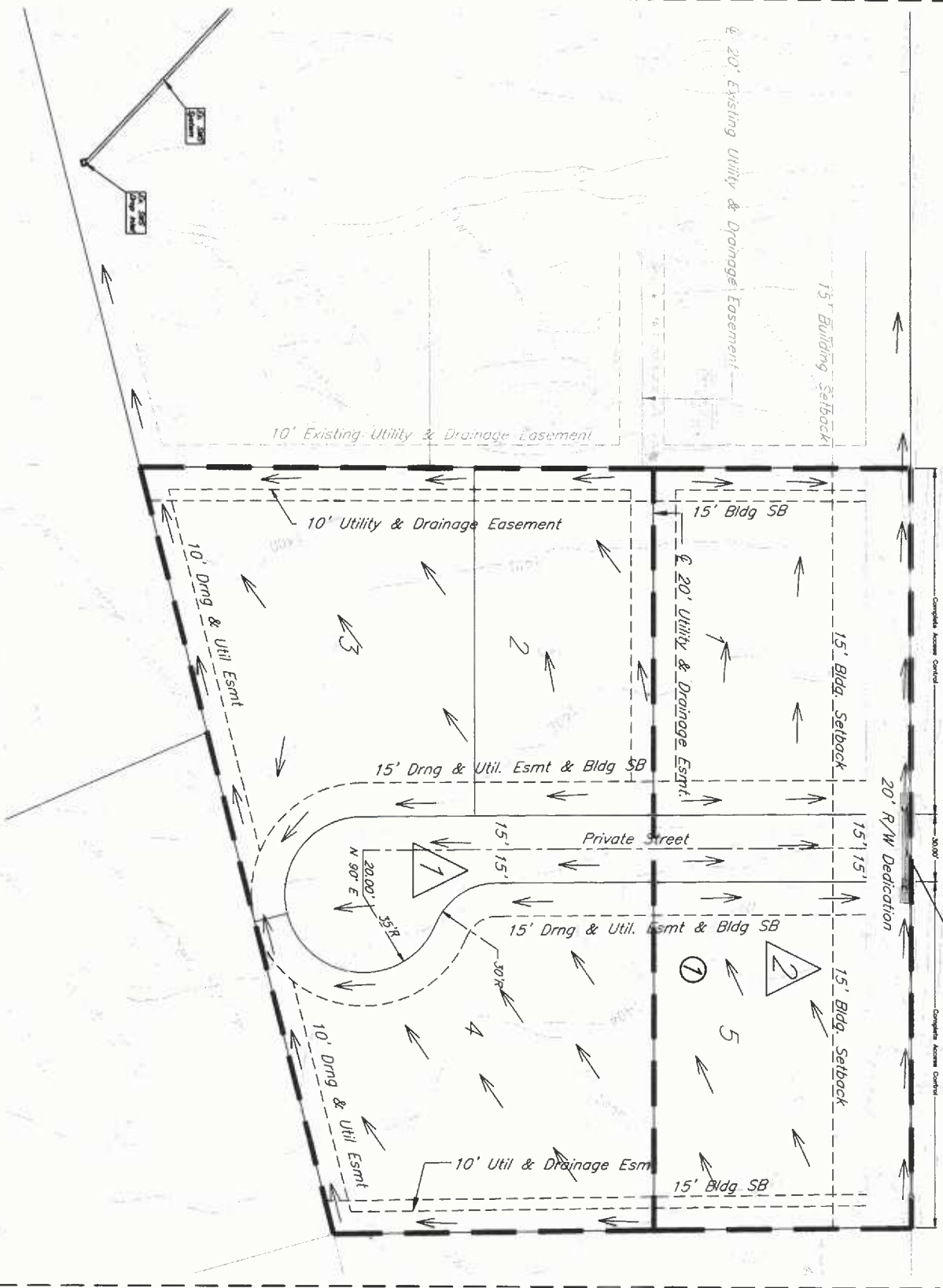


N 1/4, Sec. 29, T26S, R2E

45th Street North

Proposed 20' U
15' Bldg SB
15' Drng & Util. Esmt



Project Narrative:
The site is located south of 45th Street N approximately half a mile west of N Webb Rd. between Webb Rd and Rock Rd. The existing drainage pattern indicates that the site drains south and west to a drainage channel within the adjacent property. The run then enters a SMS system within the adjacent property. The scope of the project is to construct a small residential neighborhood, and a drive.

Water Quality and TSS Removal Calculation:

Water Quality Volume (WQV) Calculation		Calculation of RV	
Calculation for water quality volume (WQV= $P \times R \times A / 12$)	Soil Group 'D'		
85th percentile storm event (1.2 inches) P =	1.20 inches		
Total area, A =	2.37 acres		
Rainfall Coeff. $R_v =$	0.425	Coeff. for undisturbed area, $R_{v,u} =$	0.03
Required Vol. for Water Quality	0.101 ac-ft	Coeff for ltr cover/disturbed, $R_{v,d} =$	0.20
Corresponding Water Quality Peak Flow =	0.98 cfs	Coeff for impervious area, $R_{v,i} =$	0.95
		Weighted, $R_v =$	0.425

Total water quality flow needs to be treated for proposed development. This development elects to participate in the city's Off-site BMP Project.

Approved.
C. A. W.
Joe Kiddle 2-13-16

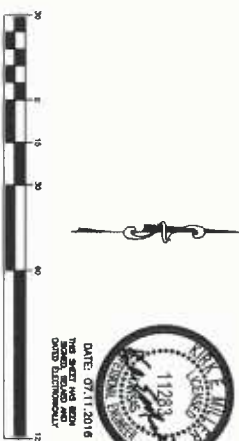
Runoff Calculations (2-, 5-, 10-, 25-, and 100-yr)

DRAINAGE AREA	ACRES	EXISTING SITE					REMARKS		
		Tc min	CN	Q2	Q5	Q100			
Existing	2.37	17.3	84	5.64	8.02	9.79	12.07	16.38	Runoff SW onto developed neighboring lot

DEVELOPED CONDITION:
Total Area, A = 2.37 acres, Total Impervious Area = 0.71 acres
Hydrological Soil Group = D

DRAINAGE AREA	ACRES	DEVELOPED SITE					REMARKS		
		Tc min	CN	Q2	Q5	Q100			
On-site (1)	1.47	15	88	4.28	5.95	7.13	8.63	11.46	Runoff directed SW via proposed ditches
On-site (2)	0.90	15	88	2.62	3.64	4.36	5.28	7.01	Runoff directed N to ditch along 45th Street N

- Notes:**
- Existing and developed flows are calculated using the SCS hydrograph method. CN' & T' values are established from 'City of Wichita Stormwater Design Manual.'
 - The developed peak flows are routed to the proposed SMS System and existing detention pond. The outlet pipe drains to the existing detention pond.
 - Gross Channels are used for water quality. Extended detention for channel protection is not considered as the site is less than 5 acres. The site is not in designated 100-yr floodplain (TRM 2017IC0240E, Revised, February 2, 2007).



Sun Air Estates 2nd Addition Drainage Plan Wichita, Kansas

KEMILLER ENGINEERING, P.C.
1117 E. Linn, Wichita, KS 67220 (316) 264-0244

DESIGN	DATE	PROJECT NUMBER
09/14/11	07/20/16	
CHK	REVISION	
ME		

SHEET 1.0