workflow, step 3, the corridor must be set to MassDOT_MCMT-Corridor QTO Codes code set style to perform a takeoff on a corridor.**

**The Corridor QTO Codes style also creates a hatch pattern for each QTO link code so the areas being quantified can be validated more easily.**

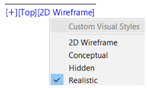
**Yellow hatching indicates an area that produces an area quantity.**

**Green hatching indicates areas that will produce a volume quantity. Dark green indicates paved areas, and any-off-pavement areas are indicated with a lighter green.**

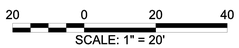


### Visualizing Corridors

**Corridor Style: Any**
**Corridor Code Set Style: Any**
**Set the Visual Style control to Realistic:**



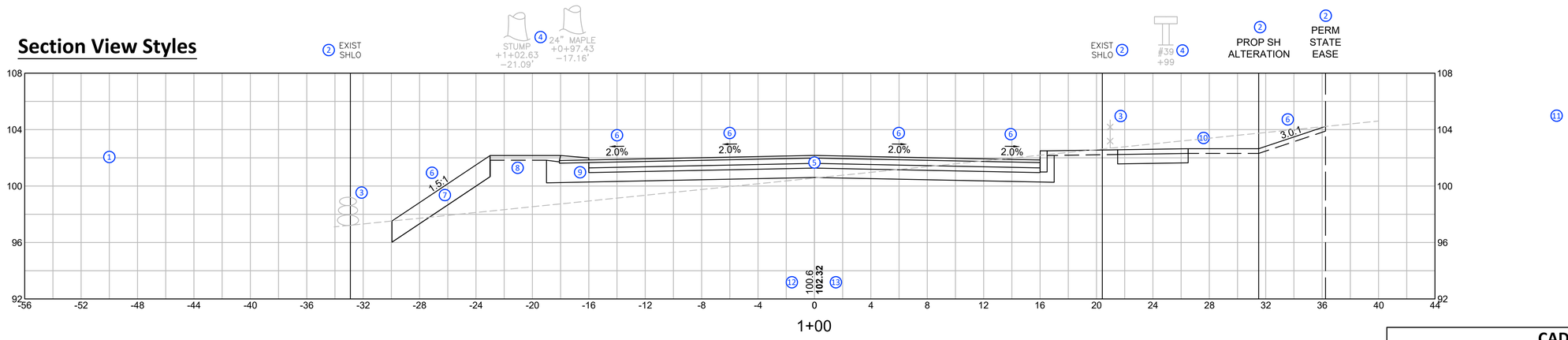

**To view the corridor in 3D with the rendered material applied, set the Visual Style control in the upper left corner of a viewport to Realistic.**




