March 5, 1969

Mr. J. R. Fitzgerald, Superintendent
Middle Division
A. T. & S. F. R. R.
Newton, Kansas

Dear Mr. Fitzgerald:

This letter will be your authorization to proceed with the encasement of the 60" sanitary sewer as per the enclosed sketch. This encasement was discussed with Mr. Little of your office this date.

The encasement of the 10" sanitary sewer in Industrial Avenue will be in accordance with the typical standard for 8" reinforced concrete encasement. This typical was forwarded to you by letter of December 5, 1968.

Very truly yours,

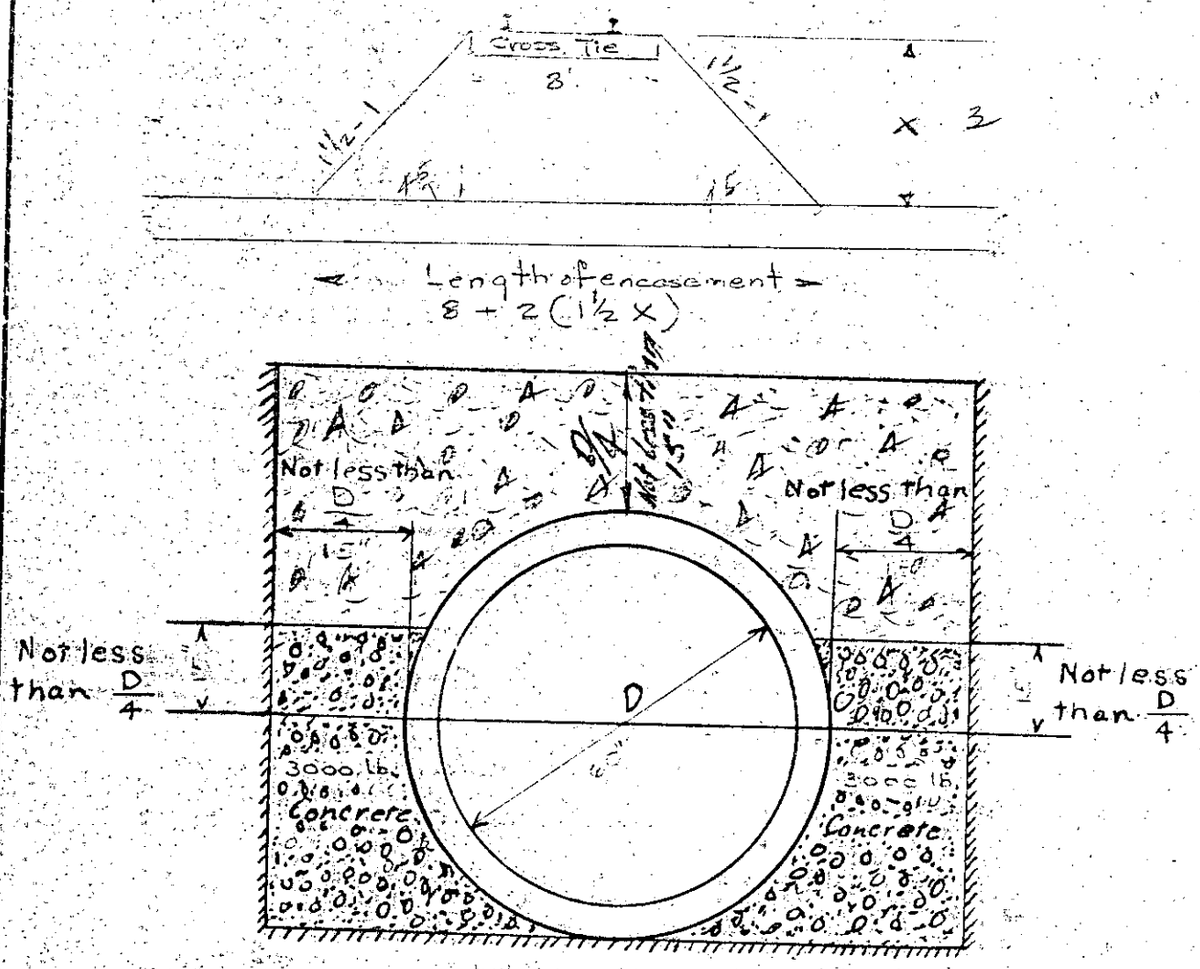
Dean Sellers,
Construction Chief Engineer

By D. R. Brewer,
Civil Engineer

DRB:gr

Enc.

Wild Guess
$10,000



A.T. & S.F. RY. CO.
CONCRETE CRADLE
FOR
VITRIFIED CLAY OR CONCRETE PIPE

Chief Engineers Office - Topeka, July 28 1938

No Scale

F. 3-15-55

~~C.E.A.T. 10850-A~~

1 - File with letter

WICHITA-SEDGWICK COUNTY

METROPOLITAN AREA PLANNING DEPARTMENT

DATE
January 4, 1971

TO Dick Linn, Design Chief Engineer

FROM John D. Gist, Senior Planner

SUBJECT Sketch Plat - Santa Fe Midland Industrial District (east of Hydraulic, south of Industrial and west of Highway I-35W.)

Attached for your information and files is a copy of the above captioned sketch plat, received by mail in our office on December 31, 1970. We would appreciate you reviewing this plat and giving us your comments so that we might include these in our reply to the applicant.

JDG:rme

cc: Nelson Hall, Industrial Development

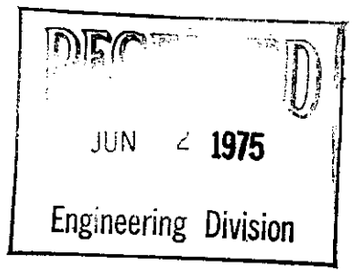
(1) Need Topo - drainage plan

(2) San. Sewer layout need to det. drainage problem before comp. Sewer layout may be made

(3)

SANTA FE LAND IMPROVEMENT COMPANY
A Santa Fe Industries Company
Room 500 • 900 Polk Street, Amarillo, Texas 79101
Telephone 806/376-5131 Ext. 445 or 457

May 30, 1975



K-07-3-Dev.

Mr. R. W. Linn
City Engineer
City of Wichita
104 S. Main Street
Wichita, Kansas 67202

Dear Mr. Linn:

Our company is getting to the point where we will be able to submit for approval a final plat of Santa Fe Midland Industrial District.

We have chosen to provide the necessary improvements by means of benefit districts for water lines, sanitary sewer lines and street improvements and our engineering department representatives have been conferring with your staff regarding storm drainage runoff being directed into the borrow pit.

We need to have the necessary petitions prepared for execution on behlaf of our company so they may be presented at the time the plat is submitted for final approval. Will you please prepare the necessary petitions and send them to me.

We have been working with an industry regarding a plant site in the district that will require the necessary utilities. Because of this situation we hereby request a waiver of the 35% development requirement in our district as we would like to locate this industry in your fine city.

Yours very truly,

W. C. Merritt
Division Manager

SANTA FE LAND IMPROVEMENT COMPANY
A Santa Fe Industries Company
Room 500 • 900 Polk Street, Amarillo, Texas 79101
Telephone 806/376-5131 Ext. 445 or 457

July 1, 1975

K-07-3-Dev.

Mr. R. W. Linn
City Engineer
City of Wichita
104 South Main Street
Wichita, Kansas 67202

Dear Mr. Linn:

Please refer to my letter of May 30 regarding Benefit District Petitions for improvements in our proposed Midland Industrial District.

May I please hear from you regarding when we may expect receipt of the petitions for execution on behalf of our company?

Yours truly,

W. C. Merritt
Division Manager

THE CITY OF WICHITA

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
262-0611 — AREA CODE 316
CITY BUILDING ANNEX
104 S. MAIN — WICHITA, KAN. 67202

July 3, 1975

W. C. Merritt
Division Manager
Santa Fe Land Improvement Company
900 Polk Street - Room 500
Amarillo, Texas 79101

Dear Mr. Merritt:

Please be advised that your letter of May 30, 1975 and July 1, 1975 do not indicate type of petitions desired.

With respect to this I would suggest a meeting between you, your engineers, and the Engineering Division of the City of Wichita so that benefit districts may be established and method of assessment be discussed. After the above information has been determined, the petitions will be prepared.

Very truly yours,

D. R. Brewer, Jr.
R/W & Estimating Engineer

DRB/mrc

WICHITA—SEDGWICK COUNTY
W-SC
METROPOLITAN AREA PLANNING COMMISSION
262-0611 — AREA CODE 316
CITY BUILDING ANNEX
104 S. MAIN ST.
WICHITA, KANSAS 67202

August 22, 1975

Baughman Company
330 Laura
Wichita, Kansas 67211

Re: S/D 70-75 - Final plat of SANTA FE MIDLAND INDUSTRIAL DISTRICT.

Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission, August 21, 1975, the above captioned plat was considered. The action of the Committee was to recommend that this plat be approved, subject to:

A. The title of the plat shall be correctly labeled "Santa Fe Midland Industrial District."

B. The 40-foot building setback indicated from Hydraulic Avenue on Lot 1, Block 1, shall be increased to 60 feet as required in the approval of the preliminary plat.

C. The applicant shall install or guarantee the installation of a sidewalk adjacent to the east side of Hydraulic Avenue. It shall be noted that the applicant has requested that this condition be waived.

D. The applicant shall install or guarantee the extension of sanitary sewer to serve all lots being platted.

E. The applicant shall install or guarantee the concrete incasement, including manholes, of the existing 36-inch sanitary sewer in Tulsa Avenue where proposed to be crossed by a railroad spur track.

F. The applicant shall contact the Wichita Water Department and make satisfactory arrangements and guarantee for extension of water lines to serve all lots being platted.

G. The applicant shall install or guarantee the paving of Tulsa Street and Madison Avenue, including right-of-way acquisition costs for the additional street right-of-way for Madison Avenue.

H. The applicant shall guarantee the construction of a storm water sewer system, including the outfall pipe system across the property south of said plat to the Turnpike. Said system shall be constructed in accordance with the plans and specifications of the City Engineer.

I. The applicant shall take adequate precautions to protect subject property from water erosion prior to and during development. The Soil Conservation Service shall be contacted regarding this matter.

J. The applicant shall submit his site plans to the Wichita Fire Department for review when said plans are available.

K. Recording of the plat within 30 days after approval by the Board of City Commissioners.

Enclosed with the applicant's copy of this letter is a list of the five methods which have been adopted as being acceptable for guaranteeing improvements required in the approval of plats. Forms for the bond and irrevocable letter of credit are available from this office.

The enclosed "marked" copy of the final plat is for your information and files.

This matter will be forwarded to the Planning Commission for its consideration on Thursday, August 28, 1975, at 1:30 p.m. If you should have any questions concerning this matter, please call.

Sincerely,

Curtis L. Newby
Junior Planner

CLN:rme
Enclosure

cc: Mr. W. C. Merritt, Division Manager
Santa Fe Land Improvement Company
Room 500, 900 Polk Street
Amarillo, Texas 79101

√ Dean Sellers, Assistant City Eggineer

WICHITA—SEDGWICK COUNTY
W-SC
METROPOLITAN AREA PLANNING COMMISSION
262-0611 — AREA CODE 316
CITY BUILDING ANNEX
104 S. MAIN ST.
WICHITA, KANSAS 67202

August 29, 1975

Baughman Company
330 Laura
Wichita, Kansas 67211

Re: S/D 70-75 - Final Plat of
SANTA FE MIDLAND INDUSTRIAL
ADDITION

Gentlemen:

At the regular meeting of the Metropolitan Area Planning Commission on August 28, 1975, the above-captioned plat was considered. It was the action of the Commission to approve the plat, subject to the conditions listed in our letter of August 22, 1975, with the exception that condition H. was amended to read as follows:

H. The applicant shall guarantee the construction of an open ditch sewer system, on a temporary easement, across the property south of said plat to the Turnpike; said system shall be constructed in accordance with the plans and specifications of the City Engineer;

and the following additional condition:

That the plat tracing be changed to reflect access control to not exceed two openings adjacent to Hydraulic on the west side of Lot 1, Block 1.

Regardingamended Condition H. above, you should contact the Engineering Division relative to the amount of the necessary guarantee and the legal description for the temporary easement.

In addition to complying with the above conditions, it is necessary that you meet the following requirements before this plat can be forwarded to the Board of City Commissioners for consideration:

1. Compliance with the requirements of the Metropolitan Area Planning Commission.

2. Submission of the fully completed and signed tracing of the subdivision to the Metropolitan Area Planning Department.

3. Certification by an attorney that fee title is vested in the plattor.

4. Certification that all taxes due and payable for 1974 and prior years have been paid.

Please call if you have any questions.

Sincerely,

Jack H. Galbraith
Chief Planner

JHG:ber

cc: W. C. Merritt, Division Manager, Santa Fe Land Improvement Company, Room 500, 900 Polk Street, Amarillo, Texas 79101
X Dean Sellers, Assistant City Engineer

MEMBER:
AMERICAN SOCIETY REAL ESTATE COUNSELORS

PARTNER:
J. P. WEIGAND & SONS, REALTORS

NESTOR R. WEIGAND C. R. E.
110 NORTH MAIN
WICHITA, KANSAS 67202

CERTIFICATE OF APPRAISAL

September 10, 1975

I, Nestor R. Weigand, hereby certify that I have personally inspected and am familiar with the following described property:

> The East 35 feet of the parcel described as follows: Commencing at a point on the West line of the Southwest 1/4 of Section 3, Township 28, Range 1 East, 1341 feet South of the Northwest corner of said 1/4 section; thence East at right angles 1360 feet for a place of beginning; thence South at right angles 250 feet; thence East at right angles 352.5 feet; thence North at right angles 250 feet; thence West at right angles 352.5 feet to the place of beginning; Sedgwick County, Kansas.

I further certify that I have no personal interest in the above described property and, in my opinion, the fair market value of the property is as follows:

APPRAISED VALUE . . . . . .$3,937.50.

Nestor R. Weigand, C.R.E.

MEMBER:
AMERICAN SOCIETY REAL ESTATE COUNSELORS

PARTNER:
J. P. WEIGAND & SONS, REALTORS

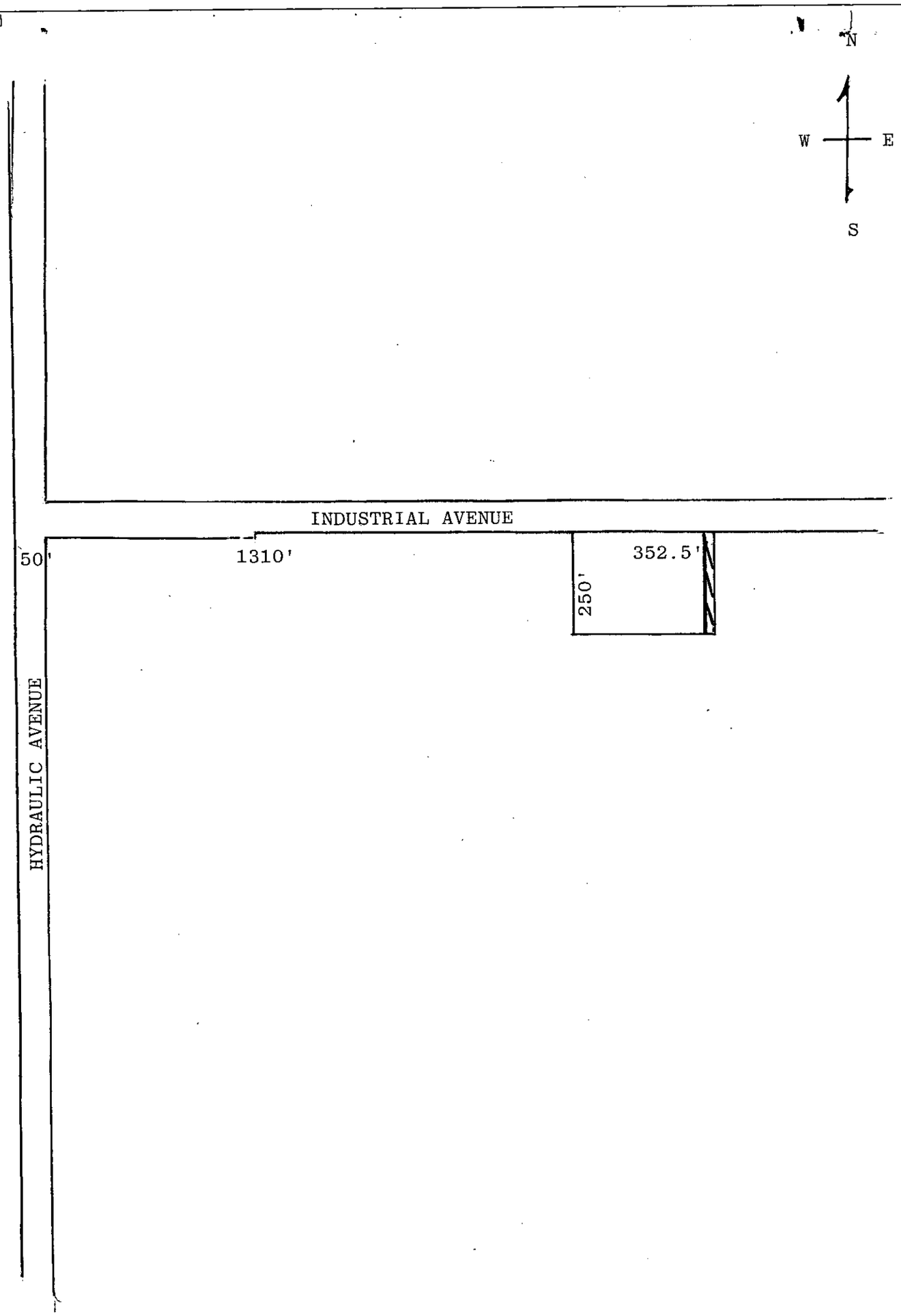
NESTOR R. WEIGAND C. R. E.
110 NORTH MAIN
WICHITA, KANSAS 67202

GENERAL COMMENT

1. The subject property, containing approximately 8,750 square feet, is a portion of a parcel having 352.5 feet of frontage on Industrial Avenue by 250 feet in depth. The overall land parcel is zoned for Light Industrial usage, however, as of this date, it is unplatted and in order to secure a building permit, it would be necessary for the owners to plat the parcel, and in many instances, the Metropolitan Area Planning Commission requires the owners to donate portions of the land for future street widening, easements. etc.

