MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

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

JUNE 2026

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

INDEX

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

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

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

SB NB WB EB

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.

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.

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.

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

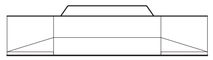
CURB RAMP & DRIVEWAY LAYOUT BLOCKS

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

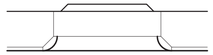
Driveways

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

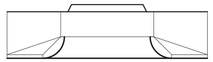


Block Name: HD-DWY-WLK
Layer:PR-HD-WALK

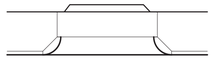
Sidewalk Through Driveways With Curb Returns: Const. Std. Det. # 701.1.2



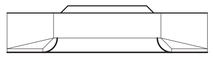
Block Name: HD-DWY-WLK-CR-TYPE-A
Layer: PR-HD-WALK
Add Flares? No Transition Flares



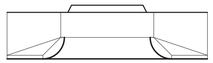
Block Name: HD-DWY-WLK-CR-TYPE-B
Layer: PR-HD-WALK
Add Flares? Add Transition Flares



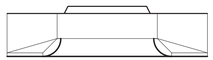
Block Name: HD-DWY-WLK-CR-TYPE-C
Layer: PR-HD-WALK
Add Flares? No Transition Flares



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

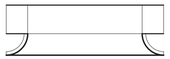


Block Name: HD-DWY-WLK-CR-TYPE-B
Layer: PR-HD-WALK
Add Flares? Add Transition Flares



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



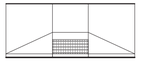
Block Name: HD-DWY-WLK-RES
Layer:PR-HD-WALK

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

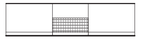
Pedestrian Curb Ramp Less Than 12'4" Sidewalk (Perpendicular Ramp): Const. Std. Det. # 701.2.3



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

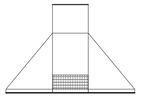
Block Name: HD-PCR
Layer:PR-HD-WALK

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



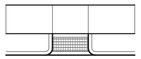
Block Name: HD-PCR-NARROW
Layer:PR-HD-WALK

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.

DESIGN FLARED END SECTION SYMBOLS

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

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

SIZE: 12" RCP
SIZE: 15" RCP
SIZE: 18" RCP
SIZE: 21" RCP
SIZE: 24" RCP
SIZE: 30" RCP
SIZE: 36" RCP
SIZE: 42" RCP
SIZE: 48" RCP
SIZE: 54" RCP
SIZE: 60" RCP
SIZE: 72" RCP

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.

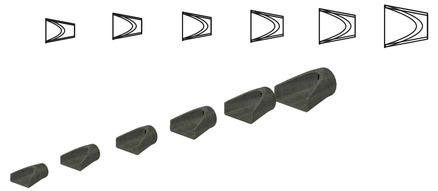
BLOCK NAME: HD-FES-##-PIPE
= Pipe diameter in inches

SIZE: 12" CMP/CPP
SIZE: 15" CMP/CPP
SIZE: 18" CMP/CPP
SIZE: 21" CMP/CPP
SIZE: 24" CMP/CPP
SIZE: 30" CMP/CPP
SIZE: 36" CMP/CPP
SIZE: 42"CMP/CPP
SIZE: 48" CMP/CPP
SIZE: 54" CMP/CPP
SIZE: 60" CMP/CPP
SIZE: 72" CMP/CPP
SIZE: 84" CMP/CPP

3D Flared End Sections: 24"-84"

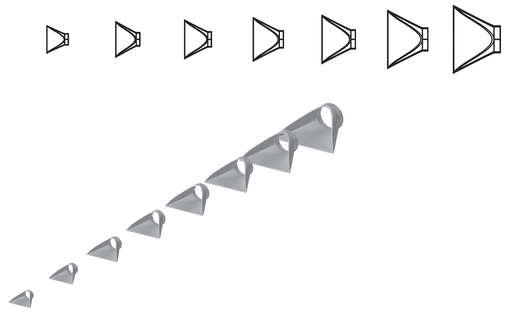
BLOCK NAME: HD-FES-RCP-##-PIPE-3D
= Pipe diameter in inches

RCP



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

CMP or CPP



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

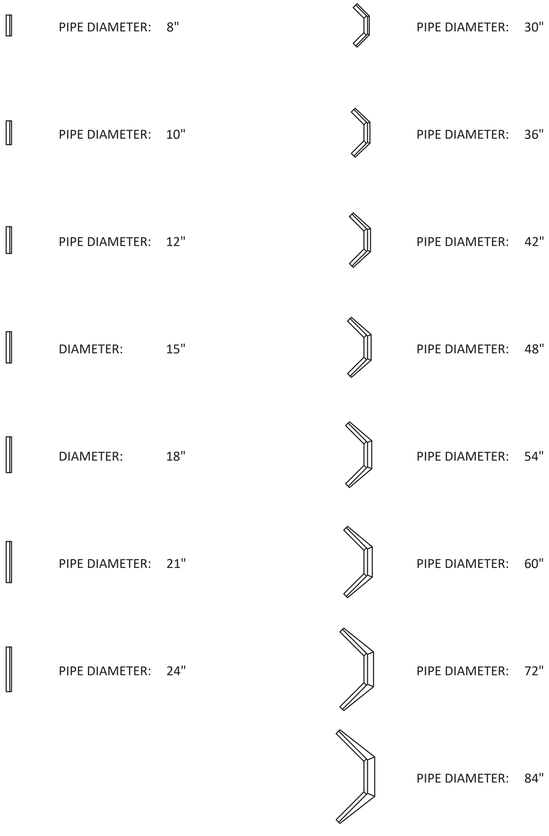
SOURCE DWG PATH:
...\MASSDOT\MASSDOT_CAD_STATE_KIT\C3D 2026\BLOCKS\HWYDESIGN_HW.DWG