2.16 MCMT ASSEMBLY AND CORRIDOR STYLES.DWG Plotted on 2-Dec-2025 10:36 AM

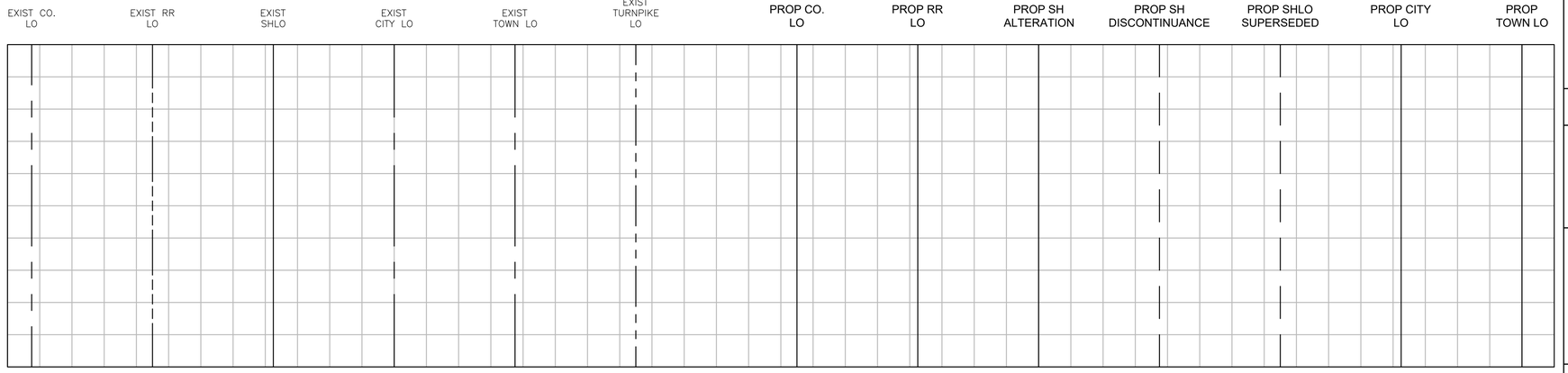
# SECTION STYLES

## Section View Styles




## Section Offset Label Lines

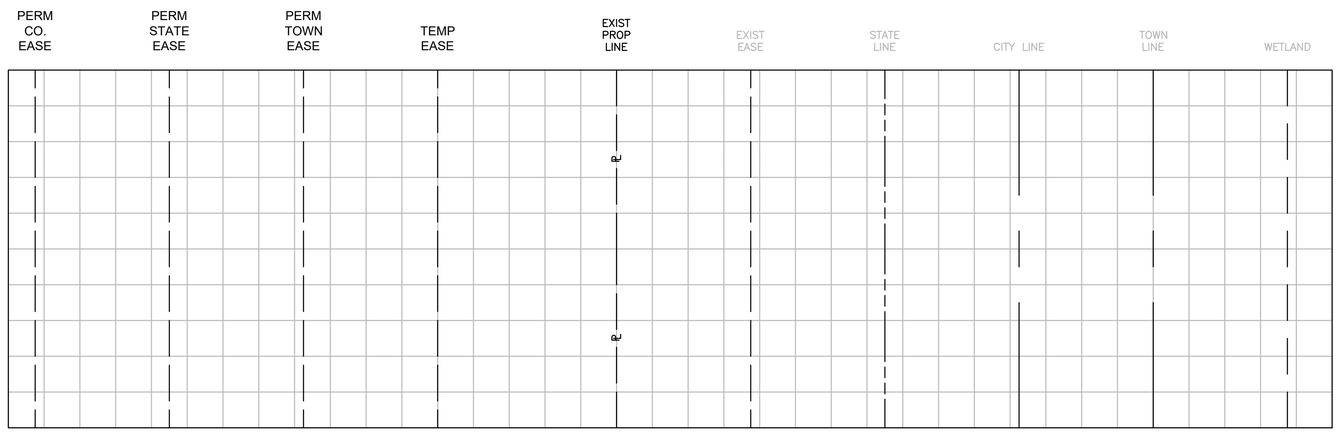
### Existing Layout Line Points




### Proposed Layout Line Points




### Right Of Way Easement Line Points

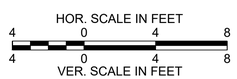



### Existing Linear Feature Points




## Section Offset Label Lines Notes

1. **Section Offset Label Lines are Civil 3D marker label styles that can be applied through a Civil 3D corridor using subassemblies (available on the MassDOT CAD State Kit Subassembly Tool Palettes) with a point code corresponding to the offset label line type.**
2. **The Section Offset Label Lines line plotted appearance may vary depending on section view height and scale.**
3. **Refer to the MassDOT Code Set Styles reference material for a listing of each code that can be applied.**




