STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

FOR

MERCY COLLEGE – DOBBS FERRY LOT R REPAIRS/GROVE PAVILION CONSTRUCTION

Dobbs Ferry, New York
&
Irvington, New York

PREPARED FOR:

Mercy College

PREPARED BY:

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FA Project No. 21013.00

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1.0 Introduction

This Stormwater Pollution Prevention Plan (SWPPP) addresses the proposed stormwater mitigation measures and pollution prevention devices associated with the redevelopment of Lot R to address slope failure, and a new pavilion, Grove Pavilion, between Victory Hall and Hudson Hall and connecting packed gravel paths. Much of the project is in the Village of Dobbs Ferry, New York, however it is also partially located in Irvington, New York.

The project requires a SWPPP prepared in compliance with the Phase II requirements of the New York State Pollutant Discharge Elimination System (SPDES) General Permit GP-0-20-001 for stormwater discharges associated with construction activity. The SWPPP includes, but is not limited to, this document with appendices, erosion control and storm drainage plans, storm drainage and erosion control details in the construction drawings, the Notice of Intent, Notice of Intent Acknowledgment Letter, Acknowledgement form from Dobbs Ferry MS4, General Permit, Notice of Termination, all records of inspections and activities which are created during the project, and other documents referenced in this SWPPP. Changes, modifications, revisions, additions, or deletions become part of the SWPPP as they occur.

This Plan was created with the guidance of the New York State Stormwater Management Design Manual and the New York Standards for Erosion and Sediment Control and documents in compliance with the Phase II SPDES requirements. The SWPPP and associated erosion control measures must be implemented at the start of construction. The SWPPP will terminate when disturbed areas are stabilized, permanent erosion and sedimentation controls are installed, temporary erosion and sedimentation controls are removed, construction activities have ceased, and a completed Notice of Termination has been filed.

2.0 Project Information

Project Name:	Mercy College - Dobbs Ferry Lot R Repairs and Grove Pavilion
Project Location:	555 Broadway Dobbs Ferry, NY 10522
Owner/Operator:	Mercy College 555 Broadway Dobbs Ferry, NY 10522 (914) 674-7473 Contact: Thomas R. Simmonds

2.1 Project Description

The project will be constructed on the Mercy College Dobbs Ferry Campus in two locations. The parking lot reconstruction work will take place on the west limit of campus at Lot R. The Grove Pavilion work will take between Victory and Hudson Halls. The combined area of construction disturbance is 2.20 acres. Lot R repairs will disturb approximately 1.39 acres, and the Grove Pavilion construction will disturb approximately 0.81 acres. The project area is bounded by NYS-9 (Broadway) to the East, Hudson Road West to the north, Hudson River to the west, and Landing Drive to the South.

Using SPDES General Permit GP-0-20-001 guidelines for coverage, the project is classified as a redevelopment with an increase in impervious area. The Lot R portion will not increase impervious area. The Grove Pavilion portion will increase impervious area. Per Appendix B, Table 2 of the General Permit, it requires preparation of SWPPP that includes post-construction stormwater management practices.

See Appendix A for location map and erosion control plans and details. See construction documents for additional plans, details, and information relevant to the project.

2.2 Project Soils

Per the National Resource Conservation Service (NRCS) Soil Survey, the Dobbs Ferry Campus is comprised of five different soils. See table below for hydrologic soil group, soil name, and approximate percentage of soil within project limits.

HSG	Soils Name	% Project Area
B	Charlton fine sandy loam	36.1%
B	Charlton loam	4.6%
A	Knickerbocker fine sandy loam	12.3%
A	Riverhead loam	6.9%
B	Udorthents (Disturbed natural soils / Fill)	40.0%

As mapped by NRCS, depth to water table is consistent across the different soil types and is generally greater than 20 feet.

