

# Cornell University Balch Hall Renovation

## *Stormwater Pollution Prevention Plan*

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*City of Ithaca  
Tompkins County, New York*

***Prepared for:***

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## PROJECT INFORMATION

### Project Name and Description

Cornell University  
Balch Hall Renovation  
City of Ithaca  
Tompkins County, New York

### Operator's Name and Address

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## PROJECT DESCRIPTION

### Purpose and Extent of Proposed Development

The Balch Hall Renovation project is located near the intersection of Thurston Avenue and Cradit Farm Drive on the Cornell University North Campus in the City of Ithaca, Tompkins County, New York (Tax Parcel #30.-1-1.2). The project includes an extensive renovation of the existing building along with site utility improvements and redevelopment of a portion of the site. The site redevelopment consists of new walkways, grading, landscaping, lighting and other site amenities and is limited primarily to the area in front of (southwest of) the existing building and areas along Cradit Farm Drive near the existing bus stop. The area of disturbance is estimated to be approximately 49,200 sf (1.15 acres) of land and includes disturbance of areas associated with construction staging activities. The stormwater management objectives focus on controlling erosion and sedimentation during construction and treatment of runoff from the post-developed site.

Given the area of disturbance is greater than one acre, a full Stormwater Pollution Prevention Plan (SWPPP) is required, including both temporary erosion and sediment controls and permanent stormwater management practices. The controls and management practices described herein have been designed in accordance with the current New York State Department of Environmental Conservation (NYSDEC) General Permit for Construction Activities (GP-0-20-001) and City of Ithaca stormwater laws. The SWPPP will be reviewed by the City of Ithaca Stormwater Office (SMO) on behalf of the City acting as the designated Municipal Separate Stormwater System (MS4). In order to obtain permit coverage for stormwater discharges under the general permit, the project will submit a signed copy of the MS4 SWPPP Acceptance Form along with a completed Notice of Intent (NOI) to the NYSDEC prior to construction.

There are no existing permanent stormwater controls on the site. Under current NYSDEC and City stormwater regulations the project will be considered a "redevelopment" project subject to Chapter 9 of the NYSDEC design standards. In general, redevelopment projects require stormwater practices to treat 25% of the existing impervious soil cover on the site plus 100% of any increase in impervious soil cover. Projects that discharge to a fifth-order stream are exempt from installing practices for runoff reduction or quantity controls.

Stormwater management objectives for the site include:

- Control erosion of soils and the discharge of sediment from the site during construction utilizing temporary practices.

- Providing water quality treatment for post-development conditions through the use of a standard bioretention filter practice and an alternative below-grade treatment practice.

### Project Disturbance Area

Within the area of disturbance, the project will result in an overall increase in impervious cover of approximately 570 sf as indicated in the following table:

Soil cover	Existing	Proposed	Delta
Pervious	36,300sf	35,730	-570sf
Impervious	12,900sf	13,470 sf	570sf
Total Disturbance	49,200sf	49,200sf	

### Description and Limitations of On-Site Soils

The site is located within ‘unsurveyed’ lands as indicted by mapping obtained from the Natural Resources Conservation Service (NRCS) web site. Based on geotechnical investigations for the nearby North Campus Residential Initiative project, and NRCS mapping for neighboring lands to the east with similar geological formations, soils native to the site are most likely silty or clayey loams overlaying more restrictive glacial tile closer to 8 to 10 feet below grade. Based on site observations, the loamy soils closer to the surface are considered well-drained or moderately well-drained. The soils at the surface have been amended over many years with the import of mulch, compost, topsoil, granular materials and pavements. The soils have generally been decompacted over the years through extensive landscaping and plantings improvements on the site. For the purpose of this report, the soils are assumed to belong to Hydrologic Soils Group C.

### Archeological Protection and Historic Preservation

Based on the New York State Historic Preservation Office (SHPO) Cultural Resource Information System (CRIS) web site, Balch Hall is eligible for listing on the State or National Register of Historic Places. SHPO mapping also indicates the site is located partially within an archaeologically sensitive area, however, given all areas of the site have previously been disturbed, the project is not expected to impact any archaeologically resources. The project is also adjacent to the Cornell Heights Historic District located to the north and west of the project. Given the very limited improvements to the site and building exterior, no impacts to the historic district are expected. The project will be registered through the SHPO CRIS web site for review, and a Letter of No Impact from SHPO will need to be received prior to submitting a Notice of Intent for coverage under the NYSDEC general permit.

### Wetlands

There are neither federal nor state wetlands located on the site.

### Name of Receiving Waters

All stormwater runoff from the site discharges directly to Beebe Lake on Fall Creek.

### Floodplains

Based on a review of the current FEMA Flood Insurance Rate Maps for the City of Ithaca, the project is located in Flood Zone C which are areas of minimal flooding above the 500-year flood boundary.

## SEQUENCE OF MAJOR ACTIVITIES

The sequence of major construction activities are as follows:

In general, do not disturb paved areas of site until necessary to do so. Utilize existing paved drives when possible during the demolition phase of work.

1. Demolish and remove interior building components. Use existing paved drives and walks and/or install temporary pavements as necessary for haul routes.
2. Install silt fence and/or silt log at lower perimeter of areas to be disturbed or paved areas to be demolished. Do not remove existing paved surfaces until necessary.
3. Install inlet protection on all existing drainage structures to receive runoff from disturbed areas of site.
4. Install stabilized entrances at all points of egress from unstabilized areas of site exiting onto paved surfaces.
5. Install proposed storm sewer improvements prior to removal of existing storm sewers and/or provide temporary sewers as necessary to maintain conveyance paths for runoff through site.
6. Install inlet protection on new storm structures once installed.
7. Install sediment trap at site of bioretention filter with temporary sediment risers at outlet.
8. Begin site earthwork operations.
9. Relocate and/or install new silt fencing or silt logs as site earthwork progresses.
10. Complete pavements.
11. Stabilize all disturbed areas of site with vegetation and/or permanent landscaping with minimum 80% coverage.
12. Remove silt from temporary practices. Remove all temporary practices and complete final landscaping.
13. Remove temporary sediment trap and install bioretention filter and permanent outlet control structure.

It shall be the responsibility of the Contractor to make any changes to the SWPPP necessary when the Contractor or any of the subcontractors elect to use borrow or fill or material storage sites, either contiguous to or remote from the construction site, when such sites are used solely for this construction site. Such sites are considered to be part of the construction site covered by the permit and this SWPPP. Off-site borrow, fill, or material storage sites which are used for multiple construction projects are not subject to this requirement, unless specifically required by state or local jurisdictional entity regulations. The Contractor should consider this requirement in negotiating with earthwork subcontractors, since the choice of an off-site borrow, fill, or material storage site may impact their duty to implement, make changes to, and perform inspections required by the SWPPP for the site.

## **POST-CONSTRUCTION STORMWATER MANAGEMENT**

### **Existing Conditions**

The existing soil cover in the immediate area of the Balch Hall Renovation project is predominantly pervious (approximately 70%) with a large portion of the site being lawn or landscape areas. Downspouts and foundation drains from Balch Hall connect below ground to the site stormwater collection system which is comprised of a series of catch basins, storm manholes and piping of various sizes. The site stormwater collection system connects to a larger 18- and 20-inch storm sewer which traverses the site and passes under a section of the building before crossing Cradit Farm Drive and ultimately discharging to Fall Creek at Beebe Lake.

