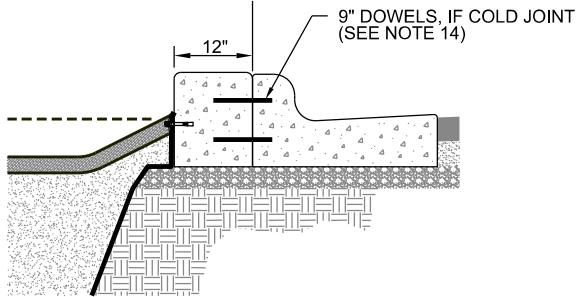


TYPICAL BUMP-OUT BIORETENTION SECTION

NOTES:

1. EXPANSION JOINTS AND DUMMY JOINTS SHALL BE PER STANDARD DETAIL T-10.26.1, CURB AND GUTTER.
2. REFER TO DESIGN PLANS FOR HORIZONTAL CONTROL INFORMATION.
3. BIORETENTION SIZING IS THE RESPONSIBILITY OF THE DESIGN ENGINEER. SIZING CALCULATIONS SHALL BE SUBMITTED TO THE CITY FOR REVIEW.
4. THE INCLUSION OF AN UNDERDRAIN SYSTEM WITH IMPERMEABLE LINER (INCLUDING BOTTOM LAYER) IS DEPENDENT UPON THE RECOMMENDATION OF GEOTECHNICAL INVESTIGATION CONSISTENT WITH THE GUIDANCE PROVIDED IN THE NCDEQ STORMWATER DESIGN MANUAL AND CITY OF RALEIGH DESIGN MANUAL. IMPERMEABLE LINER SHALL BE HDPE, PVC, OR LDPE AND SHOULD BE INSTALLED SO THAT LINER EXPOSURE TO SUNLIGHT IS MINIMIZED.
5. IF REQUIRED, REFER TO DESIGN PLANS FOR UNDERDRAIN INVERT ELEVATIONS.
6. REFER TO PLANS FOR UNDERDRAIN CLEANOUT LOCATIONS AND INSTALLATION DETAILS.
7. BOTH PIPE PENETRATIONS AND ATTACHMENT OF 30 MIL IMPERMEABLE LINER TO CONCRETE CURBS (USING CONCRETE ANCHORS SPACED AT MAXIMUM 18" O.C. AND BATTEN STRIPS) SHALL BE DONE IN ACCORDANCE WITH ASTM 6497.
8. GEOTEXTILE MAY BE UTILIZED IN-LIEU OF AGGREGATE CHOKING LAYER IF APPROVED BY ENGINEER.
9. BOTTOM OF STORAGE LAYER SHALL BE SCARIFIED TO PROMOTE INFILTRATION PRIOR TO BACKFILL.
10. ALL UNDERDRAINS, IF REQUIRED, SHALL CONNECT TO STORM DRAIN OR OTHER DRAINAGE FEATURE.
11. ALL FEATURES INTEGRATED INTO BUMP-OUT BIORETENTION, INCLUDING VEGETATION, SHALL MEET SIGHT DISTANCE REQUIREMENTS PER STREET DESIGN MANUAL AND RECOMMENDED PLANT SPECIES IN THE NCDEQ STORMWATER DESIGN MANUAL.
12. MINIMUM RADII FOR BUMP-OUT BIORETENTION SHALL MEET ENGINEERING SPECIFICATIONS IN STREET DESIGN MANUAL DEPENDING ON ROADWAY TYPE.
13. BIORETENTION MEDIA SHALL BE PLACED IN 8" LIFTS THAT ARE WALKED ON OR WATERED TO CONSOLIDATE AND ALLOW SHAPING OF THE MEDIA'S SURFACE. THE MEDIA SHALL NOT BE MECHANICALLY COMPACTED. REFER TO NCDEQ STORMWATER DESIGN MANUAL FOR BIORETENTION SOIL MEDIA SPECIFICATIONS.
14. CONCRETE CURB EXTENSIONS ARE RECOMMENDED WHERE PARKING IS IMMEDIATELY ADJACENT AND/OR WHERE SPEED LIMITS EXCEED 35 MPH. POUR 1' WIDE CONCRETE EXTENDED CURB MONOLITHICALLY WITH THE PROPOSED CURB AND GUTTER. OTHERWISE, ANCHOR CONCRETE STRIP TO EXISTING CURB WITH OILED OR GREASED BAR (1/2"X9") AT 24" O.C. INSTALL BAR 3" INTO THE EXISTING CURB. USE CONCRETE ADHESIVE ON THE EXISTING CURB.
15. THE SEASONAL HIGH WATER TABLE SHALL BE 2 FEET BELOW THE BOTTOM OF THE DRAINAGE STONE LAYER.
16. STABILIZE CONTRIBUTING DRAINAGE AREA PRIOR TO PLACEMENT OF UNDERDRAIN AND VARIOUS FILL MATERIALS.
17. ALL MATERIALS SPECIFIED AS WASHED SHALL BE WASHED AND FREE OF FINES.



(OPTIONAL) CONCRETE CURB EXTENSION DETAIL

CITY OF RALEIGH STANDARD DETAIL		
REVISIONS	DATE: 8/2020	NOT TO SCALE
CURB-SIDE AND BUMP-OUT BIORETENTION		
GSI-01		