

**STAFF REPORT**  
**(One-Step Final Plat)**

**CASE NUMBER:** SUB 2006-59 -- KOCH OFFICE PARK 4TH ADDITION

**OWNER/APPLICANT:** Koch Real Estate Holdings Inc., 4111 East 37th St. North, Wichita, KS 67220

**AGENT:** Certified Engineering Design, P.A., 810 W. Douglas, Suite C, Wichita, KS 67203

**SURVEYOR/ENGINEER:** Savoy Company, P.A., 535 S. Emporia, Wichita, KS 67203

**LOCATION:** Northwest corner of 37th St. North and Hillside

**SITE SIZE:** 10 acres

**NUMBER OF LOTS**

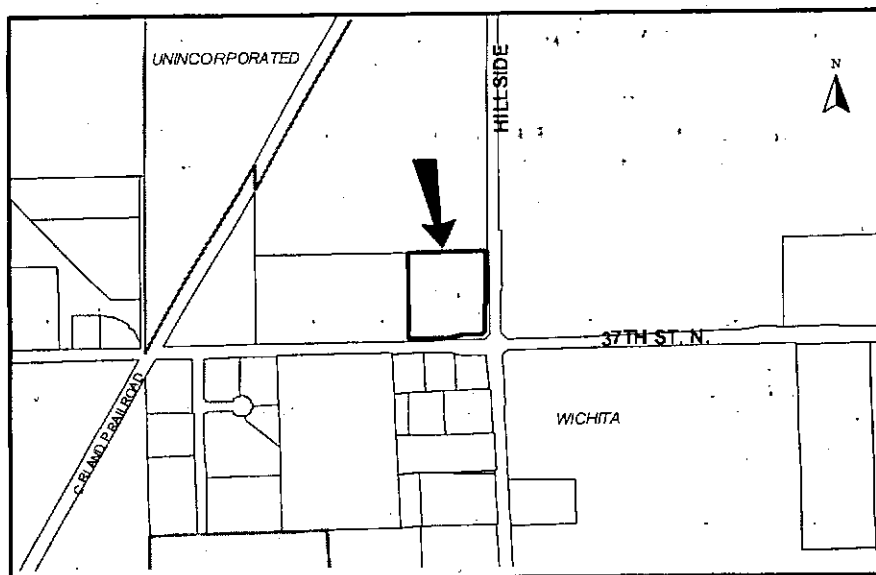
Residential:	
Office:	
Commercial:	3
Industrial:	
Total:	<u>3</u>

**MINIMUM LOT AREA:** 1.8 acres

**CURRENT ZONING:** LC, Limited Commercial

**PROPOSED ZONING:** Same

**VICINITY MAP**



NOTE: This is an unplatted site located within the City.

STAFF COMMENTS:

- A. City water services are available. The applicant shall guarantee the extension of sanitary sewer to serve the lots being platted.
- B. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- C. City Engineering needs to comment on the status of the applicant's drainage plan.
- D. Traffic Engineering needs to comment on the need for any improvements to perimeter streets. Left turn lanes are needed into major openings.
- E. Traffic Engineering needs to comment on the access controls. The plat proposes two openings along 37th St. North and three openings along Hillside. The access controls need to be revised in accordance with Access Management Standards.
- F. The plat's text shall include reference to "Lots, Block, Reserve and Street" in the owner's certificate.
- G. The ingress/egress easement shall be established by separate instrument. Initial construction responsibilities and future maintenance of the driveway within the easement should also be addressed by the text of the instrument.
- H. The quadrangle map is incorrect.
- I. In accordance with the KS Wetland Mapping Conventions under the Memorandum of Understanding between the USDA-NRCS; USEPA; USACE; and USF&WS, this site has been identified as one with potential wetland hydrology. The US Army Corps of Engineers (USACE) should be contacted (316-322-8247) to have a wetland determination completed.
- J. Provisions shall be made for ownership and maintenance of the proposed reserves. A covenant shall be submitted regarding ownership and maintenance responsibilities.
- K. For those reserves being platted for drainage purposes, the required covenant that provides for ownership and maintenance of the reserves, shall grant to the appropriate governing body the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by the governing body.
- L. This property is within a zone identified by the City Engineers' office as likely to have groundwater at some or all times within 10 feet of the ground surface elevation. Building with specially engineered foundations or with the lowest floor opening above groundwater is recommended, and owners seeking building permits on this property will be similarly advised. More detailed information on recorded groundwater elevations in the vicinity of this property is available in the City Engineers' office.
- M. The plat's text shall include language that a drainage plan has been developed for the plat and that all drainage easements, rights-of-way, or reserves shall remain at established grades or as modified with the approval of the applicable City or County Engineer, and unobstructed to allow for the conveyance of stormwater.

