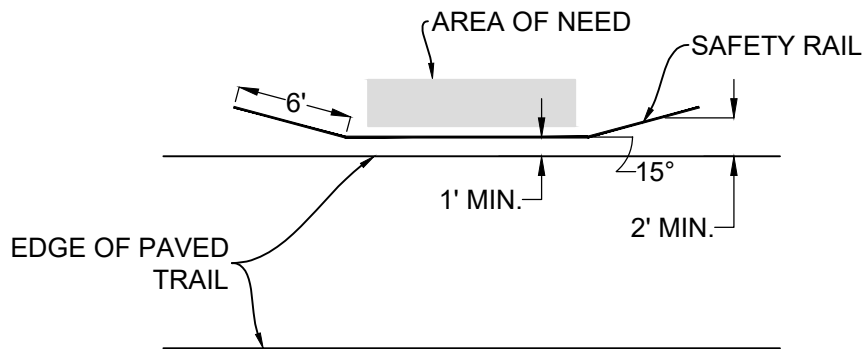
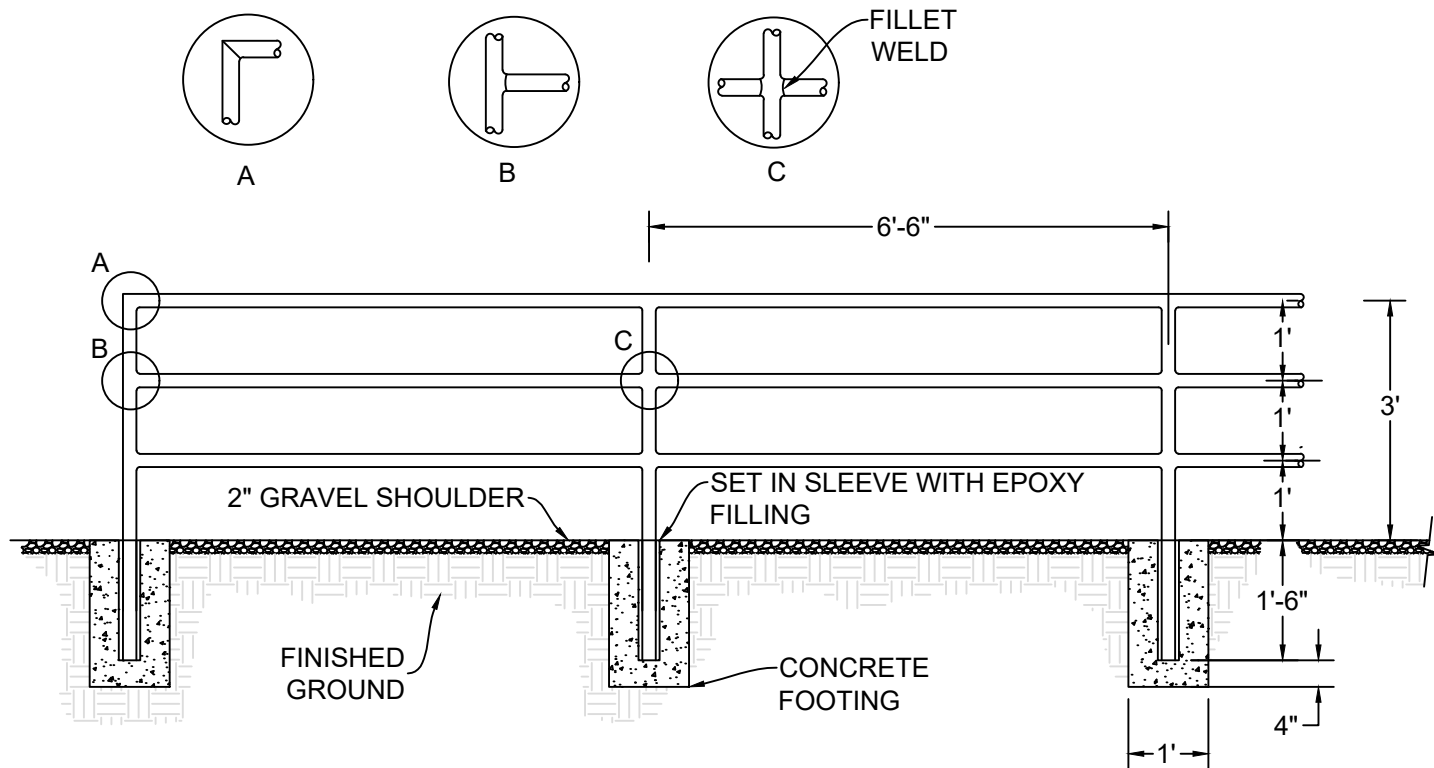


NOTES:

1. POSTS SHALL BE MINIMUM 2" SQUARE x 0.060" WALL ALUMINUM WITH INTERIOR REINFORCING WEB.
2. PICKETS SHALL BE MINIMUM 0.75" SQUARE x 0.045" WALL ALUMINUM.
3. RAILS SHALL BE MINIMUM 1" SQUARE x 0.060" WALL ALUMINUM.
4. ALUMINUM SHALL CONFORM TO ASTM B221. ALUMINUM EXTRUSIONS FOR POSTS AND RAILS SHALL BE ALLOY AND TEMPER DESIGNATION 6005-T52. ALUMINUM EXTRUSIONS FOR PICKETS SHALL BE ALLOY AND TEMPER DESIGNATION 6063-T52.
5. ALL ALUMINUM SHALL HAVE ELECTROSTATICALLY APPLIED TGIC POLYESTER POWDER COAT FINISH, BLACK COLOR, 2 MILS MINIMUM THICKNESS.
6. ALL CONCRETE SHALL BE 3600 P.S.I. COMPRESSIVE STRENGTH.
7. A PEDESTRIAN HAND RAIL MAY BE INSTALLED AT A HEIGHT OF 34 INCHES, OR A BICYCLE RUB RAIL AT A HEIGHT OF 36 INCHES ON THE SAFETY RAIL.
8. ON BRIDGES AND RETAINING WALLS ANCHOR BOLTS THAT MEET MANUFACTURER SPECIFICATIONS SHALL BE USED TO SECURE SAFETY RAIL.
9. ON BRIDGES A 4-FOOT TALL SAFETY RAIL MAY BE REQUIRED TO PREVENT CYCLISTS FROM FALLING OVER.
10. PROVIDE 2-FOOT LATERAL CLEARANCE FROM PAVED TRAIL. WHERE LESSER CLEARANCE IS NEEDED, PROVIDE FLARED END TREATMENTS.
11. WHERE HAND RAIL IS RETROFITTED, INSTALL SAFETY RAIL 1 FOOT FROM EDGE OF PAVED TRAIL WITH FLARED END TREATMENTS BEYOND THE AREA OF NEED.



METHOD OF FLARING END TREATMENTS (NOTES 10 AND 11)



NOTES:

1. METAL HAND RAIL SHALL BE INSTALLED 1 FOOT FROM THE EDGE OF PAVED TRAIL ON CENTER.
2. PROVIDE FLARED END RAIL TREATMENTS AT 15 DEGREES AWAY FROM THE TRAIL BEYOND THE AREA OF NEED. FLARED END TREATMENTS SHALL EXTEND TWO FEET MINIMUM FROM THE EDGE OF TRAIL.
3. THE TOP RAIL SHALL BE INSTALLED AT A HEIGHT OF 3 FEET FROM THE FINISHED GROUND.
4. ALL CONCRETE FOOTINGS FOR HAND RAIL SHALL MEET 3,600 PSI COMPRESSIVE STRENGTH.
5. ALL HAND RAIL METAL JOINTS SHALL HAVE A ½ INCH WIDE FILLET WELD.
6. PRIME AND PAINT METAL HAND RAIL WITH BLACK ALL WEATHER ENAMEL PAINT AFTER INSTALLATION.

