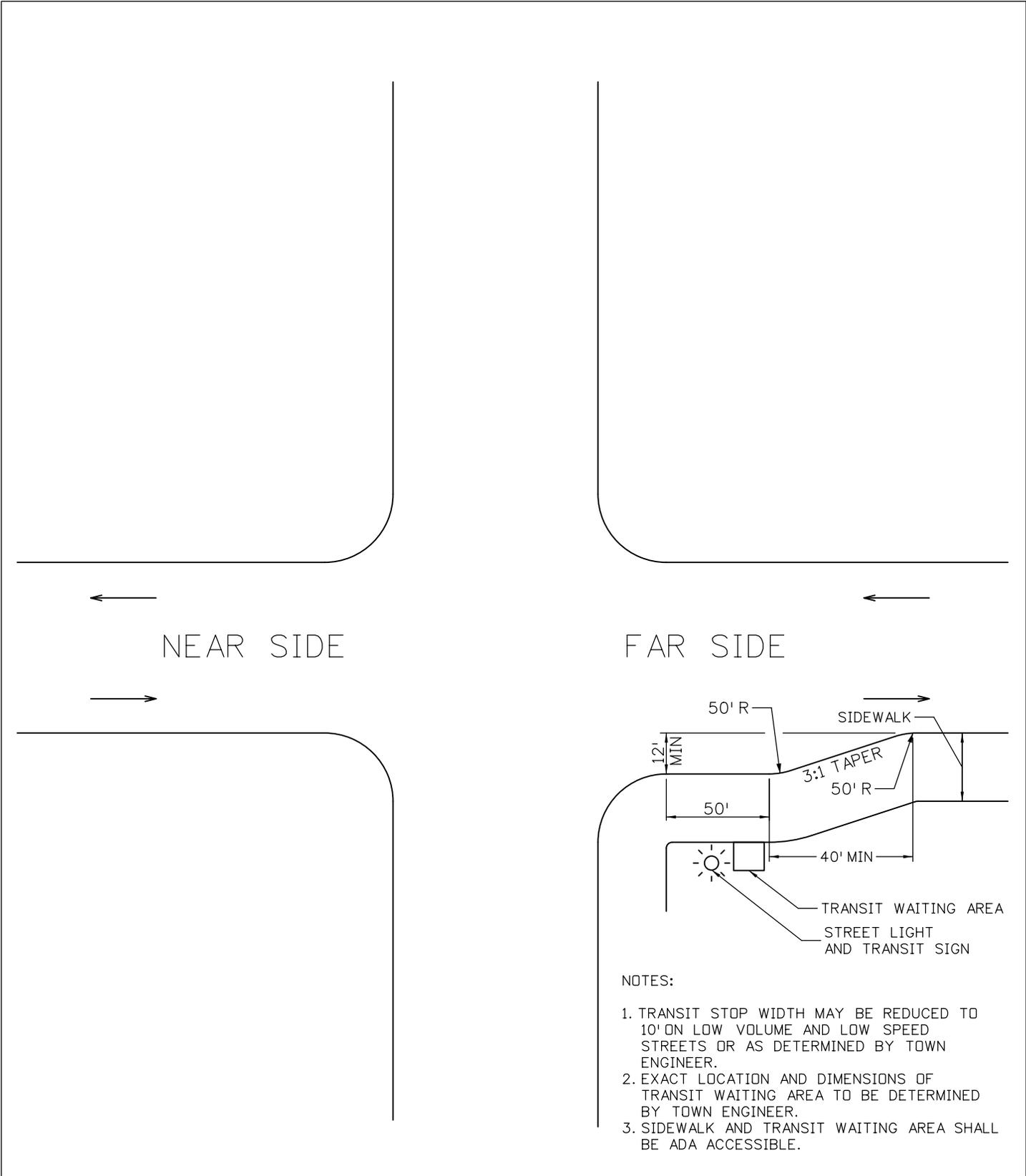


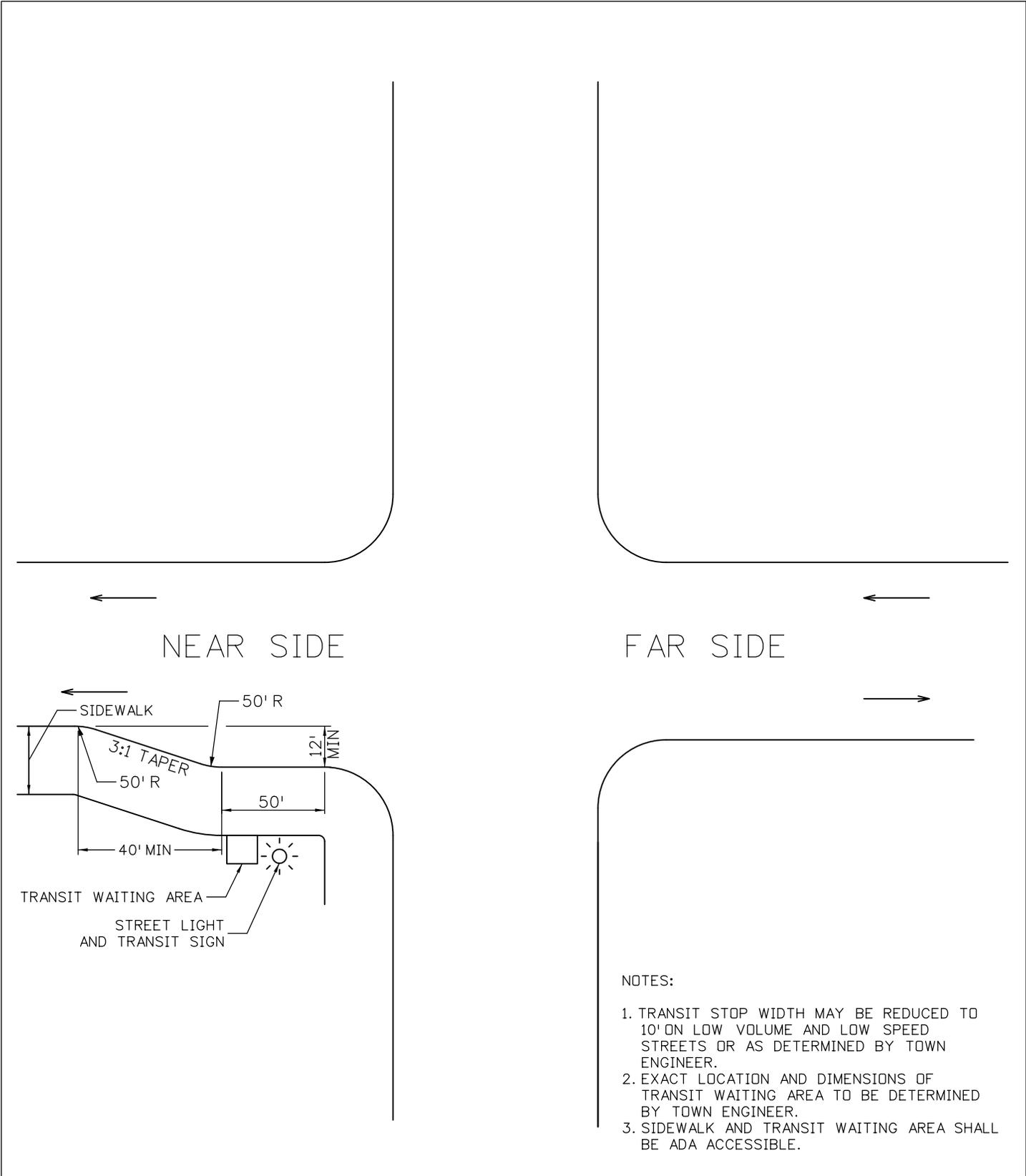
APPENDIX G



TRANSIT TURNOUTS

Far Side

 TOWN OF BRECKENRIDGE ENGINEERING	TOWN OF BRECKENRIDGE STANDARD DETAILS	CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____	Standard Drawing 1 Sheet 1 of 2
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TRANSIT TURNOUTS

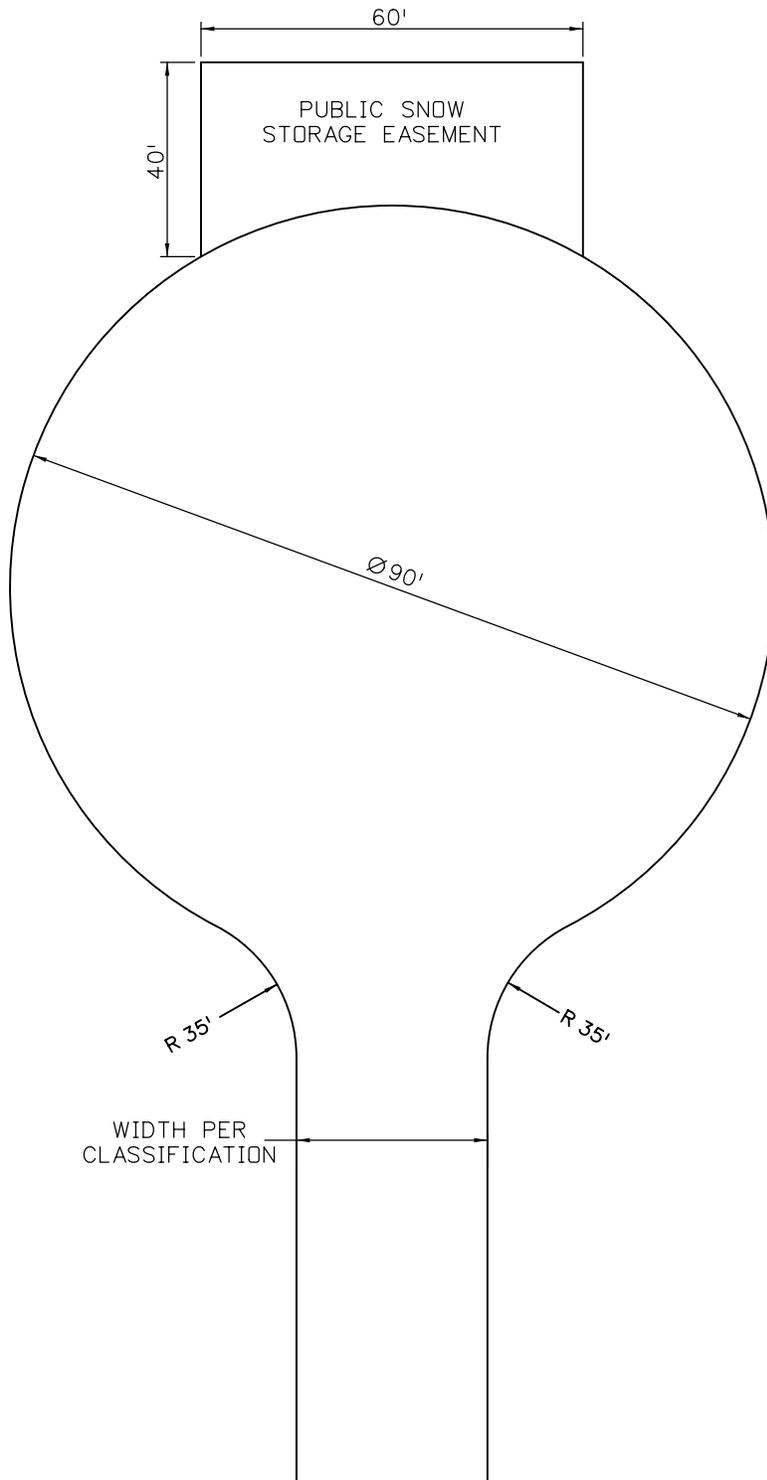
Near Side



TOWN OF BRECKENRIDGE
STANDARD DETAILS

CREATION DATE: 11/3/20
LAST REVISION DATE: _____

Standard Drawing 1
Sheet 2 of 2



CUL-DE-SAC

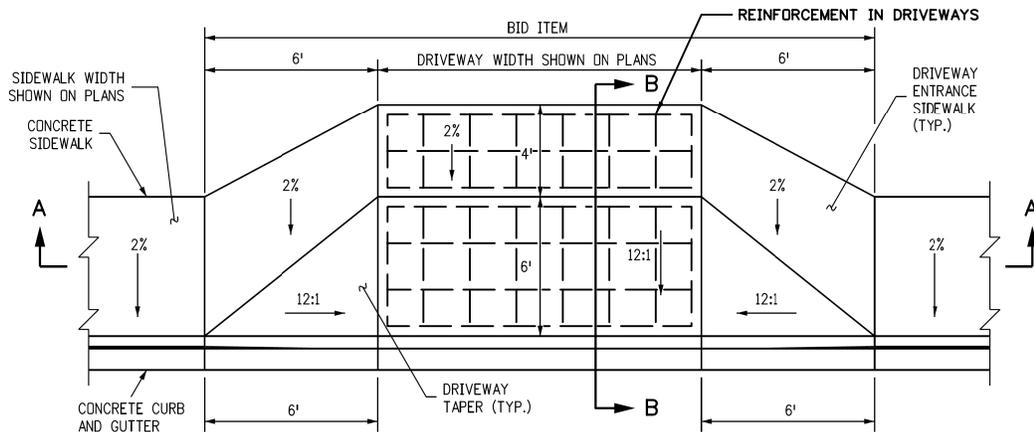


TOWN OF BRECKENRIDGE
ENGINEERING

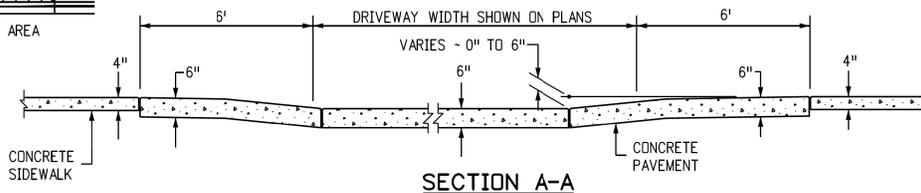
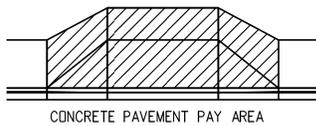
TOWN OF BRECKENRIDGE
STANDARD DETAILS

CREATION DATE: 11/3/20
LAST REVISION DATE: _____

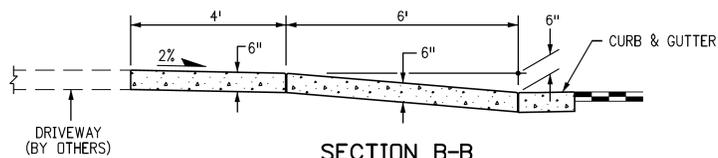
Standard Drawing 2
Sheet 1 of 1



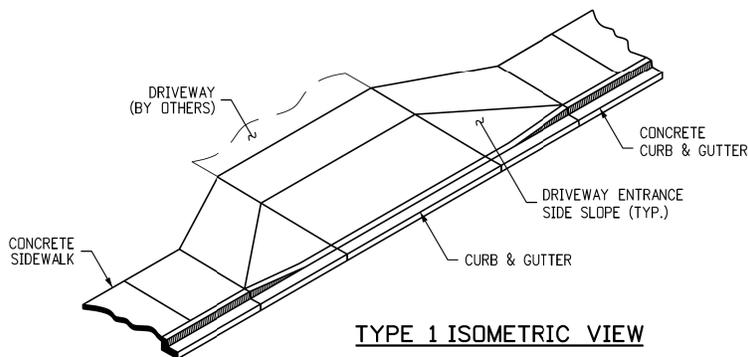
CONCRETE DRIVEWAY ENTRANCE TYPE 1



SECTION A-A



SECTION B-B



TYPE 1 ISOMETRIC VIEW

DRIVEWAY DETAILS

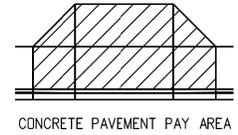
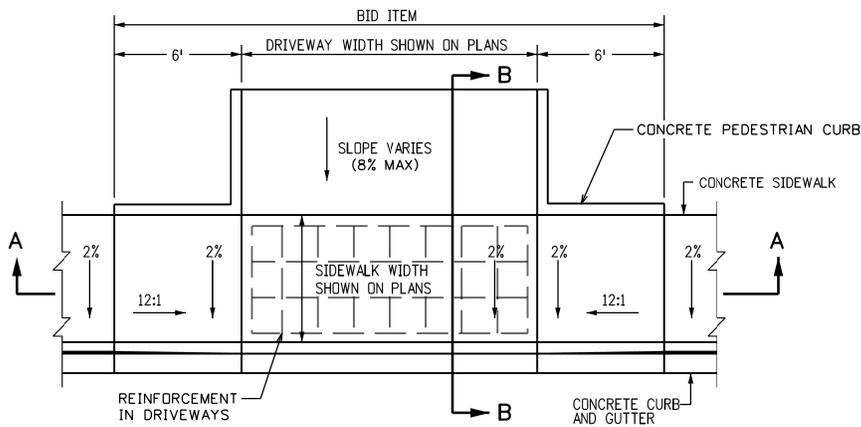
Concrete Driveway Entrance Type 1



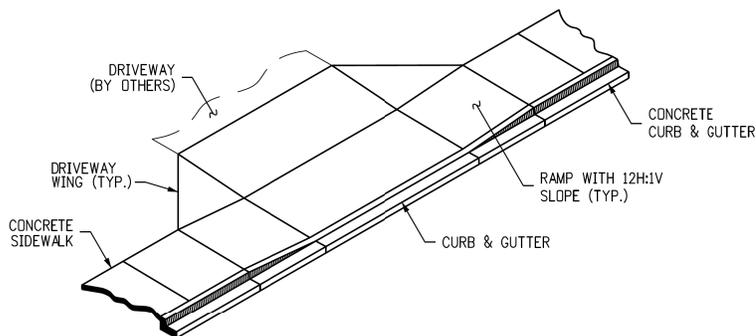
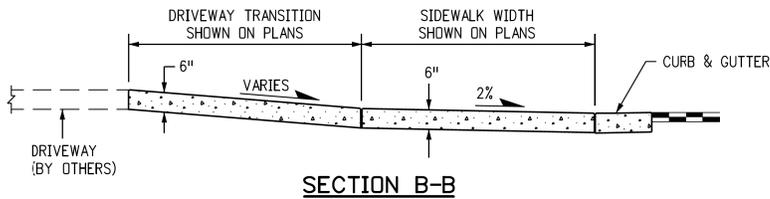
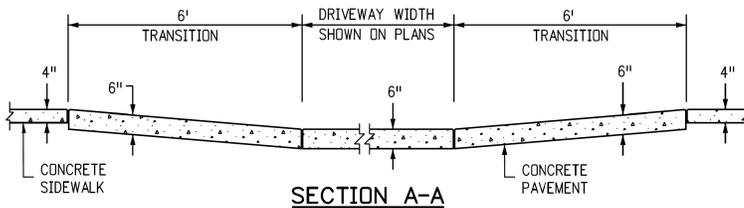
**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

CREATION DATE: 11/3/20
LAST REVISION DATE: _____

Standard Drawing 3
Sheet 1 of 3



CONCRETE DRIVEWAY ENTRANCE TYPE 2



TYPE 3 ISOMETRIC VIEW

DRIVEWAY DETAILS

Concrete Driveway Entrance Type 2

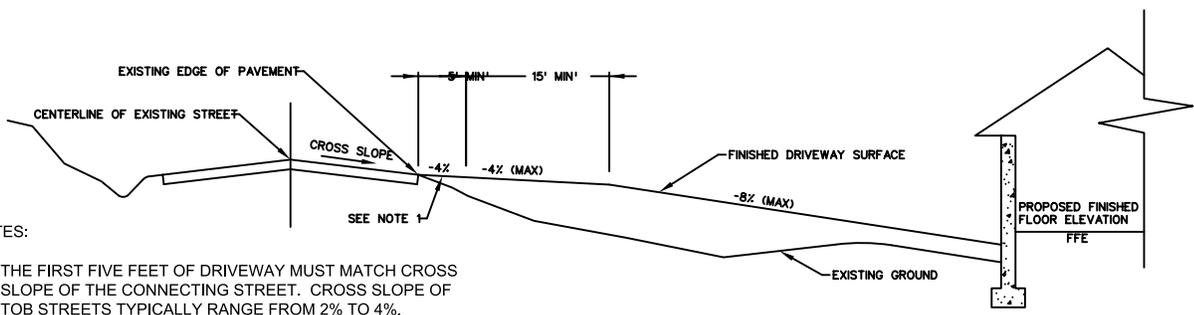


TOWN OF BRECKENRIDGE
ENGINEERING

TOWN OF BRECKENRIDGE
STANDARD DETAILS

CREATION DATE: 11/3/20
LAST REVISION DATE: _____

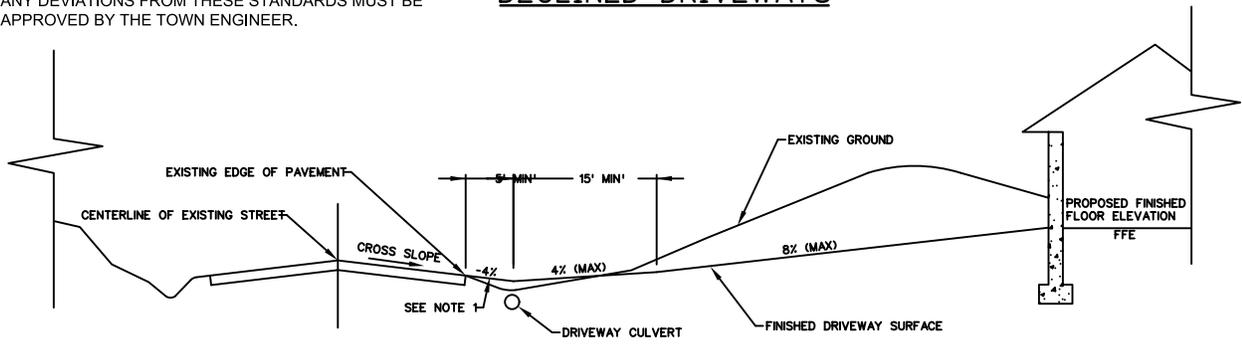
Standard Drawing 3
Sheet 2 of 3



NOTES:

1. THE FIRST FIVE FEET OF DRIVEWAY MUST MATCH CROSS SLOPE OF THE CONNECTING STREET. CROSS SLOPE OF TOB STREETS TYPICALLY RANGE FROM 2% TO 4%.
2. ANY DEVIATIONS FROM THESE STANDARDS MUST BE APPROVED BY THE TOWN ENGINEER.

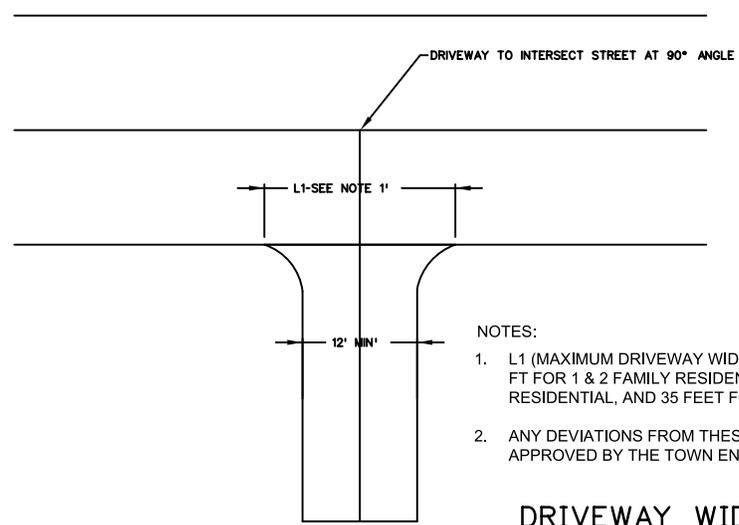
DECLINED DRIVEWAYS



NOTES:

1. THE FIRST FIVE FEET OF DRIVEWAY MUST MATCH CROSS SLOPE OF THE CONNECTING STREET. CROSS SLOPE OF TOB STREETS TYPICALLY RANGE FROM 2% TO 4%.
2. CULVERTS PLACED UNDER DRIVEWAYS SHALL BE HDPE WITH A MINIMUM DIAMETER OF 18 INCHES.
3. ANY DEVIATIONS FROM THESE STANDARDS MUST BE APPROVED BY THE TOWN ENGINEER.

INCLINED DRIVEWAYS

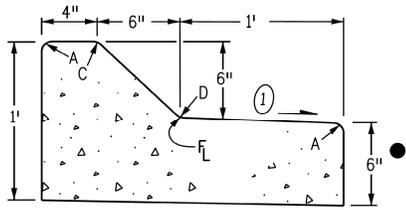


NOTES:

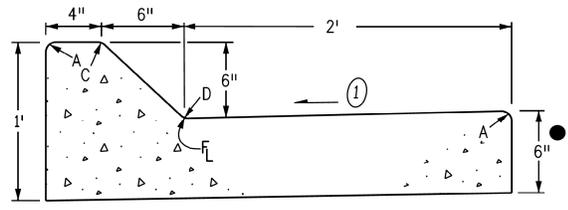
1. L1 (MAXIMUM DRIVEWAY WIDTH-INCLUDING FLARES) IS 20 FT FOR 1 & 2 FAMILY RESIDENTIAL, 25 FOR MULTI-FAMILY RESIDENTIAL, AND 35 FEET FOR BUSINESSES.
2. ANY DEVIATIONS FROM THESE STANDARDS MUST BE APPROVED BY THE TOWN ENGINEER.

DRIVEWAY WIDTH

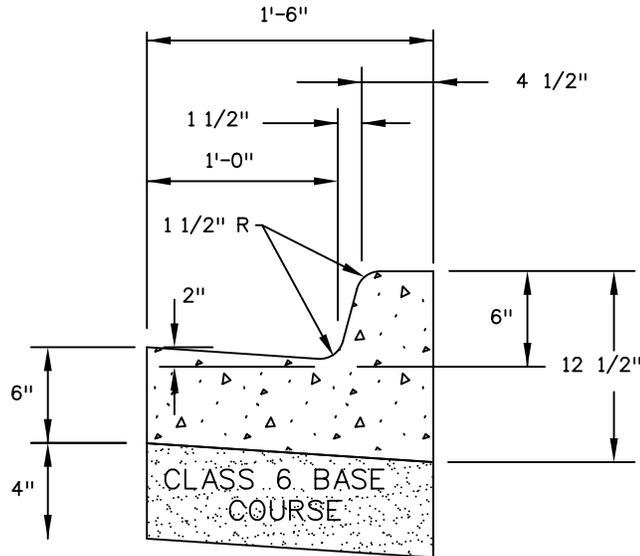
DRIVEWAY DETAILS
Driveway Profiles



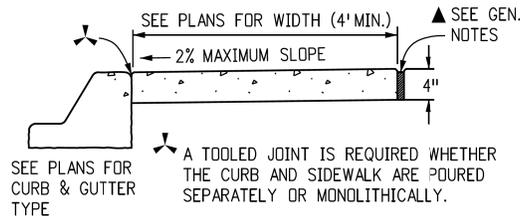
CURB AND GUTTER TYPE 2
(SECTION IM)
 (6 IN. MOUNTABLE - 1 FT. GUTTER)



CURB AND GUTTER TYPE 2
(SECTION IIM)
 (6 IN. MOUNTABLE - 2 FT. GUTTER)



CONCRETE CURB & GUTTER DETAIL - 18"



CONCRETE SIDEWALK

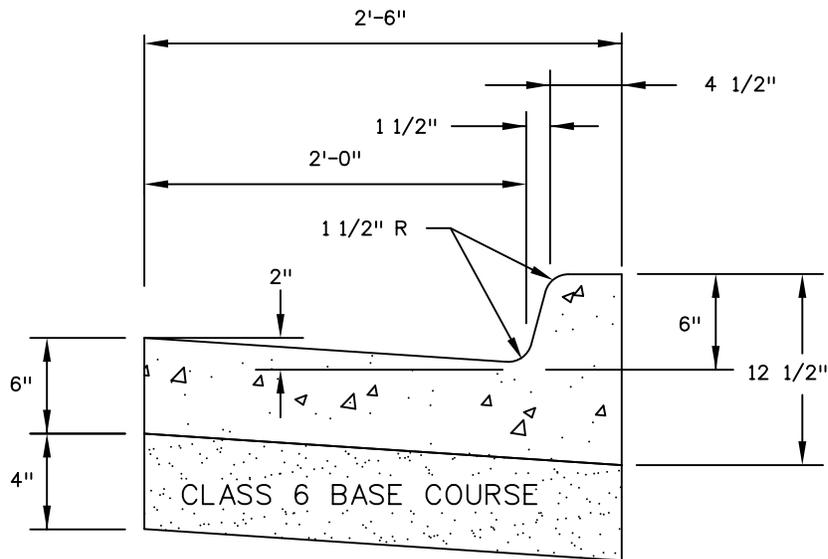
CURB DETAILS



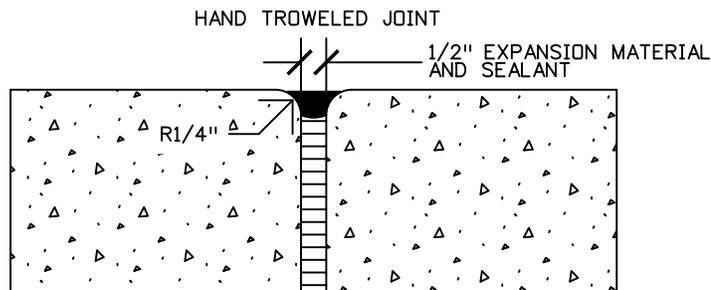
TOWN OF BRECKENRIDGE
STANDARD DETAILS

CREATION DATE: 11/3/20
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Standard Drawing 4
 Sheet 1 of 5



30" CURB & GUTTER



NOTE: PLACE EXPANSION JOINTS AS NOTED IN SPECIFICATIONS AND NOT TO EXCEED INTERVALS OF 500'. SEALANT TO MATCH MATERIAL COLOR. EXPANSION JOINT SHALL RUN BETWEEN ALL SURFACE LEVELS FROM FINISHED GRADE TO COMPACTED AGGREGATE.