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

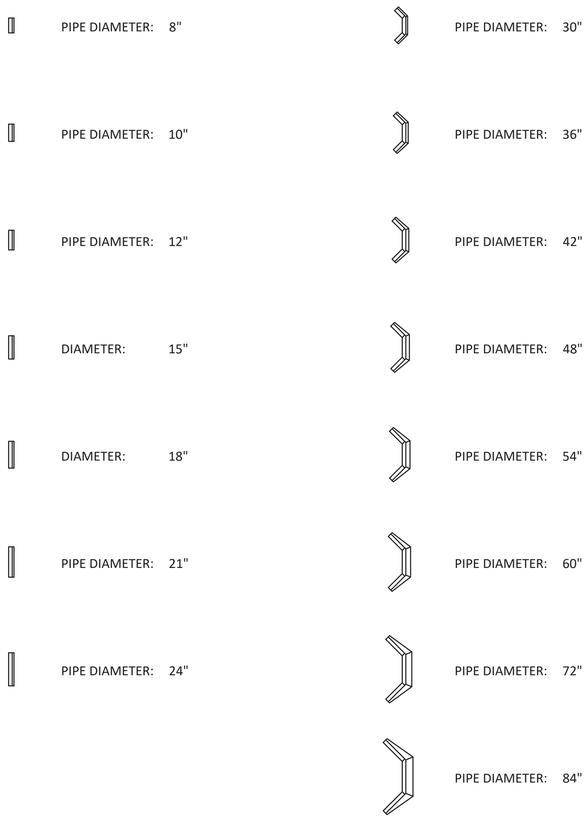


1.5:1 Backslope Headwalls

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

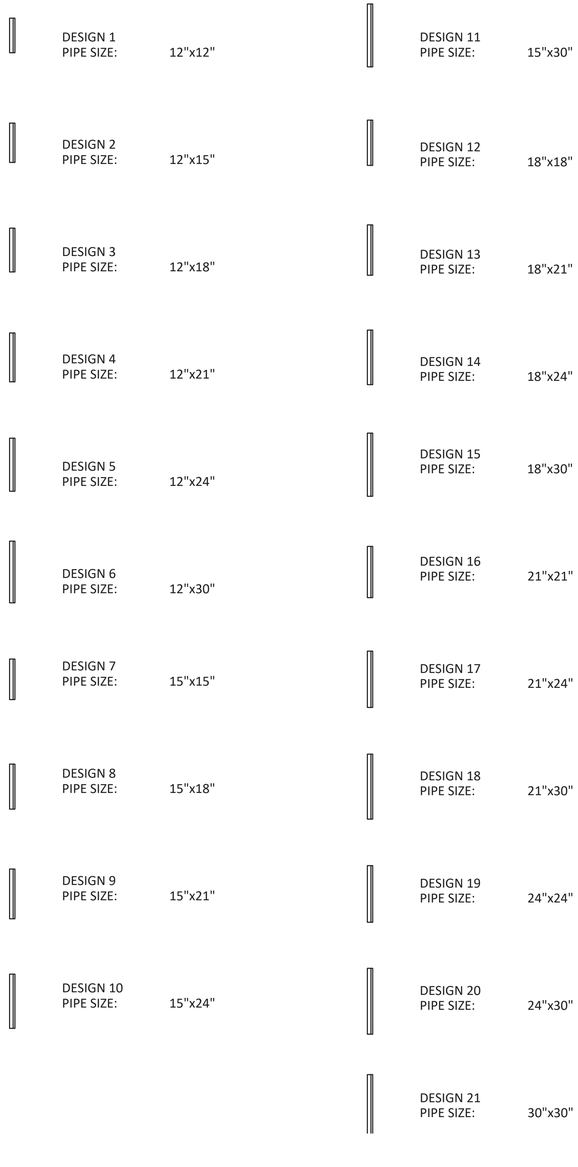


Combination Headwalls

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



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

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

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 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 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.

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.

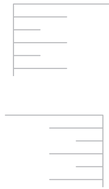
SYMBOL NAME: Existing Hydrant
SYMBOL
DESCRIPTION: Hydrant symbol in section view.

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.

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.

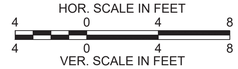
BLOCK NAME: HD-XS-GR-TB-WP-SF-L/HD-XS-GR-TB-WP-SF-R
LAYER: EX-SV-GRDL-WOOD
BLOCK TYPE: Symbol
DYNAMIC: No
SPACE: Model
ANNOTATIVE: Yes
ROTATION REF: View
COMMENTS: Can be inserted as a block in a section view or guardrail can be projected into cross section views using a projection style.

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.



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

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

×265
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

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

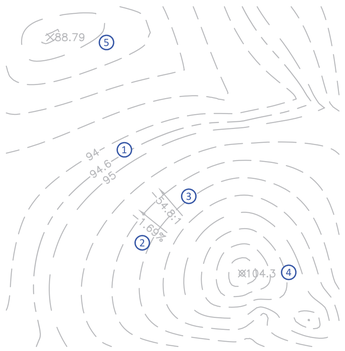
FLOOD PLAIN ELEV.

MassDOT_Northing-Easting

N 130.0000
E 1315.0000

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

SURFACE STYLES

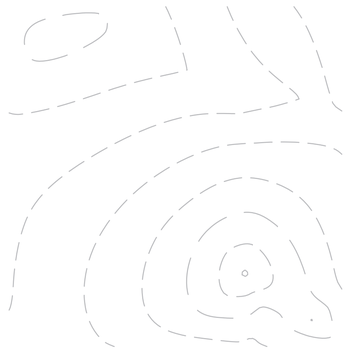


Surface Style:
MassDOT_Existing Contours (1-5)

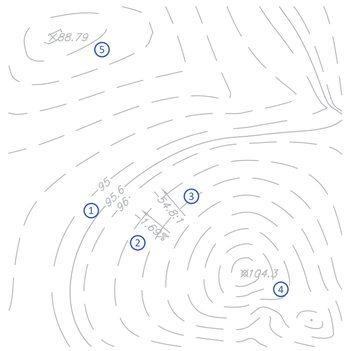
Contour Label Styles:
MassDOT_EXIST (1)
MassDOT_EXIST_User_Defined

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)

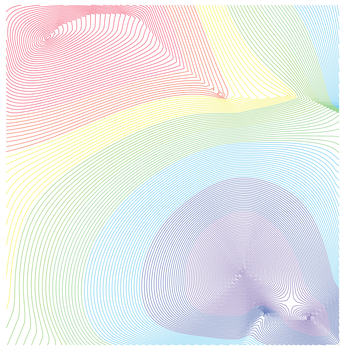
Surface Style:
MassDOT_Proposed Contours (1-5)

Contour Label Styles:
MassDOT_DESIGN (1)
MassDOT_DESIGN_User_Defined

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

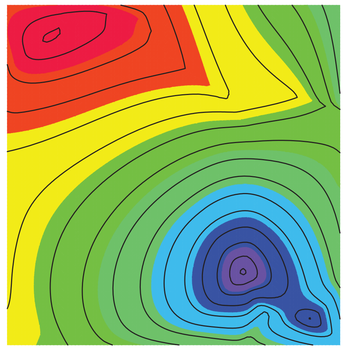
Spot Grade Label Styles:
MassDOT_DESIGN (.1) (4)
MassDOT_DESIGN (.01) (5)

Surface Style:
MassDOT_Proposed Contour Analysis (0.1-0.5)



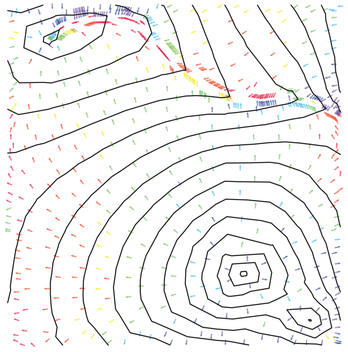
CONTOUR LEGEND		
NO.	MIN. ELEVATION	MAX. ELEVATION
1	88.70	92.00
2	92.00	93.00
3	93.00	94.00
4	94.00	95.00
5	95.00	96.00
6	96.00	98.00
7	98.00	100.00
8	100.00	104.00

Surface Style:
MassDOT_Proposed Elevation Banding Analysis



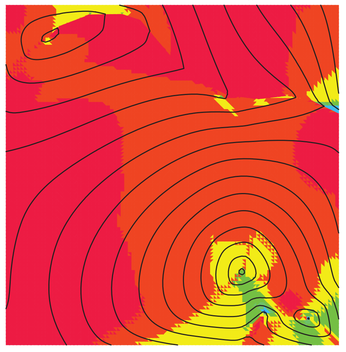
ELEVATION LEGEND			
NO.	MIN. ELEVATION	MAX. ELEVATION	COLOR
1	88.70	90.65	
2	90.65	92.60	
3	92.60	94.55	
4	94.55	96.50	
5	96.50	98.45	
6	98.45	100.40	
7	100.40	102.35	
8	102.35	104.30	

Surface Style:
MassDOT_Proposed Slope Arrow Analysis



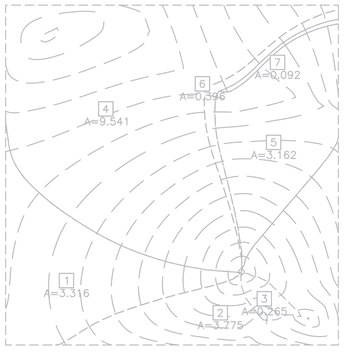
SLOPE ARROW LEGEND			
NO.	MIN. SLOPE	MAX. SLOPE	COLOR
1	0.18%	0.80%	
2	0.80%	1.20%	
3	1.20%	1.30%	
4	1.30%	1.50%	
5	1.50%	1.90%	
6	1.90%	2.30%	
7	2.30%	3.10%	
8	3.10%	6.90%	

