

Level 3 – Storm Drainage Plan(s)				
Item No.	Submitted ¹	County Use Only		
		Rejected	N/A	
				General Requirements for all Storm Drainage Study Plans and Details:
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sheet Size – 24" x 36" or 11" x 17"
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Title Sheet
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Site Plan
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Title Block – include name and address of proposed project/development, submittal date, title of drawing, and sheet number.
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drawing Information
				<ul style="list-style-type: none"> • North arrow indicator • Section-Township-Range • Drawing Scale • Symbol Legend
6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drawing Scale – 1" = 50' or 100'. Larger scales may be required where necessary to clearly present details.
				Site Plan:
7.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Topography – include existing and final contour lines at a maximum of 2' intervals (with source to datum) for the site extended beyond project limits as appropriate to show downstream effects and adjacent property interaction (insufficient extension of contours will be cause for rejection). In addition, contour lines for adjacent rights-of-way must be included for the full width of right-of-way. Slopes steeper than 10% shall be identified by shading or cross-hatching.
8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Utilities – existing and proposed with easements identified.
9.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Site Layout – including property boundaries (bearings, dimensions, and area), adjoining streets and centerlines (with names and ROW widths), access locations, and existing structures (curb, gutter, sidewalks, etc).
10.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Storm Drainage Structures – including existing and proposed structures (curb, gutter, pipes, inlets, channels, culverts, irrigation ditches, detention/retention basins, etc.) clearly identifying invert, flowline elevations, limits of erosion protection, and direction of flow. Number, size and materials of construction for each structure shall be presented in tabulation form. In addition, notes shall be included referencing details, cross-sections, profiles, etc.
11.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Natural Features – including drainage channels, wetlands, water bodies, areas of natural vegetation, and flood plains. For natural drainage features, show direction of flow and 100 year flood plain boundary (if applicable).
12.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Demolition – including all items to be removed (culverts, storm sewer, trees, curb, gutter, sidewalk, etc.) shall be presented in tabulation form.

13.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proposed Structures - including new roads and road improvements, parking surfaces, building footprints, walkways, landscape areas, maintenance access, etc. Exact lines, grades and gradients of proposed public roadways shall be shown. If a cul-de-sac is proposed as part of the roadway system, show spot flowline elevations at 25' intervals along the perimeter of the cul-de-sac. Spot elevations at flowlines may also be necessary at intersections.
14.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fill Source and Quantity – including source and quantity of selected off-site material and locations and quantity of designated on-site borrow pits and pertinent information showing where each type of fill is to be placed. This information shall be referred to the County Environmental Analyst
				Profiles
15.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Storm Drainage Structure Profiles - including pipe sizes, pipe types and materials, lengths of runs, gradients and exact locations of pipes or channels, structure identifier (e.g. catch basin/manhole number), type of structure (e.g. Type 16 CB), exact location of structures (e.g. station and offset, or dimensioning), invert elevations in/out of structures, outlet configuration, and top elevations of structures. In addition, hydraulic gradelines will be shown for all storm sewer collection systems.
16.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Surface Grades – existing and finish surface grades.
17.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proposed utilities, showing exact line and grade of all proposed utilities at crossings with the proposed drainage system.
				Cross Sections:
18.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Spacing – roadways, streets, channels and basins – 50' intervals (<1 mile) or 100' intervals (≥1 mile), changes in section or at critical areas.
19.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Roadways – including new, existing, improved, and maintenance access roads.
20.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Detention/Retention Basins – including slope, depth, and erosion protection techniques.
21.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Modified/Newly Developed Channels – including proposed channels, ditches and swales.
				Details:
22.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Details shall be provided for all proposed drainage structures for which there is insufficient information in the plan or profile views (i.e. outlet configurations, headwall/wingwall, etc.). Details are not required for structures included in the CDOT Standard Plans, provided that the specific CDOT Standard Plans are referenced in the construction notes.
				Additional Requirements:
23.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Indicate any proposed phasing of construction.
24.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Professional Engineer’s Seal – including signature and date.

ATTACHMENT #6 CONTINUED

25.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	General Construction Notes – include notes for clarification (see Attachment ____ for County examples)
26.				Drainage maintenance plan
27.				All drainage easements and maintenance access points identified on plans. Submittal includes a copy of final plat to verify easements.
Developer’s Comments (please reference the item number for each comment)				
County’s Comments				

¹ To be checked by the Developer. If a “submitted” box is not checked, the Applicant must explain (in comment box above) or the application may be rejected for insufficient information.