**TOWN OF APEX
STANDARDS**

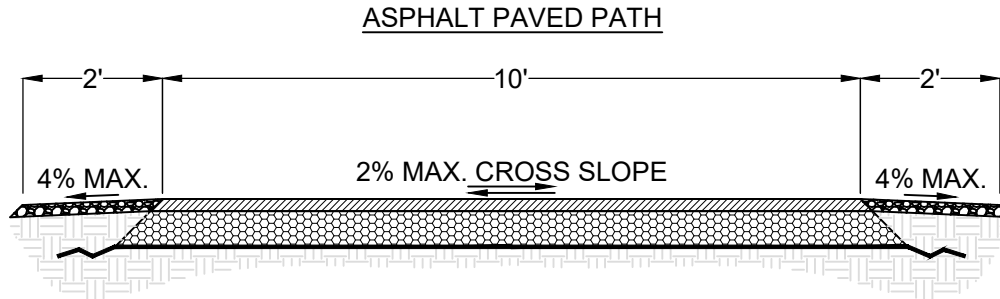
EFFECTIVE: JANUARY 12, 2021

HANDRAIL

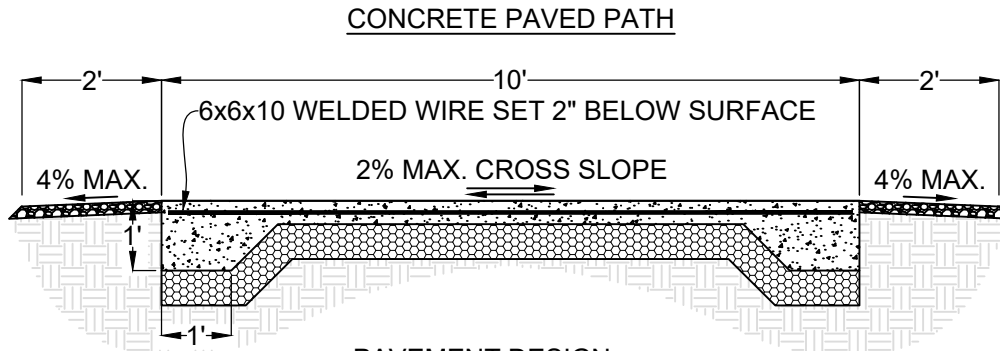
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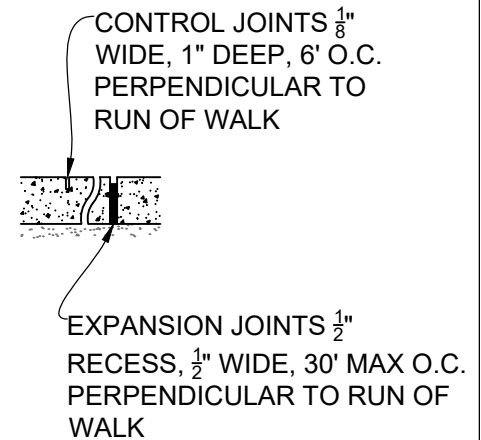
SHEET 1 OF 1



PAVEMENT DESIGN:
 2" ASPHALT CONCRETE SURFACE COURSE
 6" AGGREGATE BASE COURSE
 WOVEN GEOTEXTILE FABRIC
 2" GRANITE SCREENING SHOULDER

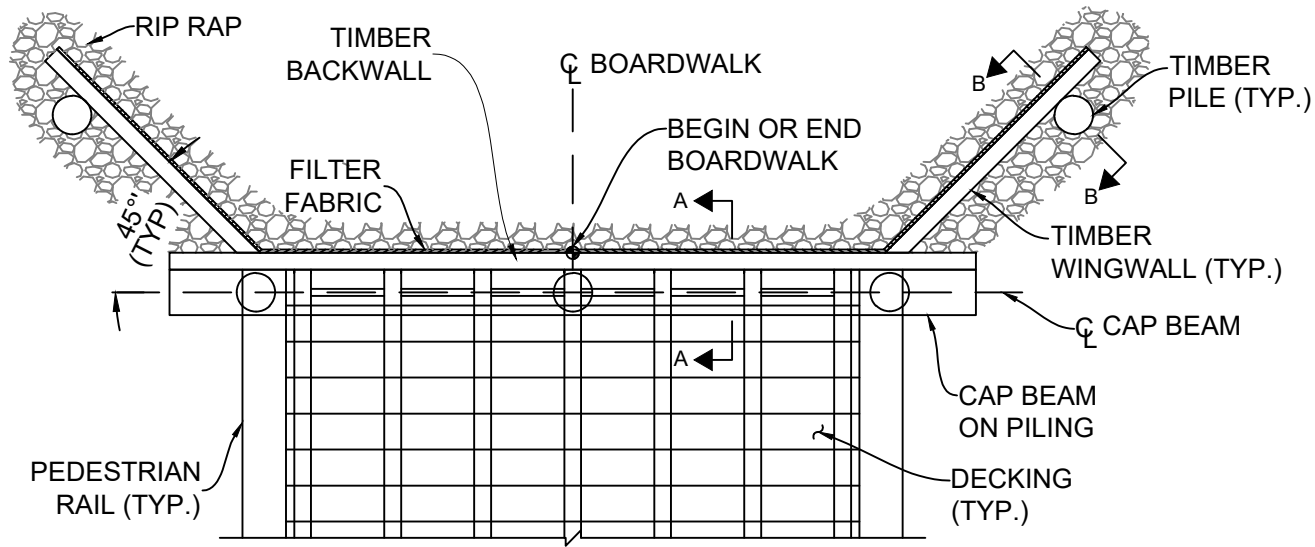


PAVEMENT DESIGN:
 4" CONCRETE
 6" AGGREGATE BASE COURSE
 2" GRANITE SCREENING SHOULDER

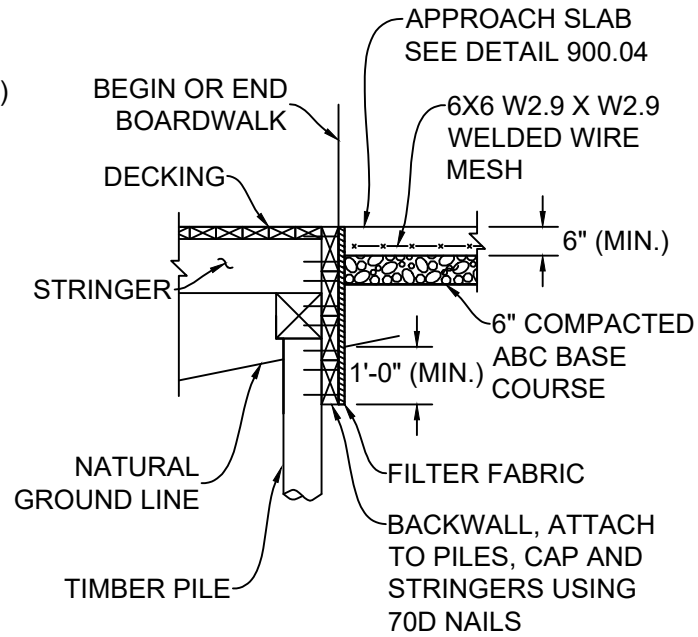


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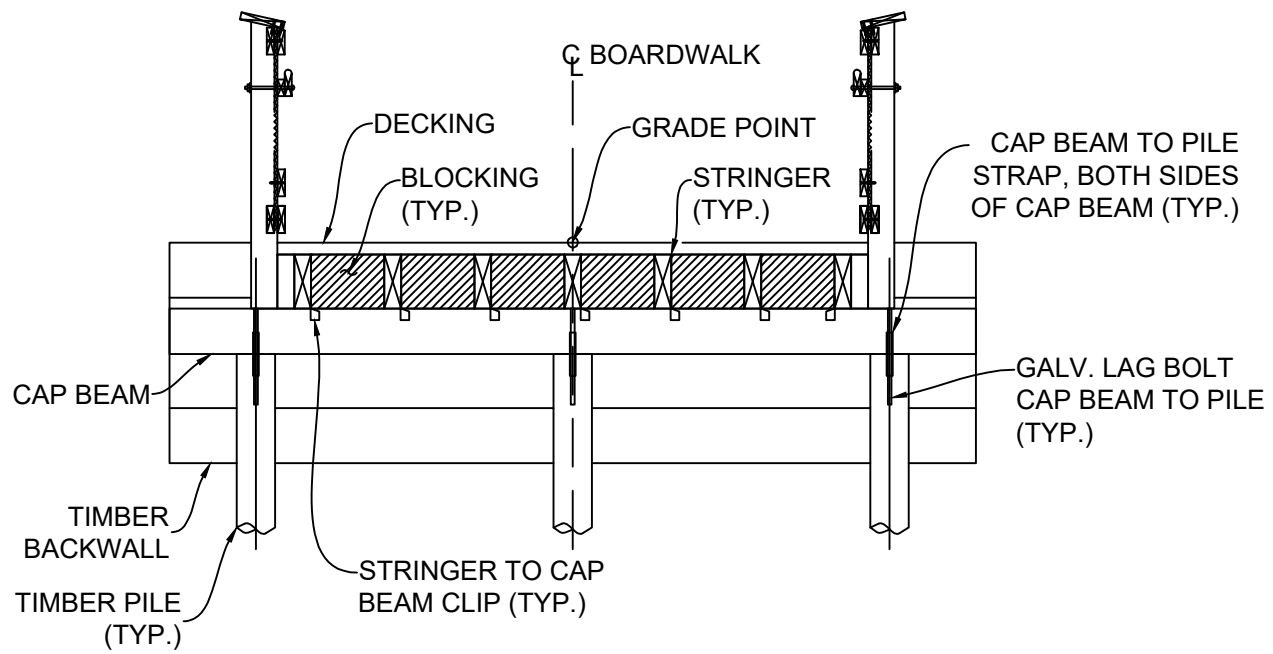
1. ALL LOCATION & SIZES OF DRAIN PIPE TO BE VERIFIED AND APPROVED BY THE TOWN OF APEX ENGINEER.
2. SUBGRADE SHALL BE STABLE AND COMPACTED.
3. IN LOW LYING AREAS PRONE TO FLOODING, A 4-INCH DEEP GRAVEL SHOULDER MAY BE USED SUBJECT TO REVIEW AND APPROVAL.