### **Future Conditions**

Development of the site will include the installation and replacement of utilities and the redevelopment of existing driveways, walkways, lawn and landscape areas. The project site will disturb approximately 49,200 sf and the footprint of new impervious surfaces will increase by approximately 570 sf. Given the age of the existing stormwater collection system, the current design includes replacement of most if not all existing piping, downspout connections, drainage inlets and manholes within the limits of the project. An investigation of the system will be completed to determine if certain components of the system can be maintained and soil disturbance reduced. To reduce disturbance further, the larger 18- and 20-inch storm sewer which traverses the site will be re-lined as part of the project. The existing drainage patterns

on the site will remain unchanged.

### Water Quality Controls

The water quality strategy is design to improve water quality by capturing and treating 90% of the average annual stormwater runoff volume. Under current NYSDEC design standards, the project is considered a “redevelopment” project subject to Chapter 9 of the NYS Stormwater Management Design Manual. Redevelopment projects that results in an increase in impervious soil cover must treat a water quality volume (WQv) equivalent to 25% of the existing impervious soil cover plus 100% of the additional impervious cover. The project will increase impervious soil cover by approximately 570 sf, from an existing impervious soil cover of approximately 12,900 sf to approximately 13,470 sf under the redeveloped site conditions. The required water quality volume is calculated using the following equations:

$$\begin{aligned} \text{WQv Required} &= 25\% * \text{WQv (existing)} + 100\% * \text{WQv (increase)} \\ \text{WQv} &= P * Rv * A / 12 \text{ (c.f.)} \\ Rv &= (0.05+0.009*I) \end{aligned}$$

Where:

$$\begin{aligned} P &= 90\% \text{ rainfall event (inches)} \\ &= 1.00 \text{ inches (Ithaca, NY)} \\ I &= \text{Imperviousness (\%)} \end{aligned}$$

$$\begin{aligned} \text{Existing WQv} \quad I &= (12900/49200) = 26\% \\ Rv &= (0.05+0.009*26\%) = 0.29 \\ \text{WQv} &= 25\%*(1.0*0.29*49,200/12) \\ &= 293 \text{ c.f.} \end{aligned}$$

$$\begin{aligned} \text{Proposed WQv} \quad I &= 100\% \\ Rv &= (0.05+0.009*100\%) = 0.95 \\ A &= \text{Increase in Impervious Area} = 570 \text{ s.f.} \\ \text{WQv} &= (1.0*0.95*570/12) \\ &= 45 \text{ c.f.} \end{aligned}$$

$$\begin{aligned} \text{WQv Required} &= 293+45 \text{ c.f.} \\ &= \mathbf{338 \text{ c.f.}} \end{aligned}$$

As a priority, the practices will target the paved areas of the site with vehicular traffic which are considered higher polluting than the roofs or pedestrian pathways. To that end, the project will install one practice to treat stormwater runoff from the drive, parking, and turnaround, as well as adjacent areas north of Balch Hall, and a second practice to treat runoff from the loading dock pavements and adjacent areas south of the building. The total WQv to be provided by the two combined practices is estimated to be approximately 900 c.f., which is significantly greater than required. Calculations for determining the WQv’s for the catchment areas draining to the practices are attached to this report.

#### ***Practice 1 – North of Balch***

The practice north of the building (Practice 1) will be an alternative proprietary practice as described in Chapter 9 of the NYSDEC Stormwater Manual. An alternative practice at this location is necessary given the grades and space constraints which preclude the installation of a standard practice. The practice will be a below-grade hydrodynamic treatment practice which is not listed on the NYSDEC web site as having been evaluated and verified to have performance criteria greater than or equal to standard DEC storm practices. Given the practice has not been verified, the associated catchment area will need to be

3 times that of a standard practice in accordance with Chapter 9. In other words, the design standards give credit for treatment equivalent to 1/3 of the WQv of the associated catchment area.

The selected practice, a Continuous Deflective Separation (CDS) System, manufactured by Contech Engineered Solutions, are designed as a flow-through type practice able to treat the peak rate of runoff from the WQv design storm, which in this case is estimated to be 0.77 cfs. The specific unit, Model CDS-4 designed by Contech, will provide treatment for a catchment area with a WQv of 1,780 c.f. Credit for the practice in terms of WQv provided is therefore approximately 590 c.f. (1,780/3). The practice can pass greater flows up to the 100-year return frequency without bypass diversion of flow around unit. Pretreatment for the practice is provided within the unit itself. Calculations for WQv and peak WQv flow rates are attached to this report.

### ***Practice 2 – South of Balch Hall***

A standard bioretention filter practice (Practice 2) will be installed south of the building where space is available within the landscape area. The practice will include a 4-inch mulch layer over a 30-inch soil mixture filter depth and will be equipped with an underdrain system. An outlet structure able to pass peak flows from storms up to the 100-year return frequency will limit ponding above the filter to a 6-inch depth. Grading on the banks of the filter basin will provide a minimum 6-inch freeboard above the ponding depth. Pretreatment for the bioretention filter will be provided by a forebay pre-treatment cell where runoff enters the practice as channelized flow from a pipe outlet. In addition to the forebay, the mulch layer over the filter will also provide pretreatment of the runoff. A portion of the forebay will be lined with stone to prevent erosion at the pipe outlet. A 12-inch high stone weir will connect the forebay to the bioretention filter basin.

The standard practice, with a minimum filter surface area of 250 s.f., will provide a WQv of approximately 284 c.f. resulting in a total WQv of approximately 874 c.f. provided by the project. The pre-treatment volume provided by the practice is estimated to be approximately 111 c.f. which is greater than the required volume of 71 c.f. (25% WQv). Calculations for WQv, filter sizing and pre-treatment volumes are attached to this report.

### **Runoff Reduction Volume**

Projects that meet all the NYSDEC standards for redevelopment are exempt from the Runoff Reduction Volume (RRv) criteria. Although not required, the bioretention filter will provide a certain amount of RRv.

### **Water Quantity Controls**

The project site discharges to a fifth-order stream (Fall Creek) and is exempt from installing water quantity control measures related to channel protection volume (Cpv), overbank flood control criteria (Qp) and extreme flood control (Qr).

### **Underground Injection Control Permits**

Stormwater drainage wells are regulated by the Environmental Protection Agency (EPA) through the Underground Injection Control (UIC) program as Class V injection wells with requirements to protect underground sources of drinking water. By definition, a Class V injection well is any bored, drilled, or driven shaft, or dug hole that is deeper than its widest surface dimension, or an improved sinkhole, or a subsurface fluid distribution system. The proposed infiltration practices have depths that are much shallower than their largest surface dimension. The proposed subsurface piping in both practices is acting as a collection system and not as a distribution system. As a result, an UIC permit is not required.



**Better Site Design**

In accordance with the stormwater regulations set forth by the City of Ithaca, projects disturbing more than one acre must apply at least 4 better site design techniques as described the 2008 NYSDEC Better Site Design manual. These practices incorporate non-structural and natural approaches to new and redevelopment projects to reduce effects on watersheds by conserving natural areas, reducing impervious cover and better integrating stormwater treatment.