2. The subject property is a land parcel having 35 feet of frontage on Industrial Avenue by 250 feet in depth, and contains approximately 8,750 square feet.

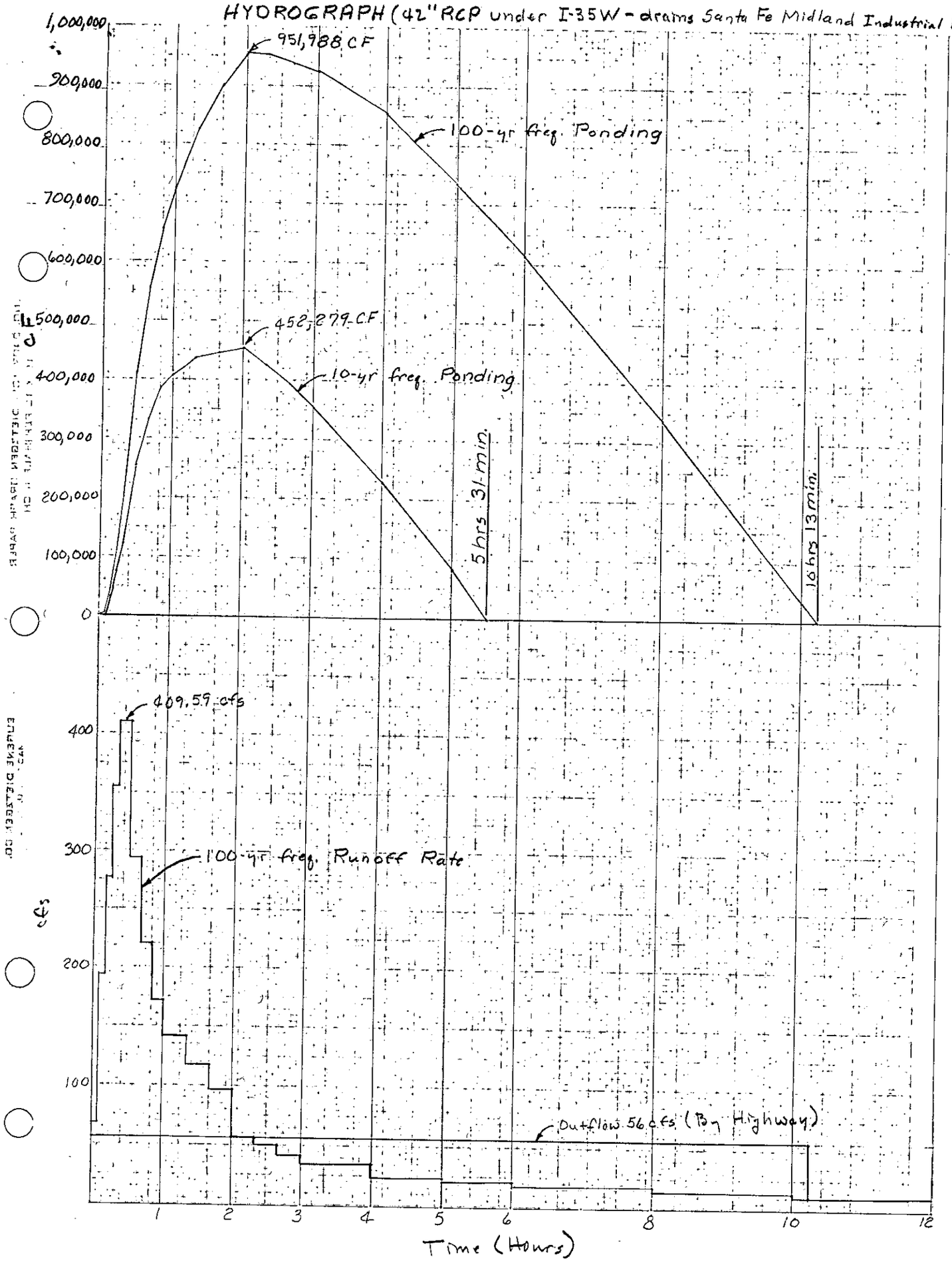
N.R.W.


N
W
E
S
INDUSTRIAL AVENUE
50'
1310'
352.5'
250'
HYDRAULIC AVENUE

Santa Fe Midland Industrial District Drainage
Cost Estimate

9/16/75 Rev. 9/17/75

Qty	Unit	Item	Unit Price	Amount	Subtotal	Total
		Phase I				
520	L.F.	34" + 53" RCEP	52 00	27640 00		
20	LF	30" RCP	32 00	640 00		
350	LF	24" RCP	26 00	9100 00		
530	LF	18" RCP	20 00	10600 00		
120	LF	15" RCP	17 00	2040 00		
10	Ea	2'x5' Inlet	400 00	4000 00		
1	Ea	Field Inlet	500 00	500 00		
2	Ea	Type "B" 5' dia Manhole	1200 00	2400 00		
1	Ea	Type "B" 4' dia Manhole	1000 00	1000 00		
1540		Sand Fill	3 00	4620 00		
1540		Flushing	1 50	2310 00		
SUBTOTAL					64256 00	
		Eng (11.7% + 0.35/ft) 7,067.50 + 539.00		7606 50		
		Adm (1.5%)		963 75		
		Publication		200 00		
		Subtotal			8770 25	
		TOTAL, Phase I				73020 25
		PHASE II (6' bottom ditch within proposed 20' drainage easement)				
1000	CY	Excavation	2 00	2000 00		
		Sub-total			2000 00	
		Eng (12%)		240 00		
		Adm (1.5%)		30 00		
		Publication		200		
		Sub-total			470 00	
		TOTAL, Phase II				2470 00
		TOTAL Phase I & II				75490 25


HYDROGRAPH (42" RCP under I-35W - drains Santa Fe Midland Industrial Pa
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
951,988 CF
100-yr freq. Ponding
452,279 CF
10-yr freq. Ponding
5 hrs 31 min.
16 hrs 13 min.
409.59 cfs
100-yr freq. Runoff Rate
Outflow 56 cfs (By Highway)
400
300
200
100
cfs
1
2
3
4
5
6
8
10
12
Time (Hours)

SANTA FE MIDLAND INDUSTRIAL DISTRICT

PONDING VOLUME REQUIRED ABOVE HIGHWAY CULVERT

DA = 100 Ac; t_c = 29 mins; outflow = 56 cfs (by highway 42" RCP @ 5.82 fps)