## CAD KEYNOTES

| (#) | KEYNOTE DESCRIPTION |
|---|---|
| 1 | Section View Style: MassDOT_Standard<br><br>Users can override the grid padding by adjusting the section view offset range in the section view properties Offsets tab to best fit the drawing sheet for that station range.<br><br>Users can override the elevation grid padding by adjusting the section view elevation range in the section view properties Elevations tab to best fit the section for that elevation range.<br><br>Changes to the grid offset range or elevation range of all section views in the group should be made to the Section View Group properties.<br><br>Follow all the section drawing file setup guidance provided in the MSPT Highway Construction Plans Help Doc. |
| 2 | Use one of the Section Offset Label Line styles shown below to create highway layout boundary lines in section view. Follow the Section Offset Label Line Style Notes on this sheet for more information. |
| 3 | Linear survey features can be projected into section view using a Crossing Label or Projection Label.<br><br>Shown here is a balanced stone wall depicting the SHLO, this object is a projection from a feature line using Section View Crossing Label style MassDOT_EX_STONE_WALL placed on layer PR-HD-XSECT-EX.<br><br>Similarly, the wire fence shown on the right of the section was projected from a feature line object into the section view using Section View Crossing Label Style MassDOT_EX_FENCE placed on layer PR-HD-XSEC-EX. |
| 4 | Survey point objects can be projected to section views such as stumps and mailboxes shown here.<br><br>For a full representation of available section detailing symbols, see the sheet Cross Section Detail Symbols.<br><br>The label components use reference text from the source point object. To assign the source point to the projection object, select the object and go to Properties. Select the first row Reference Text Objects and you will be prompted to select the point to attach the data from.<br><br>In this example the point data indicates the tree species and size and the address of the mailbox that are all part of each point's raw descriptions. |
| 5 | Corridors shall be displayed using code set style MassDOT_MCMT-Section Codes. |
| 6 | Section grade and slope label visibility can be controlled on the subassembly using the GLbl and SLbl link codes.<br><br>MSL subassemblies all have a toggle that allows users to apply the labels or hide them.<br><br>See the MSL subassemly help docs for more information regarding a particular subassembly's label settings. |
| 7 | Section hatching is applied selectively through the code set style according to graphical standards provided in the PDDG Project Sample Plans. |
| 8 | Dashed section linework is applied selectively through the code set style according to graphical standards provided in the PDDG Project Sample Plans. |
| 9 | All common section material areas that span two or more subassemblies shall show a continuous material section with no vertical lines indicating the edges of the subassembly objects.<br><br>Show the vertical material edge link at the outer boundaries of a material section only.<br><br>Use MSL Material Edge Toggling to control the visibility of these edge lines. Choose Yes to display a vertical material edge link or No to hide it.<br><br>See the MCMT-MSL User Guide for more detailed information. |
| 10 | Section Style: MassDOT_Existing |
| 11 | Section view tables for cut and fill or any other material in the corridor model can be displayed at the upper right corner of the section view.<br><br>Users must first compute cut and fill quantities. See the MQTO User Guide for more detailed information. |
| 12 | Set the Section1 band to the existing grade section object.<br><br>In the section view group properties, go to the Bands tab and assign the section object in the Section1 column to the EG surface section. |
| 13 | Set the Section2 elevation in the Band set style to use the proposed grade profile.<br><br>In the section view group properties, go to the Bands tab and assign the section object in the Section2 column to the proposed grade surface section. |

2.16 MCMT ASSEMBLY AND CORRIDOR STYLES.DWG Plotted on 2-Dec-2025 10:36 AM

PIPE AND STRUCTURE STYLES.DWG Plotted on 2-Dec-2025 10:34 AM

# PIPE AND STRUCTURE STYLES

## Plan-View Pipe Styles

| | EXISTING PIPE | RECORD LOCATION PIPE | PROPOSED PIPE |
|---|---|---|---|
| DRAINAGE | MassDOT_DRN_EX_Single-Line<br>MassDOT_DRN_EX_Double-Line | MassDOT_DRN_RD_Single-Line<br>MassDOT_DRN_RD_Double-Line | MassDOT_DRN_PR_Single-Line<br>MassDOT_DRN_PR_Double-Line |
| Object Layer: | EX-UT-DRAIN-UGND | RD-UT-DRAIN-UGND | PR-UT-DRAIN-UGND |
| SEWER | MassDOT_SWR_EX_Single-Line<br>MassDOT_SWR_EX_Double-Line | MassDOT_SWR_RD_Single-Line<br>MassDOT_SWR_RD_Double-Line | MassDOT_SWR_PR_Single-Line<br>MassDOT_SWR_PR_Double-Line |
| Object Layer: | EX-UT-SEWER-UGND | RD-UT-SEWER-UGND | PR-UT-SEWER-UGND |

