

Connections to TxDOT Drainage Facilities

Developer's Outfall Checklist

TxDOT Design Division H&H Section

Note: this is not necessarily a comprehensive checklist; nor is it required that all items in it be checked for a project to be acceptable. Each project is different, and a proper H&H analysis may determine that some of the items are not required. However, the checklist is offered as a tool for designers and reviewers.

Project Name _____

Roadway _____

Location / Town _____

Date: _____

Section	Issue	OK	NG	Comments
Are graphics and/or illustrations provided?	Scale, north arrow, symbols, and legends			
	Project location map with appropriate land marks if available			
	Identification of the Points of Interest (POIs) for the project. These are typically the locations where flows from the proposed development discharge into the TxDOT system			
	Identification, geometry, and description of all features of the TxDOT receiving drainage system (storm sewer, roadside ditch, channel, driveway culvert, culvert, bridge, etc.)			
	Benchmarks with elevation and datum reference			
	Delineation and illustration of effective Flood Insurance Rate Maps (FIRM), Flood Hazard areas			
	Existing and proposed conditions drainage area maps for the development			
	Flow paths existing conditions			
	Flow paths proposed conditions			
	Illustration, geometry, and description of proposed outfall into TxDOT drainage system (tie-in(s), details, elevations, etc.)			
Hydrology - are appropriate parameters used? Is the pertinent information provided?	TxDOT receiving system design storm (not a must, but a helpful record for evaluation)			
	Existing conditions peak runoff flows draining to/from TxDOT right-of-way (2, 5, 10, 25, 50, and 100-yr return periods) - at POIs			
	Proposed conditions peak runoff flows draining to/from TxDOT right-of-way (2, 5, 10, 25, 50, and 100-yr return periods) - at POIs before mitigation			
	Proposed conditions peak runoff flows draining to/from TxDOT right-of-way (2, 5, 10, 25, 50, and 100-yr return periods) - at POIs after mitigation			
	Document all pertinent hydrologic parameters and assumptions used in calculations (time of concentration, land cover, type of development, design rainfall depth & losses, IDF factors, % and area of existing & proposed impervious cover, storm event & duration, runoff coefficient (C), CN; the reviewer must be able to independently confirm results using the methodology, parameters, and assumptions stated in the report.			
	Use of 2018 NOAA Atlas 14 rainfall data			
Is the pertinent hydraulics information provided?	Geometric dimensions for the TxDOT conveyance structures receiving the flows (i.e. channel width, depth, length, slope, pipe diameter, width, height, etc.)			
	Culvert, storm sewer, and/or open channel hydraulic calculations, at TxDOT ROW for each outfall			
	Existing and proposed velocities (2, 5, 10, 25, 50, 100-yr return periods) at the appropriate POIs			
	Existing and proposed water surface elevations (2, 5, 10, 25, 50, 100-yr return periods)			
	Proposed pond outlet works hydraulics			
	Hydraulic parameters such as manning's n, slopes, hydraulics radius, rational method's "C" value, etc.			
H&H Analysis	Hydrologic method used	Modified Rational Method		
		Hydrograph Method		
		Other (is method justified and described?)		
	Detention Pond	Is method appropriate?		
		Stage/storage relationship provided?		
		Outlet type illustrated and described?		
Results	Stage/discharge relationship provided?			
	Is outlet size smaller than the TxDOT structure receiving the flow?			
	Are the results provided and compared at the Points of Interest (POIs)?			
Notes	Are peak flows for all probabilities (2, 5, 10, 25, 50, and 100-yr RP) equal or less than existing condition peaks? Note: if flows are higher than existing, contact the District Hydraulics Engineer			
	Is hydraulics report and/or plan set signed and sealed by a professional engineer with a current and valid license in the state of Texas?			
Notes	If tail water conditions exist at the TxDOT drainage system, coordinate with the District Hydraulics Engineer			
	If the project involves pump discharge, please coordinate with the DHE			