SCALE : NTS

BARRIER LEGEND

ITEM NO.	DESCRIPTION
1	W-BEAM
2	W6 X 9 STEEL POST
3A 3B	3A - 6" x 12" x 14" OFFSET BLOCK 3B - 6" x 8" x 14" OFFSET BLOCK
4	SPLICE - REQUIRES EIGHT(8) ⅝" GUARDRAIL BOLTS (L=1¼") WITH RECESS NUTS
5	W-BEAM TERMINAL CONNECTOR
6	⅝" GUARDRAIL BOLT (L=1¼") AND RECESS NUT
7A 7B	7A - ⅝" GUARDRAIL BOLT (L=14") AND RECESS NUT 7B - ⅝" GUARDRAIL BOLT (L=10") AND RECESS NUT
8	⅝" GUARDRAIL BOLT (L=10"), STEEL WASHER, AND RECESS NUT
9	⅞" HIGH STRENGTH STRUCTURAL HEX BOLT (L=VARIES) AND HEX NUT
10	⅝" HGR BOLT (L=VARIES), STEEL WASHER, AND HEX NUT
11	BEARING PLATE

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ENGINEERING SUPPORT — 12/08/2021 DATE

RECOMMENDED

BARRIER LEGEND

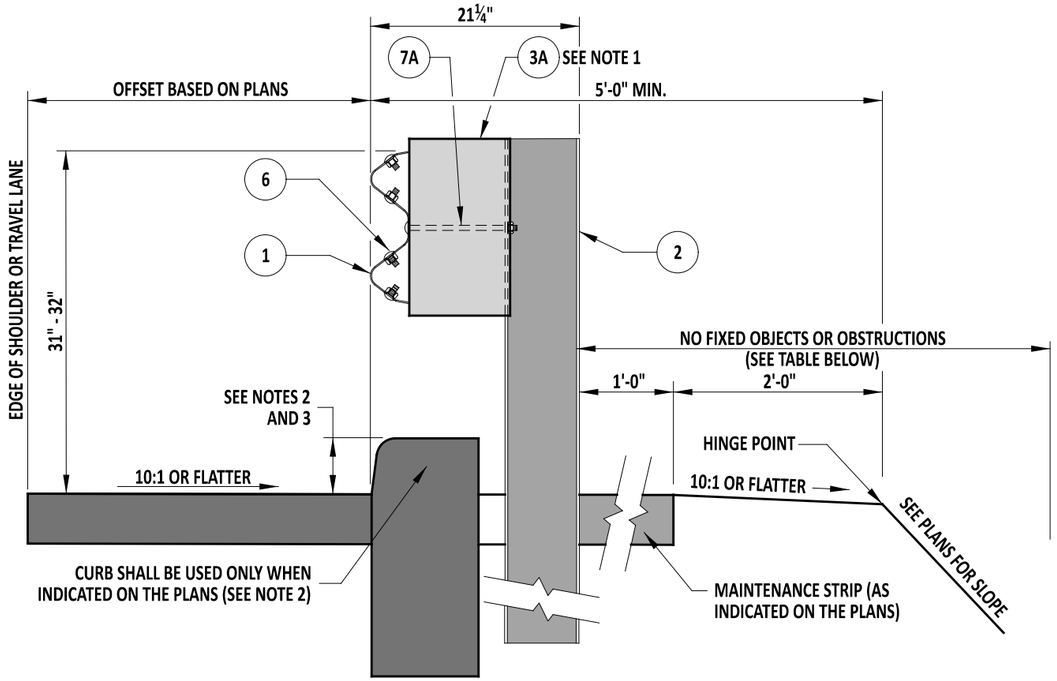
STANDARD NO. B-L (2021) | SHT. 1 OF 1

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

APPROVED — CHIEF ENGINEER — 12/20/2021 DATE

12/1/2021

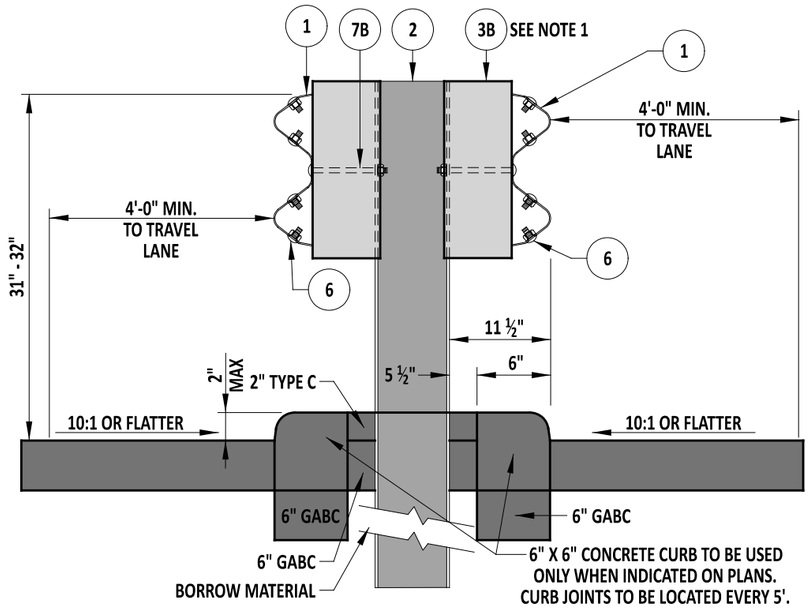
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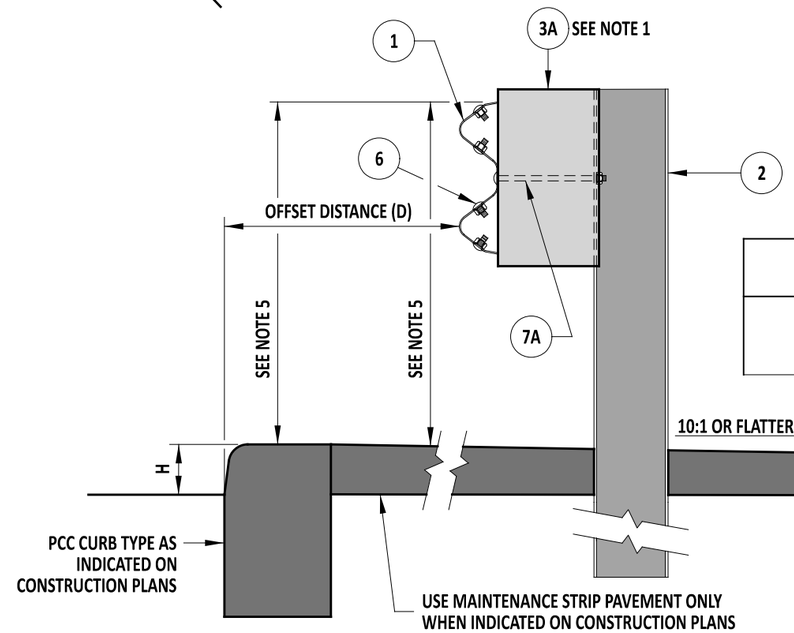
1-31 & 2-31 GUARDRAIL SECTION
SHOULDER APPLICATION

TYPE	POST SPACING	CLEAR AREA BEHIND POST
1	6'-3"	4'-0" MIN
2	3'-1½"	2'-6" MIN

NOTES:
1). SEE STANDARD SPECIFICATION FOR OFFSET BLOCK MATERIALS.
2). ON ROADWAYS WITH A POSTED SPEED LESS THAN OR EQUAL TO 50 MPH, WHERE THE FACE OF THE GUARDRAIL IS TO BE PLACED FLUSH WITH THE FACE OF THE CURB, THE HEIGHT OF THE CURB SHALL BE NO MORE THAN 6 INCHES. THE FACE OF THE GUARDRAIL SHALL BE INSTALLED FLUSH WITH THE FACE OF THE CURB OR NO MORE THAN 6 INCHES BEHIND THE FACE OF THE CURB.
3). ON ROADWAYS WITH POSTED SPEEDS GREATER THAN 50 MPH, WHERE THE FACE OF THE GUARDRAIL IS TO BE PLACED FLUSH WITH THE FACE OF THE CURB, THE HEIGHT OF THE CURB SHALL BE NO MORE THAN 4 INCHES. THE FACE OF THE GUARDRAIL SHALL BE INSTALLED FLUSH WITH THE FACE OF THE CURB OR NO MORE THAN 6 INCHES BEHIND THE FACE OF THE CURB.
4). H IS DEFINED AS THE MAXIMUM CURB HEIGHT FOR THE CURB/ GUARDRAIL APPLICATION.
5). GUARDRAIL HEIGHT MEASURED FROM TOP OF CURB SHALL BE 31"-32". GUARDRAIL HEIGHT MEASURED FROM GROUND SURFACE DIRECTLY ADJACENT TO FACE OF RAIL SHALL BE NO MORE THAN 34".
6). GUARDRAIL BEHIND CURB IS BASED ON MASH CRASH TEST REPORT TRP-03-237-10.



3-31 GUARDRAIL SECTION
MEDIAN APPLICATION



POSTED SPEED	D	H (SEE NOTE 4)
< 45 MPH	4'-0" MIN. - 12'-0" MAX. (SEE NOTE 6)	6" MAX

1-31 & 2-31 GUARDRAIL SECTION
BEHIND CURB APPLICATION

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ENGINEERING SUPPORT — 12/08/2021 DATE
RECOMMENDED

TYPES 1-31, 2-31, AND 3-31 GUARDRAIL APPLICATIONS

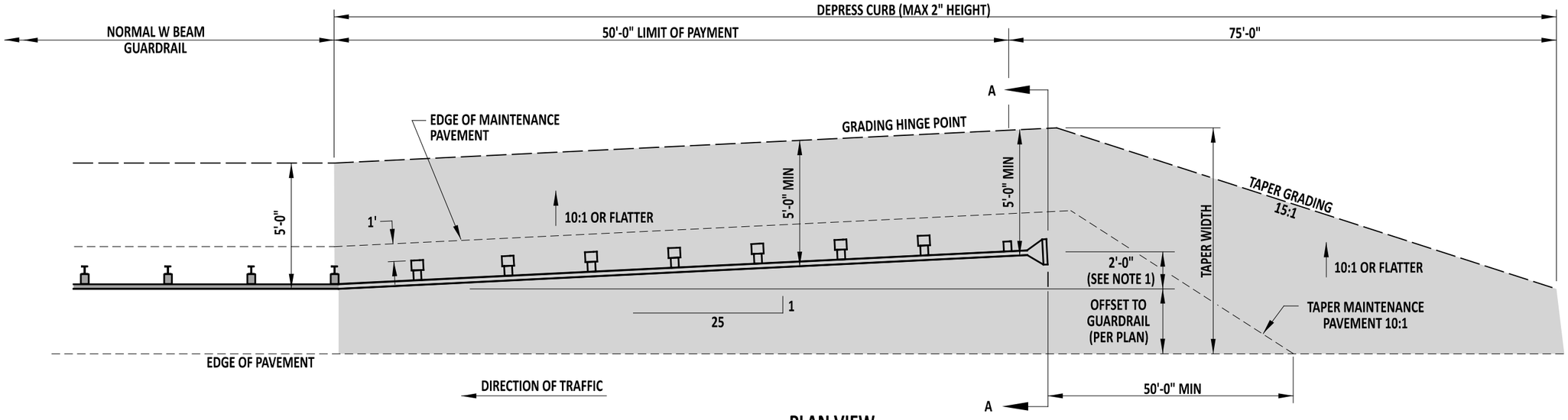
STANDARD NO. B-1 (2021) | SHT. 3 OF 5

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

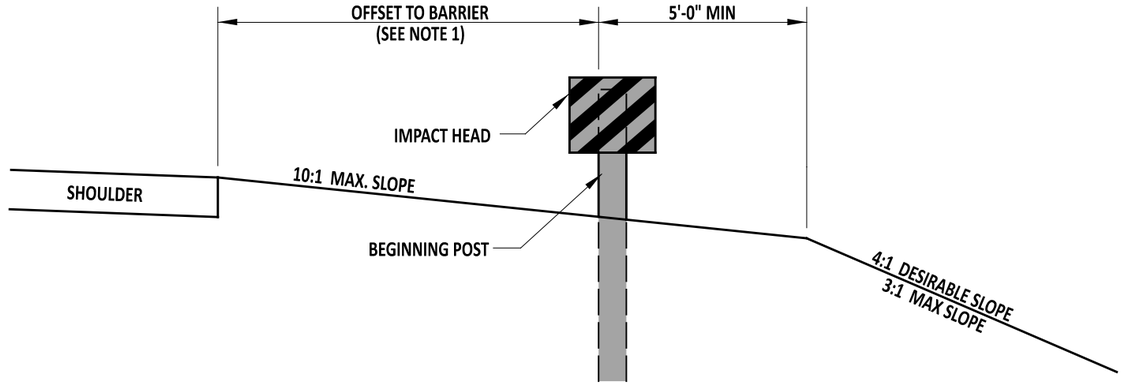
APPROVED — CHIEF ENGINEER — 12/20/2021 DATE

12/1/2021

SCALE : NTS



PLAN VIEW



SECTION A-A

NOTES:
1). FLARE THE END TREATMENT AT 25:1 BEGINNING 50'-0" FROM THE END OF THE IMPACT HEAD, UNLESS THE CONSTRUCTION PLANS OR SPECIFICATIONS SPECIFY A SMALLER FLARE.
2). THIS DETAIL WAS SOLELY CREATED TO SHOW THE GRADING REQUIRED FOR THIS TYPE OF GUARDRAL END TREATMENT AND IS APPLICABLE IN THE ABSENCE OF SPECIFIC GRADING REQUIREMENTS FROM THE GUARDRAIL END TREATMENT MANUFACTURER.
3). THE GUARDRAIL END TREATMENT SHALL BE INSTALLED AS PER THE MANUFACTURER'S REQUIREMENTS.
4). IF CURB IS PRESENT, DEPRESS THE CURB TO A MAXIMUM HEIGHT OF 2" WITHIN THE LIMITS OF THE END TREATMENT AND THROUGHOUT THE LENGTH OF THE TAPER GRADING.
5.) GUARDRAIL REFLECTORS SHALL NOT BE PLACED WITHIN THE LIMITS OF THE GUARDRAIL END TREATMENT.

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ENGINEERING SUPPORT — 12/08/2021 DATE

RECOMMENDED

GRADING FOR GUARDRAIL END TREATMENT ATTENUATOR, TYPE 1

STANDARD NO. B-2 (2021)

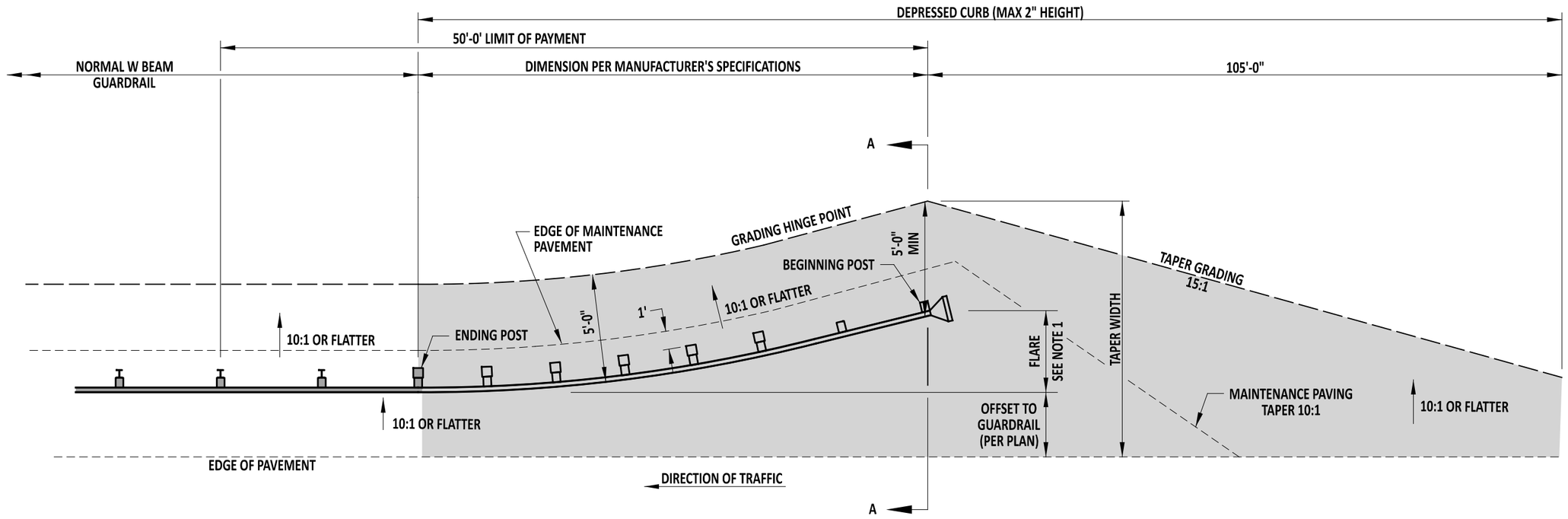
SHT. 1 OF 3

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

APPROVED — CHIEF ENGINEER — 12/20/2021 DATE

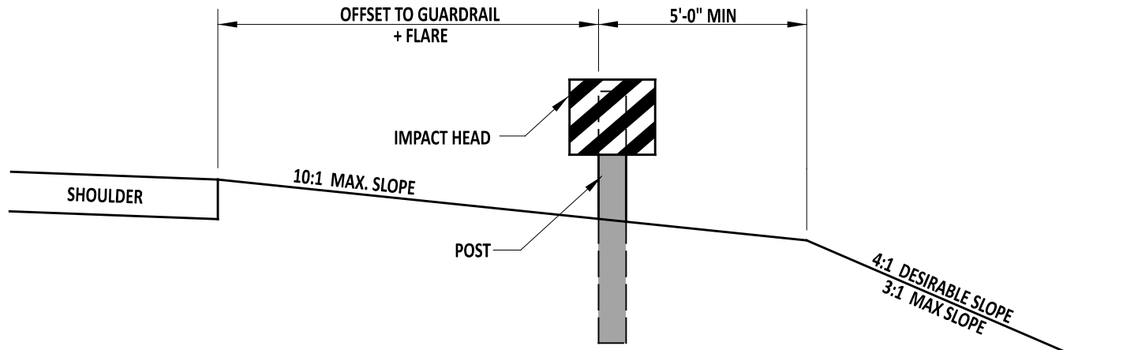
12/1/2021

SCALE : NTS



PLAN VIEW

= NO OBSTRUCTIONS IN SHADED AREA



SECTION A-A

NOTES:

1). FLARE SHALL BE BASED ON MANUFACTURER REQUIREMENTS. FLARE MAY BE PARABOLIC OR STRAIGHT BASED ON MANUFACTURER'S SPECIFICATIONS.
2). THIS DETAIL WAS SOLELY CREATED TO SHOW THE GRADING REQUIRED FOR THIS TYPE OF GUARDRAIL END TREATMENT AND IS APPLICABLE IN THE ABSENCE OF SPECIFIC GRADING REQUIREMENTS FROM THE GUARDRAIL END TREATMENT MANUFACTURER.
3). THE GUARDRAIL END TREATMENT SHALL BE INSTALLED AS PER THE MANUFACTURER'S REQUIREMENTS.
4). IF CURB IS PRESENT, DEPRESS THE CURB TO A MAXIMUM HEIGHT OF 2" WITH THE LIMITS OF THE END TREATMENT AND THROUGHOUT THE LENGTH OF THE TAPER GRADING.
5.) GUARDRAIL REFLECTORS SHALL NOT BE PLACED WITHIN THE LIMITS OF THE GUARDRAIL END TREATMENT.

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ENGINEERING SUPPORT — 12/08/2021 DATE
RECOMMENDED

GRADING FOR GUARDRAIL END TREATMENT ATTENUATOR, TYPE 2

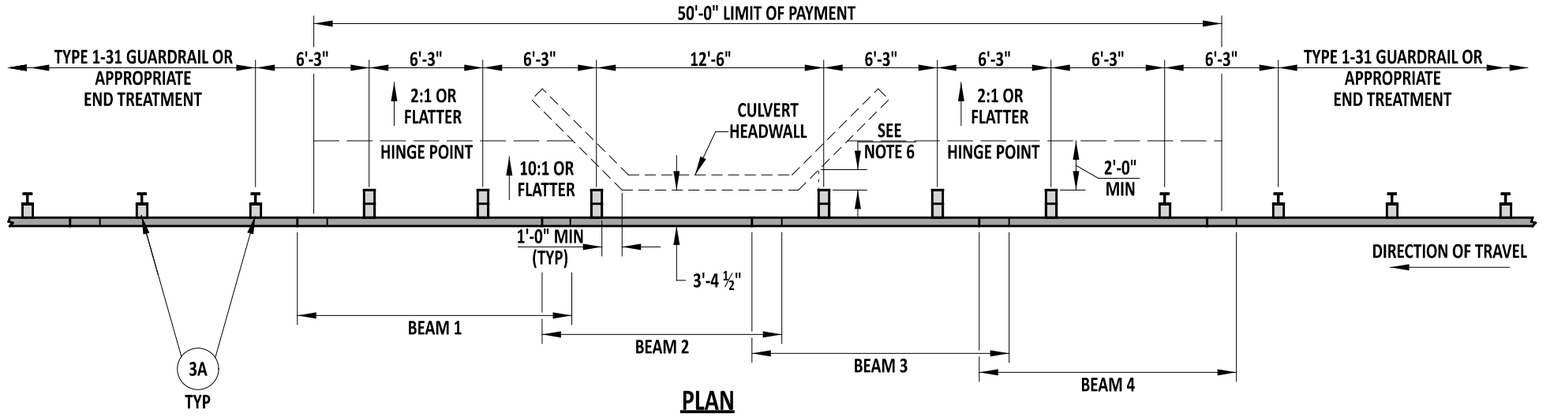
STANDARD NO. B-2 (2021) | SHT. 2 OF 3

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

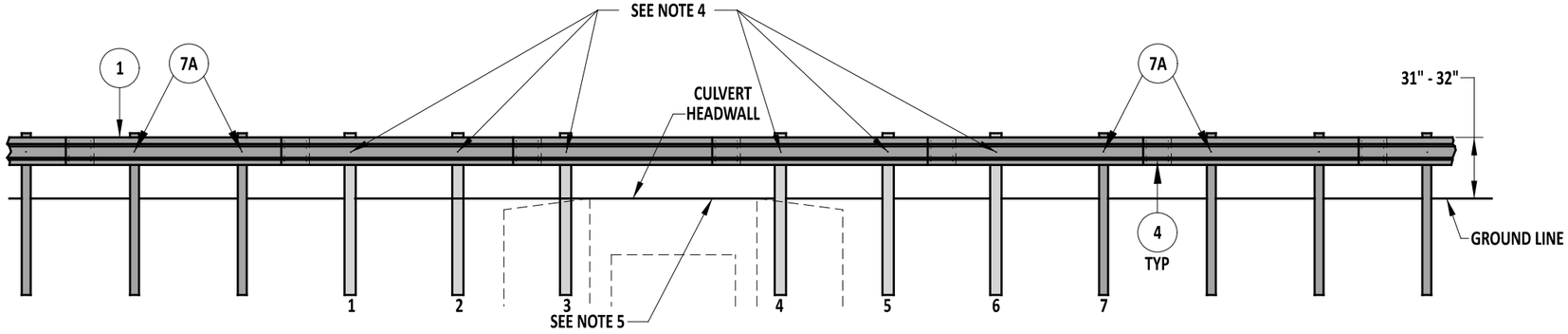
APPROVED — CHIEF ENGINEER — 12/20/2021 DATE

12/1/2021

SCALE : NTS



PLAN



ELEVATION

NOTES:

1). ALL W-BEAMS ARE 13'-6½" IN LENGTH.
2). PLACE GUARDRAIL DELINEATORS IN ACCORDANCE WITH DETAIL B-13, SHEET 9.
3). POSTS 1 THROUGH 6 ARE TO BE TYPE 31 LONG, WOOD BREAKAWAY POSTS. POST 7 IS TO BE A W6x9, 6'-0" STEEL POST.
4). THE RAIL SHALL BE ATTACHED AT POSTS 1 THROUGH 6 WITH A ⅝" x 22" GUARDRAIL BOLT, STEEL WASHER, AND RECESS NUT.
5). CULVERT HEADWALL SHALL NOT EXTEND MORE THAN 2" ABOVE GRADE.
6). THERE SHALL BE A MINIMUM OF 12" FROM THE BACK OF POST TO THE CULVERT WINGWALLS.
7). IF CURB IS USED, IT SHALL BE A MAX 2" HEIGHT WITHIN THE LIMIT OF PAYMENT OF THE GUARDRAIL OVER CULVERT.
8). MASH COMPLIANT SYSTEM - FHWA ELIGIBILITY LETTER B-189

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ENGINEERING SUPPORT — 12/08/2021 DATE
RECOMMENDED

GUARDRAIL OVER CULVERTS, TYPE 1-31

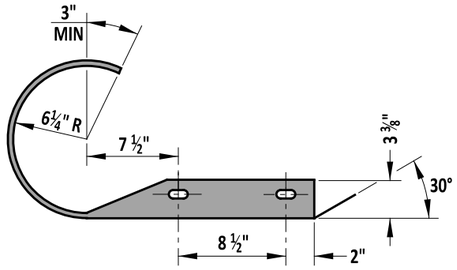
STANDARD NO. B-3 (2021) | SHT. 1 OF 3

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

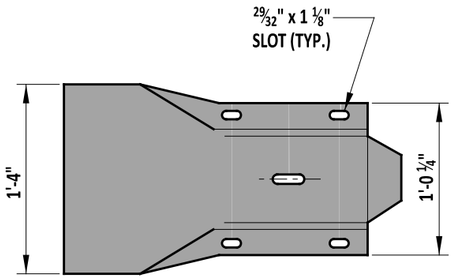
APPROVED — CHIEF ENGINEER — 12/20/2021 DATE

12/1/2021

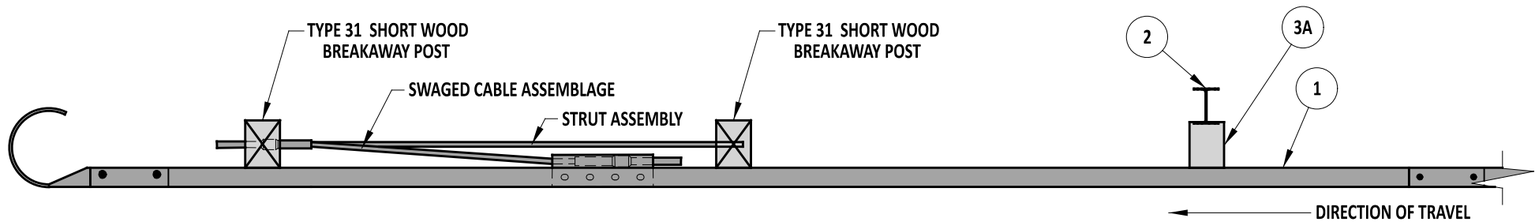
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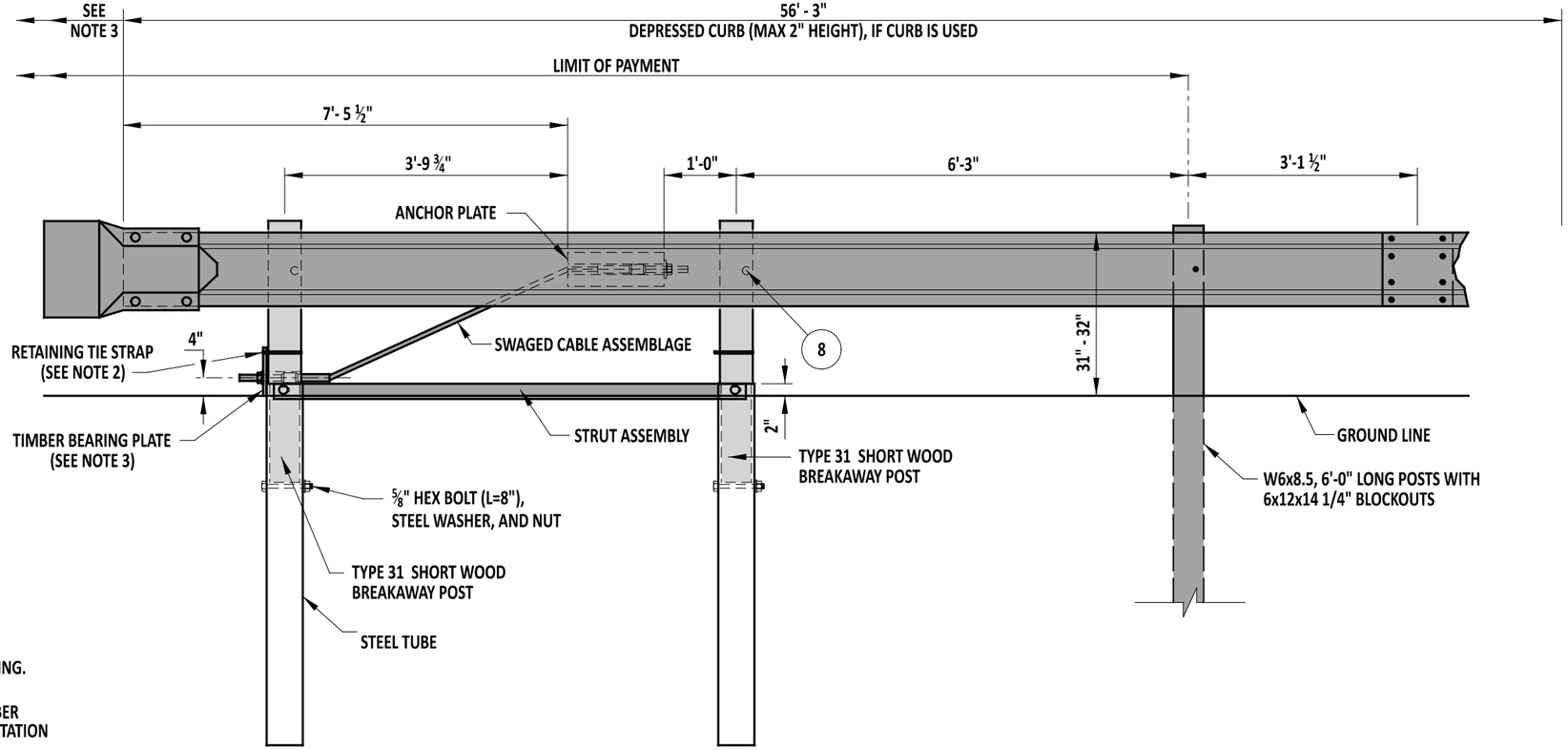
END SECTION PLAN



END SECTION ELEVATION



PLAN VIEW



ELEVATION VIEW

NOTES:
1). ADDITIONAL HOLES FOR ANCHOR PLATE SHALL BE DRILLED PRIOR TO GALVANIZING. (SEE STANDARD HARDWARE SHEET FOR HOLE SPACING INFORMATION).
2). PLACE A ½" WIDE GALVANIZED RETAINING TIE STRAP AROUND THE SHORT TIMBER BREAKAWAY POST AND TIMBER BEARING PLATE TO ENSURE THE PROPER ORIENTATION OF THE TIMBER BEARING PLATE.
3). IF CURB IS USED, EXTEND DEPRESSED CURB (MAX 2" HEIGHT) 50'-0" DOWNSTREAM OF END SECTION.
4). REFER TO DETAIL B-13, SHEET 8 OF 10 FOR PROPER TIMBER BEARING PLATE ORIENTATION.
5). MASH COMPLIANT SYSTEM - FHWA ELIGIBILITY LETTER B-256
6). THIS SYSTEM SHALL NOT BE USED WHERE END ON IMPACTS ARE EXPECTED. IT IS SOLELY DESIGNED TO ACT AS A DOWNSTREAM END ANCHOR.