## Plan-View Structures Styles

| EXISTING STRUCTURES | RECORD LOCATION STRUCTURES | PROPOSED STRUCTURES |
|---|---|---|
| MassDOT_DRN_EX_DMH | MassDOT_DRN_RD_DMH | MassDOT_DRN_PR_DMH |
| MassDOT_DRN_EX_CB | MassDOT_DRN_RD_CB | MassDOT_DRN_PR_CB |
| MassDOT_DRN_EX_CBDF | MassDOT_DRN_RD_CBDF | MassDOT_DRN_PR_DI_SQ |
| MassDOT_DRN_EX_CBCI | MassDOT_DRN_RD_CBCI | MassDOT_DRN_PR_CBCI |
| MassDOT_DRN_EX_CBR | MassDOT_DRN_RD_CBR | MassDOT_DRN_PR_CI_Structure |
| MassDOT_DRN_EX_CBDB | MassDOT_DRN_RD_CBDB | MassDOT_DRN_PR_CBDB |
| MassDOT_DRN_EX_DI_SQ | MassDOT_DRN_RD_DI_SQ | |
| EX-UT-DRAIN-STRC | RD-UT-DRAIN-STRC | PR-UT-DRAIN-STRC |
| MassDOT_SWR_EX_SMH | MassDOT_SWR_RD_SMH | MassDOT_SWR_PR_SMH |
| EX-UT-SEWER-STRC | RD-UT-SEWER-STRC | PR-UT-SEWER-STRC |

### STANDARD PIPE STYLES

MassDOT_Standard_Single-Line

MassDOT_Standard_Double-Line

Standard MassDOT pipe style display pipe components in Plan-view, profile, and section views use the display and plotted appearance of the pipe's object layer (plan and profile views) or the pipe network section object layer.

Standard pipe styles enable pipes and other linear subsurface structures to be modeled for utilities that pipe network styles have not been configured for.

E.g. Modeling existing electric ductbanks using a rectangular pipe object set to MassDOT_Standard_Double-Line and placed on object layer EX-UT-ELEC-UGND:

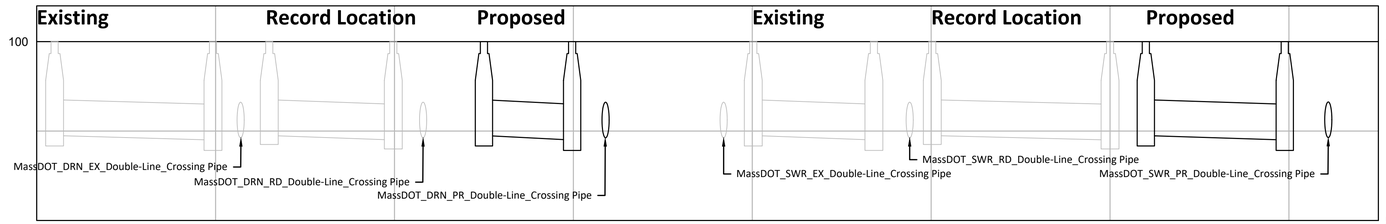
EX-UT-ELEC-UGND 11 HIDDEN2 UTILITY EXIST Existing Electric Underground