Surface Style:
MassDOT_Proposed Slope Banding Analysis

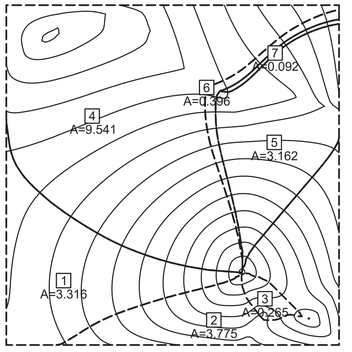


SURFACE SLOPE LEGEND			
NO.	MIN. SLOPE	MAX. SLOPE	COLOR
1	0.24%	1.40%	
2	1.40%	2.50%	
3	2.50%	3.60%	
4	3.60%	4.70%	
5	4.70%	5.70%	
6	5.70%	6.80%	
7	6.80%	7.00%	
8	7.00%	9.10%	

Surface Style:
MassDOT_Existing Watersheds



Surface Style:
MassDOT_Proposed Watersheds



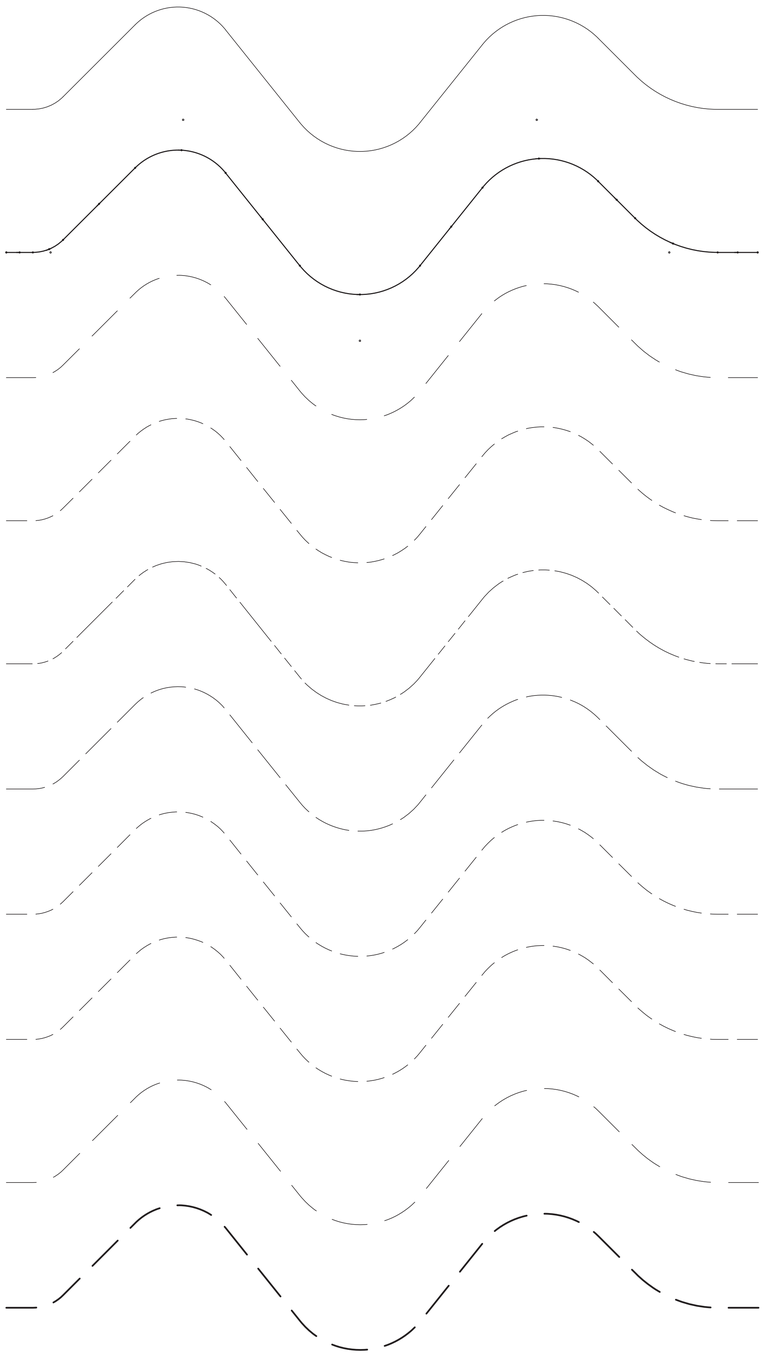
WATERSHED TABLE				
ID	TYPE	DRAINS TO	DESCRIPTION	AREA (AC)
1	BOUNDARY SEGMENT		DESCRIPTION 1	3.316
2	BOUNDARY SEGMENT		DESCRIPTION 2	3.775
3	DEPRESSION	2	DESCRIPTION 3	0.265
4	DEPRESSION		DESCRIPTION 4	9.541
5	DEPRESSION	6	DESCRIPTION 5	3.162
6	DEPRESSION	4	DESCRIPTION 6	0.396
7	MULTI-DRAIN	5, 6	DESCRIPTION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

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

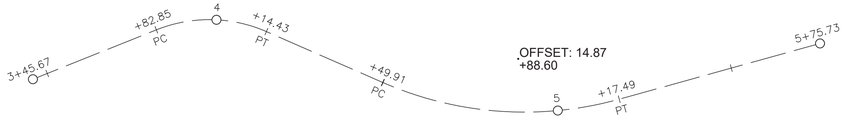
20 0 20 40
SCALE: 1" = 20'

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.

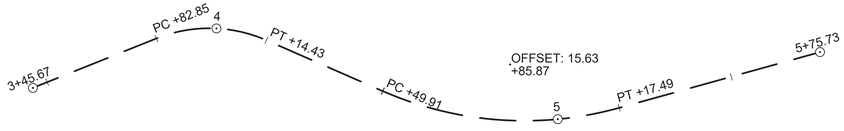
MassDOT_Existing



Label all existing baselines using the MassDOT_Existing label set style.

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

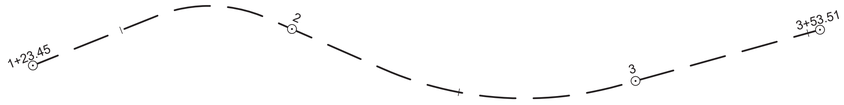
MassDOT_Proposed



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



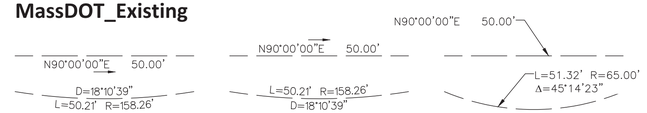
Label all proposed construction baselines on Key Plans using the MassDOT_Proposed_Major and Minor Only label set style.

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

Alignment Segment Label Styles

AS-INSERTED FLIPPED DRAGGED STATE

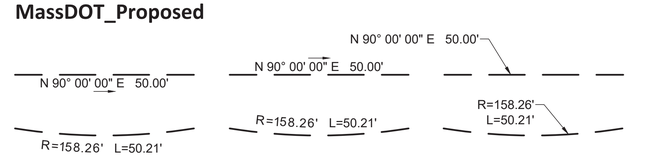
MassDOT_Existing



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



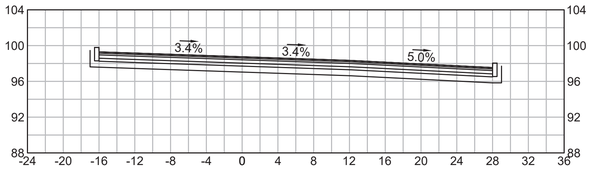
Label all proposed construction baseline segments using the MassDOT_Proposed label set style.

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

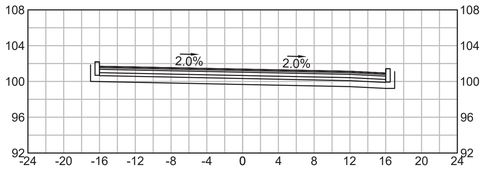
SEGMENT LABELING NOTES:

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.