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ENGINEERING SUPPORT — 12/08/2021 DATE
RECOMMENDED

END ANCHORAGE, TYPE 31

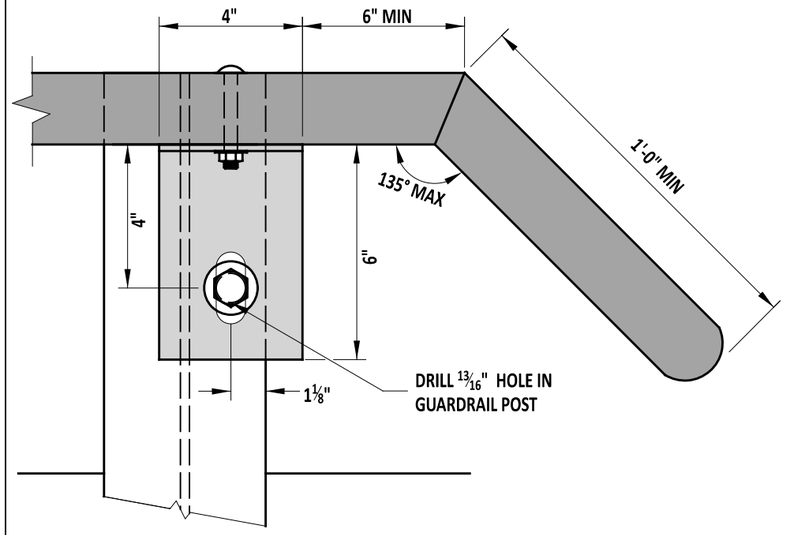
STANDARD NO. B-4 (2021) | SHT. 1 OF 1

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

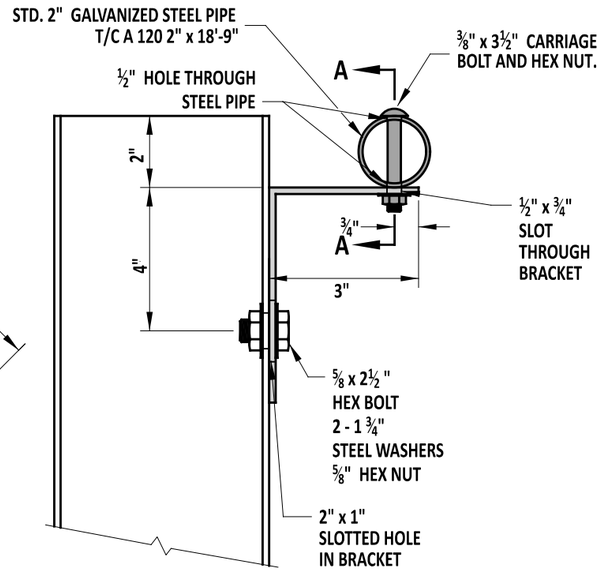
APPROVED — CHIEF ENGINEER — 12/20/2021 DATE

12/1/2021

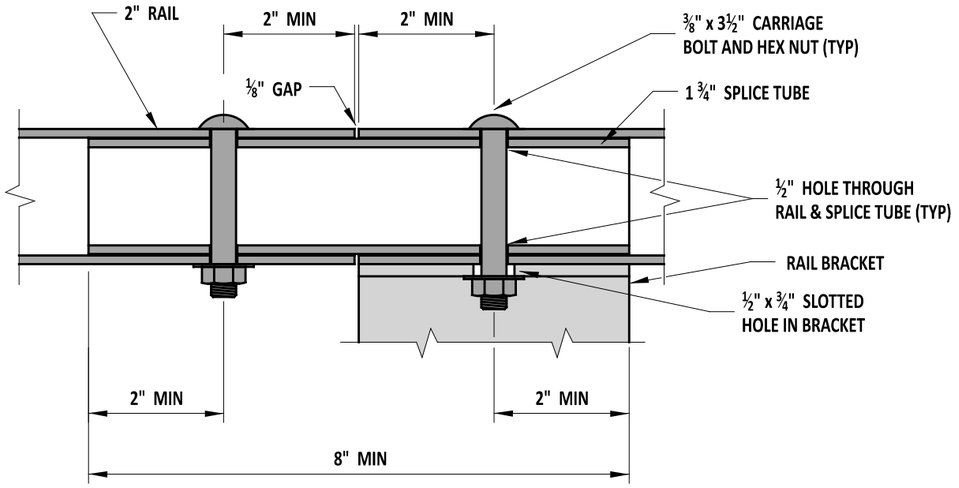
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REAR VIEW WITH START & END SECTION

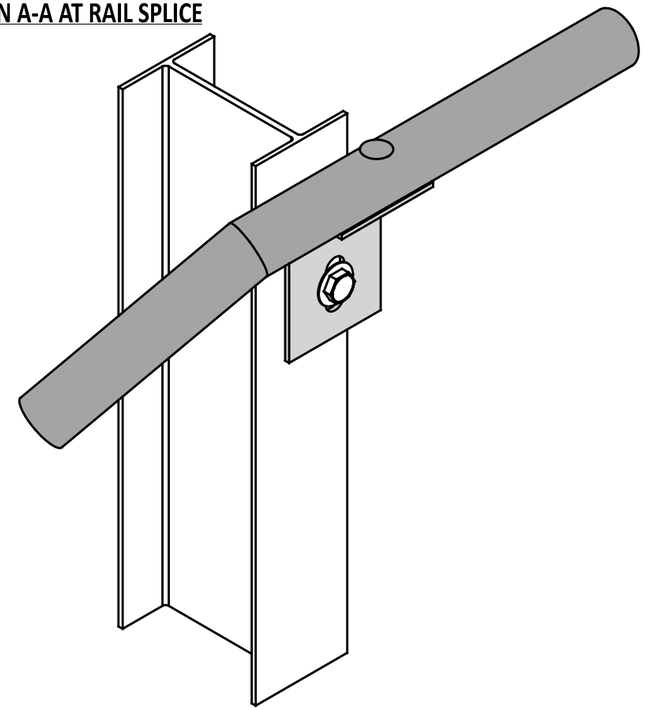


SIDE VIEW



SECTION A-A AT RAIL SPLICE

SIDE VIEW WITH START & END SECTION



ISOMETRIC VIEW WITH START & END SECTION

NOTES:
1). USE THIS RAIL ADJACENT TO A PEDESTRIAN ACCESS ROUTE.
2). SHOP TO FABRICATE ALL COMPONENTS OF THE RAIL INCLUDING CUTTING AND DRILLING.
3). BUR ALL EXPOSED THREADED HARDWARE TO ENSURE NUTS CAN NOT BE REMOVED.
4). PRIOR TO GALVANIZING, SHOP TO DRILL GUARDRAIL POSTS THAT RAIL BRACKETS WILL BE ATTACHED TO.
5). PLACE RAIL SPLICES AT RAIL SUPPORT BRACKETS, USING THE SAME BOLT TO ATTACH THE RAIL TO THE BRACKET, TO SECURE THE SPLICE TUBE.
6). ONLY INSTALL RAILS TO STANDARD W-BEAM SECTIONS AND AT LEAST ONE POST AWAY FROM THE PAYMENT LIMITS OF THE END TREATMENT.
7). FOR TYPE 2-31 GUARDRAIL, BOLT RAILING TO EVERY OTHER POST OR AT A SPACING OF 6'-3".

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ENGINEERING SUPPORT — 12/08/2021 DATE
RECOMMENDED

GUARDRAIL MOUNTED RAIL (ONLY FOR POSTED SPEEDS AT OR BELOW 25 MPH)

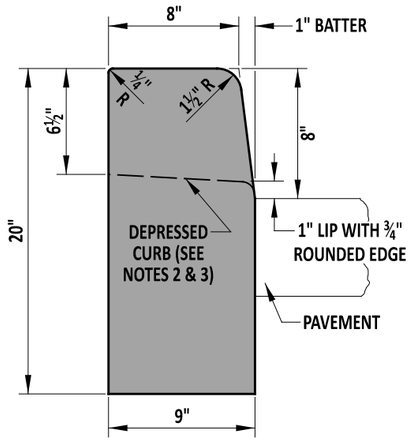
STANDARD NO. B-13 (2021) | SHT. 10 OF 12

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

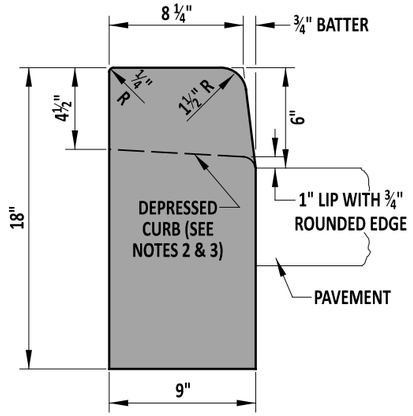
APPROVED — CHIEF ENGINEER — 12/20/2021 DATE

12/1/2021

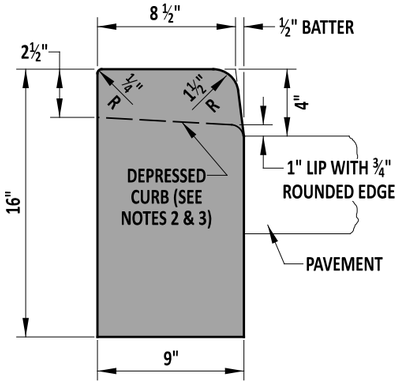
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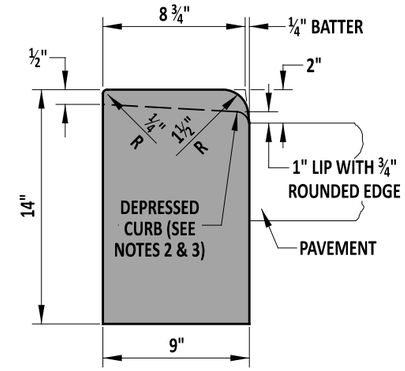
PCC CURB
TYPE 1-8



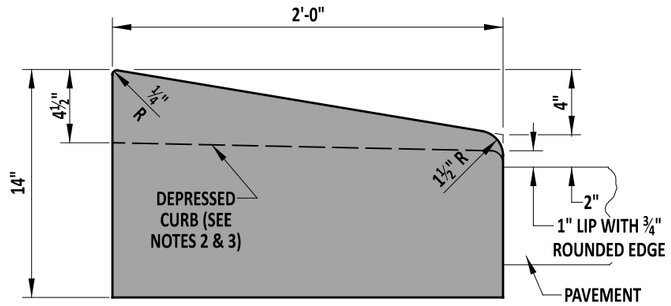
PCC CURB
TYPE 1-6



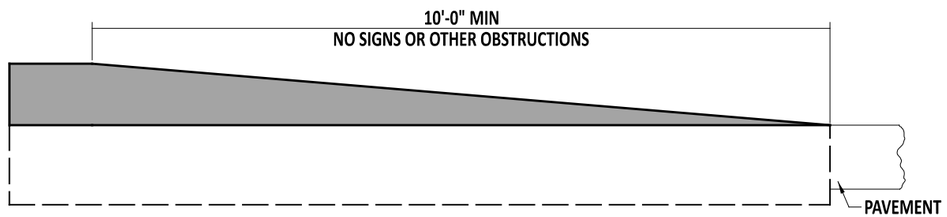
PCC CURB
TYPE 1-4



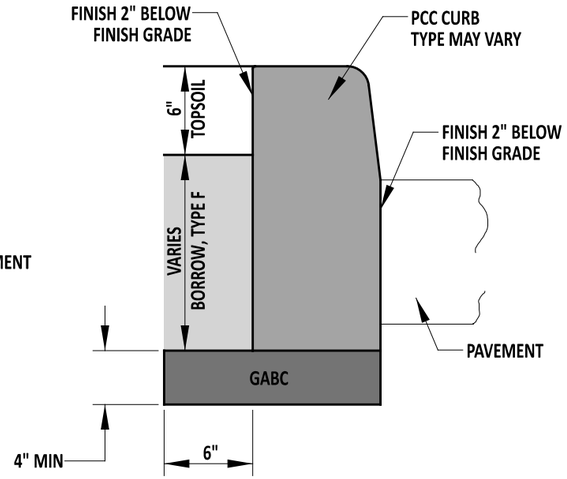
PCC CURB
TYPE 1-2



PCC CURB
TYPE 2



TYPICAL TAPER SECTION AT NOSE OF MEDIANS



TYPICAL PCC CURB SECTION

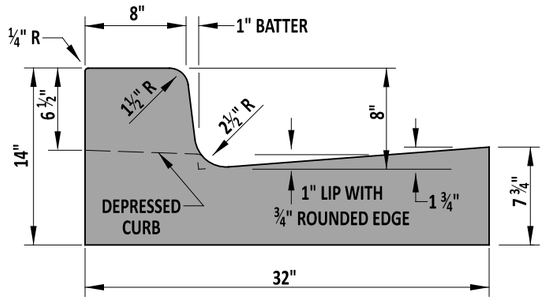
NOTES:

1). WHEN PCC CURB OR INTEGRAL PCC CURB AND GUTTER IS PLACED ADJACENT TO PORTLAND CEMENT CONCRETE PAVEMENT, CONSTRUCT THE JOINT AS PER THE LONGITUDINAL JOINT SEALANT DETAIL ON DETAIL P-2, SHEET 3. USE APPROVED JOINT FILLER TO SEAL. WORK TO BE PAID UNDER RESPECTIVE CURB AND GUTTER ITEM.
2). THE DEPRESSED CURB DIMENSIONS (INCLUDING 1" LIP) ON THIS SHEET ARE FOR USE AT ENTRANCES ONLY. FOR CURB DEPRESSIONS AT PEDESTRIAN CONNECTION, SEE NOTE 3.
3). AT PEDESTRIAN CONNECTIONS, DEPRESS CURB FLUSH WITH THE PAVEMENT (WITH NO LIP). SLOPE THE TOP OF THE CURB TO MATCH THE RUNNING SLOPE OF THE ADJACENT PEDESTRIAN CONNECTION.
4). DEPRESS CURB FLUSH WITH PAVEMENT OR ADJACENT AREA TO ALL CORNER RADII OF TRIANGULAR ISLANDS, TAPERING BACK TO FULL HEIGHT AT A RATE OF 4:1.
5). TAPER END OF CURB RUNS NOT PART OF AN ISLAND OR MEDIAN FLUSH WITH PAVEMENT OR ADJACENT AREA AT A RATE OF 12:1.
6). INSTALL TYPE IV POLYURETHANE-BONDED RECYCLED RUBBER EXPANSION MATERIAL BETWEEN THE FACE OF CURB AND EDGE OF PCC PAVEMENT.

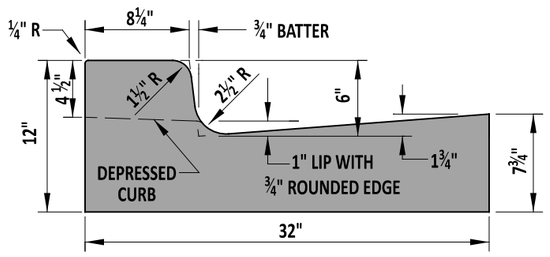
DelDOT	ENGINEERING SUPPORT — 12/03/2021 DATE RECOMMENDED	PCC CURB	REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/06/2021 DATE	
		STANDARD NO. C-1 (2021) — SHT. 1 OF 4	APPROVED — CHIEF ENGINEER — 12/07/2021 DATE	

12/1/2021

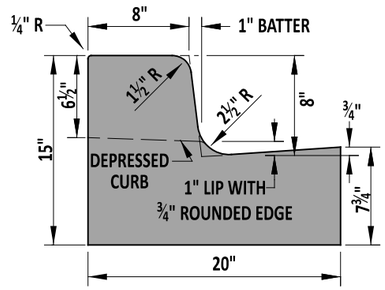
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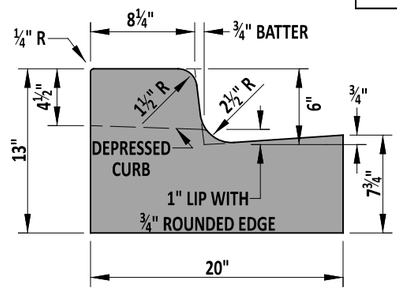
INTEGRAL PCC CURB AND GUTTER
TYPE 1-8



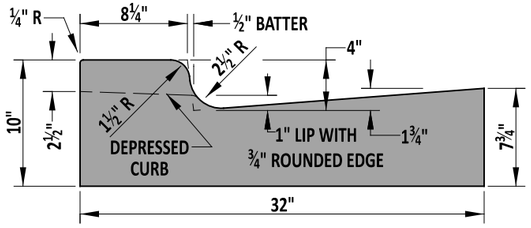
INTEGRAL PCC CURB AND GUTTER
TYPE 1-6



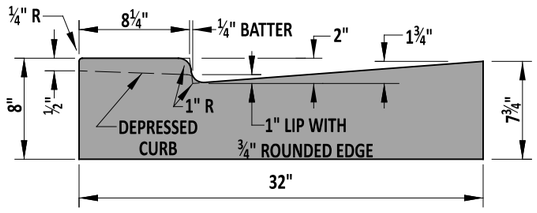
INTEGRAL PCC CURB AND GUTTER
TYPE 3-8



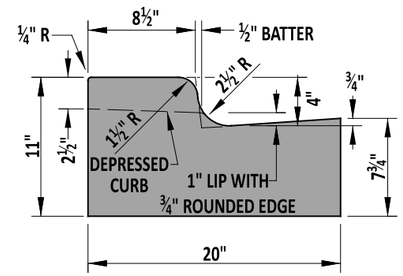
INTEGRAL PCC CURB AND GUTTER
TYPE 3-6



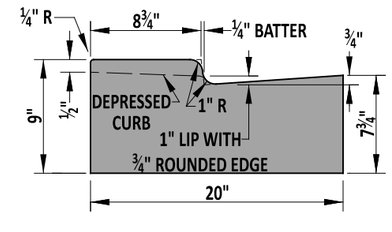
INTEGRAL PCC CURB AND GUTTER
TYPE 1-4



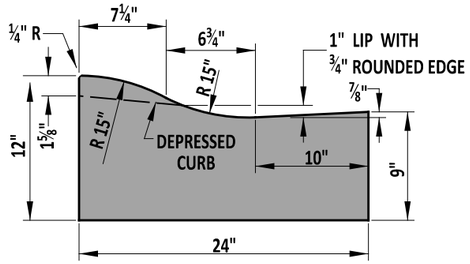
INTEGRAL PCC CURB AND GUTTER
TYPE 1-2



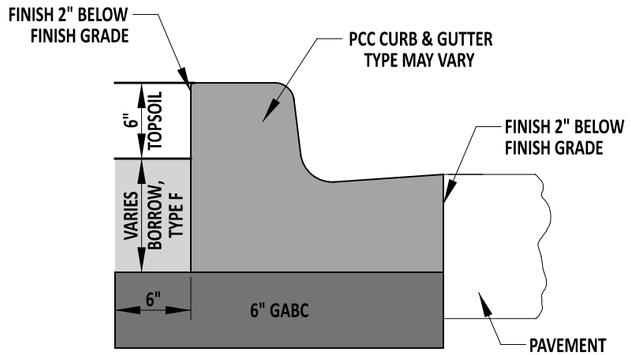
INTEGRAL PCC CURB AND GUTTER
TYPE 3-4



INTEGRAL PCC CURB AND GUTTER
TYPE 3-2



INTEGRAL PCC CURB AND GUTTER
TYPE 2



TYPICAL PCC CURB AND GUTTER SECTION

NOTES:

1). WHEN PCC CURB OR INTEGRAL PCC CURB AND GUTTER IS PLACED ADJACENT TO PORTLAND CEMENT CONCRETE PAVEMENT, CONSTRUCT THE JOINT AS PER THE LONGITUDINAL JOINT SEALANT DETAIL ON DETAIL P-2, SHEET 3 OF 5. USE APPROVED JOINT FILLER TO SEAL. WORK TO BE PAID UNDER RESPECTIVE CURB AND GUTTER ITEM.
2). THE DEPRESSED CURB DIMENSIONS (INCLUDING 1" LIP) ON THIS SHEET ARE FOR USE AT ENTRANCES ONLY. FOR CURB DIMENSIONS AT PEDESTRIAN CONNECTION, SEE NOTE 3.
3). SEE DETAIL C-1, SHEET 3 FOR DEPRESSING AT PEDESTRIAN CONNECTION.
4). DEPRESS CURB FLUSH WITH PAVEMENT OR ADJACENT AREA AT LEADING EDGE OF TRIANGULAR ISLANDS, TAPERING BACK TO FULL HEIGHT AT A SLOPE OF 4:1. SEE C-1, SHEET 1 OF 4 FOR TYPICAL SECTION OF TAPER AT NOSE OF MEDIAN ISLANDS.
5). DEPRESS END OF CURB RUNS NOT PART OF AN ISLAND OR MEDIAN FLUSH WITH PAVEMENT OR ADJACENT AREA AT A SLOPE OF 12:1.
6). INSTALL TYPE IV POLYURETHANE-BONDED RECYCLED RUBBER EXPANSION MATERIAL BETWEEN THE FACE OF CURB AND EDGE OF PCC PAVEMENT.

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INTEGRAL PCC CURB & GUTTER

STANDARD NO. C-1 (2021) | SHT. 2 OF 4

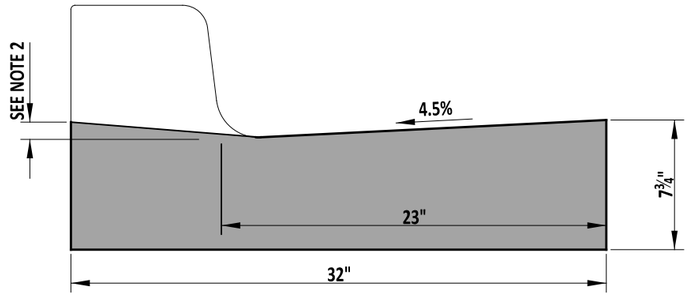
REVIEWED
DEPUTY DIRECTOR - DESIGN — 12/06/2021 DATE

APPROVED
CHIEF ENGINEER — 12/07/2021 DATE

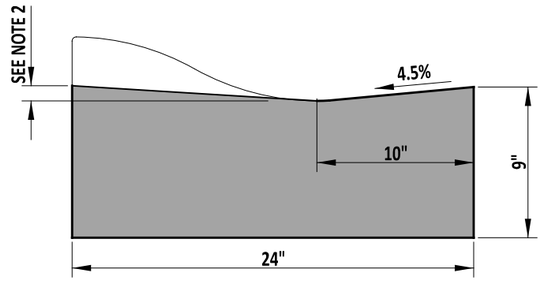
12/1/2021

THIS DETAIL IS TO BE USED ONLY FOR THE SECTIONS OF CURB & GUTTER THAT ARE DIRECTLY IN FRONT OF THE PEDESTRIAN CONNECTIONS. REFER TO DETAIL C-1, SHEET 2 FOR TYPICAL CURB DIMENSIONS AND FOR DEPRESSING CURB AT ENTRANCES

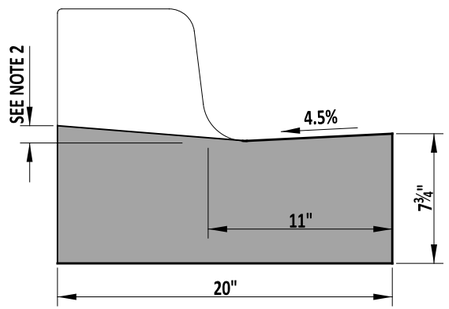
SCALE : NTS



INTEGRAL PCC CURB AND GUTTER
TYPES 1-2 THRU 1-8



INTEGRAL PCC CURB AND GUTTER
TYPE 2



INTEGRAL PCC CURB AND GUTTER
TYPES 3-2 THRU 3-8

NOTES:
1). WHEN PCC CURB OR INTEGRAL PCC CURB AND GUTTER IS PLACED ADJACENT TO PORTLAND CEMENT CONCRETE PAVEMENT, CONSTRUCT THE JOINT AS PER THE LONGITUDINAL JOINT SEALANT DETAIL ON DETAIL P-2, SHEET 3. USE APPROVED JOINT FILLER TO SEAL. WORK TO BE PAID UNDER RESPECTIVE CURB AND GUTTER ITEM.
2). DEPRESS CURB FLUSH WITH PAVEMENT (WITH NO LIP). SLOPE THE TOP OF THE CURB TO MATCH THE RUNNING SLOPE OF THE ADJACENT PEDESTRIAN CONNECTION.
3). SEE TYPICAL CURB AND GUTTER SECTION DETAIL ON DETAIL C-1, SHEET 2 FOR PLACEMENT OF GABC UNDER CURB AND GUTTER.
4). TRANSITION FROM STANDARD GUTTER SLOPE TO SLOPE SHOWN ON THIS DETAIL OVER A DISTANCE OF 5'-0".

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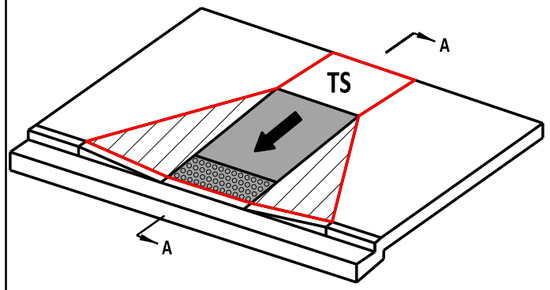
INTEGRAL PCC CURB & GUTTER
(FOR USE AT PEDESTRIAN CONNECTIONS ONLY)

STANDARD NO. C-1 (2021) | SHT. 3 OF 4

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/06/2021 DATE
APPROVED — CHIEF ENGINEER — 12/07/2021 DATE

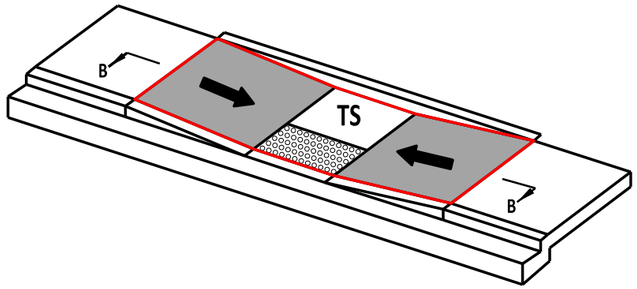
12/1/2021

SCALE : NTS



PERPENDICULAR CURB RAMP

SEE SHEET 2 AND 3 FOR LAYOUT ALTERNATIVES

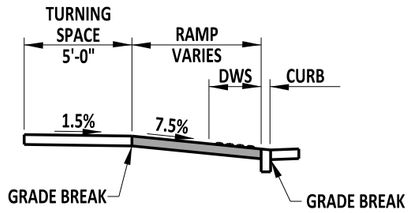


PARALLEL CURB RAMP

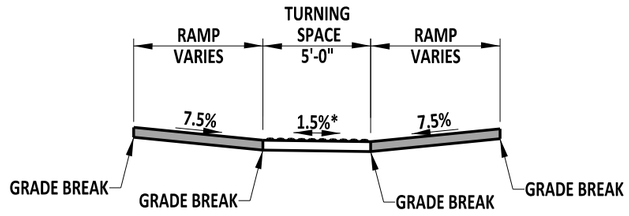
SEE SHEET 4 FOR LAYOUT ALTERNATIVES

LEGEND

TS — TURNING SPACE	TRIANGULAR AREA
RAMP	DETECTABLE WARNING SURFACE
BLENDED TRANSITION	FLARED SIDE
CROSSWALK STRIPING	LIMIT OF 6" MIN. SIDEWALK OVER 6" GABC
BUFFER OR OTHER NON-WALKABLE SURFACE	



SECTION A-A



SECTION B-B

*SEE NOTE 3

REQUIRED ELEMENT DIMENSIONS AND CRITERIA (APPLIES TO ALL SHEETS OF STANDARD C-2)				
PEDESTRIAN CONNECTION ELEMENT	CRITERIA	LIMITS FOR DESIGN AND LAYOUT	LIMITS FOR WORK ACCEPTANCE	RELATED NOTES
RAMP	WIDTH	5'-0" MIN.	5'-0" MIN.	SEE NOTE 6
	RUNNING SLOPE	7.5%	8.3% MAX.	SEE NOTE 1
	CROSS SLOPE	1.5%	2.0% MAX.	SEE NOTE 3
	SLOPE OF FLARED SIDE	9.5%	10.0% MAX.	SEE NOTE 10
TURNING SPACE	DIMENSION	5'-0" X 5'-0" MIN.	5'-0" X 5'-0" MIN.	SEE NOTE 6
	RUNNING SLOPE	1.5%	2.0% MAX.	
	CROSS SLOPE	1.5%	2.0% MAX.	SEE NOTE 3
BLENDED TRANSITION	RUNNING SLOPE	4.5%	5.0 MAX.	
	CROSS SLOPE	1.5%	2.0% MAX.	SEE NOTE 3
TRIANGULAR AREA	RUNNING SLOPE	1.5%	5.0% MAX.	
	CROSS SLOPE	1.5%	2.0% MAX.	SEE NOTE 3
CLEAR SPACE	DIMENSION	4'-0" X 4'-0"	4'-0" X 4'-0"	SEE NOTE 12

* CROSS SLOPE IS MEASURED PERPENDICULAR TO THE PRIMARY DIRECTION OF PEDESTRIAN TRAVEL.