Several techniques described below have been incorporated into the project in order to satisfy runoff reduction requirements and are concurrent with the city requirements:

***Preservation of Undisturbed, Locating Sites in Less Sensitive Areas***

Given the project is located on previously developed/disturbed lands, the project inherently incorporates these two better site design practices.

***Bioretention/Rain Gardens***

Stormwater treatment will be provided by installing a bioretention filter on the site south of Balch Hall.

***Rooftop Runoff Mitigation***

A minor portion of rooftop runoff will be directed to the bioretention filter.

***Tree Planting***

Several large, existing trees will be conserved during construction.

**Winter Stabilization**

If ongoing land disturbance is performed between November 15th and the following April 1st, the project will require temporary site specific, enhanced erosion and sediment controls to manage runoff and sediment at the site to protect off-site water resources.

1. Prepare a snow management plan with adequate storage for snow and control of melt water, requiring cleared snow to be stored in a manner not affecting ongoing construction activities.
2. Enlarge and stabilize access points to provide for snow management and stockpiling. Snow management activities must not destroy or degrade installed erosion and sediment control practices.
3. A minimum 25-foot buffer shall be maintained from all perimeter controls such as silt fence. Mark silt fence with tall stakes that are visible above the snow pack.
4. Edges of disturbed areas that drain to a waterbody within 100 feet will have 2 rows of silt fence, 5 feet apart, installed on the contour.
5. Drainage structures must be kept open and free of snow and ice dams. All debris, ice dams, or debris from plowing operations, that restrict the flow of runoff and meltwater, shall be removed.
6. Sediment barriers must be installed at all appropriate perimeter and sensitive locations. Silt fence and other practices requiring earth disturbance must be installed before the ground freezes.
7. Soil stockpiles must be protected by the use of established vegetation, anchored straw mulch, rolled stabilization matting, or other durable covering. a barrier must be installed at least 15 feet from the toe of the stockpile to prevent soil migration and to capture loose soil.
8. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures should be initiated by the end of the next business day and completed within three (3) days. Rolled erosion control blankets must be used on all slopes 3 horizontal to 1 vertical or steeper.
9. If straw mulch alone is used for temporary stabilization, it shall be applied at double the standard rate of 2 tons per acre, making the application rate 4 tons per acre. Other

- manufactured mulches should be applied at double the manufacturer's recommended rate.
10. To ensure adequate stabilization of disturbed soil in advance of a melt event, areas of disturbed soil should be stabilized at the end of each work day unless:
    - a. Work will resume within 24 hours in the same area and no precipitation is forecast or;
    - b. The work is in disturbed areas that collect and retain runoff, such as open utility trenches, foundation excavations, or water management areas.
  11. Use stone paths to stabilize access perimeters of buildings under construction and areas where construction vehicle traffic is anticipated. Stone paths should be a minimum 10 feet in width but wider as necessary to accommodate equipment.
  12. The site shall be inspected frequently to ensure that the erosion and sediment control plan is performing its winter stabilization function. If the site will not have earth disturbing activities ongoing during the “winter season”, all bare exposed soil must be stabilized by established vegetation, straw or other acceptable mulch, matting, rock, or other approved material such as rolled erosion control products. Seeding of areas with mulch cover is preferred but seeding alone is not acceptable for proper stabilization.
  13. Compliance inspections must be performed and reports filed properly in accordance with the SWPPP for all sites under a winter shutdown.

### Soil Restoration

Soil restoration is a required practice applied across areas of a development site where soils have been disturbed and will be vegetated in order to recover the original properties and porosity of the soil. Soil restoration is applied in the cleanup, restoration, and landscaping phase of construction followed by the permanent establishment of an appropriate, deep-rooted groundcover to help maintain the restored soil structure. The required measures of soil restoration are outlined in Table 2.

TABLE 2. SOIL RESTORATION REQUIREMENTS		
Type of Soil Disturbance	Soil Restoration Requirement	Comments/Examples
No soil disturbance	Restoration not required	Preservation of Natural Features
Minimal soil disturbance	Restoration not required	Clearing and grubbing
Areas where topsoil is stripped only – no change in grade	Aerate <sup>1</sup> and apply 6 inches of topsoil	Protect area from any ongoing construction activities
Areas of cut or fill	Apply full Soil Restoration <sup>2</sup>	
Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5 foot perimeter around foundations walls)	Apply full Soil Restoration <sup>2</sup> (de-compaction and compost enhancement)	
Areas where Runoff Reduction and/or infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.	Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area
Redevelopment Projects	Full Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area	
1: Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.		
2: Per “Deep Ripping and De-Compaction, DEC 2008.”		

The underlying soils on the project site are classified as Hydrologic Soil Group “C,” requiring full soil restoration. The required measures of full soil restoration, per the NYSDEC’s 2008 publication of “Deep Ripping and De-Compaction” are as follows:

During periods of relatively low to moderate subsoil moisture, the disturbed subsoils are returned to rough grade and the following Soil Restoration steps applied:

1. Apply 3 inches of compost over subsoil.
2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor-mounted disc, or tiller, mixing, and circulating air and compost into subsoils.
3. Rock-pick until uplifted stone/rock materials of four inches and larger size are cleaned off the site.
4. Apply topsoil to the depth specified on the landscaping plan.
5. Vegetate per the approved landscaping plan.

## CONTROLS

### **Erosion and Sediment Controls**

Temporary erosion and sediment control practices selected for the construction phase focus on minimizing tracking soil off-site, preventing sediments from entering the storm sewer system, and controlling dust. A layout of applicable erosion and sediment controls measures, together with typical installation details, are depicted on sheets C5.00 and C5.01 of the construction drawings.

### ***Stabilization Practices***

The applicable erosion and sediment control measures shall be constructed prior to demolition, clearing or grading of any portion of the project, where applicable. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased, unless construction activities will be resumed within 14 days. In frozen ground conditions, temporary vegetative measures should be implemented as soon as practical in order to control runoff during snowmelt.

Permanent vegetation should be installed within 7 days of the completion of grading activities. If the Qualified Professional determines that permanent seed cannot be applied due to climate conditions, topsoil shall not be spread and temporary mulching shall be applied to the exposed surface to stabilize soils until the next recommended seeding period.

### ***Structural Practices***

Structural erosion and sediment control practices have been classified as either temporary or permanent, according to how they are used. Temporary structural practices are used during construction to prevent offsite sedimentation. Permanent structural practices are used to convey surface water runoff to a safe outlet. Permanent structural practices remain in place and continue to function after the completion of construction. Permanent practices are not proposed for this project. Regardless of whether the practices are temporary or permanent, runoff control measures should be the first items constructed when grading begins, and be completely functional before land disturbance takes place. Temporary structural practices used in this project include the following:

- Silt Fence
- Silt Log
- Concrete Washout
- Stabilized Entrance
- Inlet Protection
- Sediment Trap

## **Other Controls**

### ***Waste Disposal***

All waste materials will be collected and stored in securely lidded metal dumpsters rented from a local waste management company which must be a solid waste management company licensed to do business in Tompkins County. The dumpsters will comply with all local and state solid waste management regulations.