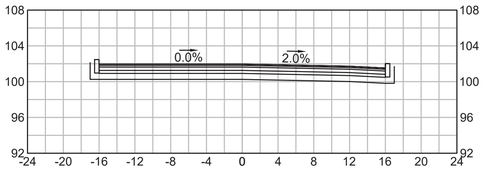
ALIGNMENT SUPERELEVATION AND CURB TIE LABEL STYLES



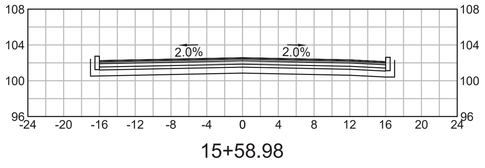
18+09.33



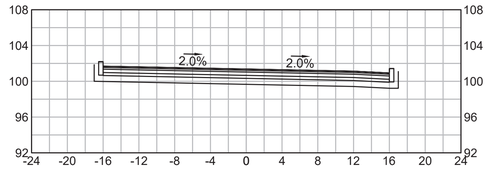
16+36.62



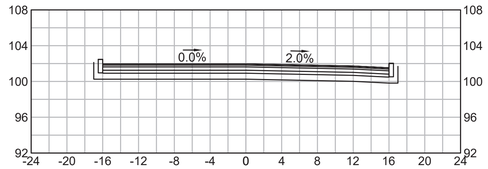
15+97.80



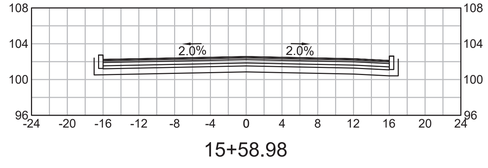
15+58.98



16+36.62



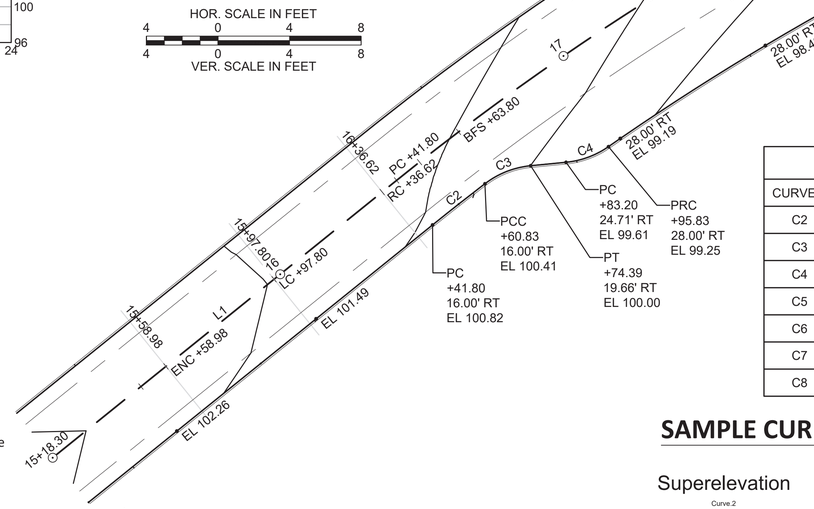
15+97.80



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

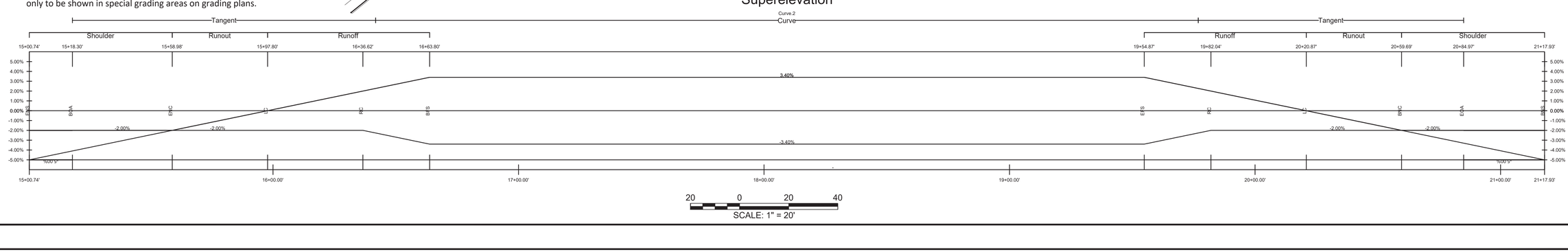
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	15+18.30	81.797	3011.714		N51°06'38"E 123.50'	16+41.80	159.332	3107.841
C1	16+41.80	159.332	3107.841	R=765.00' Δ=25°05'43" L=335.06' T=170.26'		19+76.87	306.824	3405.719
L2	19+76.87	306.824	3405.719		N76°12'20"E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

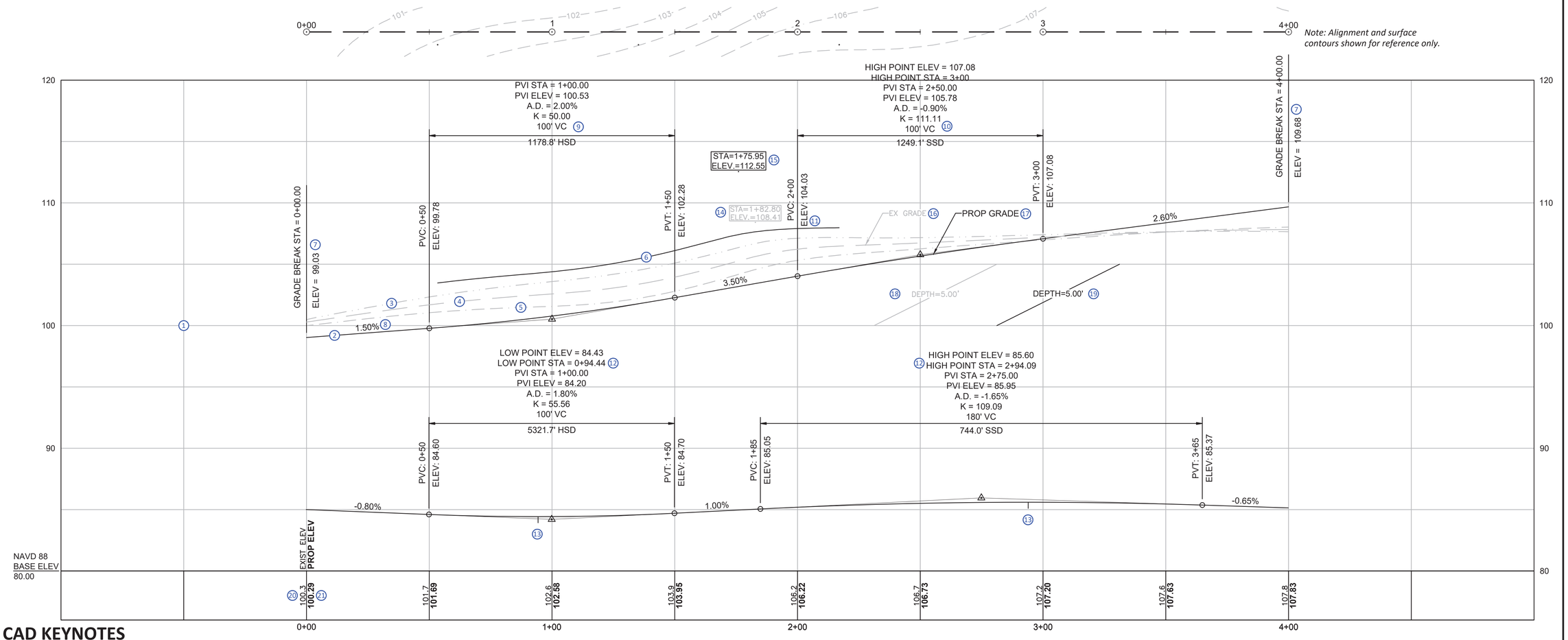
SAMPLE CURB-TIE PLAN LABEL AND TABLE STYLES

Superelevation



20 0 20 40
SCALE: 1" = 20'

PROFILE STYLES



CAD KEYNOTES

#	KEYNOTE DESCRIPTION
1	Profile View Style: MassDOT_Standard 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. 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. 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 Marks the beginning and end of the layout profile and any grade breaks. Apply to layout profile using label set style MassDOT_MHD_Design.
8	Profile Line Label Style: MassDOT_Design Denotes the slope of the vertical tangent. Apply to layout profile using label set style MassDOT_MHD_Design.
9	Sag Curve Label Style: MassDOT_Sag_Curve_HSD Denotes sag curves only on the layout profile. 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. Apply to layout profile using label set style MassDOT_MHD_Design.