** RUNNING SLOPE IS MEASURED PARALLEL TO THE PRIMARY DIRECTION OF PEDESTRIAN TRAVEL.

*** ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE.

GENERAL PEDESTRIAN CONNECTION NOTES:

1). TO AVOID CHASING GRADE INDEFINITELY ON STEEP ROADWAYS, RAMP LENGTH IS NOT REQUIRED TO EXCEED 15'-0" REGARDLESS OF THE RESULTING RAMP RUNNING SLOPE.
2). ALL JOINTS AND GRADE BREAKS ARE TO BE CONSTRUCTED FLUSH.
3). TO CREATE A FLUSH TRANSITION TO THE STREET, THE CROSS SLOPE OF THE INDICATED ELEMENTS MAY EXCEED THE REQUIRED 2.0% MAXIMUM CROSS SLOPE. THE ELEMENT PERMITTED TO EXCEED THE 2.0% MAXIMUM VARIES BY PEDESTRIAN CONNECTION TYPE. SEE THE CURRENT PEDESTRIAN ACCESSIBILITY STANDARDS MANUAL FOR ADDITIONAL INFORMATION ABOUT WHICH ELEMENTS MAY BE PERMITTED TO EXCEED THE 2.0% MAXIMUM. IN ALL CASES, THE CROSS SLOPE OF THE ELEMENT PERMITTED TO EXCEED THE 2.0% MAXIMUM IS NOT TO EXCEED THE SLOPE OF THE ADJACENT ROADWAY.
4). GRADE BREAKS AT THE TOP AND BOTTOM OF A RAMP, BLENDED TRANSITION, AND TURNING SPACE SHALL BE PERPENDICULAR TO THE RUNNING SLOPE. GRADE BREAKS SHALL NOT BE LOCATED WITHIN THE RAMP, BLENDED TRANSITION, TURNING SPACE, OR DETECTABLE WARNING SURFACE.
5). WHEN ADJACENT TO GRASS, A 6:1 GRADE IS REQUIRED FOR A MINIMUM OF 2'-0" ADJACENT TO THE PEDESTRIAN CONNECTION IN ACCORDANCE WITH M-3, SHEET 1. ALTERNATIVELY, A CURB AT THE BACK OF THE PEDESTRIAN PATH MAY BE INSTALLED AT DEPRESSED TURNING SPACES OR RAMP SEGMENTS IN LIEU OF PROVIDING A 6:1 GRADE.
6). SEE PLANS FOR WIDTH. PEDESTRIAN CONNECTIONS THAT SERVE SHARED USE PATHS ARE TO PROVIDE A RAMP WIDTH AND TURNING SPACE WIDTH THE SAME WIDTH AS THE APPROACH SHARED USE PATH.
7). PROVIDE A TURNING SPACE AT LOCATIONS WHERE THE PRIMARY DIRECTION OF TRAVEL IS REQUIRED TO CHANGE IN ORDER TO ACCESS THE PEDESTRIAN CONNECTION IN ACCORDANCE WITH THESE SHEETS.
8). IN ALTERATIONS, WHERE THE PEDESTRIAN CONNECTION WILL TIE INTO AN EXISTING CROSS SLOPE THAT EXCEEDS 2.0%, PLACE A MINIMUM 5'-0" LONG TRANSITION SLAB IN THE DIRECTION OF PEDESTRIAN TRAVEL TO CONNECT THE NEW PEDESTRIAN CONNECTION TO THE EXISTING PEDESTRIAN PATH. THE TRANSITION SLAB SHALL NOT OVERLAP ANY OTHER REQUIRED PEDESTRIAN CONNECTION ELEMENT. THE CROSS SLOPE TRANSITION SHALL BE SPREAD EVENLY OVER THE SLAB TO MINIMIZE THE DEGREE OF WARPING. THE RATE OF CROSS SLOPE CHANGE IN THE TRANSITION AREA SHALL NOT EXCEED 3% PER LINEAR FOOT.
9). REFER TO THE DE MUTCD FOR DETAILS REGARDING THE LOCATION OF PEDESTRIAN PUSH BUTTONS.
10). PROVIDE FLARED SIDES ON PERPENDICULAR CURB RAMPS AND BLENDED TRANSITIONS WHERE THE RAMP OR BLENDED TRANSITION EDGE ABUTS A WALKABLE SURFACE. UNLESS APPROVED OTHERWISE BY THE ENGINEER, PROVIDE JOINTS BETWEEN THE FLARED SIDE AND THE ABUTTING WALKABLE SURFACE AND RAMPED SEGMENT. FLARED SIDES MAY BE SUBSTITUTED WITH APPROVAL OF THE ENGINEER WITH VERTICAL RETURNED CURBS OR A 4:1 CURB TAPER WITH ASSOCIATED GRADING ALONG THE RAMP WHERE THE RAMP ABUTS A NON-WALKABLE SURFACE, OR WHERE THE ADJACENT RAMP SURFACE IS BLOCKED TO PEDESTRIAN TRAFFIC. THE RETURNED CURB MUST NOT AFFECT THE CLEAR WIDTH OF THE PEDESTRIAN ACCESS ROUTE AND SHALL BE FLUSH WITH THE PEDESTRIAN PATH AT TERMINATION.
11). LAYOUT JOINTS AND EXPANSION MATERIAL IN ACCORDANCE WITH M-3, SHEET 1 OF 1.
12). ALIGN THE PEDESTRIAN CONNECTION AND THE CROSSWALK SO THAT A 4'-0" X 4'-0" CLEAR SPACE AREA LOCATED BELOW THE BOTTOM GRADE BREAK OF CURB RAMPS AND BLENDED TRANSITIONS IS CONTAINED WHOLLY WITHIN THE CROSSWALK. ONLY DIAGONAL CURB RAMPS REQUIRE THAT THE CLEAR SPACE BE LOCATED OUTSIDE OF THE PARALLEL VEHICLE TRAVEL LANE AND THAT A SEGMENT OF CURB 2'-0" LONG MINIMUM BE LOCATED ON EACH SIDE OF THE DIAGANOL CURB RAMP'S FLARED SIDES AND BE WITHIN THE MARKED CROSSING.
13). WHERE PEDESTRIAN CONNECTIONS ARE LOCATED ON A RADII, THE REQUIRED DIMENSIONS ARE MEASURED PERPENDICULAR TO THE PEDESTRIAN CONNECTION ELEMENT AND NOT ALONG THE CURVE. SEE THE CURRENT DELDOT PAS MANUAL FOR ADDITIONAL INFORMATION.

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ENGINEERING SUPPORT — 03/07/2022 DATE
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PEDESTRIAN CONNECTIONS, GENERAL NOTES

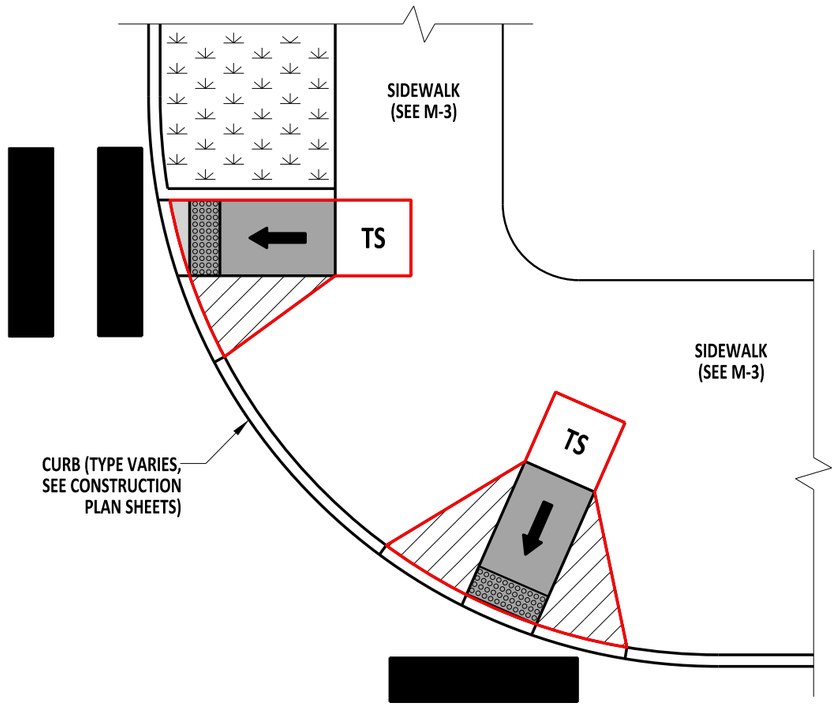
STANDARD NO. C-2 (2021) | SHT. 1 OF 7

REVIEWED
DEPUTY DIRECTOR - DESIGN — 03/20/2022 DATE

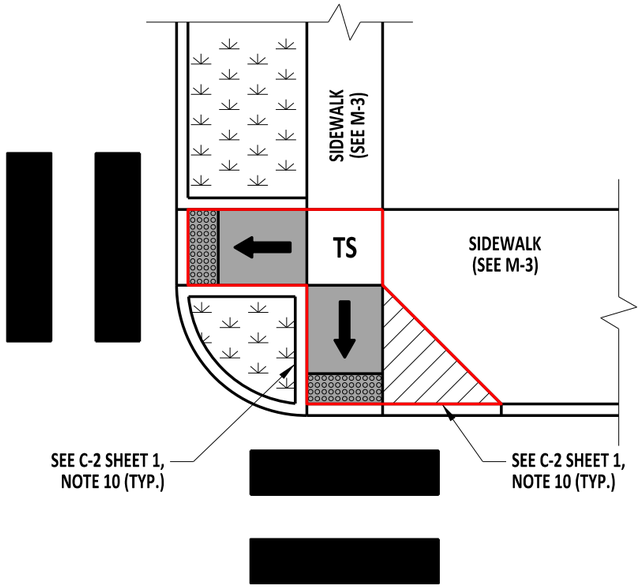
APPROVED
CHIEF ENGINEER — 03/20/2022 DATE

08/20/2020

SCALE : NTS



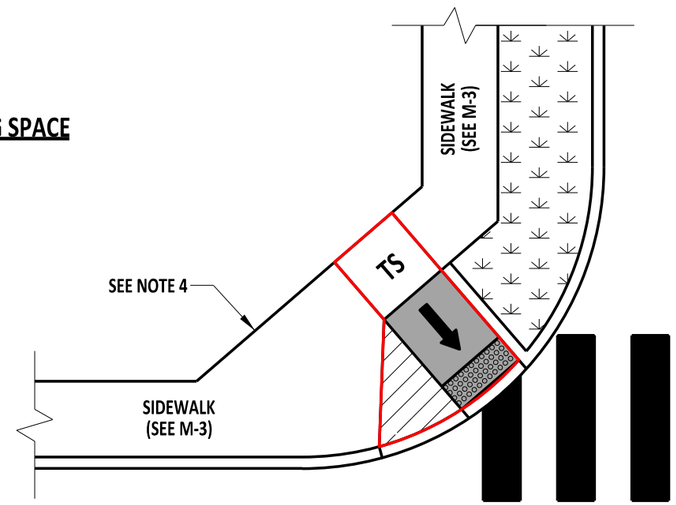
DUAL STREET CROSSINGS WITH SEPARATE TURNING SPACES



DUAL STREET CROSSINGS WITH SHARED TURNING SPACE

LEGEND

- TS — TURNING SPACE
- RAMP
- BLENDED TRANSITION
- CROSSWALK STRIPING
- BUFFER OR OTHER NON-WALKABLE SURFACE
- TRIANGULAR AREA
- DETECTABLE WARNING SURFACE
- FLARED SIDE
- LIMIT OF 6" MIN. SIDEWALK OVER 6" GABC



SINGLE STREET CROSSING

NOTES:

1). SEE C-2, SHEET 1 FOR GENERAL PEDESTRIAN CONNECTION NOTES AND ELEMENT REQUIREMENTS.
2). PERPENDICULAR CURB RAMPS HAVE A RAMPED SECTION THAT CUTS THROUGH THE CURB AT AN ANGLE. SEE THE CURRENT DELDOT PAS MANUAL FOR ADDITIONAL INFORMATION.
3). A SINGLE PERPENDICULAR CURB RAMP LOCATED ON THE APEX OF A CURB RETURN AND WHICH SERVES TWO SEPARATE CROSSWALKS IS CONSIDERED A DIAGONAL CURB RAMP. INSTALLATION OF A DIAGONAL CURB RAMP REQUIRES APPROVAL FROM THE DEPARTMENT'S OFFICE OF CIVIL RIGHTS.
4). LOCATE THE BACK OF PEDESTRIAN PATH IN A MANNER THAT ALLOWS FOR THE INSTALLATION OF A TURNING SPACE AT THE TOP OF THE PERPENDICULAR CURB RAMP.

PEDESTRIAN CONNECTION, TYPE 1: PERPENDICULAR CURB RAMPS

DUAL APPROACH LAYOUT ALTERNATIVES

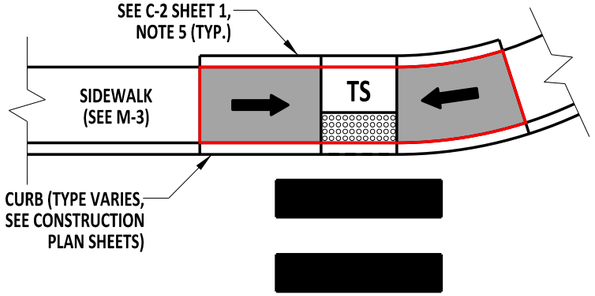
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08/20/2020

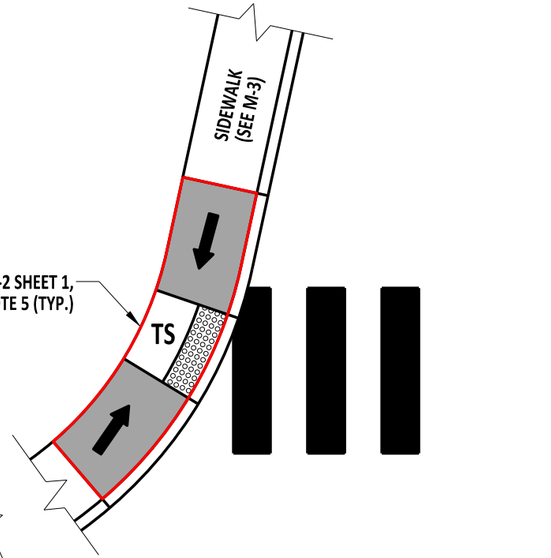
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LEGEND

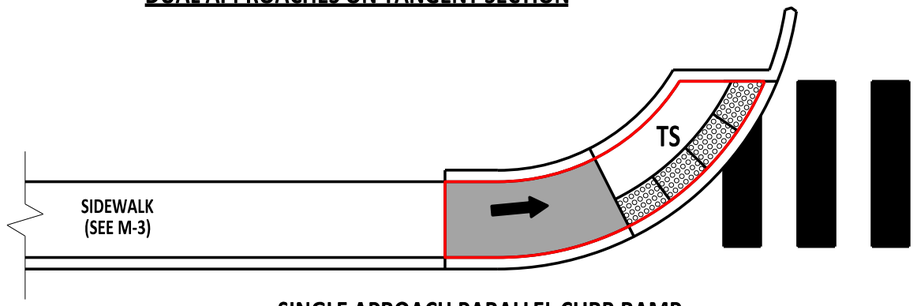
TS — TURNING SPACE	TRIANGULAR AREA
RAMP	DETECTABLE WARNING SURFACE
BLENDED TRANSITION	FLARED SIDE
CROSSWALK STRIPING	LIMIT OF 6" MIN. SIDEWALK OVER 6" GABC
BUFFER OR OTHER NON-WALKABLE SURFACE	



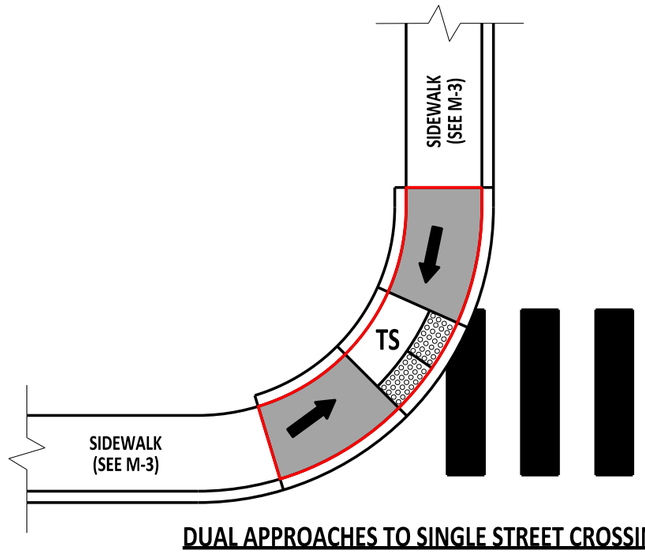
DUAL APPROACHES ON TANGENT SECTION



DUAL APPROACHES ON CURVED SECTION



SINGLE APROACH PARALLEL CURB RAMP



DUAL APPROACHES TO SINGLE STREET CROSSING

NOTES:

1). SEE C-2, SHEET 1 FOR GENERAL PEDESTRIAN CONNECTION NOTES AND ELEMENT REQUIREMENTS.
2). PARALLEL CURB RAMPS HAVE A RUNNING SLOPE THAT IS IN-LINE WITH THE DIRECTION OF SIDEWALK TRAVEL AND LOWERS THE SIDEWALK TO A TURNING SPACE WHERE A TURN IS MADE TO ENTER THE CROSSWALK. SEE THE CURRENT DELDOT PAS MANUAL FOR ADDITIONAL INFORMATION.
3). A SINGLE PARALLEL CURB RAMP THAT SERVES TWO SEPARATE CROSSWALKS REQUIRES APPROVAL FROM THE DEPARTMENT'S OFFICE OF CIVIL RIGHTS.
4). APPLICATIONS SHOWN AS DUAL APPROACHES CAN ALSO SUPPORT A SINGLE PEDESTRIAN PATH APPROACH AS WELL.

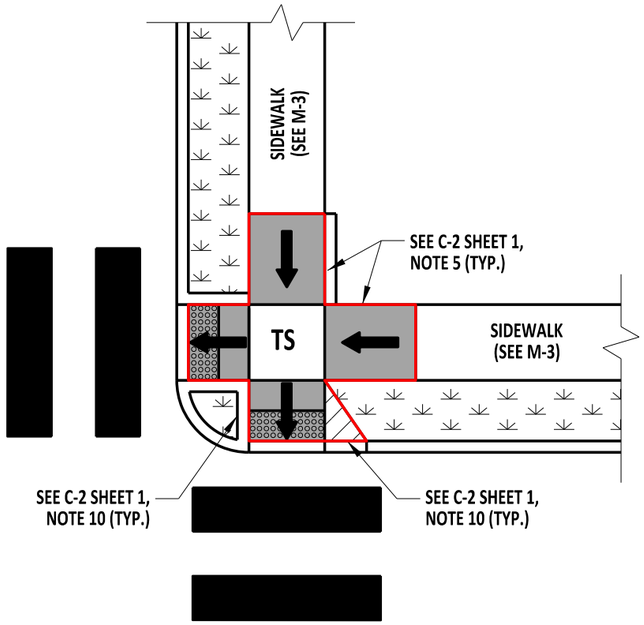
PEDESTRIAN CONNECTION, TYPE 2: PARALLEL CURB RAMPS

SINGLE AND DUAL APPROACH LAYOUT ALTERNATIVES

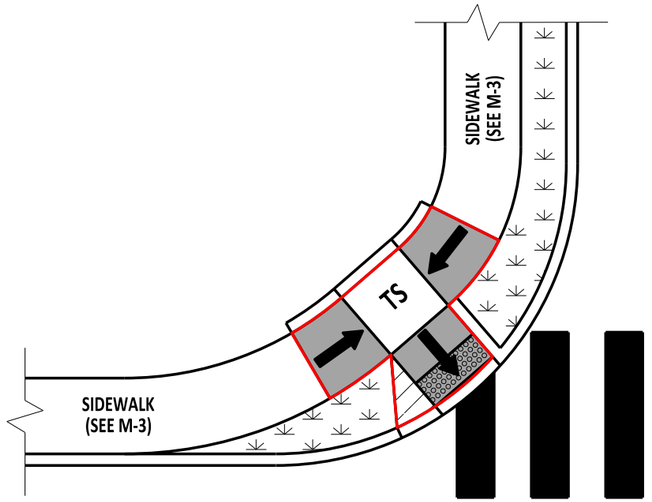
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08/20/2020

SCALE : NTS



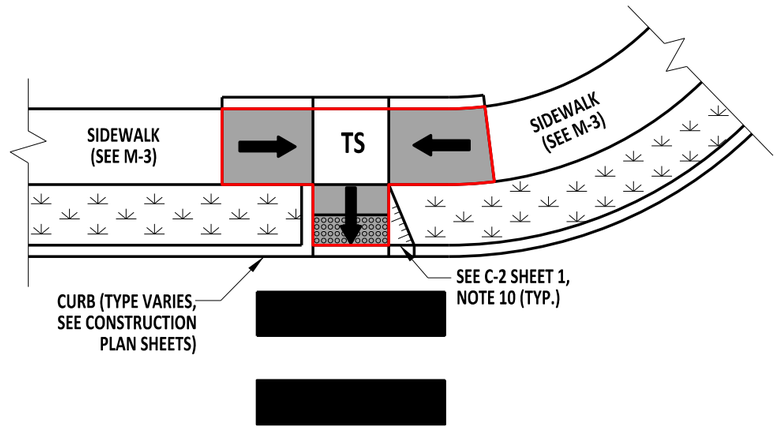
DUAL STREET CROSSINGS WITH SHARED TURNING SPACE



COMBINATION CURB RAMP ON CURVE

LEGEND

- TS — TURNING SPACE
- RAMP
- BLENDED TRANSITION
- CROSSWALK STRIPING
- BUFFER OR OTHER NON-WALKABLE SURFACE
- TRIANGULAR AREA
- DETECTABLE WARNING SURFACE
- FLARED SIDE
- LIMIT OF 6" MIN. SIDEWALK OVER 6" GABC



COMBINATION CURB RAMP ON TANGENT

NOTES:

1). SEE C-2, SHEET 1 FOR GENERAL PEDESTRIAN CONNECTION NOTES AND ELEMENT REQUIREMENTS.

2). COMBINATION PEDESTRIAN CONNECTIONS UTILIZE A PARALLEL CURB RAMP TO LOWER THE PEDESTRIAN PATH TO A MID TURNING SPACE AND THEN A SHORT PERPENDICULAR CURB RAMP TO CONNECT THE TURNING SPACE TO THE CROSSWALK. SEE THE CURRENT DELDOT PAS MANUAL FOR ADDITIONAL INFORMATION.

3). A SINGLE COMBINATION CURB RAMP LOCATED ON THE APEX OF A CURB RETURN WHICH SERVES TWO SEPARATE CROSSWALKS IS CONSIDERED A DIAGONAL CURB RAMP. INSTALLATION OF A DIAGONAL CURB RAMP REQUIRES APPROVAL FROM THE DEPARTMENT'S OFFICE OF CIVIL RIGHTS.

4). APPLICATIONS SHOWN AS DUAL APPROACHES CAN ALSO SUPPORT A SINGLE PEDESTRIAN PATH APPROACH AS WELL.

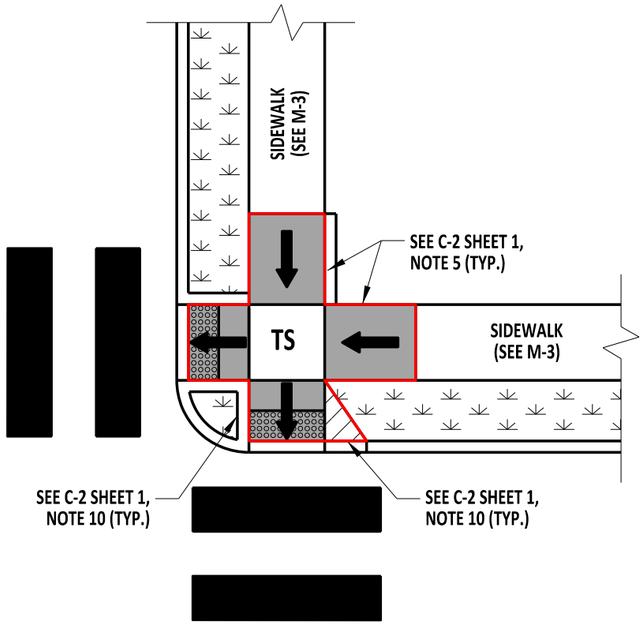
PEDESTRIAN CONNECTION, TYPE 3: COMBINATION CURB RAMPS

SINGLE AND DUAL APPROACH LAYOUT ALTERNATIVES

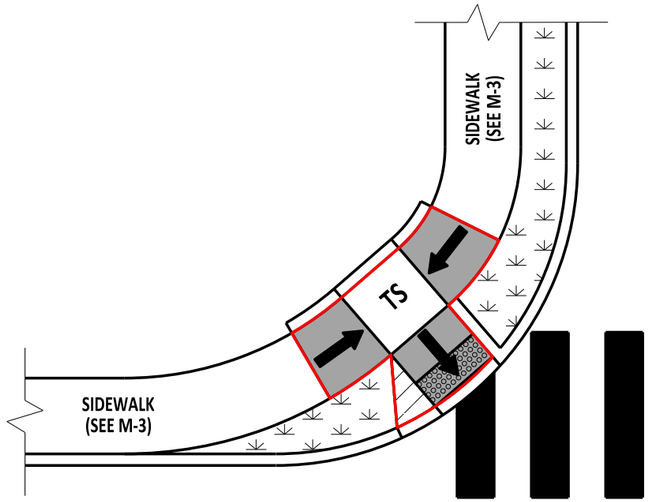
DelDOT	03/07/2022 ENGINEERING SUPPORT DATE RECOMMENDED	PEDESTRIAN CONNECTION, TYPE 3	REVIEWED DEPUTY DIRECTOR - DESIGN 03/20/2022 DATE
		STANDARD NO. C-2 (2021) SHT. 5 OF 7	APPROVED CHIEF ENGINEER 03/20/2022 DATE

08/20/2020

SCALE : NTS



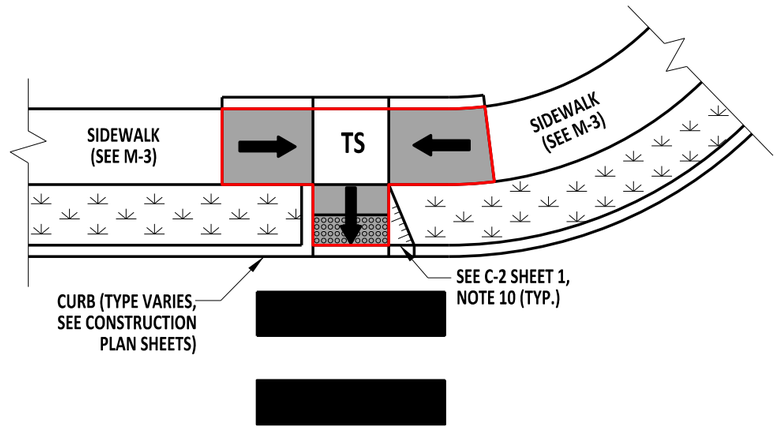
DUAL STREET CROSSINGS WITH SHARED TURNING SPACE



COMBINATION CURB RAMP ON CURVE

LEGEND

- TS — TURNING SPACE
- RAMP
- BLENDED TRANSITION
- CROSSWALK STRIPING
- BUFFER OR OTHER NON-WALKABLE SURFACE
- TRIANGULAR AREA
- DETECTABLE WARNING SURFACE
- FLARED SIDE
- LIMIT OF 6" MIN. SIDEWALK OVER 6" GABC



COMBINATION CURB RAMP ON TANGENT

NOTES:

1). SEE C-2, SHEET 1 FOR GENERAL PEDESTRIAN CONNECTION NOTES AND ELEMENT REQUIREMENTS.

2). COMBINATION PEDESTRIAN CONNECTIONS UTILIZE A PARALLEL CURB RAMP TO LOWER THE PEDESTRIAN PATH TO A MID TURNING SPACE AND THEN A SHORT PERPENDICULAR CURB RAMP TO CONNECT THE TURNING SPACE TO THE CROSSWALK. SEE THE CURRENT DELDOT PAS MANUAL FOR ADDITIONAL INFORMATION.

3). A SINGLE COMBINATION CURB RAMP LOCATED ON THE APEX OF A CURB RETURN WHICH SERVES TWO SEPARATE CROSSWALKS IS CONSIDERED A DIAGONAL CURB RAMP. INSTALLATION OF A DIAGONAL CURB RAMP REQUIRES APPROVAL FROM THE DEPARTMENT'S OFFICE OF CIVIL RIGHTS.

4). APPLICATIONS SHOWN AS DUAL APPROACHES CAN ALSO SUPPORT A SINGLE PEDESTRIAN PATH APPROACH AS WELL.