- N. The applicant shall install or guarantee the installation of all utilities and facilities that are applicable and described in Article 8 of the MAPC Subdivision Regulations. (Water service and fire hydrants required by Article 8 for fire protection shall be as per the direction and approval of the Chief of the Fire Department.)
- O. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.
- P. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (Phone: 316-946-4556) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.
- Q. The applicant is advised that various State and Federal requirements (specifically but not limited to the Army Corps of Engineers, Kanopolis Project Office, Rt. 1, Box 317, Valley Center, KS 67147) for the control of soil and wind erosion and the protection of wetlands may impact how this site can be developed. It is the applicant's responsibility to contact all appropriate agencies to determine any such requirements.
- R. The owner of the subdivision should note that any construction that results in earthwork activities that will disturb one (1) acre or more of ground cover requires a Federal/State NPDES Storm Water Discharge Permit from the Kansas Department of Health and Environment in Topeka. Also, for projects located within the City of Wichita, erosion and sediment control devices must be used on ALL projects. For projects outside of the City of Wichita, but within the Wichita Metropolitan area, the owner should contact the appropriate governmental jurisdiction concerning erosion and sediment control device requirements.
- S. Perimeter closure computations shall be submitted with the final plat tracing.
- T. Recording of the plat within 30 days after approval by the City Council and/or County Commission.
- U. The representatives from the utility companies should be prepared to comment on the need for any additional utility easements to be platted on this property.
- V. A compact disc (CD), which will be used by the City and County GIS Departments, detailing the final plat in digital format in AutoCAD. If a disc is not provided, please send via e-mail to Cheryl Holloway (E-Mail address: [cholloway@wichita.gov](mailto:cholloway@wichita.gov)). Please include the name of the plat on the disc.

# Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

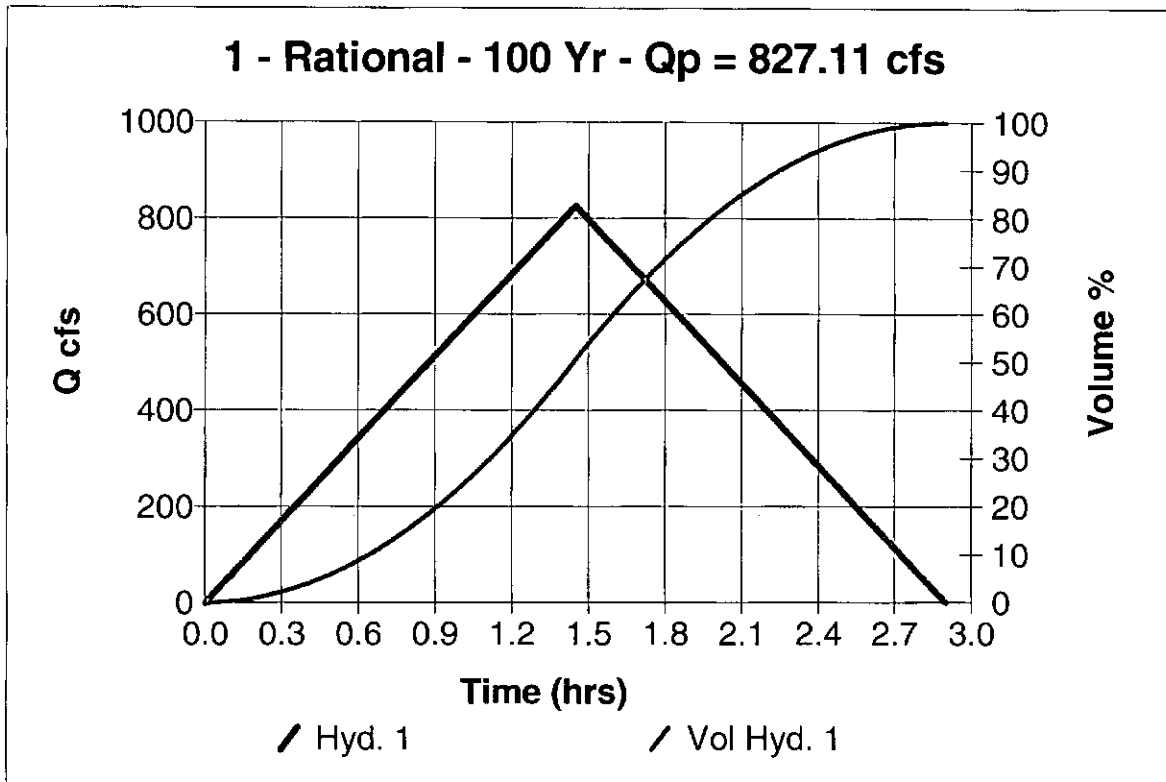
## Hyd. No. 1

NE Offsite 695.8

Hydrograph type = Rational  
Storm frequency = 100 yrs  
Drainage area = 695.8 ac  
Intensity = 2.899 in/hr  
IDF Curve = SedgwickCounty1.idf

Peak discharge = 827.11 cfs  
Time interval = 1 min  
Runoff coeff. = 0.41  
Time of conc. (Tc) = 87 min  
Asc/Rec limb fact = 1/1