EXPANSION JOINT-SIDEWALK

CONCRETE CURB, GUTTER, SIDEWALK, AND PAVEMENT DETAILS

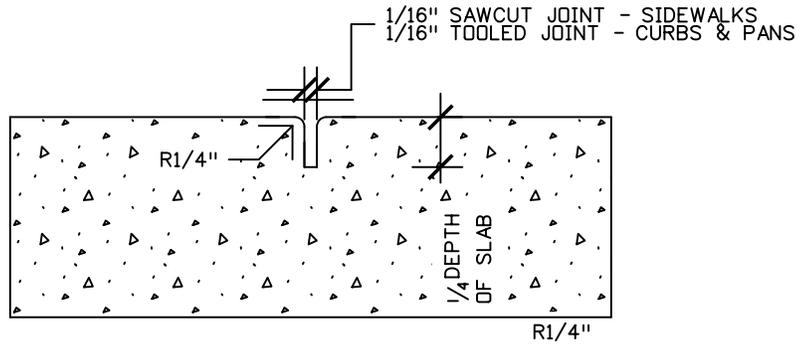


TOWN OF BRECKENRIDGE
ENGINEERING

TOWN OF BRECKENRIDGE
STANDARD DETAILS

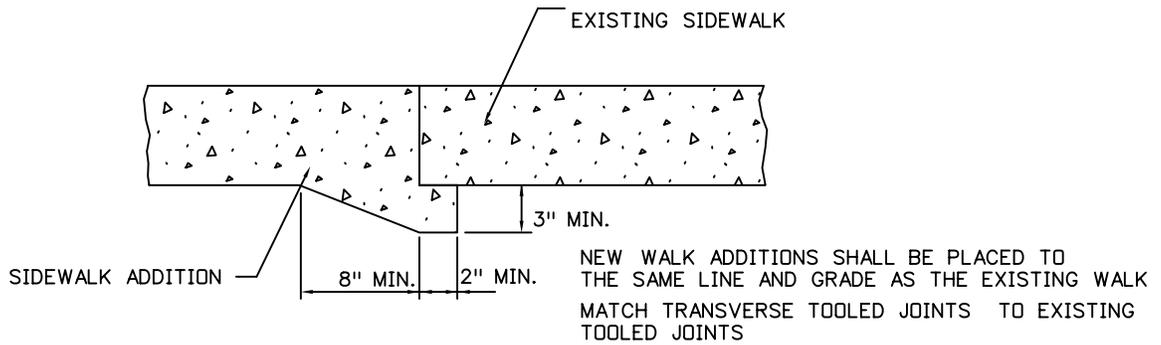
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LAST REVISION DATE: _____

Standard Drawing 4
Sheet 2 of 5

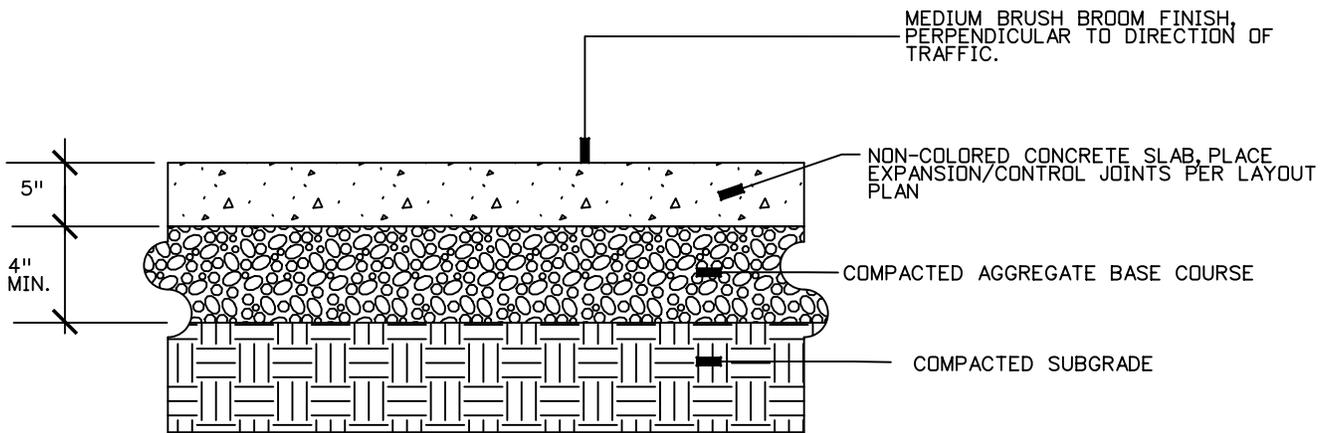


NOTE: PLACE CONTROL JOINTS ON CURB & GUTTER EVERY 10', ON SIDEWALKS EVERY 5'-6', AND ON CROSS-PANS EVERY 6'.

CONTROL JOINT-SIDEWALK



CONNECTION TO EXISTING SIDEWALK



CONCRETE SIDEWALK

CONCRETE CURB, GUTTER, SIDEWALK, AND PAVEMENT DETAILS

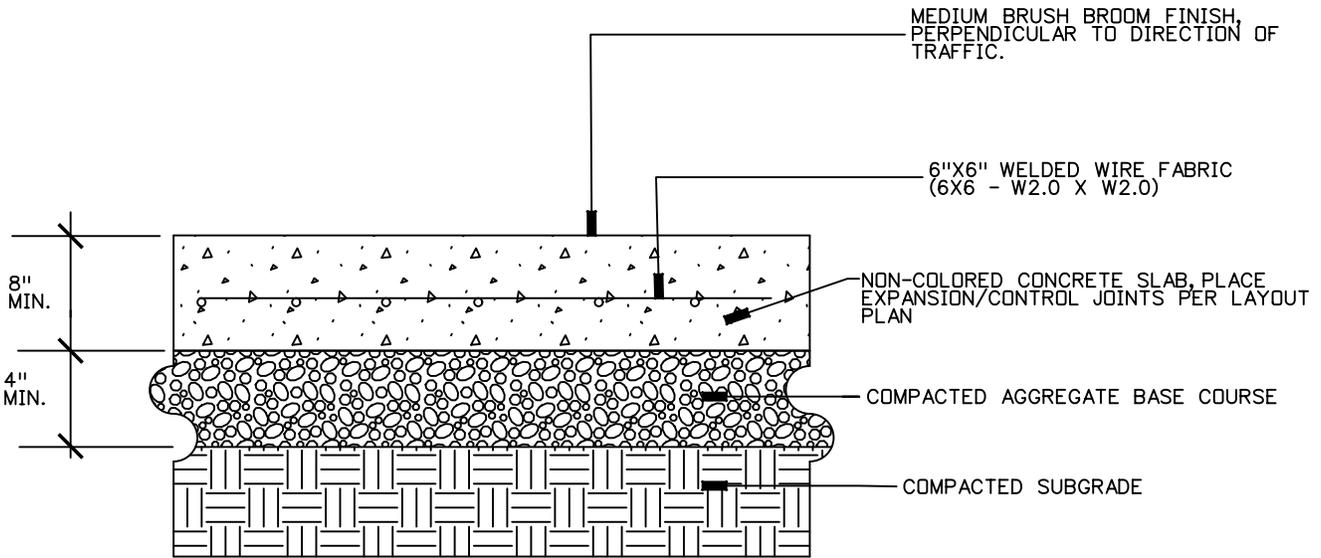


TOWN OF BRECKENRIDGE
ENGINEERING

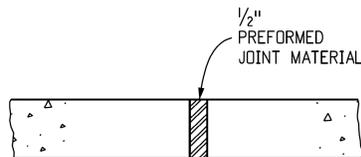
TOWN OF BRECKENRIDGE
STANDARD DETAILS

CREATION DATE: 11/3/20
LAST REVISION DATE: _____

Standard Drawing 4
Sheet 3 of 5



CONCRETE PAVEMENT (PANS, SPANDRELS, & BUS STOP)

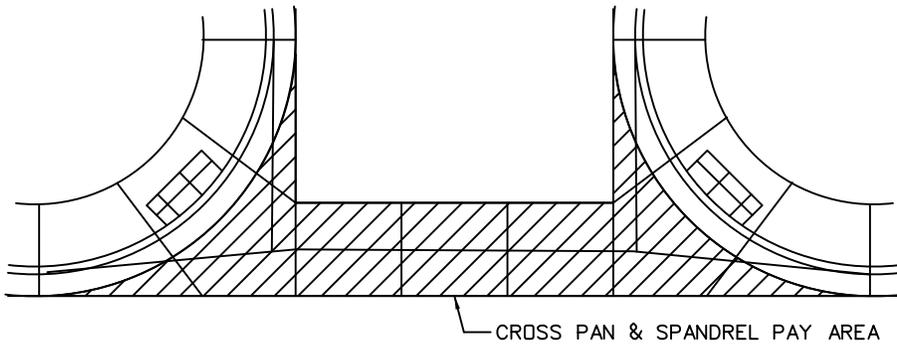
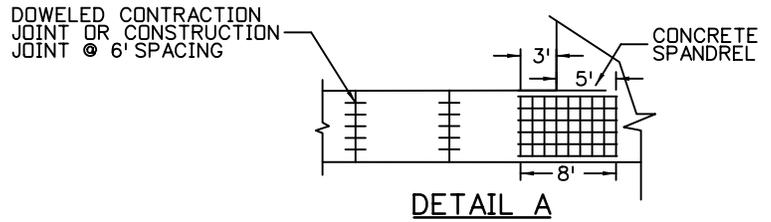
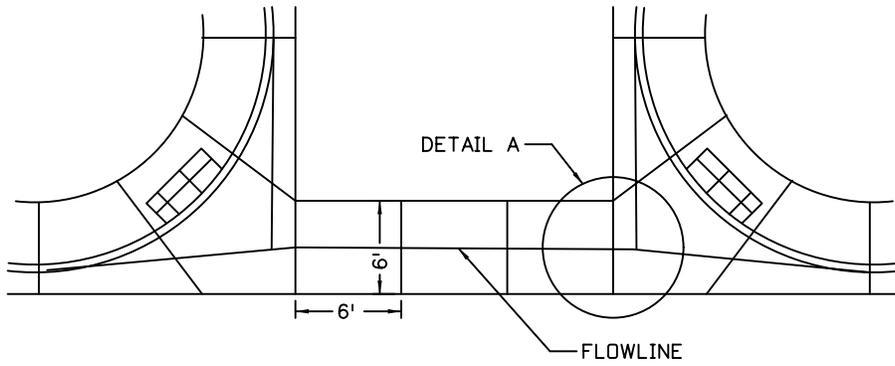


- NOTES: 1. EXPANSION JOINTS SHALL BE PLACED IN THE SIDEWALK AT INTERVALS OF NOT MORE THAN 500 FT.
2. EXPANSION JOINTS MAY BE SEALED WHEN SPECIFIED ON THE PLANS.

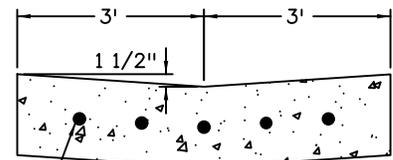
SIDEWALK EXPANSION JOINT

CONCRETE CURB, GUTTER, SIDEWALK, AND PAVEMENT DETAILS

 <p>TOWN OF BRECKENRIDGE ENGINEERING</p>	<p>TOWN OF BRECKENRIDGE STANDARD DETAILS</p>	<p>CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____</p>	<p>Standard Drawing 4 Sheet 4 of 5</p>
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1" DIAMETER BY 12" LONG MIN.
SMOOTH DOWEL BARS & 12" OC
CENTERED ON CONTRACTION JOINT



SECTION VIEW

CONCRETE CROSS-PAN STANDARD DETAIL

CONCRETE CURB, GUTTER, SIDEWALK, AND PAVEMENT DETAILS



TOWN OF BRECKENRIDGE
ENGINEERING

TOWN OF BRECKENRIDGE
STANDARD DETAILS

CREATION DATE: 11/3/20
LAST REVISION DATE: _____

Standard Drawing 4
Sheet 5 of 5

CURB RAMP GENERAL NOTES:

- ① IN NEW CONSTRUCTION OR FULL-DEPTH RECONSTRUCTION, PROVIDE A SEPARATE CURB RAMP FOR EACH MARKED OR UNMARKED PEDESTRIAN STREET CROSSING. CURB RAMPS SHALL BE CONTAINED WHOLLY WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING OR CROSSWALK THEY SERVE.
- ② ALTERATIONS ARE DEFINED AS CHANGES TO AN EXISTING HIGHWAY THAT AFFECT PEDESTRIAN ACCESS, CIRCULATION, OR USE. ALTERATIONS INCLUDE, BUT ARE NOT LIMITED TO, RESURFACING, REHABILITATION, RECONSTRUCTION, CURB RAMP RETROFITS, HISTORIC RESTORATION, OR CHANGES OR REARRANGEMENT TO STRUCTURAL PARTS OR ELEMENTS OF A PEDESTRIAN FACILITY.
- ③ A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP OR TURNING SPACE, WITHOUT RAISED OBSTACLES, THAT COULD BE MISTAKENLY TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- ④ IN ALTERATIONS, WHERE AN EXISTING PHYSICAL CONSTRAINT PREVENTS PROVIDING A SEPARATE CURB RAMP FOR EACH PEDESTRIAN STREET CROSSING, A SINGLE DIAGONAL RAMP (ON THE APEX) SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. THE USE OF A SINGLE DIAGONAL RAMP SHALL BE APPROVED BY THE TOWN PRIOR TO CONSTRUCTION. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION OR FULL-DEPTH RECONSTRUCTION.
- ⑤ DETECTABLE WARNINGS SURFACES (DWS) ARE INTENDED TO INDICATE THE BOUNDARY BETWEEN A PEDESTRIAN ROUTE AND VEHICULAR ROUTE WHERE THERE IS A FLUSH RATHER THAN CURBED CONNECTION. DWS ARE NOT INTENDED TO PROVIDE WAYFINDING. DWS SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS;
 1. CURB RAMPS, BLENDED TRANSITIONS, AND DEPRESSED CORNERS AT PEDESTRIAN STREET CROSSINGS;
 2. PEDESTRIAN REFUGE ISLANDS (6 FEET IN WIDTH OR GREATER);
 3. BOARDING PLATFORMS AT TRANSIT STOPS WHERE THE EDGE OF THE PLATFORM IS NOT PROTECTED TO PEDESTRIAN CROSS TRAFFIC; AND
 4. BOARDING AREAS AT SIDEWALK OR STREET LEVEL TRANSIT STOPS WHERE THE AREA IS NOT PROTECTED TO PEDESTRIAN CROSS TRAFFIC.
- ⑥ DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH THE ADJACENT GUTTER, HIGHWAY, OR PEDESTRIAN ACCESS ROUTE SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. FEDERAL YELLOW COLOR IS PREFERRED, HOWEVER, OTHER COLORS MAY BE USED IF APPROVED BY THE ENGINEER.
- ⑦ IN ALTERATIONS, TO AVOID CHASING GRADE INDEFINITELY ON STEEP ROADWAYS, A CURB RAMPS LENGTH IS NOT REQUIRED TO EXCEED 15 FEET REGARDLESS OF THE RESULTING RAMP RUNNING SLOPE.
- ⑧ ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE.
- ⑨ DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, OR OTHER OBSTRUCTIONS SHALL NOT BE INSTALLED ON THE CURB RAMP, OR TURNING SPACE AREAS.
- ⑩ IN NEW CONSTRUCTION, PULL BOXES, METER BOXES, MAINTENANCE HOLE COVERS, VAULT LIDS, OR SIMILAR, SHALL NOT BE CONSTRUCTED WITHIN ANY PART OF CURB RAMP OR TURNING SPACE. IN ALTERATIONS, WHERE THESE ITEMS CANNOT BE RELOCATED OUTSIDE OF THE CURB RAMP OR TURNING SPACE, THEY MUST NOT CREATE A VERTICAL DISCONTINUITY GRATER THAN 1/2 INCH. ANY VERTICAL DISCONTINUITY BETWEEN 1/4 INCH AND 1/2 INCH SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1V:2H. THE BEVEL SHALL BE APPLIED ACROSS THE ENTIRE SURFACE DISCONTINUITY.
- ⑪ ALL CURB RAMP JOINTS AND GRADE BREAKS SHALL BE FLUSH (0'-1/8"). THE JOINT BETWEEN THE ROADWAY SURFACE AND THE GUTTER PAN SHALL BE FLUSH.
- ⑫ THE CONTRACTOR SHALL VERIFY REMOVAL LIMITS ARE SUFFICIENT TO PROVIDE POSITIVE DRAINAGE, MAINTAIN EXISTING DRAINAGE PATTERNS, AND AVOID PONDING IN THE FINAL CONFIGURATION.
- ⑬ FLARED SIDE SLOPES MAY EXCEED 10.0% ONLY WHERE THEY ABUT A NON-WALKABLE SURFACE, OR WHERE THE ADJACENT RAMP SURFACE IS BLOCKED TO PEDESTRIAN TRAFFIC.

CURB RAMP DETAILS

Curb Ramp General Notes

	TOWN OF BRECKENRIDGE STANDARD DETAILS	CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____	Standard Drawing 5 Sheet 1 of 26
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CURB RAMP GENERAL NOTES CONT.:

- ⑭ THE CHANGE IN GRADE AT THE BOTTOM OF THE CURB RAMP SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 13.33%. THE COUNTER SLOPE OF THE GUTTER AT THE FOOT OF A RAMP, TURNING SPACE, OR BLENDED TRANSITION SHALL NOT EXCEED 5.0%.
- ⑮ GRADE BREAKS AT THE TOP AND BOTTOM OF RAMP RUNS SHALL BE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN. GRADE BREAKS SHALL NOT BE PERMITTED ON THE SURFACE OF THE RAMP RUN OR TURNING SPACE. SURFACE SLOPES THAT MEET AT GRADE BREAKS SHALL BE FLUSH.
- ⑯ A BROOM FINISH, WITH SWEEPS PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAFFIC, SHALL BE APPLIED TO ALL RAMP AND TURNING SPACE SURFACES.
- ⑰ IN ALTERATIONS, WHERE A RAMP OR TURNING SPACE MUST TIE INTO AN EXISTING GRADE THAT CANNOT BE ALTERED, THE RAMP OR TURNING SPACE MAY BE WARPED TO TRANSITION TO THE REQUIRED CROSS SLOPE. THE TRANSITION TO THE REQUIRED CROSS SLOPE SHALL BE SPREAD EVENLY OVER THE LENGTH OF THE RAMP OR TURNING SPACE TO MINIMIZE THE DEGREE OF WARPING. THE RATE OF CHANGE ON A RAMP OR TURNING SPACE SHALL NOT EXCEED 3% PER LINEAR FOOT.
- ⑱ DESIGN AND CONSTRUCT CURB RAMPS, TURNING SPACES, AND FLARE SLOPES WITH THE FLATTEST SLOPES POSSIBLE. THE SLOPES INDICATED IN THESE DETAILS SHOW THE MAXIMUM SLOPES ALLOWABLE. PREFERRED VALUES TO BE USED DURING DESIGN, LAYOUT, AND CONSTRUCTION ARE:
 - RAMP RUNNING SLOPE 7.5%
 - RAMP CROSS SLOPE 1.5%
 - TURNING SPACE RUNNING SLOPE 1.5%
 - TURNING SPACE CROSS SLOPE 1.5%
 - FLARE SLOPE 8.0-9.0%
- ⑲ PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMPS ADJOIN ANY RIGID PAVEMENT, OR STRUCTURE. THE TOP OF THE JOINT FILLER MATERIAL SHALL BE FLUSH WITH ADJOINING CONCRETE SURFACES. THE EXPANSION JOINT MATERIAL SHALL EXTEND FOR THE FULL DEPTH OF THE CONCRETE SURFACE.
- ⑳ PROVIDE TIE BAR REINFORCING BETWEEN INDEPEDENTLY POURED CONCRETE CURB RAMPS OR TURNING SPACES AND CURB AND GUTTER. DRILL AND GROUT NO. 4 12 INCH LONG REINFORCEMENT BARS (EPOXY COATED) AT 18 INCHES CENTER TO CENTER MINIMUM.

PERCENT SLOPE	1.0%	2.0%	5.0%	7.1%	8.3%	10.0%
EQUIVALENT RUN/RISE	100:1	50:1	20:1	14:1	12:1	10:1

SLOPE TABLE

CURB RAMP DETAILS

Curb Ramp General Notes

 TOWN OF BRECKENRIDGE ENGINEERING	TOWN OF BRECKENRIDGE STANDARD DETAILS	CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____	Standard Drawing 5 Sheet 2 of 26
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PERPENDICULAR RAMP NOTES:

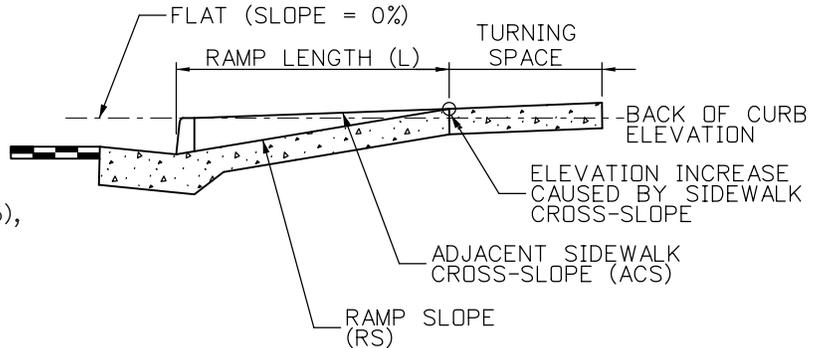
- ① RAMP WIDTH - PROVIDE 5 FT. OR GREATER WHERE POSSIBLE. IF SITE CONSTRAINTS DO NOT PERMIT, PROVIDE 4 FT. MINIMUM. RAMPS SERVICING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.
- ← ② RAMP RUNNING SLOPE - 8.3% MAX.
- ③ TURNING SPACE RUNNING SLOPE - 2.0% MAX. TURNING SPACE RUNNING SLOPE IS MEASURED IN THE SAME DIRECTION AS THE RAMP RUNNING SLOPE.
- ← ④ RAMP AND TURNING SPACE CROSS SLOPE - 2.0% TYPICAL. AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF RAMPS AND TURNING SPACES MAY EQUAL THE HIGHWAY GRADE. AT MIDBLOCK PEDESTRIAN STREET CROSSINGS THE RAMP AND TURNING SPACE CROSS SLOPE MAY EQUAL THE HIGHWAY GRADE.
- ⑤ TURNING SPACE DIMENSIONS - PROVIDE A TURNING SPACE AT THE TOP OF PERPENDICULAR RAMPS WITH A WIDTH EQUAL TO THE WIDTH OF THE CURB RAMP. TURNING SPACE LENGTH MUST BE 4 FT. MINIMUM, MEASURED IN THE DIRECTION OF THE RAMP RUN. WHEN A TURNING SPACE IS CONSTRAINED AT THE BACK OF SIDEWALK, INCREASE LENGTH TO 5 FT. MINIMUM IN THE DIRECTION OF THE RAMP RUN.
- ⑥ RAMP ALIGNMENT - RAMPS SHALL BE ALIGNED TO BE FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING THEY SERVE. PROVIDE ONE RAMP FOR EACH STREET CROSSING DIRECTION. IN ALTERATIONS, WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT PROVIDING ONE CURB RAMP FOR EACH CROSSING DIRECTION, A SINGLE DIAGONAL CURB RAMP (ON THE APEX OF A CORNER) SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. IF A DIAGONAL RAMP IS USED, A CLEAR SPACE 4 FT. X 4FT. MUST BE PROVIDED AT THE BASE OF THE RAMP. THE CLEAR SPACE MUST BE WITHIN BOTH CROSSWALKS AND WHOLLY OUTSIDE OF ANY ADJACENT VEHICULAR TRAVEL LANES. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION, OR FULL-DEPTH RECONSTRUCTION.
- ⑦ RAMP LENGTH - PERPENDICULAR RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE, HEIGHT OF CURB, AND ADJACENT SIDEWALK CROSS-SLOPE WHICH MUST BE INTERCEPTED. SEE DETAIL A FOR CALCULATING RAMP LENGTH WHEN CHASING SIDEWALK CROSS-SLOPE. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.
- ⑧ RAMP FLARES - WHERE A RAMP EDGE ABUTS A WALKABLE SURFACE, A FLARED SIDE SHALL BE PROVIDED. RAMP FLARE SLOPES SHALL NOT EXCEED 10.0%.
- ⑨ VERTICAL CURB RETURNS - VERTICAL CURB RETURNS MAY BE USED ONLY WHERE A RAMP ABUTS A NON-WALKABLE SURFACE, OR WHERE A RAMP IS PROTECTED FROM PEDESTRIAN CROSS TRAFFIC (FOR EXAMPLE BY A SIGNAL CABINET OR UTILITY POLE WHICH BLOCKS PASSAGE).
- ⑩ GUTTER COUNTER SLOPE - 5.0% MAX.