#	KEYNOTE DESCRIPTION
10	Crest Curve Label Style: MassDOT_Crest_Curve_SSD Denotes crest curves only on the layout profile. 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. 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. 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 Put on layer PR-HD-PROF-EX-TEXT.

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

#	KEYNOTE DESCRIPTION
20	Set the Profile1 band to the existing grade profile object. 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. 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. Refer to the MSPT Highway Construction Plans Help Doc for more detailed instructions.

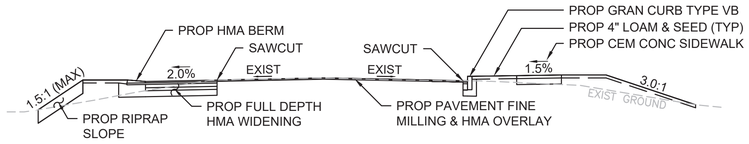
HOR. SCALE IN FEET
20 0 20 40
4 0 4 8
VER. SCALE IN FEET

(22)
FOR CONSTRUCTION PLAN:
SEE SHEET NO. XX

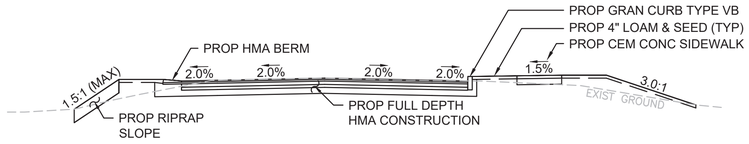
CODE SET STYLES FOR ASSEMBLIES

Typical Section Examples

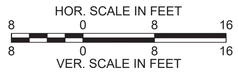
The following code set style samples are based on the simplified typical section examples below.



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)

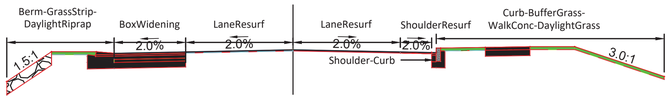
PAVEMENT FINE MILLING & HMA OVERLAY

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

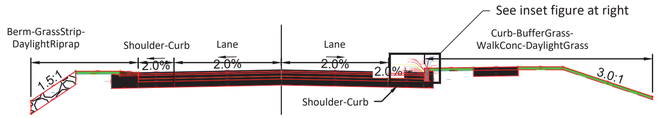


RESURFACING SECTION ASSEMBLY

(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

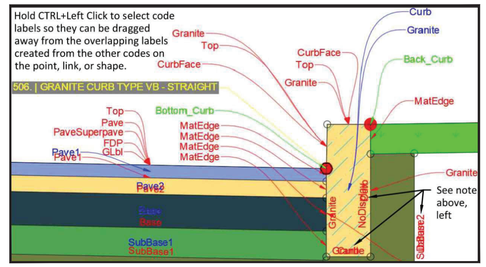
Use the MCMT Assembly Codes with Code Labels code set style to compose assemblies by leveraging the information read from the code labels that indicate how the corridor region will be modeled. Newly created assemblies use this style by default.

Subassembly Code Labels and Symbols

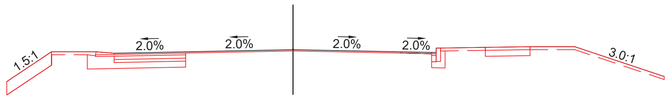
Use subassembly code labels and symbols to aid creation of assemblies. Identify the correct subassembly setup prior to corridor creation and quickly assess coding issues in the corridor.

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

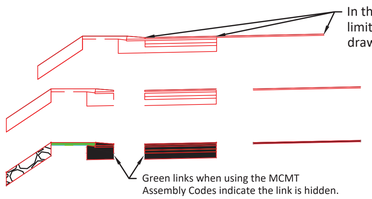


RESURFACING SECTION ASSEMBLY

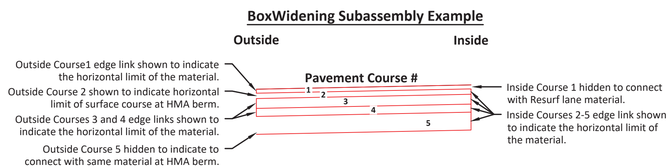
(SCREEN DISPLAY)

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

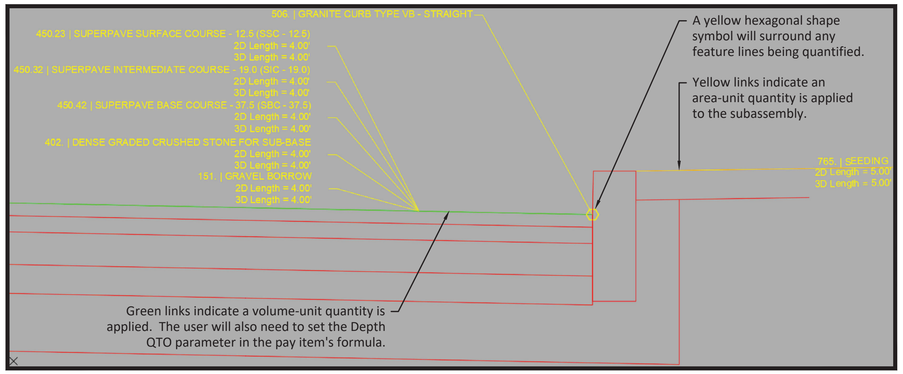


--BOUNDARY LINK CONTROL--	------
Show Inside Course1 Link?	No
Show Inside Course 2 Link?	Yes
Show Inside Course 3 Link?	Yes
Show Inside Course 4 Link?	Yes
Show Inside Course 5 Link?	Yes
Show Outside Course 1 Link?	Yes
Show Outside Course 2 Link?	No
Show Outside Course 3 Link?	Yes
Show Outside Course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

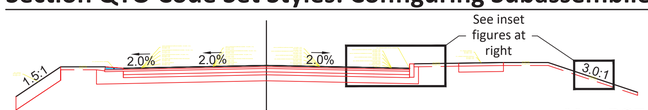
Each material edge link in a subassembly has a toggle control to display or hide the link in the subassembly's input parameters.

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

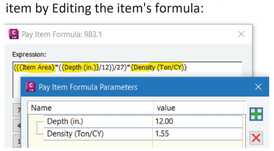
Use the MCMT Section QTO Codes with Labels code set style to set up subassemblies that will perform QTO analysis on corridors.

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.

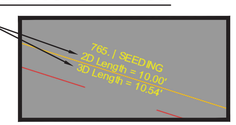
QTO point codes can generate linear quantities and QTO link codes can generate area and material volume quantities.

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.

