



Chapter 3 ADMINISTRATION

3.1 Overview

This chapter summarizes the division of responsibilities for administering stormwater management activities among public agencies. The requirements for permitting and activities exempted from permit review by the Metropolitan Department of Water and Sewerage Services (MWS) are delineated for both building and grading. Procedures are established for enforcement of stormwater regulations and inspection of affected sites. As-built certification requirements for the stormwater management system, cut and fill, site grading, and other construction are also addressed.

3.2 Organization

Administration of stormwater management activities is carried out by three agencies of the Metropolitan Government of Nashville and Davidson County: MWS, the Department of Codes Administration, and the Planning Commission. Stormwater management responsibilities of these three entities are briefly discussed in the following subsections. A list of addresses and phone numbers for these and other relevant agencies is presented in Table 3-1.

Table 3-1 Administrative Responsibilities for Stormwater Management Activities

Local Agencies	Contact Purpose
Metro Water Services Stormwater Division 800 Second Avenue South, Nashville, TN 37210 (615) 862-4588	Plan review and approval; Variances; As-builts; Bonds; PUD/Plat review; Floodplain information; Elevation certificates; Flood insurance program
Metro Water Services Stormwater Division-NPDES 1607 County Hospital Road Nashville, TN 37218 (615) 880-2420	Grading Permit; Pre-con meetings; Drainage system inspections & maintenance; Illicit discharge investigations; Industrial inspections; Flood response
Department of Codes Administration 800 Second Avenue South Nashville, TN 37210 (615) 862-6510	Building Permits; No-rise Certificates; Urban Forestry
Metropolitan Planning Department 730 Second Avenue South Nashville, TN 37210 (615) 862-7150	Subdivision Plat approval
State Agencies	Contact Purpose
TDEC - Nashville Field Office 711 R.S. Gass Boulevard Nashville, TN 37216 (615) 687-7000	Aquatic Resource Alteration Permit; National Pollutant Discharge Elimination System Permit; Construction General Permit
TDEC - Tennessee Division of Water Pollution Control L&C Annex, 6th Floor 401 Church Street Nashville, TN 37243 (615) 532-0625	Aquatic Resource Alteration Permit; National Pollutant Discharge Elimination System Permit; Construction General Permit; 303(d) list; TMDL



Table 3-1 Administrative Responsibilities, continued

State Agencies	Contact Purpose
TDEC- Division of Water Supply, Ground Water Management L&C Tower, 6th Floor 401 Church Street Nashville, TN 37243 (615) 532-0191	Class V Injection Well Permit, Water quality issues relating to sinkholes
TDEC- Natural Heritage Program L&C Tower 401, 14 th Floor Church Street Nashville, TN 37243 (615) 532-0431	Threatened and Endangered Species/Habitat Assessment
Tennessee Wildlife Resources Agency (TWRA) Ellington Agricultural Center P.O. Box 40747 Nashville, TN 37204 (615) 781-6643	Threatened and Endangered Species/Habitat Assessment
Federal Agencies	Contact Purpose
Federal Emergency Management Agency (FEMA) Region IV Mitigation Division Koger Center-Rutgers Building Atlanta, Georgia 30341 Maps: Toll free 1-877-fema-map	Floodplain/floodway mapping; Flood insurance information; Alteration of floodplains/floodways
Department of Army U.S. Army Corps of Engineers Nashville P.O. Box 1070 Nashville, TN 37202-1070 (615) 736-7161	Section 404 permit (alteration to navigable waterways and wetlands).
Natural Resources Conservation Service (NRCS) US Courthouse Room 675 801 Broadway Nashville, TN 37203 (615) 736-5477	Soils information; Hydrologic procedures (TR-55)
Department of the Interior U.S. Geological Survey (USGS) 640 Grassmere Park, Suite 100 Nashville, TN 37211 (615) 837-4700	Stream gage information; Regional regression equations; historical stream flow information

3.2.1 Metro Water Services Stormwater Division

MWS reviews Grading Permit applications for land disturbance activities. Applications are evaluated for completeness and for technical compliance with the requirements of these stormwater management regulations and other pertinent laws and ordinances, and to ensure that sites are reasonably safe from flooding. In addition, MWS is responsible for inspection and enforcement activities, and for obtaining as-built certifications by a registered professional engineer.

MWS reviews subdivision plats, specific plans (SP), and planned unit development (PUD) plans at the request of the Planning Commission. The following applies to subdivision plats only.