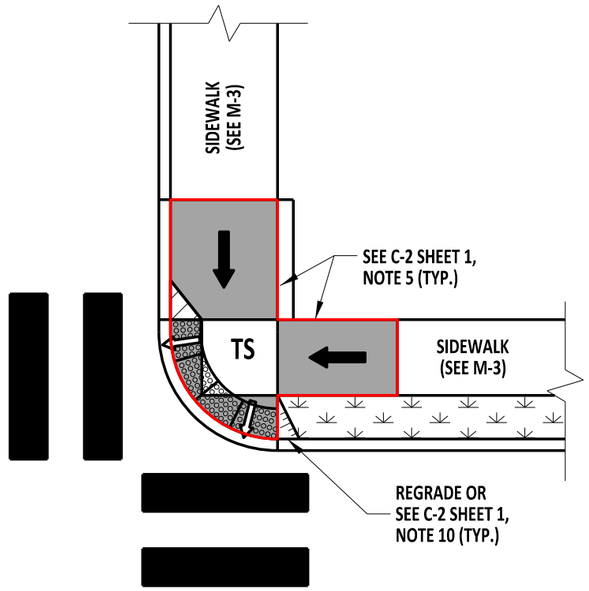
PEDESTRIAN CONNECTION, TYPE 3: COMBINATION CURB RAMPS

SINGLE AND DUAL APPROACH LAYOUT ALTERNATIVES

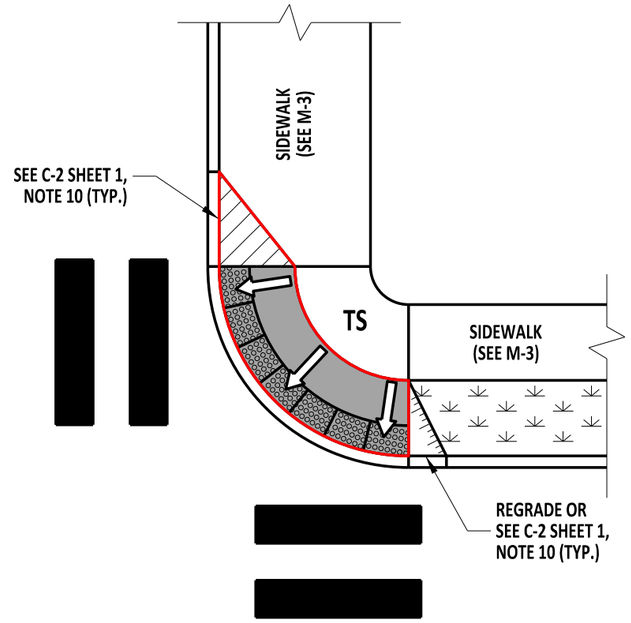
DelDOT	03/07/2022 ENGINEERING SUPPORT DATE RECOMMENDED	PEDESTRIAN CONNECTION, TYPE 3	REVIEWED DEPUTY DIRECTOR - DESIGN 03/20/2022 DATE
		STANDARD NO. C-2 (2021) SHT. 5 OF 7	APPROVED CHIEF ENGINEER 03/20/2022 DATE

08/20/2020

SCALE : NTS



DEPRESSED CORNER WITH SHARED TURNING SPACE



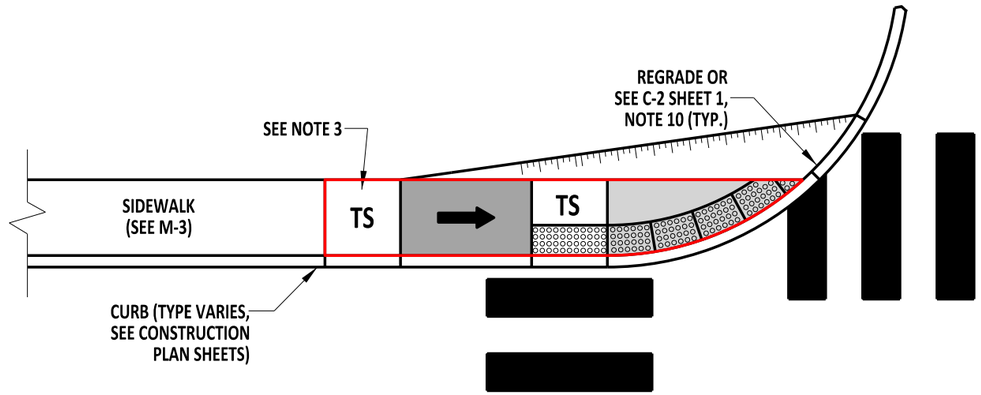
CORNER BLENDED TRANSTION WITH SIDEWALK

LEGEND

- TS — TURNING SPACE
- RAMP
- BLENDED TRANSITION
- CROSSWALK STRIPING
- TRIANGULAR AREA
- DETECTABLE WARNING SURFACE
- FLARED SIDE
- LIMIT OF 6" MIN. SIDEWALK OVER 6" GABC
- BUFFER OR OTHER NON-WALKABLE SURFACE

NOTES:

1). SEE C-2, SHEET 1 FOR GENERAL PEDESTRIAN CONNECTION NOTES AND ELEMENT REQUIREMENTS.
2). PERPENDICULAR AND PARALLEL RAMP CONFIGURATIONS ARE PREFERRED TO DEPRESSED CORNERS. DEPRESSED CORNERS SHOULD ONLY BE USED WHERE SITE CONDITIONS MAKE THEM A MORE APPROPRIATE OPTION, OR WHERE PERPENDICULAR OR PARALLEL RAMPS CANNOT BE INSTALLED DUE TO A PHYSICAL SITE CONSTRAINT. SEE THE CURRENT DELDOT PAS MANUAL FOR ADDITIONAL INFORMATION.
3). A TURNING SPACE IS NOT REQUIRED AT THE TOP OF THE RAMP WHEN NO TURNING MOVEMENT IS REQUIRED TO ENTER OR EXIT THE RAMP.



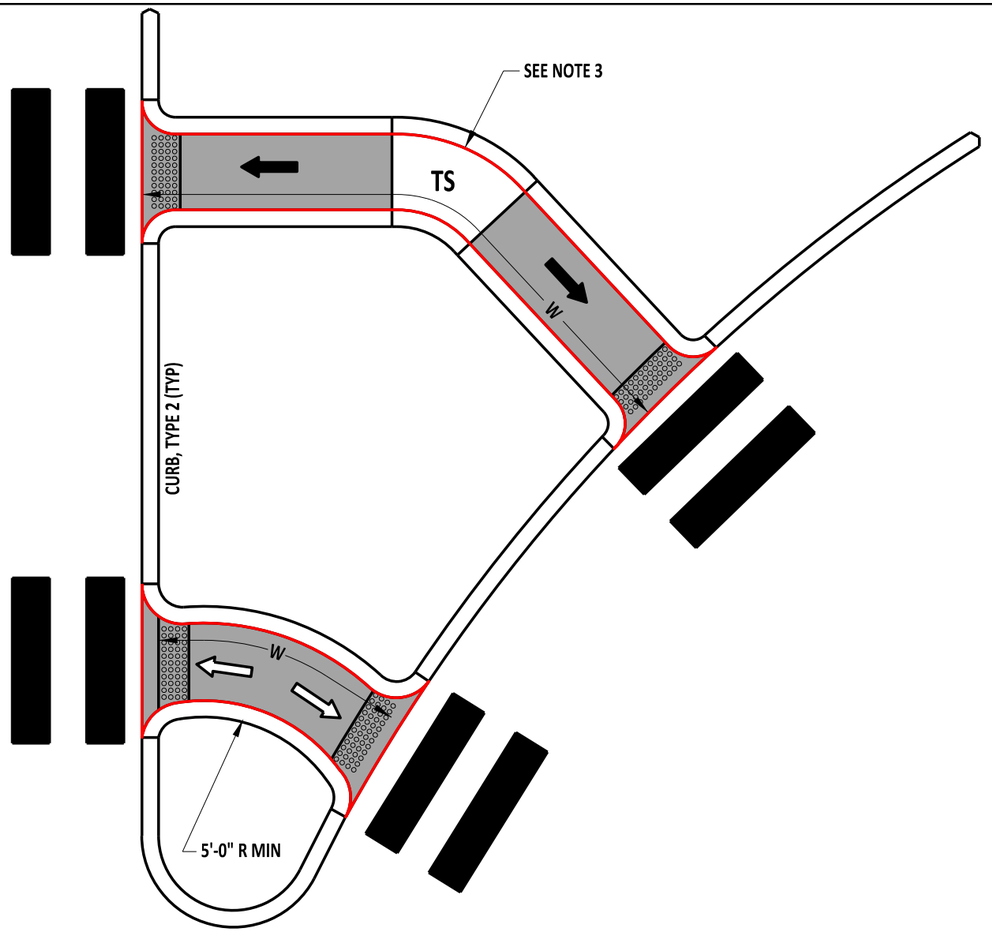
SINGLE APPROACH DEPRESSED CORNER

PEDESTRIAN CONNECTION, TYPE 4: DEPRESSED CORNERS

DelDOT	ENGINEERING SUPPORT 03/07/2022 DATE RECOMMENDED	PEDESTRIAN CONNECTION, TYPE 4 STANDARD NO. C-2 (2021) SHT. 6 OF 7	REVIEWED DEPUTY DIRECTOR - DESIGN 03/20/2022 DATE APPROVED CHIEF ENGINEER 03/20/2022 DATE

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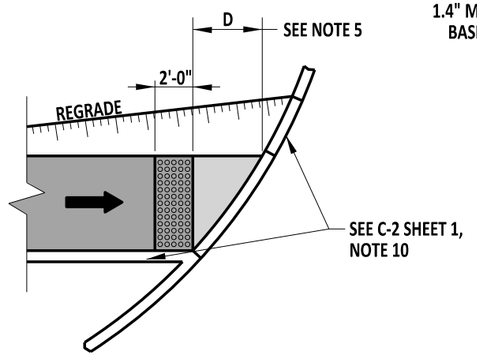
SCALE : NTS



PEDESTRIAN CONNECTION, TYPE 5

PEDESTRIAN CONNECTION TYPE 5 NOTES:

1). SEE C-2, SHEET 1 FOR GENERAL PEDESTRIAN CONNECTION NOTES AND ELEMENT REQUIREMENTS.
2). A CUT-THROUGH LEVEL WITH THE STREET IS THE PREFERRED TREATMENT FOR ISLANDS. RAMPS OR BLENDED TRANSITIONS CAN BE USED WHERE THE ISLAND IS OF SUFFICIENT SIZE TO ACCOMMODATE THEM. PROVIDE POSITIVE DRAINAGE FOR EITHER TREATMENT.
3). A TURNING SPACE IS REQUIRED TO BE PLACED BETWEEN THE TOP OF RAMPED SEGMENTS.
4). THE WIDTH OF THE PEDESTRIAN PATH THROUGH THE MEDIAN SHOULD MATCH THE WIDTH OF THE PEDESTRIAN ACCESS ROUTE WHICH IT CONNECTS. EXPAND THE ENTIRE PEDESTRIAN PATH WIDTH THROUGH THE MEDIAN BY 2'-0" UP TO A WIDTH OF 10'-0" AT LOCATIONS WHERE A PEDESTRIAN PUSHBUTTON IS TO BE PLACED.
5). THE CROSS SLOPE IS PERMITTED TO MATCH THAT OF THE ADJACENT STREET. LOCATIONS THAT REQUIRE A CROSS SLOPE TRANSITION SHALL TRANSITION THE CROSS SLOPE UNIFORMLY AT A RATE NOT TO EXCEED 3.0% PER LINEAR FOOT.



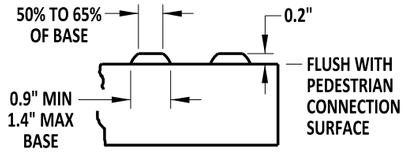
DETECTABLE WARNING SURFACE PLACEMENT FOR PERPENDICULAR CURB RAMPS

DETECTABLE WARNING SURFACE NOTES:

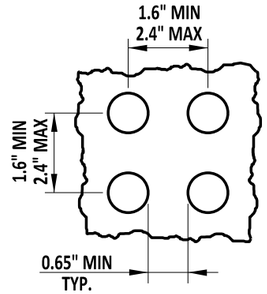
1). THE DETECTABLE WARNING SURFACE SHALL EXTEND A MINIMUM OF 2'-0" IN THE DIRECTION OF PEDESTRIAN TRAVEL AND EXTEND THE FULL WIDTH OF THE DEPRESSED CURB.
2). THE DETECTABLE WARNING SURFACE SHALL NOT BE PLACED ACROSS A GRADE BREAK.
3). WHERE THERE IS NO DEPRESSED CURB AT A MEDIAN CUT-THROUGH OF PEDESTRIAN CONNECTION, INSTALL THE DETECTABLE WARNING SURFACE A MINIMUM OF 8" FROM THE PAVEMENT EDGE.
4). THE DETECTABLE WARNING SURFACE MAY BE OMITTED WITH APPROVAL OF THE ENGINEER AT CUT-THROUGH LOCATIONS WHERE THE DETECTABLE WARNING SURFACE WILL BE SEPARATED BY 2'-0" OR LESS.
5). PLACE DETECTABLE WARNING SURFACES AS FOLLOWS:
   A). PERPENDICULAR CURB RAMPS - SEE ABOVE FIGURE FOR PERPENDICULAR CURB RAMP APPLICATIONS. WHERE D IS LESS THAN OR EQUAL TO 5'-0", PLACE THE DETECTABLE WARNING SURFACE PERPENDICULAR TO THE RAMP AT THE BOTTOM GRADE BREAK. WHERE D IS GREATER THAN 5'-0", PLACE AT THE BACK OF CURB.
   B). PARALLEL CURB RAMPS - PLACE AT THE BACK OF CURB ALONG THE ENTIRE LENGTH OF THE DEPRESSED CURB.
   C). DEPRESSED CORNERS - PLACE AT THE BACK OF CURB ALONG THE ENTIRE LENGTH OF THE DEPRESSED CURB.

LEGEND

- TS — TURNING SPACE
- RAMP
- BLENDED TRANSITION
- CROSSWALK STRIPING
- BUFFER OR OTHER NON-WALKABLE SURFACE
- TRIANGULAR AREA
- DETECTABLE WARNING SURFACE
- FLARED SIDE
- LIMIT OF 6" MIN. SIDEWALK OVER 6" GABC



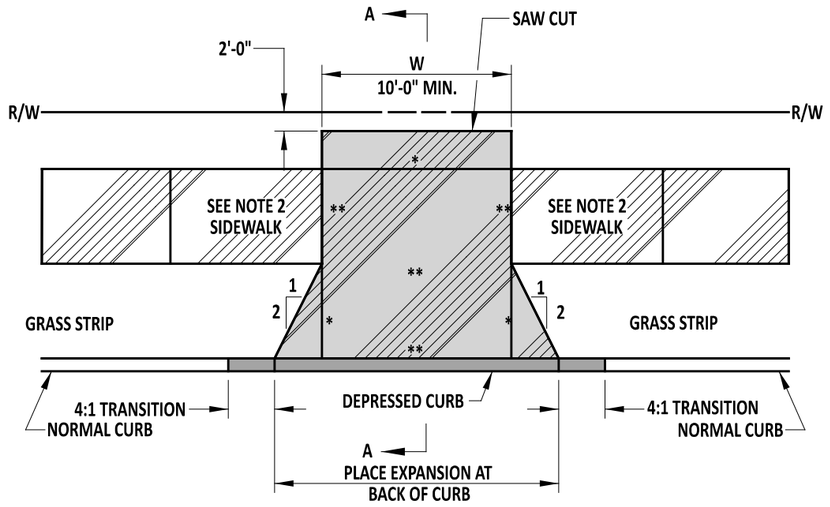
DETECTABLE WARNING SURFACE DETAILS



DelDOT	03/07/2022 ENGINEERING SUPPORT DATE RECOMMENDED	DWS PLACEMENT AND PEDESTRIAN CONNECTION, TYPE 5 STANDARD NO. C-2 (2021) SHT. 7 OF 7	REVIEWED DEPUTY DIRECTOR - DESIGN 03/20/2022 DATE APPROVED CHIEF ENGINEER 03/20/2022 DATE

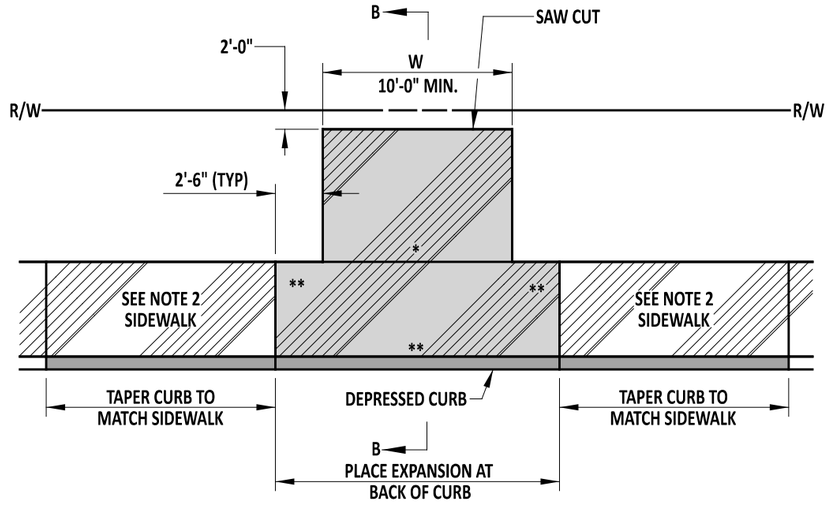
08/20/2020

SCALE : NTS



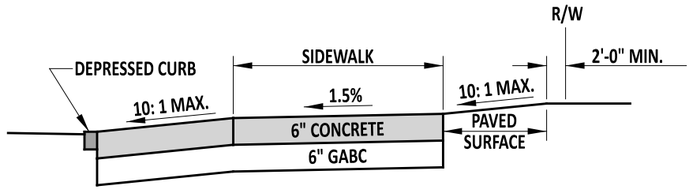
ENTRANCE WITH SIDEWALK AND GRASS STRIP

* - JOINT
** - EXPANSION MATERIAL

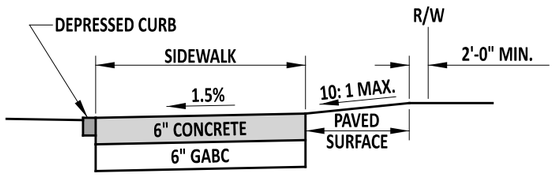


ENTRANCE WITH SIDEWALK AND NO GRASS STRIP

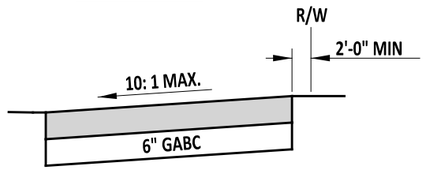
* - JOINT
** - EXPANSION MATERIAL



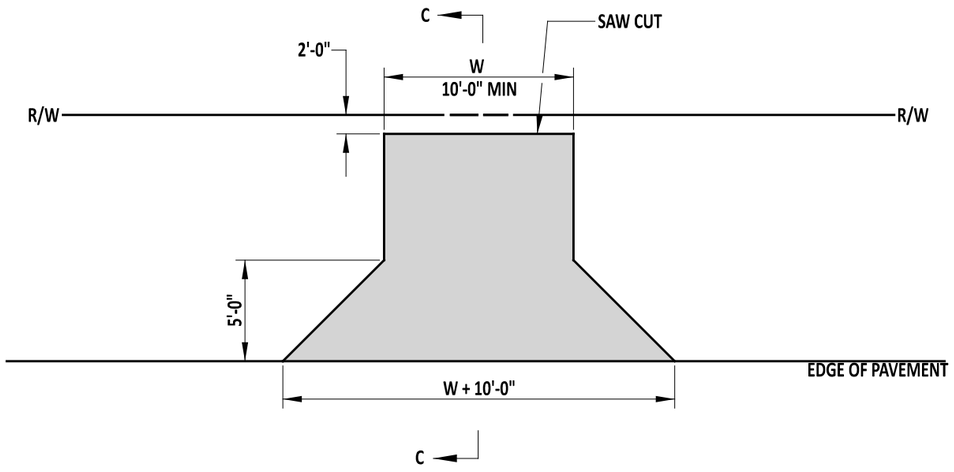
SECTION A-A



SECTION B-B



SECTION C-C



ENTRANCE WITHOUT SIDEWALK

NOTES:

1). A MAXIMUM SIDEWALK RUNNING SLOPE OF 4.5% IS PREFERRED WITH ALLOWANCE TO FOLLOW THE ADJACENT ROAD GRADES.
2). PROVIDE A SIDEWALK RUNNING SLOPE OF 4.5% LEADING TO THE DRIVEWAY APRON. THE LENGTH OF THE SLOPED SEGMENT LEADING TO THE DRIVEWAY APRON MAY BE LIMITED TO 15'-0" WHEN A 4.5% RUNNING SLOPE CREATES A GRADE CHASING SCENARIO.

- PCC SIDEWALK

- PCC 6"

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ENGINEERING SUPPORT — 12/03/2021 DATE
RECOMMENDED

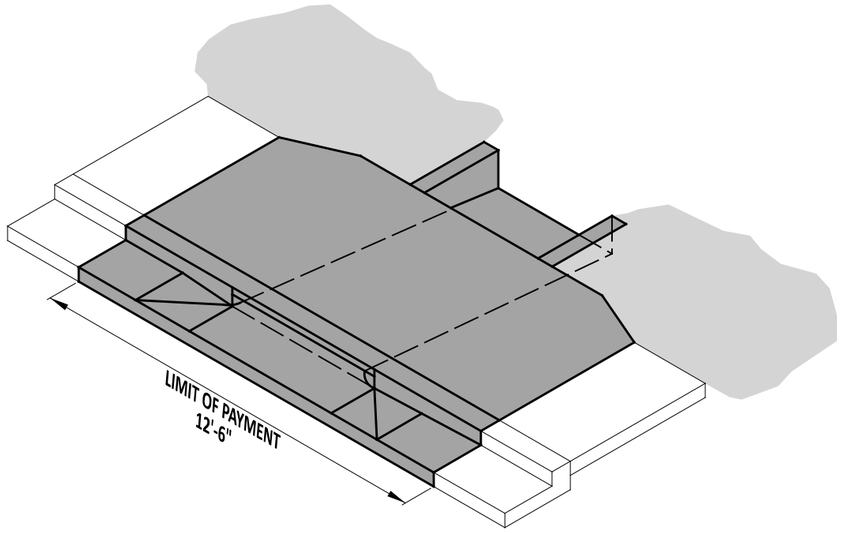
ENTRANCES

STANDARD NO. C-3 (2021) | SHT. 1 OF 1

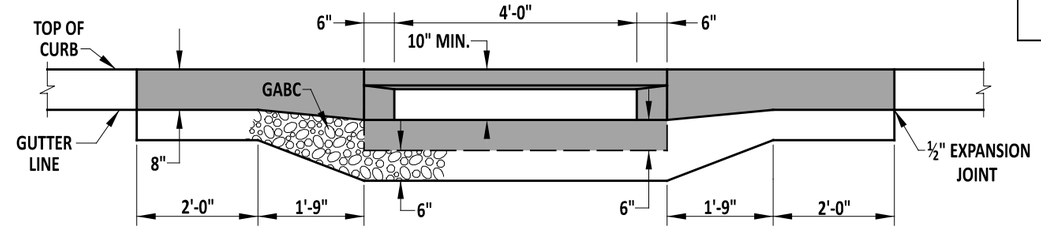
REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/06/2021 DATE
APPROVED — CHIEF ENGINEER — 12/07/2021 DATE

12/1/2021

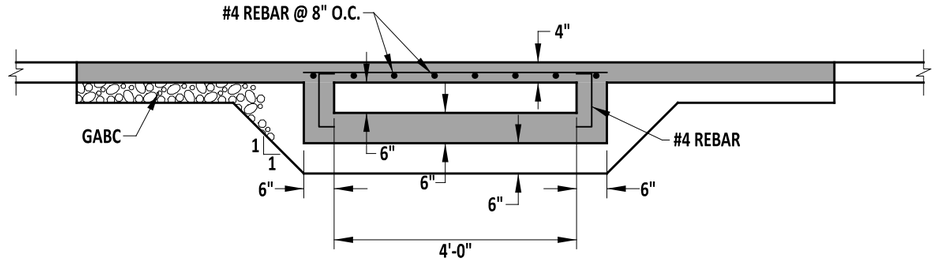
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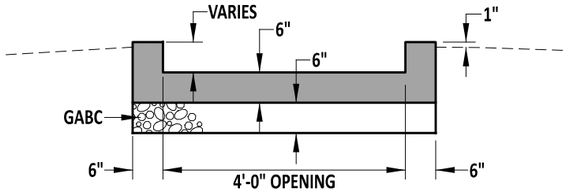
ISOMETRIC



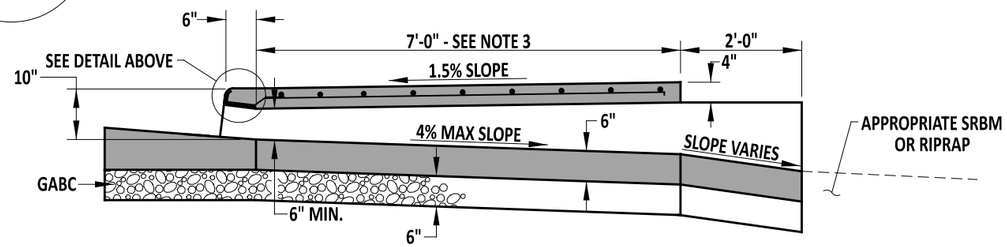
SECTION A-A



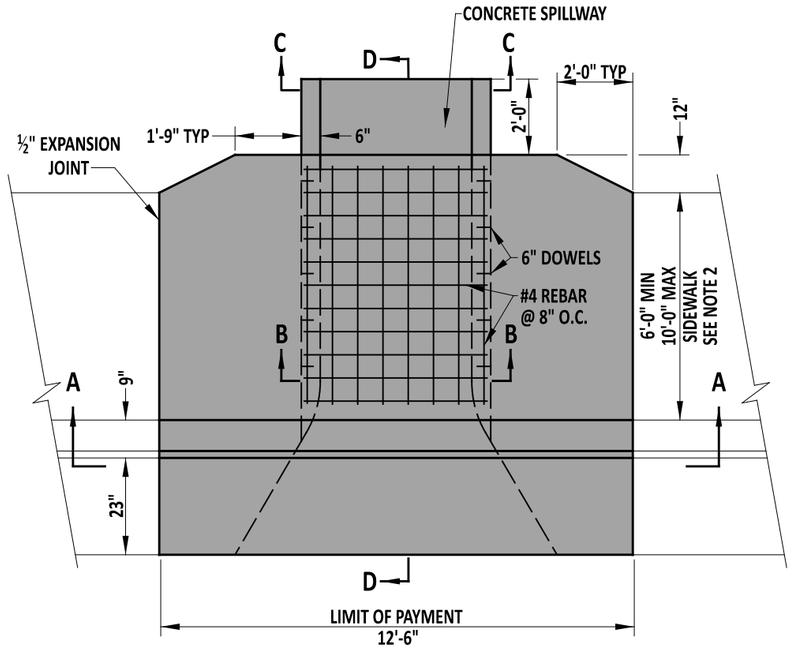
SECTION B-B



SECTION C-C



SECTION D-D



PLAN

CURB / SIDEWALK OPENING

NOTES:

1). WHEN A GRASS STRIP IS PRESENT BETWEEN THE BACK OF CURB AND SIDEWALK, THE SIDEWALK PORTION OF THIS STRUCTURE MAY BE PRECAST. HOWEVER, WHEN THE SIDEWALK IS DIRECTLY BEHIND THE CURB, USE CAST-IN-PLACE CONSTRUCTION.
2). SIDEWALK WIDTHS LESS THAN SHOWN ON THIS SHEET REQUIRE DEPARTMENT APPROVAL. SEE PEDESTRIAN ACCESSIBILITY STANDARDS FOR MORE GUIDANCE.
3). OVER THE CONCRETE SPILLWAY, USE A SLAB WIDTH 12" WIDER THAN THE SIDEWALK WIDTH AND USE A 2'-0" CONCRETE APRON APPROACH. WHEN NOT ADJACENT TO CURB, EXTEND THE PATH AN ADDITIONAL 1'-0" IN WIDTH TOWARD THE BACK OF THE CURB USING SAME FLARE RATES AND DIMENSIONS AS SHOWN AT THE BACK OF SIDEWALK.

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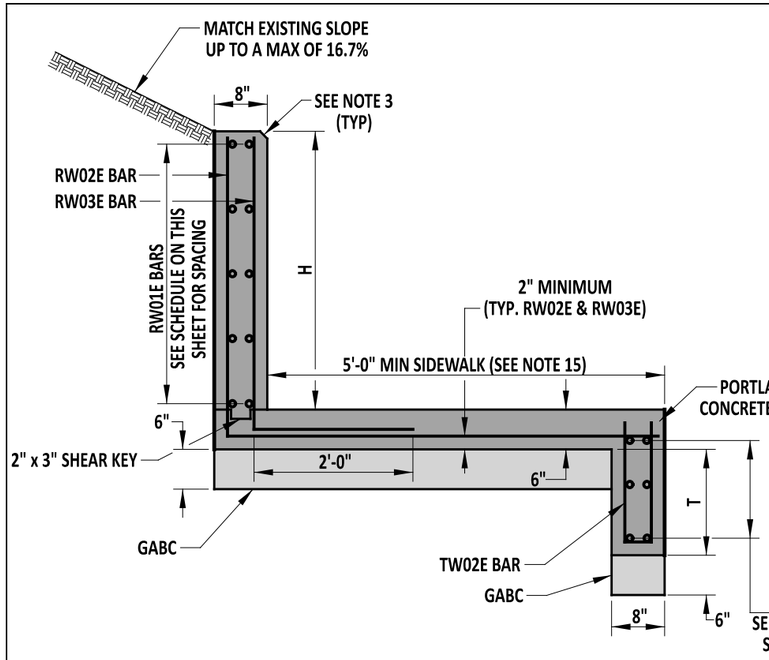
ENGINEERING SUPPORT — 12/03/2021 DATE
RECOMMENDED

CURB / SIDEWALK OPENING

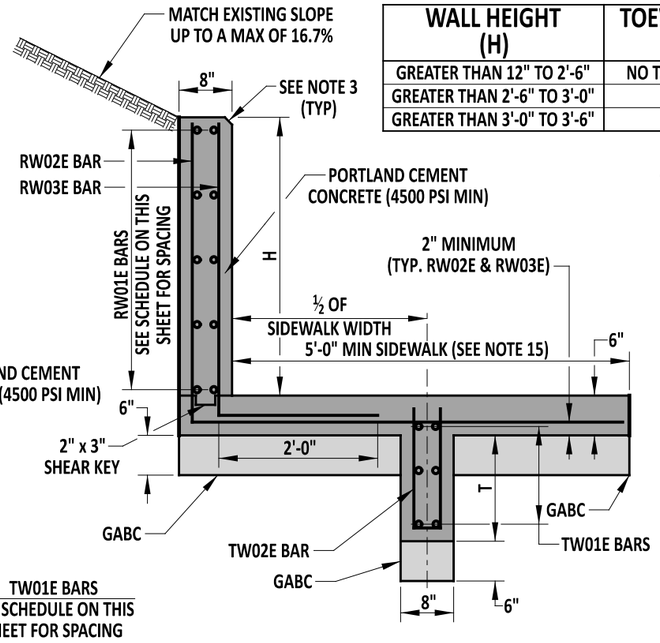
STANDARD NO. C-5 (2021) | SHT. 1 OF 1

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/06/2021 DATE
APPROVED — CHIEF ENGINEER — 12/07/2021 DATE

12/1/2021



CURB RETAINING WALL SECTION
FOR H GREATER THAN 2'-6"



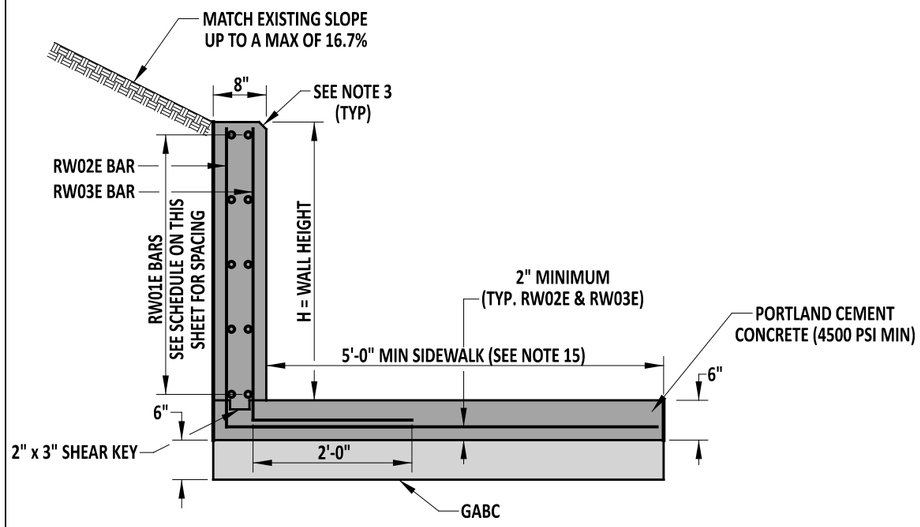
OPTIONAL TOEWALL PLACEMENT
CURB RETAINING WALL SECTION
FOR H GREATER THAN 2'-6"

