City of Rahway
Department of Community Development
Division of Engineering

engineering@cityofrahway.com
One City Hall Plaza
Rahway, NJ 07065
Tel 732-827-2176
Fax 732-680-1375

Engineering Review Guidelines

Following is a list of details or items that may be required to correctly perform an engineering review. This list is separated by type of review (site grading, flood hazard, and stormwater). Note, not all details or items listed below are required for the engineering review. The reviewing engineer will make the determination based upon the proposed improvements and site conditions. A preliminary determination for the review details/items may be requested prior to applying for building construction, zoning or engineering reviews. Inquiries for preliminary determinations should be addressed to engineering@cityofrahway.com.

1. **Site Grading Plan Review - per Ordinance Section 421-33**
    a. Provide a current location and topography survey with all existing site features, spot grades and contours, at one (1) foot contour intervals, and be prepared by a Professional Land Surveyor. The elevation datum should be at the NGVD 1929 datum or provide a conversion factor to NGVD 1929 if using another datum.
    b. Using the location and topography survey, show all proposed improvements to be constructed with their dimensions and floor elevations, as applicable.
    c. Show all front, side and rear yard zoning setbacks from the proposed improvements to their respective property line.
    d. Provide all existing and proposed building and lot improvement/impervious coverage areas in square feet, and as a percentage of the whole lot coverage.
    e. Provide a grading plan with proposed spot elevations and with one (1) interval contours shown. The quantity of elevations and contours must be sufficient to demonstrate that the land to be graded around the proposed improvements can accomplished 1) within the limits of the property, 2) with slopes that can be safely stabilized and be non-erodible, and 3) do not cause storm water runoff to run toward a neighboring property at any greater quantity and/or rate than before the proposed construction.
    f. The proposed grading plan must be prepared by a Professional Engineer.
    g. To demonstrate compliance with the approved grading and construction plans, a certified 'as-built' location and topographic property survey must be submitted for review and approval, and as a condition for issuance of a Certificate of Occupancy. The survey must be prepared by a Professional Land Surveyor.

2. **Storm Water Runoff Review - per Ordinance Section 361-4**
    a. As a basis for review, depending on the extent of proposed site improvements, and as applicable for the proposed site improvements, provide the information required under a Site Grading Plan Review, Items 1 a. thru 1 e.
    b. Provide the proposed storm water collection, piping, detention features (if required) and construction details to demonstrate control of the runoff from the property.
    c. All underground storm water detention systems must have lockable man-ways at grade for maintenance access, and a surface or piped overflow system to an existing storm sewer system or thru the street curb face (see City Construction Detail). An overflow system is required regardless of whether a detention system is for building construction or a pool.

d. Provide the necessary calculations to demonstrate compliance with the City's Storm Water Runoff Ordinance, Chapter 361-5. and for sizing of the proposed storm water catchment features and control improvements.
e. For all underground detention systems, that depend on soil permeability to drain, onsite and/or laboratory soil testing must be conducted to demonstrate soil permeability sufficient to drain the entire system volume within (36) hours. A soil log must also be conducted to demonstrate that the bottom of the system is not below a seasonal high groundwater level. The plan must show that the bottom of the system is to be constructed down into the tested permeable soil strata. The soil log and permeability testing must be done and submitted with this application for review and approval.
f. For pool construction permit applications, the above calculations in 2.d. above, the runoff calculations may also be required, depending on the type and size of the pool, and any new impervious coverage for the pool, such as patios and walkways.
g. For storm water management systems, the calculation parameters must be based on a 100-year storm event and the Union County data for hourly rainfall intensity and a 24-hour rainfall. The volume of the system must provide for the net increase in runoff between pre and post construction.
h. All pool backwash systems must provide a piped discharge to an existing storm sewer system or through the curb face (see City Construction Detail) in the street.
i. All roof drain discharges, if not connected to a storm water management system, must be discharged so as not to flow directly towards a neighboring property or in a direction where storm water runoff has not flowed previously.
j. The proposed storm water runoff plan and calculations must be prepared by a Professional Engineer or Registered Architect.
k. To demonstrate compliance with the approved grading and construction plans, a certified 'as-built' location and topographic property survey must be submitted for review and approval, and as a condition for issuance of a Certificate of Occupancy. The survey must be prepared by a Professional Land Surveyor.

3. <u>Flood Plain Review -</u> per Ordinance Section 213-14B

a. If the property is first determined to be situated in a 100-year flood zone (FEMA AE Zone or NJDEP FHA), then the following requirements apply.
b. As a basis for review, depending on the extent of proposed site improvements, and as applicable for the proposed site improvements, provide the information required under a Site Grading Plan Review, Items 1 a. thru 1 e. However, for minor land improvements, such as a deck and fencing, a copy of a property survey can used to show the proposed improvement and will be used for an initial review to determine if additional information is required.
c. For new structures, building additions and interior building renovations, all existing and proposed floor elevations and the existing and proposed highest and lowest adjacent grades, at the building foundation walls, must be shown.
d. Depending on the results of an initial Flood Plain Review, a FEMA Elevation Certificate (EC) may be required, which must be prepared by a Professional Land Surveyor.
e. Depending on the extent and value of the proposed construction, a certified real estate appraisal may be required to establish the existing market value of the existing structure to be improved or renovated, and not including the value of the land.
f. A Flood Plain Review for a FEMA Letter of Map Amendment (LOMA) must include a FEMA Elevation Certificate with the application, which must be prepared by a Professional Land Surveyor.