Hydrograph Volume = 4,317,529 cuft



# Hydrograph Plot

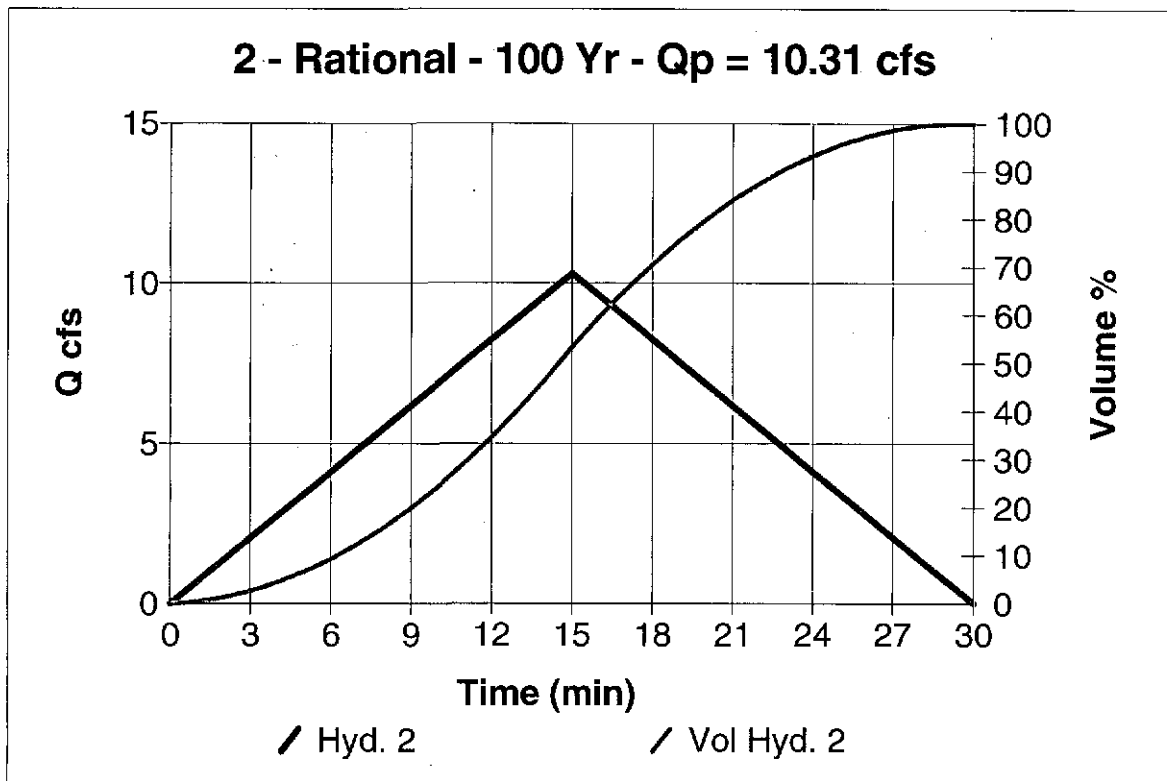
Hydraflow Hydrographs by Intelisolve

## Hyd. No. 2

NW Cor Plat-Developed

Hydrograph type	= Rational	Peak discharge	= 10.31 cfs
Storm frequency	= 100 yrs	Time interval	= 1 min
Drainage area	= 1.9 ac	Runoff coeff.	= 0.72
Intensity	= 7.533 in/hr	Time of conc. (Tc)	= 15 min
IDF Curve	= SedgwickCounty1.idf	Asc/Rec limb fact	= 1/1