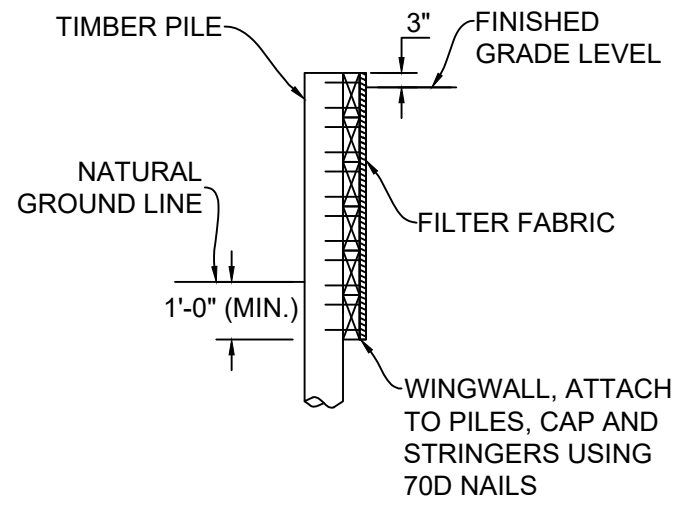
END BENT PLAN (TOP VIEW)



SECTION A-A



END BENT ELEVATION



SECTION B-B

TOWN OF APEX
STANDARDS

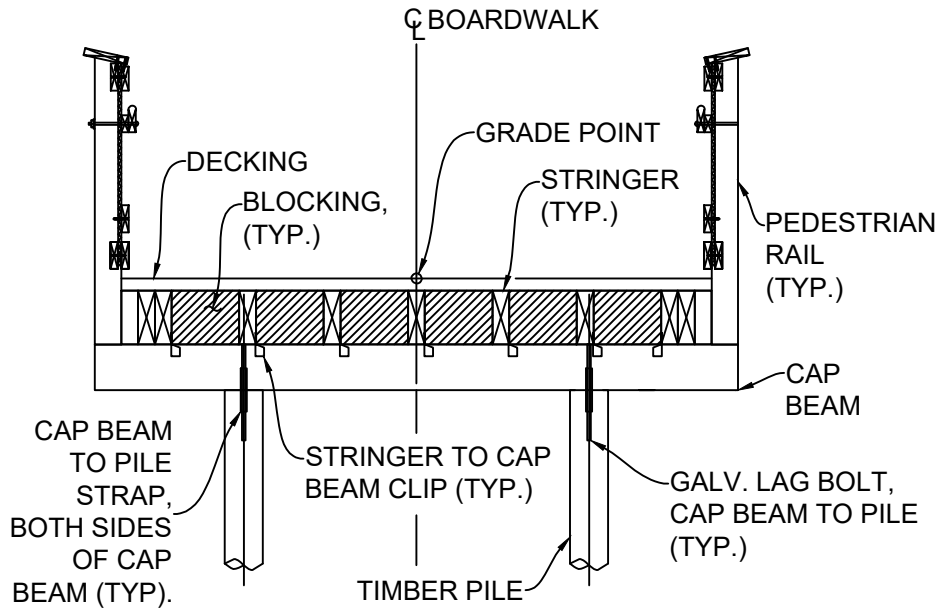
EFFECTIVE: JANUARY 12, 2021

BOARDWALK

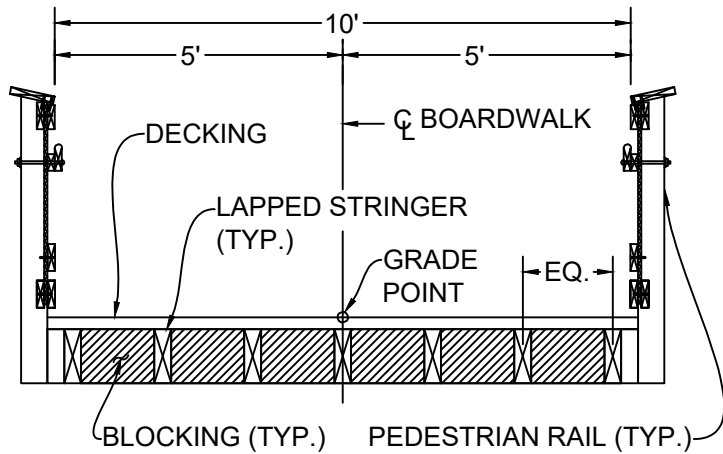
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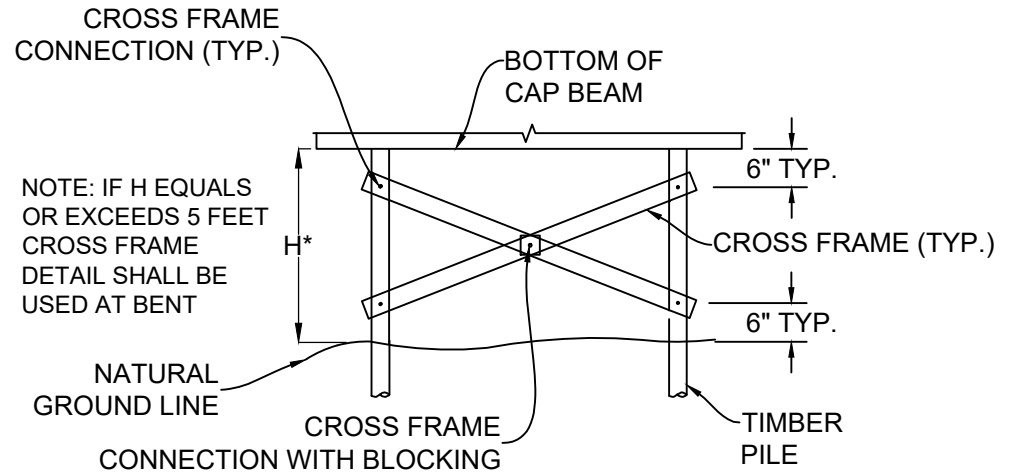
SHEET 1 OF 3