1. The Stormwater plat requirements are reflected on the “Subdivision Plan/Plat Application” checklist available at the Planning Department’s website: <http://www.nashville.gov/mpc/>. The checklist incorporates by reference various requirements from the Stormwater Management Manuals.



- Stormwater Review. All plats submitted for Stormwater review must comply with the requirements in the checklist. Since checklist items are not equally weighted, Stormwater will assign each plat a status of either “Approved Except as Noted” or “Returned for Correction” subsequent to plat review.

<u>Status</u>	<u>What does the status mean?</u>
Approved Except as Noted	Plat may be approved by the Metro Planning Commission subject to the noted revisions being made conditions of plat approval. Prior to the plat being recorded by the Metro Planning Department, all of Stormwater’s conditions of approval must be satisfied. If they are not, the Mylar (plat) will be returned for correction until all items are addressed.
Returned for Correction	Plat is not approved by Stormwater and is <u>not</u> ready for Metro Planning Commission review/approval. Until the requested corrections are made, the plat will not be given approval or conditional approval by Stormwater. Table 3-2 identifies those items Stormwater typically gives a plat status of “Returned for Correction,” if omitted from a plat.

Table 3-2 Common Plat Requirements

Checklist Item	Be sure plat shows...	Reference Info.
Public Drainage Easements	Proper labeling and sizing of Public Drainage Easements	Vol. 1 Tables 6-1 & 6-2; required open channel easement widths and pipe easements widths.
Stream buffers; Floodway Buffers	Proper width and size of buffers	Vol. 1 Figures 6-1 thru 6-3; buffers are scaled from the respective tops of bank and not the stream centerline.
Water quality/quantity measures	Illustration and labeling of measures	
100 year Floodplain and Floodway	Accurate depiction of existing and proposed boundaries	
Minimum Finished Floor Elevations (FFE)	Labeling of FFE’s on all lots affected by a 100 Year Floodplain	
Stormwater Maintenance Agreement	Labeling of recorded instrument # on plat	
Dedication of Drainage Easement	Labeling of recorded instrument # on plat	

MWS serves as the Federal Emergency Management Agency (FEMA) floodplain program administrator and contact for the Community Rating System (CRS) for Metro. In this role, MWS reviews and signs off on Conditional Letters of Map Revision (CLOMRs).



In order to carry out the duties set forth in Ordinance No. 78-840, the Director of MWS has the authority to initiate the following actions:

1. Authorize designated employees of MWS to act in his behalf in carrying out the duties set forth in Ordinance No. 78-840.
2. Establish and amend written regulations and technical guidelines to enforce the terms of Ordinance No. 78-840 (approval of the Mayor required).
3. Inspect private stormwater management systems and stream alterations and order corrective actions as necessary to properly maintain stormwater management systems and assure the flood carrying capacity of a watercourse is not diminished.
4. Prepare or have prepared stormwater master plans for basins with such details as may be needed to implement master plans.
5. Verify and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved buildings or the level to which these buildings have been floodproofed, in accordance with Chapter 5 of these regulations.
6. Maintain all records pertaining to the provisions of Ordinance No. 78-840 and these regulations. Such records shall be open for public inspection.

MWS facilitates and implements the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit issued to the Metropolitan Government by the Tennessee Department of Environment and Conservation (TDEC). In this role, MWS reserves the right to inspect public and private infrastructure or facilities that may have an impact on the quality of Metro's stormwater or any activities that could result in a violation of the NPDES MS4 permit. These inspections may or may not be associated with construction activities.

3.2.2 Department of Codes Administration

Codes reviews building permit applications and refers them to MWS to determine if a Grading Permit is required. A building permit cannot be issued on a project requiring a Grading Permit until the Grading Permit is issued. The Department of Codes also administers a Use and Occupancy (U&O) permit process for non-residential Grading Permit projects. Codes will not issue a U&O permit for a project until MWS approves the final grading and drainage at the site.

The Director of Codes Administration, with the approval of the Mayor, has the authority to establish written regulations and technical guidelines as necessary to enforce the terms of Ordinance No. 78-840.



3.2.3 *Planning Commission*

The Planning Commission is responsible for receiving and referring subdivision plats and PUD plans to MWS.