### MISCELLANEOUS STRUCTURE STYLES

- MassDOT_Standard

MassDOT_Unknown Pipe End

## Profile-View Pipe and Structure Styles

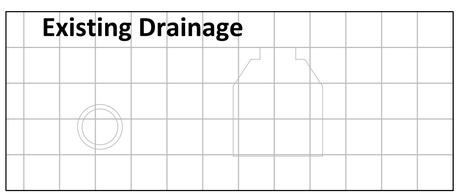


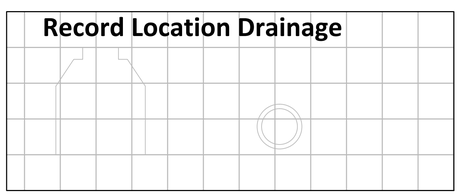

### Crossing Pipe Styles

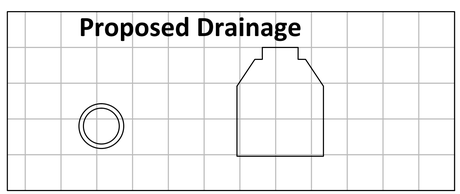
When a pipe in plan-view crosses the profile's alignment, the pipe's style shall be set to use the version of the pipe style suffixed *_Crossing Pipe*.

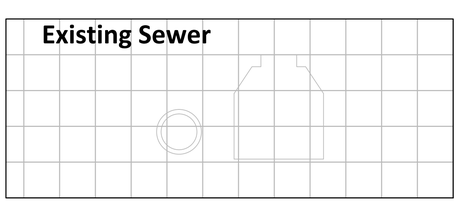
The Crossing Pipe version of the pipe style makes the pipe appear in profile-view as the typical ellipse shape usually seen in utility profiles. The invert elevation is placed at the pipe's alignment crossing point elevation.

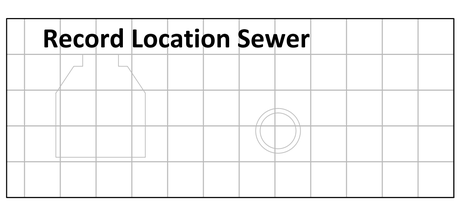
## Section-View Pipe and Structure Styles

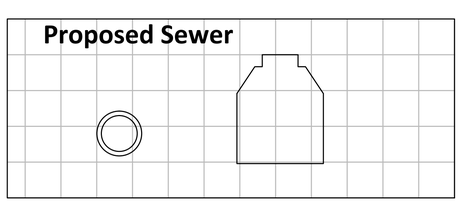



**NOTE:**

Pipe network section objects are always to be created or placed on object layer OB-XSECT-UTIL.

PIPE AND STRUCTURE STYLES.DWG Plotted on 2-Dec-2025 10:34 AM

# PIPE NETWORK LABEL AND TABLE STYLES

## MassDOT Pipe Network Tools Plan-View Label and Table Styles

### *PLAN-PROFILE PIPE LABEL STYLES: PLAN-VIEW LABELS*

**Notes:**
1. All Plan Profile label styles can be applied to either Drain or Sewer networks. Users must put labels on the correct utility text layers. The pipe and structure properties shall apply the correct values to the pipes and structures regardless of utility type. All examples below use the Drainage utility type. Labels applied to sewer networks will have the word SEWER in place of DRAIN.
2. The Plan-View labels are shown to indicate appearance as pipe diameter changes.