CH = Curb Height
 RS = Ramp Slope
 ACS = Adjacent Sidewalk Cross-Slope

$$L = \frac{CH}{(RS - ACS)}$$

EXAMPLE: CH = 6" (0.5 ft.), RS = 7.5% (0.075),
 ACS = 1.5% (0.015)
 $L = 0.5 / (0.075 - 0.015) = 8.3 \text{ ft.}$

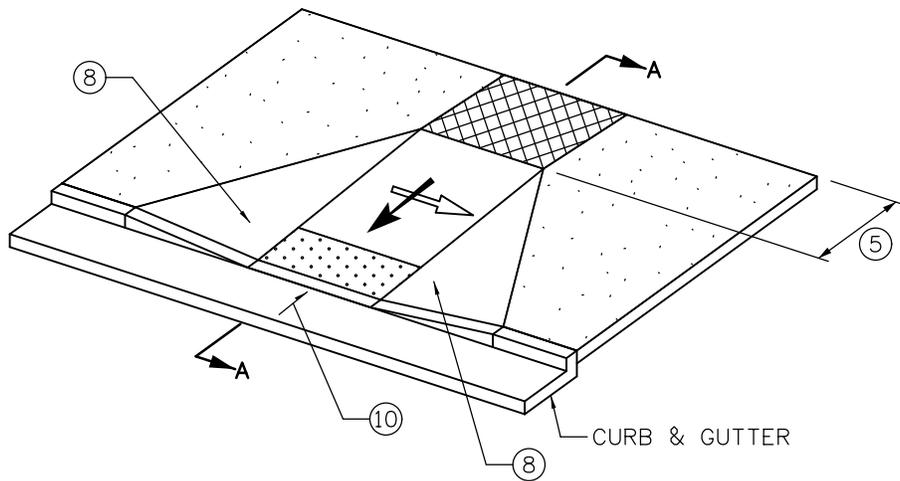
DETAIL A - RAMP LENGTH



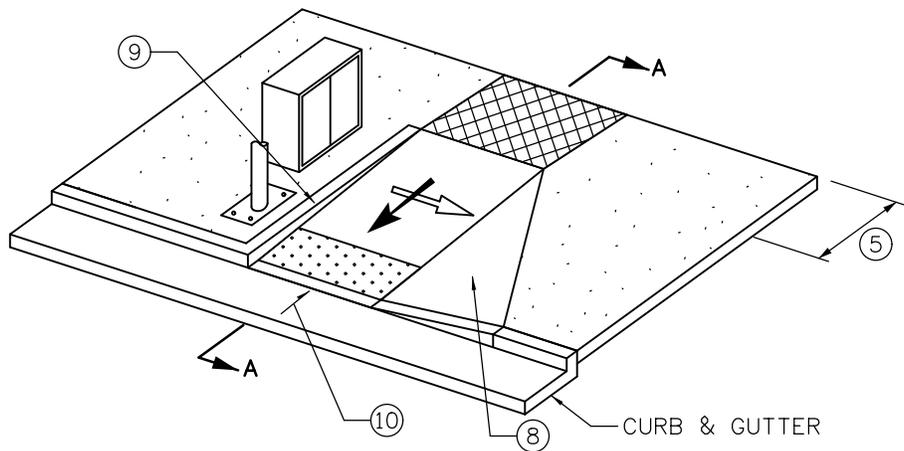
CURB RAMP DETAILS

Perpendicular Ramp Notes

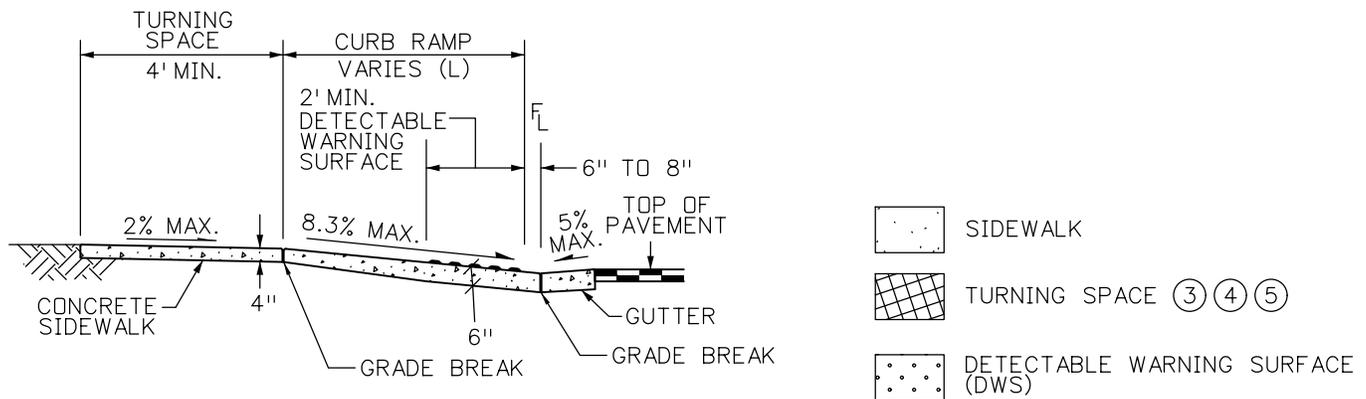
 <p>TOWN OF BRECKENRIDGE STANDARD DETAILS</p>	<p>CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____</p>	<p>Standard Drawing 5 Sheet 3 of 26</p>
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PERPENDICULAR RAMP
(TYPICAL)



PERPENDICULAR RAMP
(WITH VERTICAL RETURN CURB)



SECTION A-A

CURB RAMP DETAILS

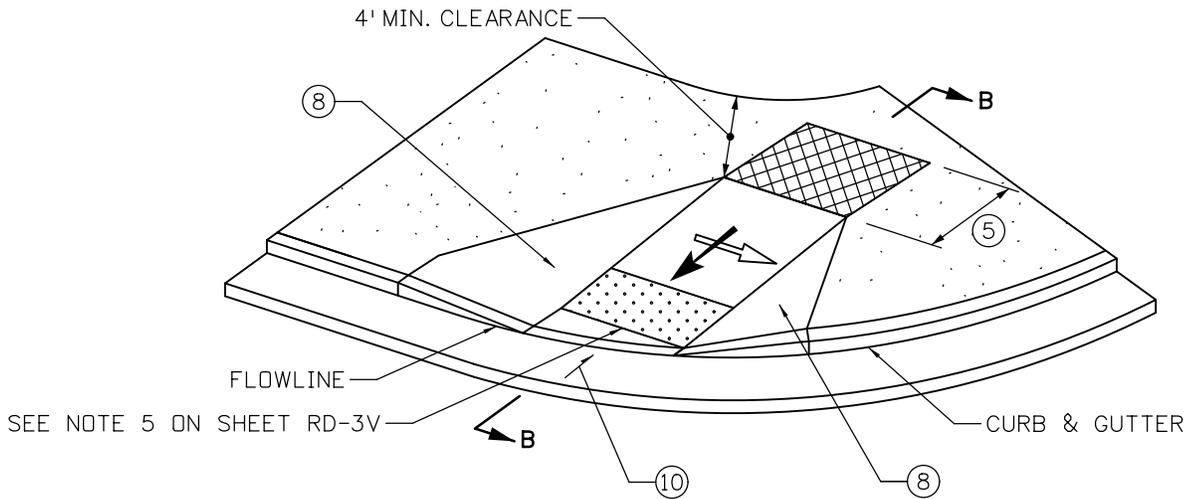
Type 1 Perpendicular Curb Ramp



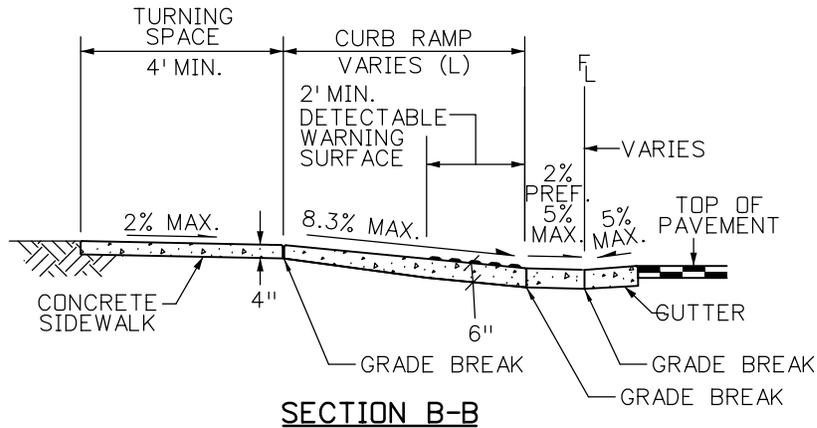
**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

CREATION DATE: 11/3/20
LAST REVISION DATE: _____

Standard Drawing 5
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PERPENDICULAR RAMP
(DIRECTIONAL)



SIDEWALK



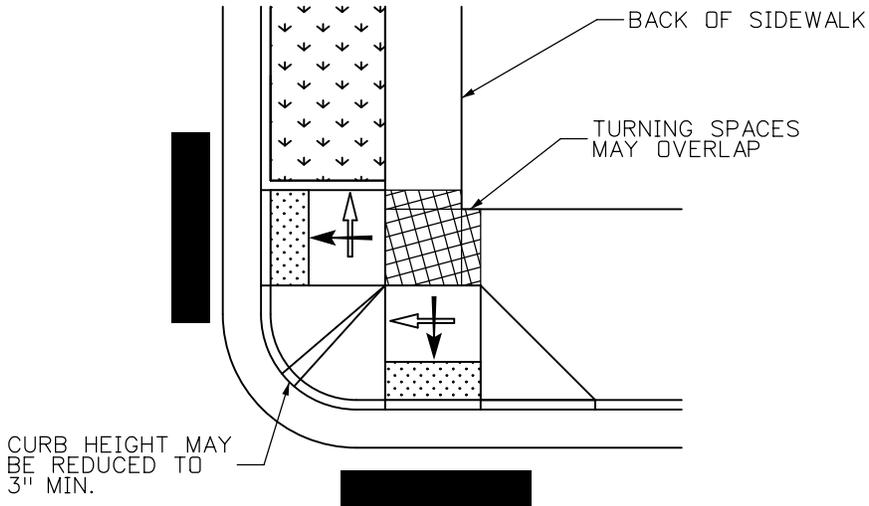
TURNING SPACE (3) (4) (5)



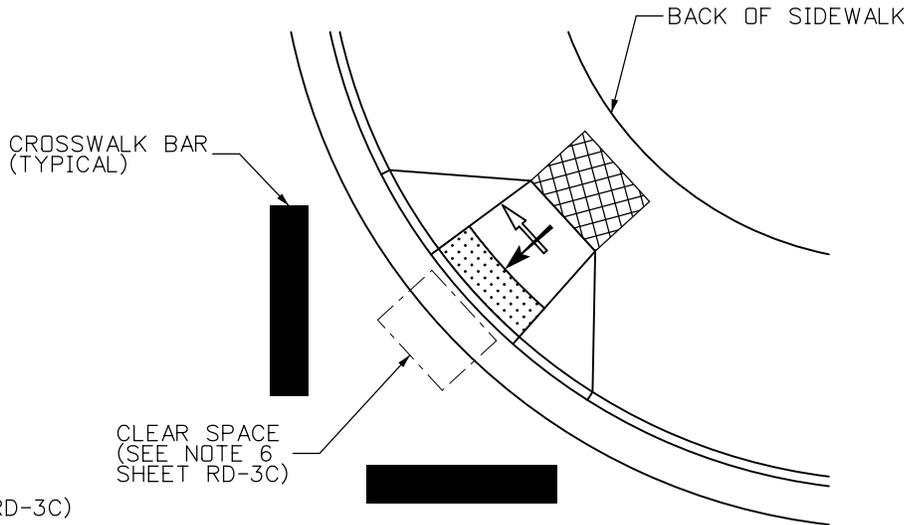
DETECTABLE WARNING SURFACE (DWS)

CURB RAMP DETAILS

Type 1 Perpendicular Curb Ramp



TYPE 1 RAMPS FOR WIDE SIDEWALK
(3" REDUCED CURB)



 TURNING SPACE
(SEE NOTES 3, 4, 5 - SHEET RD-3C)

 DETECTABLE WARNING SURFACE (DWS)
SEE DWS SHEETS FOR PLACEMENT DETAILS

 RAMP RUNNING SLOPE

 RAMP CROSS SLOPE

TYPE 1 RAMP
(DIAGONAL)

NOT ALLOWABLE IN NEW CONSTRUCTION/FULL
DEPTH RECONSTRUCTION
SEE GENERAL NOTE 4

NOTE

PLACEMENTS SHOWN ARE TYPICAL CONFIGURATIONS ONLY
AND NOT INDICATIVE OF ALL OPTIONS. OTHER RAMP
CONFIGURATIONS MAY BE ACCEPTABLE AS LONG AS
THEY CONFORM TO THE CRITERIA IN THESE STANDARDS,
AND ARE APPROVED BY THE ENGINEER.

CURB RAMP DETAILS
Type 1 Curb Ramp

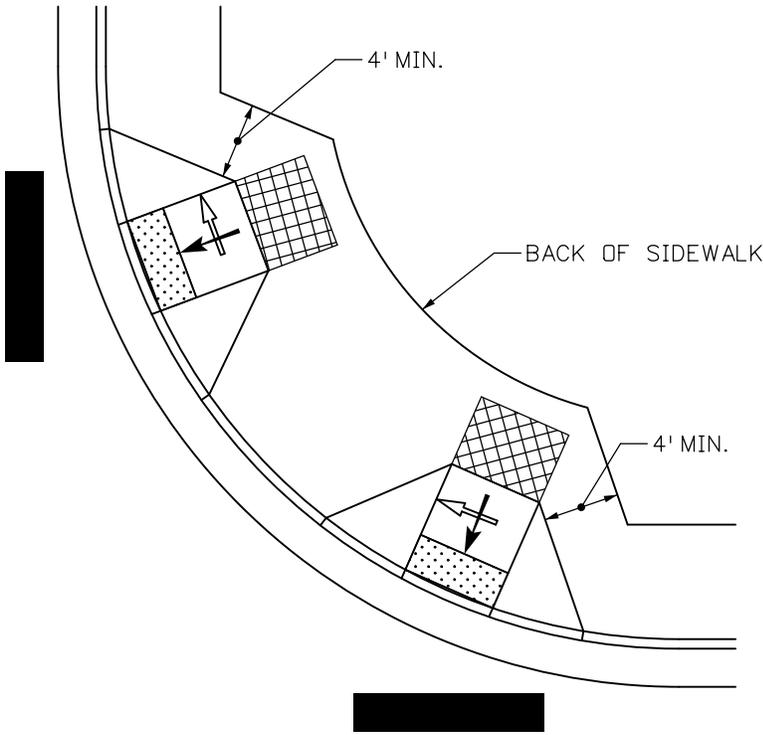


TOWN OF BRECKENRIDGE
ENGINEERING

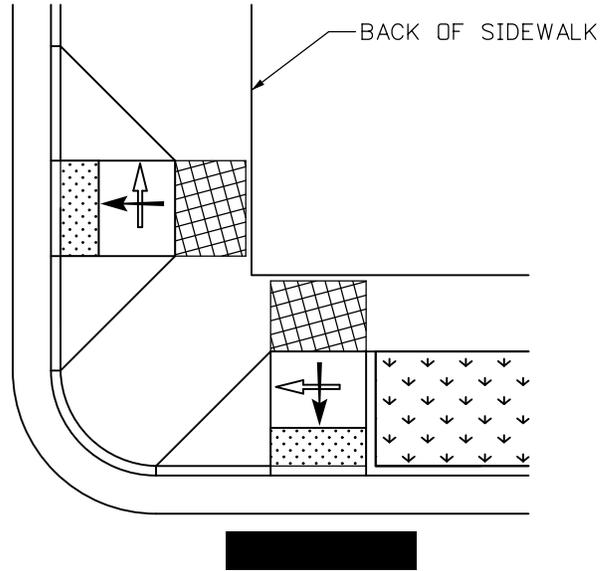
TOWN OF BRECKENRIDGE
STANDARD DETAILS

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Standard Drawing 5
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TYPE 1 PERPENDICULAR RAMPS



TYPE 1 RAMPS FOR WIDE SIDEWALK



TURNING SPACE
(SEE NOTES 3, 4, 5 - SHEET RD-3C)



DETECTABLE WARNING SURFACE (DWS)
SEE DWS SHEETS FOR PLACEMENT DETAILS



RAMPS RUNNING SLOPE



RAMPS CROSS SLOPE

NOTE

PLACEMENTS SHOWN ARE TYPICAL CONFIGURATIONS ONLY AND NOT INDICATIVE OF ALL OPTIONS. OTHER RAMP CONFIGURATIONS MAY BE ACCEPTABLE AS LONG AS THEY CONFORM TO THE CRITERIA IN THESE STANDARDS, AND ARE APPROVED BY THE ENGINEER.

CURB RAMP DETAILS
Type 1 Perpendicular Ramp

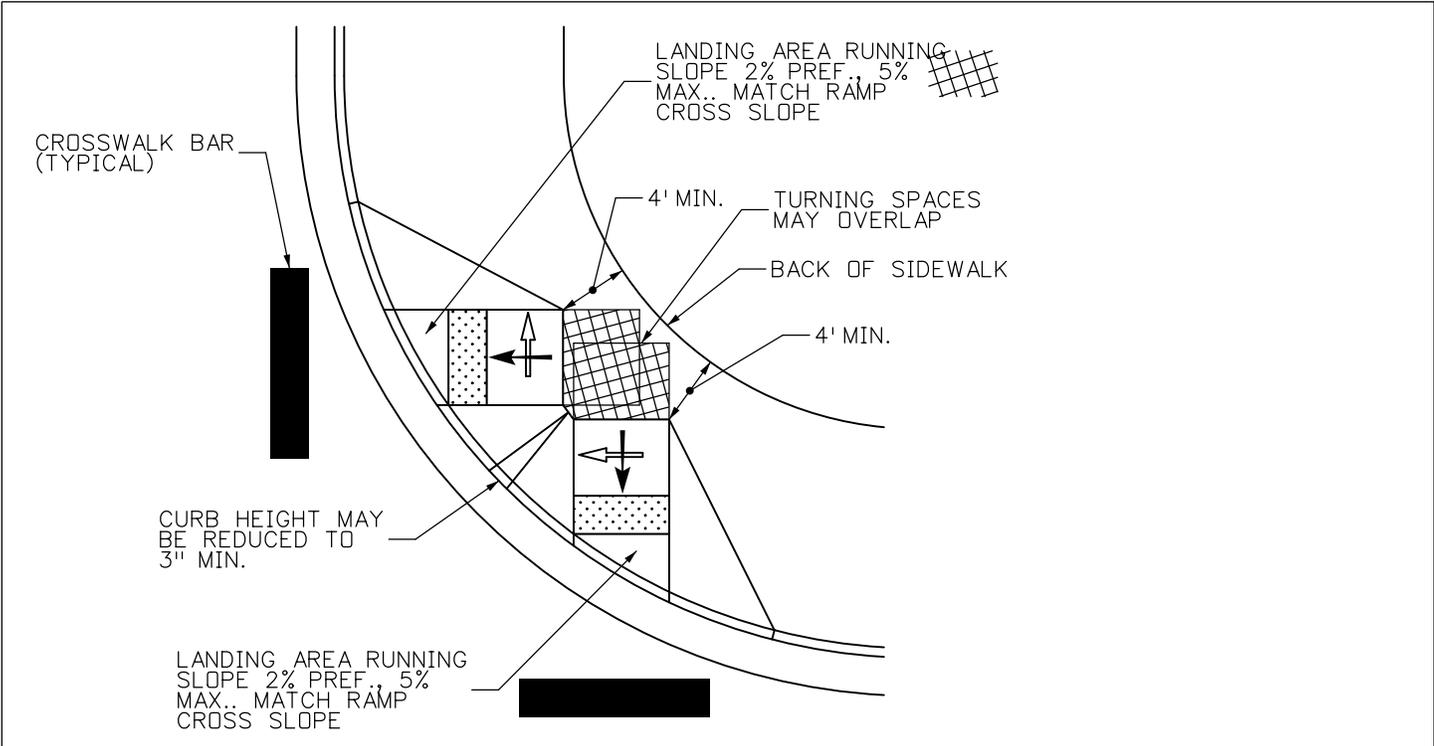


TOWN OF BRECKENRIDGE
ENGINEERING

TOWN OF BRECKENRIDGE
STANDARD DETAILS

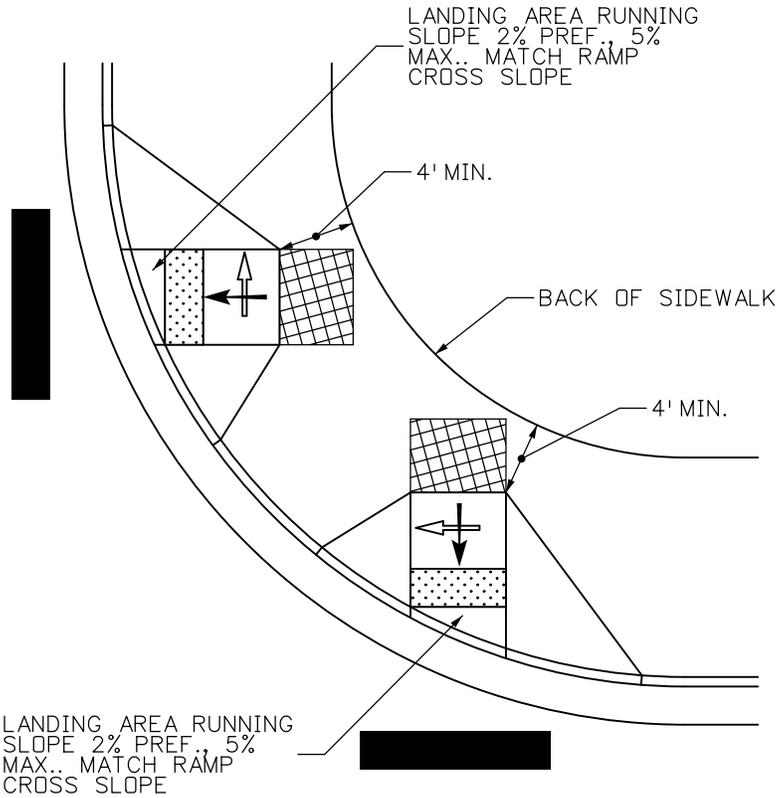
CREATION DATE: 11/3/20
LAST REVISION DATE:

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TYPE 1 DIRECTIONAL RAMPS

(3" REDUCED CURB)



TYPE 1 DIRECTIONAL RAMPS
(LARGE RADIUS)

-  TURNING SPACE
(SEE NOTES 3, 4, 5 - SHEET RD-3C)
-  DETECTABLE WARNING SURFACE
(DWS) SEE DWS SHEETS FOR
PLACEMENT DETAILS
-  RAMP RUNNING SLOPE
-  RAMP CROSS SLOPE

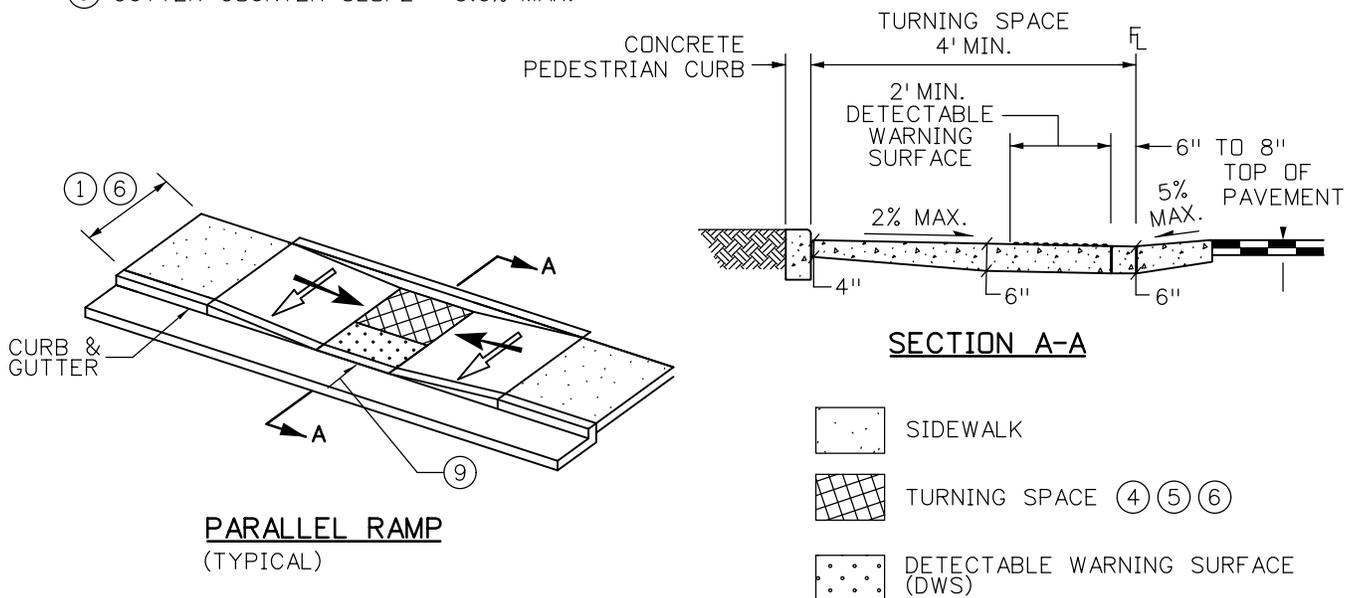
NOTE
PLACEMENTS SHOWN ARE TYPICAL CONFIGURATIONS ONLY AND NOT INDICATIVE OF ALL OPTIONS. OTHER RAMP CONFIGURATIONS MAY BE ACCEPTABLE AS LONG AS THEY CONFORM TO THE CRITERIA IN THESE STANDARDS, AND ARE APPROVED BY THE ENGINEER.

CURB RAMP DETAILS
Type 1 Directional Ramp

 <p>TOWN OF BRECKENRIDGE STANDARD DETAILS</p>	<p>CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____</p>	<p>Standard Drawing 5 Sheet 8 of 26</p>
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PARALLEL RAMP NOTES

- ① RAMP WIDTH - PROVIDE A RAMP WIDTH EQUAL TO THE ADJOINING SIDEWALK, PROVIDE 4 FT. WIDTH MINIMUM. RAMPS SERVICING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.
- ← ② RAMP RUNNING SLOPE - 8.3% MAX.
- ← ③ RAMP CROSS SLOPE - 2.0% MAX.
- ④ TURNING SPACE RUNNING SLOPE - 2.0% MAX. TURNING SPACE RUNNING SLOPE IS MEASURED PERPENDICULAR TO THE BACK OF CURB.
- ⑤ TURNING SPACE CROSS SLOPE - 2.0% TYPICAL, AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF THE TURNING SPACE MAY EQUAL THE HIGHWAY GRADE. AT MIDBLOCK PEDESTRIAN STREET CROSSINGS THE TURNING SPACE CROSS SLOPE MAY EQUAL THE HIGHWAY GRADE. TURNING SPACE CROSS SLOPE IS MEASURED IN THE DIRECTION OF THE RAMP RUN.
- ⑥ TURNING SPACE DIMENSIONS - PROVIDE A TURNING SPACE AT THE BOTTOM OF PARALLEL RAMPS WITH A WIDTH EQUAL TO THE WIDTH OF THE CURB RAMP. PROVIDE 4 FT. MINIMUM, MEASURED IN THE DIRECTION OF THE RAMP RUN. IF THE TURNING SPACE IS CONSTRAINED ON TWO SIDES, PROVIDE 5 FT. MEASURED IN THE DIRECTION OF PEDESTRIAN STREET CROSSING. THE TURNING SPACE MAY CONTAIN THE DETECTABLE WARNING SURFACE.
- ⑦ RAMP ALIGNMENT - RAMPS SHALL BE ALIGNED SO THE TURNING SPACE IS FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING THEY SERVE. PROVIDE ONE RAMP FOR EACH STREET CROSSING DIRECTION. IN ALTERATIONS, WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT PROVIDING ONE CURB RAMP FOR EACH CROSSING DIRECTION, A SINGLE DIAGONAL CURB RAMP (ON THE APEX OF A CORNER) SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION, OR FULL-DEPTH RECONSTRUCTION.
- ⑧ RAMP LENGTH - PARALLEL RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE AND THE CHANGE OF ELEVATION FROM THE TURNING SPACE TO THE SIDEWALK. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.
- ⑨ GUTTER COUNTER SLOPE - 5.0% MAX.

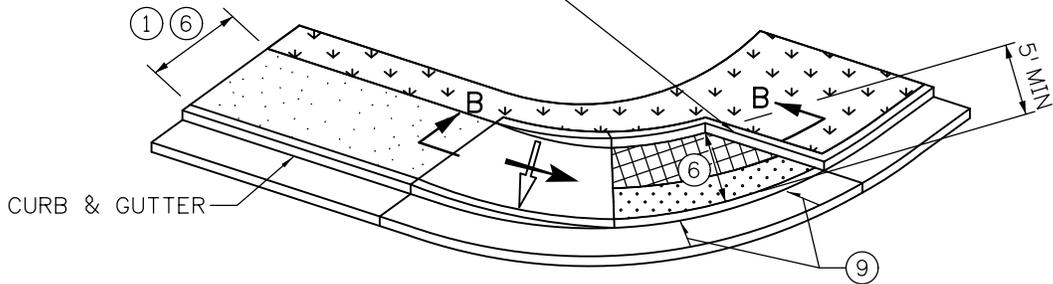


CURB RAMP DETAILS

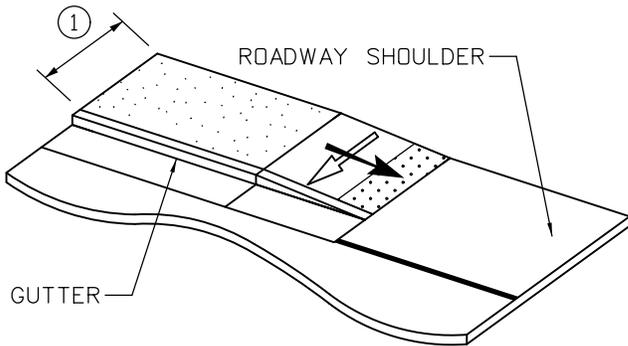
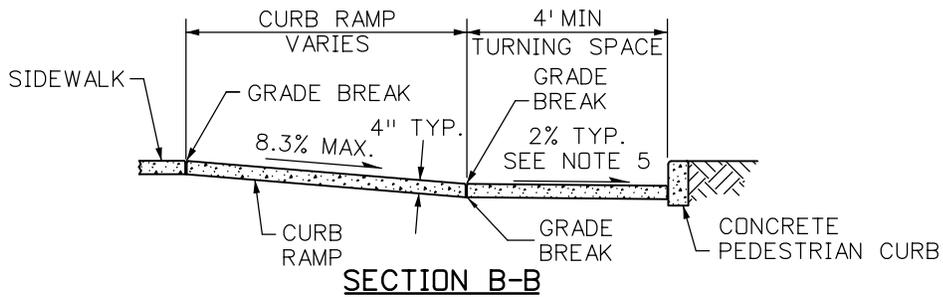
Parallel Ramp Notes

 <p>TOWN OF BRECKENRIDGE ENGINEERING</p>	<p>TOWN OF BRECKENRIDGE STANDARD DETAILS</p>	<p>CREATION DATE: <u>11/3/20</u></p> <p>LAST REVISION DATE: _____</p>	<p>Standard Drawing 5 Sheet 9 of 26</p>
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CURB FACE MAY BE ORIENTED PERPENDICULAR TO BACK OF CURB OR ORIENTED IN THE DIRECTION OF THE CROSSING AS SHOWN.



