



CITY OF
WICHITA

Department of Public Works

August 17, 2005

Mr. Phil Meyer, LA
Baughman Company, P.A.
315 Elliss
Wichita, KS 67211

SUBJECT: Drainage Plan
Stonebridge Addition
Wichita, Kansas

Phil:

We have completed our first review of the submittal for the subject site with regards to the City of Wichita's stormwater and floodplain policies. The items submitted for our review were as follows:

1. Plan sheet entitled "Drainage Plan, Stonebridge Addition, Wichita, Sedgwick County, Kansas" prepared by Baughman Company and submitted August 8, 2005.
2. Plan sheet entitled "Grading Plan, Stonebridge Addition, Wichita, Sedgwick County, Kansas" prepared by Baughman Company and submitted August 8, 2005. (Three sheets)
3. Bound Report entitled "Drainage Plan, Stonebridge Addition, Wichita, Sedgwick County, Kansas" prepared by Baughman Company and submitted on August 8, 2005.

Based upon the above items, we offer the following comments:

1. A project narrative should be supplied which details the proposed work. This narrative should include, but not limited to: information on the existing site condition, total site area, proposed conditions, and total area to be disturbed. In addition to the above items, a detention summary should be included in the narrative which details the following: off-site flows, on-site flows, detention requirements, release rates for the storm events modeled under both existing conditions and proposed conditions. The information should be included in the bound report.
2. The plan sheets and report should be stamped and signed by a Kansas Licensed Professional Engineer, including the P.E. expiration date.
Engineering Division

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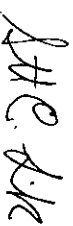
3. A copy of the Flood Insurance Rate Map and FIS profile with the site location marked should be included for review.
4. It appears the floodway limits is per scaled location. The existing flood elevations should be established using a hydraulic basin model. (HEC-RAS or HEC-2) The elevations calculated from the model should be used to delineate the floodplain/floodway limits on the site's topography. An exhibit should be included with the submittal that locates each individual lot that is located in the floodplain, based on the existing conditions model.
5. The hydraulic model should consider the existing capacity of the culverts under 13th Street North. It appears the top of the road is approximately 1332 and the stage/discharge table found on page 4.08 of the Pondpack calculations shows a discharge of 175.44 cfs. Please provide the supporting documentation for the system's capacity.
6. The drainage plan should identify the size of the culverts under 13th Street North and show their locations with invert elevations.
7. A post-development hydraulic basin model should be used to establish the proposed floodplain limits.
8. The grading plan should show proposed grades and contours for the channel upstream of the proposed RCBC.
9. The drainage plan should size the proposed box culvert located in the FEMA floodway and include all relevant elevations.
10. A FEMA Conditional Letter of Map Revision (CLOMR), DWR permit, and COE permit will be required for this subdivision. Please note the permits that have been applied for and their status. Include any letters of approval that would support this development. As a reminder, all necessary permits will be required to be approved prior to submitting a project to bid. However, that portion of the subdivision located outside of the special flood hazard area may begin construction prior to the permits being approved.
11. Any fill in the 100-year floodplain will be require to provide compensatory storage equal to at least the volume of fill displaced. Please provide fill and excavation volumes in table format that demonstrate that the volume displaced by fill is replaced by excavation at the same incremental elevation.
12. The project limits and watershed should be identified on the USGS quadrangle map and current aerial photograph.
13. A copy of the Sedgwick County soils mapping with the project location marked should be included in the submittal.

14. Please provide a summary table for the storm sewer design, including, but not limited to, catchment areas for each inlet, slope, rainfall intensity, hydraulic grade line elevations, and design flow velocities for the 2-year design storm.
15. The drainage plan should name each stormsewer system on the plan sheet. It appears sws system one should be extended north to Lot 9, Block B to prevent stormwater from crossing tributary basins and leaving the site undetained.
16. The PondPack calculations should include an exhibit of the overall tributary areas and delineate each basins. A schematic of each basin and pond should be shown with the drainage variables included at each node. (An example could be provided if necessary)
17. The development is only required to provide detention for proposed disturbed areas. However, the design must address runoff from undisturbed areas tributary to the detention basin, and its effects on the detention basin. The following method should be followed to demonstrate effective detention for this development:
 - i. Develop existing condition outflow hydrographs for the 2-, 5-, 10-, 25-, 50-, and 100-year 24-hour events.
 - ii. Develop proposed condition outflow hydrographs for the 2-, 5-, 10-, 25-, 50-, and 100-year 24-hour events. Separate hydrographs must be developed for the full range of downstream conditions.
 - iii. Demonstrate that the outflow from the proposed detention facility does not exceed the existing condition outflow for all storm events (2-, 5-, & 100-year, 24-hour storm events.) This analysis must also consider the full range of downstream conditions.
 - iv. A narrative description, summary table(s) and calculations clearly demonstrating conformance with all of the requirements listed above must be provided.
18. It appears that portions of the site drain off-site undetained. It should be demonstrated that the maximum runoff rate from the site, from both detained and undetained areas, does not exceed existing conditions for the site.
19. The existing and proposed contours should be clearly labeled and coincide with the areas used in the stage-storage-discharge relationship. This relationship should be included on the plan sheet.
20. A detail of the overflow weirs should be included on the plan set including all relevant dimensions and elevations.
21. Drainage Easements need to be provided over/about the on-site storm sewer system, and over land drainage swales, which are necessary to convey the 100 year storm runoff to either detention facility, unless otherwise located in a dedicated reserve for said purpose.

22. The grading plan should include spot elevation grades between the lots that are downstream of the street's sump inlet locations.
 - a) Between Lots 2 & 3, Blk A
 - b) Between Lots 17 & 18, Blk F
23. The entrance culvert required in 13th Street North right-of-way should be sized on the drainage plan and provide the necessary calculations to demonstrate that it has the capacity for the 100-year storm event.
24. Please remove note number seven of the lot grading plan.
25. An electronic copy of the drainage plan, grading plan, supporting documentation, and input files for the modeling should be included on a CD and enclosed in the bound report.

We are requesting a comment and response letter to be bound behind the cover of the resubmitted drainage report. If you have any questions or concerns regarding this review, please contact me by phone at 268-4624 or email at sllindebak@wichita.gov.

Sincerely,



Scott C. Lindebak, P.E.
Civil Engineer

cc: file
Vicky Huang, Subdivision Engineer

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