2.3 Historical and Cultural Areas

Construction activities that have the potential to affect historic and/or archeological resources require documentation that such impacts have been resolved to be eligible for coverage under the General Permit. Per New York State Office of Parks, Recreation, and Historic Preservation's (OPRHP) Cultural Resource Information System (CRIS), all areas of the site are located outside of Archaeological Sensitive Areas. See Appendix B for CRIS mapping. Because the project is within 500 feet of the Old Croton Aqueduct State Park, a separate application to the Village of Dobbs Ferry Architectural and Historic Review Board has been prepared and submitted to the Village Planning Board.

3.0 Pre-Development Conditions

The existing campus west of South Broadway is approximately 45.5 acres and features residence halls, academic buildings, athletic and recreation fields, student services buildings, and parking lots. The drainage shed area for this project is 7.14 acres, consisting of 11 drainage shed areas detailed in Table 3-1 below.

Table 3-1: Existing Drainage Shed Description

Drainage Shed	Area	Area (Description)	Flow Path
SA-1	0.416 acres	Ex. driveway to Lot R, north portion of Lot R, grassed slope between Lot R and athletic field parking	Sheet flows to catch basins where it is conveyed to culverts crossing rail tracks to discharge point at Hudson River.
SA-2	0.465 acres	Ex. driveway, parking, and lawn in north-central portion of Lot R	Sheet flows to catch basins, where it is conveyed to culverts crossing rail tracks to discharge point at Hudson River.
SA-3	0.248 acres	Ex. driveway, parking, and lawn in central portion of Lot R	Sheet flows to catch basins, where it is conveyed to culverts crossing rail tracks to discharge point at Hudson River.
SA-4	0.350 acres	Ex. driveway, parking, and lawn in south-central portion of Lot R	Sheet flows to catch basins, where it is conveyed to culverts crossing rail tracks to discharge point at Hudson River.
SA-5	0.411 acres	Ex. driveway, parking, and lawn in south portion of Lot R, runoff from upslope woods.	Sheet flows to catch basins, where it is conveyed to culverts crossing rail tracks to discharge point at Hudson River.
SA-6	0.150 acres	Wooded area downslope of Lot R	Sheet flows down slope to culverts crossing rail tracks to discharge point at Hudson River.
SB-1	0.171 acres	Ex. upper Lot R parking lot and driveways north parking aisle	Sheet flows to catch basins at west edge of parking lot.
SB-2	1.506 acres	Ex. upper Lot R parking lot and driveways north-central parking aisle	
SB-3	0.119 acres	Ex. upper Lot R parking lot and driveways south-central parking aisle	
SB-4	0.367 acres	Ex. upper Lot R parking lot and driveways south parking aisle and adjacent lawn	
SC-1	2.942 acres	Ex. lawn between Victory and Hudson Hall.	Sheet flows south to ex. pocket pond with outlet control to a culvert and discharges to North Brook/Hudson River.

4.0 Post-Development Conditions

The proposed project will disturb approximately 2.2 acres across the two project areas and is classified as a redevelopment with an increase in impervious area. Impervious area will only be added in the Grove Pavilion project area. There are 12 proposed drainage sheds, detailed in Table 4-1 (next page).