PARALLEL RAMP
(SIDEWALK ENDS)



SIDEWALK TO SHOULDER TRANSITION

-  SIDEWALK
-  TURNING SPACE (4) (5) (6)
-  DETECTABLE WARNING SURFACE (DWS)

CURB RAMP DETAILS

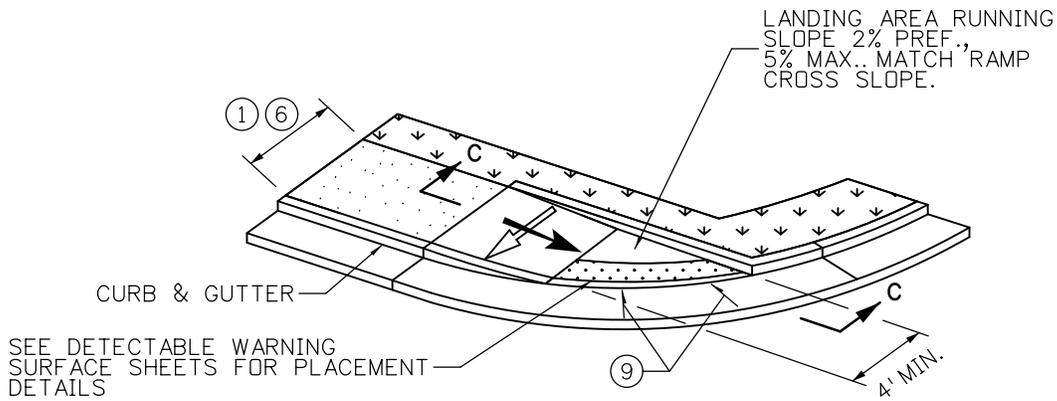
Type 2 Parallel Curb Ramp



**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

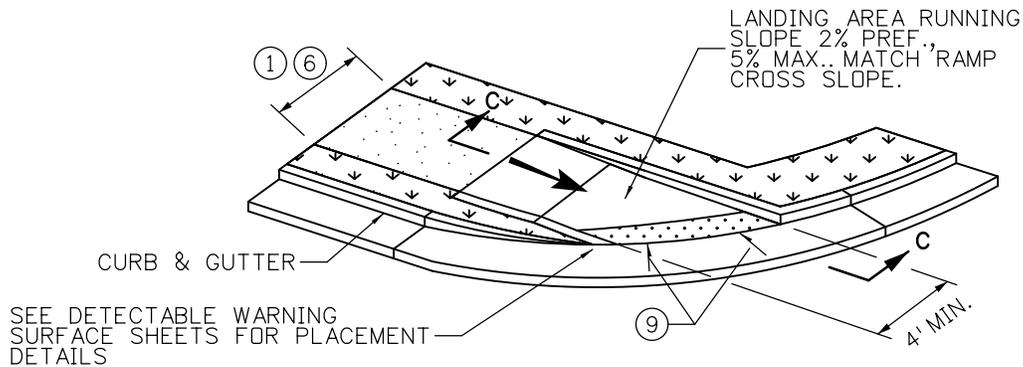
CREATION DATE: 11/3/20
LAST REVISION DATE: _____

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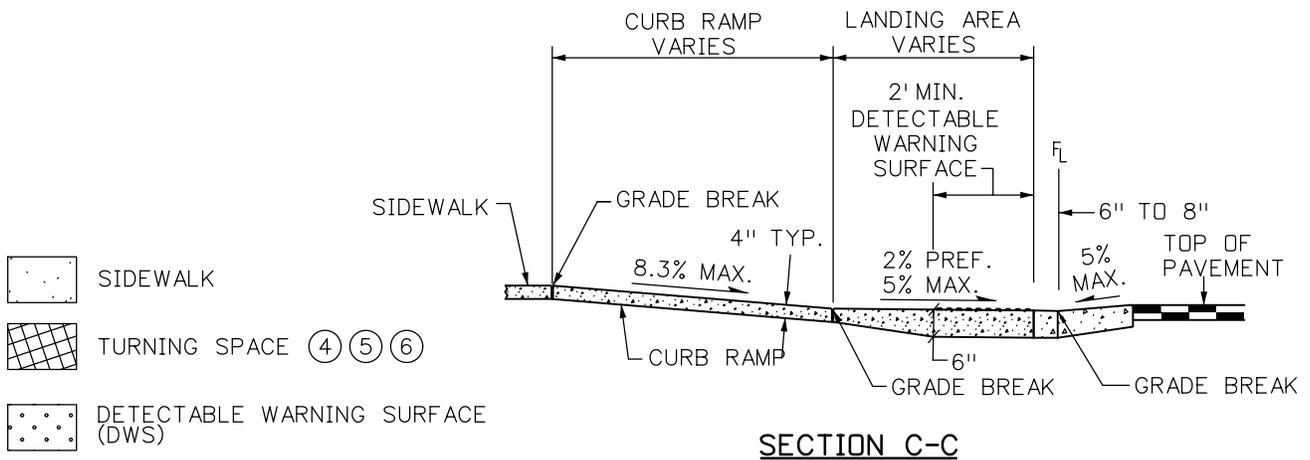


PARALLEL RAMP

(DIRECTIONAL - CROSSING IN ONE DIRECTION ONLY)

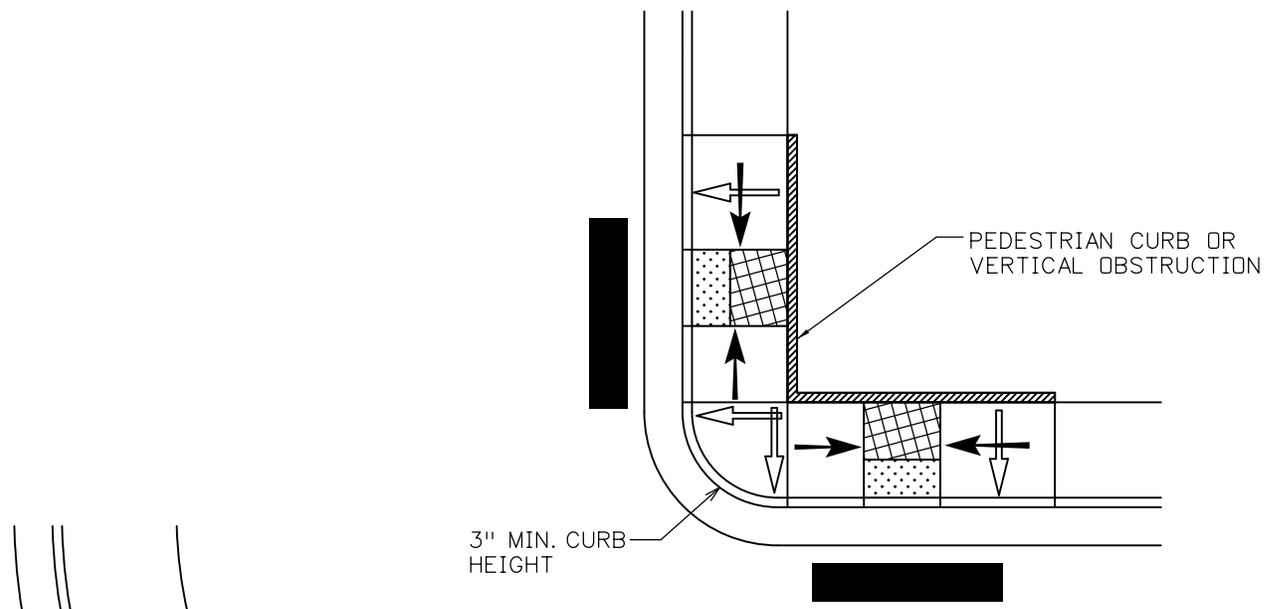


DIRECTIONAL RAMP

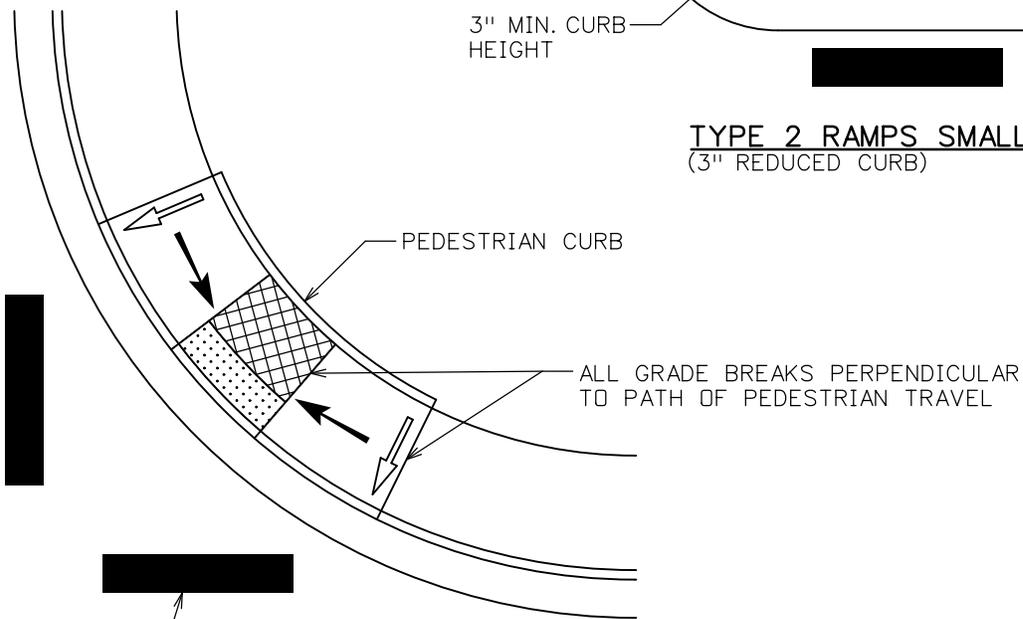


CURB RAMP DETAILS
Type 2 Parallel Curb Ramps

 TOWN OF BRECKENRIDGE ENGINEERING	TOWN OF BRECKENRIDGE STANDARD DETAILS	CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____	Standard Drawing 5 Sheet 11 of 26
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TYPE 2 RAMPS SMALL RADIUS
(3" REDUCED CURB)



TYPE 2 RAMP (DIAGONAL)

NOT ALLOWABLE IN NEW CONSTRUCTION/FULL-DEPTH RECONSTRUCTION
SEE NOTE GENERAL NOTE 4

CROSSWALK BAR (TYPICAL)

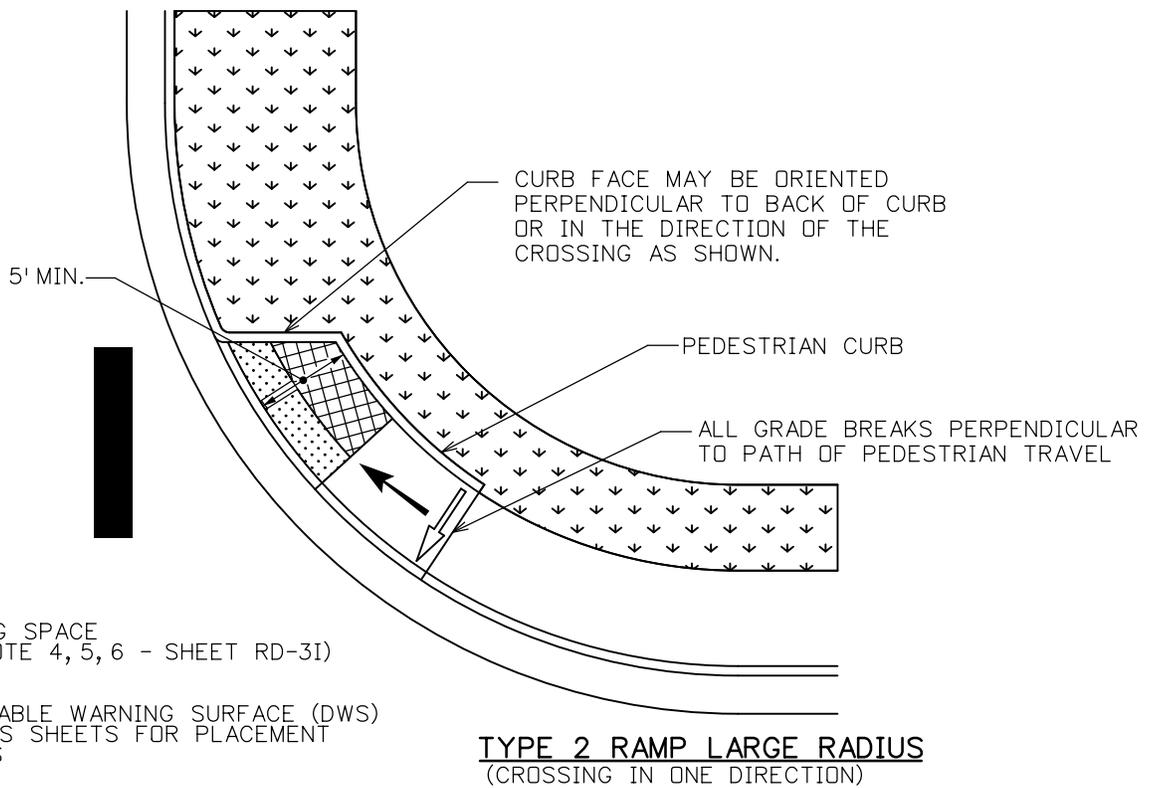
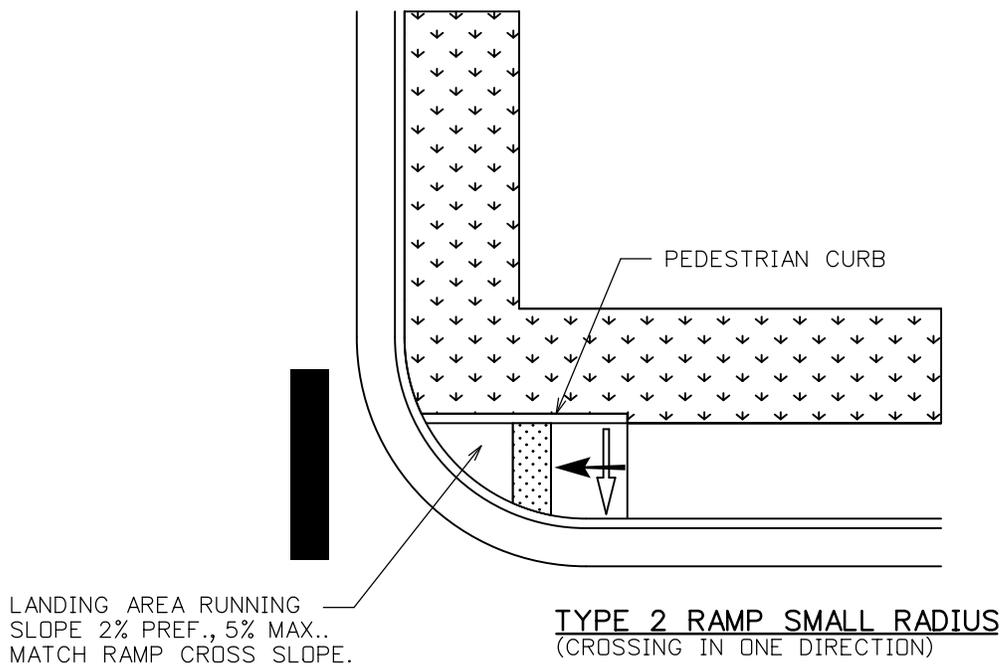
-  TURNING SPACE (SEE NOTE 4, 5, 6 - SHEET RD-3I)
-  DETECTABLE WARNING SURFACE (DWS) SEE DWS SHEETS FOR PLACEMENT DETAILS
-  RAMP RUNNING SLOPE
-  RAMP CROSS SLOPE

NOTE
PLACEMENTS SHOWN ARE TYPICAL CONFIGURATIONS ONLY AND NOT INDICATIVE OF ALL OPTIONS. OTHER RAMP CONFIGURATIONS MAY BE ACCEPTABLE AS LONG AS THEY CONFORM TO THE CRITERIA IN THESE STANDARDS, AND ARE APPROVED BY THE ENGINEER.

CURB RAMP DETAILS

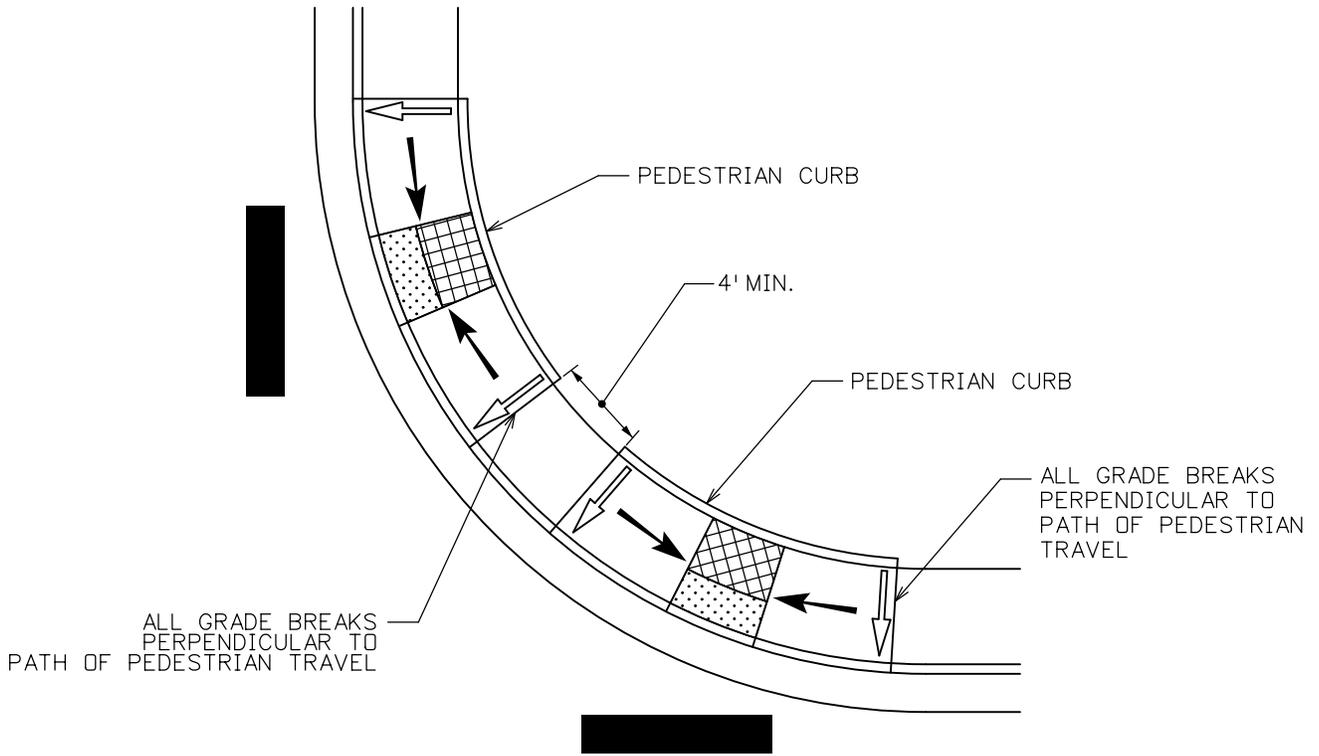
Type 2 Parallel Curb Ramp

 TOWN OF BRECKENRIDGE ENGINEERING	TOWN OF BRECKENRIDGE STANDARD DETAILS	CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____	Standard Drawing 5 Sheet 12 of 26
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CURB RAMP DETAILS

Type 2 Parallel Curb Ramp



TYPE 2 RAMPS LARGE RADIUS



TURNING SPACE
(SEE NOTE 4, 5, 6 - SHEET RD-31)



DETECTABLE WARNING SURFACE (DWS)
SEE DWS SHEETS FOR PLACEMENT
DETAILS



RAMP RUNNING SLOPE



RAMP CROSS SLOPE

CURB RAMP DETAILS

Type 2 Parallel Ramp



**TOWN OF BRECKENRIDGE
ENGINEERING**

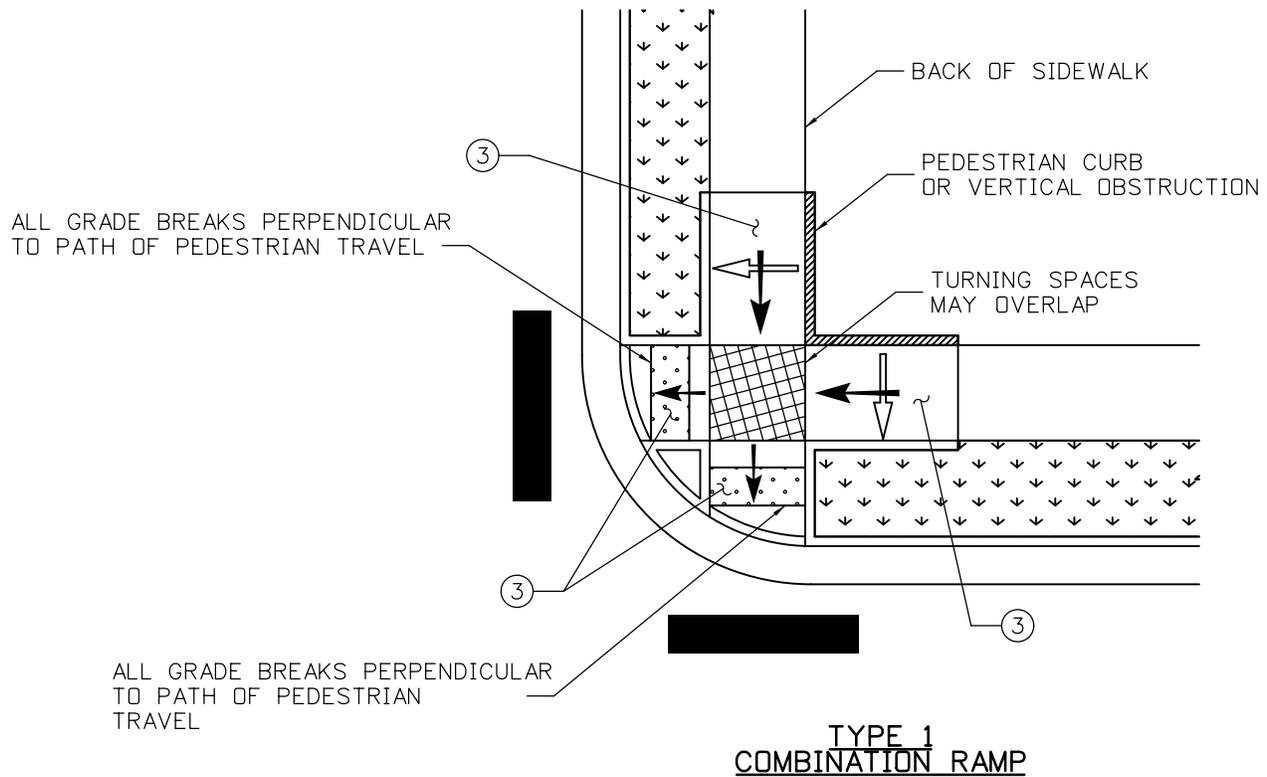
**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

CREATION DATE: 11/3/20
LAST REVISION DATE: _____

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COMBINATION CURB RAMP NOTES:

- ① THE CURB RAMP PLACEMENTS SHOWN ARE TYPICAL CONFIGURATIONS ONLY AND NOT INDICATIVE OF ALL OPTIONS. OTHER CURB RAMP CONFIGURATIONS MAY BE ACCEPTABLE AS LONG AS THEY CONFORM TO THE CRITERIA IN THESE STANDARDS, AND ARE APPROVED BY THE ENGINEER.
- ② RAMP AND TURNING SPACE CROSS SLOPE - 2.0% TYPICAL. AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF THE RAMP AND TURNING SPACE MAY EQUAL THE HIGHWAY GRADE. AT MIDBLOCK PEDESTRIAN STREET CROSSINGS THE RAMP AND TURNING SPACE CROSS SLOPE MAY EQUAL THE HIGHWAY GRADE.
- ③ WHERE IT IS ACCEPTABLE FOR A RAMP OR TURNING SPACE CROSS SLOPE TO EXCEED 2.0% AND MATCH THE HIGHWAY GRADE, THE RAMP ABOVE THE TURNING SPACE MAY BE WARPED TO TIE INTO THE ADJOINING SIDEWALK CROSS SLOPE. THE TRANSITION TO THE SIDEWALK CROSS SLOPE SHALL BE SPREAD EVENLY OVER THE LENGTH OF THE RAMP TO MINIMIZE WARPING. THE RATE OF CHANGE IN CROSS SLOPE MAY NOT EXCEED 3.0% PER LINEAR FOOT.