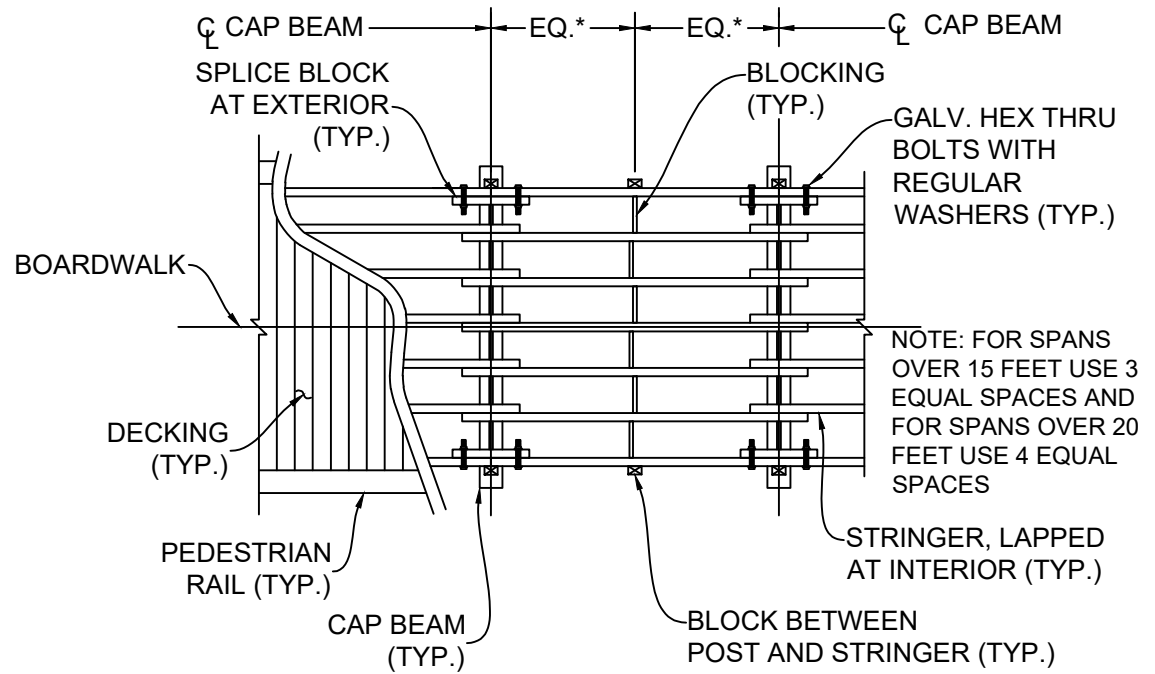
TIMBER BOARDWALK BENT ELEVATION



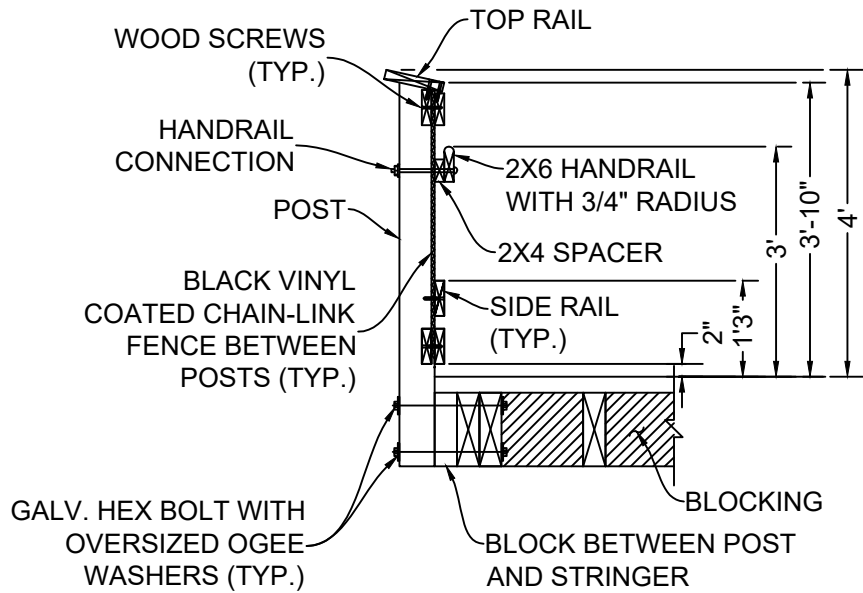
TYPICAL SECTION THROUGH MIDSPAN



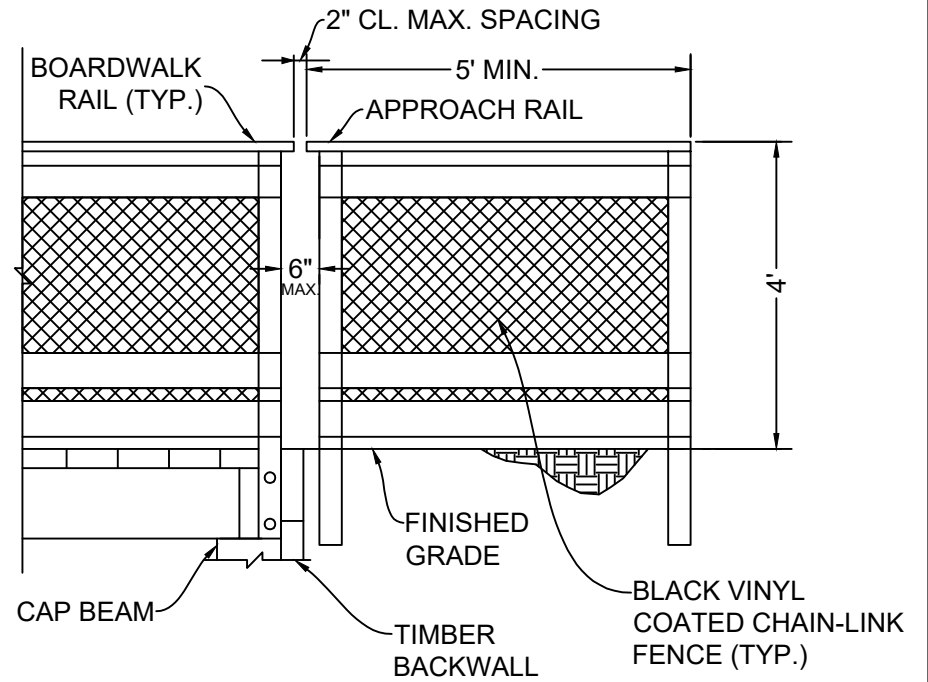
CROSS FRAME DETAIL



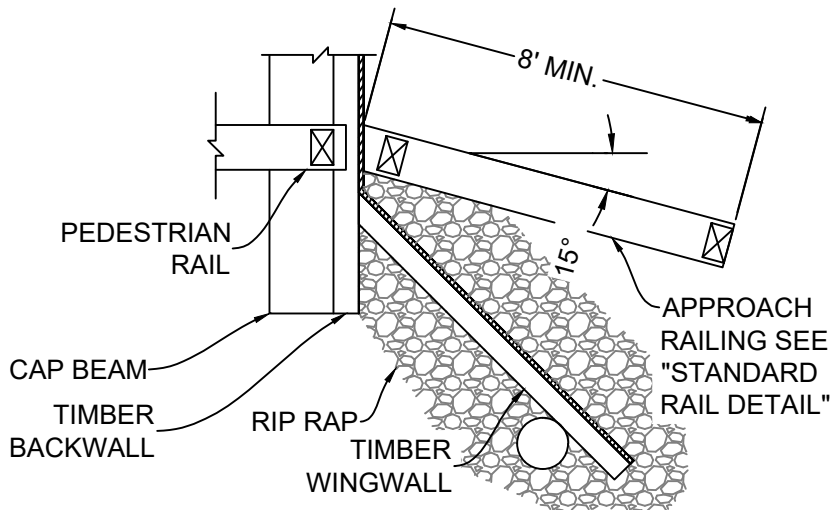
TIMBER BOARDWALK DECK FRAMING PLAN (10 FT SPAN TYP.)



PEDESTRIAN RAIL DETAIL



STANDARD RAIL DETAIL



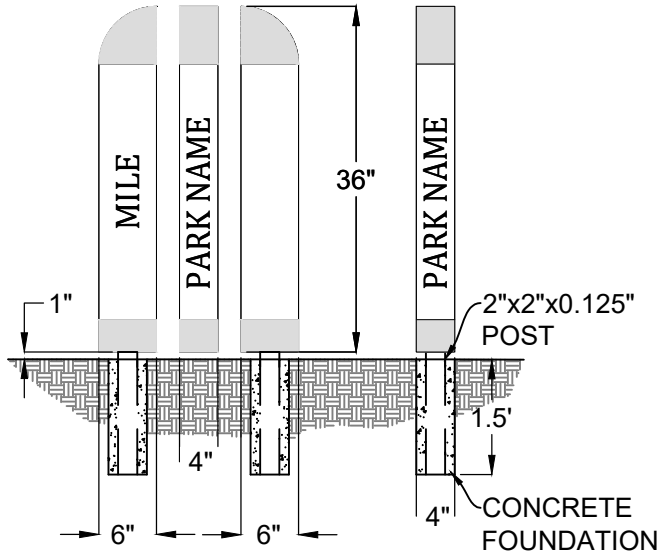
TYPICAL APPROACH RAIL PLAN (TOP VIEW)

NOTES:

1. ALL FENCE MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 1050 OF THE NCDOT STANDARD SPECIFICATIONS.
2. GALVANIZE ALL STEEL PARTS AND HARDWARE IN ACCORDANCE WITH ARTICLE 1079 OF THE NCDOT STANDARD SPECIFICATIONS.
3. ALL CHAIN LINK FENCE FABRIC, POSTS, RAILS, FITTING HARDWARE, AND ACCESSORIES SHALL BE BLACK VINYL COATED IN ACCORDANCE WITH ARTICLE 1050 OF THE NCDOT STANDARD SPECIFICATIONS.
4. PROVIDE A MINIMUM OF 2 FEET OF RIP RAP AROUND THE TIMBER WINGWALL TO PREVENT WASHOUT OF EARTH MATERIALS.
5. APPROACH RAIL TO BOARDWALKS SHALL BE A MINIMUM OF 8 FEET IN LENGTH, FLARED TO PROVIDE A 2-FOOT LATERAL OFFSET.

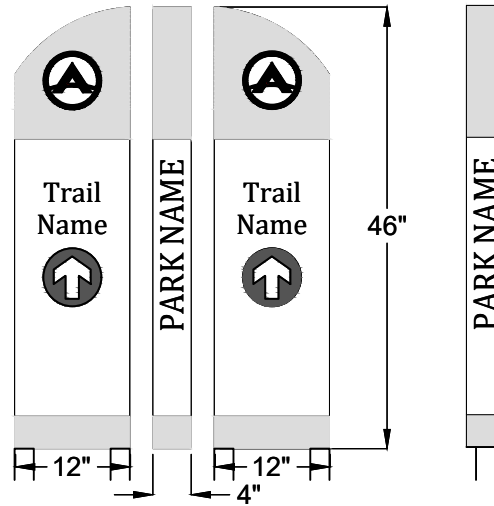
WAYFINDING

MILEAGE
36" x 6" x 4"



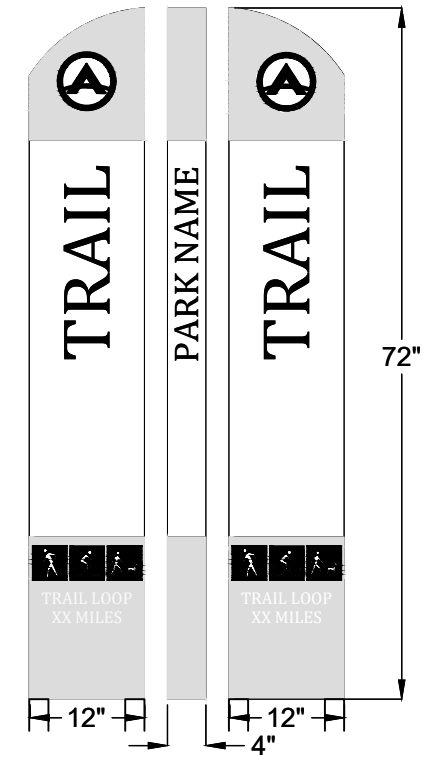
SINGLE-SIDED
MILEAGE NUMBER: TBD

DIRECTIONAL
46" x 12" x 4"



LOCATE AT STREET/SIDEWALK
DOUBLE-SIDED
ARROW DIRECTION: TBD

ID SIGN
72" x 12" x 4"

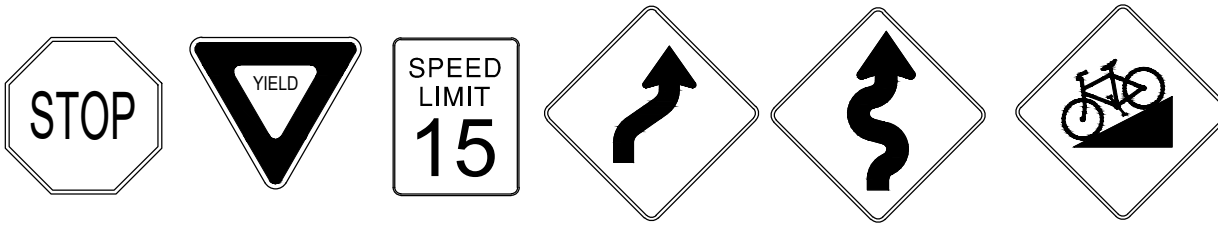


LOCATED AT TRAIL START
DOUBLE-SIDED
LOOP REFERENCE: TBD

NOTES:

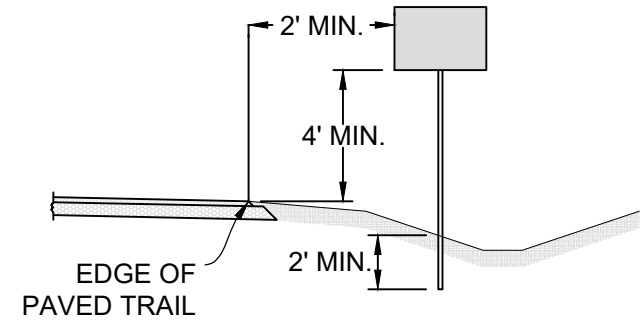
1. WAYFINDING SIGNAGE SHALL BE MOUNTED ON A 1" X 4" X 0.125" ALUMINUM C-CHANNEL FRAME.
2. SIGN FACES SHALL BE 0.080" MILL FINISHED (MF) ALUMINUM EPOXIED TO THE FRAME.
3. THE EXTERIOR OF THE SIGN SHALL HAVE A MINIMUM OF TWO ¼" DRAIN HOLES ALONG THE BOTTOM KEPT FREE OF DEBRIS.
4. MILEAGE SIGNS SHALL BE MOUNTED ON A SINGLE STUB MOUNT. DIRECTIONAL AND ID SIGNS SHALL BE MOUNTED ON A DOUBLE STUB MOUNT WITH 2" X 2" X 0.125" ALUMINUM TUBE POSTS. A VERTICAL CLEARANCE OF ONE (1) INCH SHALL BE MAINTAINED BETWEEN THE BOTTOM OF THE SIGN AND GROUND SURFACE. POSTS SHALL BE DRIVEN MINIMUM 18 INCHES INTO THE GROUND AND ENCASED IN CONCRETE.
5. THE COLOR SCHEME OF SIGN FACES SHALL BE WHITE SATIN AND GREEN (PMS 7743 C SATIN). THE CUT AND PRINTED VINYL SHALL BE BLACK AND WHITE.

TYPICAL GREENWAY REGULATORY AND WARNING SIGNAGE



SIGN TYPE	SIGN SIZE
R1-1 (STOP)	18" x 18"
R1-2 (YIELD)	18" x 18" x 18"
R2-1 (SPEED LIMIT)	18" x 18"
W1-4 (CURVE WARNING)	18" x 18"
W1-5 (CURVES WARNING)	18" x 18"
W7-5 (SLOPE/HILL WARNING)	18" x 18"

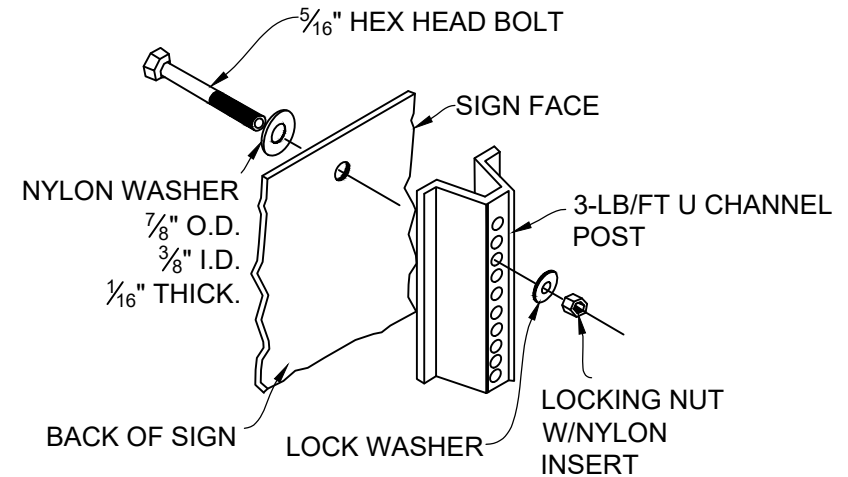
* FOR OTHER TYPES OF SIGNAGE CONSULT THE MUTCD



SIGN PLACEMENT

NOTES:

1. SHEETING MATERIAL FOR ALL SIGNS SHALL BE HIGH INTENSITY PRISMATIC (HIP) TYPE IV MULTI-LAYER SHEETING.
2. A STOP SIGN SHALL BE INSTALLED WHENEVER A PUBLIC GREENWAY INTERSECTS A ROADWAY (EXCEPT FOR STREET-SIDE GREENWAYS), AND SHALL BE INSTALLED FOR PRIVATE GREENWAYS AS INDICATED ON PLANS.
3. A YIELD SIGN SHALL BE INSTALLED ON THE MINOR APPROACHES AT CROSSINGS OF TWO GREENWAYS, OR WHERE INDICATED ON THE PLANS.
4. STEEP SLOPE/HILL WARNING SIGNAGE SHALL BE INSTALLED AT A MINIMUM DISTANCE OF 50 FEET APPROACHING DOWNHILL SLOPES THAT EXCEED 5 PERCENT.
5. CURVE WARNING (W1-4) SIGNAGE SHALL BE INSTALLED AT A MINIMUM DISTANCE OF 50 FEET APPROACHING HORIZONTAL CURVES WITH A RADIUS OF LESS THAN 50 FEET. MULTIPLE CURVES (W1-5) SIGNAGE SHALL BE INSTALLED WHERE A COMBINATION OF SLOPE EXCEEDS 5 PERCENT AND HORIZONTAL CENTERLINE CURVE RADIUS IS LESS THAN 50 FEET.
6. REFER TO MUTCD FOR ALL OTHER GUIDANCE.



SIGN MOUNTING DETAIL

TOWN OF APEX
STANDARDS

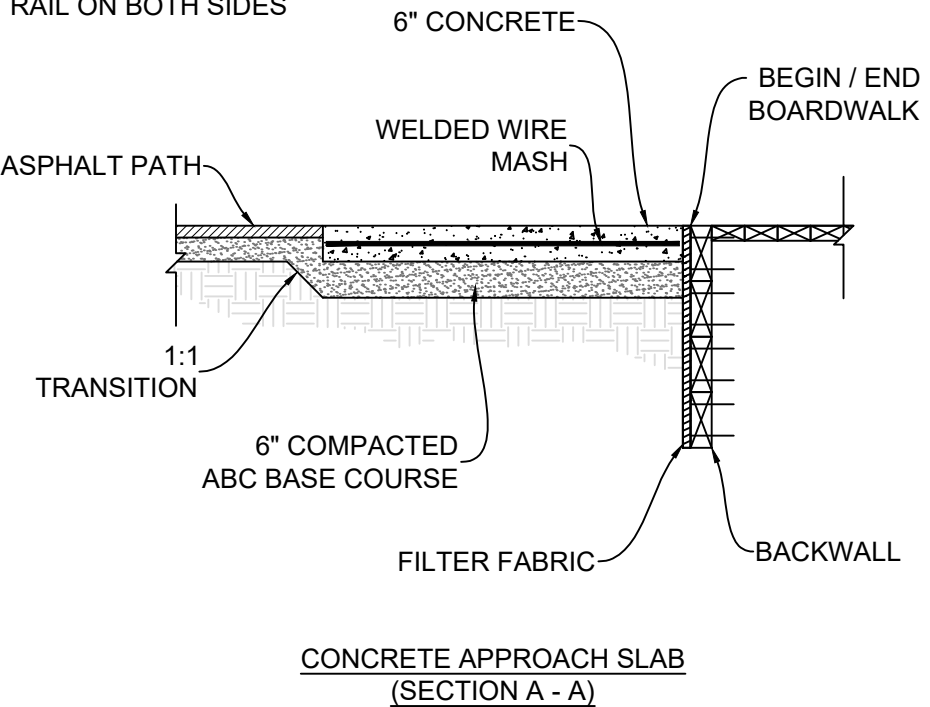
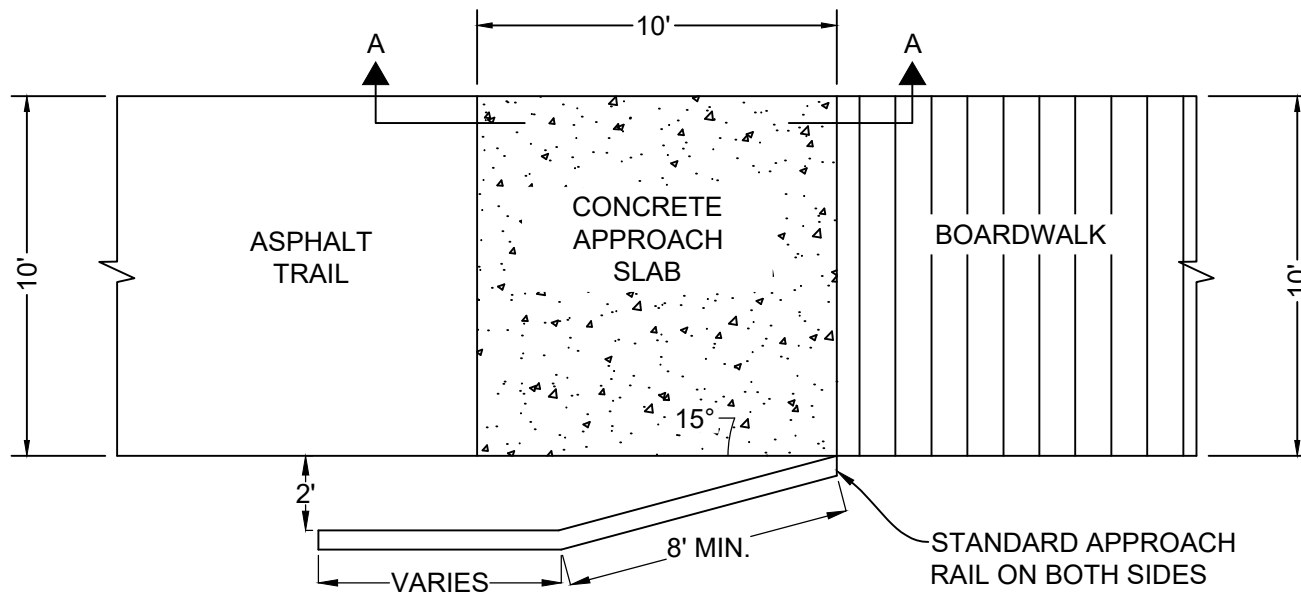
EFFECTIVE: JANUARY 12, 2021

GREENWAY SIGNAGE

STD. NO.