Table 4-1: Proposed Drainage Shed Description

Drainage Shed	Area	Area (Description)	Flow Path
SA-1	0.409 acres	Redeveloped driveway to Lot R, north portion of Lot R, and grassed slope between Lot R and athletic field parking	Sheet flow to ex. catch basin → new catch basin → ex. 8" culvert under MTA tracks → discharge to Hudson River
SA-2	0.467 acres	Redeveloped driveways, parking, and lawn in north-central portion of Lot R	Sheet flow to new catch basins → ex. 8" culvert under MTA tracks → discharge to Hudson River
SA-3	0.249 acres	Redeveloped driveway, parking, and lawn in central portion of Lot R	
SA-4	0.350 acres	Redeveloped driveway, parking, and lawn in south-central portion of Lot R	
SA-5	0.411 acres	Redeveloped driveway, parking, and lawn in south portion of Lot R	Sheet flow to ex. catch basin → ex. 8" culvert under MTA tracks → discharge to Hudson River.
SA-6	0.153 acres	Wooded area downslope of Lot R	Sheet flow down slope to ex. 8" culverts under MTA tracks → discharge at Hudson River.
SB-1	0.171 acres	Ex. upper Lot R lot and driveways north parking aisle	Sheet flows to ex. catch basin → new catch basins → new stormwater treatment structure → ex. site drainage system to north of project area → discharge to Hudson River
SB-2	0.567 acres	Ex. upper Lot R lot and driveways north-central parking aisle	Sheet flows to new catch basins → new stormwater treatment structure → ex. site drainage system to north of project area → discharge to Hudson River
SB-3	0.517 acres	Ex. upper Lot R lot and driveways south-central parking aisle	
SB-4	0.908 acres	Ex. upper Lot R lot and driveways south parking aisle and adjacent lawn	
SC-1	0.099 acres	New Grove Pavilion	Sheet flows to rooftop drainage system → new pretreatment sump → new dry well → ex. pocket pond → ex. site drainage → discharge to Hudson River.
SC-2	2.482 acres	Ex. Driveway and Lawns, new walking paths	Sheet flows to ex. pocket pond → ex. site drainage → discharge to Hudson River.

Refer to Appendix D for the proposed drainage shed plan and post-development hydrology calculations.

5.0 Stormwater Quantity and Quality Analysis

5.1 Approach to Drainage Analysis

Per the New York State Stormwater Management Design Manual, the proposed project is a redevelopment with increase in impervious area. The proposed design will satisfy Water Quality Volume, Runoff Reduction Volume, Stream Channel Protection Volume, Overbank Flood Control, and Extreme Flood Control requirements set forth by NYSDEC.

Pre- and post-development runoffs were calculated using SCS TR-55 methodology and HydroCAD Version 10.00-25. HydroCAD was utilized to determine pre- and post-development runoff volumes and peak discharge rates for the 1-, 10-, and 100-year design storms. Rainfall depths used in the hydrologic analysis were imported from the NOAA Atlas 14 Point Precipitation Frequency Estimates for Dobbs Ferry, NY. Rainfall depths utilized were 2.92 inches, 5.54 inches, and 8.64 inches for the 1-, 10-, and 100-year storm events, respectively. The Water Quality (WQ) storm was analyzed using a rainfall depth of 1.3 inches. A series of hydrograph models were developed for analyzed storm events. See

Appendix B for precipitation data and Appendix C and D for detailed HydroCAD calculations for existing and proposed conditions.

5.2 Pre-Development Analysis

See Figure 5-1, next page, for Drainage Shed Areas. See Table 5-1 for a summary of hydrologic modeling for existing conditions. See Appendix C for detailed calculations.

Table 5-1: Pre-Development Conditions

Drainage Shed	Area	CN	Time of Conc. (min)	Design Storm	Peak Discharge Rate (cfs)
SA-1	0.414 acres	86	5.0	1-yr 10-yr 100-yr	0.84 2.01 3.39
SA-2	0.465 acres	82	5.0	1-yr 10-yr 100-yr	0.74 2.00 3.56
SA-3	0.248 acres	82	5.0	1-yr 10-yr 100-yr	0.39 1.07 1.90
SA-4	0.350 acres	82	5.1	1-yr 10-yr 100-yr	0.56 1.51 2.68
SA-5	0.410 acres	73	31.7	1-yr 10-yr 100-yr	0.37 1.35 2.67
SA-6	0.152 acres	60	5.0	1-yr 10-yr 100-yr	0.02 0.15 0.37
SB-1	0.171 acres	90	5.0	1-yr 10-yr 100-yr	0.39 0.88 1.44
SB-2	1.505 acres	96	5.0	1-yr 10-yr 100-yr	4.24 8.35 13.16
SB-3	0.119 acres	83	5.0	1-yr 10-yr 100-yr	0.20 0.53 0.92
SB-4	0.367 acres	83	5.0	1-yr 10-yr 100-yr	0.61 1.62 2.85
SC-1	1.99 acres	71	20.3	1-yr 10-yr 100-yr	1.44 5.80 11.87
Total Combined Discharge					
Total Site Discharge	7.144 acres	80	---	1-yr 10-yr 100-yr	8.37 20.55 36.67

FIGURE 5-1: PRE-DEVELOPMENT SHED AREAS

5.3 Post-Development Analysis

See Figure 5-2, next page, for Drainage Shed areas for post-development analysis. See Table 5-2 for a summary of hydrologic modeling for post-development conditions. See Appendix D for Detailed calculations.