All trash and construction debris from the site will be deposited in the dumpsters. The dumpsters will be emptied a minimum of twice per week or more often if necessary, and the trash will be hauled to a landfill approved by New York State. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal. Notices stating these practices will be posted in the job site construction office trailer, and the job site superintendent will be responsible for seeing that these procedures are followed.

### ***Sanitary Waste***

All sanitary waste will be collected from portable units a minimum of two times per week by a licensed portable facility provider in complete compliance with local and state regulations.

### ***Off-Site Vehicle Tracking***

Stabilized construction exits (Tracking Pads) will be provided to help reduce vehicle tracking of sediments. The paved streets adjacent to the site entrances will be inspected daily and cleaned with vacuum equipment or swept as necessary to remove any excess mud, dirt, or rock tracked from the sites. Dump trucks hauling material from the construction sites will be covered with a tarpaulin. The job site superintendent will be responsible for seeing that these procedures are followed.

### ***Hazardous Substances and Hazardous Waste***

All hazardous waste materials will be disposed of by the Contractor in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. Site personnel will be instructed in these practices by the job site superintendent, who will also be responsible for seeing that these practices are followed. Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that is used on the job site will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such product is stored and/or used and another copy of each MSDS will be maintained in the SWPPP file at the job site construction trailer office. Each employee who must handle a substance with hazardous properties will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques.

Any spills of hazardous materials which are in quantities in excess of Reportable Quantities as defined by EPA regulations shall be immediately reported to the EPA National Response Center 1-800-424-8802.

In order to minimize the potential for a spill of hazardous materials to come into contact with stormwater, the following steps will be implemented:

- All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) will be stored in a secure location, under cover, when not in use.
- The minimum practical quantity of all such materials will be kept on the job site.
- A spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.

- All of the products in a container will be used before the container is disposed of. All such containers will be triple-rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with stormwater discharges.
- All products will be stored in and used from the original container with the original product label.
- All products will be used in strict compliance with instructions on the product label.
- The disposal of excess or used products will be in strict compliance with instructions on the product label.

### ***Contaminated Soils***

Any contaminated soils (resulting from spills of materials with hazardous properties) which may result from construction activities will be contained and cleaned up immediately in accordance with the procedures given in the Spill Prevention Control and Countermeasures (SPCC) Plan and in accordance with applicable state and federal regulations. The job site superintendent will be responsible for seeing that these procedures are followed.

## **MAINTENANCE/INSPECTION PROCEDURES**

### **Erosion and Sediment Control Inspection and Maintenance Practices**

The following inspection and maintenance practices will be used to maintain erosion and sediment controls and stabilization measures.

- For construction sites where soil disturbance activities are on-going, the Operator's Qualified Professional shall conduct a site inspection at least once every 7 calendar days.
- Per the City of Ithaca Stormwater Law, the Operator's Qualified Professional shall conduct a site inspection within 24 hours of any rainfall event exceeding 1/2-inch of precipitation.
- All measures will be maintained in good working order; if repairs are found to be necessary, they will be initiated within 24 hours of report.
- Silt fence will be inspected for proper toe-in depth, depth of sediment, tears, etc., to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground. Built up sediment will be removed from silt fence when it has reached one-third the height of the fence.
- Silt logs will be inspected weekly and after each runoff event. Damaged logs will be repaired or replaced within 24 hours of inspection notification. Accumulated sediment will be removed and disposed of when it reaches half the above ground height of the log.
- Inlet protection measures will be inspected for accumulation of sediments and debris. Sediment and debris shall be removed without damaging the inlet protection fabric.
- Stabilized entrances shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way or streets. This will require periodic top dressing with additional aggregate in most cases, and complete replacement of aggregate in extreme cases.
- Temporary sediment trap will be inspected for depth of sediment, and built up sediment will be removed before it reaches 50 percent of the height of the riser.
- Temporary and permanent seeding and all other stabilization measures will be inspected for bare spots, washouts, and healthy growth.
- The job site superintendent will be responsible for selecting and training the individuals who will be responsible for these maintenance and repair activities.
- Personnel selected for the maintenance responsibilities will receive training from the job site superintendent. They will be trained in all the maintenance practices necessary for keeping the erosion and sediment controls that are used onsite in good working order. They will also be trained in the completion of, initiation of actions required by, and the filing of the inspection forms. Documentation of this personnel training will be kept on site with the SWPPP.

- Disturbed areas and materials storage areas will be inspected for evidence of or potential for pollutants entering stormwater systems.
- Report to NYSDEC within 24 hours any noncompliance with the SWPPP that will endanger public health or the environment. Follow up with a written report within 5 days of the noncompliance event.

### **Inspection and Maintenance Report Forms**

Once installation of any required or optional erosion control device or measure has been implemented, weekly, inspections of each measure shall be performed by the Operator's Qualified Professional. The Inspection and Maintenance Reports found in this SWPPP shall be used by the inspector to inventory and report the condition of each measure to assist in maintaining the erosion and sediment control measures in good working order.

These report forms shall become an integral part of the SWPPP and shall be made readily accessible to governmental inspection officials, the Operator's Engineer, and the Operator for review upon request during visits to the project site. In addition, copies of the reports shall be provided to any of these persons, upon request, via mail or facsimile transmission. Inspection and maintenance report forms are to be maintained by the Operator for five years following the final stabilization of the site.

### **Other Record-Keeping Requirements**

The Contractor shall keep the following records related to construction activities at the site:

- Dates when major grading activities occur and the areas which were graded
- Dates and details concerning the installation of structural controls
- Dates when construction activities cease in an area
- Dates when an area is stabilized, either temporarily or permanently
- Dates of rainfall and the amount of rainfall
- Dates and descriptions of the character and amount of any spills of hazardous materials
- Records of reports filed with regulatory agencies if reportable quantities of hazardous materials spilled

### **Pre-Construction Conferences and Notifications to MS4's**

The Owner shall organize and coordinate a pre-construction conference to be attended by the Owner's representative, all contractors involved with site disturbance and erosion and sediment control activities, the qualified inspector, and the MS4 Stormwater Management Office or their representative.

The applicant shall notify the Stormwater Management Officers of all MS4's when any of the following occurs:

- (a) Commencement of construction.
- (b) Commencement of installation of sediment and erosion control measures.
- (c) Commencement of site clearing.
- (d) Commencement of rough grading.
- (e) Soil explorations for groundwater separation.
- (f) Close of the construction season.
- (g) Completion of final landscaping.
- (h) Successful establishment of landscaping.

### **Post-Construction Maintenance**

The permanent stormwater management practices will be owned by Cornell University, and long-term operation and maintenance will be performed by the university as stipulated in an O&M agreement with the City of Ithaca. Maintenance requirements for the are indicated in Table 3.