900.03

SHEET 2 OF 2



NOTES:

1. APPROACH SLAB SHALL BE 6-INCH THICK CONCRETE PAVEMENT (4,000 PSI OR GREATER) WITH A 6-INCH X 6-INCH WELDED WIRE MESH PLACED 3 INCHES FROM THE BOTTOM OF THE CONCRETE SLAB.
2. THE LENGTH OF THE STANDARD APPROACH RAIL SHALL VARY DEPENDING ON SITE CONDITIONS.
3. WHERE SITE CONDITIONS REQUIRE SAFETY RAIL ON THE APPROACHING TRAIL, TIE STANDARD APPROACH RAIL TO SAFETY RAIL AT THE END OF THE FLARED TRANSITION.

**TOWN OF APEX
STANDARDS**

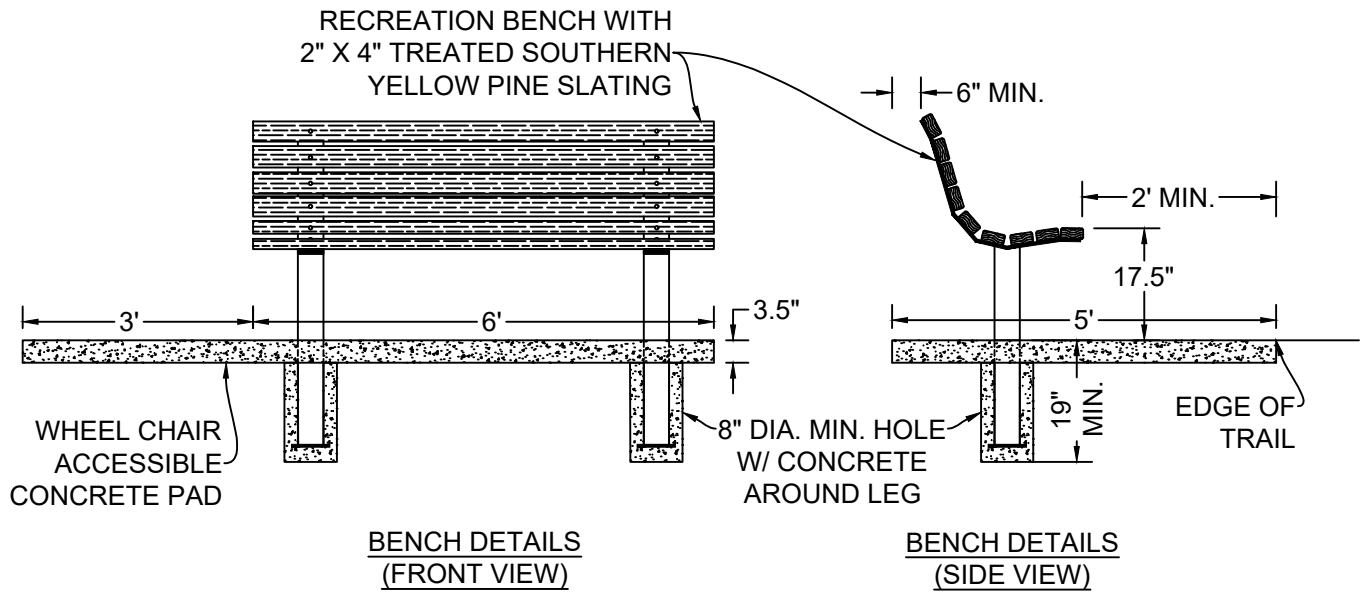
EFFECTIVE: JANUARY 12, 2021

CONCRETE APPROACH SLAB

STD. NO.

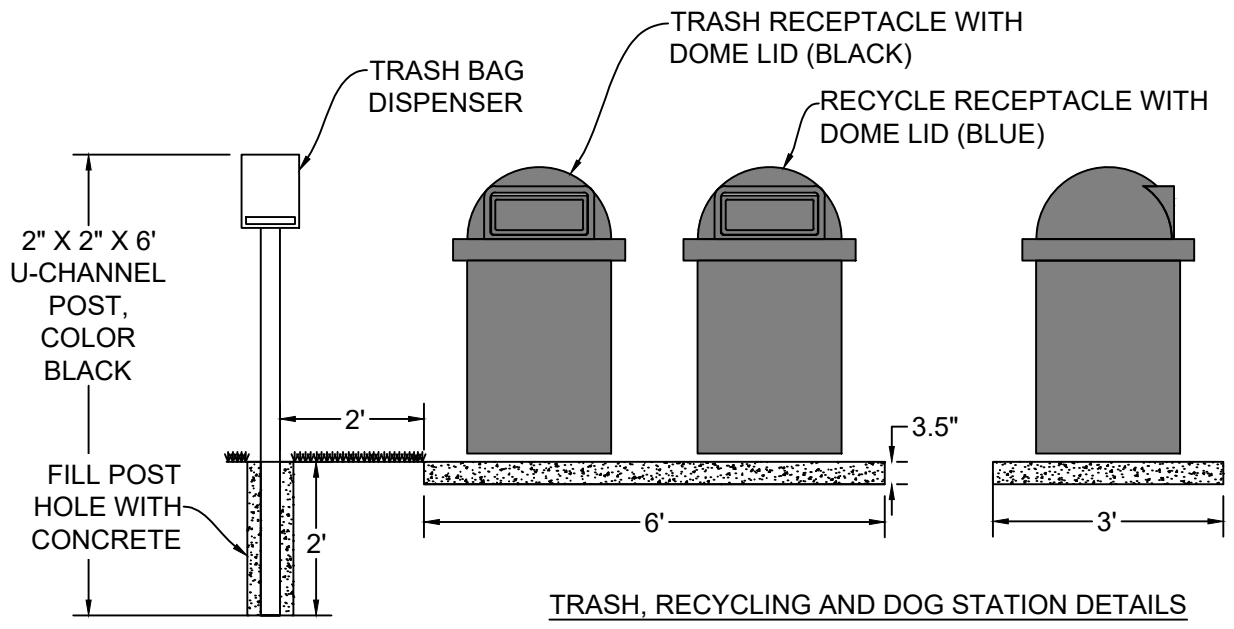
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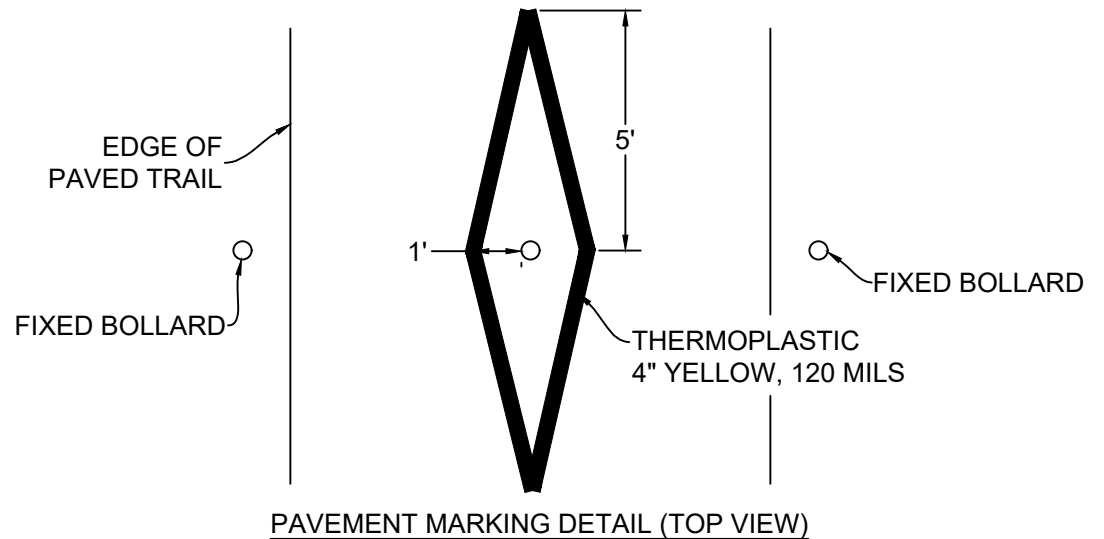
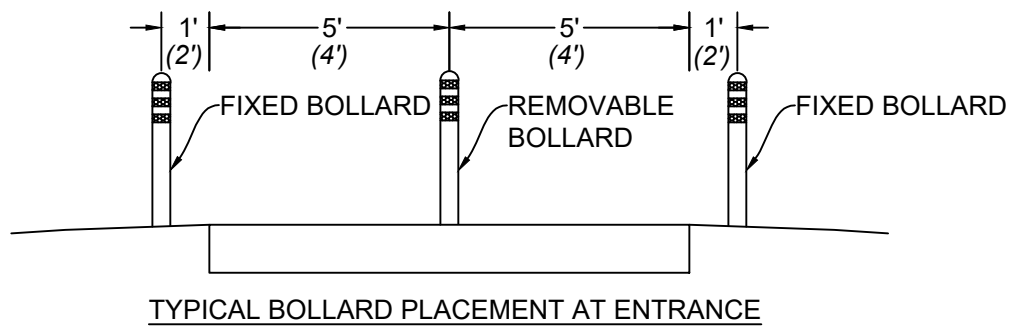
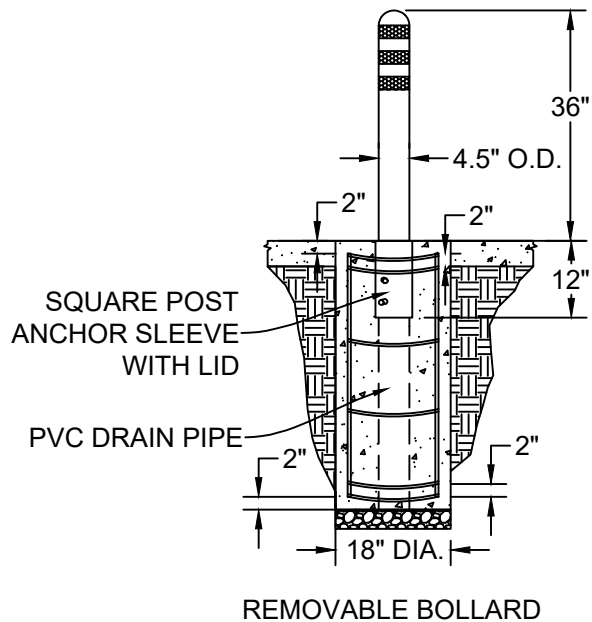
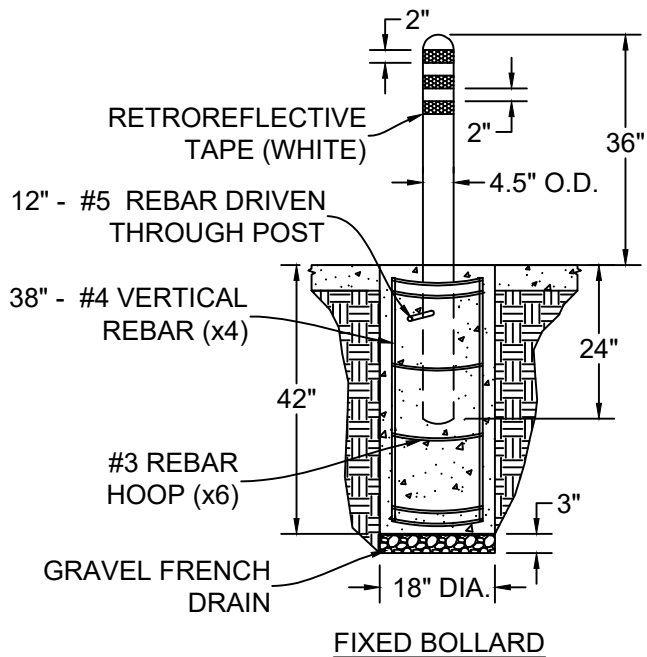
SHEET 1 OF 1