Table 5-2: Post-Development Conditions

Drainage Shed	Area (acres)	CN	Time of Conc. (min)	Design Storm	Peak Discharge Rate (cfs)
SA-1	0.409 acres	87	7.0	1-yr 10-yr 100-yr	0.77 1.84 3.11
SA-2	0.467 acres	82	8.2	1-yr 10-yr 100-yr	0.66 1.80 3.20
SA-3	0.249 acres	82	7.7	1-yr 10-yr 100-yr	0.36 0.98 1.73
SA-4	0.350 acres	82	8.0	1-yr 10-yr 100-yr	0.50 1.36 2.41
SA-5	0.411 acres	73	5.3	1-yr 10-yr 100-yr	0.36 1.34 2.65
SA-6	0.153 acres	60	34.7	1-yr 10-yr 100-yr	0.02 0.14 0.36
SB-1	0.171 acres	90	5.0	1-yr 10-yr 100-yr	0.39 0.88 1.44
SB-2	0.567 acres	98	5.0	1-yr 10-yr 100-yr	1.66 3.19 4.98
SB-3	0.517 acres	94	5.0	1-yr 10-yr 100-yr	1.38 2.81 4.47
SB-4	0.908 acres	88	5.0	1-yr 10-yr 100-yr	1.93 4.48 7.48
SC-1	0.099 acres	98	5.0	1-yr 10-yr 100-yr	0.29 0.56 0.87
SC-2	2.482 acres	71	20.3	1-yr 10-yr 100-yr	1.39 5.60 11.47
Total Combined Discharge					
Total Site Discharge	7.143 acres	85	---	1-yr 10-yr 100-yr	7.91 19.84 36.03

FIGURE 5-2: POST-DEVELOPMENT SHED AREAS

5.4 Stormwater Management Practices

Hydrodynamic Treatment Structure

A hydrodynamic stormwater treatment structure is proposed to meet the calculated water quality volume for the project site. The treatment structure will be located to capture flow from Sheds SA-1, 2, 3, and 4. See the drainage area map in Appendix D for the approximate location of the proposed treatment structure.

The hydrodynamic treatment structure was selected and designed based on the flows from the entire contributing drainage shed area. The volume treated for the contributing shed area is larger than the calculated water quality volume for the project, therefore the water quality requirements for the project will be satisfied.

Downspout Disconnection/Dry Well

The new Grove Pavilion building will feature downspouts that tie to a pretreatment sump basin and then to a dry well before being discharged to the existing pocket pond on site. The pretreatment sump has a storage capacity of 0.005 af. The dry well has a storage capacity of 0.007 af. Combined, they provide a total storage capacity of 0.012 af, satisfying the runoff reduction requirements for this project.

Pocket Pond Expansion

The existing pocket pond in the Grove Pavilion will be regraded to add approximately 305 cf of storage. This will reduce discharge to the existing stormwater system and satisfy the storm attenuation requirements for this project.

5.5 Stormwater Sizing Requirements

The main objective in designing the proposed stormwater system is to meet NYSDEC requirements for water quality treatment and attenuation of post-developed stormwater flows from exceeding that of the pre-developed rates. This will be accomplished using an alternative treatment practice for Lot R (hydrodynamic separator) and a dry well/expanded pond forebay for Grove Pavilion work. NYSDEC stormwater quantity and quality requirements are described below.