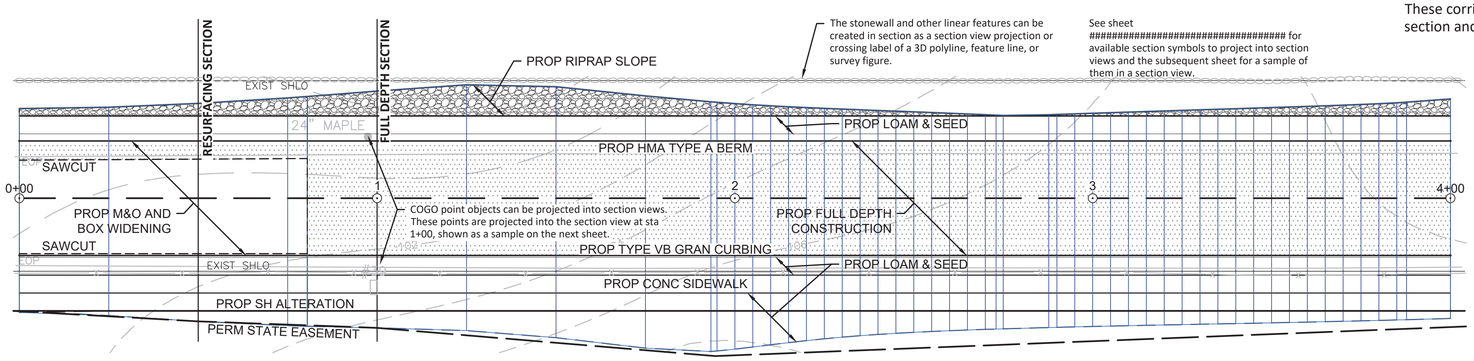
PLAN-VIEW CORRIDOR STYLES

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



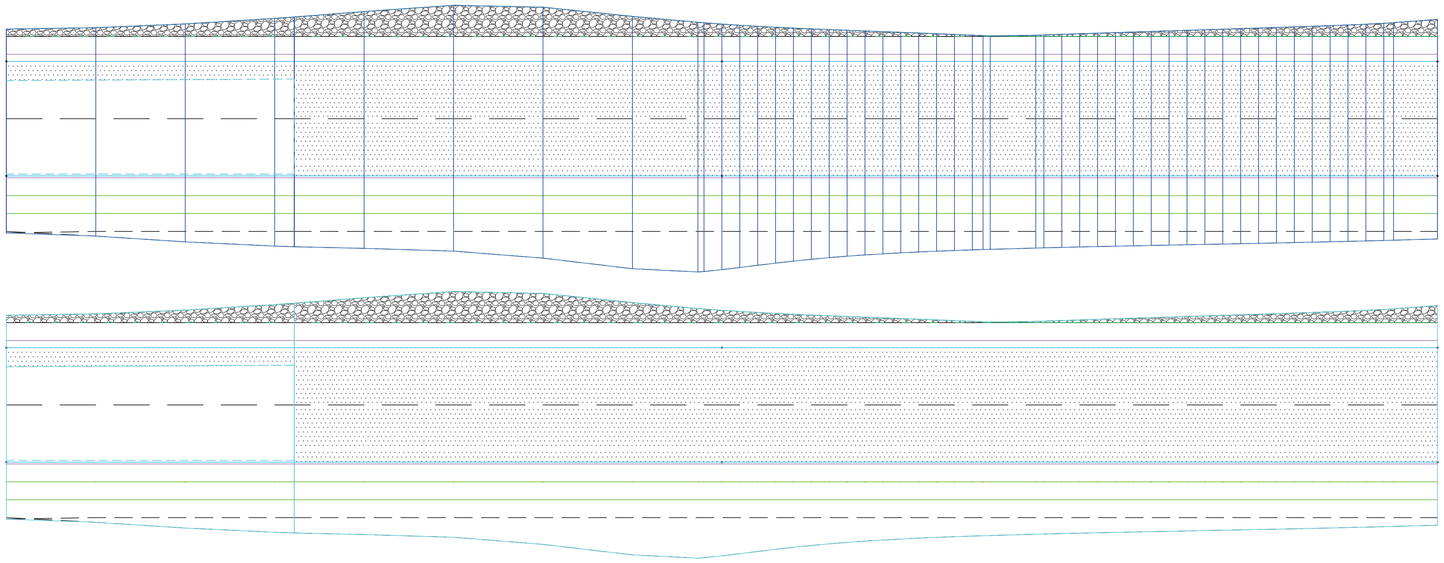
Viewing Corridor Section Stations

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

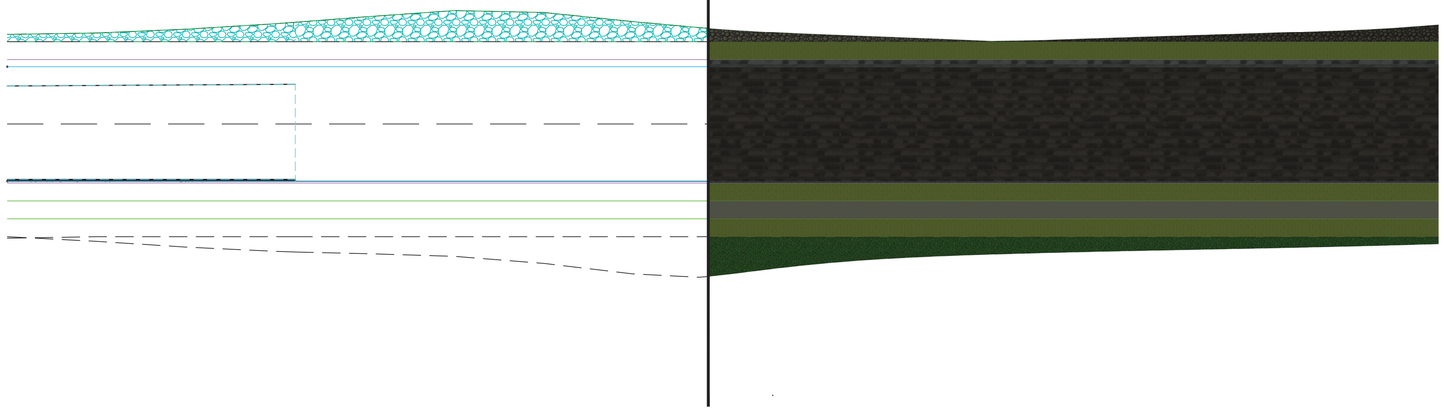
Corridor Style: Any
Corridor Code Set Style: MassDOT_MCMT-Corridor QTO Codes

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.

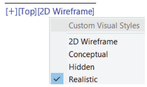
Yellow hatching indicates an area that produces an area quantity.

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

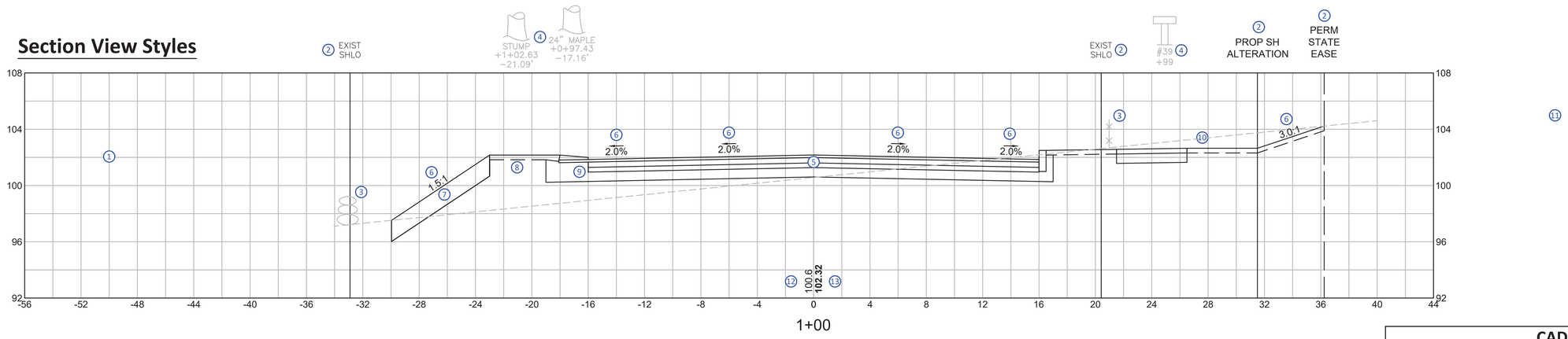
Corridor Style: Any
Corridor Code Set Style: Any
Set the Visual Style control to Realistic:



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.

