

SUMMIT COUNTY ENGINEER'S OFFICE
STORMWATER MANAGEMENT CHECKLIST
COMMERCIAL SITES

Project _____ Developer _____

Location _____ Engineer _____

NARRATIVE

- Project Description – Brief description of purpose and scope of the project.
- Existing Site Conditions – A description of the existing topography, vegetation and drainage.
- Adjacent Areas – A description of neighboring areas such as streams, lakes, residential areas, roads, commercial sites, etc. which drain into or which might be affected by the project.
- Soils – Soil information such as name, group, permeability, etc.; include locations of any borings.

DRAINAGE PLAN(S)

- Existing Topography – a 100-scale (or better) topographic map of the site should be prepared to show existing contours, vegetation, structures, etc. When drainage areas are large and cover off-site areas, a USGS map may be used to show off-site drainage.
- Drainage Patterns – All existing drainage swales and patterns, storm sewers, etc. should be located and clearly marked on an existing drainage map.
- Proposed Site – Proposed contours should be shown on the proposed site plan at appropriate contour intervals.
- Proposed Stormwater Management Devices – All swales, drainage patterns, piping, detention/retention basins, outlet structures, etc. should be shown and clearly marked on the proposed site plan.
- Site Development – All structures, pavement, curbing, grassed areas, etc. should be shown and clearly marked on the proposed site plan.

CALCULATIONS

- Pre-Development and Post-Development runoff coefficients.
- Pre-Development and Post-Development flow calculations for the 2, 5, 10, 25, 50 & 100 - year storm frequencies.
- Show that:
 - Peak rate of runoff from an area, after development, for a 25 - year storm frequency shall not exceed the peak rate of runoff from the same area, before development, for a 2 - year storm frequency.

AND

- Show that:
 - Peak rate of runoff from an area, after development, for a 50 and 100 - year storm frequency shall not exceed the peak rate of runoff from the same area, before development, for a 50 and 100 - year storm frequency.
- Outlet structure calculations for each storm including, orifice, weir, etc.
- Maximum basin side slopes 4:1.
- Maximum bottom slope to properly drain basin
 - Grassed surfaces only – 2%
- Provide maintenance access way to basin, which consists of appropriate base for maintenance equipment.
- Storm pipe calculations including full flow capacity, mean velocity, discharge, etc.
- Rock channel protection where necessary.

The above checklist should serve only as a guideline and not the rule for plan submission. Depending upon the site, there may be other items that will need to be addressed. For further information or questions, contact the Summit County Engineers Office at (330) 643-2850.

SUMMIT COUNTY ENGINEER'S OFFICE
STORMWATER MANAGEMENT CHECKLIST
SUBDIVISION SITES

Project _____ Developer _____

Location _____ Engineer _____

NARRATIVE

- Project Description – Brief description of purpose and scope of the project.
- Existing Site Conditions – A description of the existing topography, vegetation and drainage.
- Adjacent Areas – A description of neighboring areas such as streams, lakes, residential areas, roads, commercial sites, etc. which drain into or which might be affected by the project.
- Soils – Soil information such as name, group, permeability, etc.; include locations of any borings.
- Floodplains – State that floodplains were checked; comment on location and impacts if applicable.

DRAINAGE PLAN(S)

- Existing Topography – a 100-scale (or better) topographic map of the site should be prepared to show existing contours, vegetation, structures, etc. When drainage areas are large and cover off-site areas, a USGS map may be used to show off-site drainage.
- Drainage Patterns – All existing drainage swales and patterns, storm sewers, etc. should be located and clearly marked on an existing drainage map.
- Proposed Site – Proposed contours should be shown on the proposed site plan at appropriate contour intervals.
- Proposed Stormwater Management Devices – All swales, drainage patterns, piping, detention/retention basins, outlet structures, etc. should be shown and clearly marked on the proposed site plan.
- Site Development – All structures, pavement, curbing, grassed areas, etc. should be shown and clearly marked on the proposed site plan.

CALCULATIONS

- Pre-Development and Post-Development runoff coefficients.
- Pre-Development and Post-Development flow calculations for the 2, 5, 10, 25, 50 & 100 - year storm frequencies.
- Show that:
 - Peak rate of runoff from an area, after development, for a 25 - year storm frequency shall not exceed the peak rate of runoff from the same area, before development, for a 2 – year storm frequency.

AND

- Show that:
 - Peak rate of runoff from an area, after development, for a 50 and 100 - year storm frequency shall not exceed the peak rate of runoff from the same area, before development, for a 50 and 100 – year storm frequency.
- Outlet structure calculations for each storm including, orifice, weir, etc.
- 4:1 maximum basin side slopes above normal water elevation.
- Minimum bottom slope to properly drain basin
 - Grassed surfaces only –1%
- Provide maintenance access way to basin, which consists of appropriate base for maintenance equipment.
- Storm pipe calculations including full flow capacity, mean velocity, discharge, etc.
- Rock channel protection where necessary.
- Spread flow calculations
- Ditch calculations.
- Roadway and driveway culvert calculations.

The above checklist should serve only as a guideline and not the rule for plan submission. Depending upon the site, there may be other items that will need to be addressed. For further information or questions, contact the Summit County Engineers Office at (330) 643-2850.