Water Quality Volume (WQv)

The water quality volume (WQv) is intended to improve water quality by capturing and treating runoff from small, frequent storm events that tend to contain higher pollutant levels. New York has defined the WQv as the volume of runoff generated from the entire 90th percentile rain event.

The WQv was calculated for the Lot R area was calculated as follows:

$$WQ_v = \frac{(P)\,(Rv)\,(A)}{12}$$

Where:

WQ_v = water quality volume (acre-ft or cf)

P =	1.30	in	P = 90% rainfall event (inches)
I =	73.8	%	I = percent impervious cover (%)
I new =	0.0	%	I new= percent impervious cover that is new
I rdv =	73.8	%	I rdv= percent impervious cover that is redeveloped
A =	1.387	acres	A = area disturbed (acres)

R_v =	0.5479		R_v = 0.05 + 0.009(I new + .75 * I rdv)
WQ_v =	**0.0823**	**acre-ft**	
	3,586	**cf**	

The WQv for the Grove Pavilion area was calculated as follows:

$$WQ_v = \frac{(P)\,(Rv)\,(A)}{12}$$

Where:

WQ_v = water quality volume (acre-ft or cf)

P =	1.30	in	P = 90% rainfall event (inches)
I =	27.8	%	I = percent impervious cover (%)
I new =	25.1	%	I new= percent impervious cover that is new
I rdv =	2.7	%	I rdv= percent impervious cover that is redeveloped
A =	0.810	acres	A = area disturbed (acres)
R_v =	0.2939		R_v = 0.05 + 0.009(I new + .75 * I rdv)
WQ_v =	**0.0258**	**acre-ft**	
	1,123	**cf**	

The combined WQv for the project is 0.1081 acre-feet, which will be treated with a hydrodynamic separator. 0.1081 acre-feet corresponds to a design flow of 0.60 cfs. The stormwater treatment structure captures and treats 1.75 cfs of flow during the WQv event, satisfying this requirement.

Runoff Reduction Volume (RRv)

The runoff reduction volume (RRv) is achieved by infiltration, groundwater recharge, reuse, recycle, or evaporation/evapotranspiration of the post-development water quality volume. The intent is to replicate pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, and discharge volume, while also minimizing concentrated flow before runoff reaches the collection system.

Per Chapter 9 of the Stormwater Design Manual, redevelopment projects are only required to meet RRv requirements for the portion of the construction that is new impervious area. The RRv for this project is calculated as follows:

$$RR_v = \frac{(P)\,(Rv^*)\,(Ai)}{12}$$

Where:

RR_v = runoff reduction volume (acre-ft or cf)

P = 90% rainfall event (inches)

R_v*= 0.05 + 0.009(I) where I is 100% impervious

Ai = impervious cover targeted for runoff reduction (ac)

Aic = total area of new impervious cover (ac)

S = specific reduction factor

HSG A=0.55, HSG B=0.40, HSG C=0.30, HSG D=0.20

P =	1.3	in
R_v*=	0.95	
Aic =	0.203	acres
S =	0.4	
RR_v =	**0.008**	**acre-ft**
	364	**cf**

As shown above, the required RRv is 364 cf. This will be accomplished via the dry well and pretreatment sump.

Stream Channel Protection Volume (CPv)

The stream channel protection volume requirement (CPv) is designed to protect stream channels from erosion. In New York State, this goal is accomplished by providing 24-hour extended detention of the post-developed 1-year, 24-hour storm runoff volume. This project discharges to a fifth order stream (Hudson River), so this requirement does not apply.

Overbank Flood Control (Q_p)

The primary purpose of the overbank flood control criteria is to prevent increasing the frequency and magnitude of out-of-bank flooding generated by urban development. Overbank flood control requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to pre-development rates. The proposed stormwater management practices reduce the 10-year peak discharge from 20.55 cfs pre-development to 19.84 cfs post-development, satisfying this requirement.