 TURNING SPACE ②③

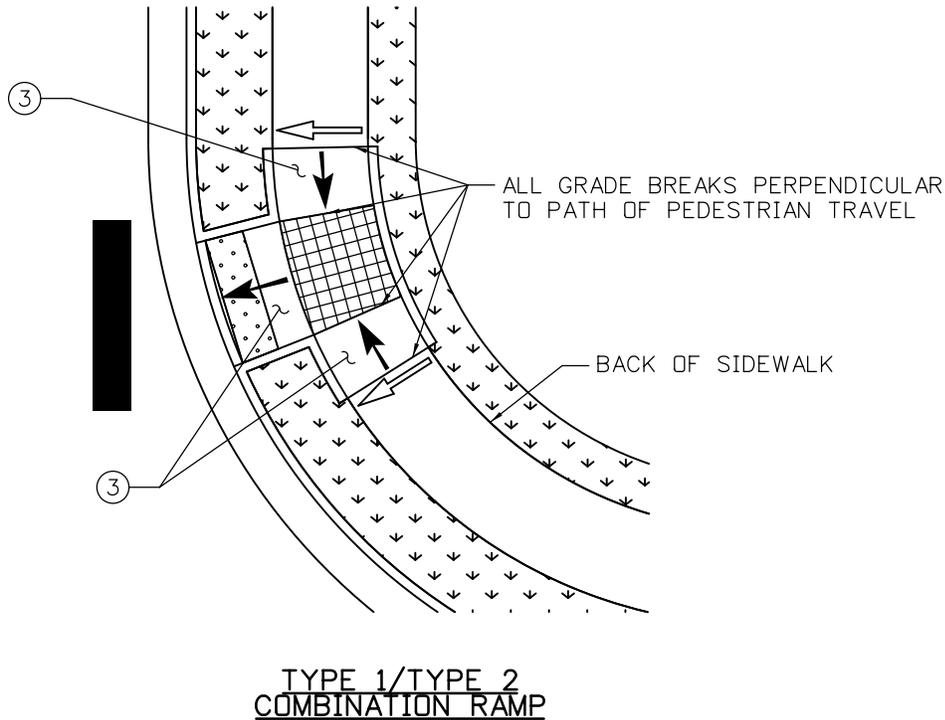
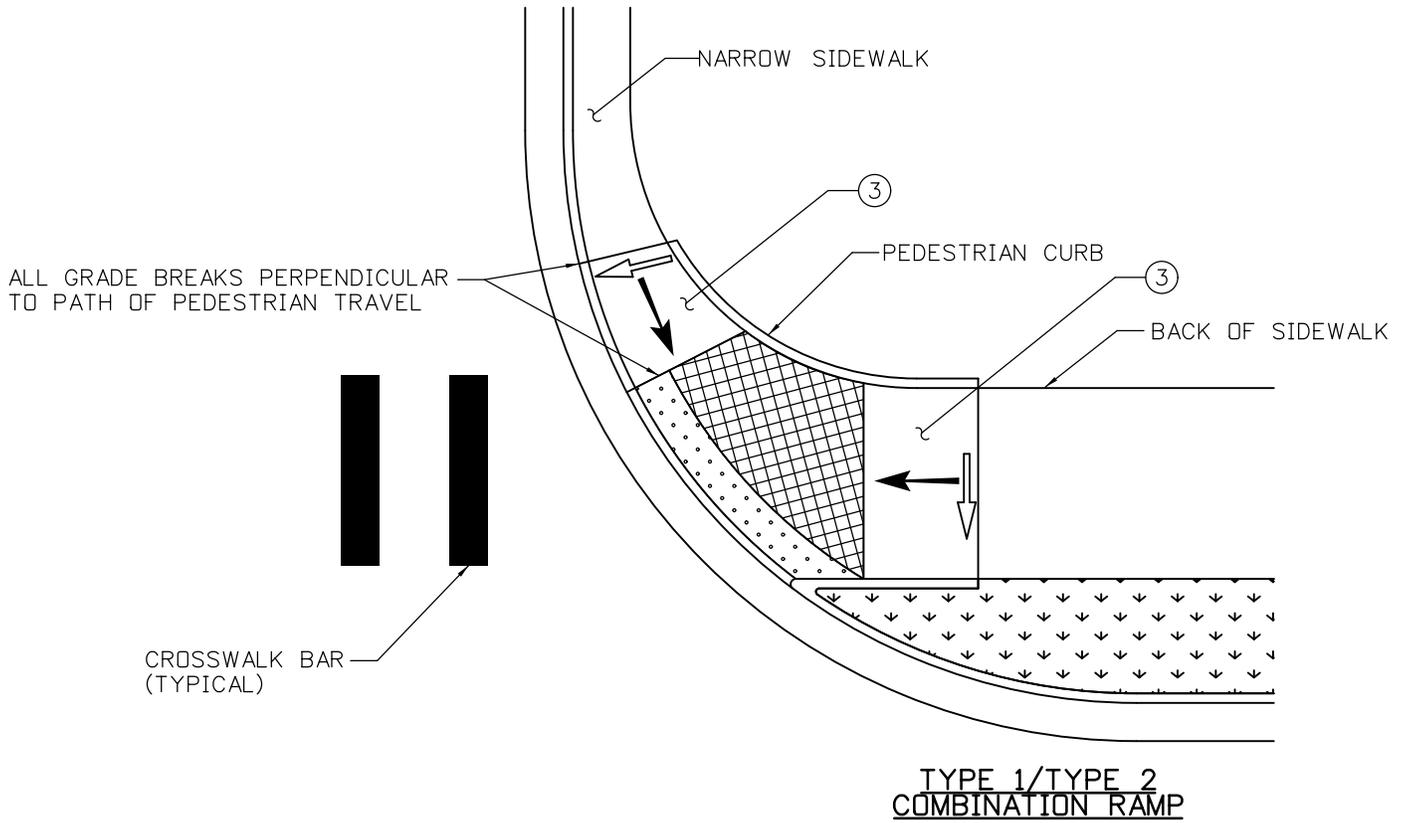
 DETECTABLE WARNING SURFACE (DWS)
SEE DWS SHEETS FOR PLACEMENT DETAILS

 RAMP RUNNING SLOPE

 RAMP CROSS SLOPE ②③

CURB RAMP DETAILS
Combination Curb Ramp Notes

 TOWN OF BRECKENRIDGE ENGINEERING	TOWN OF BRECKENRIDGE STANDARD DETAILS	CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____	Standard Drawing 26 Sheet 15 of 26
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CURB RAMP DETAILS

Type 1/Type 2 Combination Ramp



**TOWN OF BRECKENRIDGE
ENGINEERING**

**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

CREATION DATE: 11/3/20
 LAST REVISION DATE: _____

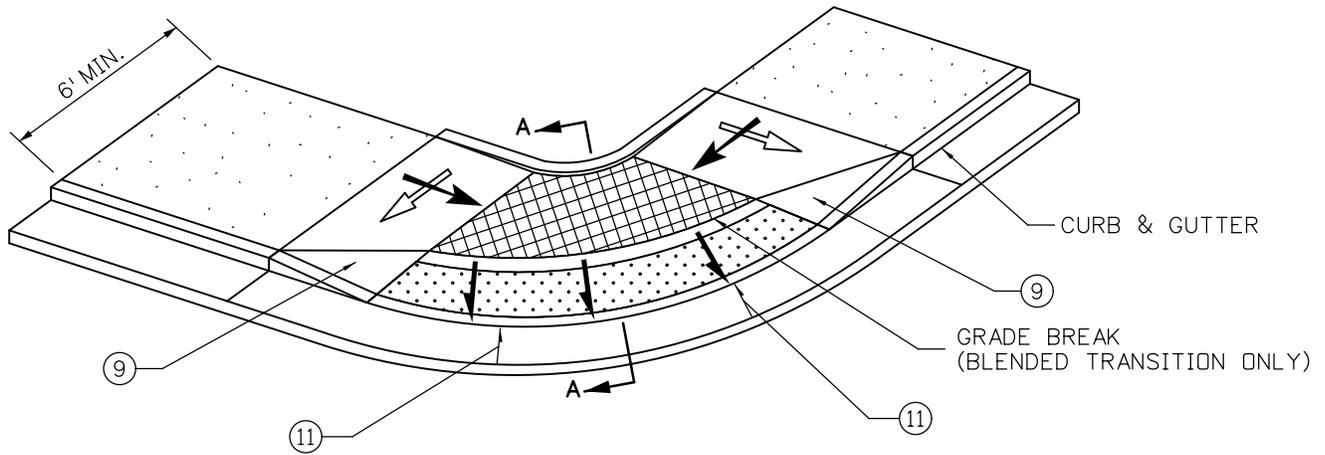
Standard Drawing 5
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BLENDED TRANSITION & DEPRESSED CORNER NOTES

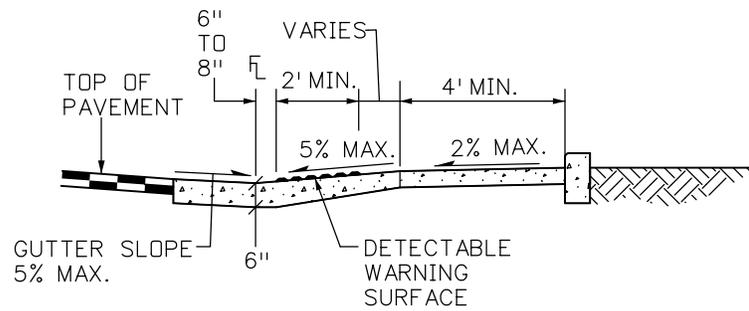
- ① PERPENDICULAR AND PARALLEL RAMP CONFIGURATIONS ARE PREFERRED. BLENDED TRANSITIONS AND DEPRESSED CORNERS SHOULD ONLY BE USED WHERE SITE CONDITIONS MAKE THEM A MORE APPROPRIATE OPTION, OR WHERE PERPENDICULAR OR PARALLEL RAMPS CANNOT BE INSTALLED DUE TO A PHYSICAL SITE CONSTRAINT.
- ② RAMP WIDTH - PROVIDE 5 FT. OR GREATER WHERE POSSIBLE. IF SITE CONSTRAINTS DO NOT PERMIT, PROVIDE 4FT. WIDTH MINIMUM. RAMPS SERVICING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.
- ← ③ RAMP RUNNING SLOPE - 8.3% MAX.
- ← ④ BLENDED TRANSITION RUNNING SLOPE - 5.0% MAX.
- ← ⑤ RAMP AND TURNING SPACE CROSS SLOPE - 2.0% TYPICAL. AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF RAMPS AND TURNING SPACES MAY QUAL THE HIGHWAY GRADE.
- ⑥ TURNING SPACE DIMENSIONS - PROVIDE A 4 FT. X 4 FT. MIN. TURNING SPACE AT THE BOTTOM OF RAMP RUNS. THE TURNING SPACE MAY CONTAIN THE DETECTABLE WARNING SURFACES.
- ⑦ RAMP ALIGNMENT - TURNING SPACE SHALL BE ALIGNED TO BE FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING(S) THEY SERVE.
- ⑧ RAMP LENGTH - RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE AND THE CHANGE OF ELEVATION FROM THE TURNING SPACE TO THE SIDEWALK. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.
- ⑨ RAMP FLARES - WHERE A RAMP EDGE ABUTS A WALKABLE SURFACE, A FLARED SIDE MUST BE PROVIDED. RAMP FLARE SLOPES SHALL NOT EXCEED 10.0%.
- ⑩ VERTICAL CURB RETURNS - VERTICAL CURB RETURNS MAY BE USED ONLY WHERE A RAMP ABUTS A NON-WALKABLE SURFACE, OR WHERE A RAMP IS PROTECTED FROM PEDESTRIAN CROSS TRAFFIC (FOR EXAMPLE BY A SIGNAL CABINET OR UTILITY POLE WHICH BLOCKS PASSAGE).
- ⑪ GUTTER COUNTER SLOPE - 5.0% MAX.
- ⑫ DWS PLACEMENT - DWS SHALL BE PLACED AROUND THE RADIUS AND LOCATED AT THE BACK OF CURB ON BLENDED TRANSITION AND DEPRESSED CORNER RAMPS.

CURB RAMP DETAILS
Blended Transition & Depressed Corner Notes

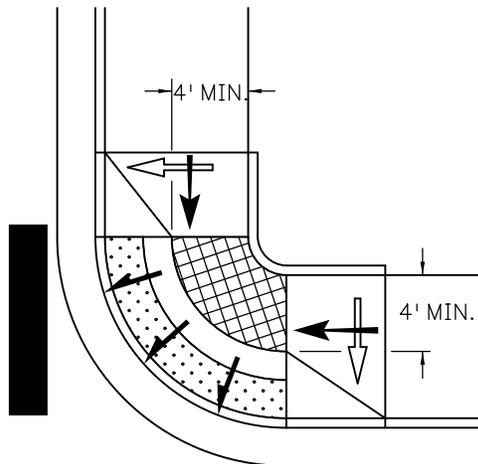
 <p>TOWN OF BRECKENRIDGE ENGINEERING</p>	<p>TOWN OF BRECKENRIDGE STANDARD DETAILS</p>	<p>CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____</p>	<p>Standard Drawing 5 Sheet 17 of 26</p>
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BLENDED TRANSITION



SECTION A-A



-  SIDEWALK
-  TURNING SPACE ④ ⑤ ⑥
-  DETECTABLE WARNING SURFACE (DWS)

BLENDED TRANSITION

CURB RAMP DETAILS

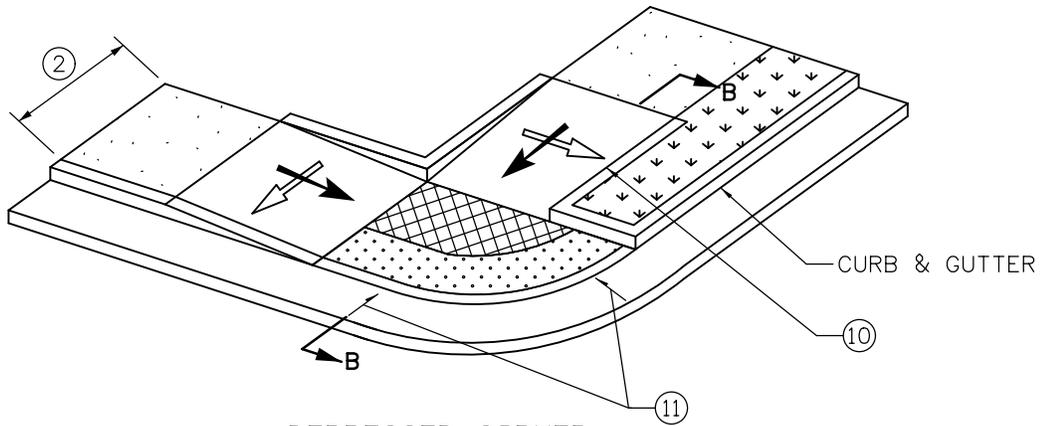
Type 5 Blended Transition Curb Ramp



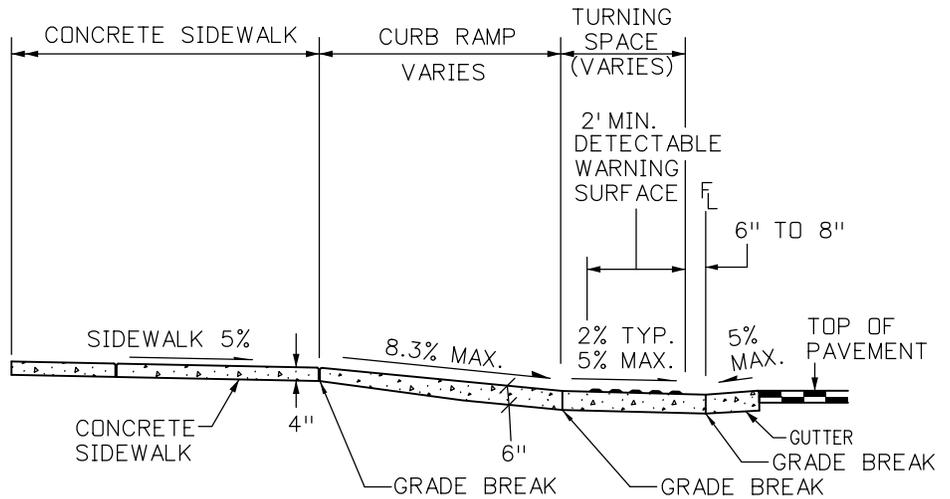
**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

CREATION DATE: 11/3/20
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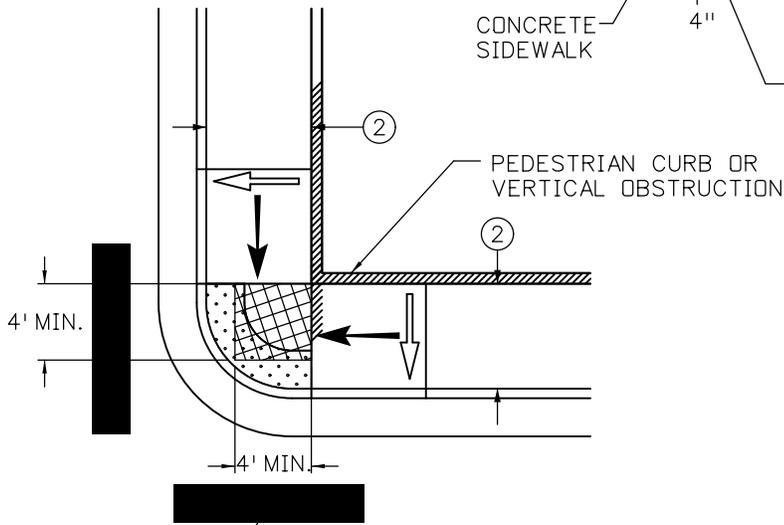
Standard Drawing 5
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DEPRESSED CORNER



SECTION B-B



CROSSWALK BAR (TYPICAL)

DEPRESSED CORNER

-  SIDEWALK
-  TURNING SPACE ④ ⑤ ⑥
-  DETECTABLE WARNING SURFACE (DWS)

CURB RAMP DETAILS

Type 5 Depressed Corner Curb Ramp



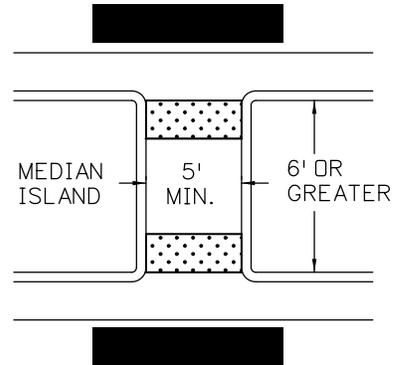
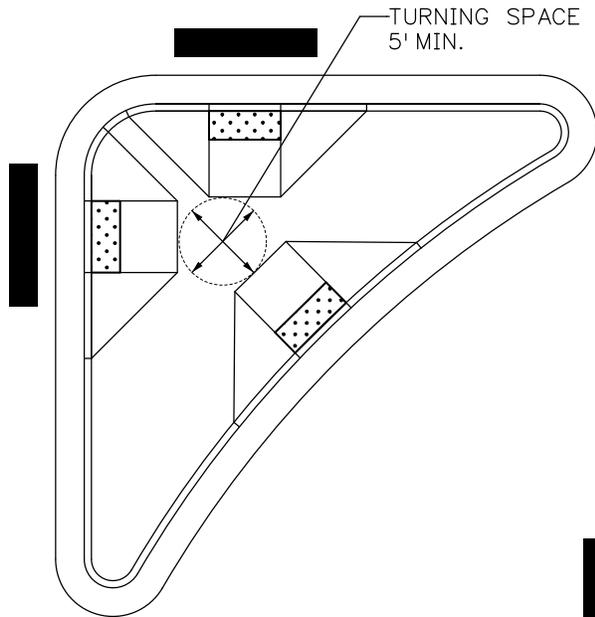
**TOWN OF BRECKENRIDGE
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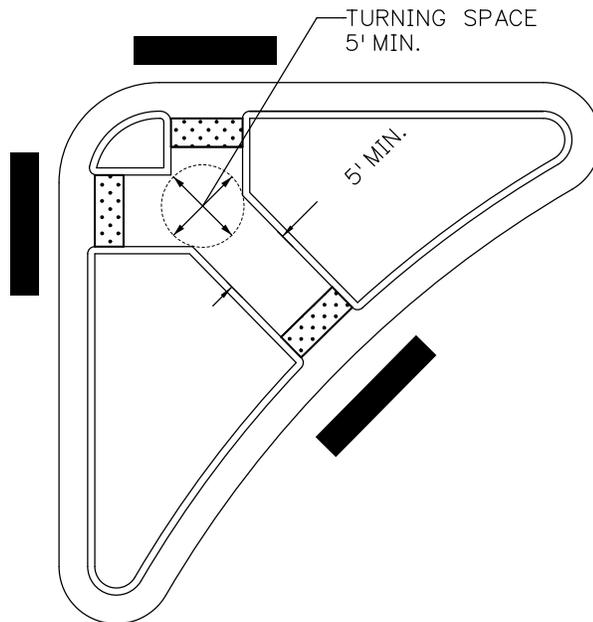
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NOTES:

- ① DETECTABLE WARNING SURFACES SHALL BE PLACED IN ALIGNMENT WITH THE BACK OF CURB.
- ② FLARED SIDES ARE PREFERENTIAL ON RAISED INTERSECTION ISLANDS AND SHOULD BE PROVIDED ON ISLANDS WHICH SERVE SHARED USE PATHS, OR AT LOCATIONS WHERE BICYCLE USE IS EXPECTED.
- ③ FOR CUT-THROUGH MEDIAN ISLANDS, DETECTABLE WARNING SURFACES SHALL BE PLACED IN ALIGNMENT WITH THE BACK OF CURB AND BE SEPARATED BY A MINIMUM 2 FOOT SPACE WITHOUT DWS. IF A 2 FOOT SEPARATION BETWEEN DETECTABLE WARNING SURFACES CANNOT BE PROVIDED NO DETECTABLE WARNING SURFACE SHALL BE INSTALLED.
- ④ CURB RAMP AND CUT-THROUGH WIDTHS SHOULD BE THE SAME WIDTH AS ANY SIDEWALK OR SHARED USE PATH WHICH THEY SERVE.



MEDIAN ISLAND



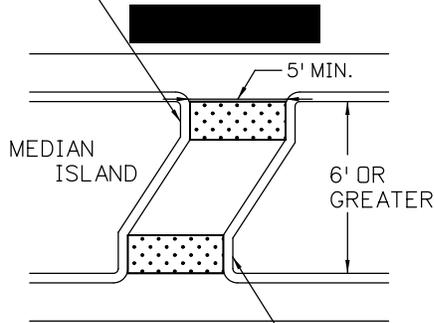
INTERSECTION ISLANDS

 TURNING SPACE

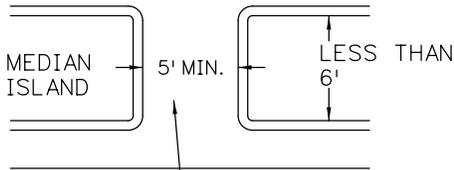
CURB RAMP DETAILS
Medians/Islands

 TOWN OF BRECKENRIDGE ENGINEERING	TOWN OF BRECKENRIDGE STANDARD DETAILS	CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____	Standard Drawing 5 Sheet 20 of 26
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SQUARE CURB TO ORIENT
PEDESTRIANS IN THE
DIRECTION OF THE CROSSING

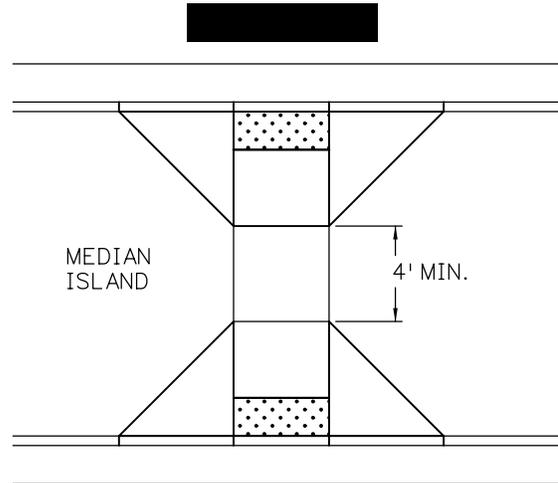
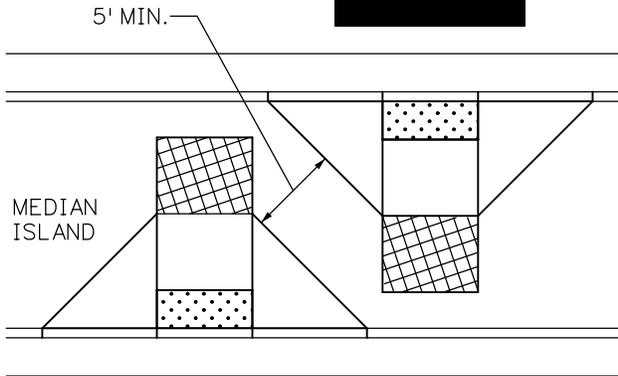


SQUARE CURB TO ORIENT
PEDESTRIANS IN THE
DIRECTION OF THE CROSSING



ELIMINATE DWS IF MEDIAN
REFUGE IS LESS THAN
6' IN LENGTH IN THE
DIRECTION OF PEDESTRIAN
TRAVEL

CROSSWALK BAR
(TYPICAL)



MEDIAN ISLANDS CONT.

 TURNING SPACE

CURB RAMP DETAILS

Medians/Islands



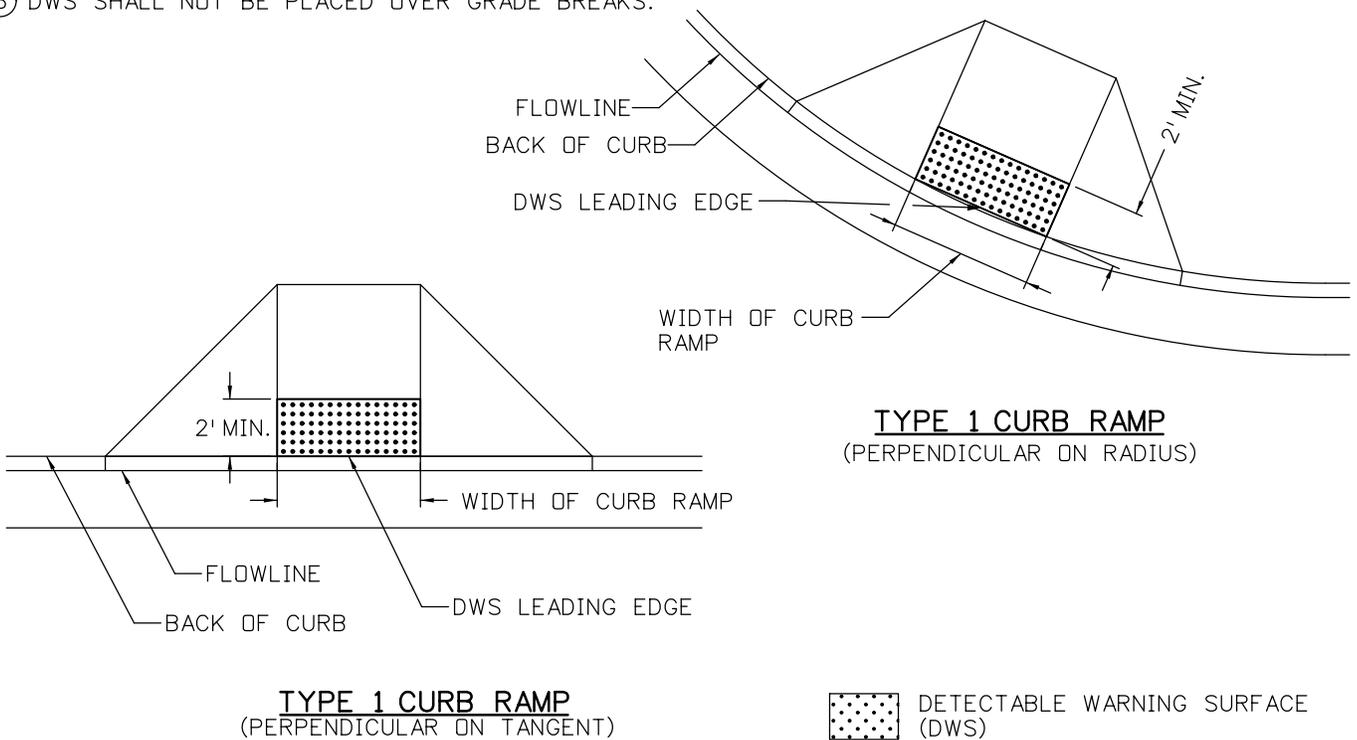
**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

CREATION DATE: 11/3/20
LAST REVISION DATE: _____

Standard Drawing 5
Sheet 21 of 26

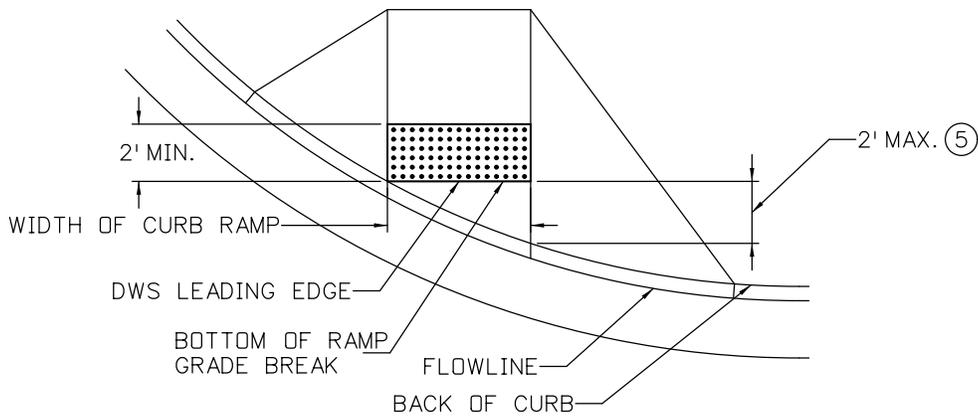
DETECTABLE WARNING SURFACE NOTES:

- ① DETECTABLE WARNING SURFACES (DWS) SHALL BE INSTALLED AT SIDEWALK, OR SHARED USE PATH, TO STREET TRANSITIONS, AND SHALL CONSIST OF TRUNCATED DOME SURFACES. ANY TRUNCATED DOME PANELS WHICH ARE USED MUST BE ON THE CDOT APPROVED PRODUCTS LIST (APL) AND SHALL BE CAST IRON.
- ② THE DETECTABLE WARNING SURFACE SHALL SPAN THE FULL WIDTH OF THE CURB RAMP, SHARED USE PATH, OR OTHER ROADWAY ENTRANCE AS APPLICABLE. A GAP OF 2 INCHES FROM THE EDGE OF THE DETECTABLE WARNING SURFACE TO THE EDGE OF THE CURB RAMP OR SHARED USE PATH IS PERMITTED.
- ③ WHEN DETECTABLE WARNING SURFACES ARE PLACED ON A SLOPE GREATER THAN 5.0%, TRUNCATED DOMES SHOULD BE ALIGNED IN THE DIRECTION OF THE RAMP RUN; OTHERWISE DOMES ARE NOT REQUIRED TO BE ALIGNED. TRUNCATED DOMES SHALL BE IN A SQUARE GRID OR RADIAL PATTERN. WHEN PLACED RADIALLY, PLACE ADJACENT DWS PLATES EDGE TO EDGE. EDGES OF CUT PLATES SHALL BE STRAIGHT.
- ④ LOCATE ONE CORNER OF THE DWS LEADING EDGE AT THE BACK OF CURB. NO POINT ON THE LEADING EDGE OF THE DWS MAY BE MORE THAN 5 FT. FROM THE BACK OF CURB. WHEN ANY POINT OF THE LEADING EDGE OF THE DWS WILL BE GREATER THAN 5 FT. FROM THE BACK OF CURB, PLACE THE DWS RADIALLY AT THE BACK OF CURB.
- ⑤ WHERE PERPENDICULAR DIRECTIONAL RAMPS ABUT A WALKABLE SURFACE, THE LEADING EDGE OF THE DWS SHALL NOT BE PLACED FURTHER THAN 2 FEET FROM THE BACK OF CURB. IF THE RADIUS OF A CORNER MAKES THIS IMPOSSIBLE, ORIENT THE CURB RAMP PERPENDICULAR TO THE CURB AND GUTTER.
- ⑥ IF THE DETECTABLE WARNING SURFACE IS CUT, GRIND OFF THE REMAINING PORTION OF ANY CUT TRUNCATED DOMES. SEAL ALL CUT PANEL EDGES WITH AN APL SEALANT TO PREVENT WATER DAMAGE.
- ⑦ TRUNCATED DOME PLATES SHALL BE EMBEDDED IN THE CONCRETE CURB RAMP WHILE THE CONCRETE IS PLASTIC.
- ⑧ DWS SHALL NOT BE PLACED OVER GRADE BREAKS.