All preliminary concept plans for major subdivisions and all PUDs submitted to the Planning Commission shall include the following statement: “Any excavation, fill, or disturbance of the existing ground elevation must be done in accordance with stormwater management ordinance 78-840 and approved by the Metropolitan Department of Water Services.” Depending on the potential impact of the proposed project, the Planning Commission may require that certain requirements of these regulations be included on the preliminary plan for review by MWS (see Section 4.2.2).

3.2.4 *Stormwater Management Committee*

The Metropolitan Stormwater Management Committee (Committee) has been established to hear appeals from adverse decisions related to compliance with the stormwater management regulations and to consider requests for variances from the requirements of these regulations.

Appeals and variances for consideration by the Committee must be filed on a form provided by MWS and will be handled in accordance with variance procedures of Section 3.6 and the internal operating rules and regulations of the Committee presented in Appendix F. All adverse decisions can be appealed to the Committee within 30 days of the decision. Decisions that are not appealed within 30 days become final and can be enforced by Metro through additional legal action in Chancery Court. Notices of Violation (NOVs) can be appealed to the Director (see Section 3.7.3 for more information).

3.3 Grading and Building Permit Requirements

Stormwater management activities associated with development projects require either building or Grading Permits or both. These permits shall be in conformance with the provisions of these regulations and are required prior to the commencement of the development activities they cover. Additional permits may be required by state or federal agencies. It is understood that an applicant who requests coverage under an MWS Grading Permit has obtained and examined Volume 1 of the Metro Stormwater Management Manual, and agrees to comply with the Grading Permit terms and conditions.

Except for exempted activities (see Section 3.5), a building permit cannot be issued until grading, drainage, and erosion control plans are submitted by a registered professional engineer and approved by MWS. If a project requires both building and Grading Permits, the Grading Permit must be issued first. When grading, stripping, excavating, filling, or any disturbance to the natural ground cover is planned for non-exempt activities not requiring a building permit (see Section 3.4 for exemptions), then a Grading Permit is required. All development activity within a designated floodplain requires a Grading Permit. When development is exempt from obtaining a Grading Permit (see Section 3.4) or exempt from MWS approval for a building permit (see



Section 3.5), MWS retains the authority to remove such exemption if a development is found to be in violation of Metro regulations.

In addition, none of the following documents shall be issued or granted under applicable zoning regulations or other laws unless and until grading and drainage and erosion control plans have been approved by MWS:

1. Final approval for a proposed subdivision by the Planning Commission.
2. Final approval for a proposed PUD by the Planning Commission.

Any of the above should be applied for at the same time as the Grading Permit. “Conditional final approval” does not constitute “final approval” under this section.

All Grading Permit applications shall include grading and drainage and erosion control plans prepared by a professional engineer, as appropriate. Methods used shall be consistent with the procedures in Volume 2 of this manual.

3.4 Grading Permit Exemptions

Activities that are exempt from obtaining a Grading Permit are identified in Sections 3.4.1 through 3.4.8. These exemptions shall not be construed as exempting the identified activities from onsite stormwater management improvements that may be required to conform to adopted building and construction codes, or from compliance with floodplain requirements presented in Chapter 5 of this volume.

In addition, the property owner or developer whose activities have been exempted from the requirements for permits and approvals enumerated in this manual shall nevertheless be responsible for complying with the intent and provisions of these regulations. This includes the installation and maintenance of proper erosion prevention and sediment control measures where necessary.

Metro, through MWS, reserves the right to revoke any of the following exemptions if an individual site may have an impact upon stormwater quality or other related provisions in implementing its NPDES MS4 permit responsibilities.

3.4.1 Exemption for Approved Subdivision or PUD Grading Plans

No Grading Permit shall be required for any individual structure within a major subdivision or PUD that was issued an overall Grading Permit. However, any alteration to the original plan may require the submittal of an additional plan.

Any person disturbing the natural ground cover in an area for which there is an approved grading, drainage, and erosion control plan shall conform to the requirements of such plan without



exception. In addition, subsequent development activities shall not impair existing stormwater management systems, constitute a potential erosion hazard, or act as a source of sedimentation to any adjacent land or watercourse.

3.4.2 *Exemption for Finish Grading*

Provided a site is out of the 100-year floodplain and required buffer, no Grading Permit shall be required for finish grading or excavation below finished grade for the following structures:

1. Basements and footings of a single family or duplex residential structure.
2. Retaining walls.
3. Swimming pools.
4. Human or animal cemeteries.
5. Accessory structures related to single family residences or duplex structures authorized by a valid building permit, provided the disturbed material or fill is handled in such a manner as to conform to the approved erosion control plan for the area or, where no such erosion control plan is in effect, that such work is done in a manner which presents no significant erosion hazard.