**TABLE 3. ONGOING MAINTENANCE**

<b>Maintenance Item</b>	<b>Schedule</b>
<i>Inspections</i>	
Inspection	Annually
<i>Hydrodynamic Separator</i>	
Remove accumulated sediment (with vacuum truck)	Based on inspection (Sediment visible with fiberglass separation cylinder)
<i>Jellyfish Filter</i>	
Remove floatable trash, debris and oil	Based on inspection
Remove accumulated sediment	Sediment depth > 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner
Rinse and re-install filter cartridges	Annually
Replace filter cartridges	Based on inspection and/or every 5 years minimum
Repair or replace damaged or missing cartridge deck	Based on inspection
<i>Bioretention Filter</i>	
Unclog outlet	Bioretention does not drain/outlet is clogged
Replace mulch/ add mulch	Mulch layer is degraded
Remove accumulated sediment	Sediment visible on surface or filter clogging
Remove sediment from inlet channel	Sediment depth >3 inches
Till filter surface to restore permeability	Filter drains slowly and surface is compacted
Replace entire filter	Filter does not drain, and other measures to restore are unsuccessful
Replace vegetation	Dead or decaying vegetation in filter
Repairs to embankment	Based on inspection
Remove accumulated sediment	Sediment visible on surface or clogging occurs
Till surface to restore permeability	Filter drains slowly and surface is compacted
1: Maintenance Frequencies derived from the "New York State Stormwater Management Design Manual created by the New York State Department of Environmental Conservation.	
2: Frequency may vary, and the need for maintenance will be determined by annual inspections.	

In addition, the university will erect or post, in the immediate vicinity of each practice, a conspicuous and legible sign of not less than 18 inches by 24 inches (or 10 inches by 12 inches for footprints smaller than 400 square feet) bearing the following information:

Stormwater Management Practice – *name of the practice*  
 Project Identification – SPDES Construction Permit #  
 Must be maintained in accordance with O&M Plan  
**DO NOT REMOVE OR ALTER**

## SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN

### Materials Covered

The following materials or substances with known hazardous properties are expected to be present onsite during construction:

Concrete	Cleaning solvents
Detergents	Petroleum based products
Paints	Pesticides
Paint solvents	Acids
Fertilizers	Concrete additives
Soil stabilization additives	

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

### **Good Housekeeping**

The following good housekeeping practices will be followed onsite during the construction project:

- An effort will be made to store only enough product required to do the job.
- All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label in legible condition.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used up before disposing of the container.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The job site superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

### **Hazardous Products**

These practices will be used to reduce the risks associated with hazardous materials.

- Products will be kept in original containers with the original labels in legible condition.
- Original labels and material safety data sheets (MSDS's) will be procured and used for each material.
- If surplus product must be disposed of, manufacturers or local/state/federal recommended methods for proper disposal will be followed.
- A spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.
- All of the product in a container will be used before the container is disposed of. All such containers will be triple-rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with stormwater discharges.

### **Product Specific Practices**

The following product specific practices will be followed on the job site:

#### ***Petroleum Products***

All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Any petroleum storage tanks used onsite will have a dike or berm containment structure constructed around it to contain any spills which may occur. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.

#### ***Fertilizers***

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked in the soil to limit exposure to stormwater. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

#### ***Paints, Paint Solvents, and Cleaning Solvents***

All containers will be tightly sealed and stored when not in use. Excess paint and solvents will not



be discharged to the storm sewer system but will be properly disposed of according to manufacturer's instructions or state and federal regulations.

### Spill Prevention Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup.

- Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite in spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.).
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with the hazardous substances.
- Spills of toxic or hazardous materials will be reported to the appropriate federal, state, and/or local government agency, regardless of the size of the spill. Spills of amounts that exceed Reportable Quantities of certain substances specifically mentioned in federal regulations (40 CFR 302 list and oil) will be immediately reported to the EPA National Response Center, telephone 1-800-424-8802. Reportable Quantities of some substances which may be used at the job site are as follows:
  - Oil - appearance of a film or sheen on water
  - Pesticides - usually 1 lb.
  - Acids - 5000 lb.
  - Solvents, flammable - 100 lb.
- The SPCC plan will be adjusted to include measures to prevent this type of spill from recurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included. If the spill exceeds a Reportable Quantity, all federal regulations regarding reports of the incident will be complied with.
- The job site superintendent will be the spill prevention and cleanup coordinator. He will designate the individuals who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of these personnel will be posted in the material storage area and in the office trailer onsite.

## CONTROL OF ALLOWABLE NON-STORMWATER DISCHARGES

Certain types of discharges are allowable under the NYSDEC General Permit for Construction Activity, and it is the intent of this SWPPP to allow such discharges. These types of discharges will be allowed under the conditions that no pollutants will be allowed to come in contact with the water prior to or after its discharge. The control measures which have been outlined previously in this SWPPP will be strictly followed to ensure that no contamination of these non-stormwater discharges takes place. The following allowable non-stormwater discharges which may occur from the job site include:

- Discharges from firefighting activities.
- Fire hydrant flushing.
- Waters used to wash vehicles or control dust in order to minimize offsite sediment tracking.
- Routine external building wash down which does not use detergents.
- Pavement wash waters where spills or leaks of hazardous materials have not occurred or detergents have not been used.

- Air conditioning condensate.
- Springs and other uncontaminated groundwater, including dewatering ground water infiltration.
- Foundation or footing drains where no contamination with process materials such as solvents is present.

## COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS

The Contractor will obtain copies of any and all local and state regulations which are applicable to stormwater management, erosion control, and pollution minimization at this job site and will comply fully with such regulations. The Contractor will submit written evidence of such compliance if requested by the Operator or any agent of a regulatory body. The Contractor will comply with all conditions of the NYSDEC General Permit for Construction Activities, including the conditions related to maintaining the SWPPP and evidence of compliance with the SWPPP at the job site and allowing regulatory personnel access to the job site and to records in order to determine compliance.

## CERTIFICATION AND NOTIFICATION

The NYSDEC requires that certifications of knowledge of the contents of this SWPPP and agreement to follow the SWPPP be made by the Operator, Engineer, and the Contractor. The terms of the General Permit also require that each Contractor sign the SWPPP plan, thereby making them co-permittees and acknowledging their responsibility for certain operational aspects of the plan. These certifications should be signed before the contractor begins activities and should be filed with the site's SWPPP at the job site. The Contractor certification is attached to this document.

### Operator's Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Name: Ram Venkat, Cornell University  
Title: Senior Project Manager

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

### Engineer's Certification on Compliances with Federal, State and Local Regulations:

This Stormwater Pollution Prevention Plan reflects the NYSDEC requirements for stormwater management and erosion and sediment control.

Name: Frank L. Santelli, P.E.  
Title: Design Engineer  
Acting as Professional Engineer for: T.G. Miller, P.C.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



Department of  
Environmental  
Conservation

NYS Department of Environmental Conservation  
Division of Water  
625 Broadway, 4th Floor  
Albany, New York 12233-3505

## MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

**Construction Activities Seeking Authorization Under SPDES General Permit**  
\*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

### I. Project Owner/Operator Information

1. Owner/Operator Name:

2. Contact Person:

3. Street Address:

4. City/State/Zip:

### II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/State/Zip:

### III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information

8. SWPPP Reviewed by:

9. Title/Position:

10. Date Final SWPPP Reviewed and Accepted:

### IV. Regulated MS4 Information

11. Name of MS4:

12. MS4 SPDES Permit Identification Number: NYR20A

13. Contact Person:

14. Street Address:

15. City/State/Zip:

16. Telephone Number:

**MS4 SWPPP Acceptance Form - continued**

**V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative**

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).  
Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

**VI. Additional Information**



# Owner/Operator Certification Form

## SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: \_\_\_\_\_

eNOI Submission Number: \_\_\_\_\_

eNOI Submitted by:                      Owner/Operator                      SWPPP Preparer                      Other

### Certification Statement - Owner/Operator

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

**Ram**  
Owner/Operator First Name

**Venkat**  
M.I. Last Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



# SWPPP Preparer Certification Form

---

*SPDES General Permit for Stormwater  
Discharges From Construction Activity  
(GP-0-20-001)*

## Project Site Information

**Project/Site Name**

## Owner/Operator Information

**Owner/Operator (Company Name/Private Owner/Municipality Name)**

## Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First name

MI

Last Name

Signature

Date

# NOI for coverage under Stormwater General Permit for Construction Activity



**Alternate ID** Balch Hall Renovation    **Submission** HNZ-0MJA-27DY8    **Revision 1**    **Form Version** 1.23

## Review

This step allows you to review the form to confirm the form is populated completely and accurately, prior to certification and submission.

