

## Requirements For Stormwater Plans

Note: All projects that disturbs more than 1 acre or results in impervious area greater than 50% of the entire site acreage shall meet the requirements of subsections 7-12-2(g)(1) and 7-12-2(g)(2) of the City of Asheville UDO.

**\* Stormwater plans shall include a “Title Block” containing the following information:**

- As required on all plan sheets

**\* Stormwater plans shall include a “Development Data Block” containing the following information:**

- Name of property owner (s)
- Name, address, and phone number of contact person
- PIN number(s) of property being developed
- Size of property in acres
- Amount of disturbed area in acres
- Amounts of pervious/impervious area in acres
- Zoning district

**\* The Stormwater Plan shall include the following:**

- Provide north arrow
- Include a 4”X4” vicinity map at a maximum scale of 1”=1000’
- Include a graphic scale for the plan
- Show all existing property boundaries with dimensions (show entire property)
- PIN number(s) of adjacent properties
- Show existing and proposed topographical contours (5 ft. increments or less), elevation labels shall be provided for contours at 25 ft intervals. (Contour information shall be developed from actual field topographic survey. A copy of the sealed topographic survey will be required.)
- Depict and label all existing and proposed retaining walls, if applicable
- Depict and indicate all existing and proposed stormwater drainage structures, if applicable 
  - The type of structure shall be indicated.
  - All structures shall be labeled with a Structure ID
  - Invert elevations shall be indicated for all pipes in the structure
  - The elevation of the top of the structure shall be indicated
  - The appropriate standard detail shall be referenced.
- Depict and indicate all existing and proposed stormwater drainage pipes, if applicable 
  - The material type of pipe shall be indicated.
  - All pipes shall be labeled with a Pipe ID
  - The length, size and slope of all pipes shall be indicated
  - The appropriate standard installation detail shall be referenced.
- Depict and label all existing and proposed stormwater conveyance ditches, if applicable 
  - All ditch sections shall be labeled with a Ditch ID
  - Indicate the % slope of all ditch sections
  - Provide ditch cross-sections, indicating ditch depth, top and bottom widths

and side slopes

- Indicate type and installation requirements for in ditch erosion protection, such as riprap, geo-blankets, etc.
  - Depict and indicate all existing and proposed detention/retention basins, underground storage systems and all other BMPs, if Applicable 
    - All basins shall be labeled with a Basin ID
    - Dimension basins
    - Indicate basin volume
    - For above ground basins, depict grading for basin by showing basin contours
    - Provide specific basin cross-sections and information, which indicates all pertinent design information.
  - Depict and indicate all existing and proposed stormwater control structures, if applicable 
    - All structures shall be labeled with a Structure ID
    - Provide a specific control structure detail with dimensions, which indicates all pertinent design information.
  - Provide profiles for stormwater drainage system, if applicable 

Profiles shall include the following

    - Stormwater structures and pipes with all information as indicated above
    - All crossings with other existing and proposed underground utilities, with separation distances indicated
    - Proposed and finished grades
  - Depict and label all stormwater dispersion devices
  - Depict and indicate all water courses and water bodies
  - Show and label all existing and proposed structures and improved areas,
  - Show and label all flood zones, if applicable
  - Depict and indicate all existing and proposed utilities
  - Show existing and proposed easements; label and dimension
  - Depict all adjacent streets and indicate name and width
  - Show and dimension all right-of-ways
  - Provide all pertinent stormwater notes and details
- \* Additional Items That Are Required:**
- Stormwater quantity control systems shall limit the 2-year and 10-year developed peak discharge rates to pre-developed peak discharge rates using the 24-hour SCS Type II design storm and pass the 50-year, 24-hr event storm.
  - Stormwater quality control systems shall control and treat the runoff leaving the site from the first inch of rain. The volume of runoff shall be detained between 48 and 120 hours. Also, all structural stormwater treatment systems shall be designed to have a minimum of 85% average annual removal for Total Suspended Solids.
  - For pipes and ditches; capacity and velocity calculations shall be submitted. Calculations shall bear design professional seal and signature.
  - For basins and control structures; pre and post development runoff calculations shall be submitted. Storage volume, inflow and out flow calculations shall be submitted. Calculations shall bear design professional seal and signature. Also, provide a maintenance schedule with the calculations.
  - For outlets, provide calculations for dispersion devices

- For inlets on public streets, provide stormwater spread calculations.
- Development or redevelopment required to comply with the provisions for post-construction stormwater control, a contract is required between the person financially responsible and a licensed professional for post-construction stormwater control compliance checks.

