



ORANGE COUNTY EMERGENCY SERVICES DISTRICT NO. 1

2351 Hwy. 12
Vidor, TX 77662
409.769.8294

GENERAL DESIGN GUIDELINES AND CHECKLIST

- All plans, (subdivision, site, building, alarm and sprinkler) will be submitted to the City of Vidor Code Enforcement, if within the city limits. If outside the city limits all plans will go to OCESD#1. The District will submit a letter of review to the architect or engineer after review is complete. Reviews will not be released until all outstanding fees have been paid.
- A certified or witnessed pressure test is required for all water models, required hydrant flow tests, or sprinkler designs before the District will issue approval or grant a certificate of occupancy.
- Design for the water systems providing fire protection in all situations shall be in accordance with specific articles of the 2015 edition of the International Fire Code; specific chapters, standards, appendices and tables of the 2014 International Building Code and the provisions of the Resolution Adopting the District's Fire Code.
- Designs to be prepared and sealed by a registered professional engineer.
- Designs that extend from an existing water system(s) shall be based upon a certified fire flow test.
- The "C" factor shall be 80 for ductile pipe and 110 for PVC pipe.
- The water in mains cannot exceed 10 fps (feet per second) at fire flow designs.

- Fire hydrants shall be spaced as follows:
 - Single Family 500-ft apart
 - Excepting cul-de-sacs 400-ft apart
 - Multi-Family 300-ft apart
 - Commercial 300-ft apart
 - Industrial 300-ft apart

- When any portion of the facility or building being protected is in excess of 300 ft from a water supply on a public street, as measured by an approved route around the exterior of the facility or building, on site hydrants with mains capable of supplying the required fire flow shall be provided.

- All fire lines and fire hydrants will be on a looped system, with no dead ends.

- Hydrants shall be located near the P.C. or throat of the cul-de-sac, and not at the end.

- Fire hydrants shall be located no closer than 15 ft. to a structure, unless the structure is three (3) stories or more in height, in which case hydrant shall be no closer than the height of the structure.

- Hydrant fire flow shall meet the flow rates as determined in Appendix B of the 2015 International Fire Code at 20 psi.

- A six (6) inch fire line will fire flows for one hydrant.

- All structures three (3) stories or taller shall have fire access lanes on both (all) long sides of the structure.

- All portions of a structure shall be within 150 ft. of a designated fire lane.

- Access to structures shall be provided by designated fire lanes having a minimum width of 25 ft., having a minimum inside radii of 25 ft. and a minimum outside radii of 50 ft. Access roads shall have an unobstructed vertical clearance of not less than 13-feet, 6-inches.
- A single gate serving two-way traffic shall be 25 ft in clear open width. When two gates are installed and each services one direction of travel, they shall be 15 ft in clear open width each.
 - For more on gates and locking devices, see local amendments.
- Projects requiring three (3) or more on-site fire hydrants shall include a water model demonstrating adequate line sizes on all fire lines.
- For projects that will require a water model, the application shall be accompanied by a water model based on the Kentucky type methodology which demonstrates required fire demands are met at each fire hydrant. The water model shall bear the seal of a registered professional engineer, registered in Texas and shall contain the following certification:

“I, _____ < a registered professional engineer in the state of Texas do hereby certify that the fire flow rates designed for the water system shown on this model for the project titled _____ meet or exceed the minimum requirements of the Orange County Emergency Services District No. 1, in effect on this date.”

Engineer’s Signature and Date

Typed Engineer’s Name

Company Name

Address

Phone and Fax numbers

- A “Master Key Box”, (Knox Box), shall be installed at the location shown on the building plans and approved by the District. Contact the District for ordering the box. The

building will not be accepted for occupancy until the box is installed and the master key(s) is in place.

- The owner shall furnish the District with copies of the building floor plans on a thumb drive or an electronic copy prior to acceptance of the project for occupancy.
- The maximum allowable driveway, drive aisle, or fire lane grade is 10%.