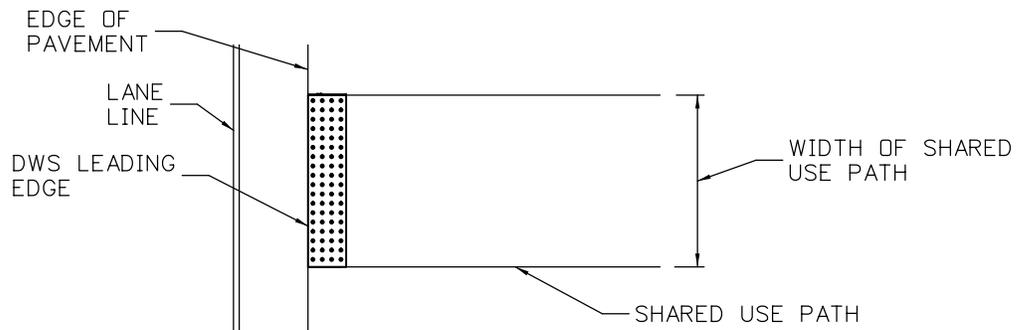


CURB RAMP DETAILS
Detectable Warning Surface Notes

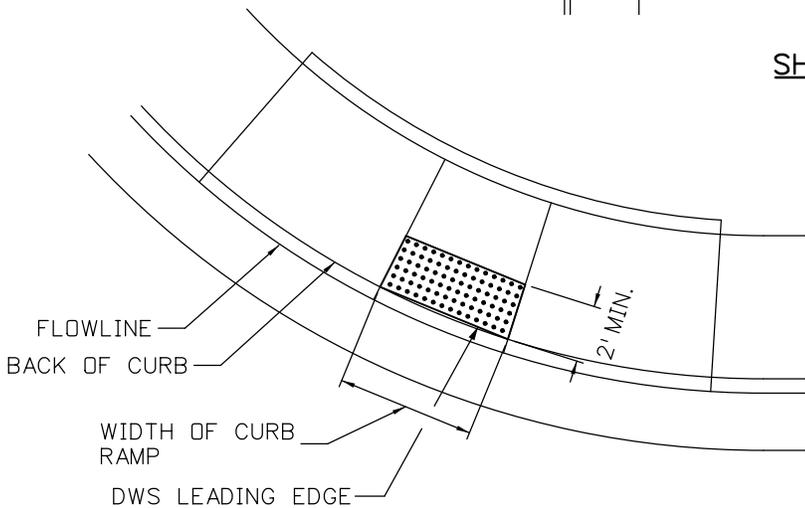
 TOWN OF BRECKENRIDGE ENGINEERING	TOWN OF BRECKENRIDGE STANDARD DETAILS	CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____	Standard Drawing 5 Sheet 22 of 26
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TYPE 1 CURB RAMP
(DIRECTIONAL ON RADIUS)



SHARED USE PATH CROSSING



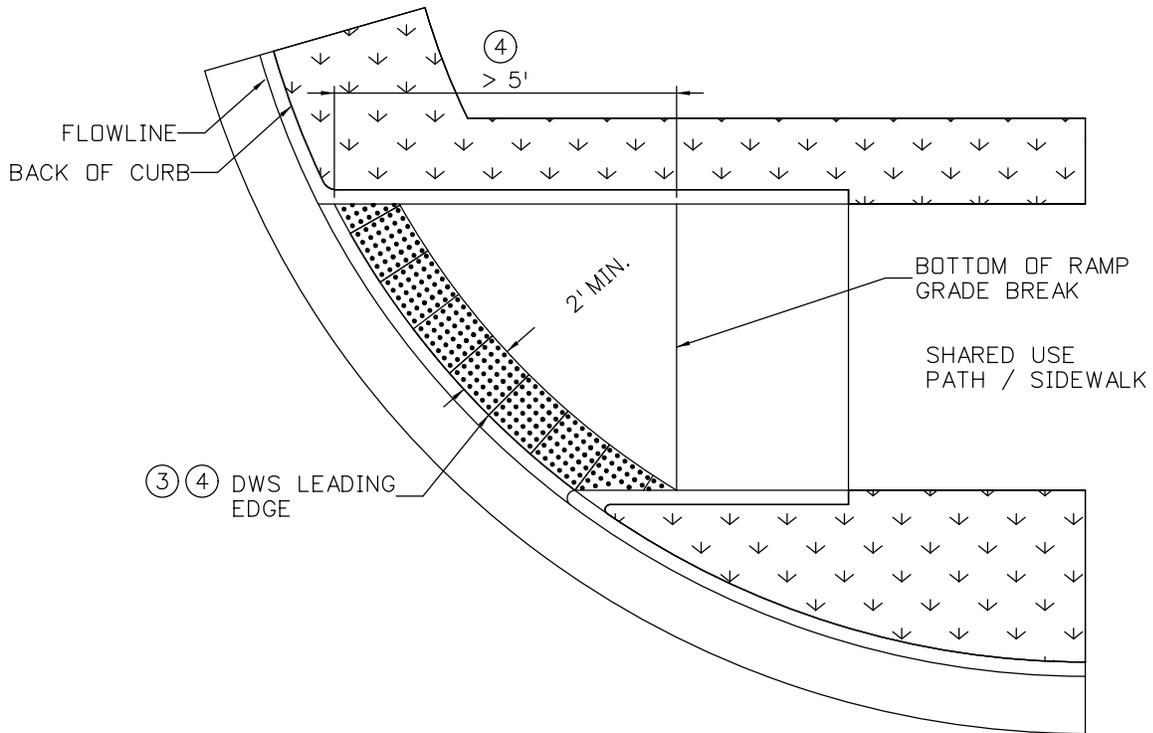
TYPE 2 CURB RAMP

 DETECTABLE WARNING SURFACE (DWS)

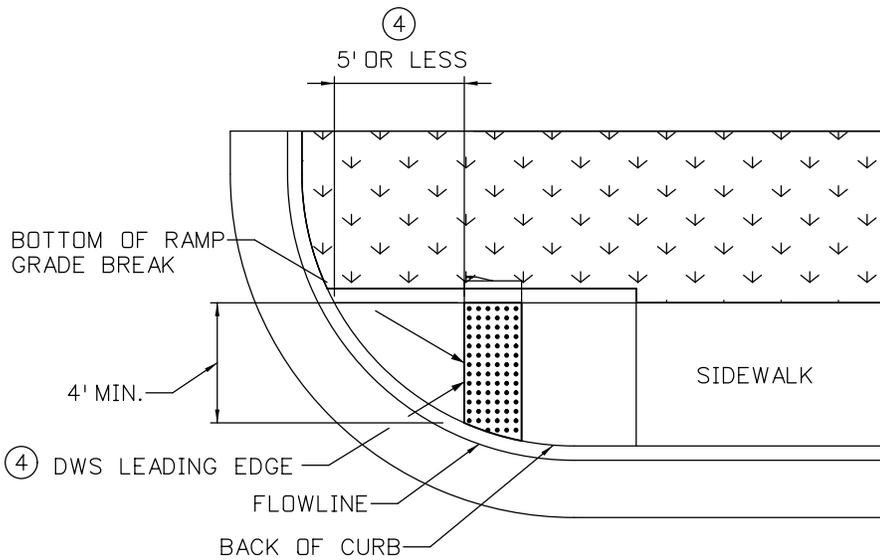
CURB RAMP DETAILS

Detectable Warning Surface Placement

 TOWN OF BRECKENRIDGE ENGINEERING	TOWN OF BRECKENRIDGE STANDARD DETAILS	CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____	Standard Drawing 5 Sheet 23 of 26
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TYPE 2 - DIRECTIONAL RAMP



TYPE 2 - DIRECTIONAL RAMP

 DETECTABLE WARNING SURFACE (DWS)

CURB RAMP DETAILS

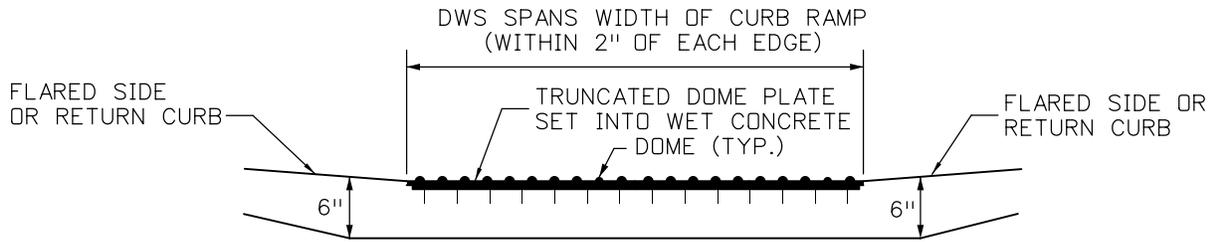
Detectable Warning Surface Placement



TOWN OF BRECKENRIDGE
STANDARD DETAILS

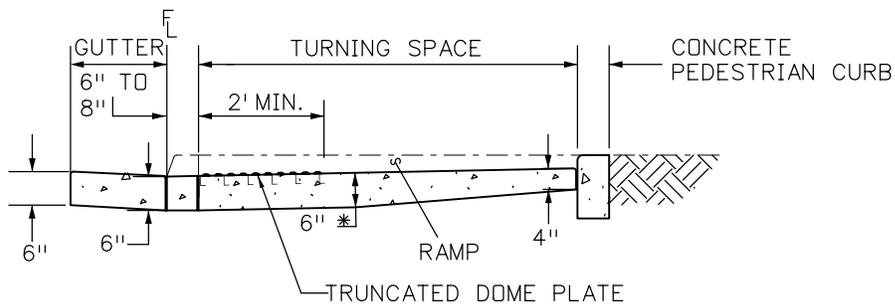
CREATION DATE: 11/3/20
LAST REVISION DATE: _____

Standard Drawing 5
Sheet 24 of 26



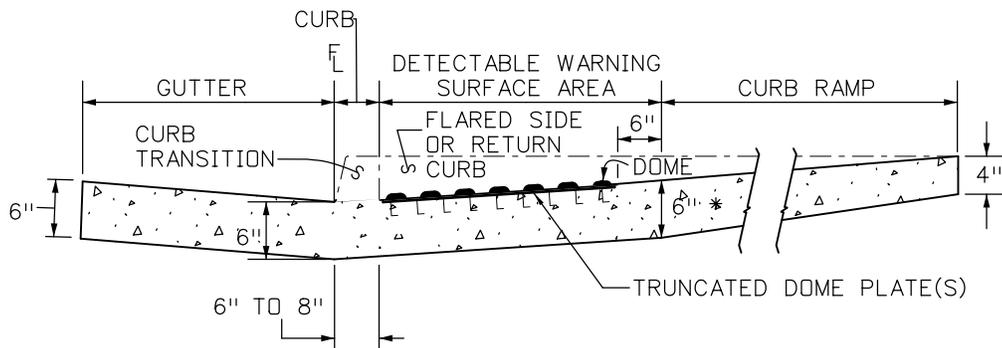
**SECTION VIEW OF DETECTABLE
WARNING SURFACE PLATE**

(LOOKING AT PERPENDICULAR RAMP
RUN FROM STREET)



**SECTION VIEW FOR PARALLEL
CURB RAMP TYPES**

(LOOKING PERPENDICULAR TO TURNING SPACE)



**SECTION VIEW FOR PERPENDICULAR
CURB RAMP TYPES**

(LOOKING PERPENDICULAR TO RAMP RUN)

CURB RAMP DETAILS
Detectable Warning Surface Details



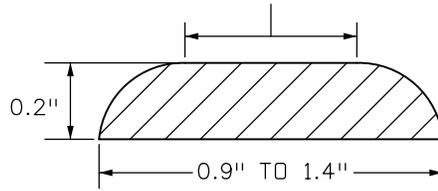
**TOWN OF BRECKENRIDGE
ENGINEERING**

**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

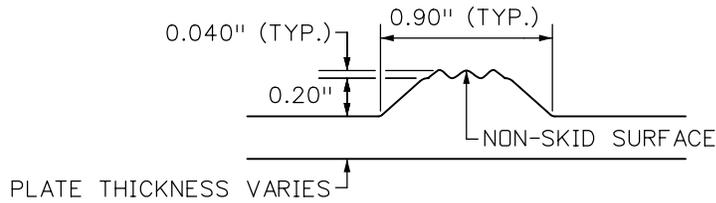
CREATION DATE: 11/3/20
LAST REVISION DATE: _____

Standard Drawing 5
Sheet 25 of 26

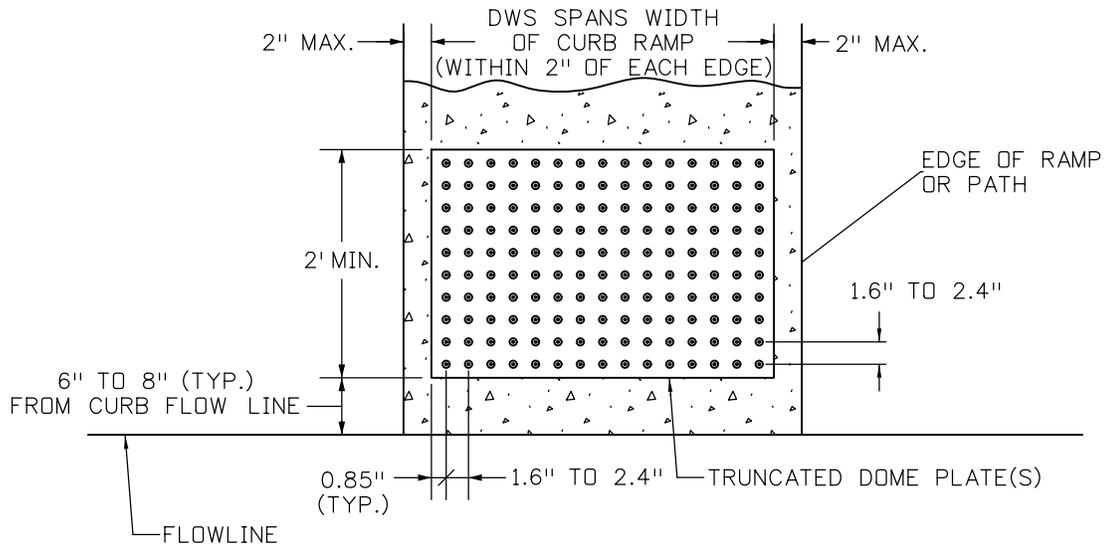
THE TOP DIAMETER OF THE TRUNCATED DOMES SHALL BE 50% TO 65% OF THE BASE DIAMETER



ELEVATION VIEW OF SINGLE TRUNCATED DOME



ELEVATION VIEW OF TRUNCATED DOME FOR DETECTABLE WARNING PLATE



PLAN VIEW OF DETECTABLE WARNING SURFACE PLATE

CURB RAMP DETAILS

Detectable Warning Surface Details

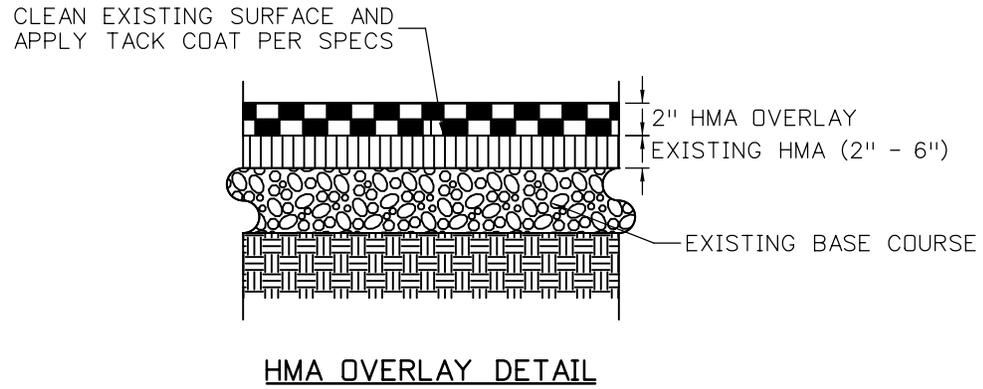
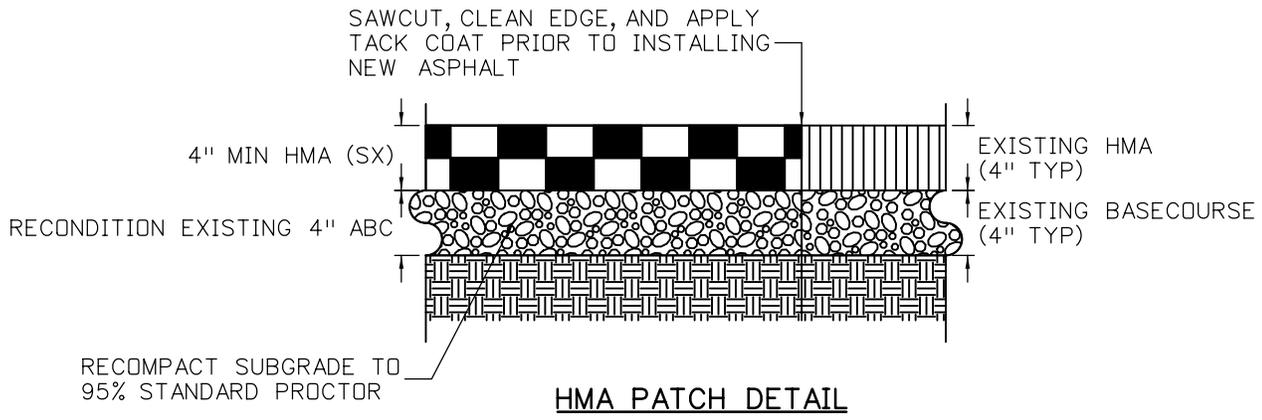


**TOWN OF BRECKENRIDGE
ENGINEERING**

**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

CREATION DATE: 11/3/20
LAST REVISION DATE: _____

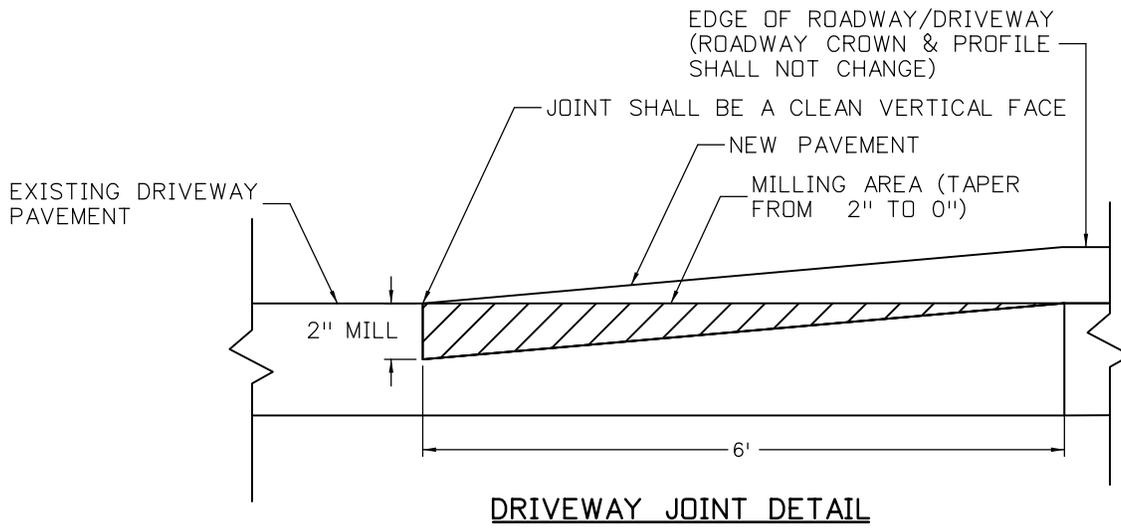
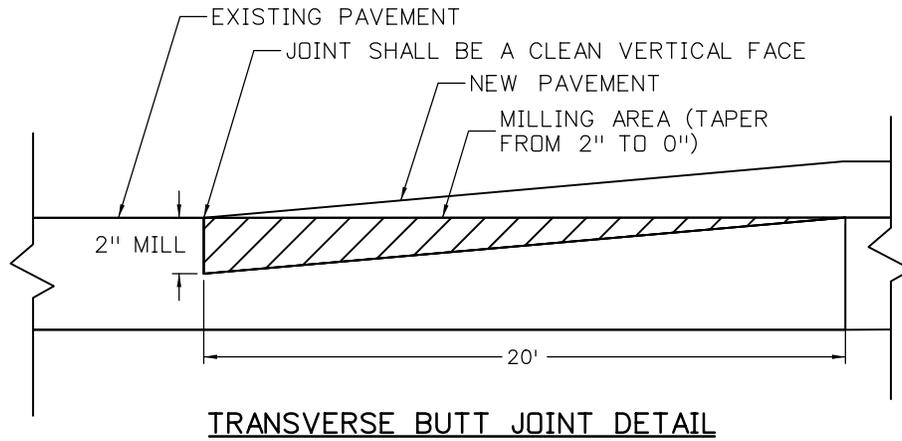
Standard Drawing 5
Sheet 26 of 26



ASPHALT DETAILS

Patching and Overlay Details

 TOWN OF BRECKENRIDGE ENGINEERING	TOWN OF BRECKENRIDGE STANDARD DETAILS	CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____	Standard Drawing 6 Sheet 1 of 2
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ASPHALT DETAILS

Joint Details



**TOWN OF BRECKENRIDGE
ENGINEERING**

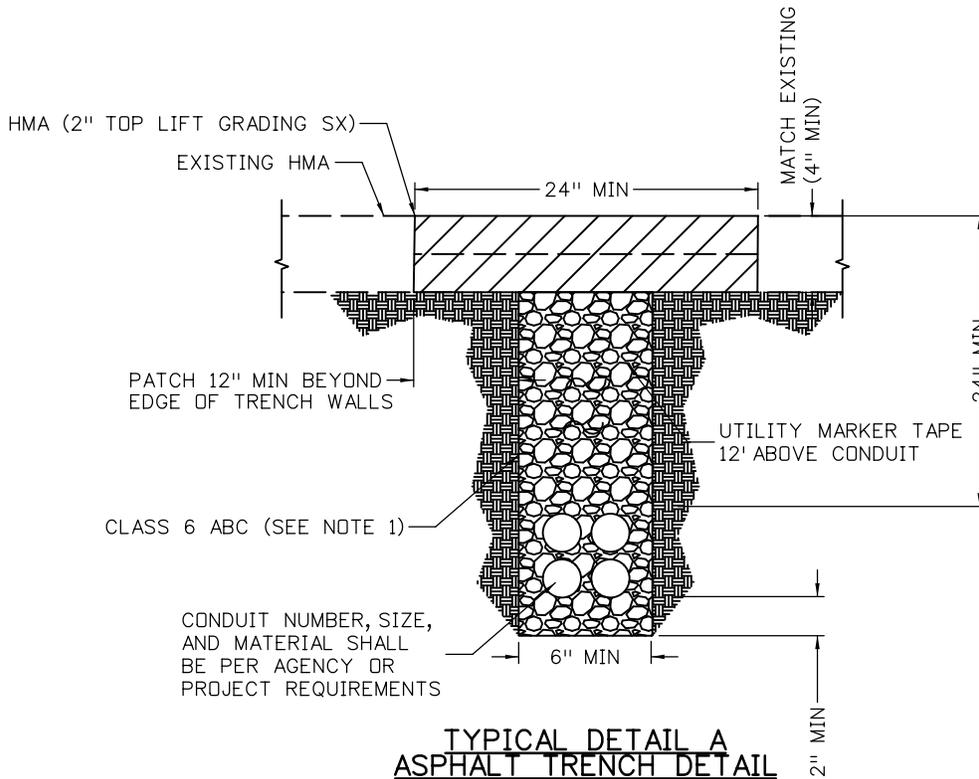
**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

CREATION DATE: 11/3/20
 LAST REVISION DATE: _____

Standard Drawing 6
 Sheet 2 of 2

NOTES:

1. CLASS 6 AGGREGATE BASE COURSE OR OTHER APPROVED GRANULAR MATERIAL SHALL BE USED FOR CONDUIT BEDDING (2" MIN), 6" MIN ABOVE CONDUIT, AND 4" MIN BELOW PAVEMENT. APPROVED EXCAVIATED MATERIAL MAY BE USED AS BACKFILL IN BETWEEN THESE AREAS IF APPROVED BY TOWN ENGINEER. BACKFILL WITH LARGE ROCK SHALL NOT BE REUSED.
2. EXCAVATED BACKFILL SHALL ONLY BE USED WITH APPROVAL OF TOWN ENGINEER.
3. TRENCH BACKFILL TO BE COMPACTED IN 6" LIFTS TO 95% MINIMUM COMPACTION.
4. PAVEMENT PATCHES SHALL BE 24" MINIMUM. PATCHES SHALL BE PARALLEL OR PERPENDICULAR TO ROADWAY. TRENCHES SHALL BE LOCATED TO AVOID WHEEL PATHS WITHIN LANE.
5. PAVEMENT CUTS SHALL BE CLEAN VERTICAL EDGES FROM SAWCUTTING OR ROTOMILLING.
6. MARKING TAPE SHALL BE INSTALLED 12" ABOVE TOP OF HIGHEST UTILITY IN TRENCH.
7. CONDUITS SHALL BE INSTALLED A MINIMUM OF 2' HORIZONTALLY FROM EDGE OF ALL WATER LINES.
8. CONDUITS SHALL BE INSTALLED WITH 2" MINIMUM HORIZONTAL SEPARATION.
9. PAVEMENT PATCH THICKNESS TO MATCH EXISTING OR MINIMUM DEPTH IN STANDARDS - WHICHEVER IS GREATER.
10. ADD ADDITIONAL NOTES AS NEEDED.



