



Drainage and Floodplain

Drainage and floodplain matters are managed by the Drainage and Flood Office. They are located at 300 North Blvd, Rm 411, Baton Rouge, LA 70802, and can be reached at (225) 389-3196. Additional information can be found on-line at <http://brgov.com/dept/dpw/drainage.htm>.

Drainage Impact Study (DIS)

No development application subject to a public hearing shall be approved until two copies of a Drainage Impact Study (DIS) have been submitted to, reviewed and approved by DPW. A DIS must include the following, at a minimum:

- Location and description: Existing and future land use, existing physical conditions; estimate of pre- and post-development percent impervious area; photos of existing drainage features
- Watershed map: Drainage boundaries; slope of basins; location of existing drainage features
- Hydrologic design: Existing and future condition peak 10-year flow rates at entry and exit points
- Hydraulic capacities: capacity of existing on-site drainage facilities; required type, size and capacity of proposed outfall facilities; inventory of existing off-site downstream outfall facilities, including capacity, size, type, and invert and cover-topping elevations
- Identification and description of special conditions
- Conclusions and recommendations

A DIS is required for all development applications, with the following exemptions:

- Area of impervious surface does not exceed 20% of the development area at the point of discharge from the site.
- Additions or modifications to existing developments which result in no more than a 10% increase in existing impervious area and which have existing public storm drainage facilities designed to accommodate runoff from the existing site.

Development applications meeting the following criteria may request, in writing to the Planning Commission, a waiver of the DIS:

- No more than a 10% increase in the 10-year pre-development peak discharge at the point of discharge from the development site.
- Located within an existing developed area served by a network of public storm drainage facilities which were designed to accommodate runoff from the site.

Hydrology, Hydraulics and Discharge Calculations

Discharge Calculations

Size of Drainage Area (acres)	Discharge Calculation
Less than 1.0 acre	3.0 cfs/acre
1.0 – 299.9	EBRP Run-off Curves ¹
300.0 – 1,999.9	SCS method ²
2,000.0 or more	HEC-HMS or USGS procedures

1 Contact the Drainage and Flood Office for run-off curves.

2 Use TRSS method for Time of Concentration, T_c.

3 Average lot size is calculated based on the area occupied by the buildable lots, not the total development area divided by the number of lots.

Storm Intensity and Duration

NOAA Technical Memorandum NWS HYDRO-35

EBRP Run-off Curve Categories

Land Use Category	Average Lot Size ³
Undeveloped	N/A
Low Density Residential	½ acre or more
High Density Residential	Less than ½ acre
Commercial	N/A

Design Rainfall Events

Return Interval	Design for 24-hour Rainfall Event
10-year	8.5 inches
25-year	9.5 inches
50-year	10.5 inches
100-year	12.6 inches

Storm and Cross Drainage Systems

Storm Drain and Pond Design

- Design Water Surface (DWS) shall be for a 10-year discharge
- 10-year event recommended for internal storm drainage system design
- 10-year Hydraulic Grade Line (HGL) shall be below existing or proposed gutter elevation
- A detention pond, if recommended, shall be designed for a 10-year storm. However, a 100-year storm routing is required for evaluation.
- When offsite adjacent drainage areas contribute flow to the site proposed for development, accommodations for these areas must be considered developed to the maximum allowed density as indicated by the current Horizon Plan Land Use.

Cross Drain Design

Size of Drainage Area (acres)	Design Frequency
Less than 25.0 acres	10-year
25.0 – 99.9	25-year
100.0 or more	50-year

Fill Requirements within the Floodplain

Fill placed within the floodplain must meet the following restrictions:

- The source of the fill volume compensation (offset) should be onsite and should be identified and approved prior to construction plan approval or issuance of a building permit.
- No fill may be placed in a manner that would cause a burden or hardship on adjoining properties.
- Sites elevated by fill must be graded (a) to conform to the existing natural drainage for undeveloped rural properties or (b) to be consistent with the approved drainage design plan for residential or commercial developments. Otherwise, adequate drainage collection facilities must be installed to intercept and direct the drainage to its intended outfall.