Time	Rainstorm inch		Rain Loss inch	Runoff-Runoff Supply Ratio	Runoff Volume CY		Runoff Rate cfs		Ponding Rate cfs		Δ Ponding Volume CF		Ponding Volume CF	
	10-yr	100-yr			10-yr	100-yr	10-yr	100-yr	10-yr	100-yr	10-yr	100-yr	10-yr	100-y
5 mins	0.57	0.79	0.274	.1078	11,583	20,190	36.61	67.30	-	11.30	-	3,390	-	3,39
10	0.94	1.30	.305	.2155	49,673	77,834	165.58	192.15	109.58	136.15	32,873	40,844	32,873	44,23
15 (300)	1.23	1.71	.339	.3233	104,566	160,896	182.98	276.87	126.98	220.87	38,093	66,262	70,966	110,4
20	1.47	2.06	.349	.4310	175,383	267,691	236.06	355.98	180.06	299.98	54,017	89,995	124,983	200,4
30	1.84	2.60	.383	.6375	337,169	513,042	269.64*	409.59*	213.64	353.59	128,186	212,151	253,169	412,6
40 (600)	2.11	3.02	.411	.7281	449,046	689,558	186.46	294.19	130.46	238.19	78,277	142,916	331,446	555,55
50	2.32	3.33	.436	.7825	535,145	822,035	143.50	220.80	87.50	164.80	52,499	98,877	383,945	654,4
60	2.45	3.57	.458	.8188	592,071	924,964	94.88	171.55	38.88	115.55	23,226	69,329	407,271	723,7
80	2.70	3.98	.498	.8641	690,698	1,094,601	82.19	141.36	26.19	85.36	31,427	102,437	438,698	826,2
100	2.90	4.35	.533	.8912	767,425	1,237,542	63.94	119.12	7.94	63.12	9,527	75,741	448,225	901,94
120 (1200)	3.10	4.66	.565	.9094	838,679	1,354,788	59.38	97.70	3.38	41.70	4,056	50,046	452,279	951,98
140	3.22	4.83	.594	.9223	881,109	1,421,316	35.36	55.44	-20.64	-0.56	-24,770	-672	427,509	951,31
160	3.32	4.99	.622	.9320	914,790	1,481,023	28.07	49.76	-27.93	-6.24	-33,519	-7493	393,990	943,82
180	3.41	5.13	.647	.9396	944,465	1,532,409	24.73	42.82	-31.27	-13.18	-37,525	-15,814	356,465	928,00
4 hrs (240)	3.65	5.49	.716	.9547	1,019,037	1,658,106	20.71	34.92	-35.29	-21.08	-127,044	-75,903	229,421	852,10
5 (300) (3600)	3.84	5.75	.777	.9638	1,073,981	1,743,686	15.26	23.77	-40.74	-32.23	-146,656	-116,020	82,765	736,08
6 (360)	4.00	6.00	.832	.9698	1,117,714	1,823,340	12.15	22.13	-43.85	-33.87	-157,867	-121,946	Zero @ 5hr 31mm	614,14
8 (480)	4.28	6.42	.930	.9773		1,951,925		17.86		-38.14		-274,615		339,52
10 (600) (7200)	4.50	6.76	1.016	.9819		2,051,843		13.88		-42.12		-303,283		36,24
12 (720)	4.68	7.03	1.094	.9849		2,126,909		10.43		-45.57		-328,134		Zero @ 10hr 13m
18 (1080)	5.14	7.71	1.295	.9899										
24 (1440)	5.52	8.26	1.465	.9924			*I_{10}=3.68 C=0.733	*I_{100}=5.21 C=0.786						

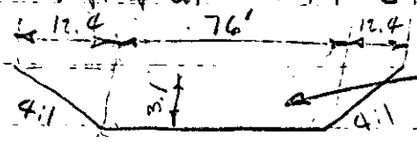
R_{10} Total Volume I35W Ditch below 87.6 = 197,691 CF (Use 200,279 CF)

Total Storage on site required 252,000 CF

Ditch Depth 2.7' to 3.5 or 3.1' average

Length = 920'

CF required/ft of dt = 274 CF or 88.36' wide x 3.1' deep (vert sides)



Area = 274.04

Without Main Berm = 100.8'

Use 2 - 15' Maintenance berms, Drainage R/W = 130.8'

October 13, 1975

Mr. Jack Stallings
First National Bank Building
Wichita, Kansas

Subject: Santa Fe Midland Industrial District

Dear Mr. Stallings:

With reference to subject plat, please be advised that until petitions are received in connection with subject plat or until an Engineering Agreement is executed by your client providing for payment of engineering services for private projects, we will not proceed with any work in connection with the plat.

If further information is desired, please advise.

Very truly yours,

Darrell R. Brewer
Right-of-Way and Estimating Engineer

DRB:tn

LAW OFFICES OF
CURFMAN, BRAINERD, HARRIS, BELL, WEIGAND & DEPEW
SUITE 830 FIRST NATIONAL BANK BUILDING
WICHITA, KANSAS 67202
(316) 263-9111

LAWRENCE WEIGAND
COUNSEL

LAWRENCE E. CURFMAN
BYRON BRAINERD
CHARLES W. HARRIS
DONALD A. BELL
J. L. WEIGAND, JR.
SPENCER L. DEPEW
PAUL M. BUCHANAN
JOHN R. STALLINGS
BRIAN G. GRACE
WINDELL G. SNOW
WINTON M. HINKLE
JACK SCOTT MSINTEER
DENNIS L. GILLEN
VAN R. DELHOTAL
JOHN E. CATON
THOMAS D. BORNIGER
STEPHEN J. BEDNAR
R. MICHAEL ROGERS
JOE L. NORTON

October 1, 1976

Mr. Dean Sellers
Asst. City Engineer
City Building
Wichita, Kansas 67203

Re: S/D 73-51, Final Plat
of Santa Fe Orient Industrial
Tract Second Addition

Dear Mr. Sellers:

Please find enclosed a letter which I propose to submit in connection with the above referenced plat. It is my understanding at this time that what is being requested is a letter like the one enclosed. I would like to know if the proposed letter is satisfactory. If it is not satisfactory, would you please let me know what you would like to have included. Please let me hear from you.

Very truly yours,

John R. Stallings

of CURFMAN BRAINERD HARRIS BELL WEIGAND & DEPEW

JRS:pv
Enclosure

(Letterhead)

Metropolitan Area Planning
Commission
455 North Main Street
Wichita, Kansas 67202

Re: S/D 73-51-Final Plat of
Santa Fe Orient Industrial
Tract Second Addition

Gentlemen:

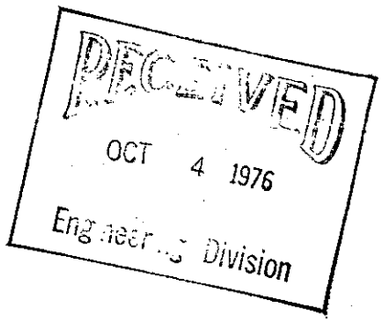
This letter is to advise you that all future owners of lots in the above referenced plat will participate in a storm sewer benefit district covering the platted addition, when such district is formed.

Very truly yours,

Santa Fe Industrial Realty Company

By:

President



THE CITY OF WICHITA

DEPARTMENT OF WATER
AND WATER POLLUTION CONTROL
SEWER MAINTENANCE DIVISION
CITY HALL—EIGHTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202

October 18, 1979

Mr. W. E. Russell
Division Engineer
AT&SF Railroad
201 E. 6th
Newton, Kansas 67114

RE: Proposed Lead Track
Res. B
Santa Fe Midland
Industrial Addition

Dear Sir:

Mr. Sellers and I have discussed the information furnished by your letter of October 11, 1979.

We request again that you provide the City Engineer a plan indicating the locating of the track in relationship to the existing property lines of Reserve "B" in subject addition and the location of the existing offset concrete manhole.

Until the above information if received, we will be unable to make a recommendation of as to proposed reconstruction of the manhole and encasement.

Very truly yours,

D. R. Brewer, Jr.
Superintendent
Sewer Maintenance Division

DRB:te

cc: Dean Sellers, Acting City Engineer
file

xxxxx 268-4591

January 2, 1980

Baughman Company
330 Laura
Wichita, Kansas 67211

Attn: John Lundblade

Subject: Santa Fe Midland Industrial Addn.
Drainage Plan (South of Tulsa to 42" pipe crossing I-135)

Dear Mr. Lundblade:

Reference is made to subject Drainage Plan submitted to this office December 5th, 1979 for review and comments. I have reviewed subject plans and submit the following comments, etc. on the plans and calculations.

1) Request manner used to calculate Tc.

2) Manner proposed to convey Q100 from the storm sewer outlet on Tulsa Street south. If a swale is to be provided in conjunction with the proposed 48" pipe, it appears that the 20' drainage easement will be inadequate. Also a typical cross section of the swale should be provided.

3) To carry Q100, provide 1' freeboard and 15' maintenance and access of each side of the channel, the drainage easement should be increased from 70' to 85'.

4) The proposed channel should be extended southwest then radiused to line up with the culvert crossing I-135.

5) The cross sectional views provided indicate a channel depth ranging from 3.75' to 6.5'. To contain the flow and maintain a 1' freeboard, levees will be required in certain areas. These should be so indicated and shown on the drainage plan.

6) A 3.5 foot differential exists between the grades of the existing 42" culvert crossing I-135 and the proposed channel. To provide drainage and prevent ponding it will be necessary to install a new culvert at the same time the channel is constructed.

7) Considering the headwater requirements, the proposed 60" culvert crossing I-135 appears to be inadequate. Request back-up data or justification to use same.

8) Information is required showing that the new structure will daylight on the east side of I-135. Request that topo be provided and cross sections of the proposed channel if it is necessary to extend same to daylight.

If you have any further questions, please advise.