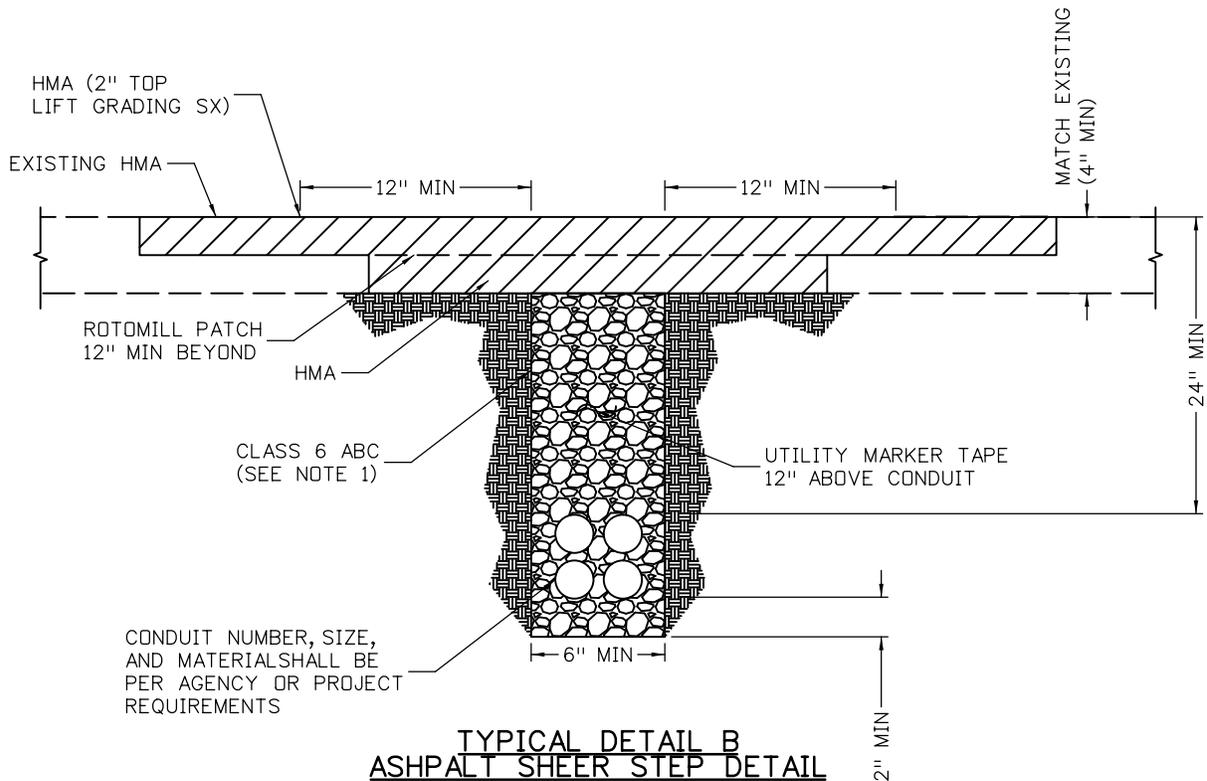
UTILITY TRENCH DETAILS



**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

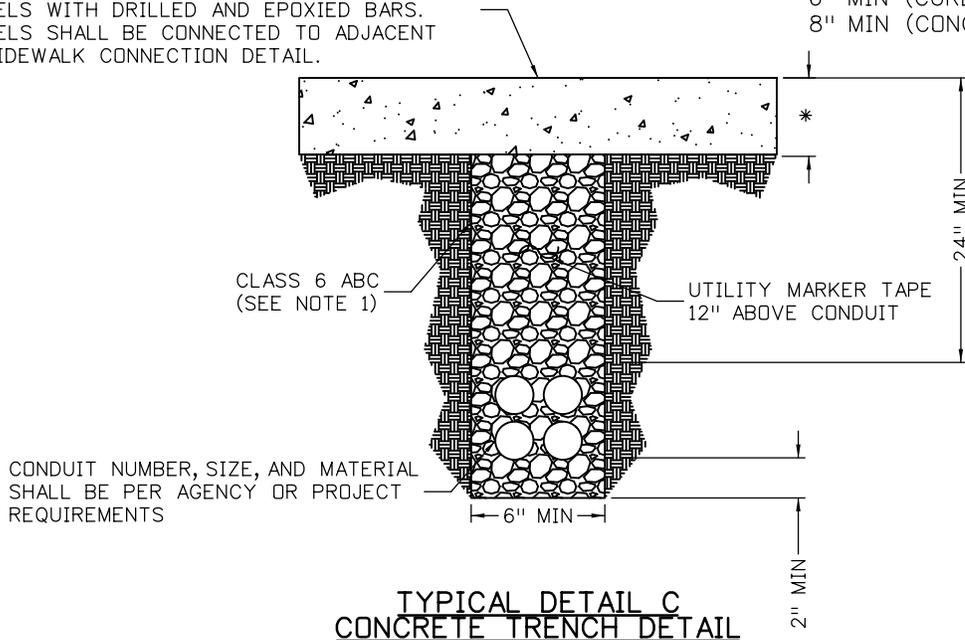
CREATION DATE: 11/3/20
LAST REVISION DATE: _____

Standard Drawing 7
Sheet 1 of 3

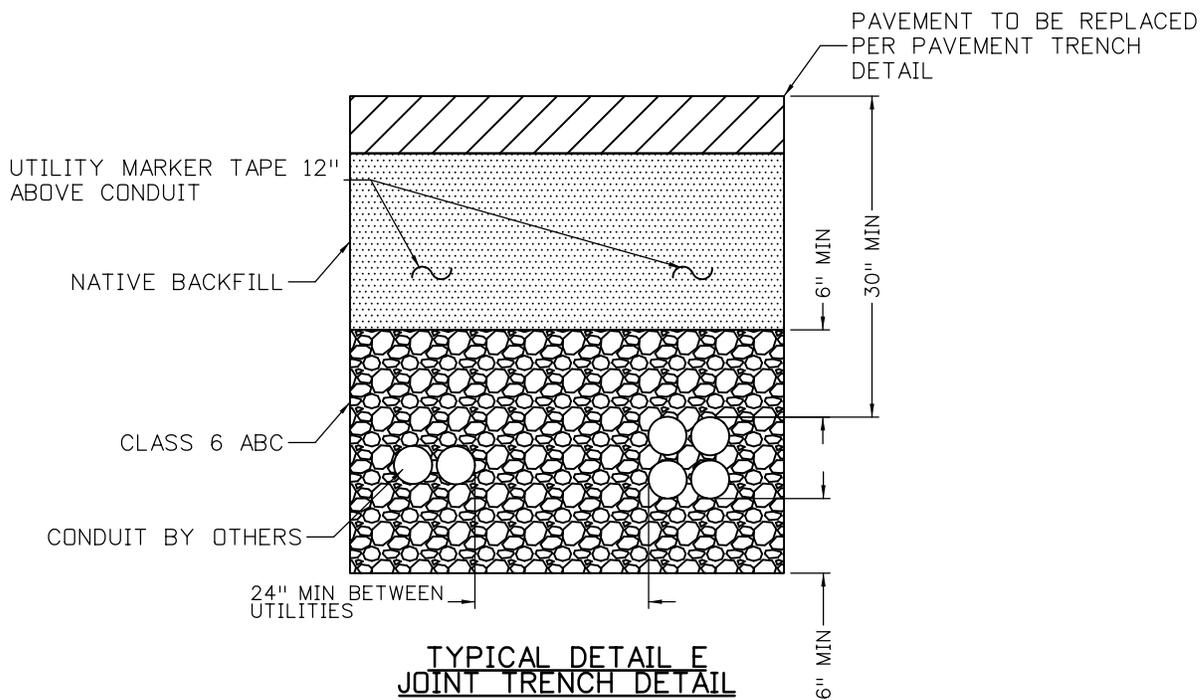
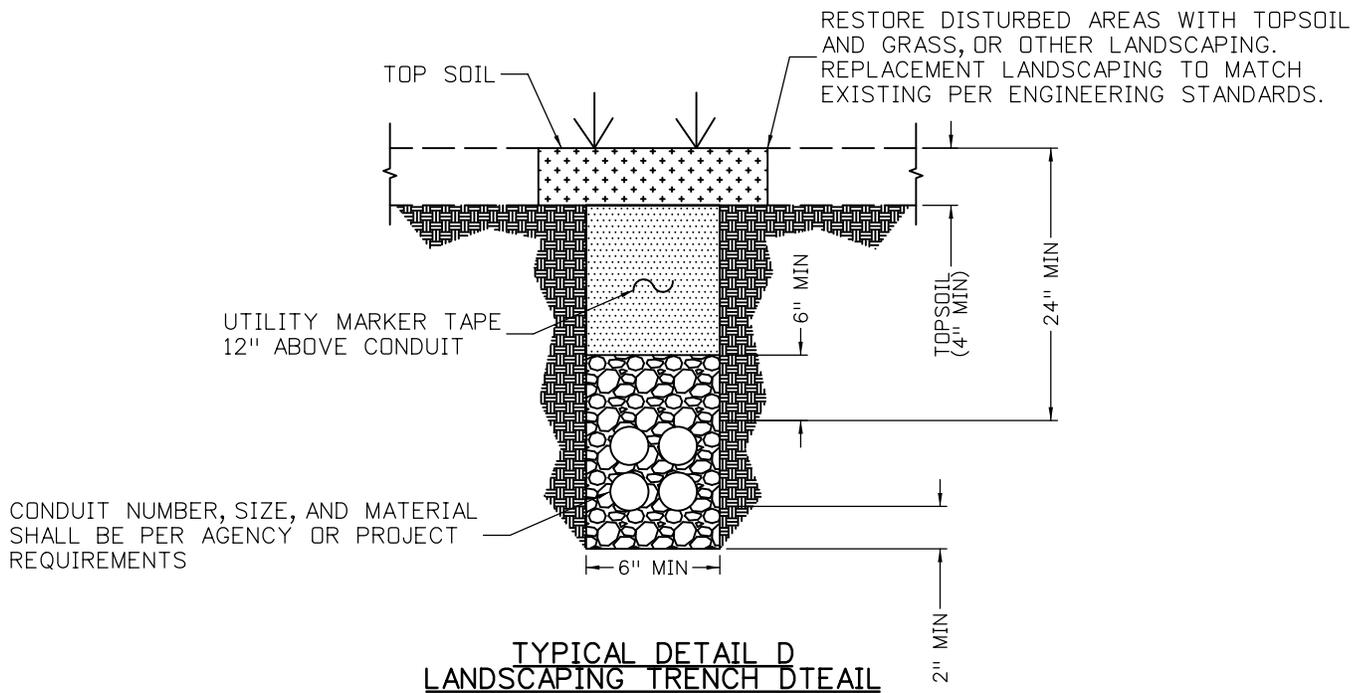


FULL WIDTH OF CONCRETE PANEL SHALL BE REMOVED AND REPLACED. CONCRETE PAVEMENT SHALL BE DOWELED TO ADJACENT PANELS WITH DRILLED AND EPOXIED BARS. SIDEWALK PANELS SHALL BE CONNECTED TO ADJACENT PANELS PER SIDEWALK CONNECTION DETAIL.

- * 5" MIN (SIDEWALK)
- 6" MIN (CURBS & PANS)
- 8" MIN (CONCRETE PAVEMENT)



UTILITY TRENCH DETAILS



UTILITY TRENCH DETAILS

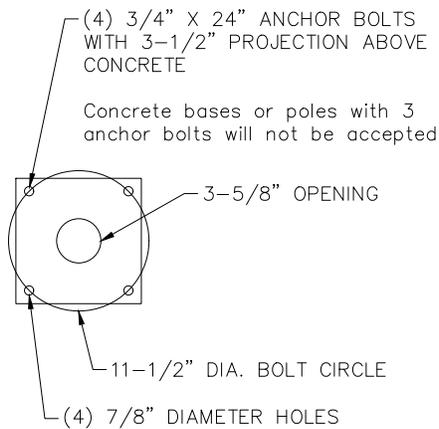
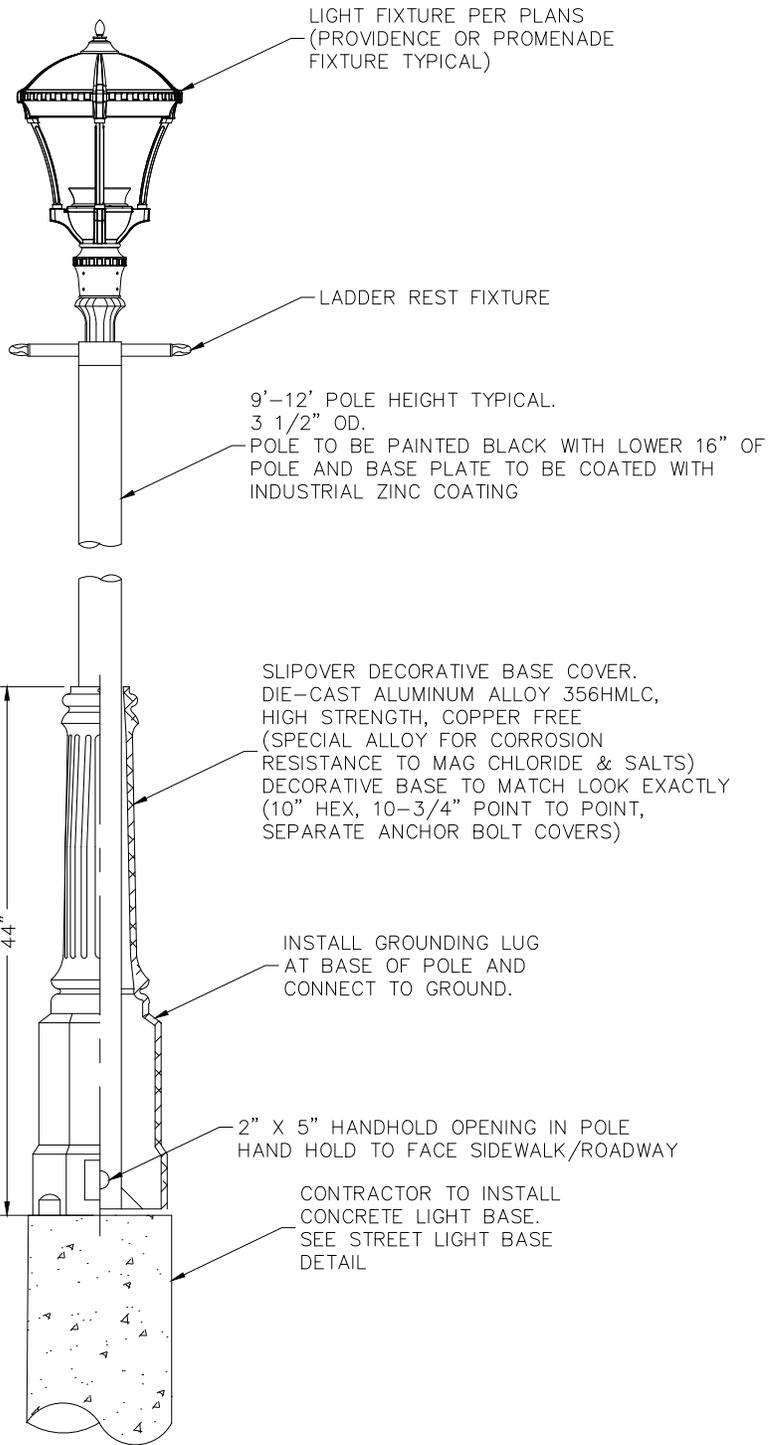


TOWN OF BRECKENRIDGE
ENGINEERING

TOWN OF BRECKENRIDGE
STANDARD DETAILS

CREATION DATE: 11/3/20
LAST REVISION DATE:

Standard Drawing 7
Sheet 3 of 3



STREET LIGHT STANDARD DETAIL

LIGHTING DETAILS

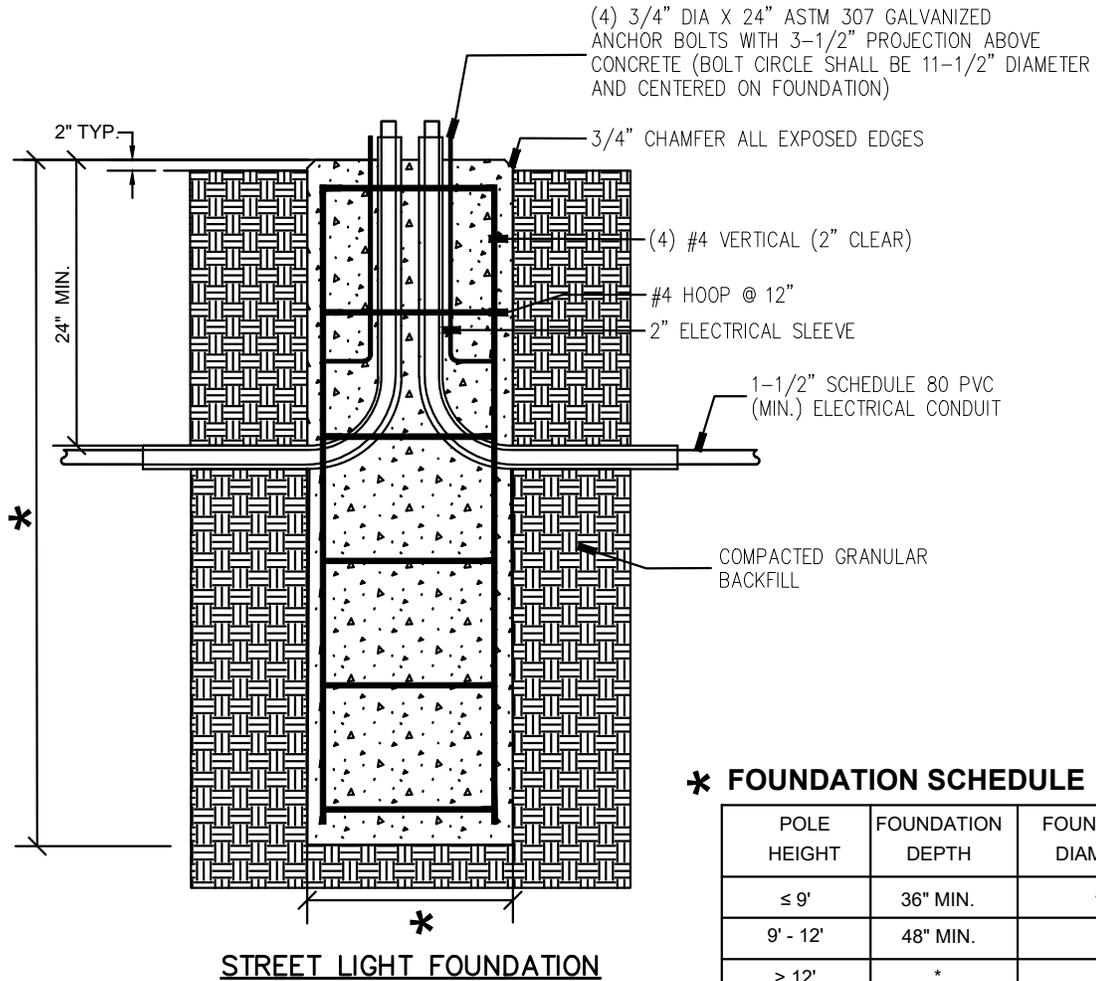
Street Light Standard Detail



**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

CREATION DATE: 11/3/20
LAST REVISION DATE: 4/1/25

Standard Drawing 8
Sheet 1 of 7



*** FOUNDATION SCHEDULE**

POLE HEIGHT	FOUNDATION DEPTH	FOUNDATION DIAMETER
≤ 9'	36" MIN.	18"
9' - 12'	48" MIN.	24"
> 12'	*	*

* FOUNDATION DEPTH AND DIAMETER SHALL BE PER STRUCTURAL ENGINEER OR PER CDOT S STANDARD DETAILS

NOTES:

1. REBAR, ANCHOR BOLTS, AND FOUNDATION DIMENSIONS SHALL BE PER CDOT S-STANDARD PLANS OR PER STRUCTURAL ENGINEER FOR POLE HEIGHTS GREATER THAN 12'.
2. CONCRETE SHALL BE CDOT CLASS D (4500 PSI).
3. TOP OF CONCRETE FOUNDATION SHALL BE 2" ABOVE FINISHED SURFACE.
4. LIGHT POLE TO BE ELECTRONICALLY GROUNDED FROM GROUNDING LUG ON LIGHT POLE TO FOUNDATION OR GROUNDING ROD.
5. TYPICAL POLE INSTALLATION SHALL BE 3' FROM EDGE OF SIDEWALK.
6. WHERE REQUIRED BY CDOT OR AASHTO STANDARDS, BREAKAWAY TRANSFORMER BASES SHALL BE INSTALLED.
7. FOUNDATION DIMENSIONS SHALL BE PER FOUNDATION SCHEDULE TABLE. WHERE LIGHT PILES ARE INSTALLED WITH BANNERS, MULTIPLE FIXTURES, OR VARYING SOIL OR WIND CONDITIONS, FOUNDATIONS SHALL BE DESIGNED BY STRUCTURAL ENGINEER.

LIGHTING DETAILS
Street Light Foundation



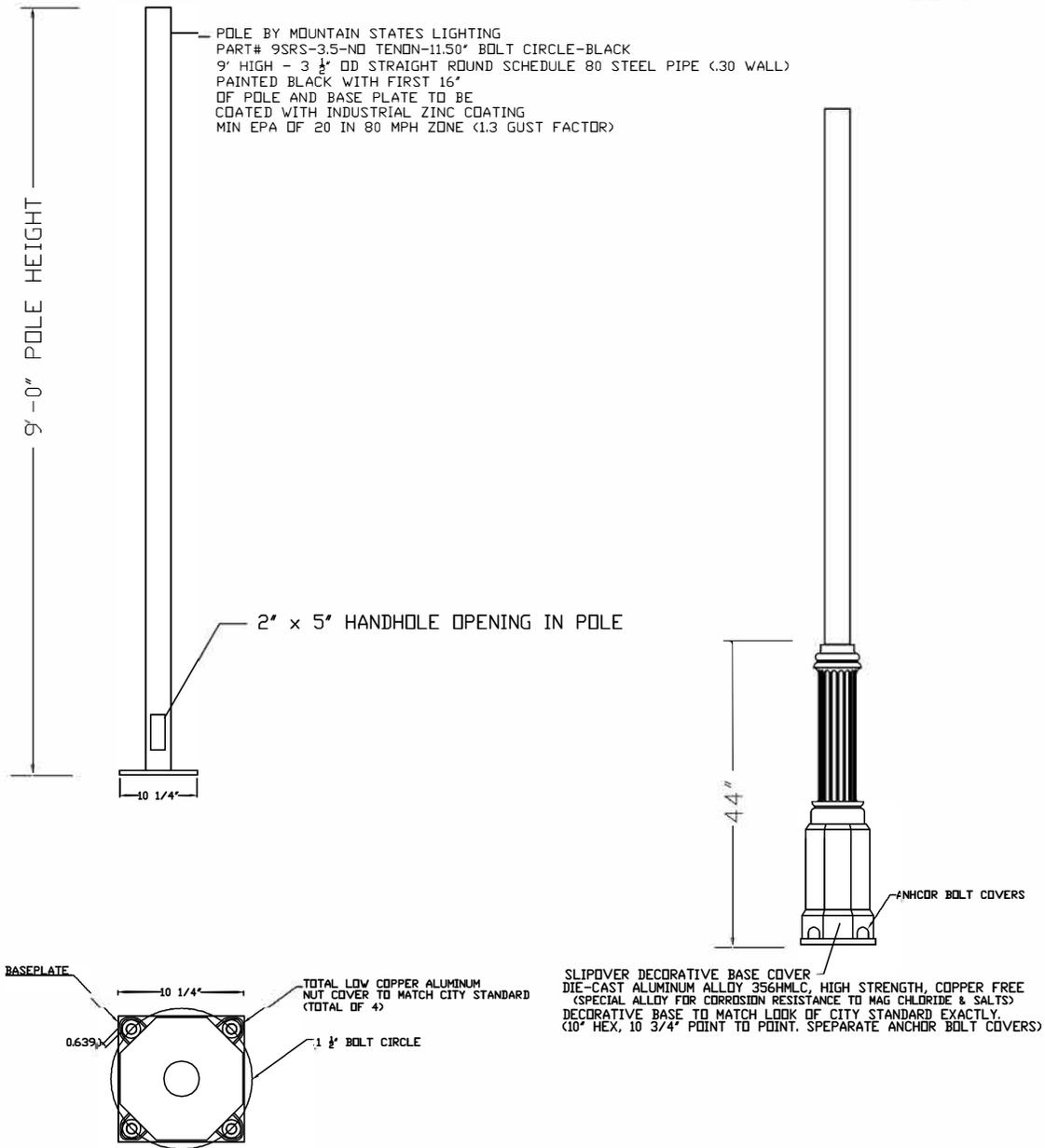
**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

CREATION DATE: 11/3/20
LAST REVISION DATE: 4/1/25

Standard Drawing 8
Sheet 2 of 7

PART# 9SRS-3.5-NO TENDON-11.50" BOLT CIRCLE-CA6640-BLACK

FINISH:
BLACK

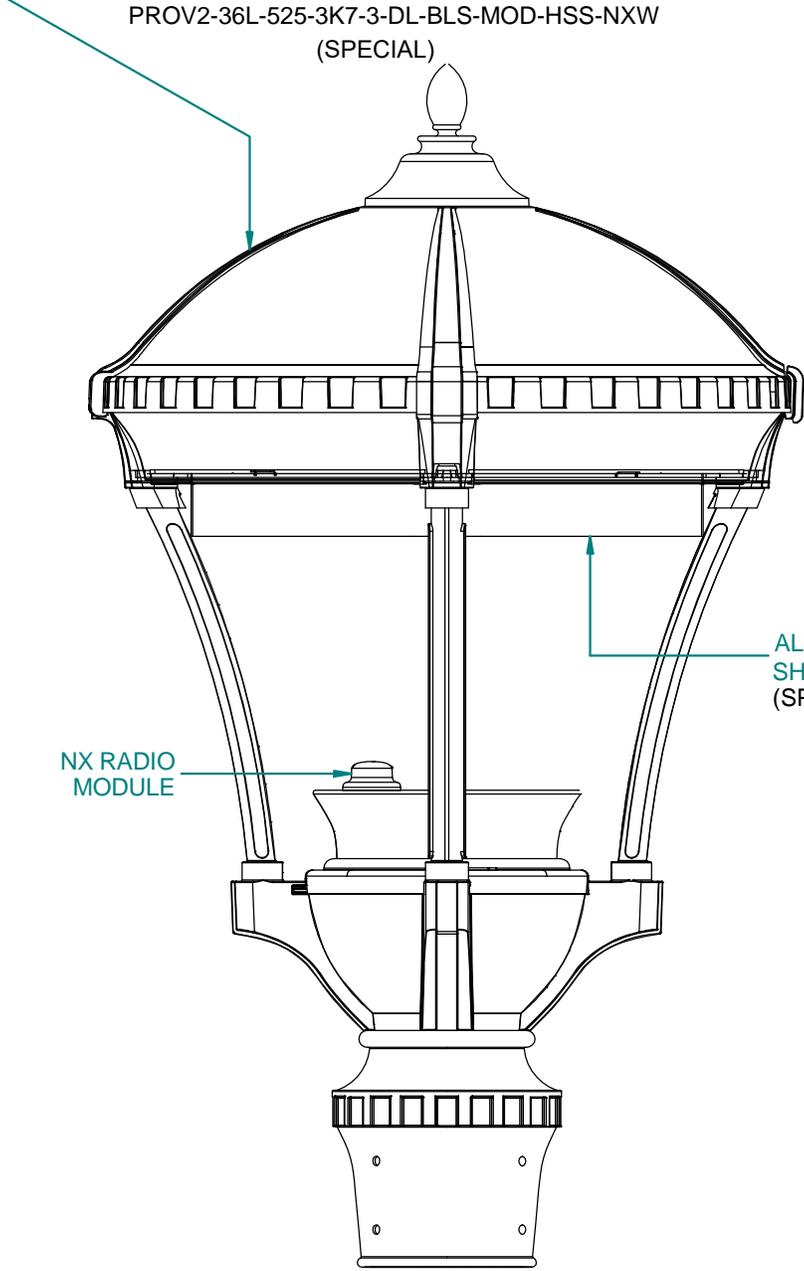
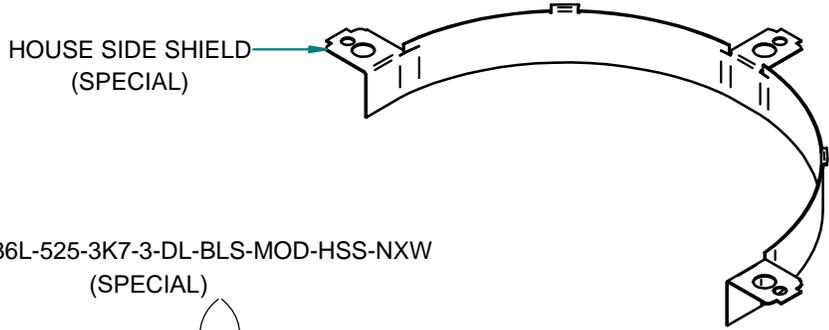


BASEPLATE INFORMATION

BASEPLATE TO BE 10 1/4" SQUARE 3/8" THICK. (SHARP CORNERS).
BOLT CIRCLE TO BE 11.5" EXACTLY. HOLES TO ACCOMMODATE
5/8" to 3/4" ANCHOR BOLTS PROVIDED WITH POLE.
BASE PLATE AND BOTTOM 18" OF POLE TO BE COATED
WITH INDUSTRIAL COLD GALV BEFORE BEING PAINTED.

LIGHTING DETAILS
9' Pole Standard

 <p>TOWN OF BRECKENRIDGE ENGINEERING</p>	<p>TOWN OF BRECKENRIDGE STANDARD DETAILS</p>	<p>CREATION DATE: <u>11/3/20</u> LAST REVISION DATE: _____</p>	<p>Standard Drawing 8 Sheet 3 of 7</p>
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TYPE:
CATALOG NUMBER PROV2-36L-525-3K7-3-DL- BLS-MOD-HSS-NXW
AAL COLOR: BLS
SPECIAL INSTRUCTIONS: NX EMBEDDED CONTROLS VOLTAGE 120-277
FIXTURE TO MOUNT TO A 4" O.D. TOP
LED COUNT, WATTAGE, VOLTAGE, CCT/CRI AND DISTRIBUTION MAY VARY BASED ON FINAL CAT STRING.
REFER TO SPECIFICATION SHEET FOR ADDITIONAL ELECTRICAL CHARACTERISTICS AND PHOTOMETRIC DATA
ANCHOR BOLTS
QTY
SIZE
BOLT CIRCLE
PROJECTION
LEVELING NUTS AND WASHERS MUST BE INSTALLED UNDER ALL BASES
ONE APPROVED DRAWING MUST BE RETURNED TO AAL BEFORE THIS PRODUCT CAN BE FABRICATED
WARNING: THIS FIXTURE MUST BE GROUNDED IN ACCORDANCE WITH LOCAL CODES OR THE NATIONAL ELECTRICAL CODE. FAILURE TO DO SO MAY RESULT IN SERIOUS PERSONAL INJURY. * AAL ASSUMES NO RESPONSIBILITY OF HARM CAUSED BY FAILURES DUE TO IMPROPER SITE ANALYSIS OR USAGE OF PRODUCTS OTHER THAN THEIR INTENDED PURPOSE AS SHOWN IN THIS DOCUMENT.