Extreme Flood Control (Q_f)

The intent of the extreme flood criteria is to prevent increased risk of flood damage from large storm events, maintain boundaries of the pre-development 100-year floodplain, and protect the physical integrity of stormwater management practices. 100-year control requires storage to attenuate the post development 100-year, 24-hour peak discharge rate (Q_f) to pre-development rates. The proposed stormwater management practices reduce the 100-year peak discharge from 36.66 cfs pre-development to 36.03 cfs post-development, satisfying this requirement.

6.0 Erosion and Sediment Control Measures

The primary goal of pollution prevention efforts during project construction is to control soil and pollutants that originate on the site and prevent them from flowing to surface waters. The purpose of this SWPPP is to provide guidelines for achieving that goal. A successful pollution prevention program also relies upon careful inspection and adjustments during the construction process in order to enhance its effectiveness.

6.1 Erosion and Sedimentation Controls

The following measures for the prevention of erosion and sediment transport are specified for the site or will most likely be necessary due to the conditions at the site. There are several other controls that may be necessary due to unforeseen conditions. The contractor shall familiarize himself with all controls described in the "New York State Standards and Specifications for Erosion and Sediment Control." Construction specifications and details for all control measures can be found in plans or in the "New York State Standards and Specifications for Erosion and Sediment Control."

1. Silt Fencing – Construct temporary barriers of geotextile fabric installed on contours across a slope to intercept sediment laden runoff from small drainage areas of disturbed soil. The intent is to reduce runoff velocity and cause deposition of transported sediment load. Silt fencing is to be utilized during site demolition and remain in place until areas upstream of silt fence have been properly stabilized.

2. Compost Filter Sock - Install degradable geotextile mesh tube filled with compost filter media. The intent is to filter sediment and other pollutants to prevent their migration

offsite. Filter socks are to be utilized during site demolition and remain in place until the upstream areas have been properly stabilized.

3. Drainage Structure Inlet Protection – Construct temporary, somewhat permeable barriers around inlets in the form of fences, berms, or excavations around openings to trap water and reduce the sediment content of runoff by settling. The intent is to prevent heavily sediment laden water from entering a storm drain system through inlets. Inlet protection is to be utilized during site demolition and remain in place until inlet's entire drainage area has been properly stabilized.

4. Dust Control – Control dust resulting from land-disturbing activities. The intent is to prevent surface and air movement of dust from disturbed soil surfaces that may cause offsite damage, health hazards, and traffic safety problems. This practice applies to construction roads, access points, and other disturbed areas subject to surface dust movement. Maintain dust control measures through dry weather periods until all disturbed areas are stabilized. For non-driving areas, apply seeding or mulching to control dust. For driving areas, place woven geotextile barriers on driving surfaces or spray surfaces with water at frequency necessary to control dust.

5. Seeding – Apply perennial grass seed mixture conforming to project specifications to disturbed soils. The intent is to provide temporary or permanent erosion and sediment control by covering all bare ground surfaces that exist because of construction. Apply seeding in all exposed areas for temporary and permanent stabilization of soils as soon as practical.

6. Mulching – Apply coarse plant residue or chips, or other suitable materials, to cover disturbed soil surface. Intent is to provide initial erosion control while a seeding or shrub planting is establishing. Apply mulching in all exposed areas for temporary and permanent stabilization of soils as soon as practical.

7. Topsoiling – Spread topsoil over final graded areas to specified depth prior to seeding to establish vegetation. No vehicle or pedestrian traffic will be allowed on these areas until final stabilization has been fully established. Intent is to provide acceptable plant cover growing conditions, thereby reducing erosion; reduce irrigation water needs; and reduce need for fertilizer application. Apply topsoiling in all exposed areas for temporary and permanent stabilization of soils as soon as practical.

8. Erosion Control Blanket – Install erosion control blankets on seeded earthen slopes steeper than 3H:1V and on streambanks and shorelines where moving water is likely to erode newly seeded or planted areas. Begin at downslope end, anchoring mat at the bottom and top ends of blanket. Inspect weekly and after each runoff event until perennial vegetation is established to minimum uniform 80% coverage throughout blanketed area. Replace or restore damaged or displaced blankets within 2 calendar days.

