

Appendix K

Certification Forms

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STORMWATER MANAGEMENT STANDARDS – DRAINAGE REPORT EXEMPTION

Project Name _____

Project Address _____

Project Lot Number(s) _____

Property Owner(s) _____

Tax Account Number(s) _____ Zone(s) _____ Lot Area _____

1. Check all that apply to the proposed project:

- This is a new development or redevelopment project,
- The project will result in an increased amount of stormwater runoff and/or water pollutants flowing from a parcel of land (prior to the application of stormwater Best Management Practices),
- The project will alter the drainage characteristics of a parcel of land (prior to the application of stormwater Best Management Practices).

Categorical Exemptions:

2. Does the proposed project meet one of the following categorical exemptions? Check all that apply:

- Normal maintenance and improvement of land in agricultural use (as defined by Connecticut General Statutes), provided such activity conforms to acceptable management practices for pollution control approved by the Connecticut Department of Energy and Environmental Protection and the Greenwich Inland Wetlands and Watercourses Commission. This exemption does not apply to construction activities that are not directly related to the farming or agricultural operation.
- Routine maintenance of existing landscaping, gardens (excluding structural modifications to stormwater BMPs including rain gardens) or lawn areas including those maintained by the Town of Greenwich Parks and Recreation Department and Board of Education.
- Resurfacing of an existing impervious area on a non-residential lot such as repaving an existing parking lot or drive with no increase in impervious cover.
- Routine maintenance to existing town roads that is performed to maintain the original width, line, grade, hydraulic capacity, or original purpose of the roadway.
- Customary cemetery management.
- Emergency repairs to any stormwater management facility or practice that poses a threat to public health or safety, or as deemed necessary by the approving authority.
- Any emergency activity that is immediately necessary for the protection of life, property, or the environment, as determined by the approving authority.
- Repair of an existing septic system.
- Construction of utilities (gas, water, electric, telephone, etc.), other than drainage, which will not permanently alter terrain, ground cover, or drainage patterns.
- Repair or replacement of an existing roof of a single-family dwelling.
- Construction of a second (or higher) floor addition on an existing building.
- Construction of a maximum 12 foot x 12 foot shed. The construction must include the installation of a 1 foot wide x 1 foot deep crushed stone trench along the sides of the shed that discharge the roof runoff.
- The repair of an existing wood, composite, or plastic deck with no proposed enlargement of the deck surface.

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- The reconstruction or construction of a wood, composite, or plastic deck with the decking boards spaced at least 3/16 of an inch and a pervious surface below the deck. The pervious area below the deck must have the soil tilled 12 to 16 inches and finished with grass seed, sod, or crushed stone. The minimum depth for the crushed stone is 4 inches. A site plan showing the proposed location of the deck and construction details for the deck must be submitted.
- The construction of any fence that will not alter existing terrain or drainage patterns.

If so, the Greenwich Stormwater Management Standards shall not apply, and submittal of a Stormwater Management Report is not required. However, application of the standards is still strongly encouraged.

OWNERS' CERTIFICATION

Owners' Name _____

Street Address _____ City _____ State _____ Zip _____

Phone _____ FAX _____

Owners' Signature _____ Date _____

CONTRACTOR'S CERTIFICATION

Company Name _____

Street Address _____ City _____ State _____ Zip _____

Phone _____ FAX _____

Contractor's Signature _____ Date _____

Conditional Exemptions Requiring Certification from a Professional Engineer:

3. **For projects adding up to 500 square feet of impervious surfaces¹:**

The project design, including the proposed drainage design, if any, will not have an adverse effect on offsite properties or offsite drainage infrastructure, as certified by a professional engineer.