Hydrograph Volume = 9,275 cuft



# Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

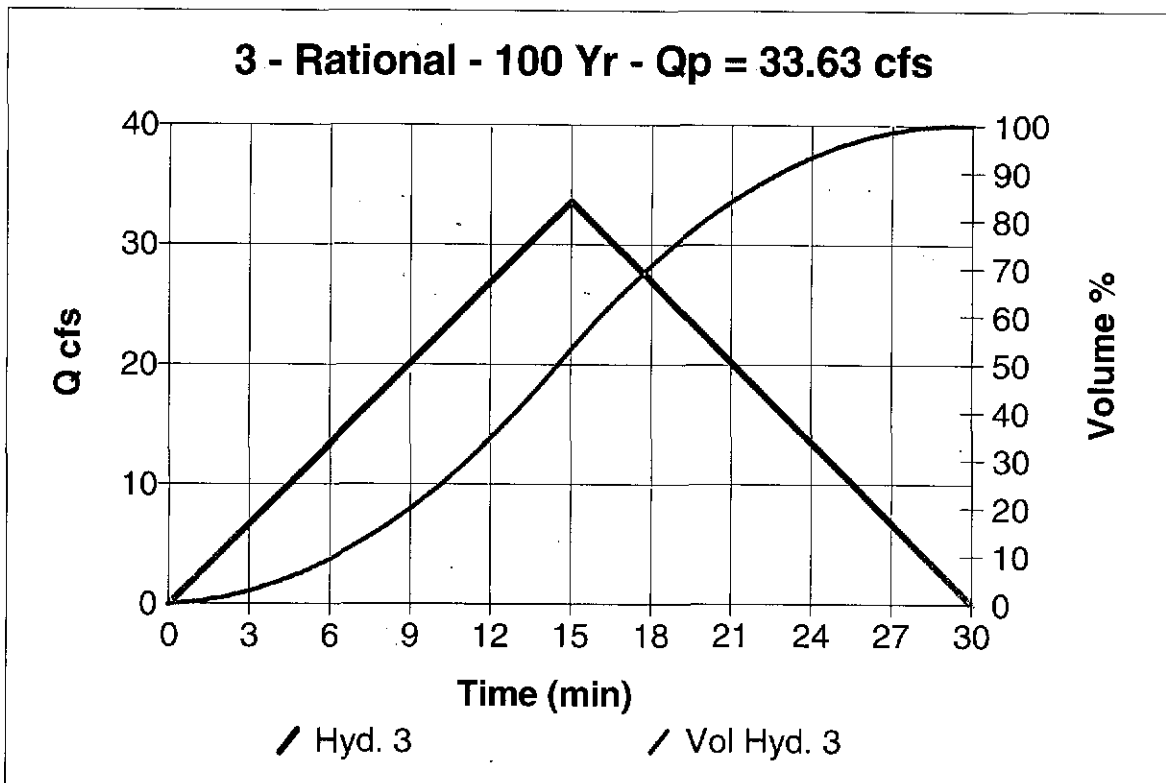
## Hyd. No. 3

SE Cor Plat-Developed

Hydrograph type = Rational  
Storm frequency = 100 yrs  
Drainage area = 6.2 ac  
Intensity = 7.533 in/hr  
IDF Curve = SedgwickCounty1.idf

Peak discharge = 33.63 cfs  
Time interval = 1 min  
Runoff coeff. = 0.72  
Time of conc. (Tc) = 15 min  
Asc/Rec limb fact = 1/1