3.4.3 *Exemption for Excavation or Fill*

No Grading Permit shall be required for an excavation or fill that satisfies all of the following criteria:

1. Fill material contains only inert soil, rock, concrete without rebar and no more than 24 inches in length, and/or brick rubble.
2. Fill is not in the 100-year floodplain and is less than five (5) feet in vertical depth at its deepest point as measured from the natural ground.
3. Does not result in a total quantity of more than 100 cubic yards of material being removed from, deposited on, or disturbed on any lot, parcel, or subdivision thereof.
4. Does not impair existing surface stormwater management systems, constitute a potential erosion hazard, or act as a source of sedimentation to any adjacent land or watercourse.
5. Has no fill placed on a surface having a slope steeper than five (5) feet horizontal to one (1) foot vertical (steeper slopes can be allowed if justified by calculations for appropriate stabilization measures).



6. Has no final slopes steeper than one (1) foot vertical to three (3) feet horizontal (steeper slopes can be allowed if justified by calculations for appropriate stabilization measures).
7. Has temporary or permanent soil stabilization measures applied to denuded areas within 15 days of disturbance.
8. Does not contain hazardous substances.
9. Is not partially or totally in a watershed with outlet to a sinkhole or drainage well.
10. Does not result in the exposure or disturbance of more than 10,000 square feet of land.

3.4.4 Exemption for Agricultural Practices

If the site is out of the 100-year floodplain, no Grading Permit shall be required for accepted agricultural land management practices such as plowing; cultivation; construction of agricultural structures; nursery operations such as the removal of or transplanting of cultivated sod and trees; the clearing of land to create pasture; and logging operations leaving the stump, ground cover, and root mat intact. An agricultural project involving greater than 100 cubic yards of fill must notify Metro Stormwater prior to site disturbance to obtain an exemption.

3.4.5 Exemption for Maintenance Grading

No Grading Permit shall be required for grading as a maintenance measure, or for landscaping on existing developed lots or parcels, provided all of the following criteria are met:

1. The aggregate area affected or stripped at any one time does not exceed 10,000 square feet and is not within a natural drainageway (e.g., designated floodplain).
2. The grade change does not exceed eighteen (18) inches at any point and does not alter the direction of the drainage flow path.
3. Has temporary or permanent soil stabilization measures applied to denuded areas within 15 days of disturbance.
4. The grading does not involve a quantity of material in excess of 100 cubic yards.

3.4.6 Exemption for Public Utilities

No Grading Permit shall be required for installation of lateral sewer lines, telephone lines, electricity lines, gas lines, or other public service utilities by a public utility or its agent. Although exempt, public agencies are requested to submit documents to MWS for consistency reviews and to allow coordination with other activities. This exemption does not include the construction of sites or buildings used by public utility agencies.



3.4.7 Exemption for Demolition

No Grading Permit shall be required for the demolition of aboveground structures if the following provisions are met:

1. Demolition Permit has been obtained from Codes.
2. Proper site controls to prevent demolition materials or related pollution from leaving the site are installed.
3. The earth disturbed does not exceed 10,000 square feet or 100 cubic yards.

3.4.8 Exemption for Permitted Mining Operations

Provided a site is out of the 100-year floodplain and required buffer, no Grading Permit shall be required for activities conducted within the permitted area of mining operations that are covered under a TDEC-issued Surface Mining (NPDES) Permit. Discharges from such sites are subject to a valid NPDES permit since they are considered to be industrial process wastewater. This exemption shall be conditional upon the permit holder ensuring that, at the time the NPDES permit is issued, modified or renewed, whichever is later, the quantity of any such permitted discharge does not cause the conveyance capacity of any downstream stormwater conveyance/structure to be exceeded. Activities conducted outside the permitted area are subject to Metro Stormwater Management regulation.

3.5 Exemptions from MWS Building Permit Review

Codes may exempt certain residential, commercial, or industrial activities from MWS review if they meet the conditions defined below.

3.5.1 Residential Exemptions

Activities that require a building permit may be exempted from review by MWS if they are: single to two family individual residential dwellings that do not alter a drainage channel, do not alter the landscape by excavation or fill, and meet all of the criteria presented in Section 3.4.3 for Grading Permit exemptions for excavation or fill. This exemption does not remove the water quality buffer and erosion and sediment control requirements of these regulations.