At least one of the following measures shall be implemented on the project site to help mitigate the effects of site disturbance and new impervious surfaces within its on site watershed and point of concern:

- Disconnection of roof down spouts that meet the Simple Disconnection standards in the Town of Greenwich Drainage Manual February 2012 as amended
- A zero increase in peak flow to all points of concern for the 1, 2, 5, 10, and 25-year design storms
- The runoff volume from the new impervious surfaces shall be infiltrated for the 10-year design storm
- Constructing a bioretention area for the Water Quality Volume of the contributing watershed of the project area. The design standards in the Town of Greenwich Drainage Manual February 2012 as amended must be met
- Creating a buffer with a length greater than or equal to the length of the project area and a minimum width of 10 feet planted as a meadow
- Restoring a riparian buffer (may require IWWA permit)

For projects that meet the above criteria, the project proponent shall submit Pages 1, 2, 3, 5, and 8 of this exemption request form and all computations and any additional drainage documents (Soil Evaluation Test Results, Watershed Maps, Etc.), in lieu of a Stormwater Management Report. The application of the Greenwich Stormwater Management Standards is still strongly encouraged.

For projects that meet the above criteria, the project proponent needs to submit construction plans as required on the Checklist for Projects Submitting a Stormwater Management Standards – Drainage Report Exemption – Form CL-101.

For projects that meet the above criteria, the project proponent needs to submit the items on the Checklist for Operations and Maintenance Plan Report – Form CL-104.

For projects that meet the above criteria, the project proponent needs to submit the Certificate of Occupancy documents on the Checklist for Projects Submitting a Stormwater Management Standards – Drainage Report Exemption – Form CL-101.

Residential teardowns are not exempt unless the project meets the Conditional Residential Teardown Exemption Requirements.

Commercial teardowns are not exempt.

PROFESSIONAL ENGINEER

Company Name _____

Street Address _____ City _____ State _____ Zip _____

Phone _____ FAX _____

Professional Engineer's Name _____

Conditional Exemptions Requiring Certification from a Professional Engineer:

4. For projects adding between 500 and 1,000 square feet of impervious surfaces¹:

The project design, including the proposed drainage design, if any, will not have an adverse effect on offsite properties or offsite drainage infrastructure, as certified by a professional engineer.

At least one of the following measures shall be implemented on the project site to help mitigate the effects of site disturbance and new impervious surfaces within its on site watershed and point of concern:

- Disconnection of roof down spouts that meet the Simple Disconnection standards in the Town of Greenwich Drainage Manual February 2012 as amended
- A zero increase in peak flow to all points of concern for the 1, 2, 5, 10, and 25-year design storms
- The runoff volume from the new impervious surfaces shall be infiltrated for the 10-year design storm
- Constructing a bioretention area for the Water Quality Volume of the contributing watershed of the project area. The design standards in the Town of Greenwich Drainage Manual February 2012 as amended must be met
- Creating a buffer with a length greater than or equal to the length of the project area and a minimum width of 10 feet planted as a meadow
- Restoring a riparian buffer (may require IWWA permit)

At least one of the following measures shall be implemented on the project site using LID or conventional stormwater BMPs to help mitigate the effects of site disturbance and new impervious surfaces:

- A zero increase in peak flow to all points of concern for the 1, 2, 5, 10, and 25-year design storms
- The runoff volume from the new impervious surfaces shall be infiltrated for the 10-year design storm

For projects that meet the above criteria, the project proponent shall submit Pages 1, 2, 4, 5, and 8 of this exemption request form and all computations and any additional drainage documents (Soil Evaluation Test Results, Watershed Maps, Etc.), in lieu of a Stormwater Management Report. The application of the Greenwich Stormwater Management Standards is still strongly encouraged.

For projects that meet the above criteria, the project proponent needs to submit construction plans as required on the Checklist for Projects Submitting a Stormwater Management Standards – Drainage Report Exemption – Form CL-101.

For projects that meet the above criteria, the project proponent needs to submit the items on the Checklist for Operations and Maintenance Plan Report – Form CL-104.

For projects that meet the above criteria, the project proponent needs to submit the Certificate of Occupancy documents on the Checklist for Projects Submitting a Stormwater Management Standards – Drainage Report Exemption – Form CL-101.

