

Project Narrative:
 The site is located at the southeast corner of Eastmoor and Gilbert St. The site is developed and has school buildings, parking lot and playground. The east and southwest part of the property has playground and soccer field covered with grass. The proposed site consists of addition of classrooms into the existing building. Approximately 3000 SF of building area will be added. The existing drainage pattern indicates that the entire property drains towards southeast to the Gypsum creek. The 100-yr floodplain of the creek is outside of the property. The proposed drainage pattern will follow the existing conditions.

Water Quality and TSS Removal

No water quality and TSS removal is expected as the total site disturbance is less than an acre. However stormwater water quality needs to be addressed if the cumulative soil disturbance reaches 1.0 acre or more in future.

Channel Protection (CPv)

No extended detention for channel protection is required as the total site disturbance is less than 5.0 acres.

Flood Control, Flow Calculations (2-, 5-, 10-, 25- and 100-yr)

No flood detention for this site is expected as the total impervious area added is very insignificant to cause adverse impact. Following tables show the drainage basin and corresponding flow and change of flow from existing to proposed condition.

EXISTING CONDITION:

Total Site Area, A1 = 6.38 acres,
 Total Impervious Area = 2.58 acres,
 Playground Area = 0.53 acres
 Grass Area = 3.27 acres
 Hydrological Soil Group = D

EXISTING SITE									
DRAINAGE AREA	ACRES	Tc min	CN	Q2	Q5	Q10	Q25	Q100	REMARKS
Onsite, Area 1	6.38	25	92	15.96	21.5	25.4	30.34	39.61	Entire Basin draining in to Gypsum Creek
Off-site, Area 2	0.80	15	91	2.52	3.42	4.04	4.84	6.34	Offsite Basin draining in to Gypsum Creek

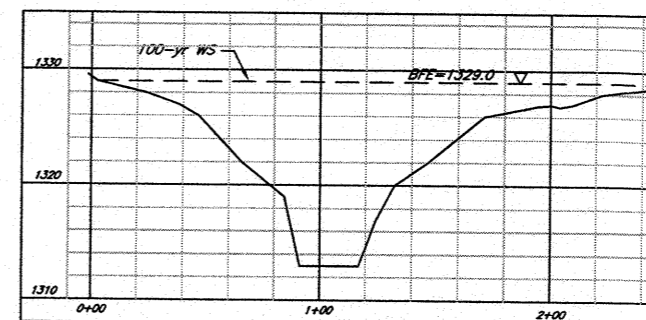
DEVELOPED CONDITION:

Total Site Area, A1 = 6.38 acres,
 Total Impervious Area = 2.68 acres,
 Playground Area = 0.53 acres
 Grass Area = 3.17 acres
 Hydrological Soil Group = D

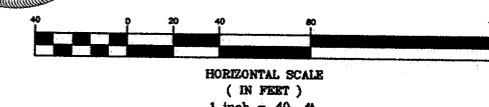
DEVELOPED SITE									
DRAINAGE AREA	ACRES	Tc min	CN	Q2	Q5	Q10	Q25	Q100	REMARKS
Onsite, Area 1	6.38	25	91	15.96	21.5	25.4	30.34	39.61	Entire Basin draining in to Gypsum Creek
Off-site, Area 2	0.80	15	91	2.52	3.42	4.04	4.84	6.34	Offsite Basin draining in to Gypsum Creek

Engineer's Notes:

1. Site drainage calculations were developed using the SCS Method for peak flow. Weighted CN and I values were established based on existing and proposed site conditions.
2. The site drainage will be maintained as existing condition. Drainage basin will remain same in developed condition.
3. South residential area of approx. 0.80 acres will continue to drain through the swale along the south property line in developed condition.
4. The stormwater quality (WQV) needs to be addressed if the future development results in cumulative area of disturbance equals or exceeds 1.0 acre.
5. The stormwater quantity (flood detention) needs to be addressed if the future development results in cumulative impervious area equals or exceeds 1.0 acre.
3. Any future grading shall follow the drainage pattern as shown on plan indicated by flow arrows.
4. Flood detention may be required if there is significant addition of impervious area (on existing grass area) resulting in increase in Q. A hydrologic/hydraulic analysis of downstream creek may be required to check the adverse impact.
5. There is no sign of wetland and the property is not in the 100 yr floodplain except a small portion at southeast corner. (FIRM Panel 2017300365E, February, 2 2007.). The 100 yr elevation is 1329.4 at north property line of the property.
6. The drainage plan is developed based on existing and 3000 SF of impervious area added to it. Flood detention may be required if significant impervious area is added.



Section A-A
 (Scale: 1:30 H, 1:6 V)



Bostic Elementary School Addition
Drainage Plan
 Wichita, Kansas

PROJECT NUMBER

kemiller engineering	KEY NO. 12073	FILE	DATE 09/2012	SHEET
	DESIGN GP	DRAWN GP	REVISED	1.0

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