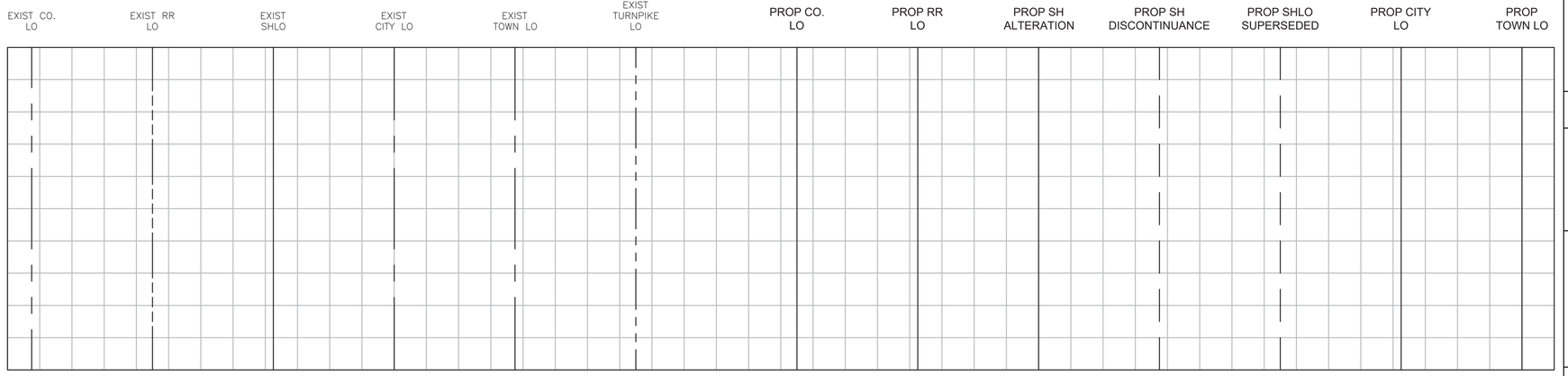
SECTION STYLES

Section View Styles



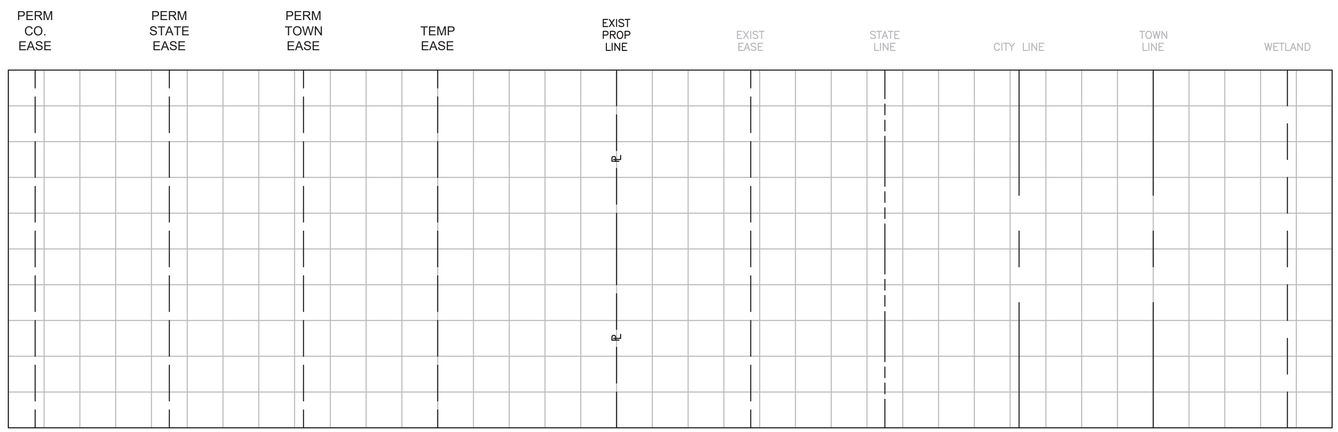
Section Offset Label Lines

Existing Layout Line Points



Proposed Layout Line Points

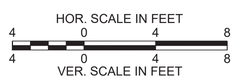
Right Of Way Easement Line Points



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 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. 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. 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. 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. 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. 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. For a full representation of available section detailing symbols, see the sheet Cross Section Detail Symbols. 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. 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. MSL subassemblies all have a toggle that allows users to apply the labels or hide them. 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. Show the vertical material edge link at the outer boundaries of a material section only. 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. 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. 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. 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. 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.

PIPE AND STRUCTURE STYLES

Plan-View Pipe Styles

	EXISTING PIPE	RECORD LOCATION PIPE	PROPOSED PIPE
DRAINAGE	MassDOT_DRN_EX_Single-Line MassDOT_DRN_EX_Double-Line	MassDOT_DRN_RD_Single-Line MassDOT_DRN_RD_Double-Line	MassDOT_DRN_PR_Single-Line 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 MassDOT_SWR_EX_Double-Line	MassDOT_SWR_RD_Single-Line MassDOT_SWR_RD_Double-Line	MassDOT_SWR_PR_Single-Line 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:

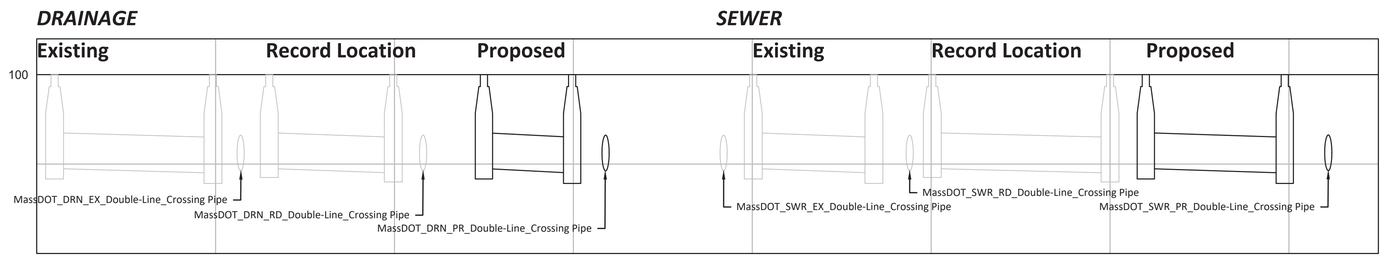
EX-UT-ELEC-UGND 11 HIDDEN2 UTILITY EXIST Existing Electric Underground

MISCELLANEOUS STRUCTURE STYLES

- MassDOT_Standard

MassDOT_Unknown Pipe End

Profile-View Pipe and Structure Styles

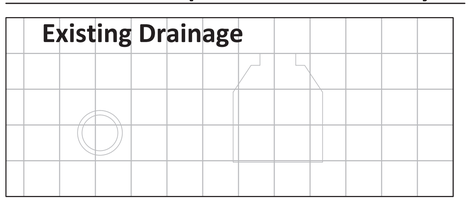


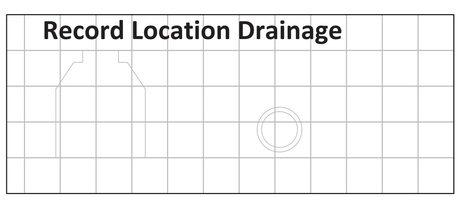
Crossing Pipe Styles

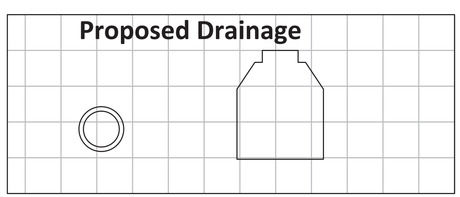
When a pipe in plan-view crosses the profile's alignment, the pipe's style shall be set to use the version of the pipe style suffixed *_Crossing Pipe*.