6.2 Construction Sequencing

The following construction sequencing for erosion control measures describes the intended order of construction activities.

1. Obtain plan approval and all applicable permits.

2. Set up stabilized construction entrance and determine equipment and material storage area. Stabilize bare areas in entrances, construction routes, or equipment areas immediately as work takes place.

3. Install temporary erosion and sediment control measures to comply with drawings and specifications prior to any site disturbance activities. A Qualified Inspector shall inspect all erosion and sediment control practices weekly. Maintain all erosion and sediment control devices as necessary throughout the construction period.

4. Begin demolition and excavation operations for Lot R and Grove Pavilion work.

5. Install new stormwater and electrical lines, stormwater structures, and underdrains.

6. Complete wall repairs at Lot R as directed by geotechnical engineer.

7. Construct new building and sidewalk at Grove Pavilion area.

8. Install new landscaping at Grove Pavilion area.

9. Finish grade and construct pavement for Lot R work, restore all disturbed areas in both project locations for final stabilization.

10. All erosion and sediment control features shall be maintained until all disturbed areas are stabilized. After acceptance of restoration by the Qualified Inspector, remove all temporary erosion and sediment control features.

11. Upon completion of the project, a Notice of Termination (NOT) form is to be filed with NYSDEC.

6.3 Other Pollution Prevention Controls

The following pollution prevention measures shall be implemented as necessary to control litter, construction chemicals, construction debris, and other forms of waste from becoming a pollutant source in the stormwater discharge.

1. Solid Waste Disposal – No solid materials, including building materials, are allowed to be discharged from the site with stormwater. All solid waste, including disposable materials incidental to major construction activities, must be collected/placed in containers. Containers will be emptied as necessary by a contract trash disposal service and hauled away from site. General Contractor shall denote location of solid waste receptacles on Erosion Control Plan. Substances that have potential for polluting surface water and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from site.

2. Sanitary Facilities – All personnel involved with construction activities must comply with state and local sanitary or septic system regulations. Temporary sanitary facilities will be provided at site during construction. They must be utilized by all construction personnel and will be serviced by a commercial operator. General Contractor shall denote location of sanitary facilities on Erosion Control Plan.

3. Water Source – Non-stormwater components of site discharge must be clean water. Water used for construction which discharges from site must originate from a public water supply or private well approved by DOH. Water used for construction that does not originate from an approved public supply must not discharge from site.

4. Concrete Waste from Concrete Ready-Mix Trucks – Discharge of excess or waste concrete and/or wash water from concrete trucks will be allowed on the construction site, but only in specifically designated areas prepared to prevent contact between concrete and/or wash water and stormwater discharged from site. Alternatively, waste concrete can be placed into forms to make riprap or other useful concrete products. Cured residue from concrete washout diked areas shall

be disposed in accordance with applicable state and federal regulations. Location of concrete washout is on Erosion Control Plan.

5. Fuel Tanks – Temporary onsite fuel tanks for construction vehicles shall meet all state and federal regulations. Tanks shall have approved spill containment with capacity required by applicable regulations. Tank shall be in sound condition free of rust or other damage which might compromise containment. Hoses, valves, fittings, caps, filler nozzles, and associated hardware shall be maintained in proper working condition at all times. General Contractor shall denote location of fuel tanks on Erosion Control Plan.

6. Hazardous Waste Management and Spill Reporting – Any hazardous or potentially hazardous waste brought onto construction site will be handled properly to reduce potential for stormwater pollution. Should an accidental spill occur, immediate action must be taken by General Contractor to contain and remove spilled material. All hazardous materials must be disposed of by Contractor in manner specified by local, state, and federal regulations and by manufacturer of such products. As soon as possible, spill must be reported to appropriate federal, state, and local agencies.

