



FEASIBILITY STUDY OUTLINE *for Green Stormwater Infrastructure Projects*

Engineering feasibility studies for green stormwater infrastructure projects must provide sufficient information to demonstrate that the proposed project is feasible to construct at the selected project location. Based on a design professional's site evaluation, the feasibility study provides the basis and justification for a future proposed design. Conceptual designs must be in accordance with the latest version of the New York State [Stormwater Management Design Manual \(SMDM\)](#). If the project is a portion of a larger project, the feasibility study must primarily address the proposed eligible stormwater management practices.

All engineering feasibility studies for projects funded through the New York State Green Innovation Grant Program (GIGP) and Green Resiliency Grant Program (GRG) must:

- ✓ follow the report outline below;
- ✓ be current, meaning at the time of submission the report was prepared or updated no more than five years prior to the application deadline;
- ✓ be the final version, not a draft;
- ✓ be stamped and signed on the outside cover by a qualified professional licensed to practice in New York State;
- ✓ identify the problem and state a capital improvement project as the recommended solution;
- ✓ provide an estimate of the total project cost;
- ✓ include or attach project location maps; and
- ✓ attach the completed Engineering Report Certification (GIGP Only).

Feasibility Studies submitted with funding applications that do not include all items above will be considered incomplete and will not be evaluated.

If applicable, projects that have prepared an engineering report in accordance with the DEC/EFC [Engineering Report Outline](#) may submit the report in place of a feasibility study. However, the engineering report must include all required information outlined below. If any information is missing, a supplemental document must be provided to address the data gaps.

COVER PAGE

The cover of the Feasibility Study should contain:

- A descriptive project name/title;
- Name of the Applicant/Owner/Municipality;
- State Pollutant Discharge Elimination System (SPDES) and/or Publicly Owned Sewer System (POSS) number, if applicable;
- Name of the design professional/firm preparing the report;
- Date of the report, including any revision dates; and

- Professional Engineer or Licensed Landscape Architect stamp and signature from a qualified professional licensed to practice in New York State.

EXECUTIVE SUMMARY

Provide a brief description of the purpose of the report, need for the project, evaluations conducted, recommended improvements, and proposed course of action.

PROJECT OBJECTIVES

Describe the goals for proposed green stormwater infrastructure project. Indicate whether the proposed work is a portion of a larger project.

EXISTING CONDITIONS

Evaluate the proposed project site and discuss the feasibility of the proposed stormwater management practices (SMPs) in regard to the following elements:

1. Current land use and site ownership;
2. Existing facilities and/or utilities that may be impacted;
3. SPDES and/or POSS information, if applicable;
4. USGS soil classification, depth to bedrock, and depth to water table (high water elevation if tidal or seasonally influenced);
5. Results of any subsurface testing (see below);
6. Wetlands, waterbodies (perennial and intermittent), or regulated adjacent areas;
7. Floodways, floodplains, or history of flooding events;
8. Brownfields, hotspots, or known site contamination;
9. Historic, archaeological, or other cultural resources;
10. Critical Environmental Areas, Significant Natural Communities, or protected species;
11. Potential Environmental Justice Areas (PEJAs) or Disadvantaged Communities (DACs); and
12. Other potential design issues at the site.

The type, quantity, and procedures for subsurface testing (e.g. test pits, borings, infiltration tests) shall be in conformance with Feasibility Testing requirements in Appendix D of the SMDM. Feasibility Testing is not required prior to submission of a grant application but will be required prior to approval of the Feasibility Study.

PROJECT DESCRIPTION

Provide a narrative that explains the proposed project, selected SMPs, why they were selected, any pros or cons of the selected SMPs, and what field conditions may result in the need to modify the proposed plan. As applicable, discuss any planned growth potential (e.g., reduction of tributary impervious surfaces) and/or security or cybersecurity considerations. If any SMPs are not designed in accordance with the SMDM, include the reason(s) for the deviation or alternative design and a demonstration of equivalence to the SMDM.

For the project as a whole, provide an estimate of the water quality volume to be managed through infiltration, evapotranspiration, and/or use on site. Provide detailed calculations using the NYSDEC

Green Infrastructure Worksheets in an Appendix. At a minimum, the total Water Quality Volume (WQv) worksheet and individual worksheets for all proposed SMPs must be provided. For any SMPs without an available worksheet, include separate design and sizing calculations. These calculations must detail critical design criteria and the volumes managed, treated, and reduced by the proposed practice. All practices should be designed to safely manage/convey peak flows from the entire area tributary to the practice.

Applications that do not utilize the NYSDEC Green Infrastructure Worksheets will be deemed incomplete. The latest version of the Green Infrastructure Worksheets may be accessed here: <https://dec.ny.gov/environmental-protection/water/water-quality/stormwater/construction-stormwater-toolbox>.

As applicable, describe how the project demonstrates consideration of the future physical risks due to extreme weather pursuant to the Community Risk and Resiliency Act (CRRA), 6 NYCRR Part 490, and associated guidance. Discuss how the project will address physical risks due to extreme weather (e.g. increasing precipitation, variability in precipitation, frequency and severity of flooding, storm surge, sea level rise, etc.). Discuss how the project will result in improved resiliency of existing infrastructure and/or nearby buildings.

PROPOSED PROJECT SCHEDULE

Provide an estimated project schedule indicating, at minimum, anticipated critical design and construction dates. All dates should include appropriate time for review/issuance of any necessary permits and/or approval before approval of design.

ANTICIPATED REGULATORY APPROVAL AND PERMITS

List all applicable permits and approvals (e.g. NYSDEC, NYSDOT, etc.) required for the project as well as their status (e.g., anticipated, applied for, received) as of the date the Feasibility Study was prepared.