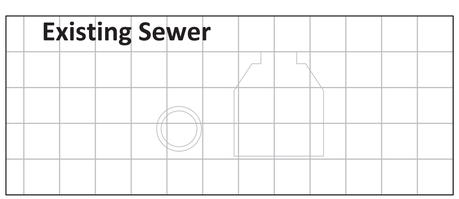
The Crossing Pipe version of the pipe style makes the pipe appear in profile-view as the typical ellipse shape usually seen in utility profiles. The invert elevation is placed at the pipe's alignment crossing point elevation.

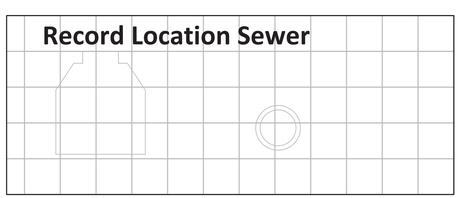
Section-View Pipe and Structure Styles

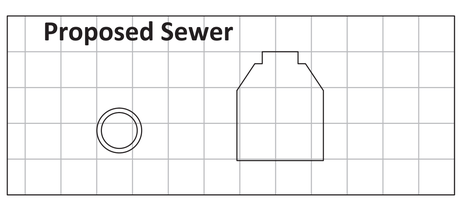












NOTE:

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

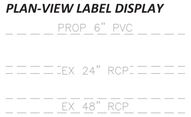
PLAN-PROFILE PIPE LABEL STYLES: PLAN-VIEW LABELS

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

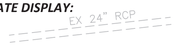
PLAN-VIEW LABEL DISPLAY



FLIPPED LABEL DISPLAY

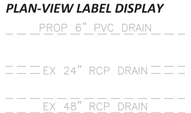
DRAGGED STATE DISPLAY:
STACKED TEXT

DRAGGED STATE DISPLAY:
ALIGNED



MassDOT_MPNT-Plan_EX_D_M_UT

PLAN-VIEW LABEL DISPLAY



FLIPPED LABEL DISPLAY

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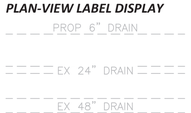
STACKED TEXT

DRAGGED STATE DISPLAY:
ALIGNED

MassDOT_MPNT-Plan_EX_D_UT

PLAN-VIEW LABEL DISPLAY



FLIPPED LABEL DISPLAY

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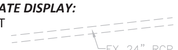
STACKED TEXT



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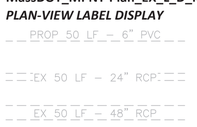
MassDOT_MPNT-Plan_EX_L_D_M

PLAN-VIEW LABEL DISPLAY



FLIPPED LABEL DISPLAY

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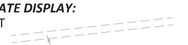
STACKED TEXT



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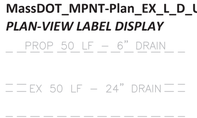
MassDOT_MPNT-Plan_EX_L_D_UT

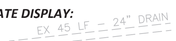
PLAN-VIEW LABEL DISPLAY



FLIPPED LABEL DISPLAY

DRAGGED STATE DISPLAY:
STACKED TEXT

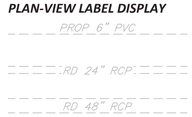
DRAGGED STATE DISPLAY:
ALIGNED



RECORD LOCATION PIPE LABELS

MassDOT_MPNT-Plan_RD_D_M

PLAN-VIEW LABEL DISPLAY



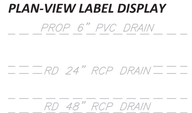
FLIPPED LABEL DISPLAY

DRAGGED STATE DISPLAY:
STACKED TEXT

DRAGGED STATE DISPLAY:
ALIGNED

MassDOT_MPNT-Plan_RD_D_M_UT

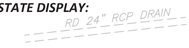
PLAN-VIEW LABEL DISPLAY



FLIPPED LABEL DISPLAY

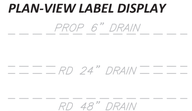
DRAGGED STATE DISPLAY:
STACKED TEXT

DRAGGED STATE DISPLAY:
ALIGNED



MassDOT_MPNT-Plan_RD_D_UT

PLAN-VIEW LABEL DISPLAY



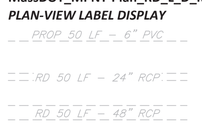
FLIPPED LABEL DISPLAY

DRAGGED STATE DISPLAY:
STACKED TEXT

DRAGGED STATE DISPLAY:
ALIGNED

MassDOT_MPNT-Plan_RD_L_D_M

PLAN-VIEW LABEL DISPLAY



FLIPPED LABEL DISPLAY

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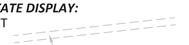

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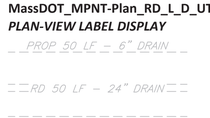
MassDOT_MPNT-Plan_RD_L_D_UT

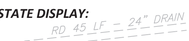
PLAN-VIEW LABEL DISPLAY



FLIPPED LABEL DISPLAY

DRAGGED STATE DISPLAY:
STACKED TEXT

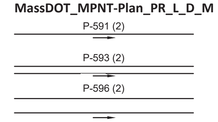
DRAGGED STATE DISPLAY:
ALIGNED



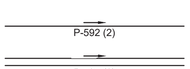
PROPOSED PIPE LABELS

MassDOT_MPNT-Plan_PR_L_D_M

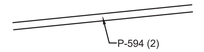
PLAN-VIEW LABEL DISPLAY



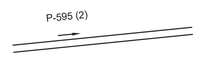
FLIPPED LABEL DISPLAY



DRAGGED STATE DISPLAY:
STACKED TEXT

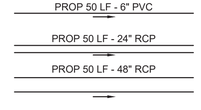


ALIGNED



MassDOT_MPNT-Plan_PR_L_D_M

PLAN-VIEW LABEL DISPLAY



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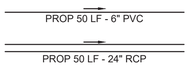

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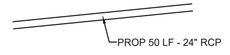

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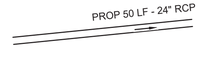
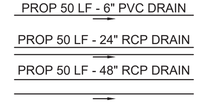


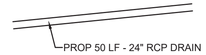
MassDOT_MPNT-Plan_PR_L_D_M_UT

PLAN-VIEW LABEL DISPLAY

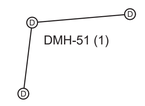
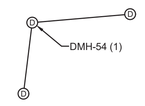
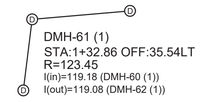
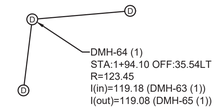
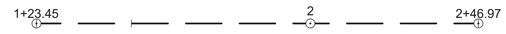
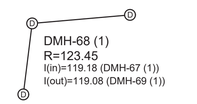


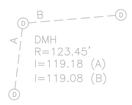
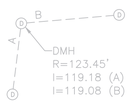
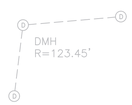
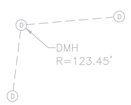
FLIPPED LABEL DISPLAY

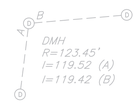
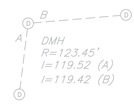
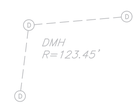
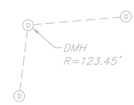
DRAGGED STATE DISPLAY:
STACKED TEXT



ALIGNED

	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)		

	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.

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))	