

## PRELIMINARY DRAINAGE STUDY REQUIREMENTS (STAMPED AND SIGNED)

Objective of the Preliminary Drainage Study: To demonstrate that conceptually, the site is physically suitable for the type and density of the proposed project, with the addition of appropriate on-site and off-site drainage improvements, in accordance with City of Elk Grove Improvement Standards and flood control policies prior to issuing development conditions.

Review by the City: The applicant must adequately study the drainage in the pre-and post development form to insure that the project can be built. Study must be prepared and stamped by a licensed Professional Engineer. The City review may be intensive or casual depending on the expected impacts of the project on the existing drainage system. Approval of the Tentative Map does not in any way indicate that the City approves, concurs, or even warrants as adequate, the study submitted with the application. At the time of the Final or Parcel Map application, the City will review the detailed drainage study and proposed improvements submitted as required by the Conditions of Approval. If the preliminary drainage study is inadequate, flawed, or inaccurate, it could lead to a determination that the project is not feasible; therefore the applicant is advised to insure the preliminary study is prepared with due care.

Level of study required *prior* to issuing Conditions of Approval:

- a. None – for proposed project that does *not* require a Tentative Map and will connect new development into an existing open channel or existing underground pipe system that will be able to handle the 10-year frequency storm runoff from the proposed development.
- b. Reconnaissance Level – for proposed project that requires a Tentative Map and will connect into an existing open channel without requiring alteration of the channel or into an existing underground pipe system that will be able to handle the 10-year frequency storm runoff from the proposed development. (Certification Statement must be attached to the study submittal). Minimum reconnaissance level elements:
  1. Determination that project is not in a current 100-year FEMA or local floodplain
  2. Determination of post project peak runoff using City hydrology parameters
  3. Analysis of capacity and utilization of existing storm drainage system facilities at proposed connection points.
  4. Determination that sufficient land under the owner's control is available for proposed drainage facilities and maintenance corridors as required by the City Improvement Standards.
  5. Analysis of permits required including type, processing time, and expected restrictions.
- c. Suitability Level – for proposed project that affects, impacts, or includes altering any existing open channel drainage course or the 100-year flood plain; requires extensive off-site improvements; or affects land currently in the 100-year flood plain. Minimum suitability level elements (in addition to the elements 2-5 of a reconnaissance level):
  1. Preliminary analysis of pre- and post project drainage conditions
  2. Conceptual demonstration with supporting calculations that post project draining concept can handle peak flows and mitigates downstream impacts
  3. Delineation of existing and expected post project 100-year flood plain
  4. Statement on how the drainage concept appears to be consistent with applicable General, Capital Improvement, and Specific Plans
  5. Identification of needed FEMA map revisions