WALL HEIGHT (H)	TOEWALL DEPTH (T)	REQUIRED TRANSVERSE REINFORCEMENT	REQUIRED LONGITUDINAL REINFORCEMENT
GREATER THAN 12" TO 2'-6"	NO TOEWALL NEEDED	#4 BARS @ 6" (RW02E, & RW03E)	#4 BARS @ 12" (RW01E & TW01E)
GREATER THAN 2'-6" TO 3'-0"	6"	#4 BARS @ 6" (RW02E, RW03E, & TW02E)	#4 BARS @ 12" (RW01E & TW01E)
GREATER THAN 3'-0" TO 3'-6"	12"	#5 BARS @ 6" (RW02E, RW03E, & TW02E)	#4 BARS @ 12" (RW01E & TW01E)

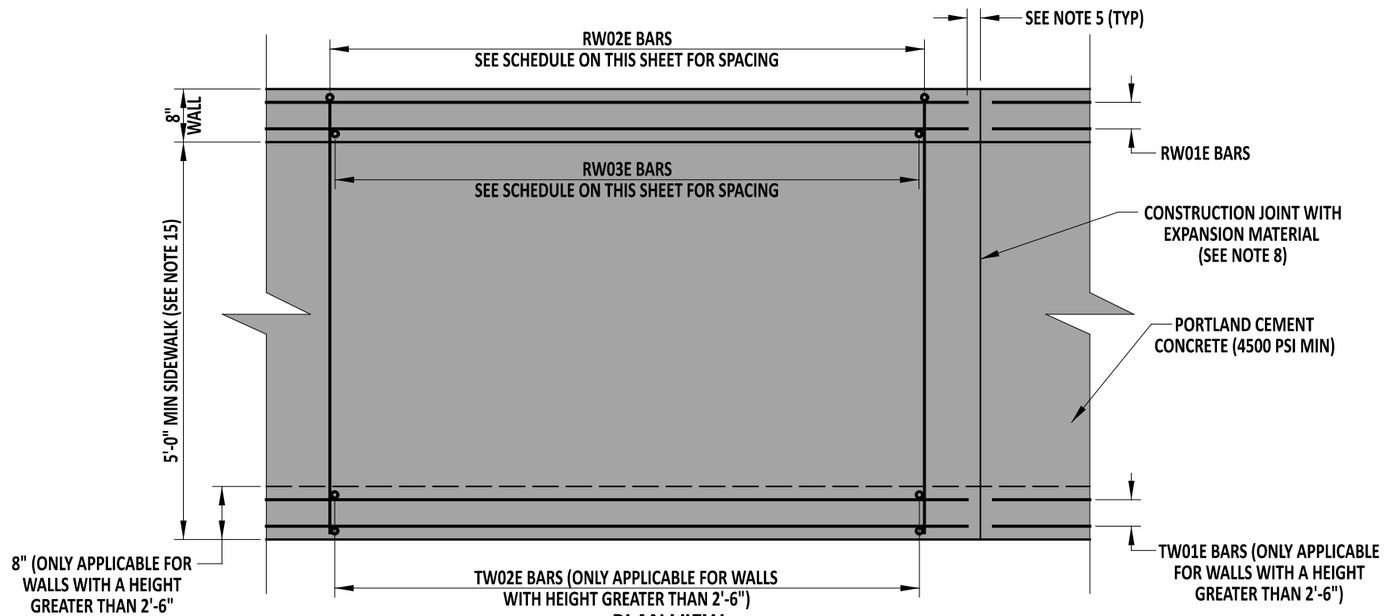
SCALE : NTS

NOTES:

1). THE CURB RETAINING WALL DETAILS ARE FOR QUICK FIELD CHANGES WITH APPROVAL OF THE ENGINEER. MODULAR BLOCK WALLS OR ANY OTHER SMALL RETAINING WALLS ARE THE PREFERRED CHOICE DURING PLAN DEVELOPMENT.
2). WHEN H IS GREATER THAN 2'-6", CAST THE CURB RETAINING WALLS IN PLACE. WHEN H IS GREATER THAN 12" AND LESS THAN 2'-6", THE WALLS CAN BE EITHER PRECAST OR CAST-IN-PLACE.
3). CHAMFER EDGES ¾" AT THE TOP OF WALL. PLACE A ¼" ROUND EDGE AT THE FRONT OF SIDEWALK.
4). THE RETAINING WALL HAS BEEN DESIGNED TO RESIST EARTH PRESSURE ONLY. ADDITIONAL REINFORCEMENT MAY BE REQUIRED IF ANY SURCHARGE IS APPLIED BEHIND THE RETAINING WALL WITHIN A DISTANCE EQUAL TO 2 TIMES H AND WOULD REQUIRE AN APPROVED SHOP DRAWING.
5). MINIMUM BAR COVER IS 2" UNLESS OTHERWISE SPECIFIED ON THIS SHEET.
6). BEND THE RW02E AND RW03E BARS INTO ONE CONTINUOUS L-SHAPED BAR.
7). BEND THE TW02E BARS INTO 1 CONTINUOUS U-SHAPED BAR.
8). SEE DETAIL M-3 FOR SIDEWALK DETAILS AND NOTES, INCLUDING CONSTRUCTION JOINTS AND EXPANSION MATERIAL.
9). DO NOT PLACE RW01E AND TW01E BARS THROUGH EXPANSION JOINTS. STOP REINFORCEMENT AND MAINTAIN MINIMUM BAR COVER AS SPECIFIED IN PREVIOUS NOTES.
10). THE TOEWALL CAN OPTIONALLY BE PLACED AT MIDPOINT OF THE SIDEWALK.
11). ALL REINFORCING STEEL MUST BE EPOXY COATED.
12). IF A CURB IS CONSTRUCTED ADJACENT TO THE STRUCTURE, COAT THE FRONT FACE OF THE SIDEWALK/TOEWALL WITH AN APPROVED BOND BREAKER AGENT PRIOR TO THE PLACEMENT OF CONCRETE FOR THE CURB.
13). FOR CURB RETAINING WALLS WHERE H IS 12" OR LESS, A MODIFIED P.C.C. CURB TYPE 1-8 CAN BE USED.
14). CURB HAS BEEN OMITTED FROM THESE DETAILS FOR CLARITY PURPOSES. FOR INSTALLATIONS WHERE THE TOEWALL IS PLACED AT THE EDGE OF THE SIDEWALK, THE TOEWALL IS NOT A REPLACEMENT FOR CURB.
15). THE MINIMUM SIDEWALK WIDTH WHEN A BUFFER STRIP IS PROVIDED BETWEEN THE EDGE OF PAVEMENT AND THE SIDEWALK IS 5'-0". THE MINIMUM SIDEWALK WIDTH WHEN A BUFFER STRIP IS NOT PROVIDED IS 6'-0". APPLICATIONS NARROWER THAN 5'-0" MUST BE APPROVED BY THE DELDOT BRIDGE SECTION. REFER TO THE CURRENT PEDESTRIAN ACCESSIBILITY STANDARDS MANUAL FOR ADDITIONAL GUIDANCE ON SIDEWALK WIDTHS.



CURB RETAINING WALL SECTION
FOR HEIGHTS GREATER THAN 12"
BUT LESS THAN OR EQUAL TO 2'-6"



PLAN VIEW

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ENGINEERING SUPPORT — 12/03/2021 DATE
RECOMMENDED

CURB RETAINING WALL

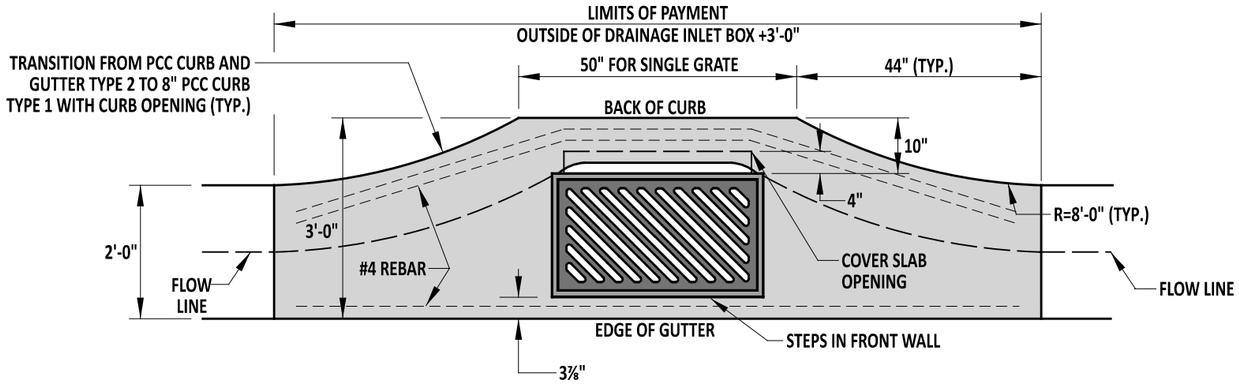
STANDARD NO. C-6 (2021) | SHT. 1 OF 1

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DEPUTY DIRECTOR - DESIGN — 12/06/2021 DATE

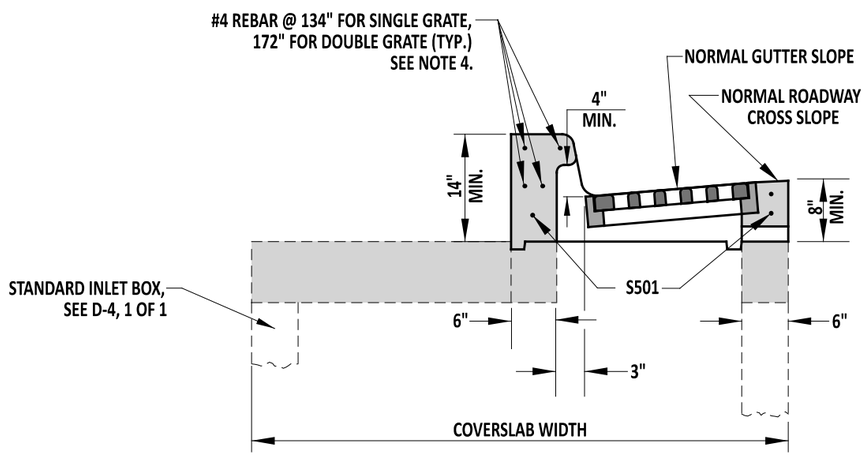
APPROVED
CHIEF ENGINEER — 12/07/2021 DATE

12/1/2021

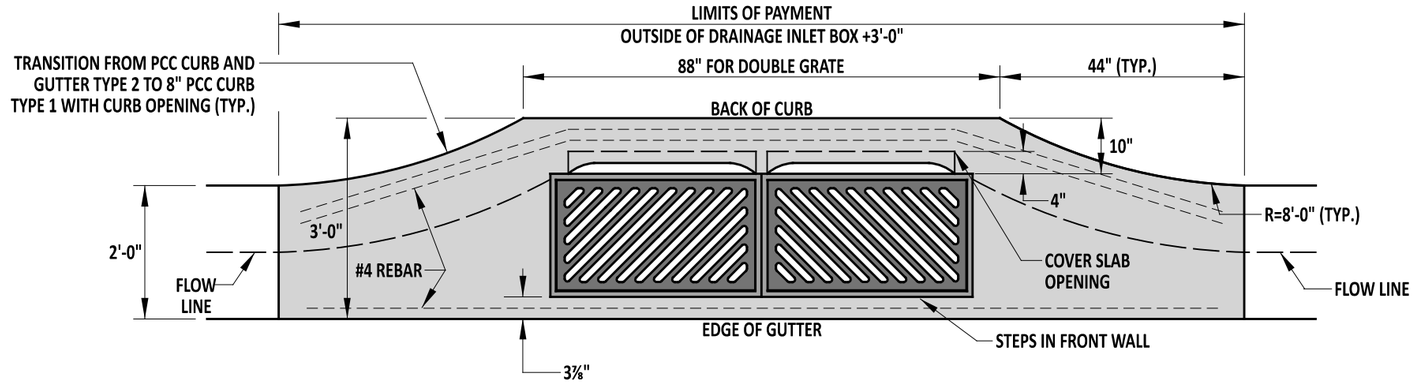
SCALE : NTS



SINGLE GRATE SETUP



SUBDIVISION TOP & CONFIGURATION



DOUBLE GRATE SETUP

NOTES:

1). MINIMUM BOX SIZE TO BE 34" x 24".
2). FOR PIPE OPENINGS IN THE FRONT WALL, SHIFT THE PIPE HORIZONTALLY TO AVOID INTERFERENCE WITH THE STEPS. IT MAY BE NECESSARY TO USE A LARGER BOX TO AVOID CONFLICT BETWEEN STEPS AND PIPE OPENING.
3). SEE D-5, SHEET 3 OF 9, FOR S501 BAR DIAGRAM.
4). THE REBAR IN THE HEAD IS PREFERRED TO BE ONE CONTINUOUS PIECE. HOWEVER, IF MULTIPLE PIECES ARE TO BE USED, PROVIDE A 12" MINIMUM LAP AND THE TOTAL LENGTH OF REBAR AS NOTED ON THIS DETAIL.

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ENGINEERING SUPPORT — 12/08/2021 DATE
RECOMMENDED

DRAINAGE INLET TOP UNIT, TYPE S

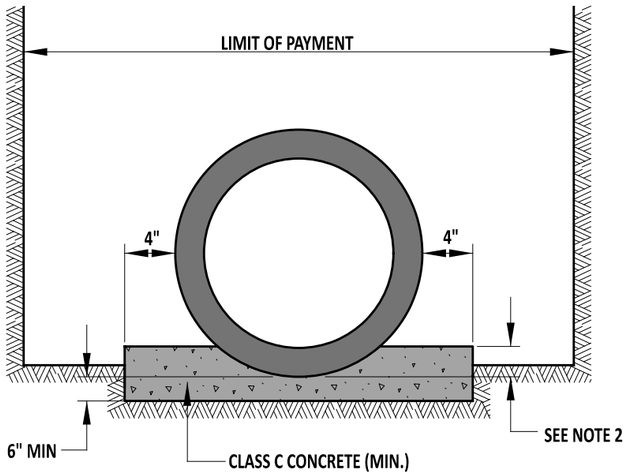
STANDARD NO. D-5 (2021) | SHT. 8 OF 9

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

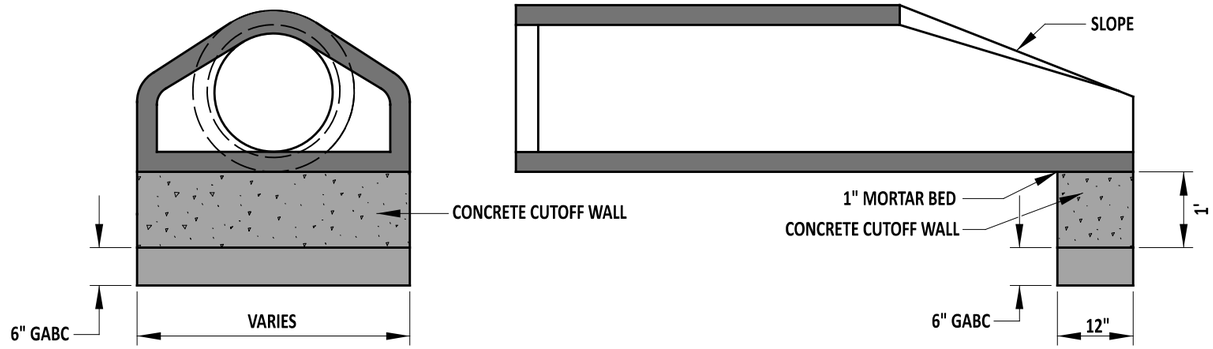
APPROVED — CHIEF ENGINEER — 12/20/2021 DATE

12/1/2021

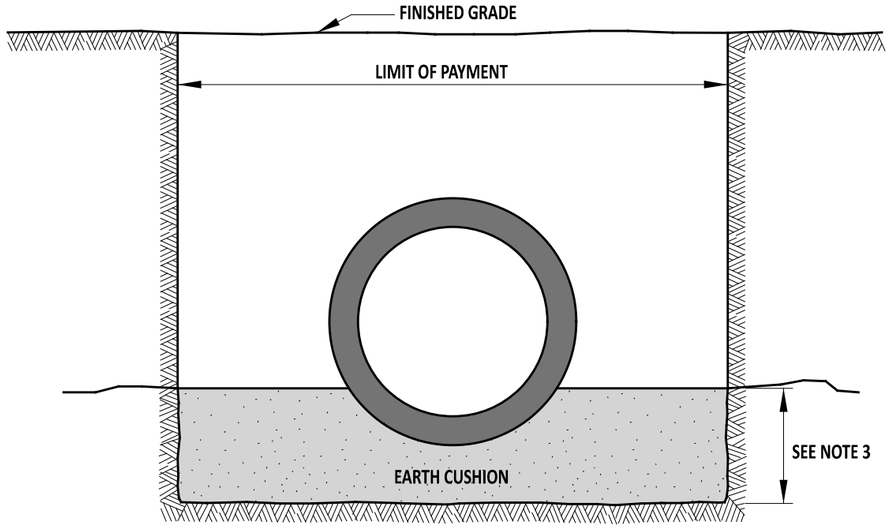
SCALE : NTS



CLASS A PIPE BEDDING



END SECTIONS FOR CONCRETE PIPE



CLASS C PIPE BEDDING

PIPE BEDDING

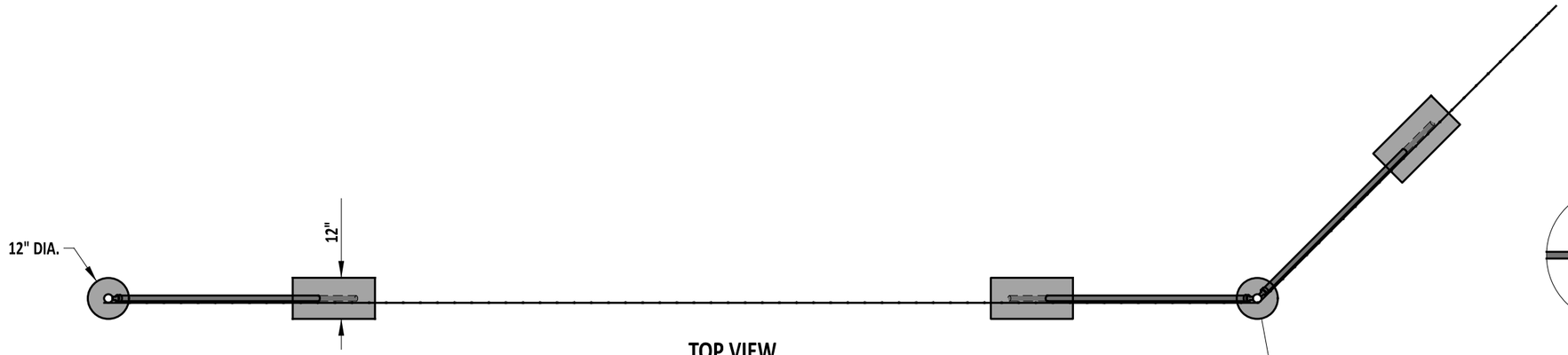
NOTES:

1). USE CLASS C BEDDING UNLESS OTHERWISE INDICATED.
2). FOR CLASS A BEDDING, IMBED PIPE IN CONCRETE 6" FOR PIPES SMALLER THAN 24" I.D., 10" FOR PIPES 24" TO 60", AND FOR PIPES LARGER THAN 60" SEE PROJECT DETAILS.
3). USE IN SITU MATERIAL AS APPROVED BY THE ENGINEER OR AS PER MANUFACTURER REQUIREMENTS.
4). USE CLASS B CONCRETE FOR CONCRETE CUTOFF WALLS, PRECAST AS DIRECTED BY THE ENGINEER.

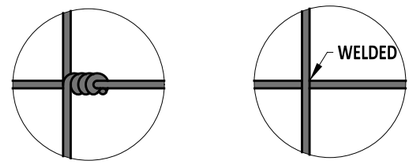
DelDOT	ENGINEERING SUPPORT 12/08/2021 DATE RECOMMENDED	PIPE BEDDING AND PIPE FLARED END SUPPORT		REVIEWED DEPUTY DIRECTOR - DESIGN 12/08/2021 DATE
		STANDARD NO. D-8 (2021)	SHT. 1 OF 1	APPROVED CHIEF ENGINEER 12/20/2021 DATE

12/1/2021

SCALE : NTS

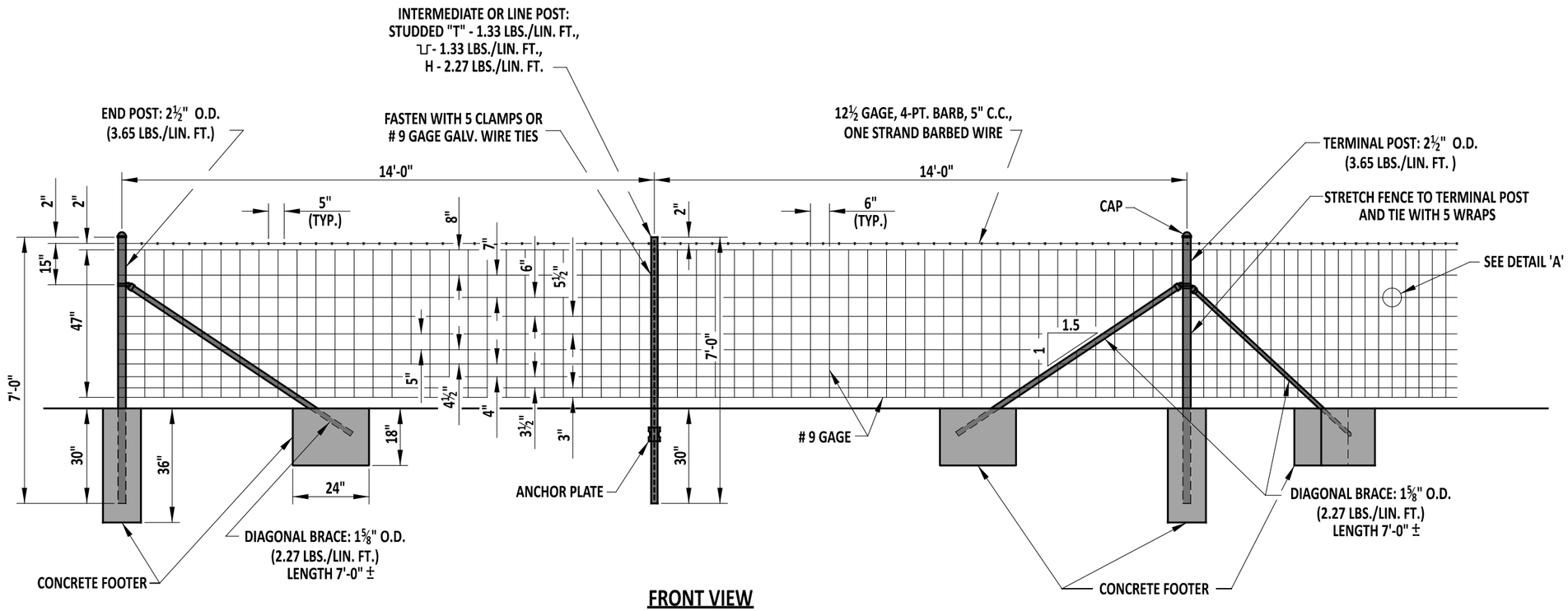


TOP VIEW



ALTERNATE METHODS OF SECURING VERTICAL
STAY WIRES TO THE HORIZONTAL WIRES OF THE FABRIC.

DETAIL 'A'



FRONT VIEW

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ENGINEERING SUPPORT — 12/08/2021 DATE

RECOMMENDED

RIGHT-OF-WAY FENCE

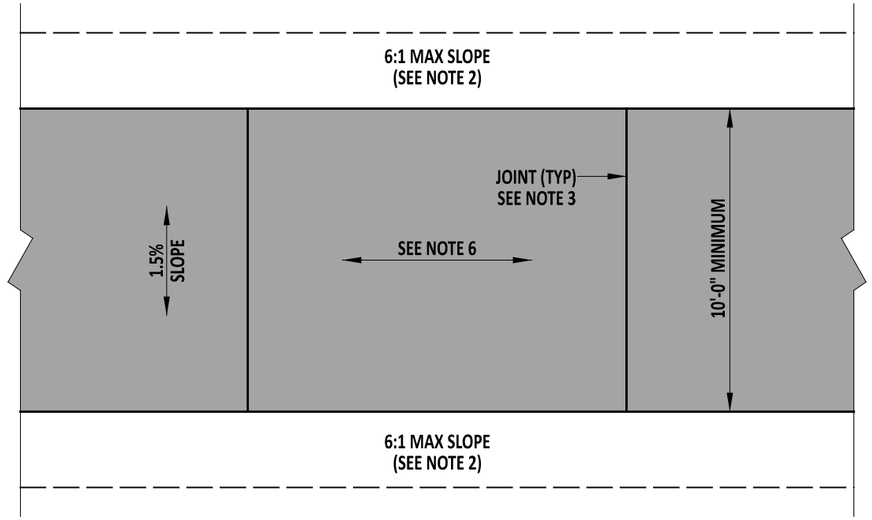
STANDARD NO. M-1 (2021) | SHT. 1 OF 1

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

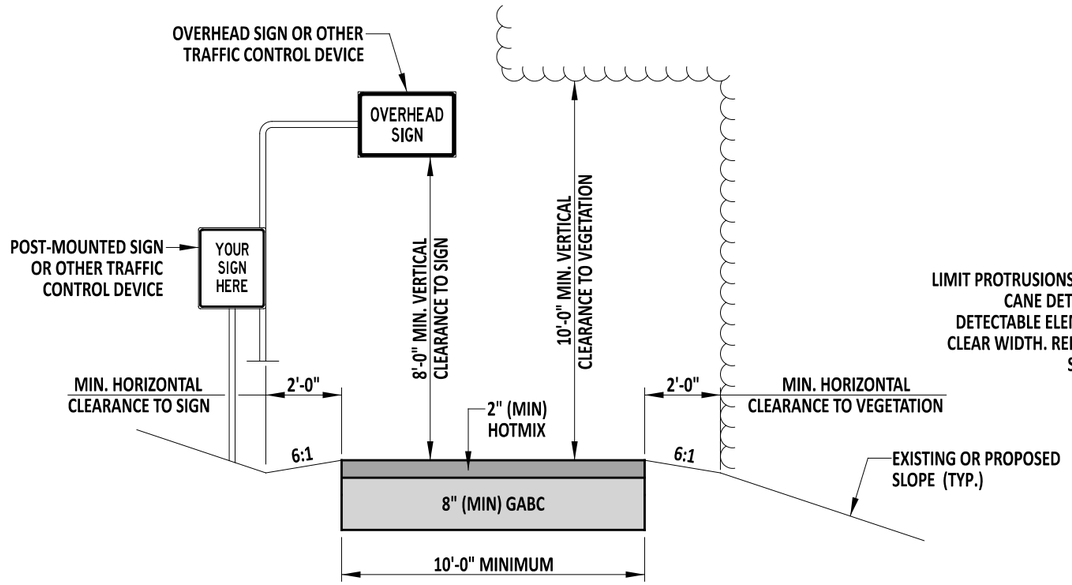
APPROVED — CHIEF ENGINEER — 12/20/2021 DATE

12/1/2021

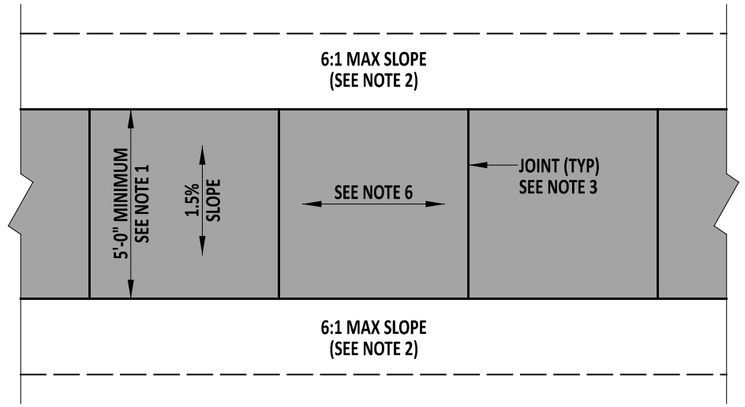
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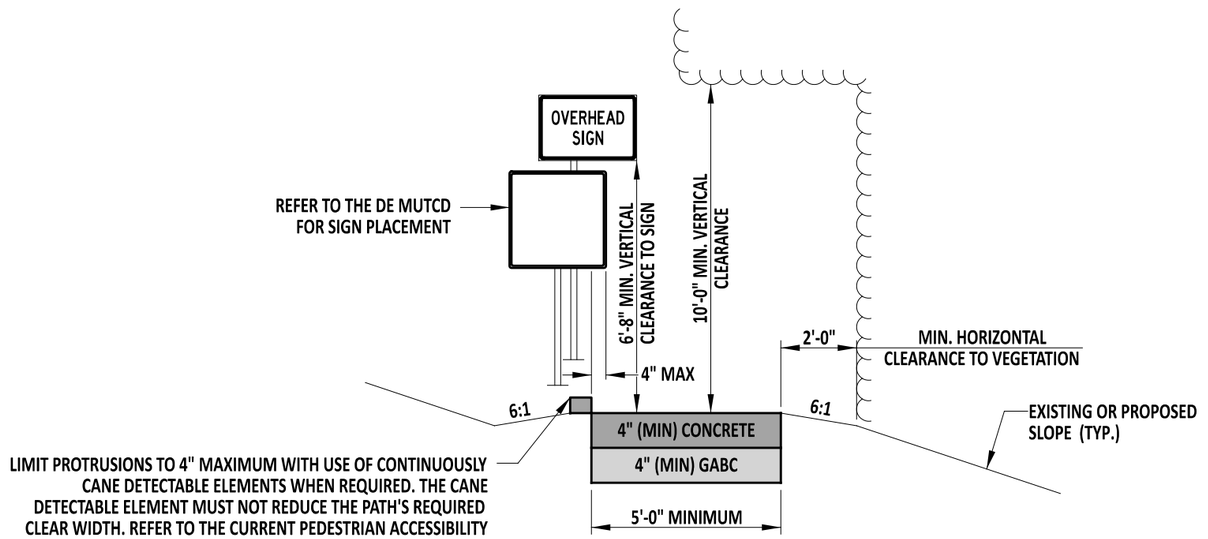
SHARED-USE PATH PLAN



SHARED-USE PATH TYPICAL SECTION



SIDEWALK PLAN



SIDEWALK TYPICAL SECTION

NOTES:

1). THE MINIMUM SIDEWALK WIDTH WHEN A BUFFER STRIP IS PROVIDED BETWEEN THE EDGE OF PAVEMENT AND THE SIDEWALK IS 5'-0". THE MINIMUM SIDEWALK WIDTH WHEN A BUFFER STRIP IS NOT PROVIDED IS 6'-0".
2). A 6:1 GRADE IS REQUIRED FOR A MINIMUM OF 2'-0" IMMEDIATELY ADJACENT TO THE SHARED USE PATH OR SIDEWALK.
3). FOR SIDEWALKS, PLACE CONSTRUCTION JOINTS EVERY 5'-0" IN ACCORDANCE WITH SECTION 705.3. FOR CONCRETE SHARED-USE PATHS, PLACE CONSTRUCTION JOINTS EVERY 10'-0".
4). PLACE EXPANSION MATERIAL IN ACCORDANCE WITH SECTION 701.3.
5). WHEN EXISTING OBSTRUCTIONS (FIRE HYDRANT, UTILITY POLE, ETC...) ARE LOCATED IN THE SIDEWALK, MAINTAIN A MINIMUM WIDTH OF 32" AND MAXIMUM LENGTH CONSTRICTION OF 24".
6). NOT TO EXCEED 4.5% OR ADJACENT ROAD GRADE.