Residential teardowns are not exempt unless the project meets the Conditional Residential Teardown Exemption Requirements.

Commercial teardowns are not exempt.

PROFESSIONAL ENGINEER

Company Name _____

Street Address _____ City _____ State _____ Zip _____

Phone _____ FAX _____

Professional Engineer's Name _____

PROFESSIONAL – EXEMPTION CERTIFICATION

I hereby declare that the proposed project will add the following amount of impervious surfaces to the project site (check the box that applies):

- 0 to 500 square feet (conditionally exempt with Professional Engineer’s Certification)
- 500 to 1,000 square feet (conditionally exempt with Professional Engineer’s Certification)

It is my professional opinion that the project design, including the proposed drainage system, if any, will not have an adverse effect on offsite properties or offsite drainage infrastructure.

I further declare that at least one of the following measures shall be implemented on the project site to help mitigate the effects of site disturbance and new impervious cover for 0 to 1,000 square feet (check all that apply):

- Disconnection of roof down spouts that meet the Simple Disconnection standards in the Town of Greenwich Drainage Manual February 2012 as amended
- A zero increase in peak flow to all points of concern for the 1, 2, 5, 10, and 25-year design storms
- The runoff volume from the new impervious surfaces shall be infiltrated for the 10-year design storm
- Constructing a bioretention area for the Water Quality Volume of the contributing watershed of the project area. The design standards in the Town of Greenwich Drainage Manual February 2012 as amended must be met
- Creating a buffer with a length greater than or equal to the length of the project area and a minimum width of 10 feet planted as a meadow
- Restoring a riparian buffer (may require IWWA permit)

I further declare that at least one of the following measures shall be implemented on the project site to help mitigate the effects of site disturbance and new impervious cover for 500 to 1,000 square feet (check all that apply)

- A zero increase in peak flow to all points of concern for the 1, 2, 5, 10, and 25-year design storms
- The runoff volume from the new impervious surfaces shall be infiltrated for the 10-year design storm

Professional Engineer’s Signature _____ Date _____

Professional Engineer’s Seal

Conditional Residential Teardown Exemption Requiring Certification by a Professional Engineer:

5. **For residential teardowns that reconstruct where the impervious surfaces within each point of concern is less than or equal to pre-development conditions and the peak flow and runoff volume for the 1, 2, 5, 10, 25, 50, and 100-Year Storms has a zero increase to all points of concern the following must be submitted:**

A Stormwater Management Report must be submitted with the following included:

1. Project Narrative
2. Site Inventory & Evaluation
 - a. Topography
 - b. Soil Evaluation (Soil Evaluation Test Results (Form SC-101) Shall Be Used)
 - i. Initial Feasibility Evaluation (NRCS Web Soil Survey and similar sources of information)
 - ii. Concept Design Testing (test pits/borings and saturated hydraulic conductivity testing, as per Appendix B)
3. Evaluate Pre-Development Site Hydrology to all points of concern (Runoff Volume and Peak Flow Rate – 1, 2, 5, 10, 25, 50 and 100-Year Storms)
 - a. Watershed Map Pre-Development
 - b. NRCS Runoff Curve Numbers Pre-Development
 - c. Time of Concentration Pre-Development
4. Evaluate Post-Development Site Hydrology to all points of concern (Runoff Volume and Peak Flow Rate – 1, 2, 5, 10, 25, 50 and 100-Year Storms)
 - a. Watershed Map Post-Development
 - b. NRCS Runoff Curve Numbers Post-Development
 - c. Time of Concentration Post-Development
5. Peak Runoff to all points of concern must have a zero increase for the 1, 2, 5, 10, 25, 50, and 100-Year Storms
6. Runoff volume to all points of concern must have a zero increase for the 1, 2, 5, 10, 25, 50, and 100-Year Storms
7. Compare & Summarize Pre-& Post Development Site Hydrology for peak flow and runoff volume to all points of concern
8. Conveyance Protection: 10, 25, 50 & 100-Year Depending on Peak Flow Rate for Downstream Stormwater Facilities
9. Outlet Protection Calculations – Based on Conveyance Protection
10. Emergency Outlet Sizing: Safely Pass the 100-Year
11. Supporting Documents
12. Sealed and Signed By a Professional Engineer

