



# SHEET 3

#### **LUESA**

# Storm Water Quality Treatment

Any separate, defined drainage area within a project that will have greater than 24% built-upon area is to have water best management practices (BMPs) to treat storm water runoff from the entire built-upon area within the separate, defined drainage area. The BMPs are to be constructed to achieve 85% Total Suspended Solid (TSS) removal from the entire post-development runoff volume for the first 1-inch of rainfall. The BMPs must be designed and constructed in accordance with the N.C. Department of Environment and Natural Resources (NCDENR) Best Management Practices Manual, April 1999, Section 4.0.

The use of Low Impact Design (LID) such as bioretention systems in tree islands, grassed swales, vegetated buffers, level spreaders, and other innovative systems in a "treatment train" is optional and encouraged, where applicable. LID systems can be employed in whole or in part, to meet the 85% TSS treatment standard for storm water runoff. LID must be designed and constructed per the NCDENR Best Management Practices Manual, April 1999, Section 4.0.

### Storm Water Volume and Peak Controls

Any separate, defined drainage area within a project that will have greater than 24% built-upon area is to have best management practices (BMPs) to control the entire runoff volume for the 1-year, 24-hour. The runoff volume drawdown time for the BMPs shall be a minimum of 24 hours, but not more than 120 hours. The peak runoff rates should be controlled with BMPs to match the predevelopment runoff rates for the 10-year and 25-year, 6-hr storms or perform a downstream analysis to determine whether peak control is needed, and if so, for what level of storm frequency.

Storm water runoff from the development shall be transported from the site by vegetated conveyances to the maximum extent practicable.

#### **STORM WATER**

## Storm Water Quantity Control

The petitioner shall tie-in to the existing storm water system(s). The petitioner shall have the receiving drainage system(s) analyzed to ensure that it will not be taken out of standard due to the development. If it is found that development will cause the storm drainage system(s) to be taken out of standard, the petitioner shall provide alternate methods to prevent this from occurring.

### Storm Water Quality Treatment

For projects with defined watersheds greater than 24% built-upon area, construct water quality best management practices (BMPs) to achieve 85% Total Suspended Solid (TSS) removal for the entire post-development runoff volume for the runoff generated from the first 1-inch of rainfall. BMPs must be designed and contructed in accordance with the N.C. Department of Environment and Natural Resources (NCDENR) Best Management Practices Manual, April 1999, Section 4.0 (Design Standards shall be met according to the City of Charlotte Best Management Practices Manual, when available). Use of Low Impact Development (LID) techniques is optional.

### Volume and Peak Control

(Source: Volume Control and Peak Control Downstream Analysis taken from "Post-Construction Ordinance Stakeholders' Group Final Report) For projects with defined watersheds greater than 24% built-upon area, control the entire volume for the 1-year, 24-hour storm. Runoff volume drawdown time shall be a minimum of 24 hours, but not more than 120 hours.

For residential projects with greater than 24% BUA, control the peak to match the predevelopment runoff rates for the 10-year and 25-year, 6-hour storms or perform a downstream analysis to determine whether peak control is needed, and if so, for what level of storm frequency. "Residential" shall be defined as "A development containing dwelling

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units with open yards on at least two sides where land is sold with each dwelling unit."

For commercial projects with greater than 24% BUA, control the peak to match the predevelopment runoff rates for the 10-year, 6-hr storm and perform and downstream flood analysis to determine whether additional peak control is needed and if so, for what level of storm frequency, or if a downstream analysis is not performed, control the peak for the 10-year and 25-year, 6-hour storms.

For commercial projects with less than or equal to 24% BUA, but greater than one acre of disturbed area, control the peak to match the predevelopment runoff rates for the 2 and 10-year, 6-hour storm.

Storm Water Services requests the following notes be added:

Under Note #4 "Storm Water Conditional Notes" add:

"Residential" shall be defined as "A development containing dwelling units with open yards on at least two sides where land is sold with each dwelling unit."

Under "Storm Water Conditional Notes" add:

For commercial projects with greater than 24% BUA, control the peak to match the predevelopment runoff rates for the 10-yr, 6-hr storm <u>and</u> perform a downstream flood analysis to determine whether additional peak control is needed and if so, for what level of storm frequency, <u>or</u> if a downstream analysis is not performed, control the peak for the 10-yr and 25 –yr 6-hour storms.

For commercial projects with less than or equal to 24% BUA, but greater than one acre of disturbed area, control the peak to match the predevelopment runoff rates for the 2 and 10-yr, 6-hr storm.

### **CATS**

CATS supports CDOT's remarks regarding sidewalks on the petitioner's site:

The UR zoning district requires a minimum of a 6-foot sidewalk. All sidewalks on all public streets within or abutting the site must have a minimum 6-foot sidewalk.

There is a proposed streetcar station located on Trade Street within ¼ mile of this site. In keeping with the TAP and transit station principles, 8-foot planting strips and 8-foot sidewalks need to be constructed along all public streets in/abutting the site, and 8-foot planting strips and 5-foot sidewalks need to be constructed along all private streets.

CATS is requesting the petitioner to construct a waiting pad on Wesley Heights Way, approximately 60' from the proposed driveway access. The waiting pad should be constructed to CATS Development Standards 60.01A

The CATS Countywide Transit Services Plan calls for restructuring of existing CATS Routes 8: Tuckaseegee Road and 34: Freedom Drive. The restructured routes will traverse Wesley Heights Way, Walnut Avenue, and State Street.

In order to provide adequate customer amenities, CATS is requesting the petitioner to construct a waiting pad, a connecting piece of concrete installed from the back of curb through the planting strip to the sidewalk. This piece of concrete provides an ADA accessible bus stop for CATS' passengers.

Thus, CATS is requesting the petitioner to construct a waiting pad to be constructed to CATS Development Standards 60.01A, to provide customers with an ADA accessible transit stop on Wesley Heights Way.

#### CDOT

The UR zoning district requires a minimum of a 6-foot sidewalk. All sidewalks on all public streets within or abutting the site must have a minimum 6-foot sidewalk.

There is a proposed streetcar station located on Trade Street within ¼ mile of this site. In keeping with the TAP and transit station principles, 8-foot planting strips and 8-foot sidewalks need to be constructed along all public streets in/abutting the site, and 8-foot planting strips and 5-foot sidewalks need to be constructed along all private streets.

# **Urban Design**

- 1. Break up the massing of the multi-family building on Duckworth into two blocks with ped-access to the courtyard.
- 2. Indicate the tree save area on the site.
- 3. Provide ped-scale lighting throughout the site.
- 4. Provide typical cross-section through Duckworth Ave. to illustrate height and finished floor relationships of the multi-family condos and single-family across the street.
- 5. Provide conceptual elevations of: 1 multi-family (facing courtyard) 2. North, South and East elevations of the townhomes.
- 6. Provide design detail of the courtyard/landscaped area.
- 7. Provide 8' planting strip and 6' sidewalk along Wesley Heights Way and Duckworth Avenue with large maturing street trees planted between curb and sidewalk.
- 8. Connect the internal sidewalk network to external sidewalks on Duckworth and Wesley Heights Way.
- 9. Show dumpster locations on site.