Yours truly,

Paul Johnston,
Flood Control Engineer
Flood Control and Landfill Division

PJ/glm

cc: Louise Olivarez/MAPD
Yash Desai/City Engineer's Office
Santa Fe Midland Industrial Addn. Plat File

January 7, 1980

Mr. Phillip S. Frick
Attorney-at-Law
700 Fourth Financial Center
Wichita, Ks. 67202

Dear Mr. Frick:

Enclosed are the easements required in association with vacation easement V-1001 - Request to vacate a drainage and sanitary sewer easement in Block 2, Santa Fe Midland Industrial District. Please execute the original and retain a copy for your files. Return the executed easement to the Metropolitan Area Planning Department, 455 N. Main - 10th Floor, Wichita, Kansas, 67202, Attention - Forrest Nagley.

If you have any questions, please call me at 268-4502.

Sincerely,

Mike Lindebak
Program Development Engineer

ML:ck

cc: Forrest Nagley
Metropolitan Area Planning Department

WICHITA—SEDGWICK COUNTY
W-SC
METROPOLITAN AREA PLANNING DEPARTMENT
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561

December 28, 1979

Mr. Phillip S. Frick
Attorney-at-Law
700 Fourth Financial Center
Wichita, Ks. 67202

Re: V-1001 - Request to vacate a drainage and sanitary sewer easement in Block 2, Santa Fe Midland Industrial District

Dear Mr. Frick:

At the regular meeting of the Metropolitan Area Planning Commission Subdivision Committee on December 27, 1979, the above-captioned vacation request was considered. The action of the Subdivision Committee was to approve this request subject to:

A. The legal description of the easement being vacated shall be amended by deleting the north 35 feet of the west 20 feet of Lot 2, and by retaining two north-south easements for the two stub sewer lines extending onto Lot 1 from Tulsa Street. The City Engineer shall be consulted regarding the appropriate description for the two easements.

B. The applicant shall, by separate instrument, grant a 10-foot easement along the east line of Lot 1.

C. Any relocation or reconstruction of utilities necessitated by this vacation shall be at the sole expense of the applicant.

D. All proceedings shall be without cost to the City, County, or any utility company.

This item will be forwarded to the Planning Commission for their consideration on Thursday, January 3, 1980, at 1:30 p.m. If you have any questions concerning this matter, please call.

Sincerely,

Forrest L. Nagley

Forrest L. Nagley
Junior Planner

FLN:bh

FORM KB-017 EASEMENT

THIS EASEMENT made this _____ day of _____, 19___, by and between _____ of the first part and the City of Wichita of the second part.

WITNESSETH: That the said first part___, in consideration of the sum of One Dollar ($1.00) and other valuable consideration, the receipt whereof is hereby acknowledged, do hereby grant and convey unto the said second party a perpetual right-of-way and easement for the purpose of constructing, maintaining, and repairing sewer pipes and a sewer system, over, along and under the following described real estate situated in Sedgwick County, Kansas, to wit:

The North twenty (20) feet of the West twenty (20) feet of Lot 1, Block 2, Santa Fe Midland Industrial District.

The West twenty (20) feet of the East three hundred thirteen (313) feet of the North twenty (20) feet of Lot 1, Block 2, Santa Fe Midland Industrial District.

And said second party is hereby granted the right to enter upon said premises at any time for the purpose of constructing, operating, maintaining, and repairing such sewer and sewer system.

IN WITNESS WHEREOF: The said first part___ha___signed these presents the day and year first written.

_____

_____

STATE OF KANSAS)
SEDGWICK COUNTY) SS

Personally appeared before me a notary public in and for the County and State aforesaid _____

_____

to me personally known to be the same person___who executed the foregoing instrument of writing and said person___duly acknowledged the execution thereof.

Dated at Wichita, Kansas, this_____day of_____, 19___.

_____
Notary Public

My Commission Expires_____

DRAINAGE EASEMENT

THIS EASEMENT made this_____day of_____, 19____, by and between_____of the first part and the City of Wichita on the second part.

WITNESSETH: That the said first part____, in consideration of the sum of One Dollar ($1.00) and other valuable consideration, the receipt whereof is hereby acknowledged, do hereby grant and convey unto the said second party a perpetual right-of-way and easement for the purpose of constructing, maintaining, and repairing a drainage system, over, along and under the following described real estate situated in Sedgwick County, Kansas; to wit:

A Permanent Drainage Easement described as the East ten (10) feet of Lot 1, Block 2, Santa Fe Midland Industrial District.

And said second party is hereby granted the right to enter upon said premises at any time for the purpose of constructing, operating, maintaining, and repairing such drainage system.

IN WITNESS WHEREOF: The said first part___ha___signed these presents the day and year first written.

_____

_____

STATE OF KANSAS)
SEDGWICK COUNTY) SS

Personally appeared before me, a notary public, in and for the County and State aforesaid _____ to me personally known to be the same person___who executed the foregoing instrument of writing and said person___duly acknowledged the execution thereof.

Dated at Wichita, Kansas, this_____day of_____, 19____.

_____
Notary Public

My Commission Expires:_____

The Atchison, Topeka and Santa Fe Railway Company

A Santa Fe Industries Company

P.O. Box 1738, 900 Jackson Street, Topeka, Kansas 66628

Telephone 913/235-0041

Topeka, March 4, 1981

210442

Mr. Criss Brittenstein
City Drainage Engineer
City Hall, 7th Floor
455 North Main Street
Wichita, Kansas

Dear Mr. Brittenstein:

Reference is made to your file in connection with storm drainage problems at our Midland Industrial District at Wichita.

We have prepared plans, connecting into an existing drainage inlet on the South side of Tulsa Avenue with a single 54" - 12 Gage C.M.P. going South across Lubrication Engineers' property. This culvert would be within the thirty foot easement running North and South. The 54" culvert would intercept the drainage now flowing into the existing pond which is now owned by Lubrication Engineers. This culvert would empty into a planned retention pond with an outlet consisting of a single 48" x 260' welded, steel pipe under Interstate 135. Also connecting on to the west end of the 48" culvert, we plan for future lead track extension, one 48" x 86' - 12 Gage C.M.P. The outlet end of the 48" culvert would flow into an open channel and drainage directed to the Arkansas River.

We will need to secure a permit or easement from the State Highway for crossing under that portion of State property. Before we approach the State, we will need to get the City of Wichita's approval regarding our method of handling this storm drainage.

As you are aware, the existing 42" culvert under I-135 is not of efficient size to handle the storm drainage in this district.

In line with the undeveloped acreage South of Lubrication Engineers' South property line, it is our plan to permit this drainage to flow as it does at present. If and when this property is developed, it will then be necessary to provide one additional 48" culvert under I-135 or provide, from the center line of the proposed street, which is directly East of Berkley Street, a 0.40% descending grade to the North intercepting the runoff into a drainage ditch flowing directly into the retention pond. The existing 42" culvert under I-135 would then be capable of handling the remaining property South of the proposed street. This site grade would then need to be on a descending grade of -0.28% to the South directed into a drainage ditch along I-135 right of way and toward the existing 42" culvert.

We are attaching for your review and comments the following:

1. Sheet one showing the storm drainage layout plan in solid red color.

2. Profile showing grade line and other details. Flow line grade is shown by solid red color.

3. Reservoir capacity calculations.

4. Drainage area calculations for areas "A", "B" and "C". See sheet number one. Area "A" is outlined with solid yellow color, area "B" with solid blue color and area "C" with solid green color.

5. Cross sections of the undeveloped area sheet three. See sheet one for base line along East side of Hydraulic Avenue.

After your office has had an opportunity to review attached plans along with the enclosed information, we would appreciate your comments. Also, we would be available for meeting at your office at your convenience.

Very truly yours,

C. L. Holman

C. L. Holman
Asst. Gen. Mgr. - Engineering

cc: Mr. D. F. Duncan - (78-40014)

GMB/abe

The Atchison, Topeka and Santa Fe Railway Company
A Santa Fe Industries Company
P.O. Box 1738, 900 Jackson Street, Topeka, Kansas 66628
Telephone 913/235-0041

July 6, 1981

210442

Mr. Chris J. Breitenstein
Drainage and Flood Control Engineer
City of Wichita - Department of Engineer
455 North Main
Wichita, Kansas 67202

Dear Mr. Breitenstein:

On the afternoon of June 30, 1981, L. E. Brown of this office met with you to discuss various alternative solutions to the handling of storm water runoff in our Midland Industrial District, particularly that area located in the southwest quarter of Section 3.

This particular area is currently being drainaged into an old borrow pit which was created at the time I-135 was constructed. This pit is now part of the Lubrication Engineers' Plant site.

In your discussion with Mr. Brown, you indicated that the City would have no objections to the storm water drainage from this area continuing to be diverted into this old pit; however, there were a few conditions the City would require before they would agree to this as a permanent solution to handling this storm drainage water.