### *EXISTING PIPE LABELS*

**MassDOT_MPNT-Plan_EX_D_M**

***PLAN-VIEW LABEL DISPLAY***

***FLIPPED LABEL DISPLAY***

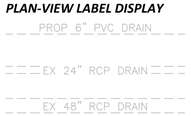



***DRAGGED STATE DISPLAY:***
STACKED TEXT

***DRAGGED STATE DISPLAY:***
ALIGNED

**MassDOT_MPNT-Plan_EX_D_M_UT**

***PLAN-VIEW LABEL DISPLAY***



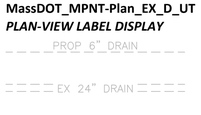

***FLIPPED LABEL DISPLAY***

***DRAGGED STATE DISPLAY:***
STACKED TEXT

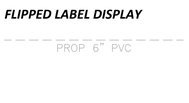
***DRAGGED STATE DISPLAY:***
ALIGNED

**MassDOT_MPNT-Plan_EX_D_UT**

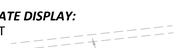
***PLAN-VIEW LABEL DISPLAY***




***FLIPPED LABEL DISPLAY***



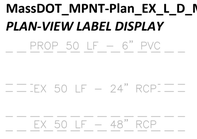

***DRAGGED STATE DISPLAY:***
STACKED TEXT




***DRAGGED STATE DISPLAY:***
ALIGNED

**MassDOT_MPNT-Plan_EX_L_D_M**

***PLAN-VIEW LABEL DISPLAY***




***FLIPPED LABEL DISPLAY***

***DRAGGED STATE DISPLAY:***
STACKED TEXT




***DRAGGED STATE DISPLAY:***
ALIGNED

**MassDOT_MPNT-Plan_EX_L_D_UT**

***PLAN-VIEW LABEL DISPLAY***

***FLIPPED LABEL DISPLAY***




***DRAGGED STATE DISPLAY:***
STACKED TEXT

***DRAGGED STATE DISPLAY:***
ALIGNED

### *RECORD LOCATION PIPE LABELS*

**MassDOT_MPNT-Plan_RD_D_M**

***PLAN-VIEW LABEL DISPLAY***

***FLIPPED LABEL DISPLAY***

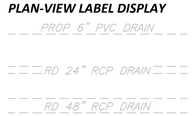



***DRAGGED STATE DISPLAY:***
STACKED TEXT

***DRAGGED STATE DISPLAY:***
ALIGNED

**MassDOT_MPNT-Plan_RD_D_M_UT**

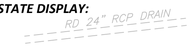
***PLAN-VIEW LABEL DISPLAY***




***FLIPPED LABEL DISPLAY***

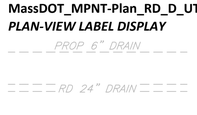
***DRAGGED STATE DISPLAY:***
STACKED TEXT

***DRAGGED STATE DISPLAY:***
ALIGNED



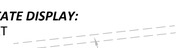

**MassDOT_MPNT-Plan_RD_D_UT**

***PLAN-VIEW LABEL DISPLAY***




***FLIPPED LABEL DISPLAY***

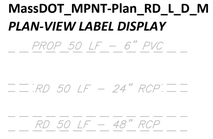
***DRAGGED STATE DISPLAY:***
STACKED TEXT