3.5.2 Commercial or Industrial Exemptions

Activities that require a building permit may be exempted from review by MWS if they are: commercial or industrial development, add less than 10,000 square feet of impervious surface, and meet all of the criteria presented in Section 3.4.3 for Grading Permit exemptions for excavation or fill.



3.6 Variance Procedures

The Stormwater Management Committee shall hear requests for variances from the requirements of these regulations. Requests for variances must be filed on a form provided by MWS and will be handled in accordance with these variance procedures and internal operating rules and regulations of the Committee presented in Appendix F. If the conditions under which a variance was approved are not met or if the Committee is informed of any misrepresentation of facts in the application or at the hearing, the Stormwater Management Committee may revoke the variance upon notice and opportunity for a hearing. MWS may issue a Stop Work Order or the Metro Department of Codes may withhold the Use and Occupancy Permit for a project until any problems identified by a Metro department with the variance are resolved to the satisfaction of the issuing department.

3.7 Enforcement

3.7.1 *Right of Entry*

The Director of MWS, the Director of Codes Administration, or any of their duly authorized representatives may enter upon the premises of any land within Metropolitan Nashville and Davidson County for the purposes of inspecting the site before, during, and after construction to determine compliance with these regulations.

The Director of MWS or any of his or her duly authorized representatives may enter upon the premises of any land and enter facilities within Metropolitan Nashville and Davidson County for the purposes of inspecting potential impacts to stormwater quality or any activities that may violate the NPDES MS4 permit.

3.7.2 *Revocation*

Upon notice and opportunity for a hearing, the Director of MWS may revoke any approval or permit issued under the provisions of these regulations for any of the following reasons:

1. A false statement or misrepresentation of facts was made in the application or plans on which the permit or approval was based;
2. The developer or EPSC professional changes on a project without notifying MWS NPDES department; or,
3. A permitted site has unpaid civil penalties that are delinquent by 60 days or more.
4. Fill in excess of 100 cubic yards was brought from the site to a location without a valid Grading Permit, creating a violation of the SWMM.

3.7.3 *Notice of Violation*

When it is found that any provision of these regulations is being violated, MWS may issue a Notice of Violation (NOV). This NOV shall include a description of the violation and any work



or remediation required to bring the site into compliance. NOVs may also include corrective measures, the requirement for work on a project to stop, or penalties. A NOV may be issued to any or all of the following: the property owner, the contractor or subcontractor, the developer, or the homebuilder.

3.7.3.1 Corrective Measures

Any non-permitted stormwater management system, construction, or fill shall, upon written notice from the Director of MWS, be removed at the expense of either the property owner and/or the party that created the violation.

3.7.3.2 Stop Work Order

When it is found that any provision of these regulations is being violated, the Director of MWS or the Director of Codes Administration may issue a stop work order.

The stop work order shall be in writing and shall be served personally or by certified mail upon the owner of the business or property violating the provision, the duly authorized agent, or the person responsible for such work; or posted at the site of the violation or noncompliance.

The stop work order shall set forth the following:

1. The reasons why such work is being stopped;
2. The regulation or the Metropolitan Code of Law section that is being violated;
3. The conditions under which the order may be removed and the work resumed; and
4. The right to an informal hearing before the Director to appeal the stop work order.

3.7.3.3 Penalties

Any violation of these regulations shall be punishable by a civil penalty as provided in the Metropolitan Code of Laws, §15.64.220 and §1.01.030. Each day a violation continues shall constitute a separate offense.

A hearing to appeal the NOV may be requested by anyone upon whom a NOV has been served. Such an appellate hearing must be requested in writing to the issuing Director within ten (10) days of service of the NOV. The issuing Director or his designee, hereinafter referred to as Director, shall hold the hearing within fifteen (15) days of receipt of the hearing request. The Director shall determine whether provisions of the Metropolitan Code of Laws or these regulations were violated and, if a violation occurred, any conditions required to bring the site into compliance. The hearing shall be informal, shall be scheduled by the issuing Director, and may be continued only with the consent of the issuing Director. A written decision shall be



mailed to the owner of the business or property within ten (10) business days of the conclusion of the hearing. An adverse decision of the Director of MWS may be appealed to the Stormwater Management Committee (SWMC) pursuant to the procedures outlined in Appendix F.

