



Project Name:

Application Number:

1.0 Submission Requirements

- 1.1 _____ One (1) completed copy of the Exploratory Plan Engineering Checklist signed, sealed and dated by a Delaware P.E./P.L.S./R.L.A.
- 1.2 _____ One (1) set of electronic plans and reports submitted through ePlans, with files named in accordance with the NCC eServices Electronic Plan Review Submittal Standards and prepared in accordance with the Engineering Checklist for the Exploratory Plan.
- 1.3 _____ One (1) electronic copy of the schematic pre-bulk erosion and sediment control plan for the project site submitted through ePlans, with files named in accordance with the NCC eServices Electronic Plan Review Submittal Standards
- 1.4 _____ Review fee, payable to New Castle County. (NCCC Ch. 40 Appendix 2)

2.0 Plan Requirements

- 2.1 _____ All exploratory plan items as required by NCCC Ch. 40 Appendix 1.2.A
- 2.2 _____ Field verified topography, when necessary to delineate the extent of any Article 10 resources (e.g. floodplain, steep slopes, etc.). If field verified topography is not required, topography shall be provided from one of the following sources in the subsequent order: (a) Topography established under a previous application, (b) Any other source of existing topography (i.e. LIDAR) that is more precise than the USGS Quadrangle Map topography.
- 2.3 _____ Delineate boundary of the FEMA 500-year floodplain (NCCC Ch. 12.03.001.E)
- 2.4 _____ Easements consistent with the requirements of the NCCC Ch. 12.04.005

3.0 Report Requirements

- 3.1 _____ One (1) copy of the completed Stormwater Assessment Study (SAS) (including SAS Checklist) or one signed Standard Plan Application (if applicable). NOTE: Compliance with NCCC Ch. 12 is required for all plan submissions
- 3.2 _____ Statement regarding the need to employ runoff reduction practices to achieve an equivalent 50% reduction in effective imperviousness from existing impervious areas for the RPv event. (NCCC Ch. 12.05.006.B.1)

- 3.3 _____ One (1) copy of the appropriate USGS Quadrangle Map that includes the following information:
- 3.3.1 _____ The location of the project parcel(s) within the watershed.
 - 3.3.2 _____ Delineation and identification of the watershed in which the application parcel(s) are located as defined by the confluence of a watercourse to which the project parcel(s) contributes runoff to the nearest blue-line stream.
 - 3.3.3 _____ Identification of all watercourse(s) adjacent to and/or downstream of the application necessary to establish the analysis point for downstream impacts in accordance with NCCC Ch. 12 and the DSSR Sec. 5.0
- 3.4 _____ Identification of any hydrologic and hydraulic studies from any current or approved applications (upstream or downstream) that may include or be used by this application to demonstrate compliance with stormwater management and/or stormwater conveyance.
- 3.5 _____ Statement whether a flood study, floodplain delineation and/or floodplain permit is required.
- 3.6 _____ Pre-development stormwater computational analysis that provides the following:
- 3.6.1 _____ Identification of the methodology used for computing peaks. (TR-55 or TR-20)
 - 3.6.2 _____ Computations for determining CN values for each drainage area.
 - 3.6.3 _____ Computations for determining the Tc flow path time for each drainage area.
 - 3.6.3 _____ Identification of any natural runoff detention/retention features. (i.e., sumps)
- 3.7 _____ One (1) copy of the pre-development drainage plan that includes the following information:
- 3.7.1 _____ Delineation of drainage areas contributing stormwater runoff through the project site and the appropriate sizing criteria for all conveyances.
 - 3.7.2 _____ Depiction of all drainage areas, points of analysis, site discharge points and points of interest.
 - 3.7.3 _____ Labeling of the area, composite CN value and Tc flow path for each drainage area.
 - 3.7.4 _____ Labeling of the current means of conveyance (characteristics of flow) to each site discharge point.
 - 3.7.5 _____ Delineation of detention/retention features (sumps/swamps, etc.) with the extent of ponding and outlet defined.
 - 3.7.6 _____ Labeling of the cross-section(s) to define reach(es), if any.
 - 3.7.7 _____ Identification of points of interest within the site, with respect to the location of natural resources (NCCC Ch. 40.10.010)
 - 3.7.8 _____ Identification of off-site areas sensitive to stormwater impacts not related to a watercourse (e.g. steep slopes, wetlands and existing development)
 - 3.7.9 _____ Identification and delineation of areas suitable for the conservation of stormwater management by passive infiltration and filtration.
- 3.8 _____ Narrative discussing the potential for the implementation of conservation design practices and Post Construction Best Management Practices (BMP's) for managing the quality and quantity of post-developed stormwater runoff. The narrative shall also address the following:
- 3.8.1 _____ Describe field testing (i.e. soils borings, infiltration testing, etc.) required to demonstrate stormwater management design feasibility consistent with DSSR Section 12.1.