***DRAGGED STATE DISPLAY:***
ALIGNED

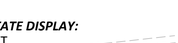
**MassDOT_MPNT-Plan_RD_L_D_M**

***PLAN-VIEW LABEL DISPLAY***




***FLIPPED LABEL DISPLAY***

***DRAGGED STATE DISPLAY:***
STACKED TEXT




***DRAGGED STATE DISPLAY:***
ALIGNED

**MassDOT_MPNT-Plan_RD_L_D_UT**

***PLAN-VIEW LABEL DISPLAY***

***FLIPPED LABEL DISPLAY***



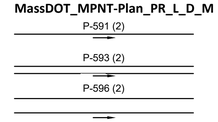

***DRAGGED STATE DISPLAY:***
STACKED TEXT

***DRAGGED STATE DISPLAY:***
ALIGNED

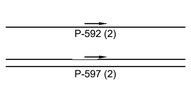
### *PROPOSED PIPE LABELS*

***PLAN-VIEW LABEL DISPLAY***

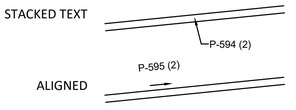
**MassDOT_MPNT-Plan_PR_L_D_M**



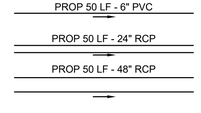

***FLIPPED LABEL DISPLAY***

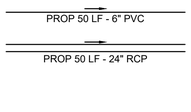


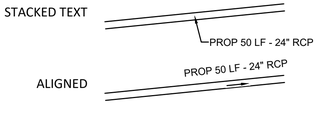

***DRAGGED STATE DISPLAY:***



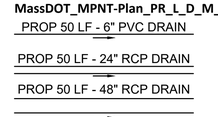

**MassDOT_MPNT-Plan_PR_L_D_M**

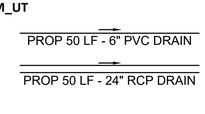


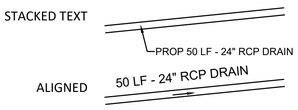



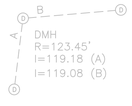
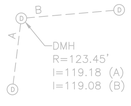
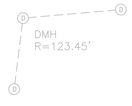
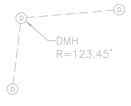



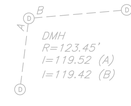
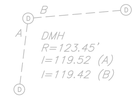
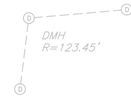
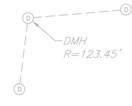

**MassDOT_MPNT-Plan_PR_L_D_M_UT**



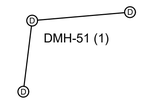
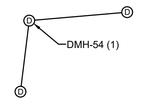
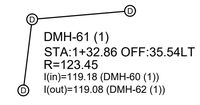
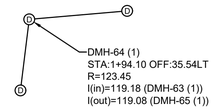
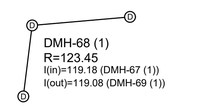
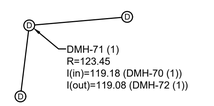




| | AS-INSERTED DISPLAY | DRAGGED LABEL DISPLAY |
|---|---|---|
| **STRUCTURE TYPE, RIM, AND INVERTS:** |   |   |
| **STRUCTURE TYPE AND RIM** |   |   |

| | AS-INSERTED DISPLAY | DRAGGED LABEL DISPLAY |
|---|---|---|
| |   |   |
| |   |   |

**NOTES:**

1. STYLE SAMPLE SHEET PLOTTED USING MADOT-D.STB PLOTSTYLE TABLE.
2. PLAN STRUCTURE LABELS MUST BE APPLIED ON THE CORRECT UTILITY TEXT LAYER. NO LAYER IS ASSIGNED WITHIN THE STYLE.
3. LABEL POSITION RELATIVE TO THE STRUCTURE IS AT THE DISCRETION OF THE USER. SEE DRAGGED LABEL DISPLAY FIGURES FOR GUIDANCE PLACING LABELS IN CONFINED LOCATIONS.
4. STRUCTURES LABELED USING A STYLE EXCLUDING THE STATION-OFFSET LOCATION MUST BE COMBINED WITH A STRUCTURE TABLE ON THE SAME SHEET INDICATING THE STATION-OFFSET LOCATIONS OF EACH STRUCTURE TO BE CONSTRUCTED OR MODIFIED.

| | AS-INSERTED DISPLAY | DRAGGED LABEL DISPLAY |
|---|---|---|
| **STRUCTURE NAME ONLY: (SEE NOTE 4)** |   |   |
| **NAME, LOCATION, RIM, AND INVERTS: (DEFAULT)** |   |   |
| | | |
| **NAME, RIM, AND INVERTS: (SEE NOTE 4)** |   |   |

USE STRUCTURE PROPERTY SET DATA NOTES PROPERTY TO CREATE STRUCTURE REMARKS.

| DRAINAGE STRUCTURE DATA | | | | | | |
|---|---|---|---|---|---|---|
| **NO.** | **TYPE** | **STATION** | **RIM ELEV.** | **INV. ELEV. IN** | **INV. ELEV. OUT** | **REMARKS** |
| DMH-67 (1) | PROP DMH | 1+30.4 37.7' RT | 123.45 | | I=119.28' (DMH-68 (1)) | |
| DMH-68 (1) | PROP DMH | 1+32.9 17.9' RT | 123.45 | I=119.18' (DMH-67 (1)) | I=119.08' (DMH-69 (1)) | |