NOTES:

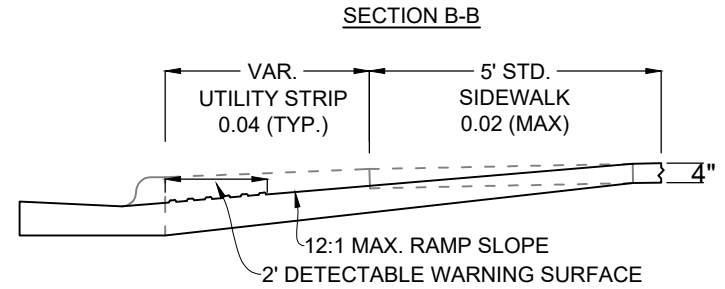
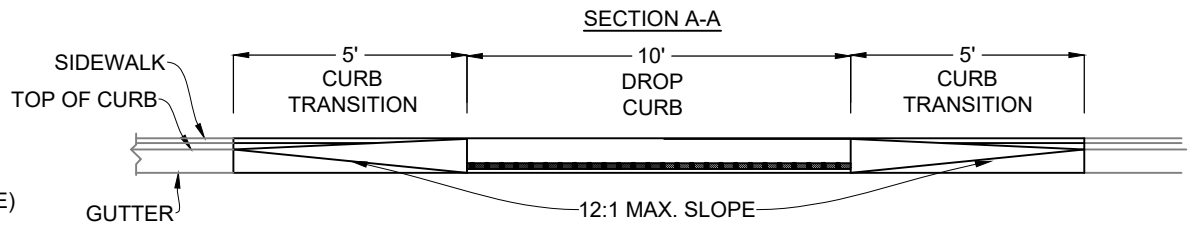
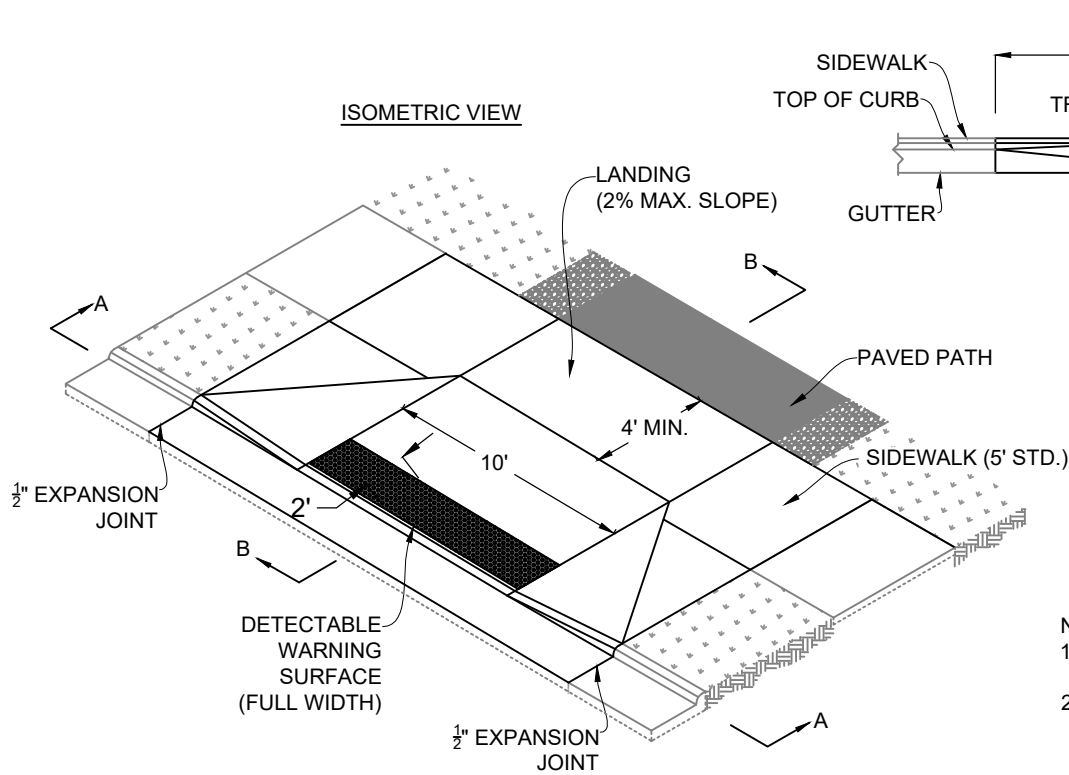
1. BENCHES SHALL BE KAY PARK RECREATION MODEL NO 6CB2SYPIG OR EQUIVALENT.
2. BENCHES TO BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND DETAILS.
3. BENCHES SHALL BE MOUNTED IN CONCRETE AND PAD POURED AFTER BENCHES ARE SECURED.
4. TRASH RECEPTACLE SHALL BE OCC OUTDOORS REC-S8331A-00-092 (BLACK) WITH DOME LID AND PUSH DOOR (BLACK) OR EQUIVALENT.
5. RECYCLING RECEPTACLE SHALL BE OCC OUTDOORS REC-S8331A-00-055 (BLUE) WITH DOME LID AND PUSH DOOR (BLUE) OR EQUIVALENT.
6. DOG STATION SHALL BE CROWN PRODUCTS REGAL PET WASTE STATION, ID NO. PP-H-KIT-WP, COLOR HUNTER GREEN, OR EQUIVALENT.
7. DOG STATION, TRASH AND RECYCLE RECEPTACLES TO BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND DETAILS.