Hydrograph Volume = 30,266 cuft



# Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

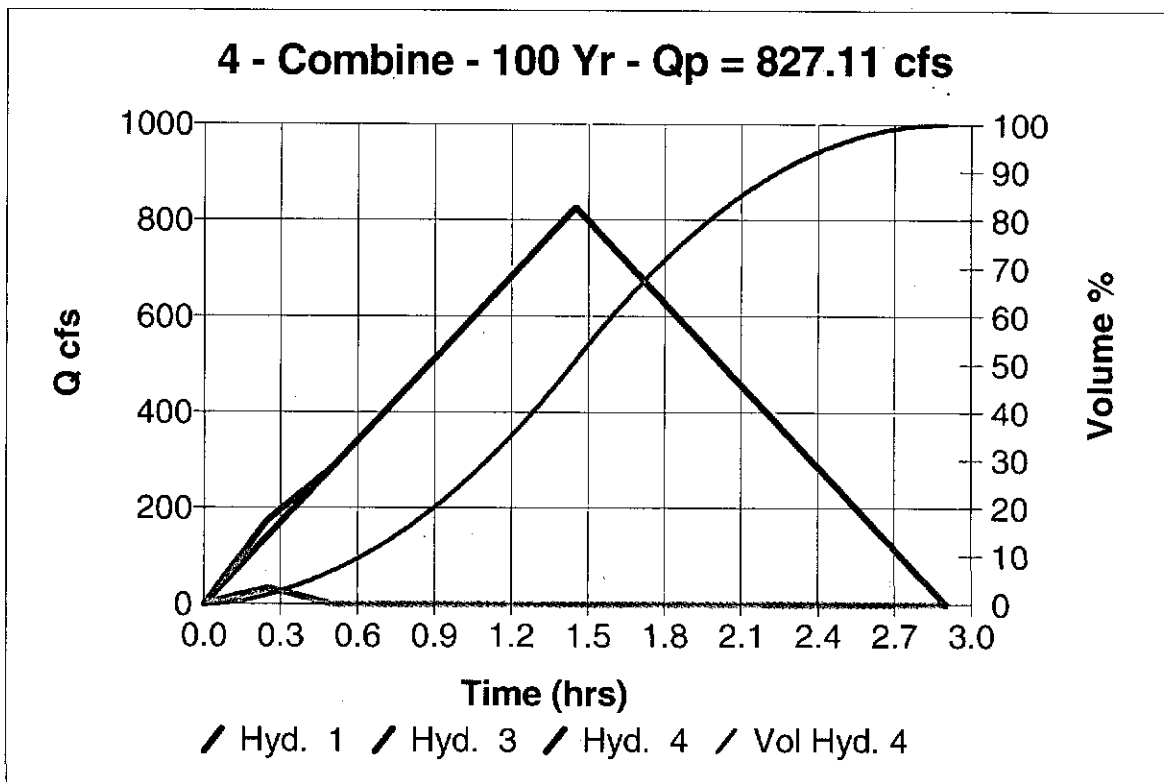
## Hyd. No. 4

Combined Drainage

Hydrograph type = Combine  
Storm frequency = 100 yrs  
Inflow hyds. = 1, 3

Peak discharge = 827.11 cfs  
Time interval = 1 min

Hydrograph Volume = 4,347,797 cuft



# Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

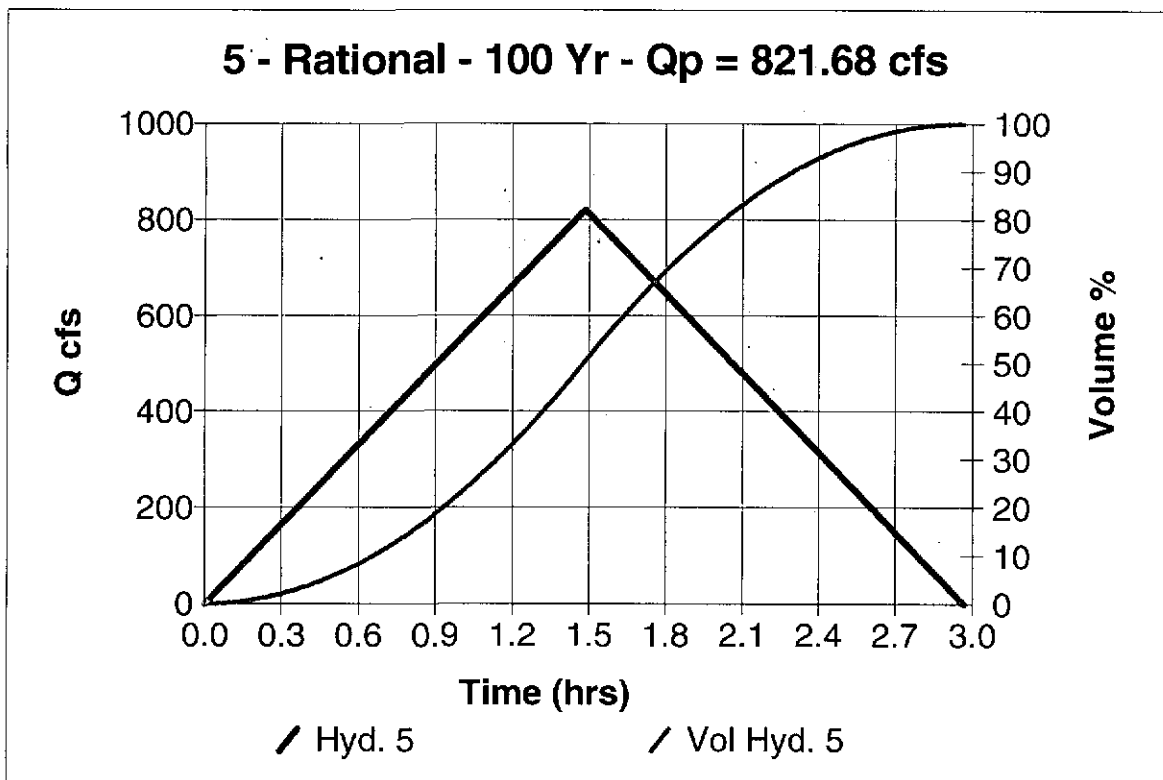
## Hyd. No. 5

All Drainage

Hydrograph type = Rational  
Storm frequency = 100 yrs  
Drainage area = 702.0 ac  
Intensity = 2.855 in/hr  
IDF Curve = SedgwickCounty1.idf

Peak discharge = 821.68 cfs  
Time interval = 1 min  
Runoff coeff. = 0.41  
Time of conc. (Tc) = 89 min  
Asc/Rec limb fact = 1/1

Hydrograph Volume = 4,387,783 cuft



### Worksheet 3: Time of concentration (T<sub>c</sub>) or travel time (T<sub>t</sub>)

Project Koch Office Park By CKW Date 6/8/2006  
 Location Section 27, T26S, R1E Checked \_\_\_\_\_ Date \_\_\_\_\_

Circle one:  Present  Developed \_\_\_\_\_

Circle one: T<sub>c</sub>  T<sub>t</sub> through subarea \_\_\_\_\_

Notes: Space for as many as two segments per flow type can be used for each worksheet.  
 Include a map, schematic, or description of flow segments.