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ENGINEERING SUPPORT — 12/03/2021 DATE

RECOMMENDED

SHARED-USE PATH & SIDEWALK

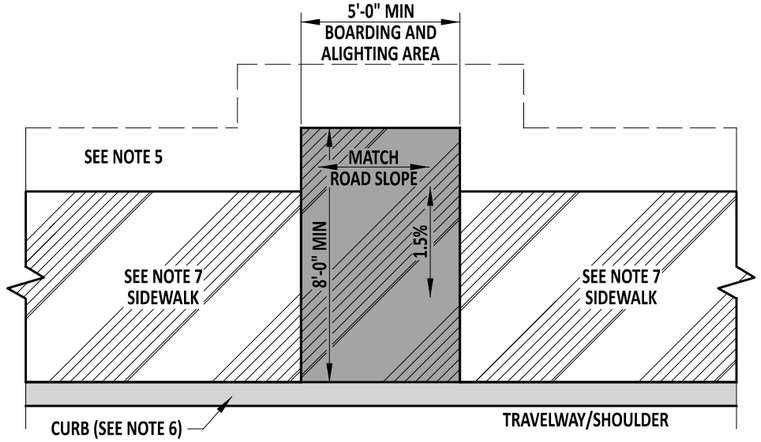
STANDARD NO. M-3 (2021) | SHT. 1 OF 1

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/06/2021 DATE

APPROVED — CHIEF ENGINEER — 12/07/2021 DATE

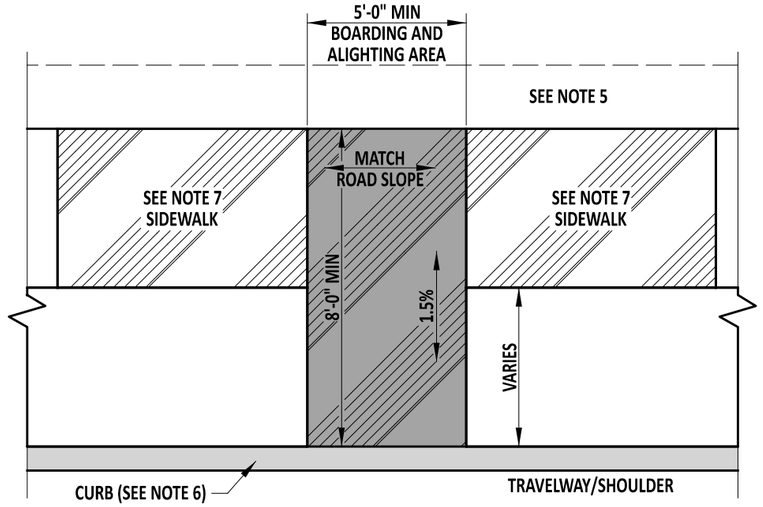
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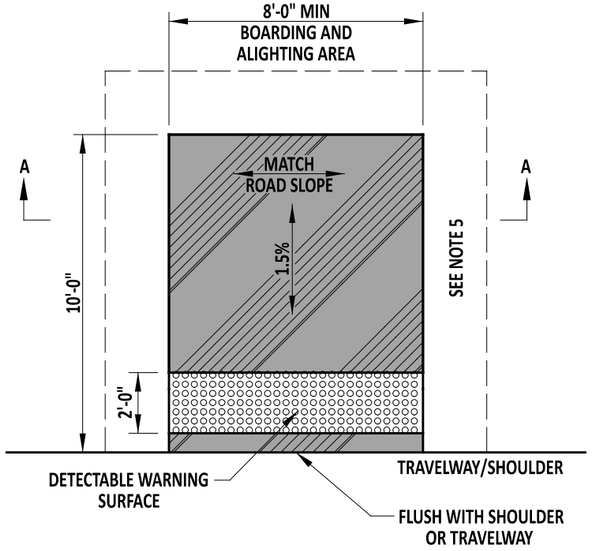
BUS STOP PAD, TYPE 1

* - TO BE USED WHEN THE PAD IS PLACED BEHIND CURB AND INCLUDES A SIDEWALK WITHOUT A GRASS STRIP



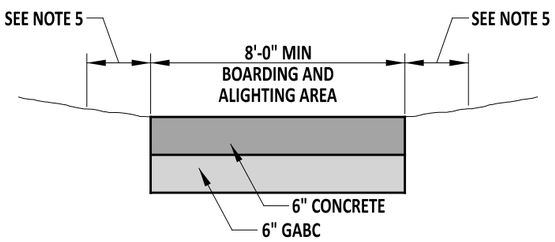
BUS STOP PAD, TYPE 2

* - TO BE USED WHEN THE PAD IS PLACED BEHIND CURB AND INCLUDES A SIDEWALK WITH A GRASS STRIP



BUS STOP PAD , TYPE 3

* - TO BE USED WHEN THE PAD IS PLACED FLUSH WITH THE TRAVELWAY AND NO CURB OR SIDEWALK IS INCLUDED



SECTION A-A

- PCC SIDEWALK

- PCC 6"

NOTES:

1). BUS STOP PAD LOCATIONS TO BE APPROVED BY BOTH DART AND DELDOT PRIOR TO ANY CONSTRUCTION.
2). REFERENCE THE DE MUTCD FOR GENERAL INFORMATION ON PLACEMENT OF SIGNS.
3). SEE CONSTRUCTION PLAN SIGNING AND STRIPING SHEETS FOR SPECIFIC SIGN AND SIGN LOCATION DETAILS.
4). TYPICAL BUS STOP PADS MAY BE USED IN CONJUNCTION WITH BUS STOP SHELTER LOCATIONS IN THE EVENT OF LAND CONSTRAINTS AT THE SHELTER LOCATIONS. AN INTERCONNECTING PEDESTRIAN ACCESS PATH MUST EXIST THAT IS ACCESSIBLE TO BUS STOP ALIGHTING AREAS, SHELTERS, PEDESTRIAN CONNECTIONS, CROSSWALKS, AND SIDEWALKS.
5). A 6:1 GRADE IS REQUIRED FOR A MINIMUM OF 2'-0" IMMEDIATELY ADJACENT TO THE BUS STOP PAD OR APPROACHING SIDEWALK.
6). SEE PLANS FOR CURB TYPE. DO NOT DEPRESS CURB.
7). SEE DETAIL M-3, SHEET 1 OF 1 FOR ADDITIONAL SIDEWALK DETAILS AND REQUIREMENTS.

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ENGINEERING SUPPORT — 12/03/2021 DATE
RECOMMENDED

BUS STOP PAD, TYPES 1, 2 & 3

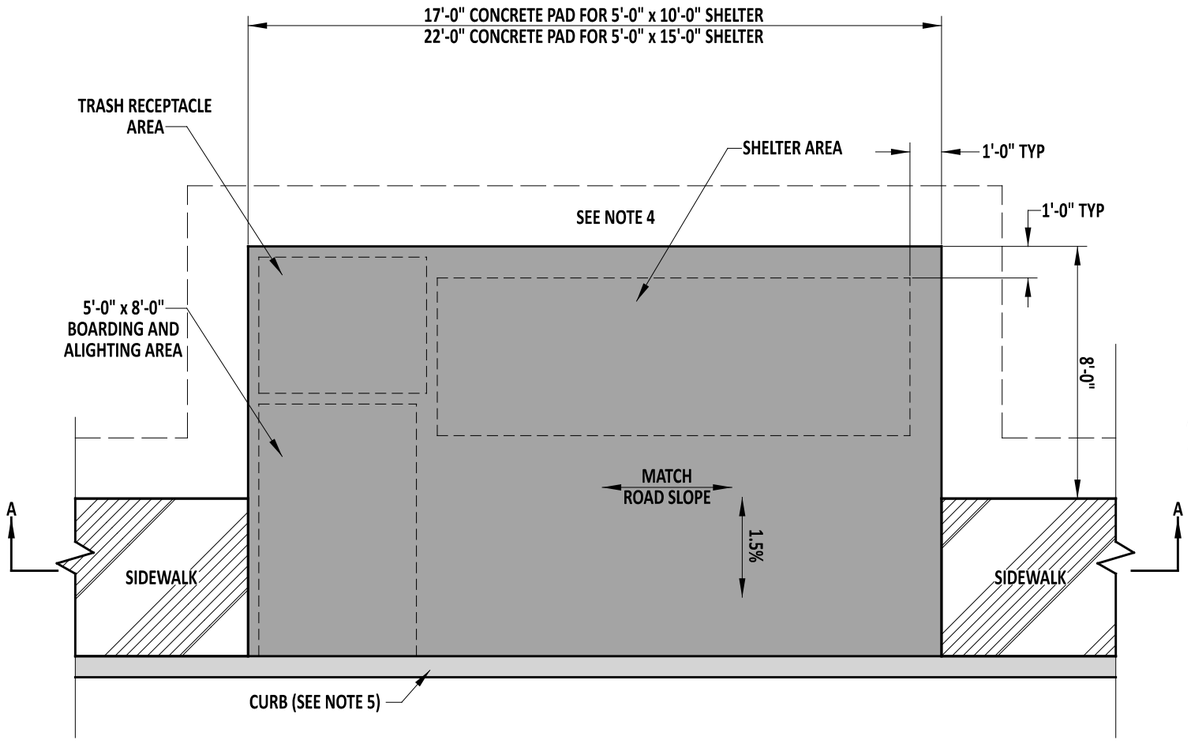
STANDARD NO. M-9 (2021) | SHT. 1 OF 2

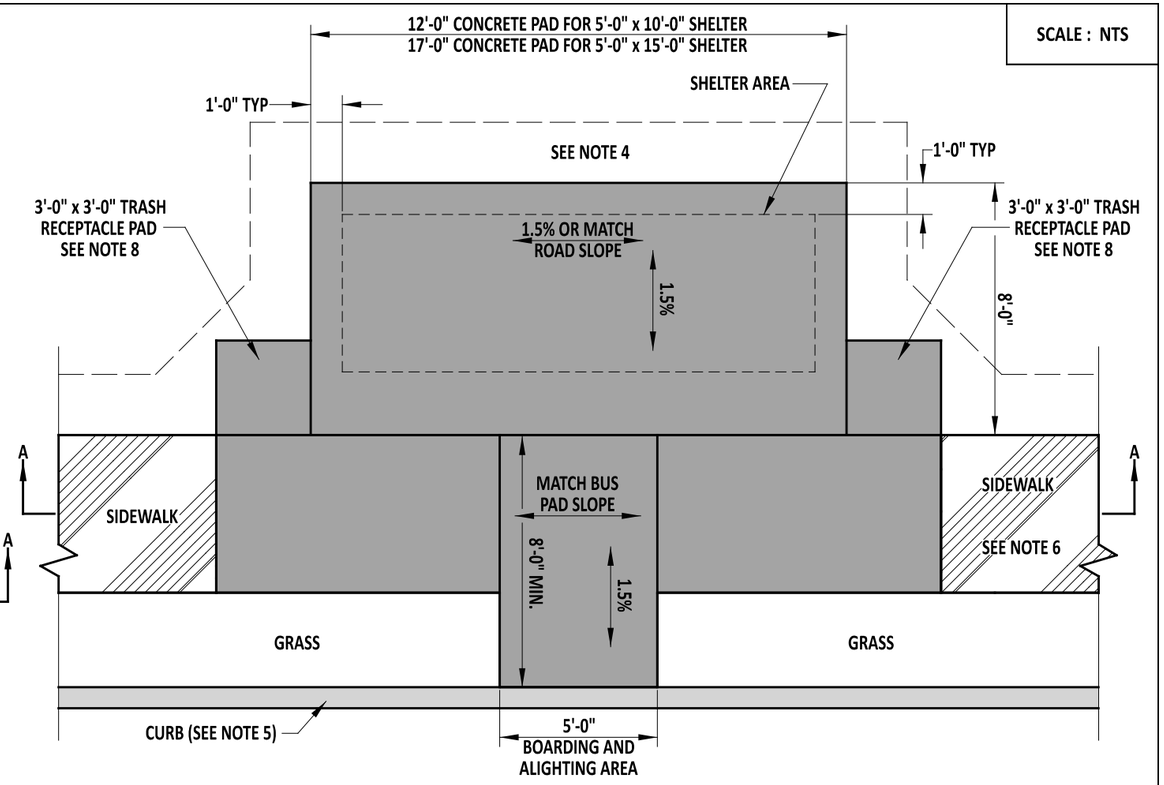
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12/1/2021

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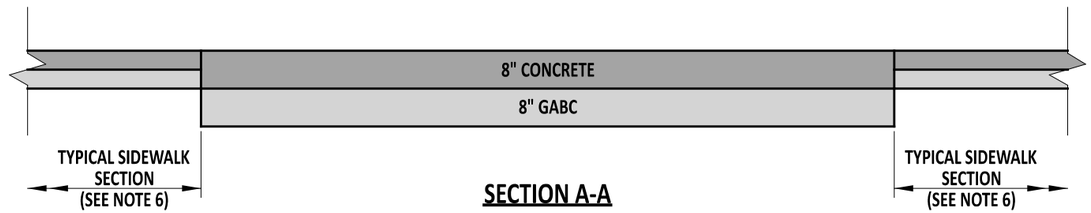


BUS STOP WITH SHELTER PAD, TYPE 1

* - TO BE USED WHEN THE PAD IS PLACED BEHIND CURB AND INCLUDES A SIDEWALK WITHOUT A GRASS STRIP

BUS STOP WITH SHELTER PAD, TYPE 2

* - TO BE USED WHEN THE PAD IS PLACED BEHIND CURB AND INCLUDES A SIDEWALK WITH A GRASS STRIP



SECTION A-A

- PCC SIDEWALK

- PCC 8"

NOTES:

1). BUS STOP SHELTER PAD LOCATIONS TO BE APPROVED BY DART AND DELDOT PRIOR TO ANY CONSTRUCTION.
2). REFERENCE THE DE MUTCD FOR GENERAL INFORMATION ON PLACEMENT OF SIGNS.
3). SEE CONSTRUCTION PLANS SIGNING AND STRIPING SHEETS FOR SPECIFIC SIGN AND SIGN LOCATION DETAILS.
4). A 6:1 GRADE IS REQUIRED FOR A MINIMUM OF 2'-0" IMMEDIATELY ADJACENT TO THE BUS STOP PAD OR APPROACHING SIDEWALK.
5). SEE PLANS FOR CURB TYPE. DO NOT DEPRESS CURB.
6). SEE DETAIL M-3, SHEET 1 OF 1 FOR ADDITIONAL SIDEWALK DETAILS AND REQUIREMENTS.
7). BUS STOP CONFIGURATIONS MAY VARY DUE TO TOPOGRAPHIC OBSTRUCTIONS OR GRADES. CONSULT DART OR DELDOT FOR OPTIONAL PAD DETAILS.
8). TRASH RECEPTACLE PAD CAN BE PLACED ON EITHER SIDE OF THE SHELTER PAD, AT THE DIRECTION OF THE ENGINEER IN THE FIELD.

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ENGINEERING SUPPORT — 12/03/2021 DATE

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BUS STOP PAD WITH SHELTER, TYPES 1 & 2

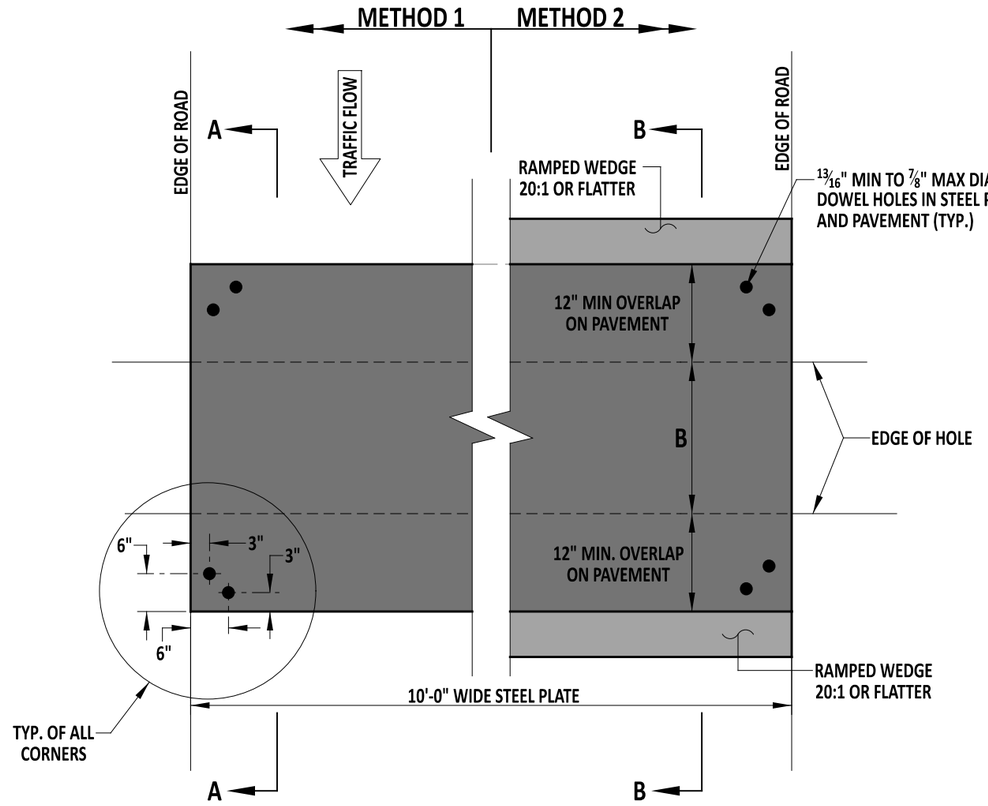
STANDARD NO. M-9 (2021) | SHT. 2 OF 2

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/06/2021 DATE

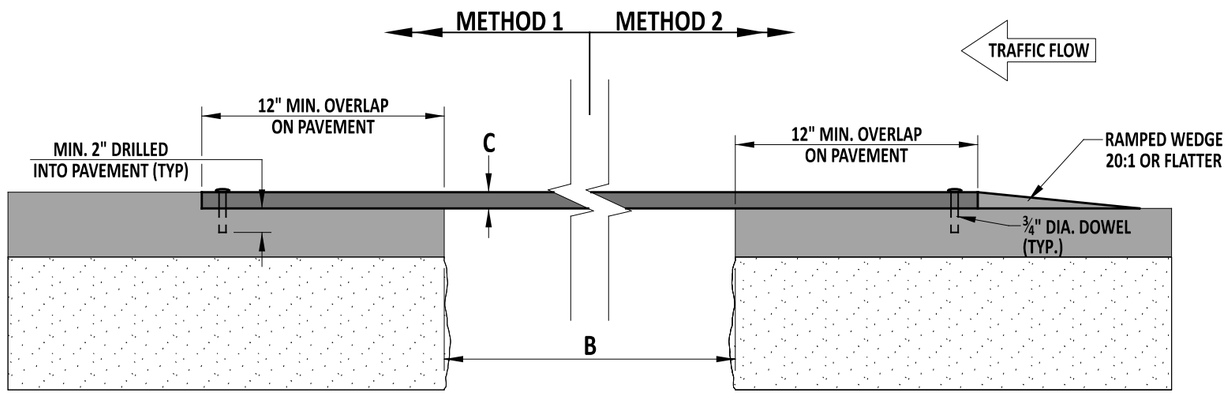
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12/1/2021

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PLAN VIEW



SECTION A-A

SECTION B-B

B	C
TRENCH WIDTH	MIN. PLATE THICKNESS
1'-0"	1/2"
2'-0"	3/4"
3'-0"	7/8"
4'-0"	1"
5-'0"	1 1/8"
6'-0"	1 1/4"

BASED ON HL-93 TRUCK LOAD

NOTES:

1. USE OF STEEL PLATES TO BE APPROVED BY THE DEPARTMENT AND IS NOT PERMITTED BETWEEN NOVEMBER 1ST AND MARCH 31ST.
2. STEEL PLATE BRIDGING ON FREEWAYS AND EXPRESSWAYS IS STRICTLY PROHIBITED.
3. PROVIDE STEEL PLATES AND DOWELS CONFORMING TO ASTM A36 STANDARDS.
4. ADEQUATELY SHORE THE TRENCH IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS TO SUPPORT THE BRIDGING AND TRAFFIC LOADS.
5. SECURE BRIDGING AGAINST DISPLACEMENT BY USING ADJUSTABLE CLEATS, SHIMS, OR OTHER DEVICES.
6. USE OF STEEL PLATE BRIDGING IS NOT TO EXCEED FOUR (4) CONSECUTIVE WORKING DAYS IN ANY GIVEN WEEK AND NOT LEFT IN PLACE OVER THE WEEKEND, UNLESS DIRECTED BY THE ENGINEER IN THE FIELD.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF STEEL PLATES, SHORING, ASPHALT CONCRETE RAMPS, AND ENSURING THEY MEET ALL MINIMUM SPECIFICATIONS. DEFORMATIONS OF ANY KIND ARE NOT ACCEPTABLE ON STEEL PLATES. EXAMPLES OF DEFORMATIONS COULD BE, BUT NOT LIMITED TO, ANY OF THE FOLLOWING: FREE FROM ANY CLIPS, CHAINS, ATTACHMENTS, WELDMENTS, SURFACE IRREGULARITIES, ETC.
8. A STRUCTURE DESIGN IS REQUIRED FOR TRENCH WIDTHS GREATER THAN 6'-0". SUBMIT DESIGN TO THE DEPARTMENT FOR APPROVAL.
9. INSTALL STEEL PLATE BRIDGING AND SHORING USING EITHER OF THE METHODS BELOW:
   METHOD 1: FOR SPEEDS GREATER THAN 45 MPH, MILL THE PAVEMENT TO A DEPTH EQUAL TO THE THICKNESS OF THE PLATE AND TO A WIDTH AND LENGTH EQUAL TO THE DIMENSION OF THE PLATE. BUTT SUBSEQUENT PLATES TO EACH OTHER. ATTACH THE PLATE TO THE ROADWAY BY A MINIMUM OF TWO DOWELS PRE-DRILLED INTO EACH CORNER OF THE PLATE AND DRILLED 2" INTO THE PAVEMENT AS SHOWN ON THIS DETAIL.
   METHOD 2: FOR SPEEDS 45 MPH OR LESS, ATTACH THE PLATE TO THE ROADWAY BY A MINIMUM OF TWO DOWELS PRE-DRILLED INTO EACH CORNER OF THE PLATE AND DRILLED 2" INTO THE PAVEMENT AS SHOWN IN ON THIS DETAIL. BUTT SUBSEQUENT PLATES TO EACH OTHER. USE COMPACTED BITUMINOUS TEMPORARY ROADWAY MATERIAL (TRM) TO FORM A RAMPED WEDGE WITH A MAXIMUM SLOPE OF 5% AND A MINIMUM TAPER LENGTH OF 20" TO COVER ALL EDGES OF STEEL PLATES.
10. FOR BOTH METHODS, WHEN THE STEEL PLATES ARE REMOVED, BACKFILL THE DOWEL HOLES IN THE PAVEMENT WITH EITHER GRADED FINES OF ASPHALT CONCRETE MIX, CONCRETE SLURRY,OR EQUIVALENT SLURRY TO THE SATISFACTION OF THE ENGINEER.
11. PROVIDE STEEL PLATES WITH A SURFACE THAT IS MANUFACTURED WITH A MINIMUM NOMINAL COEFFICIENT OF FRICTION OF 0.35 AT THE TIME OF PLACEMENT.

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ENGINEERING SUPPORT — 12/08/2021 DATE

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STEEL PLATE - ROADWAY

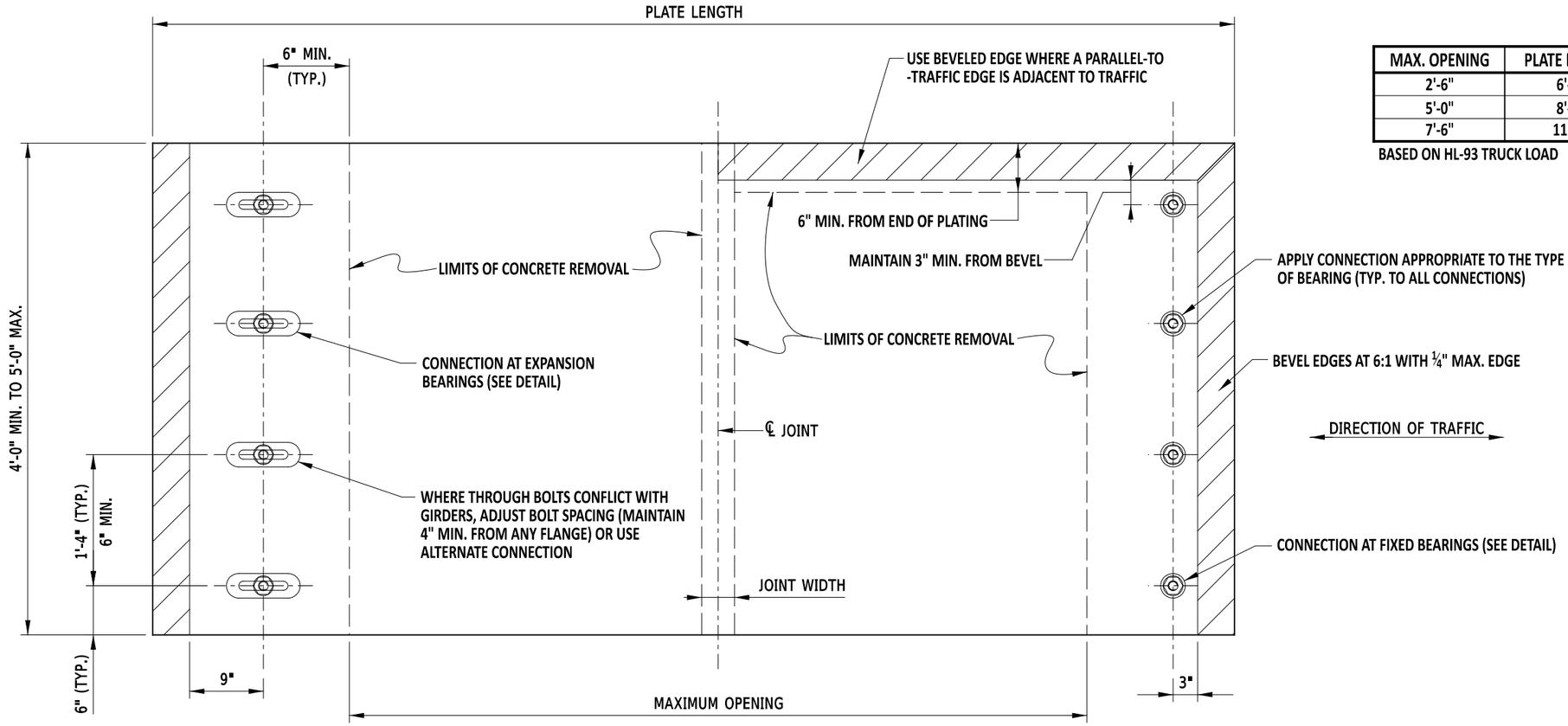
STANDARD NO. M-11 (2021) | SHT. 1 OF 3

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

APPROVED — CHIEF ENGINEER — 12/20/2021 DATE

12/1/2021

SCALE : NTS



MAX. OPENING	PLATE LENGTH	MIN. PLATE THICKNESS
2'-6"	6'-0"	1"
5'-0"	8'-6"	1½"
7'-6"	11'-0"	1¾"

BASED ON HL-93 TRUCK LOAD

PLAN VIEW

NOTES:

1. USE OF STEEL PLATES MUST BE APPROVED BY THE DEPARTMENT AND IS NOT PERMITTED BETWEEN NOVEMBER 1ST AND MARCH 31ST (EXCEPT IN EMERGENCY SITUATIONS).
2. STEEL PLATES WILL CONFORM TO ASTM A709, GRADE 50.
3. USE OF STEEL PLATE BRIDGING IS NOT TO EXCEED FOUR (4) CONSECUTIVE WORKING DAYS IN ANY GIVEN WEEK AND NOT LEFT IN PLACE OVER THE WEEKEND, UNLESS DIRECTED BY THE ENGINEER IN THE FIELD.
4. A STRUCTURAL DESIGN IS REQUIRED FOR OPENING WIDTHS GREATER THAN 7'-6". DESIGN WILL BE APPROVED BY DEPARTMENT PRIOR TO USE.
5. STEEL PLATES MUST HAVE AN ANTI-SKID SURFACE THAT IS MANUFACTURED WITH A MINIMUM NOMINAL COEFFICIENT OF FRICTION OF 0.35 AT THE TIME OF PLACEMENT. SUBMIT METHOD FOR ACHIEVING ANTI-SKID SURFACE.
6. STEEL PLATES CAN BE PLACED ACROSS SKEWED JOINTS. MAINTAIN MIN. 6" SPACING FROM ALL CONNECTIONS TO THE EDGE OF CONCRETE REMOVAL.
7. DO NOT USE STEEL PLATES AT EXPANSION BEARINGS OF CURVED GIRDER BRIDGES.
8. STEEL PLATES - BRIDGE DECK MUST BE CONNECTED TO A CONCRETE BRIDGE DECK OR APPROACH SLAB. DO NOT CONNECT TO A HOT MIX SURFACE.
9. INSTALL A W8-1 OR W8-8 WARNING SIGN IN ADVANCE TO STEEL PLATE LOCATION.
10. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF STEEL PLATES, CONNECTIONS, ANTI-SKID SURFACE, AND ENSURING THEY MEET ALL MINIMUM SPECIFICATIONS.
11. WHEN THE STEEL PLATES ARE REMOVED, REPAIR ALL BOLT HOLES WITH EPOXY GROUT.