7.0 Maintenance and Inspection

7.1 Construction Maintenance and Inspection

Maintenance and inspection of the stormwater management and pollution prevention devices must occur on a regular basis throughout construction. The SWPPP shall be modified as necessary throughout construction process to prevent pollutants from leaving site. The maintenance and inspection procedures during construction are as follows:

1. Prior to commencement of construction activity, contractor and subcontractors shall identify at least one person from each respective companies that will be responsible for implementation of SWPPP. Prior to commencement of any construction activity, all designated trained contractors shall read, understand, and sign a Contractor's Certification Statement contained in SWPPP. At least one trained contractor shall be on the site during performance of any soil-disturbing activities. See Appendix G for certification form.

2. The owner/operator is responsible for designating a qualified individual familiar with proposed construction activities and knowledgeable in stormwater pollution prevention to perform inspections. The individual responsible for site inspections shall be a qualified inspector as defined in permit. Qualified inspector will inspect site for compliance with SWPPP and permit, identify components requiring maintenance or remedial action, and transmit this information to trained contractor within one business day of completion of inspection. Under direction of trained contractor, all maintenance or remedial action identified shall be implemented prior to next inspection. Inspection period shall be at least once every seven calendar days, unless conditions require more frequent inspections, or as specified in the permit. Refer to Appendix H for inspection forms.

3. The owner/operator shall have qualified inspector conduct an assessment of site prior to commencement of construction and certify in an inspection report that appropriate erosion and sediment controls described within the SWPPP and required by permit have been adequately installed to ensure site is prepared for commencement of construction.

4. All erosion and sediment control measures shall be installed and maintained in accordance with the project plans and the most current issuance of “New York State

Standards and Specifications for Erosion and Sediment Control," commonly known as "The Blue Book."

5. Greater than five acres of soil shall not be disturbed at any time without prior written authorization from NYSDEC and compliance with requirements outlined in permit. If authorized and more than 5 acres of land is disturbed, qualified inspector shall conduct at least two site inspections every seven calendar days. The two inspections shall be separated by a minimum of two full calendar days.

6. The trained contractor shall maintain on site a current record of all SWPPP inspections, together with a copy of the project SWPPP, including any revisions, additions, or modifications.

7. At a minimum, the trained contractor(s) shall:
    a. Inspect all erosion control measures (silt fence, inlet protection, filter socks, etc.) being implemented in the active work area daily to ensure they are being maintained in effective operating condition. Repair any deficiencies immediately.
    b. Seed and plant areas to be stabilized, including repairing bare spots, washouts, and maintaining a healthy growth of stabilizing cover(s).
    c. Monitor adjacent roadways to ensure tracked mud, dust, dirt, or rocks are swept as necessary.
    d. See that general worksite housekeeping is maintained.

8. Prior to filing the Notice of Termination, the qualified inspector shall perform a final site inspection. The inspector shall certify that the site has undergone final stabilization and that all temporary erosion and sediment controls not needed for long-term erosion control have been removed.

7.2 Post-Construction Operation and Maintenance

Upon completion of construction, the property owner is responsible for ensuring that the stormwater facilities are regularly inspected and maintained. Maintenance and inspection procedures are as follows:

Hydrodynamic Treatment Structure

1. Inspect the water quality treatment structure for debris and accumulation of sediment on a quarterly basis and following significant rainfall events or snowmelts.

2. Remove and properly dispose of any collected debris and sediment in accordance with applicable state, federal and local regulations. Structure should be pumped out at a minimum of once a year and when the sediment depth in the first chamber is at 50% of the design sediment storage depth.

3. The treatment structure shall be inspected as identified in the maintenance and inspection procedures included in Appendix H. A record of all inspections should be kept with the SWPPP.

Pretreatment Sump/Dry Well

1. Inspect the dry well for debris and accumulation of sediment on a quarterly basis and following significant rainfall events or snowmelts.

2. Remove and properly dispose of any collected debris and sediment in accordance with applicable state, federal and local regulations. Structure should be pumped out

at a minimum of once a year and when the sediment depth in the first chamber is at 50% of the design sediment storage depth.

3. The well shall be inspected as identified in the maintenance and inspection procedures included in Appendix H. A record of all inspections should be kept with the SWPPP.