Sheet Flow (Applicable to T<sub>c</sub> only) Segment ID

	Example	NW Corner 1.9 Acres Ex	SW Cor 6.2 Acres Ex	Example Only	North Offsite 696 Acres
1. Surface description (table 3-1) .....	Grass	Grass	Grass	Grass 20% Cover	Grass
2. Manning's roughness coeff., n (table 3-1).....	0.24	0.24	0.24	0.17	0.24
3. Flow length, L (total L ≤ 300 feet)..... ft	300	300	300	300	300
4. Two-yr 24-hr rainfall, P <sub>2</sub> (3.5" typ. for Sedgwick Co)..... in	3.5	3.5	3.5	3.5	3.5
5. Land Slope, s..... ft/ft	0.0083	0.008	0.022	0.02	0.014
6. $T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} s^{0.4}}$ Compute T <sub>t</sub> ... (T <sub>t</sub> x 60) = min.	47	47	32	25	38

Shallow concentrated flow Segment ID

	Existing	Onsite	Example Only	Existing
7. Surface description (paved or unpaved).....	unpaved	unpaved	unpaved	unpaved
8. Flow length, L (1000' max)..... ft	200	445	1000	1000
9. Watercourse slope, s..... ft/ft	0.008	0.0039	0.015	0.014
10. Average velocity, V (figure 3-1)..... ft/s	2.1	1.7	2	1.9
11. $T_t = \frac{L}{3600 V}$ Compute T <sub>t</sub> ... (T <sub>t</sub> x 60) = min.	1.6	4.4	8.3	8.8
Total	49	36	33	47

Channel Flow Segment ID

12. Cross sectional flow area, a..... ft <sup>2</sup>				
13. Wetted perimeter, P <sub>w</sub> ..... ft				
14. Hydraulic radius, $r = \frac{a}{P_w}$ Compute r..... ft				
15. Channel slope, s..... ft/ft				
16. Manning's roughness coeff., n.....				
17. $V = \frac{1.49 r^{2/3} s^{1/2}}{n}$ Compute V..... ft/s			2.5	5
18. Flow Length, L (1000' Max?)..... ft			6785	12000
19. $T_t = \frac{L}{3600 V}$ Compute T <sub>t</sub> ... (T <sub>t</sub> x 60) = min.			45.2	40.0
20. Watershed or subarea T <sub>c</sub> or T <sub>t</sub> (add T <sub>t</sub> in steps 6, 11, and 19)... Total			79	87

PROJECT: Koch office Park

DATE \_\_\_\_\_

LOCATION: 37<sup>th</sup> St. N. + Hillside

BY \_\_\_\_\_ CKD \_\_\_\_\_

CLIENT: \_\_\_\_\_

JOB NO. \_\_\_\_\_ SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

WTD 'C' Factor For NW 1.9 Acres

$$\frac{(1.03 \text{ Acres} \times 0.90) + (0.82 \text{ Acres} \times 0.41)}{1.82 \text{ Acres}} = 0.72 \text{ 'C' Factor}$$



**NATIONAL FLOOD INSURANCE PROGRAM**

**FIRM**  
**FLOOD INSURANCE RATE MAP**

**SEDGWICK  
COUNTY,  
KANSAS**  
(UNINCORPORATED AREAS)

**PANEL 150 OF 300**

**COMMUNITY-PANEL NUMBER**  
**200321 0150 A**

**EFFECTIVE DATE:**  
**JUNE 3, 1986**



**Federal Emergency Management Agency**