One in particular would be the requirement that the pit would provide for approximately 9.3 acre feet of reservoir capacity in order to handle the peak flow of a 100 year storm. Another condition was that a pipe be placed to act as an overflow under the industry track serving Lubrication Engineers and into either the west ditch of I-135 or in a ditch provided on SFLI property to carry the overflow to the 42" pipe draining under I-135 and located approximately 1200-ft. southwesterly of the pit.

From the discussion, as well as some preliminary observations, it would seem that perhaps the westerly half of this pit could be filled in in the future and still leave enough pit capacity to satisfy the requirement that reservoir capacity of 9.3 acre feet be provided for handling peak runoff.

We would appreciate response from you on behalf of the City of Wichita indicating that the City would be agreeable to this handling of the storm runoff and also pointing out the various conditions that would be required by the City in the event that this method of handling the runoff can be worked out with the owner of the subject borrow pit.

We appreciate the opportunity to discuss this proposal with the City of Wichita and am hopeful that a solution beneficial to all concerned can be worked out.

Very truly yours,

C. L. Holman

C. L. Holman
Asst. General Manager-Engineering

LEB/kd

July 20, 1981

Mr. C. L. Holman
Assistant General Manager -
Engineering
The Atchison, Topeka &
Santa Fe Railway Company
900 Jackson Street
Topeka, KS 66628

Dear Mr. Holman:

The City of Wichita would not have any objections to this method of handling the storm water runoff after certain conditions are met and certain information is provided to the City of Wichita. The following information will be required:

1. Approval from Lubrication Engineers to use their pit for detention storage. Lubrication Engineers should be made aware that this could be a long term use.

2. Approval from the Kansas Department of Transportation for any use within their right-of-way.

3. How much of the borrow pit could be filled and still retain 9.3 acre?

4. Supportive calculations on runoff and dention capacity

5. It should be noted that due to grade restrictions, the overflow pipe may have to have a pump installed with it to maintain adequate storage at all times.

6. A minimum pad elevation might be required when lots are developed.

If you have any further questions, please feel free to contact me at (316) 268-4235.

Sincerely,

Chris J. Breitenstein
Drainage & Flood Control Engineer

GF/01/10

cc: Santa Fe Midland Industrial District File

WICHITA – SEDGWICK COUNTY
W.SC
METROPOLITAN AREA PLANNING DEPARTMENT
CITY HALL – TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561

April 10, 1981

W. C. Merritt
Division Manager
Santa Fe Land Improvement Company
Room 500
900 Polk Street
Amarillo, Texas 79101

Re: Performance bond guaranteeing improvement required as a condition of plat approval for Santa Fe Midland Industrial District (S/D 70-75). Bond No. 5633802-454

Dear Mr. Merritt:

Your performance bond in the amount of $139,000.00 guaranteeing the construction of an open ditch sewer system across the property south of the Santa Fe Midland Industrial District plat to the Turnpike and guaranteeing the construction of a concrete encasement for an existing sanitary sewer line in Tulsa Avenue is nearing maturity once again. The existing bond matures on August 28, 1981. City Engineering has advised, as of this date, the improvements remain uncompleted.

This letter acts to bring this situation to your attention and advise you that a replacement bond needs to be submitted to this office prior to the existing maturity date of August 28, 1981. I have enclosed a copy of your existing bond for your information and reference.

Should you have any questions regarding this matter, please call me at (316) 268-4421.

Sincerely,

Forrest L. Nagley

Forrest L. Nagley
Junior Planner

FLN:bh
Encl.
cc: Mike Lindebak, Project Development Engineer, Department of Engineering
John R. Stallings, Suite 830, First National Bank Bldg., 67202
Chris Breitenstein, Drainage Engineer, Department of Engineering

WICHITA-SEDGWICK COUNTY

August 31, 1981

METROPOLITAN AREA PLANNING DEPARTMENT

Donald C. Gisick, City Clerk

TO Forrest L. Nagley, Junior Planner

FROM

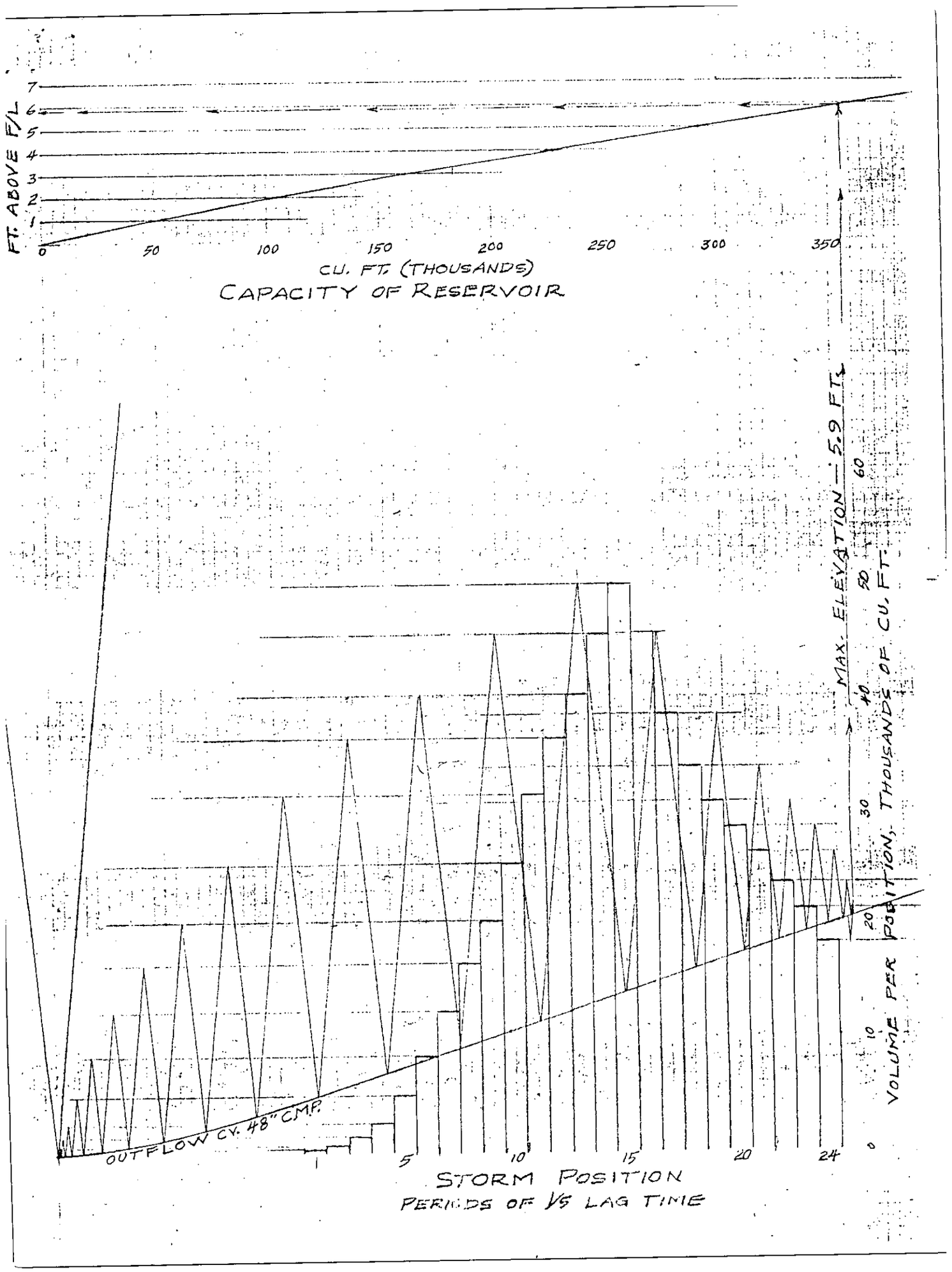
SUBJECT Forwarding of continuation certificate for performance bond guaranteeing improvements required as a condition of plat approval for Santa Fe Midland Industrial District (S/D 70-75) Bond No. 5633802-454

Attached please find the above-reference document for your files. The continuation certificate should be attached to the $139,000 performance bond which was forwarded to your office on August 27, 1979. Should you have any questions regarding this matter, please advise.

Forrest L. Nagley
Junior Planner

COPY

cc: Mike Lindebak, Project Development Engineer, City Engineering
Phyllis F. Wendler, Curfman, Harris and Weigand, Suite 800, First National Bank Bldg., 67202
W. C. Merritt, Division Manager, Santa Fe Land Development Co., Room 500, 900 Polk Street, Amarillo, Texas, 79101


FT. ABOVE F/L
7
6
5
4
3
2
1
0
50
100
150
200
250
300
350
CU. FT. (THOUSANDS)
CAPACITY OF RESERVOIR
MAX. ELEVATION — 5.9 FT.
60
50
40
30
20
10
0
VOLUME PER POSITION, THOUSANDS OF CU. FT.
OUTFLOW CV. 48" CMP.
1
5
10
15
20
24
STORM POSITION
PERIODS OF VS LAG TIME

LARGE RESERVOIR MODIFICATION

The development of a large reservoir immediately upstream from the bridge makes possible a reduction in the required opening. The modification may be determined as is shown in the following example which includes a volume of flow calculation and a bridge opening design by graph.

