



Public Works, Engineering Division Final Drainage Plan Submittal Checklist

Reviewer: _____ Date: _____
 Subdivision Name: Glen Meadows Location: 21st at Greenwich
 Total Land Area Of Ownership: 12 Acres
 Type: Residential Commercial Industrial Recreation Municipal Other
 Applicant: Slawson Companies Contact: Jerry Jones Phone #: 316-263-3201
 Engineer: Professional Engineering Consultants, PA Contact: Joe Hickle Phone # 316-262-2691

Please check the appropriate box:

I = Included; NA = Non-Applicable; R= Required prior to development
 (If "NA" is checked, an explanation must be entered)

Tab 1. Project Narrative	Applicant		Engr	
	I	NA	I	NA
A. Site Location Map, using USGS Map	✓			
B. Discussion of development, existing conditions, and proposed impacts on stormwater, wetland, riparian, and flood plain	✓			
C. Discussion of offsite conditions	✓			
D. Summary of runoff calculations (pre/post development) No increase in peak discharge for all storm series	✓			
E. Narrative description of the type and function of the permanent best management practices that are incorporated into the site design	✓			
F. Copy of the plat	✓			
G. Preliminary grading plan (The final grading plan shall be sealed, signed and dated prior to Engineering receiving the final sanitary sewer plans. One plan sheet and PDF shall be submitted to the Subdivision Engineer.)	✓			
H. Professional Engineer seal, signature and date on cover of report	✓			
I. CD of drainage plan in PDF format (one file) and one paper copy bound with this checklist included behind the cover	✓			

Tab 2. Existing Conditions Runoff Calculations	Applicant		Engr	
	I	NA	I	NA
A. Copy of applicable orthophoto showing proposed project boundaries (preferable in color)	✓			
B. Runoff Method (Rational, Hydrograph Method, or other approved methods by Engineering)	✓			HEC - HMS
C. Existing topography (no greater than 2-foot contours, 1-foot recommend)	✓			
D. Total Site Area and Total Impervious Area (acres)	✓			
E. Benchmarks used for site control	✓			
F. Streams, creeks, and waterway labeled		✓		
G. Predominant soils from USDA soil surveys, and/or on site soil borings	✓			
H. Location and boundaries of natural features such as wetlands, lakes, and ponds with the normal water elevation noted		✓		
I. Location of existing roads, buildings, parking lots and other impervious areas.	✓			



J. Location of existing utilities (e.g., water, sewer, gas, electric) and easements	✓			
K. Location of existing conveyance systems such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow	✓			
L. Flow paths	✓			
M. Location and dimensions of existing channels, bridges or culvert crossings	✓			
N. Existing conditions hydrologic analysis for runoff rates, volumes and velocities showing methodologies used and supporting calculations (2, 5, 10, 25 & 100 year, 24-hour storm events) or Critical Duration	✓			
O. Assumed pre-developed runoff curve numbers	✓			
P. Existing time of concentrations used in calculations	✓			
Q. Evaluate immediate downstream drainage capacity, not to exceed more than 0.25 miles downstream of site	✓			
R. Existing structural elevations (e.g., invert of pipes, manholes, etc.)	✓			
S. Cross-section data for open channels		✓		
T. Ground water elevations, if applicable		✓		

Tab 3. Post-Development Hydrologic Analysis	Applicant			Engr	
	I	NA	Explanation / Location in Plan	I	NA
A. Proposed (post-development) conditions hydrologic and hydraulic analysis for runoff rates, volumes, HGL, and velocities showing the methodologies used and supporting calculations for all applicable design storms (2, 5, 10, 25 & 100 year, 24-hour storm events)	✓				
B. Proposed time of concentrations used in calculations	✓				
C. Assumed post-developed runoff curve numbers	✓				
D. Proposed contours for detention facilities (to equal area used in outlet rating curves)	✓				
E. Preliminary sizing calculations for stormwater controls including contributing drainage area, storage, and outlet configuration	✓				
F. Stage-storage-discharge or outlet rating curves and inflow and outflow hydrographs for storage facilities	✓		HMS Computer analysis included.		
G. Final analysis of potential upstream/downstream impact/effects of project, where necessary	✓				
H. Existing and proposed structural elevations (e.g., invert of pipes, manholes, etc.)	✓				
I. Design water surface elevations and normal pool elevation for ponds.	✓				
J. Typical detail for outlet structures, embankments, spillways, grade control structures, conveyance channels, etc. To include height, width, elevation, and/or diameter.	✓		8 foot weir in pond control structure		
K. Proposed limits of clearing and grading	✓				
L. Location of existing and proposed roads, buildings, parking lots and other impervious areas.	✓				
M. Location of existing and proposed utilities (e.g., water, sewer) and easements	✓				
N. Location of existing and proposed conveyance systems such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow	✓				
O. Preliminary location and dimensions of proposed channel modifications, such as bridge or culvert crossings		✓			



P. Preliminary selection and location of stormwater controls	✓				
Q. Emergency overflow structure's flow path		✓			
R. Detention facility provides one-foot of freeboard above the HWL and emergency outfall shown (top of berm elevation shown)	✓				
S. The 100-year 24-hour HWL delineated on the plan for detention pond	✓				
T. Lowest opening elevations table on the plat for structures located adjacent to channels or ponds		✓			
U. Stormwater Management Facilities located within a Reserve	✓				
V. Maintenance responsibility of stormwater management facility shall be specified in the plat text. (e.g. HOA, Lot Owners Association, or lot)	✓				
W. Off-site drainage easements or agreements required, where necessary		✓			

Tab 4. Floodplain Submittal	Applicant			Engr	
	I	NA	Explanation / Location in Plan	I	NA
A. Provide source of flood profile		✓			
B. Nearest base flood elevations		✓			
C. Delineation of pre-developed regulatory floodplain/floodway limits		✓			
D. Delineation of post-developed regulatory floodplain and floodway limits		✓			
E. Floodplain boundary determination per elevation (project limits shown)		✓			
F. Provide source of floodway data table and discharges		✓			
G. Provide all hydrologic and hydraulic study information for site-specific floodplain studies, unnumbered Zone A area elevation determinations and flood plain map revisions or required permits		✓			
H. Provide regulatory floodway and four natural profile models (10,50,100, and 500-yr) for existing and future watershed conditions		✓			
I. Location of floodplain/floodway limits and relationship of site to upstream/downstream properties (floodplain limits to be per elevation and scaled location)		✓			
J. Flood plains and floodways located within a Reserve, where necessary		✓			

Tab 5. Federal, State and Local Permits (to be provided prior to construction unless otherwise specified)	Applicant			Engr	
	I/R	NA	Explanation / Location in Plan	I/R	NA
A. US Army Corps of Engineers - Regulatory program permits (404 water quality certification)		✓			
B. Kansas Department of Agriculture - Division of Water Resources Permits (Stream Obstruction, Channel Change, Flood Plain Fill, Levee, Water Appropriations, Dam safety permit, etc.)		✓			
C. Federal Emergency Management Agency (FEMA) Letter of Map Changes (LOMA, LOMR, LOMR-f, CLOMR, etc.) Shall be included and approved when project modifies the limits of the floodway.		✓			
D. Kansas Department of Transportation		✓			
E. Sedgwick County Right-of-way Permit		✓			