SUBDIVISION PLANS DESIGN GUIDELINES AND CHECKLISTS

- General requirements as previously stated apply.
- PLANS
 - The following items are required to be shown on the Subdivision Plans:
 1. Signature Line-The District Fire Official and Date
 2. The plans and water model shall bear the seal of the registered professional engineer, registered in Texas.
- WATER SYSTEM LAYOUT
 - Layout of entire water system is to be at a minimum scale of 1" = 50'.
 - Valves and fire hydrants shall be located and labeled.
 - Line sizes are properly labeled.
 - The water layout shall match exactly the water model.
 - Test (flow) fire hydrant is to be shown and labeled.
- ROADWAYS AND ACCESS
 - Roadways must provide adequate access to each lot.
 - All cul-de-sacs shall have proper radii.
- DETAILS
 - Fire hydrants are to be installed with ductile iron pipe lead and gate valve.

- SUBDIVISION PLAT NOTES
 - The maximum driveway approach grade within the right of way is 10%.

- SUBDIVISION WATER SYSTEM PLAN NOTES
 - Hydrants must be installed with the four and one half-inch steamer opening at least 18 inches above the finished grade. The four and one half-inch steamer opening must face the street with a three (3) to six (6) ft. setback (clearance from the curb line or shoulder of the street.
 - There shall be no obstruction within a three (3) ft. radius of any hydrant, and the four and one half-inch steamer opening must be totally unobstructed from the street.
 - The maximum allowable driveway grade is 10%.

SITE PLANS DESIGN GUIDELINES AND CHECKLISTS

- PLANS
 - All plans will be submitted on 35" X 21 ½" sheets.
 - The following items are required to be shown on the Plans. The plans and water model shall bear the seal or a registered professional engineer, registered in Texas.

- SITE PLAN
 - Show building dimensions on the inside of each wall.
 - Provide the following data on the site plan:
 - ❖ Number of stories
 - ❖ 1st Floor Sq. Footage
 - ❖ 2nd Floor Sq. Footage
 - ❖ 3rd Floor Sq. Footage
 - ❖ Additional Floors as Required
 - ❖ To be noted in the approximate middle of the building drawing in 3/16" letters.
 - Fire lanes should be noted with 1/8" long dashes in medium weight type.

- Fire lanes longer than 150 ft. measured from the edge of payment of the public/private roadway shall have either a 120 ft. hammerhead, 60ft. “Y”, or 96 ft. cul-de-sac.
 - Fire hydrants must each be properly labeled.
 - Fire department connection (FDC), must be properly located and identified.
 - Radii shall be labeled on all islands, driveway approaches, and along the path of all fire lanes.
 - Turnarounds shall be provided as required.
- WATER SYSTEM LAYOUT
 - General guidelines as previously stated apply.
 - Fire lines shown in easements as required by the AHJ.
 - Designs to be prepared and sealed by a registered professional engineer.
 - Project with three (3) or more on-site hydrants shall include a water model demonstrating adequate line sizes on all fire lines.
- SITE PLAN NOTES
 - An all-weather driving surface must be installed in locations shown on the site plan to be fire lanes, prior to any building construction beyond foundation phase.
 - The four and one half-inch steamer opening must face the driveway or street with three to six feet set back from the curb line (s). No obstruction is allowed within three (3) feet of any fire hydrant, and the four and one-half opening must be totally unobstructed from the street/driveway.
 - All pervious/decorative pavements shall be engineered and installed for 75,000 lb. live-vehicle loads. The District must approve any pervious/decorative paving within 100 ft. of any building.
 - Commercial dumpsters and containers with an individual capacity of 1.5 cubic yards or greater shall not be stored or placed within ten (10) ft. of openings, combustible walls, or combustible eave lines.

- Vertical clearance required for fire apparatus is 13 feet, 6 inches, for the full 25 feet width of all access drives and routes for interior circulation. Dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with approved provisions for the turning around of fire apparatus.
- Fire lanes shall be stenciled “FIRE LANE-TOW AWAY ZONE” in white letters three inches tall, at intervals not to exceed 35 feet. Curbs along fire lanes shall be painted red in areas as indicated on the site plan. Where no curb and gutter exists, fire apparatus access roads shall be marked with permanent FIRE LANE-Tow AWAY Zone signs at intervals not exceeding 50 feet. Signs shall have a minimum dimension of 12 inches wide and 18 inches high and have red letters on a white reflective background. Signs shall be posted on one side or both sides of the fire apparatus road as required by local amendments.