SOLD TO: **TOWN OF BRECKENRIDGE - AAL PROVIDENCE SMART LIGHT FIXTURES FOR DARK SKIES**

PO# _____ JOB NAME: _____

CUSTOMER APPROVAL NEEDED
PRIOR TO SHIPMENT OF FIXTURES.

X _____

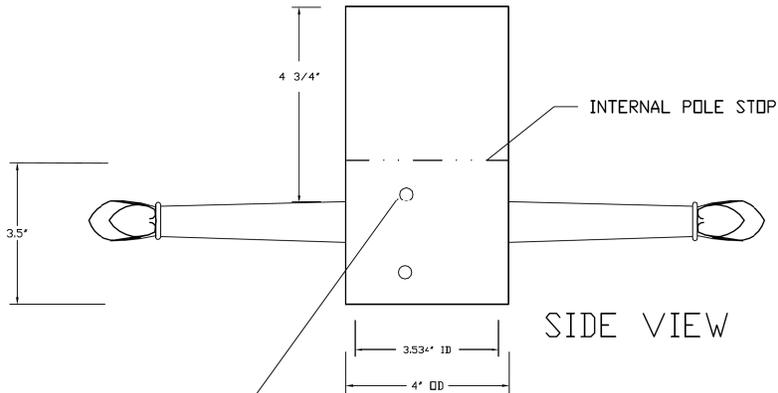
THIS DRAWING WILL EXPIRE IN
2 YEARS FROM APPROVAL DATE.



701 MILLENIUM BOULEVARD
GREENVILLE, SC 29607
(864)678-1000

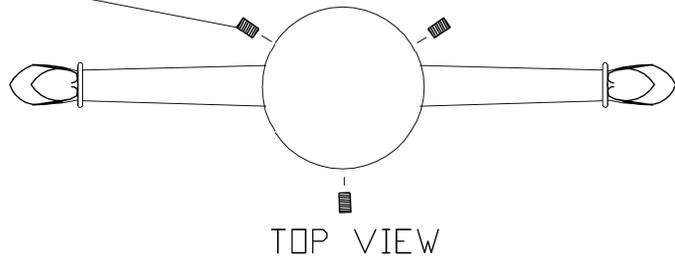
Architectural Area Lighting
Reserves The Right To Change
Manufacturing Processes Without
Notice.

23A-2179	
DATE 07/21/2023	DRWN PBA
DATE 07/21/2023	APPRVD SM
DATE	REV. A



5/16" SS CUP POINT SETSCREWS
OF 3 @ 120 DEGREES.

FINISH:
BLACK



TOWN OF BRECKENRIDGE DOWNTOWN
4" OD-3.5" ID LADDER REST
(Match Town Standard Exactly)

LIGHTING DETAILS

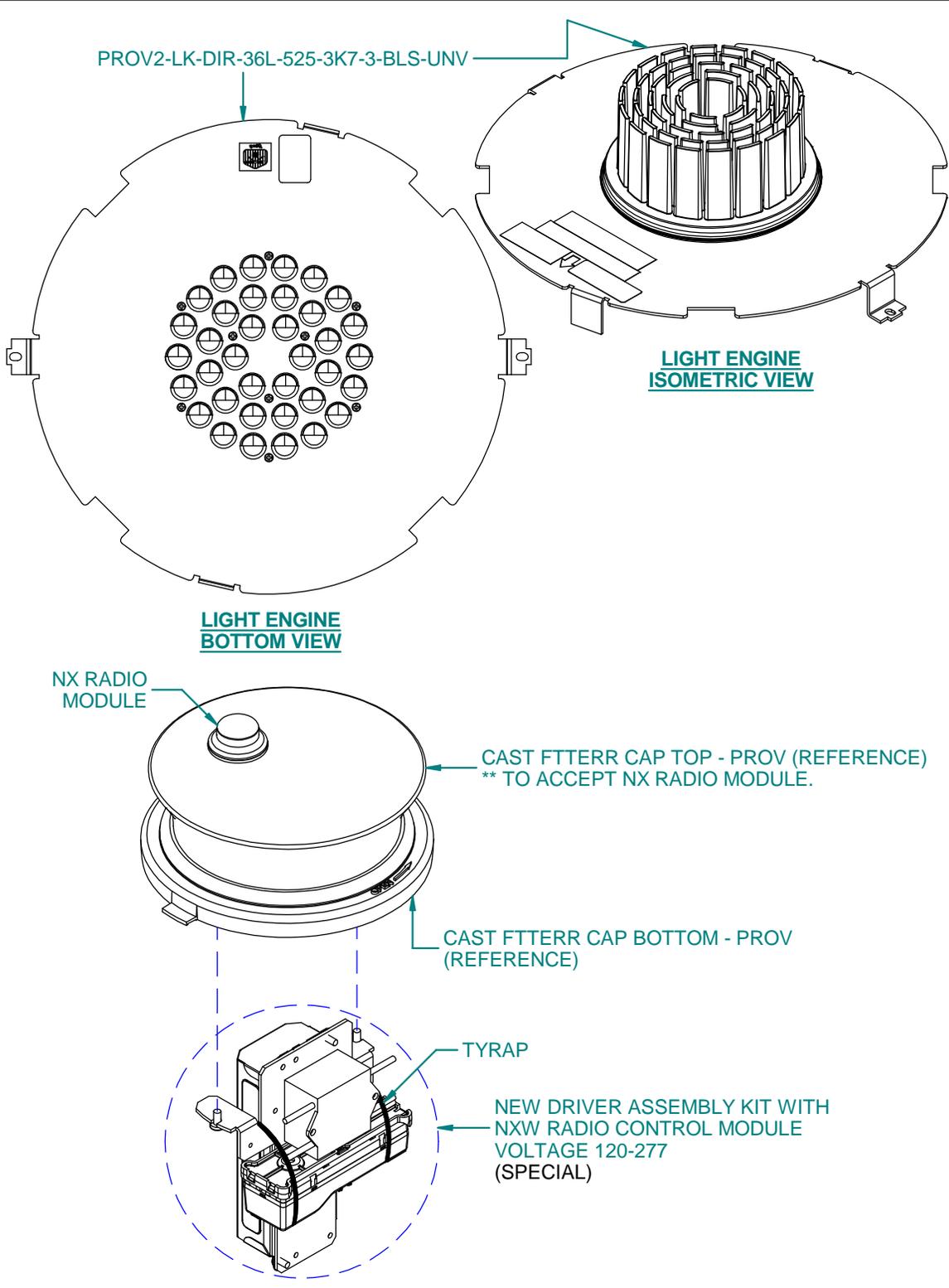
4' Outer Diameter Cutoff Ladder Rest



**TOWN OF BRECKENRIDGE
STANDARD DETAILS**

CREATION DATE: 11/3/20
LAST REVISION DATE: _____

Standard Drawing 8
Sheet 4 of 7



TYPE:
CATALOG NUMBER PROV2-LK- DIR-36L-525-3K7-3-BLS-UNV- MOD-NXW
AAL COLOR: BLS
SPECIAL INSTRUCTIONS: NEW DRIVER ASSEMBLY KIT WITH NX EMBEDDED CONTROLS VOLTAGE120-277
LED COUNT, WATTAGE, VOLTAGE, CCT/CRI AND DISTRIBUTION MAY VARY BASED ON FINAL CAT STRING.
REFER TO SPECIFICATION SHEET FOR ADDITIONAL ELECTRIAL CHARACTERISTICS AND PHOTOMETRIC DATA
ANCHOR BOLTS
QTY
SIZE
BOLT CIRCLE
PROJECTION
LEVELING NUTS AND WASHERS MUST BE INSTALLED UNDER ALL BASES
ONE APPROVED DRAWING MUST BE RETURNED TO AAL BEFORE THIS PRODUCT CAN BE FABRICATED
WARNING: THIS FIXTURE MUST BE GROUNDED IN ACCORDANCE WITH LOCAL CODES OR THE NATIONAL ELECTRICAL CODE. FAILURE TO DO SO MAY RESULT IN SERIOUS PERSONAL INJURY. * AAL ASSUMES NO RESPONSIBILITY OF HARM CAUSED BY FAILURES DUE TO IMPROPER SITE ANALYSIS OR USAGE OF PRODUCTS OTHER THAN THEIR INTENDED PURPOSE AS SHOWN IN THIS DOCUMENT.

SOLD TO: **TOWN OF BRECKENRIDGE - AAL PROVIDENCE SMART LIGHT FIXTURES FOR DARK SKIES** PO# JOB NAME:

CUSTOMER APPROVAL NEEDED
PRIOR TO SHIPMENT OF FIXTURES.

X _____

THIS DRAWING WILL EXPIRE IN
2 YEARS FROM APPROVAL DATE.

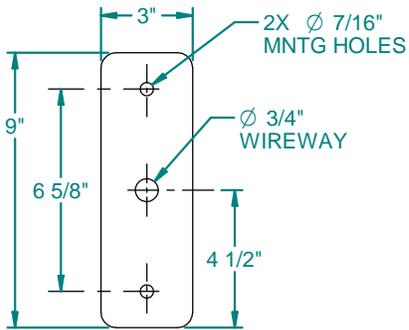
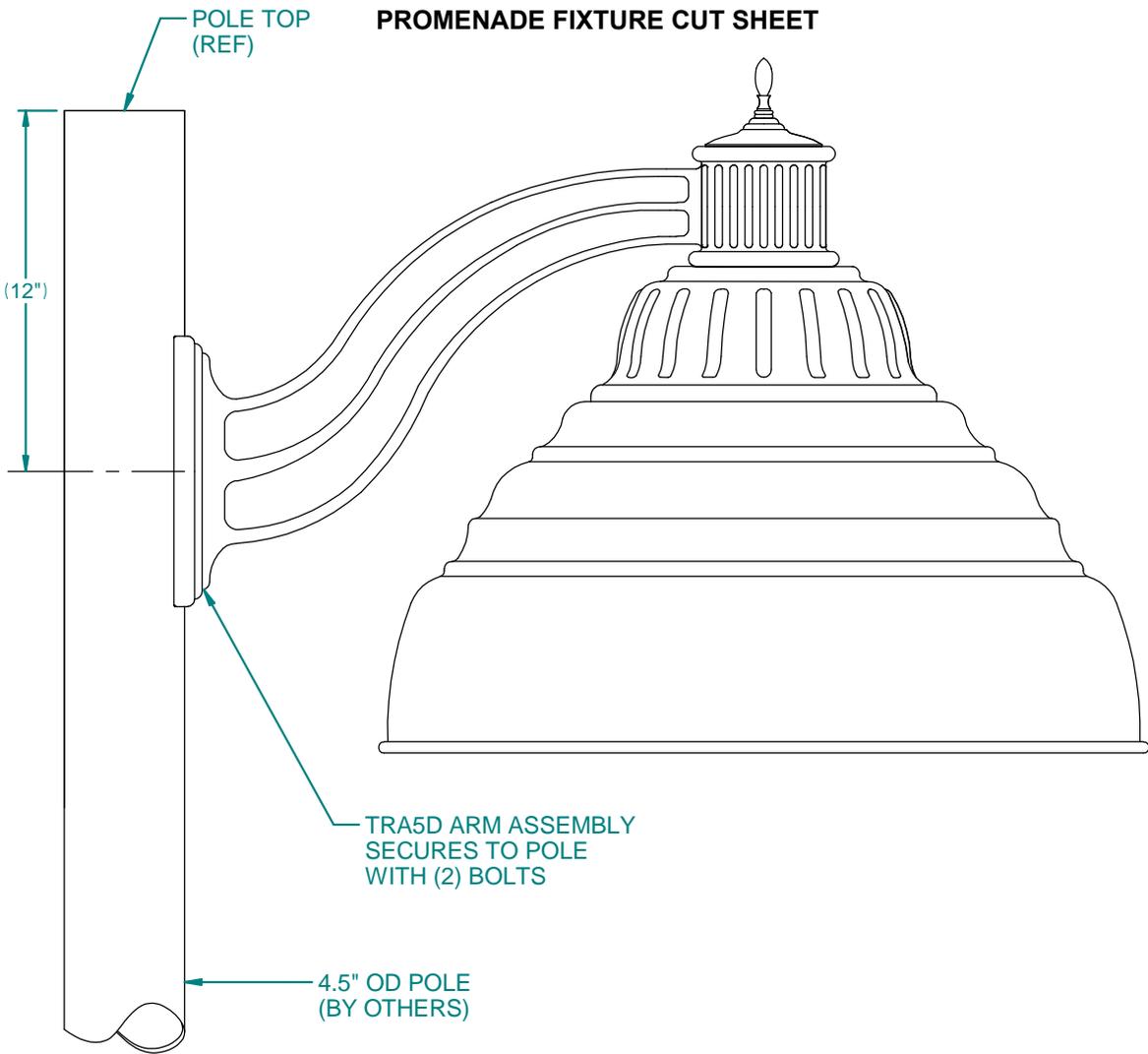


701 MILLENIUM BOULEVARD
GREENVILLE, SC 29607
(864)678-1000

Architectural Area Lighting
Reserves The Right To Change
Manufacturing Processes Without
Notice.

23A-2180	
DATE 07/21/2023	DRWN PBA
DATE 07/21/2023	APPRVD SM
DATE	REV. A

PROMENADE FIXTURE CUT SHEET



**TRA5D ARM
BACK VIEW
MOUNTING DETAIL**

NOTE:

- 1) MEANS OF MOUNTING AND MOUNTING HARDWARE BY OTHERS.

**REF. DWG. 21A-1180
20A-1475
20A-1248**

TYPE	INPUT: ETO <input checked="" type="checkbox"/> STD <input type="checkbox"/>
CATALOG NUMBER	PRM22-72L 335-3K7-3-CL TRA5D-MOD 4.5in
	21A-1354
FINISH: POLYESTER POWDER COAT.	
AAL COLOR:	BLS
TO MATCH:	
PROVIDE A SAMPLE COLOR CHIP	
LAMPING	
LAMP TYPE	LED
WATTAGE	76 watts
VOLTAGE	120-277V
ANCHOR BOLTS	
QTY	
SIZE	
BOLT CIRCLE	
PROJECTION	
LEVELING NUTS AND WASHERS MUST BE INSTALLED UNDER ALL BASES	
ONE APPROVED DRAWING MUST BE RETURNED TO A.A.L. BEFORE THIS PRODUCT CAN BE FABRICATED	
Note: For locations near saltwater, clear anodize coating is the suggested application. This configuration will need to be requested during order entry.	
WARNING: THIS FIXTURE MUST BE GROUNDED IN ACCORDANCE WITH LOCAL CODES OR THE NATIONAL ELECTRICAL CODE. FAILURE TO DO SO MAY RESULT IN SERIOUS PERSONAL INJURY.	
*ARCHITECTURAL AREA LIGHTING ASSUMES NO RESPONSIBILITY OF HARM CAUSED BY FAILURES DUE TO IMPROPER SITE ANALYSIS OR USAGE OF PRODUCTS OTHER THAN THEIR INTENDED PURPOSE AS SHOWN IN THIS DOCUMENT.	

SIGNED APPROVAL NEEDED PRIOR TO RELEASE OF ORDER.

PO#

JOB NAME: **TOWN OF BRECKENRIDGE
WATSON AVENUE ROUNDABOUT**

X



Hubbell Lighting, Inc.



17760 Rowland St.
City of Industry, CA 91748
(626)968-5666

Architectural Area Lighting
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Manufacturing Processes Without
Notice.

21A-1354

DATE	DRWN
12/1/2021	JMP
DATE	APPRVD
DATE	REV.

AAL ARMS



SPECIFICATIONS

CONSTRUCTION

- The arm shall be one piece cast aluminum construction and shall be prewired with a quick connector for easy installation.
- The up mount configuration shall have a cast aluminum fitter welded to the top of the arm(s) for attaching the fixture.
- The arm shall bolt to the side of a 4"/100mm or 5"/127 diameter pole.

Note: Fixture type and mounting orientation will determine size of arm tail.

ORDERING GUIDE

Example: TRA5U-BLT

CATALOG #

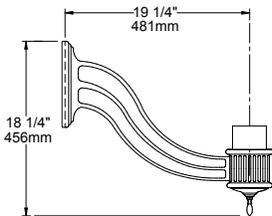
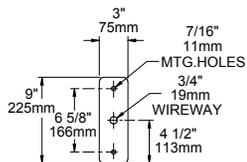
HOUSING

Arm	Color
TRA5U Mount up. Weight: 9 lbs. EPA: .62	BLS Black Gloss Smooth
TRA5D Mount down. Weight: 9 lbs. EPA: .62	BLT Black Matte Textured
	DBS Dark Bronze Gloss Smooth
	DBT Dark Bronze Matte Textured
	GTT Graphite Matte Textured
	LGS Light Grey Gloss Smooth
	LGT Light Grey Matte Textured
	PSS Platinum Silver Gloss Smooth
	VGT Verde Green Matte Textured
	WHS White Gloss Smooth
	WHT White Matte Textured
	Color Option
	CC¹ Custom Color

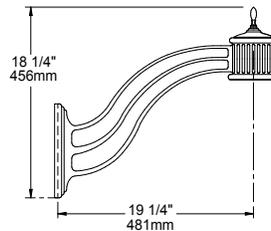
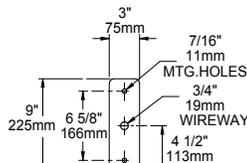
Notes:

- 1 Consult factory for custom color, marine and corrosive finish

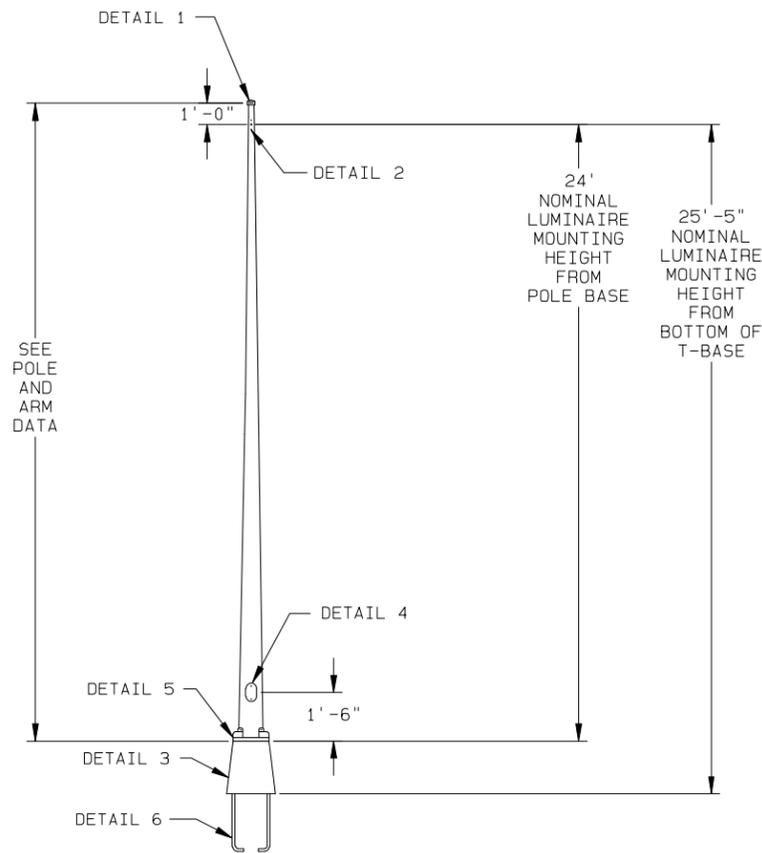
DIMENSIONS



TRA5U (4" or 5" pole)



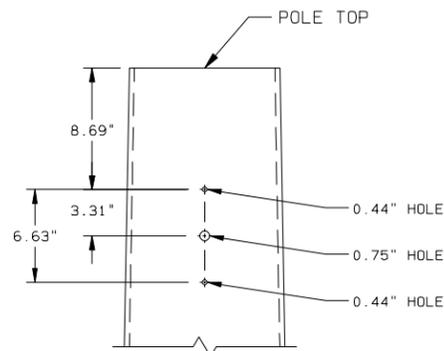
TRA5D (4" or 5" pole)



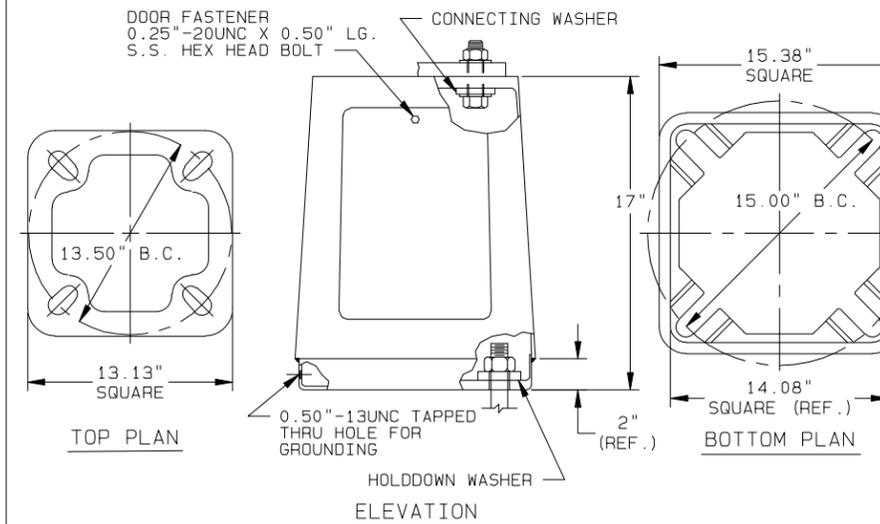
CAST POLE TOP CAP HELD IN PLACE WITH 4 SET SCREWS.



DETAIL 1 POLE TOP



DETAIL 2 DRILL PATTERN



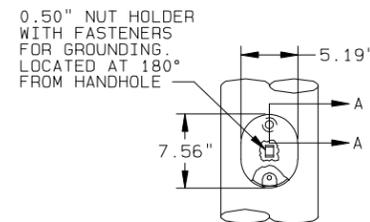
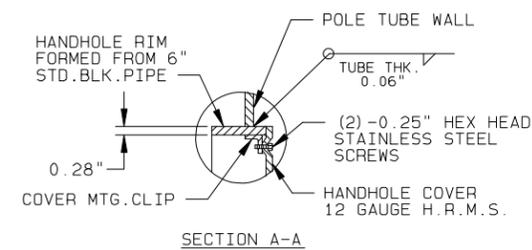
TRANSFORMER BASE NOTES:

DOOR OPENING APPROXIMATELY 8.56" X 8.94" X 11".
 TOP BOLT HOLES WILL ACCOMMODATE MAXIMUM 1.00" DIA. BOLTS.
 (4) -2.75" O.D. X 0.50" THK. HOLDDOWN WASHERS FINISHED TO ASTM: B695 CLASS 50 PROVIDED FOR INSTALLATION UNDER ANCHOR BOLT HEX NUTS AS SHOWN.
 (4) -2.50" O.D. X 0.38" THK. CONNECTING WASHERS FINISHED TO ASTM: B695 CLASS 50 PROVIDED FOR INSTALLATION UNDER THE TRANSFORMER BASE TOP PLATE AS SHOWN.
 MATERIAL SHALL CONFORM TO ASTM DESIGNATION B108 ALLOY 356.0 T6.
 BASE CONFORMS TO BREAKAWAY CRITERIA OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (1985).

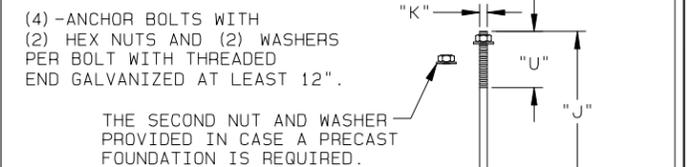
T-BASE FINISH NOTES:

FINISH PAINT: MAG CHLORIDE RESISTANT
 BASE COAT: ANODIZED DURANIDIC #313
 PRIME COAT: ATP DARK (5.0 MILS)
 TOP COAT: TGIC OR URETHANE POLYESTER POWDER
 COLOR: BLACK

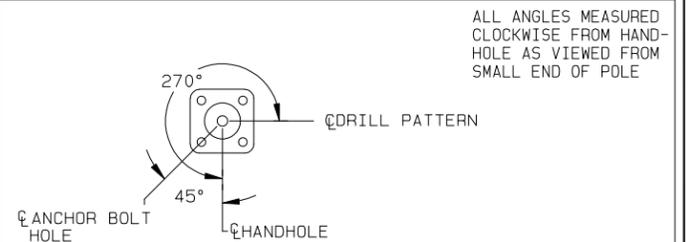
DETAIL 3 M093 T-BASE



DETAIL 4 HANDHOLE



DETAIL 6 ANCHOR BOLT FOR T-BASE APPLICATION



DETAIL 6 RADIAL INDEX

ALTHOUGH RARE, VIBRATIONS SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCASIONALLY OCCUR IN STRUCTURES OF ALL TYPES. BECAUSE THEY ARE INFLUENCED BY MANY INTERACTING VARIABLES, VIBRATIONS ARE GENERALLY UNPREDICTABLE. THE USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATION FOR EXCESSIVE VIBRATION AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING. THE VALMONT WARRANTY SPECIFICALLY EXCLUDES FATIGUE FAILURE OR SIMILAR PHENOMENA RESULTING FROM INDUCED VIBRATION, HARMONIC OSCILLATION OR RESONANCE ASSOCIATED WITH MOVEMENT OF AIR CURRENTS AROUND THE PRODUCT.

VIBRATION DISCLAIMER

MATERIAL DATA

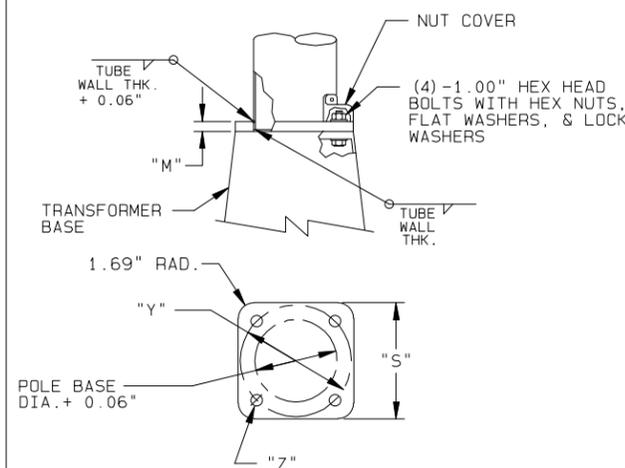
COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
POLE SHAFT	A595 GR. A	55
BASE PLATE	A36	36
ANCHOR BOLTS	F1554 GR. 55	55
GALVANIZE-HARDWARE	F2329	--
T-BASE CONN. BOLTS	A325	--

FINISH DATA

SYSTEM: CUSTOMER SPECIFIED
 BASE COAT: HOT-DIP GALVANIZED TO ASTM A123
 PRIME COAT: HIGH BUILD EPOXY POWDER
 FINISH COAT: TGIC POWDER
 COLOR: BLACK
 SPEC: F-540F

POLE DATA

QTY.	POLE TUBE				POLE BASE				ANCHOR BOLT			
	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE/SLOT "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)
2	8.00	4.50	25.00	11	13.13	13.50	1.25	1.25	1.00	36.00	4.00	6.00



DETAIL 5 POLE BASE

THE LIGHTING STRUCTURES SHOWN ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LOADING AND THE ALLOWABLE STRESS REQUIREMENTS OF THE 2009 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", FIFTH EDITION, INCLUDING THE 2011 INTERIM. THE WIND LOADS WERE CALCULATED FROM A BASIC WIND VELOCITY OF 100 MPH WITH A RECURRENCE INTERVAL OF 50 YEARS.
 PER THE CODE COMMON LIGHTING STRUCTURES BELOW 55' ARE NOT REQUIRED TO BE ANALYZED FOR FATIGUE LOADS AS THEY HAVE NOT NORMALLY EXHIBITED FATIGUE PROBLEMS.

DESIGN LOADING CRITERIA: 1.7 EPA & 55LBS

DESIGN CRITERIA

REV	DRAWN BY-DATE	CHECK BY-DATE	DESCRIPTION
JH84	10/04/16	RDS9 10/06/16	

SOLD TO: CENTENNIAL LIGHTING
 SHIP TO: TOWN OF BRECKENRIDGE
 P.O. #: CENT9701MDW
 AGENT: MH LIGHTING

JOB TOWN OF BRECKENRIDGE
 SUMMER STREET LIGHT PROJECTS
 TITLE LIGHTING STRUCTURES

VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS, ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.

valmont
 Valley, NE 68064
 (402) 359-2201

ORDER NUMBER: 344729-P1
 PAGE NUMBER: 1 OF 1
 DRAWING NUMBER: C0344729P1
 REV