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ENGINEERING SUPPORT — 12/03/2021 DATE
RECOMMENDED

STEEL PLATE - BRIDGE DECK

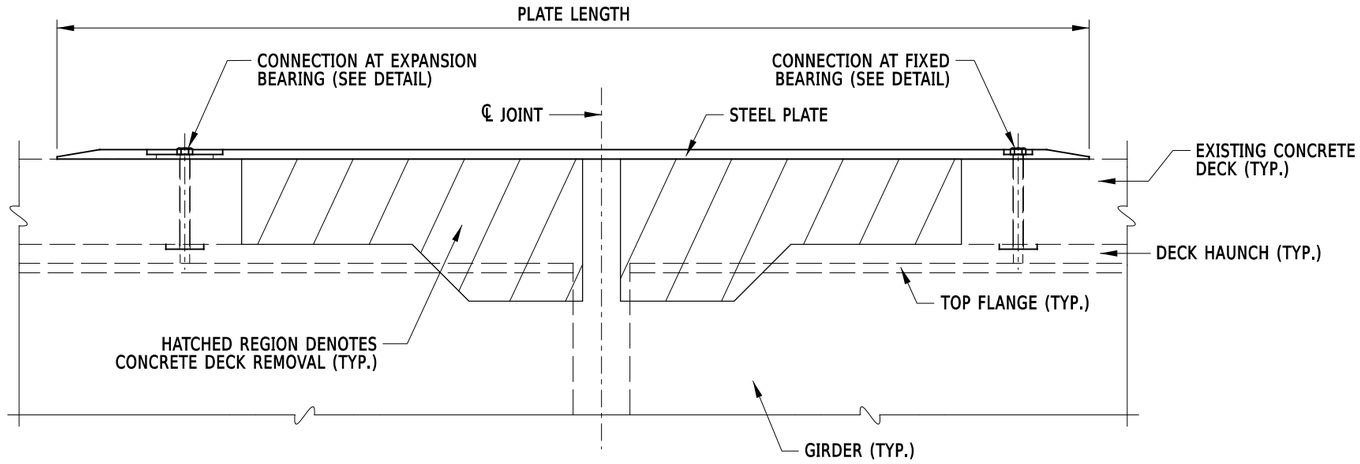
STANDARD NO. M-11 (2021) | SHT. 2 OF 3

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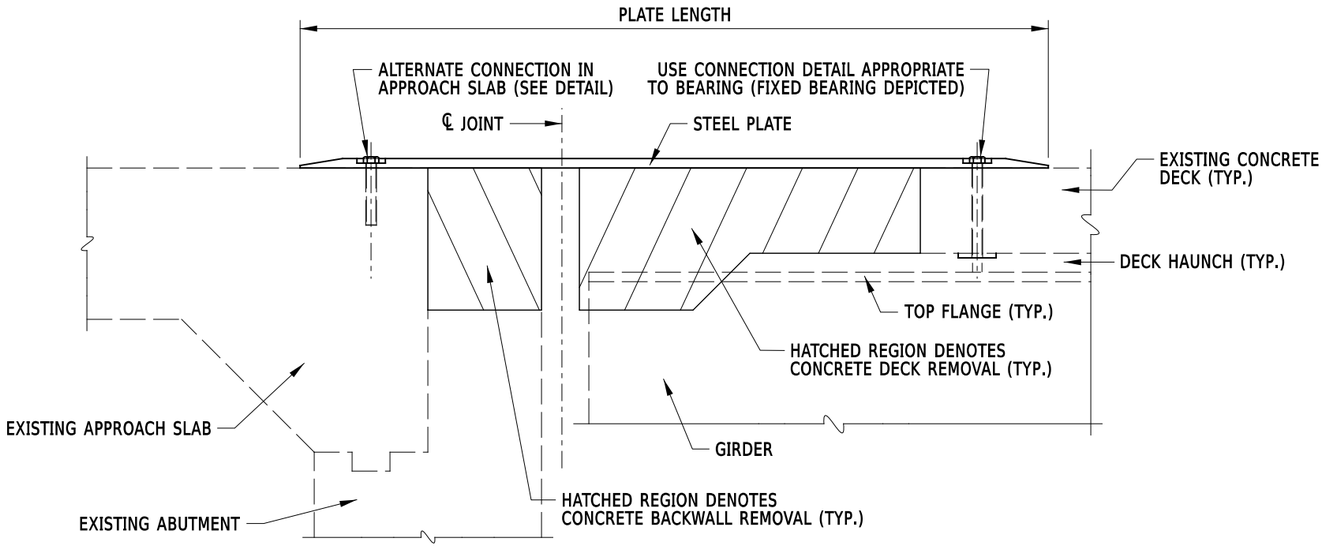
APPROVED — CHIEF ENGINEER — 12/07/2021 DATE

12/1/2021

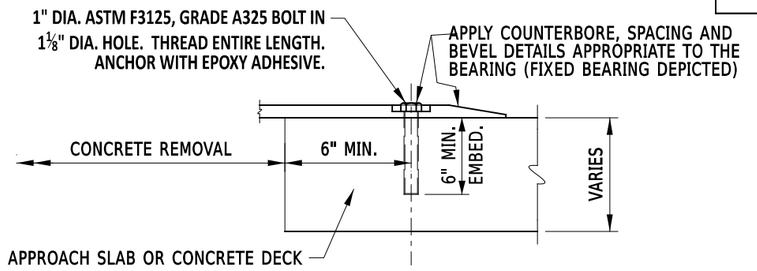
SCALE : NTS



STEEL PLATE AT PIER JOINT

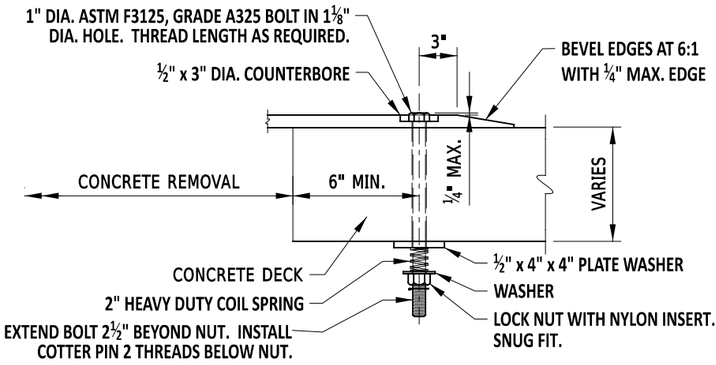


STEEL PLATE AT ABUTMENT JOINT

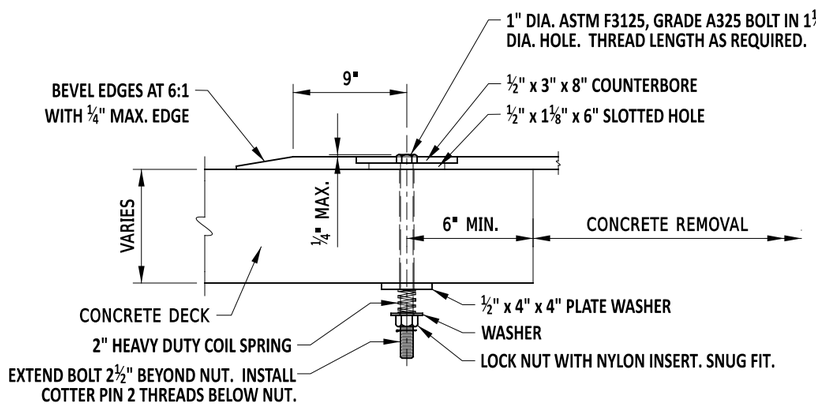


USE ON APPROACH SLABS OR OVER GIRDERS

ALTERNATE CONNECTION



CONNECTION AT FIXED BEARINGS

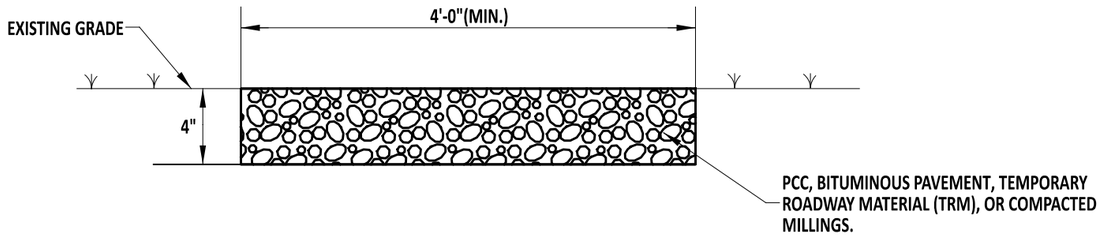


CONNECTION AT EXPANSION BEARINGS

DelDOT	ENGINEERING SUPPORT 12/03/2021 DATE RECOMMENDED	STEEL PLATE - BRIDGE DECK		REVIEWED	DEPUTY DIRECTOR - DESIGN 12/06/2021 DATE
		STANDARD NO. M-11 (2021)	SHT. 3 OF 3	APPROVED	CHIEF ENGINEER 12/07/2021 DATE

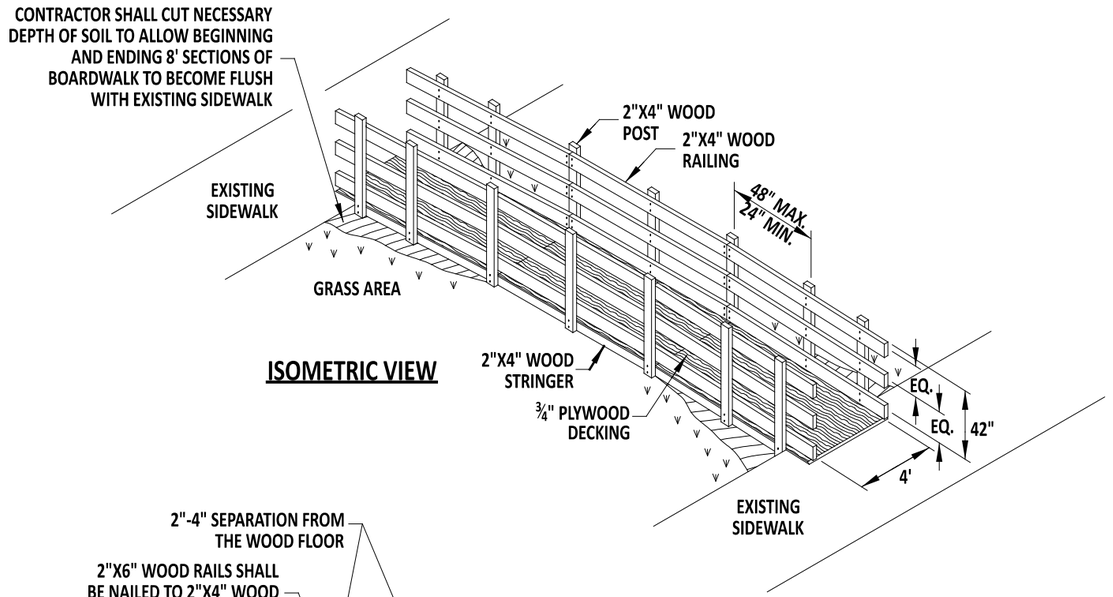
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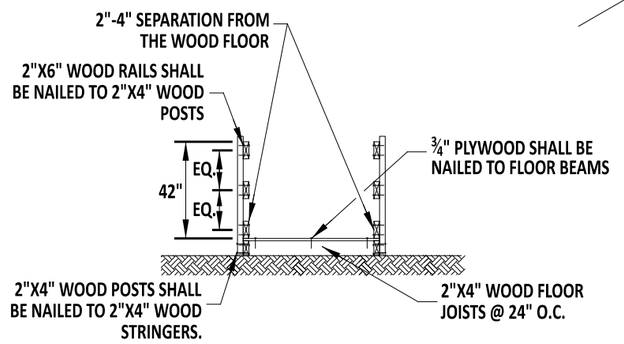


TEMPORARY PEDESTRIAN PATHWAY
N.T.S.

NOTES:
1. PROVIDE 4'-0" WIDE TEMPORARY PATHWAY, SUPPLY PCC, BITUMINOUS PAVEMENT, TEMPORARY ROADWAY MATERIAL (TRM), OR COMPACTED MILLINGS TO A MINIMUM DEPTH OF 4", FLUSH WITH EXISTING GRADE.
2. MAINTAIN A UNIFORM MATERIAL THAT IS FIRM, STABLE, AND SLIP RESISTANT.
3. IN THE EVENT THAT THE WALKING SURFACE OF THE TEMPORARY SIDEWALK IS LOCATED MORE THAN 30" FROM GRADE AT ANY POINT ALONG THE PROPOSED PATH, PROVIDE TYPE 2 TEMPORARY SIDEWALK.
4. MAXIMUM ALLOWABLE RUNNING SLOPE NOT TO EXCEED 5%. MAXIMUM ALLOWABLE CROSS SLOPE NOT TO EXCEED 2% AND VERTICAL SURFACE DISCONTINUITIES NOT TO EXCEED 1/4". FURTHER GUIDANCE IN ACCORDANCE WITH THE LATEST VERSION OF THE PEDESTRIAN ACCESSIBILITY STANDARDS FOR FACILITIES IN THE PUBLIC RIGHT-OF-WAY.
5. ANY REQUIRED EXCAVATION TO CONSTRUCT THE PATHWAY IS INCIDENTAL TO ITEM 813503.
6. COST FOR SEEDING REQUIRED TO RESTORE THE AREA IS PAYABLE BY THE DEPARTMENT.

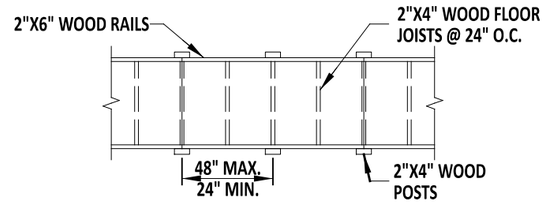


ISOMETRIC VIEW



SECTION VIEW

NOTES:
1. MAXIMUM ALLOWABLE RUNNING SLOPE NOT TO EXCEED 5%. MAXIMUM ALLOWABLE CROSS SLOPE NOT TO EXCEED 2% AND VERTICAL SURFACE DISCONTINUITIES NOT TO EXCEED 1/4". FURTHER GUIDANCE IN ACCORDANCE WITH THE LATEST VERSION OF THE PEDESTRIAN ACCESSIBILITY STANDARDS FOR FACILITIES IN THE PUBLIC RIGHT-OF-WAY.
2. MAINTAIN A UNIFORM MATERIAL THAT IS FIRM, STABLE, AND SLIP RESISTANT.



PLAN VIEW

TEMPORARY SIDEWALK DETAIL - TYPE 2
N.T.S.

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ENGINEERING SUPPORT — 12/03/2021 DATE

RECOMMENDED

TEMPORARY PEDESTRIAN PATHWAY

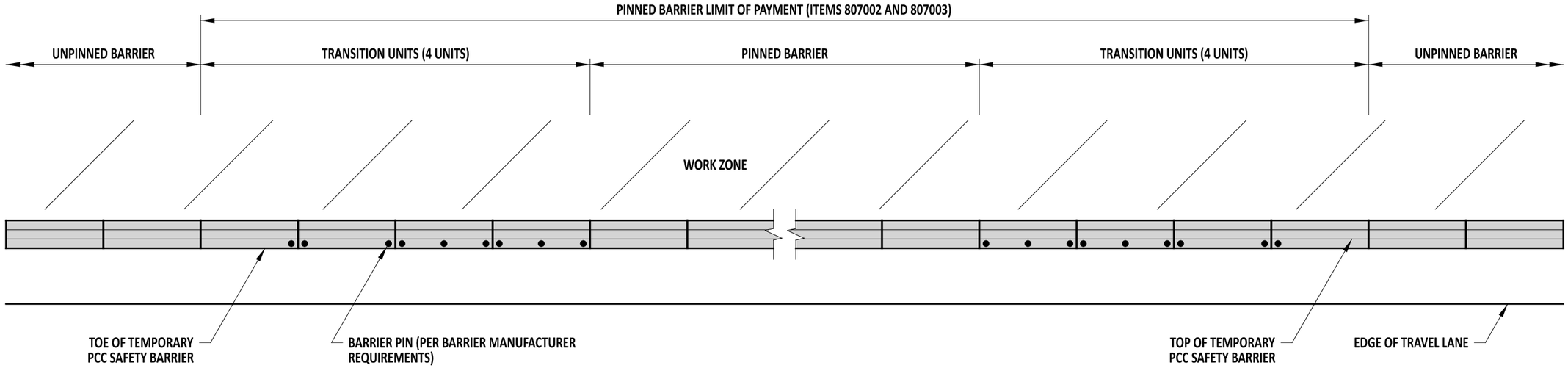
STANDARD NO. M-13 (2021) | SHT. 1 OF 1

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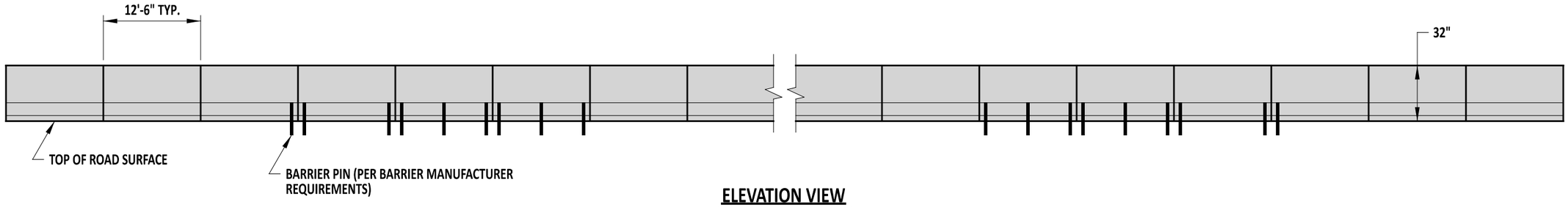
APPROVED — CHIEF ENGINEER — 12/07/2021 DATE

12/1/2021

SCALE : NTS



PLAN VIEW



ELEVATION VIEW
(TRAFFIC SIDE OF BARRIER)

NOTES:
1). USE THIS DETAIL IN THE ABSENCE OF MANUFACTURER SPECIFIC DETAILS FOR TRANSITIONING FROM PINNED TO UNPINNED BARRIER.

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ENGINEERING SUPPORT — 12/03/2021 DATE
RECOMMENDED

PINNED TO UNPINNED TEMPORARY PCC SAFETY BARRIER

STANDARD NO. M-14 (2021) | SHT. 1 OF 1

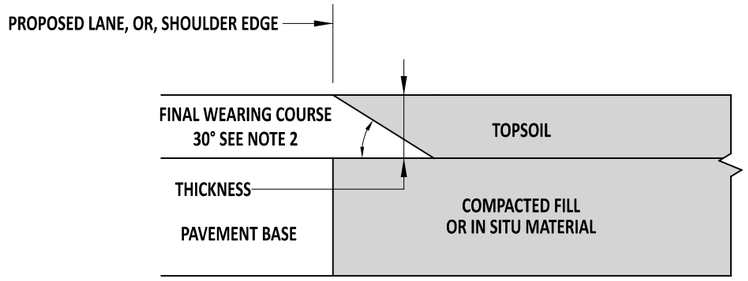
REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/06/2021 DATE

APPROVED — CHIEF ENGINEER — 12/07/2021 DATE

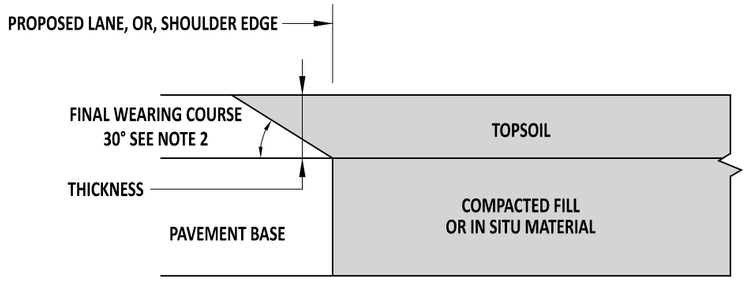
11/22/2021

SCALE : NTS

WHERE LANE WIDTH ≤11' OR SHOULDER WIDTH ≤5'



WHERE LANE WIDTH >11' OR SHOULDER WIDTH >5'



THICKNESS OF SAFETY EDGE	
CONCRETE PAVEMENT	3"
BITUMINOUS CONCRETE PAVEMENT FINAL WEARING COURSE	> 1¼"

NOTE:

1). LEVEL COMPACTED FILL OR IN-SITU MATERIAL WITH THE PAVEMENT BASE PRIOR TO FINAL BITUMINOUS CONCRETE PAVING LIFT.
2). ANGLE ALLOWANCE OF 26° MINIMUM TO 40° MAXIMUM.

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ENGINEERING SUPPORT — DATE 12/08/2021
RECOMMENDED

PAVEMENT SAFETY EDGE

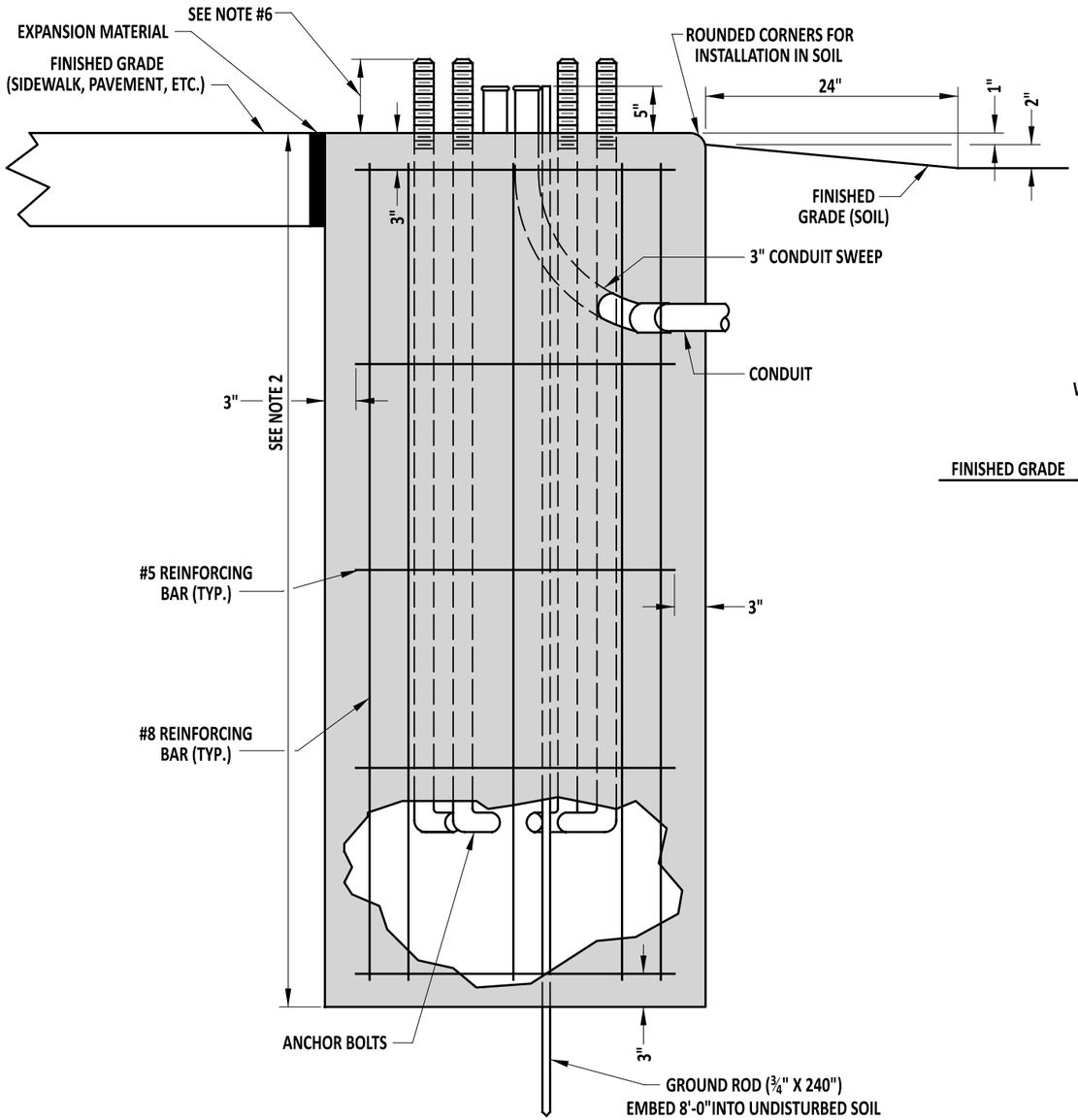
STANDARD NO. P-6 (2021) | SHT. 1 OF 1

REVIEWED — DEPUTY DIRECTOR - DESIGN — DATE 12/08/2021

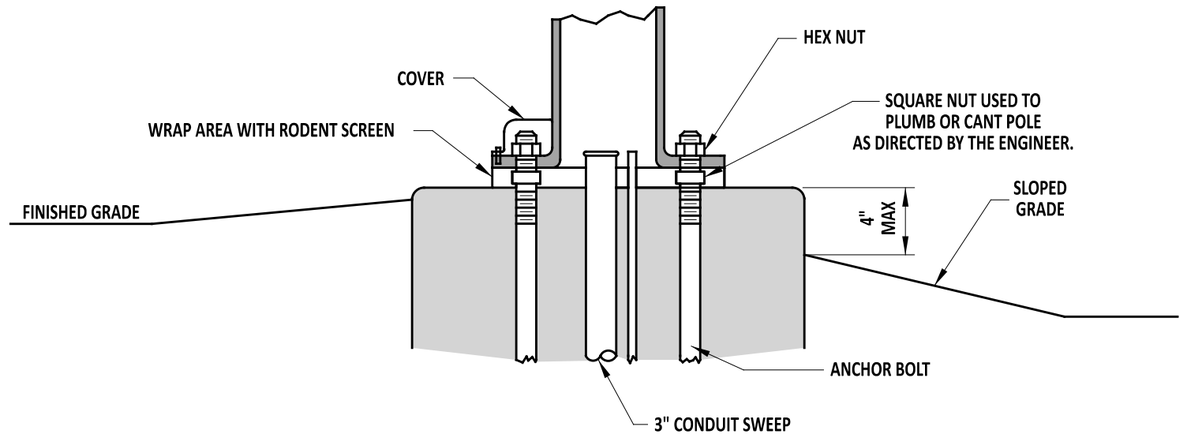
APPROVED — CHIEF ENGINEER — DATE 12/20/2021

12/1/2021

SCALE : NTS



TYPICAL SECTION (BASES 1,2,2A,2B,3,3A, AND 3B)



TYPICAL INSTALLATION (BASES 1,2,2A,2B,3,3A, AND 3B)

NOTE:

1). SEE POLE BASE DATA CHART ON DETAIL T-5, SHEET 3 OF 4, FOR POLE BASE DIMENSIONS.
2). STRAIN POLES AND MAST ARMS UP TO 60' SHALL USE 2¼" ANCHOR BOLTS, SUPPLIED BY THE DEPARTMENT.
3). MAST ARMS FROM 70-90' SHALL USE 2½" ANCHOR BOLTS, SUPPLIED BY THE DEPARTMENT.
4). ALL OTHER POLE BASES NOT LISTED SHALL ADHERE TO MANUFACTURER AND DEPARTMENT STANDARDS.
5). PER MANUFACTURER SPECIFICATIONS AND DETAILS, THE CONTRACTOR SHALL ENSURE THAT THE FOLLOWING LENGTH OF THREADS ARE EXPOSED PER EACH POLE TYPE:

- STRAIN: 10½"
- B (MAST): 9½"
- C (MAST): 11¼"
- CAMERA: 7"
- LIGHTING: 4½"

6). MAXIMUM EXPOSED FOUNDATION DEPTH OF 4" AT FINISHED GRADE IN ANY ORIENTATION AROUND POLE BASE.

DelDOT

ENGINEERING SUPPORT — 12/08/2021 DATE
RECOMMENDED

POLE BASES - TYPICAL SECTION AND INSTALLATION
(BASES 1, 2, 2A, 2B, 3, 3A, AND 3B)

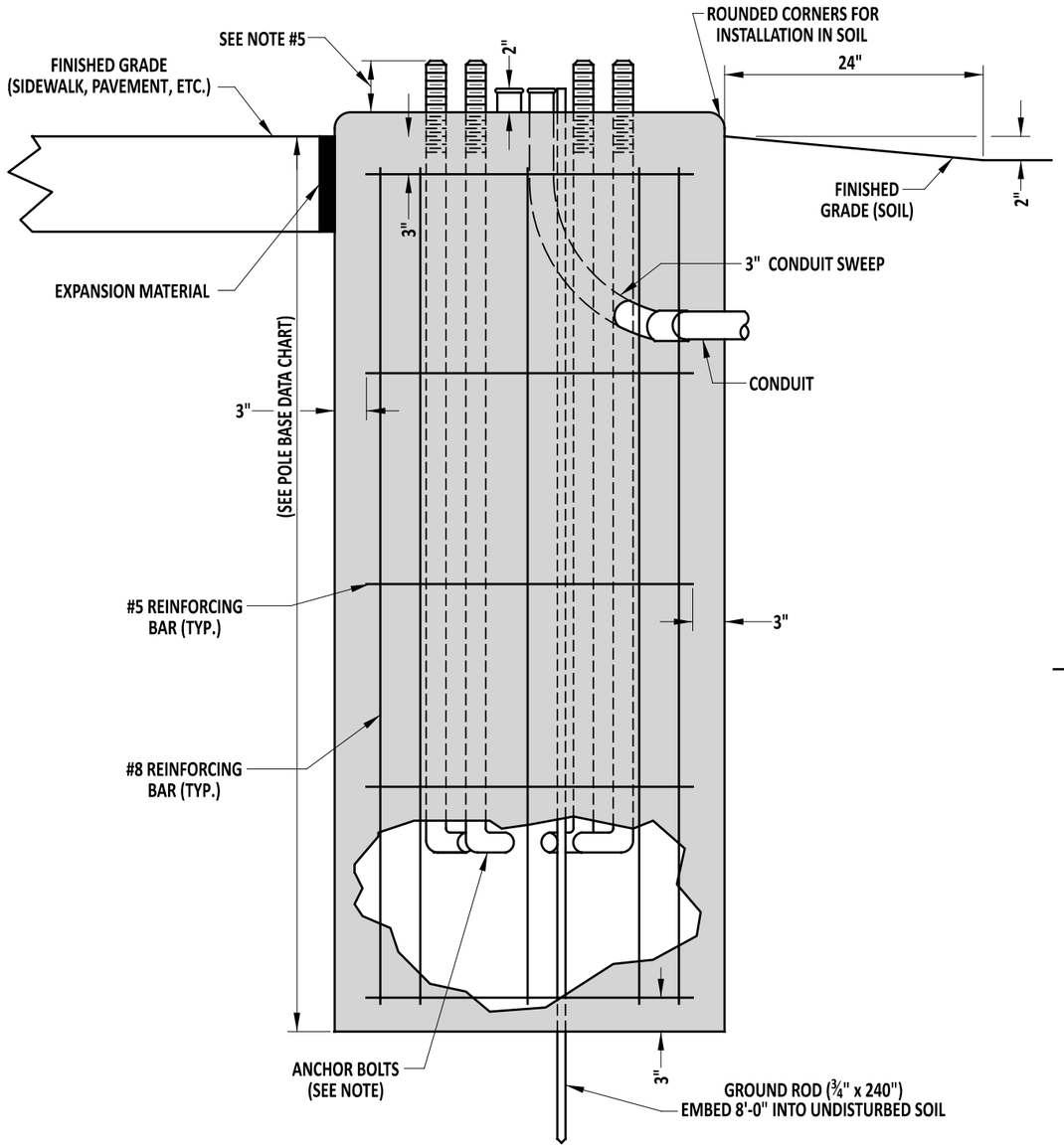
STANDARD NO. T-5 (2021) | SHT. 2 OF 4

REVIEWED
DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

APPROVED
CHIEF ENGINEER — 12/20/2021 DATE

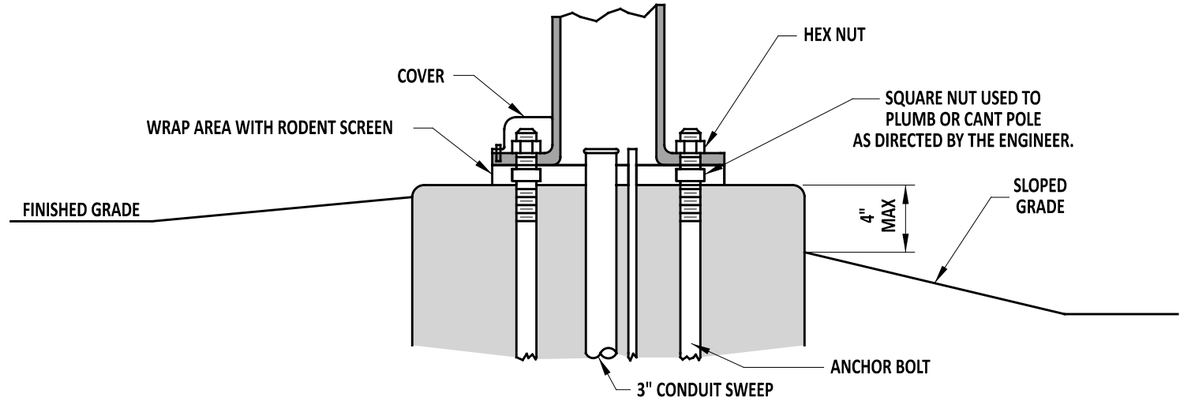
12/1/2021

SCALE : NTS



TYPICAL SECTION (BASE 6)

POLE BASE DATA CHART					
POLE BASE TYPE #	DIAMETER	DEPTH	#5 HORIZONTAL REINFORCING BARS	#8 VERTICAL REINFORCING BARS	CONDUITS
1	36"	7'-0"	5	8	2 - 3"
2	36"	10'-0"	6	8	2 - 3"
2A	48"	8'-0"	5	8	2 - 3"
2B	60"	7'-0"	5	8	2 - 3"
3	48"	10'-0"	14	17	2 - 3"
3A	48"	12'-0"	17	17	2 - 3"
3B	48"	15'-0"	21	17	2 - 3"
3C	48"	20'-0"	27	17	2 - 3"
4A & 4B	24"	2'-4"	NONE	NONE	2 - 2.5"
6	24"	6'-0"	4	8	2 - 3"



TYPICAL INSTALLATION (BASE 6)

NOTE:

1). ANCHOR BOLTS AND BOLT PATTERN FOR TYPE 6 POLE BASES TO BE PROVIDED BY THE MANUFACTURER.
2). STRAIN POLES AND MAST ARMS UP TO 60' SHALL USE 2¼" ANCHORS BOLTS, SUPPLIED BY THE DEPARTMENT.
3). MAST ARMS FROM 70-90' SHALL USE 2½" ANCHOR BOLTS, SUPPLIED BY THE DEPARTMENT.
4). ALL OTHER POLE BASES NOT LISTED SHALL ADHERE TO MANUFACTURER AND DEPARTMENT STANDARDS.
5). PER MANUFACTURER SPECIFICATIONS AND DETAILS, THE CONTRACTOR SHALL ENSURE THAT THE FOLLOWING LENGTH OF THREADS ARE EXPOSED PER EACH POLE TYPE:

- STRAIN: 10½"
- B (MAST): 9½"
- C (MAST): 11¼"
- CAMERA: 7"
- LIGHTING: 4½"

6). MAXIMUM EXPOSED FOUNDATION DEPTH OF 4" AT FINISHED GRADE IN ANY ORIENTATION AROUND POLE BASE.