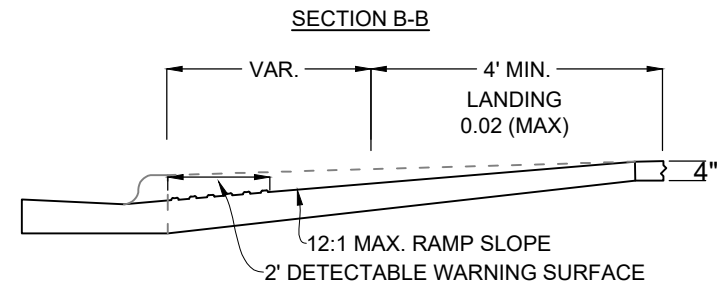
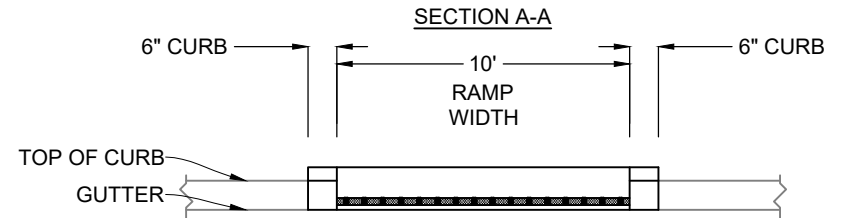
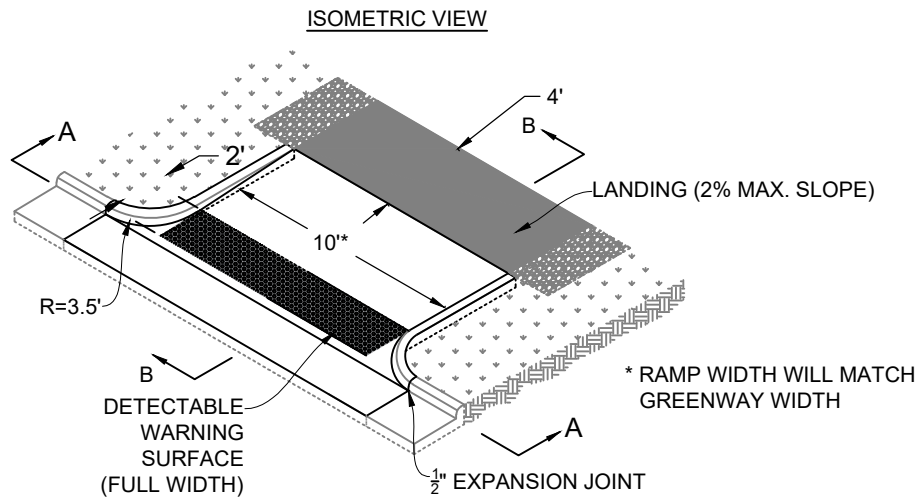
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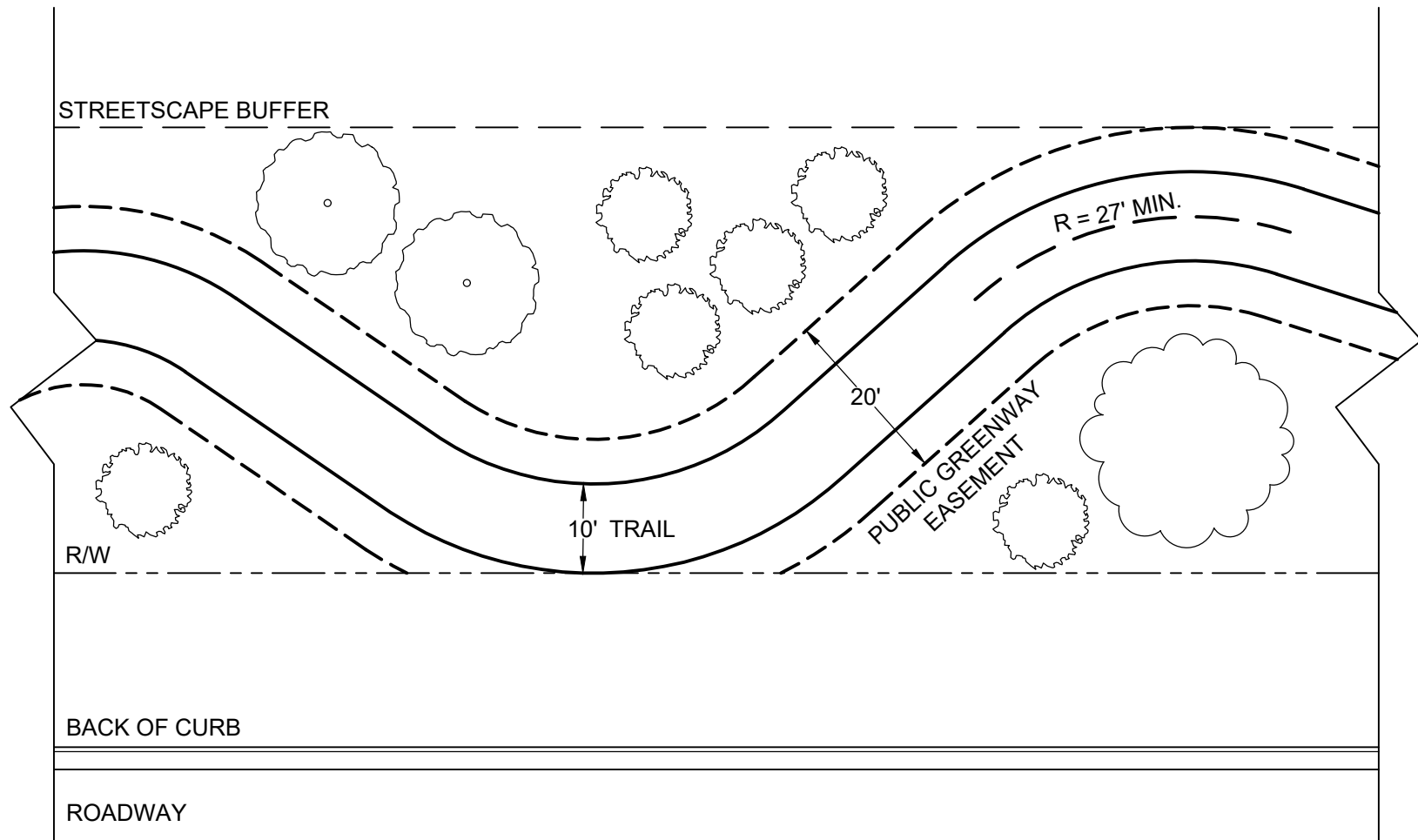
1. FIXED BOLLARDS SHALL BE TRAFFICGUARD RFP SERIES, AND REMOVABLE BOLLARDS SHALL BE TRAFFICGUARD RP3500 SERIES, OR APPROVED EQUAL. BOLLARDS SHALL BE FINISHED WITH POWDER COATED BLACK PAINT.
2. BOLLARDS AND SIGNS SHALL BE INSTALLED PER MANUFACTURER DETAILS AND SPECIFICATIONS.
3. CONCRETE FOUNDATIONS SHALL BE CONSTRUCTED TO WITHSTAND 6,000 LBS OF STATIC LOAD AT 27 INCHES ABOVE GRADE PER MANUFACTURER SPECIFICATIONS.
4. BOLLARDS SHALL BE INSTALLED OUTSIDE THE CLEAR ZONE WHEN ADJACENT TO ROADWAY. BOLLARDS SHALL BE INSTALLED MINIMUM 10 FEET FROM THE BACK OF CURB RAMP WHEN APPLICABLE.
5. PROVIDE A 2-FOOT SEPARATION BETWEEN TRAIL AND BOLLARDS WHEN TRAIL IS 8 FEET IN WIDTH.
6. FIXED BOLLARDS SHALL NOT BE REQUIRED WHEN MOTOR VEHICLE ACCESS IS BLOCKED BY PEDESTRIAN RAILING OR FENCING.



NOTES:

1. RAMPS SHALL BE CONSTRUCTED OF CONCRETE MEETING A MINIMUM COMPRESSION STRENGTH OF 3,000 PSI.
2. DETECTABLE WARNING DOMES WILL CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT SEQUENCE.





NOTES:

1. STREET-SIDE GREENWAYS SHALL BE LOCATED OUTSIDE THE RIGHT-OF-WAY WHERE PRACTICAL.
2. STREET-SIDE GREENWAYS MAY BE LOCATED WITHIN THE ROADWAY BUFFER.
3. A MINIMUM SEPARATION OF FIVE FEET SHALL BE MAINTAINED FROM THE BACK OF CURB IN CONSTRAINED LOCATIONS.
4. STREET-SIDE GREENWAYS SHOULD MEANDER WHERE PRACTICAL GIVEN PHYSICAL BARRIERS AND TOPOGRAPHICAL CONSTRAINTS.
5. PRIVATE UTILITIES, IRRIGATION INFRASTRUCTURE, LANDSCAPING, FENCES, SIGNS, MONUMENTS, OR ASSOCIATED EASEMENTS SHALL NOT BE ALLOWED WITHIN THE PUBLIC STREET-SIDE GREENWAY EASEMENT.
6. PUBLIC UTILITIES WITHIN THE PUBLIC STREET-SIDE GREENWAY EASEMENT MAY BE ALLOWED UPON APPROVAL OF TOWN STAFF.

**TOWN OF APEX
STANDARDS**

EFFECTIVE: JANUARY 12, 2021

STREET-SIDE GREENWAY

STD. NO.

900.08

SHEET 1 OF 1