For projects that meet the above criteria, the project proponent shall submit Pages 1, 2, 6, 7, and 8 of this exemption request form and a Stormwater Management Report. The application of the Greenwich Stormwater Management Standards is still strongly encouraged.

For projects that meet the above criteria, the project proponent needs to submit plans which include all items on the:

1. Checklist for Construction Plans – Form CL-102
2. Checklist for Driveway Profile and Sight Distance Plan – Form CL-103

For projects that meet the above criteria, the project proponent must submit an Operations and Maintenance Plan Report. The Operations and Maintenance Plan must be submitted following the Checklist for Operations & Maintenance Plan Report CL-104.

For projects that meet the above criteria, the project proponent needs to submit the items on the Checklist for Certificate of Occupancy – Form CL-105 with the request for Certificate of Occupancy. The Improvement Location Survey must include the items on the Checklist for Improvement Locations Survey Depicting ‘As-Built’ Conditions CL-106.

The use of this exemption removes any future additional construction on the property from using the Conditional Exemption regardless of ownership changes.

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PROFESSIONAL ENGINEER

Company Name _____

Street Address _____ City _____ State _____ Zip _____

Phone _____ FAX _____

Professional Engineer's Name _____

PROFESSIONAL – RESIDENTIAL “teardown” EXEMPTION CERTIFICATION

I hereby declare that the proposed project will not have an increase in impervious surfaces and a zero increase in peak flow and runoff volume to all points of concern for the 1, 2, 5, 10, 25, 50, and 100-Year Storms.

It is my professional opinion that the project design, including the proposed drainage system, if any, will not have an adverse effect on offsite properties or offsite drainage infrastructure.

I further declare that the Required Stormwater Management Report and plans shall be implemented on the project site.

Professional Engineer's Signature _____ Date _____

Professional Engineer's Seal

IMPERVIOUS AREA WORKSHEET

This worksheet shall be used to quantify impervious surfaces¹ associated with existing and proposed construction on your site. Please complete columns 1, 2, and 3 below listing the first floor or ground level square footage of each existing or proposed structure or site amenity. Each point of concern shall use a separate worksheet.

POINT OF CONCERN

	(1) Existing Conditions Impervious Surfaces (sq ft)	(2) Proposed Conditions Impervious Surfaces (sq ft)	(3) Proposed New Impervious Surfaces (sq ft) [Column 2 minus column 1]
House/Buildings			
Driveways			
Sidewalks/Paths			
Swimming Pool			
Patios			
Tennis Court/Sport Court			
Other			
TOTALS:			

¹ Refer to the glossary in the Town of Greenwich Drainage Manual for a definition of “impervious surface.”

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Site Inspection Certification Sign-Off

Project Name: _____

Project Address: _____

Engineer's Name: _____

Engineering Firm's Name: _____

Street Address: _____ City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ Email: _____

I hereby declare that on-site inspection of the project, while in progress, was provided under my supervision and that the drainage system and site work, including construction of sidewalk, curb, driveway, roads, handicap ramp, and all other related work except retaining walls, have been completed in accordance with the approved plans entitled

_____ dated _____

and revised _____ . The Improvement Location Survey depicting "As-Built"

conditions and entitled _____

dated _____ and revised _____ has been included for the Engineering Division records.

Attach Field Inspection Record form. Any additional information shall be added below.