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ENGINEERING SUPPORT — 12/08/2021 DATE
RECOMMENDED

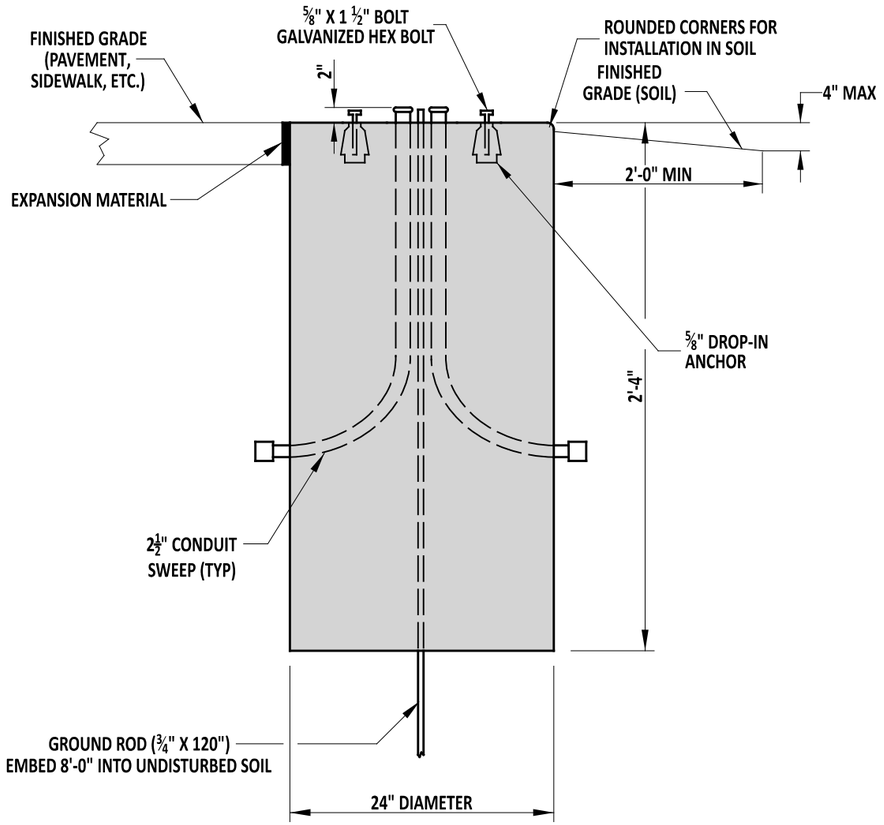
POLE BASES - TYPICAL SECTION (BASE 6)
AND POLE BASE DATA CHART

STANDARD NO. T-5 (2021) | SHT. 3 OF 4

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE
APPROVED — CHIEF ENGINEER — 12/20/2021 DATE

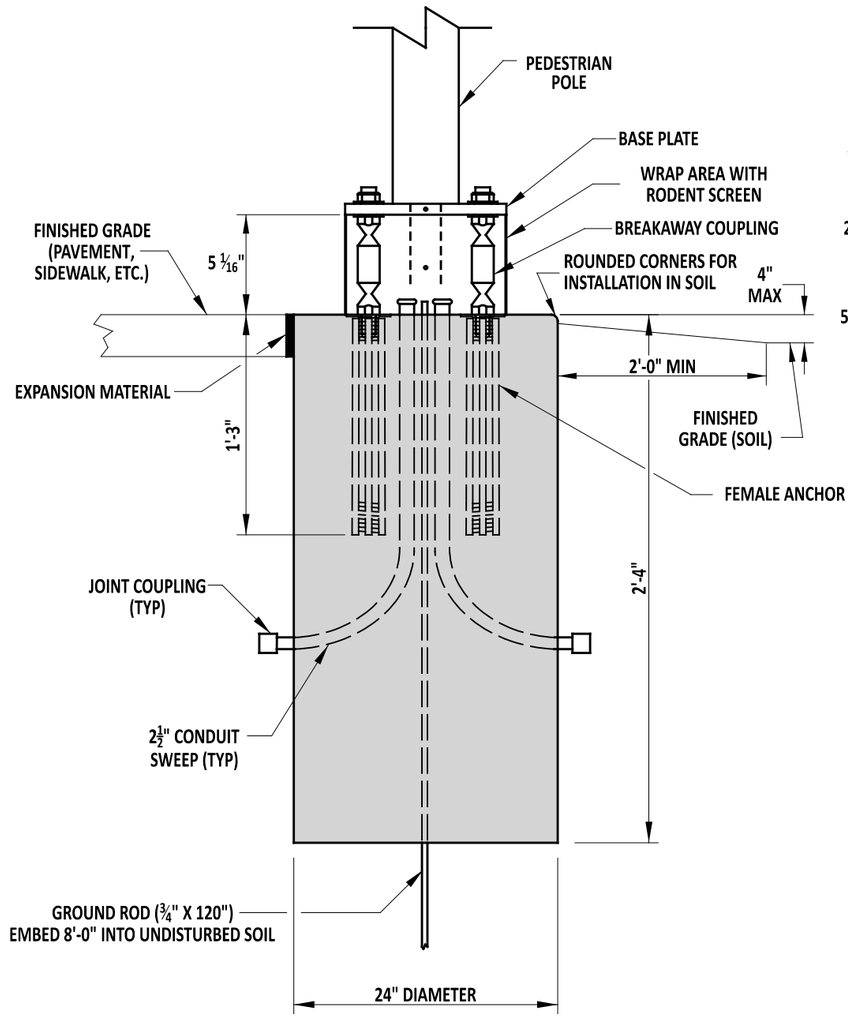
12/1/2021

SCALE : NTS



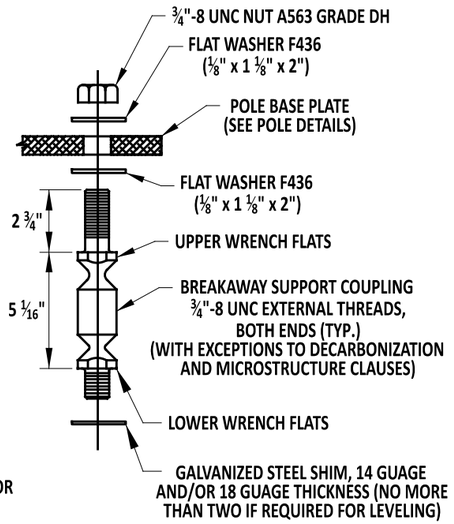
TYPICAL SECTION (BASE 4A)

NOTE:
BOLT PATTERN TO BE PROVIDED BY DELDOT'S SIGNAL CONSTRUCTION INSPECTOR.

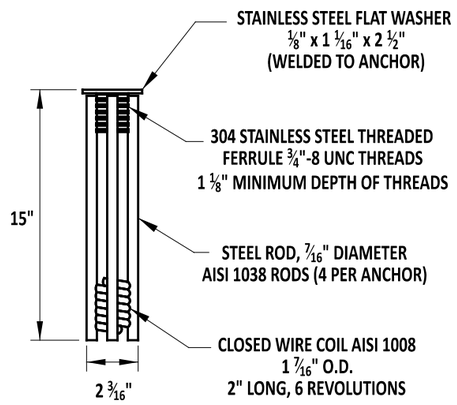


TYPICAL SECTION (BASE 4B)

NOTE:
BOLT PATTERN TO BE PROVIDED BY DELDOT'S SIGNAL CONSTRUCTION INSPECTOR.



BREAKAWAY COUPLING DETAIL

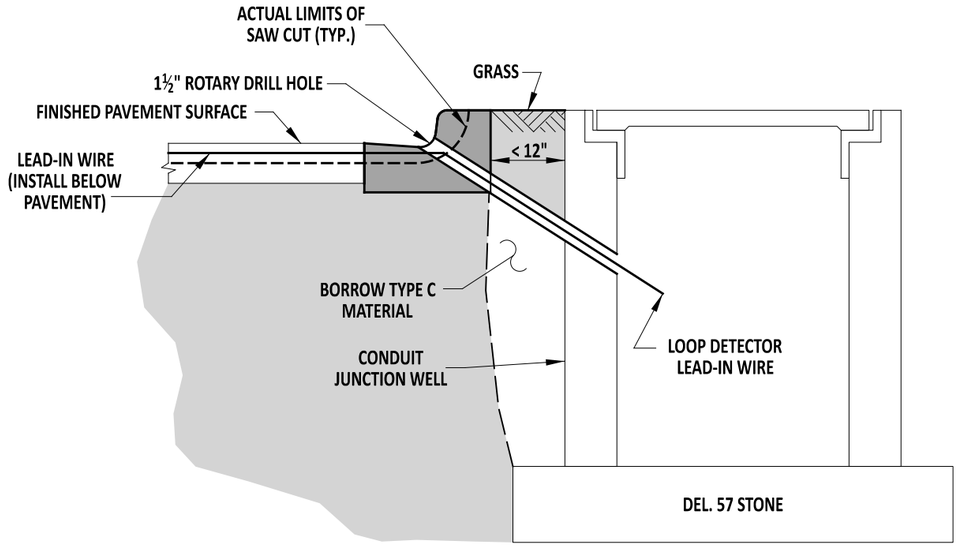


ANCHOR DETAIL

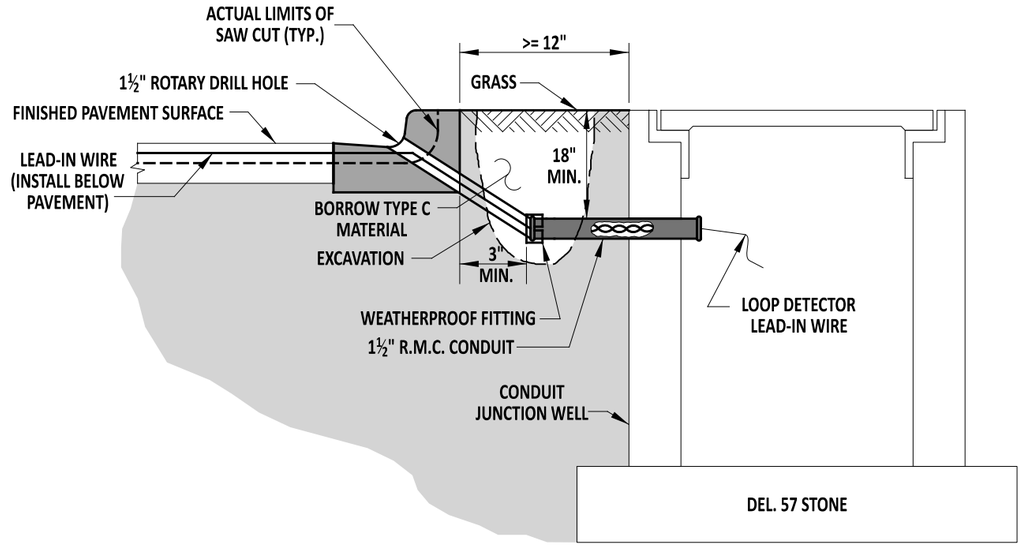
DelDOT	ENGINEERING SUPPORT 12/08/2021 DATE RECOMMENDED	POLE BASES - TYPICAL SECTION (BASE 4A AND 4B) AND ANCHOR AND BREAKAWAY COUPLING	REVIEWED DEPUTY DIRECTOR - DESIGN 12/08/2021 DATE
		STANDARD NO. T-5 (2021) SHT. 4 OF 4	APPROVED CHIEF ENGINEER 12/20/2021 DATE

12/1/2021

SCALE : NTS



LOOP DETECTOR LEAD-IN WIRE INSTALLATION



LOOP DETECTOR LEAD-IN WIRE INSTALLATION

NOTES:

1). ALL SAWCUTS SHALL BE A DEPTH OF 3½" ON ALL SURFACES.
2). CONTRACTOR SHALL INSTALL LEAD-IN WIRE IN THE MOST DIRECT ROUTE TO THE JUNCTION WELL USING THE CLOSEST CONCRETE CURB JOINT.
3). ALL SAWCUTS SHALL BE PATCHED WITH NON-SHRINK CONCRETE CAULK.
4). CONTRACTOR SHALL CORE AT FULL DEPTH OF SAWCUT, 3½".
5). CONTRACTOR SHALL INSTALL DETECTABLE WARNING TAPE IN TRENCH FOR LEAD-IN CONDUIT.

DelDOT	ENGINEERING SUPPORT 12/08/2021 DATE RECOMMENDED	LOOP DETECTOR LEAD-IN WIRE INSTALLATION - JUNCTION WELL BEHIND CURB OR CURB AND GUTTER WITH GRASS STRIP	REVIEWED	DEPUTY DIRECTOR - DESIGN 12/08/2021 DATE
		STANDARD NO. T-8 (2021) SHT. 1 OF 4	APPROVED	CHIEF ENGINEER 12/20/2021 DATE

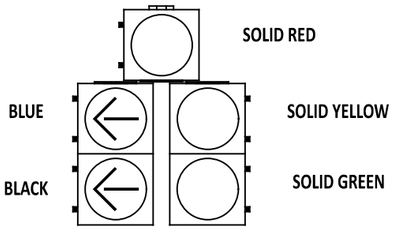
12/1/2021

SCALE : NTS

WIRING COLOR CODE FOR #14/16 SIGNAL CABLE FOR SIGNAL HEADS

	WIRE COLORS	SIGNAL INDICATION
MAIN STREET SIGNALS	SOLID RED SOLID ORANGE SOLID GREEN SOLID WHITE	RED YELLOW GREEN GROUND
SIDE STREET SIGNALS	BLACK TRACER/RED BLACK TRACER/ORANGE BLACK TRACER/GREEN BLACK TRACER/WHITE	RED YELLOW GREEN GROUND

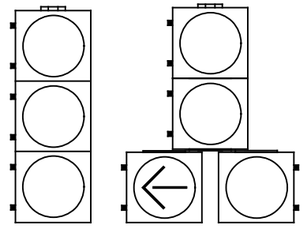
	MAIN STREET WIRE COLORS	SIDE STREET WIRE COLORS	SIGNAL INDICATION
NON-PERMISSIVE LEFT TURN SIGNALS	WHITE TRACER/RED WHITE TRACER/BLACK WHITE TRACER/GREEN WHITE TRACER/BLUE	BLACK/RED TRACER SOLID BLACK SOLID BLUE BLUE/BLACK TRACER	RED YELLOW GREEN GROUND
5-SECTION SIGNAL ARROWS	SOLID BLACK SOLID BLUE	BLACK/RED TRACER BLUE/BLACK TRACER	YELLOW ARROW GREEN ARROW



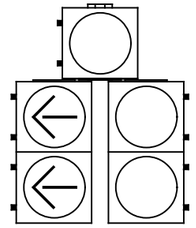
WIRING COLOR CODE FOR #14/9 TCC

MAST ARM:

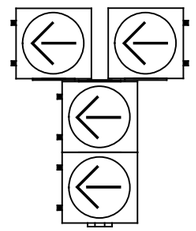
	WIRE COLORS	SIGNAL INDICATION
MAIN STREET	SOLID RED SOLID ORANGE SOLID GREEN SOLID WHITE	RED YELLOW GREEN GROUND

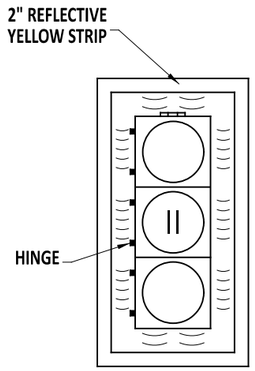


	WIRE COLORS	SIGNAL INDICATION
MAIN STREET PERMISSIVE LEFT	SOLID BLACK SOLID BLUE SOLID WHITE	YELLOW GREEN NEUTRAL

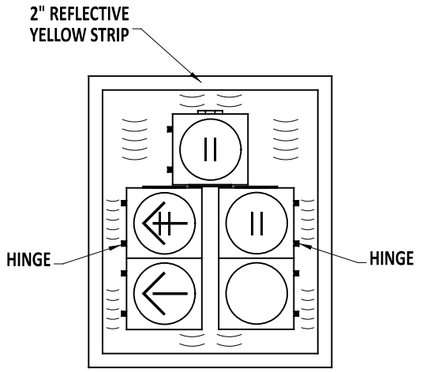


	WIRE COLORS	SIGNAL INDICATION
MAIN STREET FLASHING TOP "T"	BLACK/RED TRACER SOLID WHITE	RED NEUTRAL

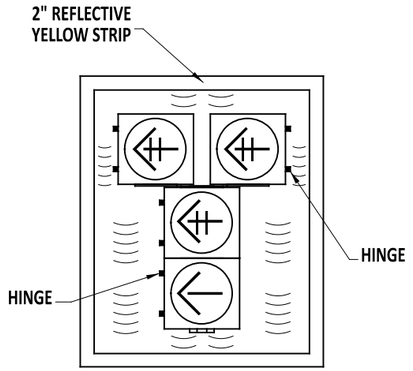




ONE-WAY THREE - SECTION 12" SIGNAL HEADS



ONE-WAY, FIVE-SECTION 12" SIGNAL HEADS



ONE-WAY FOUR - SECTION 12" SIGNAL HEADS

NOTES

1). HEAD CABLE SHALL BE MARKED WITH THE COLOR DESIGNATED FOR EACH DIRECTION OF TRAVEL. RED/NORTH, YELLOW/ SOUTH, GREEN/EAST, BLUE/WEST.
2). SIDE STREET SIGNAL HEADS SHALL BE SPLICED INTO THE BLACK TRACER WIRES INSTEAD OF SOLID COLOR WIRES.
3). ALL SIGNAL HEADS INSTALLED ON MAST ARMS SHALL HAVE OWN SIGNAL CABLE AND SHALL BE SPLICED AT THE BASE.
4). ALL BOLTS SHALL BE STAINLESS STEEL.
5). ALL BACKPLATES SHALL BE POWDER-COATED ALUMINUM.
6). ALL BACKPLATES SHALL BE OUTLINED WITH A 2" REFLECTIVE YELLOW STRIP.

LEGEND:

|| LOCATION OF TERMINAL BLOCK

DelDOT

ENGINEERING SUPPORT — 12/08/2021 DATE

RECOMMENDED

WIRING INSTALLATION TYPICALS - WIRING COLOR CODES

STANDARD NO. T-9 (2021) | SHT. 4 OF 4

REVIEWED

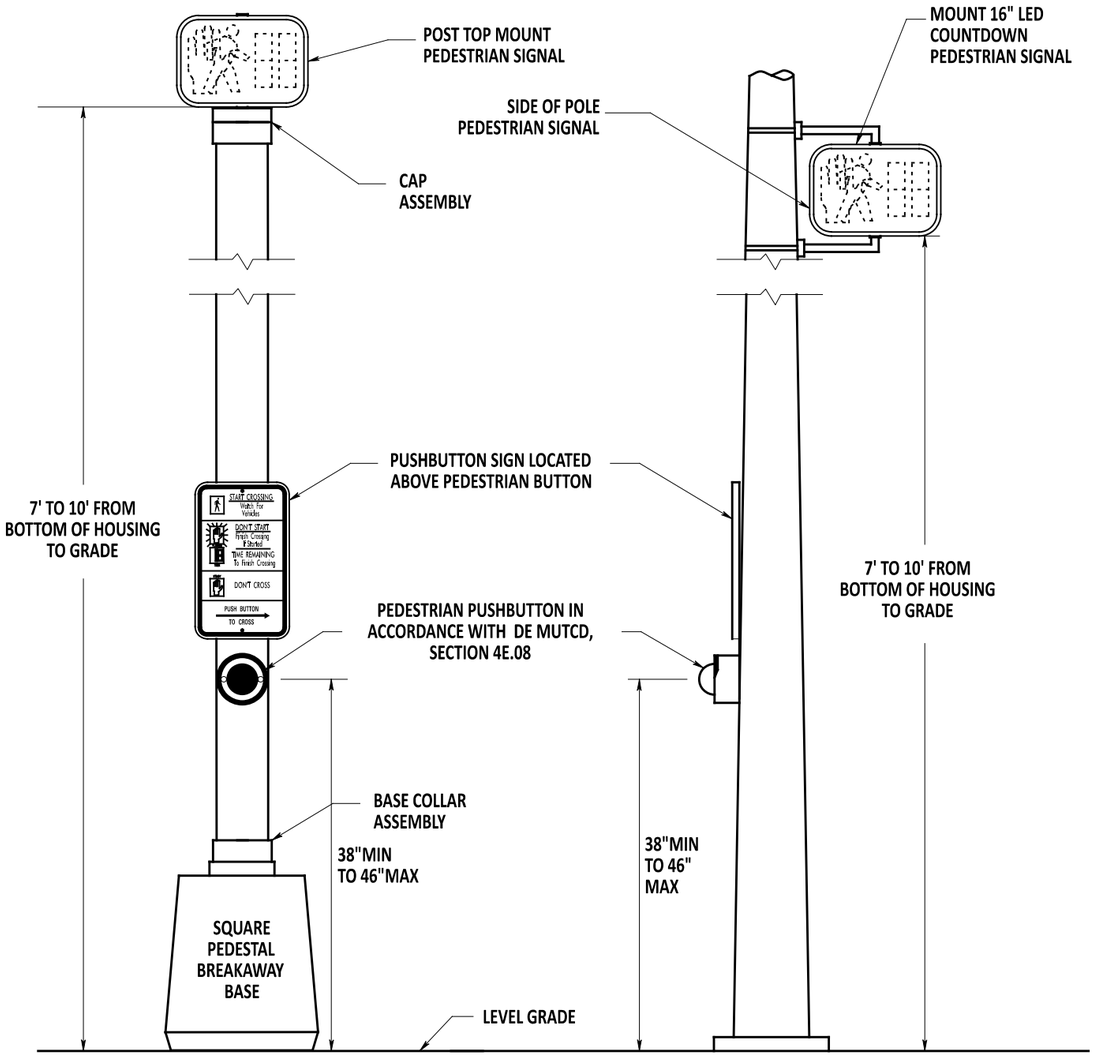
DEPUTY DIRECTOR - DESIGN — 12/08/2021 DATE

APPROVED

CHIEF ENGINEER — 12/20/2021 DATE

12/1/2021

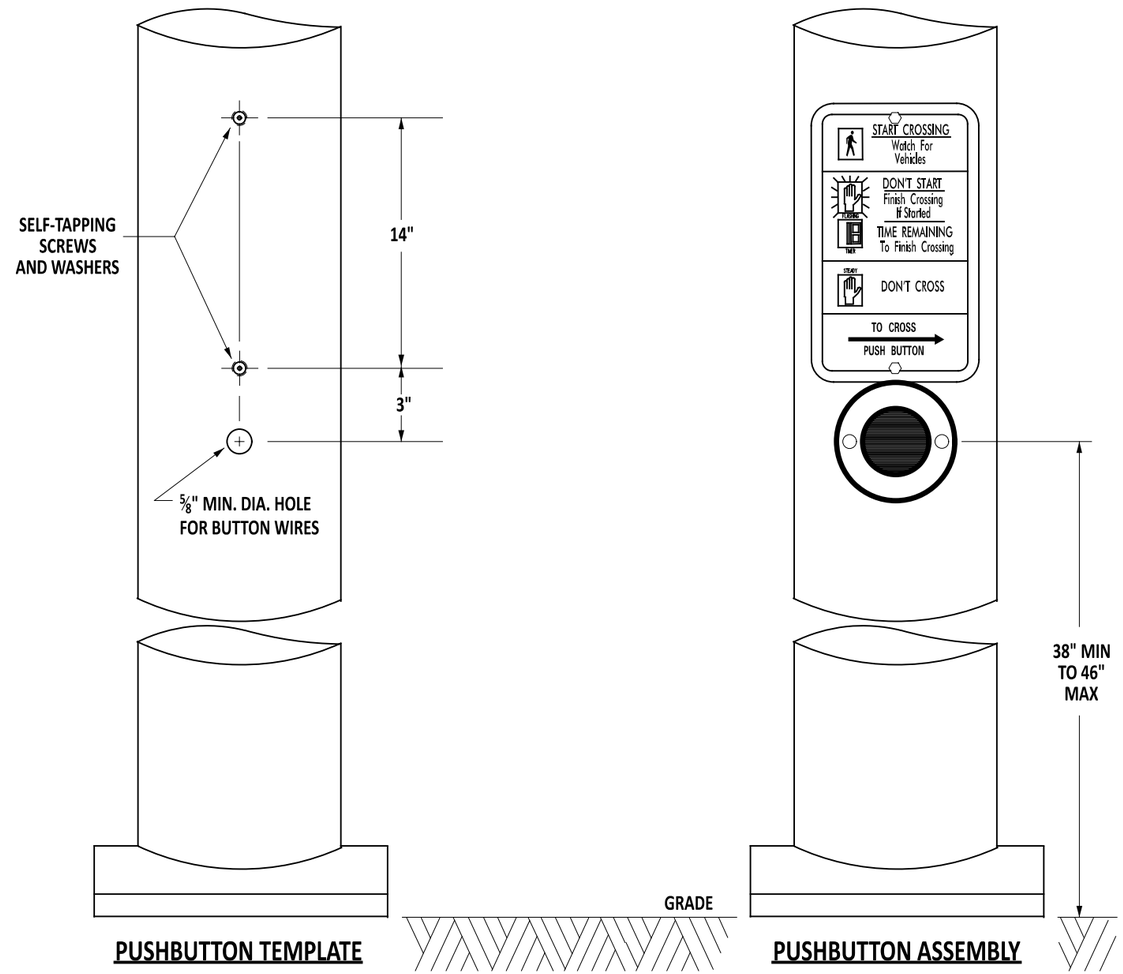
SCALE : NTS



PEDESTAL POLE **SIGNAL POLE**

NOTES:

1). WHEN CUTTING IS REQUIRED, CONTRACTOR SHALL CONFIRM PROPER HEIGHT OF PEDESTAL IS MAINTAINED PRIOR TO CUTTING POLE.
2). REFER TO POLE MOUNTING FOR PEDESTRIAN SIGNAL HEADS STANDARD PLATES FOR DETAILS.
3). EXTEND THE PEDESTRIAN PATH TO THE VERTICAL PROJECTION LIMIT OF THE PEDESTRIAN PUSHBUTTON WHEN THE PUSHBUTTON IS ONLY ACCESSIBLE FROM A FORWARD APPROACH. THE VERTICAL PROJECTION LIMIT OF THE PEDESTRIAN PUSHBUTTON MAY BE OFFSET FROM THE PEDESTRIAN PATH A MAXIMUM OF 0'-10" FOR ALL OTHER APPLICATIONS.



PUSHBUTTON TEMPLATE **PUSHBUTTON ASSEMBLY**

NOTES:

1). PUSHBUTTON ASSEMBLY SHALL BE SECURED TO WOOD POLES WITH 21#2" LAG BOLTS.

DelDOT

ENGINEERING SUPPORT — 12/03/2021 DATE

RECOMMENDED

PEDESTRIAN PUSHBUTTON LOCATION - PUSHBUTTON ASSEMBLY LOCATION ON POLE

STANDARD NO. T-18 (2021) | SHT. 1 OF 2

REVIEWED — DEPUTY DIRECTOR - DESIGN — 12/06/2021 DATE

APPROVED — CHIEF ENGINEER — 12/07/2021 DATE

12/1/2021