Please note: Any work you perform filling out a form will not be accessible by NYSDEC staff or the public until you actually submit the form in the 'Certify & Submit' step.

OWNER/OPERATOR INFORMATION
<b>Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)</b> Cornell University
<b>Owner/Operator Contact Person Last Name (NOT CONSULTANT)</b> Venkat
<b>Owner/Operator Contact Person First Name</b> Ram
<b>Owner/Operator Mailing Address</b> 102 Humphreys Service Building
<b>City</b> Ithaca
<b>State</b> NY
<b>Zip</b> 14850
<b>Phone</b> 6072551769
<b>Email</b> <i>None Specified</i>

**Federal Tax ID**

*None Specified*

**PROJECT LOCATION**

**Project/Site Name**

Balch Hall Renovation

**Street Address (Not P.O. Box)**

600 Thurston Avenue

**Side of Street**

East

**City/Town/Village (THAT ISSUES BUILDING PERMIT)**

City of Ithaca

**State**

NY

**Zip**

14850

**County**

TOMPKINS

**DEC Region**

7

**Name of Nearest Cross Street**

Credit Farm Drive

**Distance to Nearest Cross Street (Feet)**

50

**Project In Relation to Cross Street**

North

**Tax Map Numbers Section-Block-Parcel**

*None Specified*

**Tax Map Numbers**

30.-1-1.2



**1. Coordinates**

Provide the Geographic Coordinates for the project site. The two methods are:  
- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.  
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

**Navigate to your location and click on the map to get the X,Y coordinates**

Latitude	Longitude
42.45317253491956	-76.4799355664922

**PROJECT DETAILS**

**2. What is the nature of this project?**

Redevelopment with increase in impervious area

**3. Select the predominant land use for both pre and post development conditions.**

**Pre-Development Existing Landuse**

Institutional/School

**Post-Development Future Land Use**

Institutional/School

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

\*\*\* ROUND TO THE NEAREST TENTH OF AN ACRE. \*\*\*

**Total Site Area (acres)**

4.2

**Total Area to be Disturbed (acres)**

1.2

**Existing Impervious Area to be Disturbed (acres)**

0.30

**Future Impervious Area Within Disturbed Area (acres)**

0.31

**5. Do you plan to disturb more than 5 acres of soil at any one time?**

No

6. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

**A (%)**

0

**B (%)**

0

**C (%)**

100

**D (%)**

0

**7. Is this a phased project?**

No

**8. Enter the planned start and end dates of the disturbance activities.**

**Start Date**

08/01/2020

**End Date**

08/02/2020

**9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.**

Beebe Lake

**9a. Type of waterbody identified in question 9?**

Lake Off Site

**Other Waterbody Type Off Site Description**

*None Specified*

**10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?**

No

**11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?**

No

**12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?**

No

**If No, skip question 13.**

**13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey?**

No

**If Yes, what is the acreage to be disturbed?**

*None Specified*

**14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?**

No

**15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?**

Yes

**16. What is the name of the municipality/entity that owns the separate storm sewer system?**

Cornell University

**17. Does any runoff from the site enter a sewer classified as a Combined Sewer?**

No

**18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?**

No

**19. Is this property owned by a state authority, state agency, federal government or local government?**

No

**20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)**

No

**REQUIRED SWPPP COMPONENTS**

**21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?**

Yes

**22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?**

Yes

**If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.**

**23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual?**

Yes

**24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:**

Professional Engineer (P.E.)

**SWPPP Preparer**

T.G. Miller, P.C.

**Contact Name (Last, Space, First)**

Santelli, Frank

**Mailing Address**

605 W State Street

**City**

Ithaca

**State**

NY

**Zip**

14850

**Phone**

607-327-0652

**Email**

fls@tgmillerpc.com

**Download SWPPP Preparer Certification Form**

Please take the following steps to prepare and upload your preparer certification form:

- 1) Click on the link below to download a blank certification form
- 2) The certified SWPPP preparer should sign this form
- 3) Scan the signed form
- 4) Upload the scanned document

[Download SWPPP Preparer Certification Form](#)

**Please upload the SWPPP Preparer Certification**

SWPPP Preparer Certification Form.pdf

**Comment**

*None Specified*

**EROSION & SEDIMENT CONTROL CRITERIA**

**25. Has a construction sequence schedule for the planned management practices been prepared?**

Yes

**26. Select all of the erosion and sediment control practices that will be employed on the project site:**

**Temporary Structural**

Construction Road Stabilization

Dust Control

Sediment Basin

Silt Fence

Stabilized Construction Entrance

Storm Drain Inlet Protection

**Biotechnical**

None

**Vegetative Measures**

Mulching

Topsoiling

Seeding

**Permanent Structural**

None

**Other**

*None Specified*

**POST-CONSTRUCTION CRITERIA**

**\* IMPORTANT: Completion of Questions 27-39 is not required if response to Question 22 is No.**

**27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.**

Preservation of Undisturbed Area

Locating Development in Less Sensitive Areas

**27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).**

All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

**28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)**

0.01

**29. Post-construction SMP Identification**

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques (Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

**30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet)**

0.006

**31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?**

No

**If Yes, go to question 36. If No, go to question 32.**

**32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)**

0

**32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?**

Yes

**If Yes, go to question 33.**

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

**33. SMPs**

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

**33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRV Capacity identified in question #29. (acre-feet)**

0.02

Note: For the standard SMPs with RRV capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - provided by the practice. (See Table 3.5 in Design Manual)

**34. Provide the sum of the Total RRV provided (#30) and the WQv provided (#33a).**

0.026

**35. Is the sum of the RRV provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?**

Yes

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

**36. Provide the total Channel Protection Storage Volume (CPv required and provided or select waiver (#36a), if applicable.**

**CPv Required (acre-feet)**

0

**CPv Provided (acre-feet)**

0

**36a. The need to provide channel protection has been waived because:**

Site discharges directly to tidal waters or a fifth order or larger stream.

**37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (#37a), if applicable.**

**Overbank Flood Control Criteria (Qp)**

**Pre-Development (CFS)**

*None Specified*

**Post-Development (CFS)**

*None Specified*

**Total Extreme Flood Control Criteria (Qf)**

**Pre-Development (CFS)**

*None Specified*

**Post-Development (CFS)**

*None Specified*

**37a. The need to meet the Qp and Qf criteria has been waived because:**  
Site discharges directly to tidal waters or a fifth order or larger stream.