Engineer's Signature _____ Date _____

Engineer's Seal

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Drainage Certification Sign-Off

Project Name: _____

Project Address: _____

Engineer's Name: _____

Engineering Firm's Name: _____

Street Address: _____ City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ Email: _____

I hereby declare that the drainage system has been designed according to the Town of Greenwich Drainage Manual, as amended. Based on our Stormwater Management Report, Field Inspections, Field Inspection Records, and the Improvement Location Survey depicting "As-Built" conditions and entitled

_____ dated _____

and revised _____. It is our professional opinion that the drainage system as designed and

constructed will not have an adverse effect on offsite properties or offsite drainage infrastructure.

Engineer's Signature _____ Date _____

Engineer's Seal

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Phone 203-622-7767 – Fax 203-622-7747

Bioretention Certification Sign-Off

Project Name: _____

Project Address: _____

Engineer's Name: _____

Engineering Firm's Name: _____

Street Address: _____ City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ Email: _____

I hereby declare that the soil mix for all bioretention systems proposed for the project site has been tested and meets the bioretention soil mix specifications contained in the Bioretention Guidance of the Town of Greenwich Drainage Manual, as amended. Furthermore, for pre-mixed bioretention soils available from vendors, the soil has been approved by the Town as meeting the bioretention soil mix specifications contained in the Bioretention Guidance of the Town of Greenwich Drainage Manual, as amended. Copies of the soil test results are attached to this certification.

I hereby declare that, during installation all bioretention systems proposed for the project site have been inspected and constructed in accordance with the requirements contained in the Bioretention Guidance of the Town of Greenwich Drainage Manual, as amended. Furthermore, the bioretention systems function as designed.

Engineer's Signature _____ Date _____

Engineer's Seal

FIELD INSPECTION RECORD

Property Address: _____

Tax Account No.: _____

Building Permit No.: _____

Engineering Firm: _____

Phone Number: _____

Engineer's Name: _____

Email Address: _____

Construction Start Date: _____

Inspection Number	Inspection Type	Inspection Date	Inspector's Name	Attached Photos
1	E&S Controls at start of construction			<input checked="" type="checkbox"/> Required
2	Protection and/or installation of each non-structural LID BMP			<input checked="" type="checkbox"/> Required
3	Soils verification for each detention/retention/structural LID BMP			<input checked="" type="checkbox"/> Required
4	Amended soils verification for each BMP			<input checked="" type="checkbox"/> Required
5	Each detention/retention/structural LID BMP during construction			<input checked="" type="checkbox"/> Required
6	Each detention/retention/structural LID BMP prior to backfilling/completion			<input checked="" type="checkbox"/> Required
7	Each detention/retention/structural LID BMP at completion			<input checked="" type="checkbox"/> Required
8	Final site inspection throughout site			<input checked="" type="checkbox"/> Required
Routine Inspections				
9	<input type="checkbox"/> E&S Controls (within 24 hours of the end of a storm with a rainfall of 0.5 inch or greater) <input type="checkbox"/> Non-Structural/Structural LID BMPs <input type="checkbox"/> Standard Stormwater BMPs <input type="checkbox"/> Other site inspection			<input checked="" type="checkbox"/> Required <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
10	<input type="checkbox"/> E&S Controls (within 24 hours of the end of a storm with a rainfall of 0.5 inch or greater) <input type="checkbox"/> Non-Structural/Structural LID BMPs <input type="checkbox"/> Standard Stormwater BMPs <input type="checkbox"/> Other site inspection			<input checked="" type="checkbox"/> Required <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
11	<input type="checkbox"/> E&S Controls (within 24 hours of the end of a storm with a rainfall of 0.5 inch or greater) <input type="checkbox"/> Non-Structural/Structural LID BMPs <input type="checkbox"/> Standard Stormwater BMPs <input type="checkbox"/> Other site inspection			<input checked="" type="checkbox"/> Required <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
12	<input type="checkbox"/> E&S Controls (within 24 hours of the end of a storm with a rainfall of 0.5 inch or greater) <input type="checkbox"/> Non-Structural/Structural LID BMPs <input type="checkbox"/> Standard Stormwater BMPs <input type="checkbox"/> Other site inspection			<input checked="" type="checkbox"/> Required <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No

