IMPORTANT STUFF YOU NEED TO KNOW ABOUT FEMA TCEQ AND THE CORPS TO STAY OUT OF TROUBLE.

Ron Morrison, PE, CFM
Morrison Hydrology LLC
1600 Lake Air Drive
Waco, Texas 76710
rmorrison@mhydrology.com

Agency Regulations

FEMA Combined Federal Register (CFR) Title 44 Part 60
TCEQ Dams Texas Administrative Code (TAC) Chapter 299
Corps of Engineers Clean Water Act (Federal Water Pollution Control Amendments of 1972 P.L. 92-500)

Penalties for non-compliance

Violation of FEMA regulations can result in your community being removed from the Flood Insurance Program resulting in the loss of Federally backed Flood Insurance, and Federal Grants.

Violation of the TCEQ regulations can result in Criminal Actions.

Violation of Section 404 of the Corps of Engineers administered Clean Water Act can result in administrative penalties of up to $16,000 per day of violation with a maximum cap of $177,500 in any single enforcement action.
When any work is done in a floodplain that changes the BFE, up or down or creates erosive velocities you must provide a Study to FEMA.

Any BFE change must result in an update of the FEMA Flood maps. That submittal must be a LOMR or a CLOMR.
LOMR Requirements

- When is a LOMR Required
  - Any change (increases or decreases) in BFE resulting from physical changes
  - Changes involving:

FLOODWAY

Letter of Map Revision (LOMR)

- Obtain and duplicate the FEMA Effective models.
- Complete an Existing Condition model.
- Complete an as-built Condition model.
- Prepare a Report
  - Must show no or acceptable increases in 100 year flood elevations.
  - Must show no increase in erosive conditions.
- Must meet City/County requirements.
- Must comply with all other Federal/State requirements.

CLOMR Requirements

- When a CLOMR is Required
  - Proposed projects that:
    - Encroach upon the floodway and cause an increase of greater than 0.00 ft
    - Encroach upon a floodplain when a floodway has not been established and causes an increase of greater than 1.00 ft
      - Includes all existing and anticipated development - 60.3(c)(10)
      - Includes Approximate Zone A
    - May require development of a model
Warning! Many Cities may require a CLOMR even though FEMA does not require it.

ORD-2013-484 Sec. 11-2. Application of this chapter.
(d) Land development activities proposed which will result in flood hazard boundary delineations different from those on the current FEMA FIRM, the applicant for a development permit shall obtain a CLOMR and/or LOMR from FEMA.

Conditional Letter of Map Revision (CLOMR)

- Obtain and duplicate the FEMA Effective models.
- Complete an Existing Condition model.
- Complete an as-built Condition model.
- Report
  - Must show no or acceptable increase in 100 year flood elevations.
  - Must show no increase in erosive conditions.
  - Must meet City/County requirements.
  - Must comply with all other Federal/State requirements.
- Environmental Species Assessment (ESA)

ESA will always be required for a CLOMR to identify Endangered Species even if you build on a parking lot if it has floodplain!
Wildlife found on a Parking Lot

PINTO

Cougar

Jaguar

Mustang

CLOMRS can not be used for:

- Insurance requirements
- Floodplain Map Changes
- Final Approvals

CLOMRS can be used to:

- Provide FEMA reviews of a proposed project.

Maintenance to watch or avoid in a floodplain

YES

NO
Actual Case
Egrets can be loud and smelly, (not protected species), but be careful about getting rid of them. You can cut down the trees where they stay. If you do it by hand and wait until they migrate.

Maintenance to watch or avoid in a floodplain
Change a natural stream to a manmade stream

Actual Case
Homeowners complain about silt in the stream behind their house. Any work on the stream must address the following:
1. Removal of silt must not violate Corps 404 requirements. This means it must be done with a backhoe not allowing incidental fall back.
2. Removal of silt must not create adverse conditions such as increases in BFE or erosive velocities.
Replacing a small crossing with a larger crossing

Construction in a floodplain
Can not allow fill in "waters" without a permit, this includes using dozer, incidental fallback from a back hoe, silt, construction debris, structures such as culverts, etc.

Using a backhoe in "waters" is acceptable for excavation as long as it is done carefully.
FEMA is not generally interested in the finished floor for residential construction.

Lowest Adjacent Grade must be Above the Base Flood Elevation.

**Construction to watch or avoid in a floodplain**

**What does TCEQ call a dam?**

Must have a height greater than six feet and a maximum storage capacity greater than or equal to 50 acre-feet;
Dam Requirements TCEQ publications

New Dams
Hydrologic and Hydraulic Guidelines for Dams in Texas

Old Dams
Guidelines for Operation and Maintenance of Dams in Texas

Dam design and analysis is not for the novice.

Breach Analysis
Quasi-Unsteady Flow
Standard Project Flood

Levees require different regulations than Dams.

NEW FEMA REGULATIONS:
www.fema.gov/plan/prevent/fhm/lv_intro.shtm
Questions?