If no hearing is requested within ten (10) days of service of the NOV, the NOV shall remain in effect until compliance with the cited regulation or code section can be demonstrated to the satisfaction of the issuing Director. A compliance hearing to demonstrate that the business or work is in compliance with the relevant regulation or code section may be requested at any time after issuance of a NOV. The issuing Director shall schedule such a compliance hearing within ten (10) business days of receiving the request. The hearing shall be informal and may be continued only with the consent of the issuing Director. No such continuance shall excuse the violation for purposes of the assessment of fines for continuing violations. A written decision shall be mailed to the owner of the business or property within ten (10) business days of the conclusion of the hearing.

3.7.4 Injunctions

In addition to all other remedies provided by law, the Metropolitan Government of Nashville and Davidson County shall have the right to injunctive relief for any violation of these regulations.

3.7.5 Other Enforcement Tools

In addition to the enforcement mechanisms named above, MWS may use any of the following measures to enforce compliance with Stormwater regulations. Until the development in question is in compliance with regulations and until all fines have been paid, MWS will:

1. Withhold release of infrastructure bonds that it holds on any phase of the development until the phase in question is in compliance and until all fines have been paid;
2. Withhold new Grading Permits for other phases of the development until the phase in question is in compliance and until all fines have been paid;
3. Withhold the Stormwater Use & Occupancy permit sign-off on any phase of the development until the phase in question is in compliance with these regulations and all associated fines have been paid.

3.8 Inspections

MWS may make or cause to be made the inspections required by this section. Reports by inspectors employed by recognized inspection services may be accepted provided that, after investigation, their qualifications and reliability prove satisfactory to MWS. No certificate called for by any provision of these regulations shall be based on such reports unless the same are in writing and certified by a responsible officer of such service.



3.8.1 *Permitting*

Before the Department of Codes Administration issues a building permit, MWS may examine or cause to be examined any tract of land for which an application has been received. MWS may also examine or cause to be examined any tract of land for which a Grading Permit application has been received.

3.8.2 *Construction*

MWS shall inspect or cause to be inspected at various intervals all construction or grading for which a building permit or Grading Permit has been issued, and a final inspection or waiver thereof shall be made of the tract of land upon completion.

Upon notification from the permittee or his agent, inspections of the tract of land shall be performed at the following times, as well as such other inspections as may be necessary:

1. Prior to the initiation of the project after temporary or permanent erosion prevention and sediment control practices have been installed.
2. After the completion of the rough grading and installation of stormwater management structures.
3. Upon completion of the project.

MWS shall either approve that portion of the construction or grading as completed or shall notify the permittee or his agent where violations are noted.

Work shall not be done on any part of the tract of land beyond the point indicated in each successive inspection without first obtaining approval from MWS. In particular, construction may not proceed until the site has been inspected to ensure that adequately sized temporary or permanent erosion prevention and sediment control (EPSC) practices have been installed and are operational for grading activities. A Grading Permit will not be issued until MWS verifies that EPSC measures are adequate.

3.9 **As-Built Certifications**

Prior to the issuance of a Use and Occupancy (U&O) permit or the full release of the performance bond for a development or for any structure in a development (unless exempted by Sections 3.4 and 3.5), a Tennessee registered engineer shall submit to MWS a certification letter stating that the site has been inspected and that the stormwater management system and stormwater BMPs (both structural and non-structural) are complete and functional in accordance with the plans approved by MWS. Any deviations from the approved plans shall be noted on as-built drawings submitted.



To insure the adequacy of stormwater quantity detention facilities, stormwater quality management practices, and public infrastructure, the certification submittal shall also include as-built drawings showing final topographic features of all these facilities. This shall include invert elevations of outlet control structures. Hydrologic and hydraulic calculations may be required for as-built conditions. Cut and fill balance certification should also be included for floodplain and sinkhole alterations.

Prior to the issuance of a U&O permit or the full release of the performance bond for any new or substantially improved structure subject to minimum floor elevation requirements, a registered engineer and/or registered land surveyor shall submit to MWS certification of the elevation (in relation to mean sea level) of the lowest floor (including basement); or if the structure has been floodproofed, the elevation (in relation to mean sea level) to which the structure was floodproofed. This information must be provided on a FEMA Elevation Certificate. To ensure that floodplain cut and fill balances have been achieved, as-built plans, cross-sections, and related calculations must be submitted for all floodplain manipulations.