Calculate the volume of the reservoir at various depths and plot a depth/volume graph. Show flow line elevation of structure at the intake on the graph. Use appropriate scales as shown in the example.

Directly below the reservoir depth/volume graph construct a bridge structure discharge graph. The ordinates of this curve are units of cubic feet per LT/5 as calculated for the height of water above the flow line of the structure and the abscissas are reservoir volume found at each water level used in the determination of the ordinates in the structure discharge curve. In the example, the structure is a 20' x 20' box placed 8' above the bottom of the reservoir. 4.2 million cubic feet may be stored below this depth, therefore, the abscissa of the discharge curve at zero flow is 4.2 million cubic feet. The example shows an instant when the water surface is at elevation 23. At this instant the depth at the box entrance is 15'; $q = 2.93 \times WH^{3/2} = 3410$ sec. feet. LT/5 is 37 minutes, therefore, Q is 3410 x 37 x 60 = 7.56 million cubic feet per LT/5. This point was plotted at ordinate 7.56 and abscissa 15.5 million cubic feet which corresponds with the volume in the reservoir when the water surface is at elevation 23. Figure discharge, in the same manner, for points from zero depth to 1.5 x the box depth; then, continue with the formula: $q = 2.93 \times W(H^{3/2} - h^{3/2})$, in which, entrance loss has been allowed. Q for LT/5 is found by: $q \times \frac{LT}{5} \times 60$.

Determine volume of flow during the various periods of LT/5 using "Volume Of Flow Work Sheet". Plot an inflow graph as shown in the example. The ordinate scale is the same as that used in the structure discharge graph and the

numerical value of each ordinate is taken from "Volume of Flow Work Sheet". The abscissas have no meaning in the graph and can be plotted as shown in the example or, for simplification and conservation of space, they may be plotted on the extreme right hand side of the graph in one vertical line, marking the ordinates of each storm position and showing the number of the position alongside.

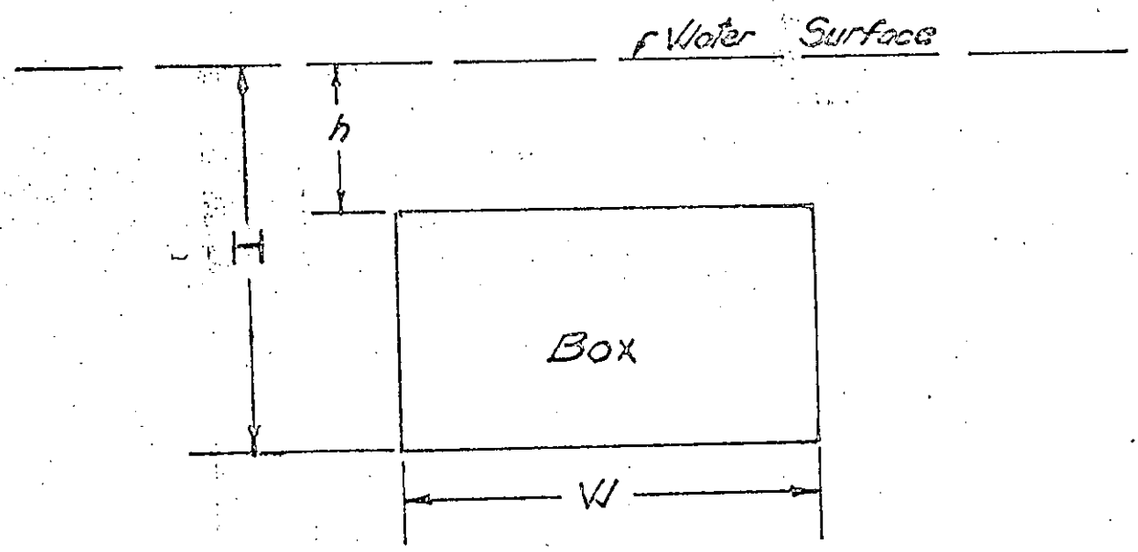
Construct "Averaging Slope Lines" Y-X and Y-Z. These lines are constructed having slope ratios of one reservoir cubic foot to two inflow cubic feet, as shown in the example. Draw horizontal lines from the inflow graph as shown. Starting at Y, follow the Y-Z line to an intersection with the first horizontal line. Then, from this point of intersection, draw a line downward parallel to line Y-X to an intersection with the structure discharge curve. (In the example the first four positions of the inflow graph were contained by the reservoir below the flow line of the box, therefore, through these four positions, the box discharge was zero.) Continue drawing lines, originating at the last intersection with the structure discharge curve, parallel to line Y-Z to an intersection with the next higher horizontal line and then parallel to line Y-X to an intersection with the structure discharge curve, until one of the horizontal lines falls below the last intersection with the structure discharge curve as is illustrated in the example at point "A". Draw a vertical line, from this final intersection on the structure discharge curve, upward to an intersection with the reservoir depth/volume curve; thence, left to the ordinate scale which will indicate the maximum height to which water will rise above the streambed. If the rise of the water, so calculated, is too high, as may have been the case in the example, try again using a larger structure.

In the event of a wide box having its flow line at or very near the bottom of the reservoir - a reservoir small in capacity near its bottom - the structure

discharge curve will start at point 0.0 and a short segment may lie to the left of line Y-Z. The only complication so created is that from the point of intersection with the horizontal line, the line drawn parallel to the Y-X line must be drawn upward to an intersection with the structure discharge curve.

NOTE:

A close comparison of the volume of flow work sheet with the watershed runoff work sheet will disclose a difference in approach with respect to infiltration where two thunderstorm cells are employed. The more complicated volume of flow sheet is likely to be the more nearly correct as more liberties have been taken with the runoff work sheet procedure in the interest of simplification but, in the runoff sheet, infiltration was given no recognition in the area covered by the upper storm cell so as to insure against the possibility of under design.



R E P O N D 2 - B R I D G E S I Z E S T U D Y

DATE : 02 / 19 / 81
TIME : 11 / 14 / 30

MIDLAND INDUSTRIAL DISTRICT OUTFLOW MODIFIED BY USE OF A PONDING AREA

FOLLOWING IS A LIST OF ITEMS AS INPUT AND/OR CALCULATED

ITEM 2, SHED AREA, IN SQUARE MILES :	0.08
ITEM 3, MODIFIED WATERSHED SHED AREA, IN SQUARE MILES :	0.08
ITEM 4, LENGTH OF CHANNEL, MILES :	0.28
ITEM 5, TO C.G. OF SHED, MILES :	0.11
ITEM 6, PRODUCT OF L AND LCA :	0.03
ITEM 8, SLOPE, FEET PER MILE :	14.00
ITEM 9, CHANNEL FACTOR :	1.60
ITEM 10, LAG TIME, IN MINUTES :	3.10
ITEM 11, INTENSITY, PER 100 YEARS :	3.90
ITEM 12, INTENSITY, PER 2 YEARS :	1.80
ITEM 13, DESIGN PERIOD, YEARS :	100
ITEM 14, INTENSITY FOR THE DESIGN PERIOD, INCHES :	3.90
ITEM 15, STORM AREA, SQUARE MILES :	0.40
ITEM 16, STORM AREA FACTOR, PERCENT :	100.00
ITEM 17, INTENSITY, AVERAGE, INCHES PER HOUR :	3.90
ITEM 19, INFILTRATION RATE, INCHES PER HOUR :	0.20
ITEM 21, SHED FACTOR (SHED CHARACTERISTICS) :	0.37
ITEM 22, SHED MODIFICATION FACTOR :	0.91

ITEM 23, MAXIMUM RAINFALL INTENSITY : 14.53

ITEM 25, MULTIPLE CELL FACTOR : 1.00

FLOW LINE OF BOX - ELEVATION : 0.00

BOTTOM OF RESERVOIR - ELEVATION : 0.00

ELEVATION OF MAXIMUM HEIGHT OF PONDING TO BE ALLOWED : 10.00

CAUTION CAUTION CAUTION CAUTION CAUTION

SOILS UNDER AND WITHIN THE EMBANKMENT MUST SUFFICE AS AN EARTH DAM.