- 3.8.2 _____ Describe how the hydrology on the project parcel(s) will be affected by the developed land use condition when compared to existing conditions.
 - 3.8.2.1 _____ Describe how the site will be designed to utilize the open space or landscaping to maximize infiltration, runoff volume control and filtering of stormwater runoff to compliance with the applicable regulations (e.g. reforestation, disconnection into landscaped areas)
 - 3.8.2.2 _____ Describe how BMP's are integrated into the site design for stormwater management compliance
 - 3.8.2.3 _____ Provide justification for additional storage for volume management, if required.
- 3.8.3 _____ Describe the stormwater management BMP's ability to demonstrate compliance with the TMDL load reduction requirements (NCCC Ch. 12.05.006.B.2)
- 3.8.4 _____ Describe the physical condition of the conveyance systems on and down gradient of the project parcel(s) including the site discharge point(s) (NCCC Ch. 12.04.001)
 - 3.8.4.1 _____ Identify where and to what degree points of interest and project discharge points are vulnerable to erosion and what steps may be implemented to address the erosion potential.
 - 3.8.4.2 _____ Document the current function, including photographic documentation, of the existing on and off-site conveyance systems (e.g. clogged, eroded, broken, etc.)
 - 3.8.4.3 _____ Describe how downstream properties, if any, are impacted by post-developed stormwater discharge and identification of downstream constraints (to the nearest watercourse), if any, that limit the peak rate discharge from the proposed development and the erosion potential of the receiving watercourse. Provide specific descriptions to address constraints.
 - 3.8.4.4 _____ Identify any offsite drainage easements that may be required to convey run-off from the site to a point of outfall with adequate capacity for the post-developed stormwater runoff.
- 3.9 _____ Identify any unusual or nonstandard maintenance implications associated with the stormwater practices proposed. Be sure to also identify the entity which will assume maintenance responsibility (private ownership, maintenance corporation or third-party agreement) for the stormwater features proposed and the nature of their associated maintenance.

4.0 Sanitary Sewer Requirements

- 4.1 _____ Provide an estimate of both the average and peak daily sanitary sewer flows to be generated by the proposed land development and discharged into the “County” sanitary sewer system. Reference the Department of Special Services, *Sewer Use Design Flows*, for determining the average sanitary sewer flows: [Sewer Use Design Flows Information Sheet](#)
- 4.2 _____ Depict the entire proposed sanitary sewer system in the plan view complete to tie-in location, including the existing sanitary system immediately upstream and downstream of the tie-in location. Provide flow arrows indicating flow direction for both the proposed manholes, force main cleanouts and/or valve structures. Provide the New Castle County reference/identification number for any existing manhole or structure. For multiple sheet plans, provide “Key Map” and match lines to facilitate plan review.
- 4.3 _____ Provide the rim/grade and invert elevations at the tie-in location. In addition, include the rim and invert elevations of the manholes immediately upstream and downstream of the tie-in if that location occurs between existing manholes. Elevations of existing structures must be field verified.
- 4.4 _____ Depict all existing utilities (below and above ground) located within 20 feet of lateral separation of proposed sanitary sewer utility crossings
- 4.5 _____ Indicate ownership of sewer. Depict, label and dimension all existing and proposed sanitary sewer easements. Reference the source document responsible for having established any “existing” easement(s) depicted on the plan (“Title Search” may be required).
- 4.6 _____ Depict all existing sanitary sewer located within the limits of the proposed land development.
- 4.7 _____ Identify all exceptions to any of the applicable regulations, codes and/or standards (e.g., pipe runs in excess of 300 feet, manhole/pipe depths greater than 20 feet, pumping stations receiving and transmitting less 45,000 gallons per day, etc.).
- 4.8 _____ If applicable, depict location of pumping station and parcel to be dedicated to New Castle County. Include the maximum anticipated depth of the proposed wet well.
- 4.9 _____ If private septic is proposed, provide a soil feasibility/site evaluation (show boring locations, proposed and existing wells, primary dual and single fields and replacement system location, and any nearby existing systems) in accordance with the provisions of the New Castle County Code, Chapter 40. Show approved test locations on the exploratory plan. Depict area (s) suitable for septic disposal field(s) on record plan.

Certification of Professional Engineer / Land Surveyor / Landscape Architect:

I, the undersigned, hereby certify that I am a Professional Engineer / Land Surveyor / Landscape Architect registered in the State of Delaware and that it is my professional opinion that, to the best of my knowledge, each element of this checklist was considered and addressed in accordance with all applicable regulations, codes, standards, guidelines and policies.

Signature and Seal of P.E. / P.L.S. / R.L.A.

Date

Submission of this checklist does not relieve the applicant of the responsibility to comply with all applicable regulations, codes, standards, guidelines and policies. The Department of Land Use reserves the right to revise the checklist periodically as the need arises.