**38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?**

Yes

**If Yes, Identify the entity responsible for the long term Operation and Maintenance**

Cornell University

**39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.**

The site discharges directly to Beebe Lake, a fifth-order waterbody, and is exempt from water quantity and channel protection requirements. In addition, runoff reduction is not required, because the project is considered a redevelopment project.

**POST-CONSTRUCTION SMP IDENTIFICATION**

**Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs**

Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

**RR Techniques (Area Reduction)**

Round to the nearest tenth

**Total Contributing Acres for Conservation of Natural Area (RR-1)**

*None Specified*

**Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)**

*None Specified*

**Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)**

*None Specified*

**Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)**

*None Specified*

**Total Contributing Acres for Tree Planting/Tree Pit (RR-3)**

*None Specified*



**Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)**

*None Specified*

**Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)**

*None Specified*

**RR Techniques (Volume Reduction)**

**Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)**

*None Specified*

**Total Contributing Impervious Acres for Vegetated Swale (RR-5)**

*None Specified*

**Total Contributing Impervious Acres for Rain Garden (RR-6)**

*None Specified*

**Total Contributing Impervious Acres for Stormwater Planter (RR-7)**

*None Specified*

**Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)**

*None Specified*

**Total Contributing Impervious Acres for Porous Pavement (RR-9)**

*None Specified*

**Total Contributing Impervious Acres for Green Roof (RR-10)**

*None Specified*

**Standard SMPs with RRv Capacity**

**Total Contributing Impervious Acres for Infiltration Trench (I-1)**

*None Specified*

**Total Contributing Impervious Acres for Infiltration Basin (I-2)**

*None Specified*

**Total Contributing Impervious Acres for Dry Well (I-3)**

*None Specified*

**Total Contributing Impervious Acres for Underground Infiltration System (I-4)**

*None Specified*

**Total Contributing Impervious Acres for Bioretention (F-5)**

0.08

**Total Contributing Impervious Acres for Dry Swale (O-1)**

*None Specified*

**Standard SMPs**

**Total Contributing Impervious Acres for Micropool Extended Detention (P-1)**

*None Specified*

**Total Contributing Impervious Acres for Wet Pond (P-2)**

*None Specified*

**Total Contributing Impervious Acres for Wet Extended Detention (P-3)**

*None Specified*

**Total Contributing Impervious Acres for Multiple Pond System (P-4)**

*None Specified*

**Total Contributing Impervious Acres for Pocket Pond (P-5)**

*None Specified*

**Total Contributing Impervious Acres for Surface Sand Filter (F-1)**

*None Specified*

**Total Contributing Impervious Acres for Underground Sand Filter (F-2)**

*None Specified*

**Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)**

*None Specified*

**Total Contributing Impervious Acres for Organic Filter (F-4)**

*None Specified*

**Total Contributing Impervious Acres for Shallow Wetland (W-1)**

*None Specified*

**Total Contributing Impervious Acres for Extended Detention Wetland (W-2)**

*None Specified*

**Total Contributing Impervious Acres for Pond/Wetland System (W-3)**

*None Specified*

**Total Contributing Impervious Acres for Pocket Wetland (W-4)**

*None Specified*

**Total Contributing Impervious Acres for Wet Swale (O-2)**

*None Specified*

**Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)**

**Total Contributing Impervious Area for Hydrodynamic**

0.49

**Total Contributing Impervious Area for Wet Vault**

*None Specified*

**Total Contributing Impervious Area for Media Filter**

0.18

**"Other" Alternative SMP?**

*None Specified*

**Total Contributing Impervious Area for "Other"**

*None Specified*

**Provide the name and manufacturer of the alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.**

**Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.**

**Manufacturer of Alternative SMP**

Contech

**Name of Alternative SMP**

Jellyfish Filter

**OTHER PERMITS**

**40. Identify other DEC permits, existing and new, that are required for this project/facility.**

None

**If SPDES Multi-Sector GP, then give permit ID**

*None Specified*

**If Other, then identify**

*None Specified*

**41. Does this project require a US Army Corps of Engineers Wetland Permit?**

No

**If "Yes," then indicate Size of Impact, in acres, to the nearest tenth**

*None Specified*

**42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.**

No

**MS4 SWPPP ACCEPTANCE**

**43. Is this project subject to the requirements of a regulated, traditional land use control MS4?**

*None Specified*

**If No, skip question 44**

**44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?**

*None Specified*

**MS4 SWPPP Acceptance Form Download**

Download form from the link below. Complete, sign, and upload.

MS4 SWPPP Acceptance Form

**MS4 Acceptance Form Upload**

*No files uploaded*

**Comment**

*None Specified*

**OWNER/OPERATOR CERTIFICATION**

The owner/operator must download, sign, and upload the certification form in order to complete this application.

**Owner/Operator Certification Form Download**

Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.


Owner/Operator Certification Form (PDF, 45KB)

**Upload Owner/Operator Certification Form**

*No files uploaded*

**Comment**

*None Specified*



At least one file is required.



**CONTRACTOR CERTIFICATION LOG**

**FORM 1**

**Construction Site: Balch Hall Renovation, City of Ithaca, Tompkins County, New York**

Company Name	
Address	
Contact Name	
Telephone Number	
Cell Phone/Pager	
Scope of Services	
Certification Date	

Company Name	
Address	
Contact Name	
Telephone Number	
Cell Phone/Pager	
Scope of Services	
Certification Date	

Company Name	
Address	
Contact Name	
Telephone Number	
Cell Phone/Pager	
Scope of Services	
Certification Date	

**Operator's Representative** \_\_\_\_\_

**CONTRACTOR/SUBCONTRACTOR CERTIFICATION**

**FORM 2**

**Construction Site: Balch Hall Renovation, City of Ithaca, Tompkins County, New York**

CONTRACTOR/SUBCONTRACTOR'S CERTIFICATION:

“I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. “

CONTRACTOR

Name: \_\_\_\_\_  
(Print)

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

SUBCONTRACTOR

Name: \_\_\_\_\_  
(Print)

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

SUBCONTRACTOR

Name: \_\_\_\_\_  
(Print)

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

SUBCONTRACTOR

Name: \_\_\_\_\_  
(Print)

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

SUBCONTRACTOR

Name: \_\_\_\_\_  
(Print)

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

SUBCONTRACTOR

Name: \_\_\_\_\_  
(Print)

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Company Name: \_\_\_\_\_





**SWPPP Content**

**Yes No**

**N/A**

- 5.    Does the SWPPP identify the contractor(s) and subcontractor(s) responsible for each measure?
- 6.    Does the SWPPP identify at least one trained individual from each contractor(s) and subcontractor(s) companies?
- 7.    Does the SWPPP include all the necessary Contractor Certification Statements and signatures?
- 8.    Are copies of previous inspections included in the ledger?
- 9.    Are modification reports and stabilization records in the ledger and up-to-date?