Engineer's Signature _____ Date _____

Engineer's Seal

DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA) CERTIFICATION
PRE-CONSTRUCTION

Property Address: _____

Tax Account No.: _____

Building Permit No.: _____

PLANS & DRAINAGE SUMMARY REPORT INFORMATION

Engineering Firm: _____

Design Plans Date: _____

Drainage Report Date: _____

PROPERTY INFORMATION FOR DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)

Total Impervious Area Under Existing Conditions (SF) ¹	Total Impervious Area Under Proposed Conditions (SF) ¹	Total Disconnected Impervious Area Under Proposed Conditions (SF) ²	Total Directly Connected Impervious Area Under Proposed Conditions (SF) ³
_____	_____	_____	_____

¹ Impervious surfaces include but are not limited to roofs (including green roofs), buildings, houses, walks, patios, walls, tennis/sport courts (all surface types must be counted), landscape ponds, pools, paved streets/drives/parking areas constructed with concrete, asphalt, compacted dirt, gravel, or permeable pavements.

² All impervious surfaces that are directed to stormwater BMPs that meet the water quality volume (WQV) standard will be considered disconnected impervious cover. Acceptable stormwater BMPs are Bioretention (infiltrating/filtering), Constructed Stormwater Wetlands, Extended Dry Detention Basins (infiltration required), Gravel Wetlands, Constructed Wet Stormwater Ponds, Sand/Organic Filters (sand filters, tree filters, stormwater planters, etc.), Infiltration Systems (drywells, Cultecs, etc.), Permeable Pavement Areas (infiltrating/filtering), Green Roofs, and Disconnected Impervious Area (must meet all the standards under Simple Disconnection on page 44 and 45 of the Drainage Manual).

³ Subtract the Total Disconnected Impervious Area Under Proposed Conditions (SF) from the Total Impervious Area Under Proposed Conditions (SF).

Engineer's Signature _____

Date _____

Engineer's Seal

DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA) CERTIFICATION
POST-CONSTRUCTION

Property Address: _____

Tax Account No.: _____

Building Permit No.: _____

PLANS & DRAINAGE SUMMARY REPORT INFORMATION

Surveying Firm: _____ Engineering Firm: _____

Improvement Location Survey Date: _____ Drainage Report Date: _____

PROPERTY INFORMATION FOR DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)

Total Impervious Area Under Existing Conditions (SF) ¹	Total Impervious Area Under As-Built Conditions (SF) ¹	Total Disconnected Impervious Area Under As-Built Conditions (SF) ²	Total Directly Connected Impervious Area Under As-Built Conditions (SF) ³
_____	_____	_____	_____

¹ Impervious surfaces include but are not limited to roofs (including green roofs), buildings, houses, walks, patios, walls, tennis/sport courts (all surface types must be counted), landscape ponds, pools, paved streets/drives/parking areas constructed with concrete, asphalt, compacted dirt, gravel, or permeable pavements.

² All impervious surfaces that are directed to stormwater BMPs that meet the water quality volume (WQV) standard will be considered disconnected impervious cover. Acceptable stormwater BMPs are Bioretention (infiltrating/filtering), Constructed Stormwater Wetlands, Extended Dry Detention Basins (infiltration required), Gravel Wetlands, Constructed Wet Stormwater Ponds, Sand/Organic Filters (sand filters, tree filters, stormwater planters, etc.), Infiltration Systems (drywells, Cultecs, etc.), Permeable Pavement Areas (infiltrating/filtering), Green Roofs, and Disconnected Impervious Area (must meet all the standards under Simple Disconnection on page 44 and 45 of the Drainage Manual).

³ Subtract the Total Disconnected Impervious Area Under As-Built Conditions (SF) from the Total Impervious Area Under As-Built Conditions (SF).

Engineer's Signature _____

Date _____

Engineer's Seal