



CITY OF
WICHITA

Public Works, Engineering Division Final Drainage Plan Submittal Checklist

Reviewer: _____ Date: _____
 Subdivision Name: Casa Bella 3rd Location: Pawnee and 127th
 Total Land Area Of Ownership: 13.8 Acres
 Type: Residential Commercial _____ Industrial _____ Recreation _____ Municipal _____ Other _____
 Applicant: _____ Contact: _____ Phone #: _____
 Engineer: Ruggles & Bohm Contact: Kenneth Lee Phone # 264-8008

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	Explanation / Location in Plan	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			included in narrative	✓	
C. Discussion of offsite conditions			included in narrative	✓	
D. Summary of runoff calculations (pre/post development) No increase in peak discharge for all storm series			included in narrative	✓	
E. Narrative description of the type and function of the permanent best management practices that are incorporated into the site design			included in narrative	✓	
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			will provide CD after R review		✓

Tab 2. Existing Conditions Runoff Calculations	Applicant			Engr	
	I	NA	Explanation / Location in Plan	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)			SCS Curve numbers using HEC-HMS (in narrative)	✓	
C. Existing topography (no greater than 2-foot contours, 1-foot recommend)			included on orthophoto	✓	
D. Total Site Area and Total Impervious Area (acres)			included on orthophoto	✓	
E. Benchmarks used for site control			on grading plan	✓	
F. Streams, creeks, and waterway labeled					✓
G. Predominant soils from USDA soil surveys, and/or on site soil borings			In narrative	✓	
H. Location and boundaries of natural features such as wetlands, lakes, and ponds with the normal water elevation noted			none adjacent to site		✓
I. Location of existing roads, buildings, parking lots and other impervious areas.			none existing on site		✓



J. Location of existing utilities (e.g., water, sewer, gas, electric) and easements			none existing on site		✓
K. Location of existing conveyance systems such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow			contours shown on orthophoto	✓	
L. Flow paths				✓	
M. Location and dimensions of existing channels, bridges or culvert crossings			none existing on site		✓
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			shown in narrative	✓	
O. Assumed pre-developed runoff curve numbers			narrative	✓	
P. Existing time of concentrations used in calculations			narrative	✓	
Q. Evaluate immediate downstream drainage capacity, not to exceed more than 0.25 miles downstream of site			narrative	✓	
R. Existing structural elevations (e.g., invert of pipes, manholes, etc.)			none on site		✓
S. Cross-section data for open channels			none on site		✓
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)			narrative	✓	
B. Proposed time of concentrations used in calculations			narrative	✓	
C. Assumed post-developed runoff curve numbers			narrative	✓	
D. Proposed contours for detention facilities (to equal area used in outlet rating curves)			grading plan	✓	
E. Preliminary sizing calculations for stormwater controls including contributing drainage area, storage, and outlet configuration			stormcad output		
F. Stage-storage-discharge or outlet rating curves and inflow and outflow hydrographs for storage facilities			narrative	✓	
G. Final analysis of potential upstream/downstream impact/effects of project, where necessary			narrative	✓	
H. Existing and proposed structural elevations (e.g., invert of pipes, manholes, etc.)			stormcad output		
I. Design water surface elevations and normal pool elevation for ponds.			grading plan + narrative	✓	
J. Typical detail for outlet structures, embankments, spillways, grade control structures, conveyance channels, etc. To include height, width, elevation, and/or diameter.			planning to use RCP		✓
K. Proposed limits of clearing and grading					✓
L. Location of existing and proposed roads, buildings, parking lots and other impervious areas.			residential site (streets in R/W typical houses)	✓	
M. Location of existing and proposed utilities (e.g., water, sewer) and easements			grading plan	✓	
N. Location of existing and proposed conveyance systems such as storm drains, inlets, catch basins, channels, swales, and areas of overland flow			drainage plan sheet		
O. Preliminary location and dimensions of proposed channel modifications, such as bridge or culvert crossings			none on site		✓



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			grading plan	✓	
T. Lowest opening elevations table on the plat for structures located adjacent to channels or ponds			grading plan & plat	✓	
U. Stormwater Management Facilities located within a Reserve			Reserve E of Casa Bella 2nd	✓	
V. Maintenance responsibility of stormwater management facility shall be specified in the platters text. (e.g. HOA, Lot Owners Association, or lot)			included w/ Casa Bella 2nd		✓
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					✓