PROJECT COST ESTIMATE

Provide a comprehensive total project cost estimate with construction, non-construction, and contingency costs separately stated. The estimate must cover all elements and phases of the recommended project. A detailed breakdown of all project costs must be included in an Appendix. At a minimum, the cost estimate must include the following:

1. A detailed breakdown of construction and equipment costs Provide estimated quantities where applicable (e.g., linear feet, diameter, square feet).
2. Non-construction costs may include land/easement acquisition, legal, engineering, construction management, financial advisor, grant/loan administrator, etc.
3. EFC recommends total project contingencies, inclusive of inflation, of 35% for projects without completed design, 25% if design is complete, and 15% after bids are received.
4. All costs should be in current year dollars and the estimate must have been prepared or updated within the six months prior to the application submission date.

If applicable, discuss any short- or long-term financing for the project including responsible parties.

LONG-TERM OPERATION AND MAINTENANCE

Projects receiving grant funding must commit to performing operation and maintenance (O&M) of the project for its useful life. Describe the long-term O&M plan for the project. This section should discuss a well-thought-out strategy to ensure the sustainability, functionality, and effectiveness of the SMPs throughout their useful life. While not as detailed as the final O&M plan that will follow engineering and design, this section should demonstrate the applicant's commitment to maintaining the SMPs over their operational lifespan. At a minimum, the Feasibility Study must address the following:

1. Responsible Entity
 - a. Clearly identify the party or entity responsible for the long-term O&M of each SMP. If applicable, specify roles and responsibilities for key aspects of O&M, including inspection, maintenance, and funding oversight.
2. Inspection and Maintenance Plan
 - a. Provide a description of routine maintenance tasks, including their frequency (e.g., weekly, monthly, annually). For example, this might include debris removal, vegetation care, or sediment clearing.
 - b. Outline proposed inspection procedures, such as periodic inspections and checks after significant storm events. Define what specific issues will be monitored (e.g., clogged drains, vegetation health, sediment accumulation) and clear indicators of successful O&M (e.g., minimum vegetative cover, preventing sediment buildup, ensuring continuous water flow).
3. Site-Specific Considerations
 - a. Discuss any unique considerations related to the project location.
 - b. If the SMPs are located on property not owned by the applicant, detail how O&M will be managed. Indicate plans to secure enforceable legal agreements to ensure the applicant has the right to maintain the practices over their useful life. This includes any relevant contracts, easements, or covenants.
 - c. Address potential access and safety issues for maintenance workers or equipment.
4. Funding Strategy
 - a. Describe the funding mechanism(s) that will support ongoing O&M activities. Ensure the plan identifies sustainable sources of funding for regular maintenance and unexpected repairs including labor and materials necessary to perform maintenance.

MAPS AND FIGURES

Provide a series of maps, drawings, and/or figures that details information regarding the site, the project, and its impacts. Include necessary map elements including:

- project name;
- figure name and number;
- date of preparation/revision;
- north arrow;
- legend; and
- scale.

For each figure, overlay with applicable information such as:

- municipal and property boundaries;
- roads, buildings, and other structures;
- wetlands, waterbodies, and floodplain/floodway boundaries;
- topography (minimum of 2-foot contours recommended);
- location of existing utilities (e.g., storm/sanitary sewers, outfalls) associated or impacted by the project; and
- locations of subsurface investigations (e.g. borings, test pits, infiltration tests, etc.).

At minimum, the following figures should be included in the Feasibility Study.

EXISTING CONDITIONS

1. Pre-development stormwater catchment areas and flow paths including surface area of each catchment area. If applicable, provide pre-development catchment maps at a scale large enough to display the entire area tributary to the project site/proposed practices;
2. Nearest receiving waterbody and/or sewer infrastructure;
3. Boundaries of Potential Environmental Justice Areas (PEJA) and/or Disadvantaged Communities (DAC); and
4. Other site features that may impact the design of the project including known nearby hotspots, contaminated or remediated sites, brownfields, etc.

CONCEPTUAL SITE PLAN

1. Scale should be no greater than 1" = 100';
2. Proposed SMP locations;
3. Post-development stormwater catchment areas and flow paths including surface area of each catchment area. Catchments shall be delineated to represent the catchment area tributary to each proposed SMP;
4. Preliminary site grading; and
5. Preliminary landscaping plans (if applicable).

CONCEPTUAL SECTIONS AND DETAILS

1. Representative cross sections and/or construction details for each proposed SMP illustrating critical design criteria.

APPENDICES

ENGINEERING REPORT CERTIFICATION (GIGP ONLY)

Provide a completed Engineering Report Certification as part of the submission. The certification form can be accessed at the following link: <https://efc.ny.gov/engineering-report-certification-pdf>.

NYSDEC GREEN INFRASTRUCTURE WORKSHEETS

Provide completed calculation sheets using DEC's Green Infrastructure Worksheets for all proposed SMPs.

PROJECT COST ESTIMATE

Provide a comprehensive and detailed total project cost estimate per the requirements outlined above.

SITE PHOTOGRAPHS WITH KEY MAP

Provide a photograph log of clear color images showing the property and illustrating existing conditions and areas to be impacted by proposed work. Photos should be labeled and keyed to a site plan.

FLOODING DOCUMENTATION

If the project site is located within a FEMA-designated floodway or floodplain, provide relevant effective mapping.

For project sites located in a known flood-prone area, provide documentation of flooding concerns. This may include dates and descriptions of flooding events, dated photos showing flooding, and/or relevant news articles about flooding incidents.