**Visual Observations**

**Yes No**

**N/A**

- 1.    Are all erosion and sediment control measures installed properly?  
If not, record details on Page 3.
- 2.    Are all erosion and sediment control measures being maintained properly? If not, record details on Page 3.
- 3.    Was written authorization issued for any disturbance greater than 5 acres?
- 4.    Have stabilization measures been implemented in inactive areas per Erosion and Sediment Control Standards? If not, record details on Page 3.
- 5.    Are post-construction stormwater management practices constructed/installed correctly? If not, record details on Page 3.
- 6.    Has final site stabilization been achieved and temporary E&SC measures removed prior to NOT submittal?
- 7.    Was there a discharge from the site on the day of inspection?  
If so, record details on Page 3.
- 8.    Is there evidence that a discharge caused or contributed to a violation of water quality standards? If so, record details on Page 3.

Inspection Areas (Structural)	Requires Attention?			Provide Location or Numeric Identification per Plan Sheet	Plan Modification Required?		Notes/Corrective Action Required *
	Yes	No	N/A		Yes	No	
Construction Entrance/Exit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Silt Fence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Inlet Protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Silt Log	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Material Laydown/ Staging Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Underground Storm Sewer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Curb/Curb & Gutter System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Discharge Locations (i.e., ditches)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Material Storage Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Waste Storage Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	

\* The contractor or subcontractor shall begin implementing the required corrective actions within one business day of the issuance of this report, and shall complete the corrective actions prior to the next routine inspection.

**Water Quality Observations**

Describe the discharge(s): location, source(s), impact on receiving water(s), etc.

Describe the quality of the receiving water(s) both upstream and downstream of the discharge

Describe any other water quality standards or permit violations

**Additional Comments**

- Sketch Attached
- Photographs Attached

**Certification Statement:**

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

<b>Name of Qualified Inspector:</b>	<b>Name of Qualified Professional:</b>
<b>Signature:</b>	<b>Signature:</b>

**MODIFICATION REPORT**

**FORM 4**

**Construction Site: Balch Hall Renovation, City of Ithaca, Tompkins County, New York**

CHANGES REQUIRED FOR STORMWATER POLLUTION PREVENTION PLAN

To:	Operator's Representative	Date:
Address:	<i>(to be named)</i>	
Telephone:		
Sent Via:	<input type="checkbox"/> Facsimile	<input type="checkbox"/> Courier <input type="checkbox"/> US Mail

INSPECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_  
(Print)

\_\_\_\_\_  
(Signature)

QUALIFICATIONS OF INSPECTOR: \_\_\_\_\_

CHANGES REQUIRED TO THE STORMWATER POLLUTION PREVENTION PLAN: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

REASONS FOR CHANGES: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

TO BE PERFORMED BY: \_\_\_\_\_ ON OR BEFORE: \_\_\_\_\_



**RECORD OF STABILIZATION AND CONSTRUCTION ACTIVITIES**

**FORM 6**

**Construction Site: Balch Hall Renovation, City of Ithaca, Tompkins County, New York**

A record of dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be maintained until final site stabilization is achieved and the Notice of Termination is filed.

MAJOR GRADING, CONSTRUCTION, OR STABILIZATION ACTIVITIES

Description of Activity: \_\_\_\_\_

Begin Date: \_\_\_\_\_ Site Contractor: \_\_\_\_\_

Location: \_\_\_\_\_

End Date: \_\_\_\_\_

Description of Activity: \_\_\_\_\_

Begin Date: \_\_\_\_\_ Site Contractor: \_\_\_\_\_

Location: \_\_\_\_\_

End Date: \_\_\_\_\_

Description of Activity: \_\_\_\_\_

Begin Date: \_\_\_\_\_ Site Contractor: \_\_\_\_\_

Location: \_\_\_\_\_

End Date: \_\_\_\_\_

Description of Activity: \_\_\_\_\_

Begin Date: \_\_\_\_\_ Site Contractor: \_\_\_\_\_

Location: \_\_\_\_\_

End Date: \_\_\_\_\_

Description of Activity: \_\_\_\_\_

Begin Date: \_\_\_\_\_ Site Contractor: \_\_\_\_\_

Location: \_\_\_\_\_

End Date: \_\_\_\_\_

**Operator's Representative** \_\_\_\_\_

# **CALCULATIONS**



## Water Quality Volume Required

---

$$WQv = P * Rv * A / 12$$

Where:  $Rv = (0.05 + 0.009 * I)$  (min 0.20)

	Redeveloped Impervious	Proposed Impervious	Totals
Impervious Cover (SF):	12900	13466	
Impervious Cover [25% Existing+100% New] (SF):	3225	566	3791
Drainage Area (SF):	49200	566	
Imperviousness, I (%):	26%	100%	
WQ Storm, P (in):	1.0	1.0	
Rv:	0.29	0.95	
WQ Volume Required (cubic feet):	293	45	338
WQ Volume Required (acre feet):	0.007	0.001	0.008
Provided WQv [Sum of WQv from all practices] (acre-feet):	0.020	-	
Provided WQv [Sum of WQv from all practices] (cubic feet):	905	-	> WQv Req'd, OK

## Hydrodynamic Separator

---

### Water Quality Volume

$$WQv = P * Rv * A / 12$$

Where:  $Rv = (0.05 + 0.009 * I)$  (min 0.20)

Impervious Cover (SF):	21400
Drainage Area (SF):	42700
Imperviousness, I (%):	50%
WQ Storm, P (in):	1.00
Rv:	0.50
WQ Volume Required (cubic feet):	1783
WQ Volume Required (acre feet):	0.041

Treatment Provided. However, the HDS is an alternative practice that receives 1/3 credit compared to standard practices.  
**Treatment taken credit for=1,780/3=594cft.**

CN Calculations: 1.13 Ac Impervious - CN=98; 0.09 Ac Pervious - CN=80.  
 Weighed CN = 96.70

### Small Storm Hydrology

$$Ia = (200/CN) - 2$$

$$CN = 1000 / [10 + 5P + 10Q - 10(Q^2 + 1.25QP)^{1/2}]$$

$$Q = WQv * 12 / DA$$

$$Qp = qu * A * Q$$

WQv (cf):	1,783
Q:	0.50
CN:	96.70
Ia:	0.077
Ia/P:	0.100
Tc (hrs):	0.10
qu:	1,000
A:	0.0015
Qp:	0.77

Ia/P Computed = 0.077; Use 0.1 = Limiting Value

Size filter based on this flow rate

## Bioretention Filter Design

---

### Water Quality Volume

$$WQv = P * Rv * A / 12$$

Where:  $Rv = ( 0.05 + 0.009 * I )$

Impervious Cover (SF):	3320	
Drainage Area (SF):	8490	
Imperviousness, I (%):	39%	
WQ Storm, P (in):	1.00	
Rv:	0.40	
WQ Volume Required (cubic-feet):	284	
WQ Volume Required (acre feet):	0.007	

Treatment Provided



### Bioretention Filter Sizing

$$SA = WQv * d / [ k * (d+h) * t ]$$

WQv (cf):	284	
Depth of Filter Media, d, (ft):	2.50	
Coefficient of Permability, k, (ft/day):	0.50	
Average Height of Water above Filter Bed, h, (ft):	0.5	
Filter Bed Drain Time, t, (days):	2	
Surface Area Required, SA, (sf):	237	
Surface Area Provided, (sf):	250	> Req'd, OK

### Pre-treatment Sizing (Forebay and 3" Mulch)

WQ Volume Required (25% WQv) (cf):	71
Volume Provided (cf):	111