R E S E R V O I R D A T A

CONTOUR	AREA	VOLUME
0	47068	0
1	51689	49364
2	56250	103318
3	60941	161864
4	65432	225000
5	70023	292728
6	74614	365037
7	79205	441956

DISPLAY OF CHANNEL FLOW TO THE RESERVOIR :

PERIOD	VOLUME	SEC. FT.	
1	132	1	
2	532	3	
3	1274	7	
4	2268	14	
5	4987	27	
6	8503	45	
7	12189	66	
8	16204	88	
9	20773	112	
10	25316	136	
11	31572	170	
12	36280	195	
13	40709	219	
14	45506	245	
15	49943	269	(MAXIMUM CHANNEL FLOW)
16	45722	246	
17	38395	207	
18	33870	182	
19	30911	166	

20	28557	154
21	26158	141
22	23633	127
23	21086	113
24	18183	98

STRUCTURE REQUIRED *

1 4 FOOT DIAMETER PIPE
WILL PERMIT POND TO RISE TO AN ELEVATION OF 5.9 FEET.

MAXIMUM FLOW THROUGH THE STRUCTURE WILL BE 103 SECOND FEET.
MAXIMUM CAPABILITY OF STRUCTURE IS 148 SECOND FEET.

THE PROGRAM IS DESIGNED SO AS TO RECOMMEND
NO LESS THAN A 4 FOOT DIAMETER PIPE.
EVEN THOUGH CALCULATED FLOW MAY SUGGEST
A SMALLER PIPE, THE USER SHOULD SERIOUSLY CONSIDER
THE SUSCEPTIBILITY OF SMALL PIPES TO CLOGGING
WITH DEBRIS, CLEANING DIFFICULTIES; AND
THE POSSIBLE CONSEQUENCES FOR MAKING A COMPARATIVELY
SMALL SAVING.

NOT A FREE FLOW CONDITION.
STRUCTURE MUST BE CLOSED STRUCTURE, SUCH AS PIPES,
UNLESS,
SUBGRADE IS NOT SO HIGH ABOVE STREAMBED BUT THAT
AN OPEN STRUCTURE IS FEASIBLE.
IF SO,
RECALCULATE WITH THE DEPTH OF STRUCTURE SET AT
DEPTH OF POND AT THE STRUCTURE ENTRANCE.

VELOCITY OF FLOW AT DOWNSTREAM END OF PIPE WILL BE 16 FEET PER SECOND (APPROXIMATE).

THIS VELOCITY WILL CUT CONCRETE
IMMEDIATELY DOWNSTREAM FROM THE STRUCTURE.
BE SURE PROTECTION IS ADEQUATE.

INFLOW ELEMENT NUMBER	24
SUB ELEMENT (1/KNT-TIM)	1
INFLOW (SECOND FEET)	98

THE CITY OF WICHITA

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
CITY HALL — SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501

April 17, 1981

Mr. C. L. Holman
Assistant General Manager, Engineering
Atchison, Topeka & Santa Fe Railway Co.
P. O. Box 1738
900 Jackson Street
Topeka, Kansas 66628

Dear Mr. Holman:

Tentative approval is given for your drainage plan in the Midland Industrial District. The portion west of the Interstate is approved; however, that portion east of the Interstate needs to be more detailed for complete approval of the drainage plan.

If you have any further questions, please contact me at (316) 268-4235. This should be sufficient for you to make inquiries of K.D.O.T. as to method of crossing their Right-of-Way.

Sincerely,

Chris Breitenstein

Chris Breitenstein, P.E.
Drainage & Flood Control
Engineer

CB:md

WICHITA—SEDGWICK COUNTY
W-SC
METROPOLITAN AREA PLANNING DEPARTMENT
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561

September 10, 1982

Mr. W. C. Merritt
Division Manager
Santa Fe Land Improvement Company
Room 500
900 Polk Street
Amarillo, Texas 79101

Re: Performance Bond Guaranteeing Improvements Required As A Condition of Plat Approval for Santa Fe Midland Industrial District (S/D 70-75)
Bond # 5633802-454

Dear Mr. Merritt:

Your performance bond in the amount of $139,000.00 guaranteeing the construction of an open ditch drainage system across the property south of the above-referenced plat to the Turnpike and guaranteeing the construction of a concrete encasement for a sanitary sewer line in Tulsa Avenue has matured. City Engineering has advised that the concrete encasement is no longer necessary, but, that the drainage work is. As of this date, the drainage work is uncompleted. They have further advised that a new bond should continue to reference a dollar amount of $139,000.00.

This letter acts to bring this situation to your attention and advise you that a replacement bond needs to be submitted to this office as soon as possible. Should you have any questions about this matter, please call me at (316) 268-4421.

Sincerely,

Forrest L. Nagley

Forrest L. Nagley
Junior Planner

FLN:jps
cc: Mike Lindebak, Project Development Engineer
Phyllis F. Wendler, Curfman, Harris and Weigand, Suite 800, First National Bank Building, Wichita, Kansas 67202

WICHITA – SEDGWICK COUNTY
W-SC
METROPOLITAN AREA PLANNING COMMISSION
CITY HALL – TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561

August 29, 1983

Mr. W. C. Merritt, Division Manager
Santa Fe Land Improvement Company
Room 500, 900 Polk Street
Amarillo, Texas 79101

Re: Performance bond guaranteeing improvements required as a condition of plat approval for Santa Fe Midland Industrial District (S/D 70-75) Bond #5633802-454

Dear Mr. Merritt:

Your performance bond in the amount of $139,000.00 guaranteeing the construction of an open ditch drainage system across the property south of the above-referenced plat to the Turnpike has once again matured. City Engineering has advised that, as of this date, the drainage work is uncompleted. They have further advised that a new bond should continue to reference a dollar amount of $139,000.00.

This letter acts to bring this situation to your attention and advise you that the bonding company needs to submit another continuation certificate. This continuation certificate should extend the life of the guarantee for another year and needs to be submitted to this office as soon as possible.

Should you have any questions about this matter, please call me at (316) 268-4421.

Sincerely,

Forrest L. Nagley
Junior Planner

FLN:bh

cc: Mike Lindebak, City Engineer
John R. Stallings, Curfman, Harris, Stallings, Grace and Snow, Suite 800, First National Bank Bldg., 67202

Ditch

```
                    CLR
                    CLR
                    CLR
ENTER BOTTOM WIDTH
                     8.
ENTER SIDE SLOPE
                     4.
ENTER DEPTH
                     1.
ENTER GRADE
                  0.0017
ENTER (N)
                   0.03
                    12.          A
 .7386337537         R
1.668014695          V
20.02577634          Q
 .0432444485        HV
```

(30" CMP = 20 CFS)

Ditch

```
ENTER BOTTOM WIDTH
                     8.
ENTER SIDE SLOPE
                     4.
ENTER DEPTH
                     1.
ENTER GRADE
                  0.0023
ENTER (N)
                   0.03
                    12.          A
 .7386337537         R
1.941098494          V
23.29318193          Q
 .0585071951        HV
```

WICHITA — SEDGWICK COUNTY

METROPOLITAN AREA PLANNING DEPARTMENT
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1688
(316) 268-4561

August 7, 1984

Mr. W. C. Merritt, Division Manager
Santa Fe Land Improvement Company
Room 500, 900 Polk Street
Amarillo, Texas 79101

Re: Performance bond guaranteeing improvements required as a condition of plat approval for Santa Fe Midland Industrial District (S/D 70-75) Bond 5633802-454

Dear Mr. Merritt:

Your performance bond in the amount of $139,000.00 guaranteeing the construction of an open ditch drainage system across the property south of the above-referenced plat to the Turnpike has once again matured. City Engineering has advised that, as of this date, the drainage work is uncompleted. They have further advised that a new bond should continue to reference a dollar amount of $139,000.00.

This letter acts to bring this situation to your attention and advise you that the bonding company needs to submit another continuation certificate. This continuation certificate should extend the life of the guarantee for another year and needs to be submitted to this office as soon as possible.

Should you have any questions about this matter, please call me at (316) 268-4421.

Sincerely,

Barbara R. Bonanni
Planning Analyst

BRB:bh

cc: Mike Lindebak, City Engineer

John R. Stallings, Curfman, Harris, Stallings, Grace and Snow, Suite 800, First National Bank Bldg., 67202

RECEIVED
AUG 9 1984
DESIGN DIVISION

WICHITA-SEDGWICK COUNTY

METROPOLITAN AREA PLANNING DEPARTMENT

DATE

August 24, 1982

TO Mike Lindebak, Project Development Engineer, City Engineering

FROM Forrest L. Nagley, Junior Planner

SUBJECT Performance bond associated with the platting of Santa Fe Midland Industrial District (S/D 70-75)

In August of last year I obtained a revised performance bond from Santa Fe Land Development Company as guarantee that an open ditch sewer system would be constructed to the turnpike across the property to the south of this subject plat. Also, the bond guaranteed the concrete encasement of a sanitary sewer line in Tulsa Avenue.

The subject bond matures on August 28, 1982, and before I pursue this matter further, I need to know if either of the two improvements have been completed. The present dollar amount of the bond is $139,000.00.

Please advise me at your earliest convenience regarding this matter.

Forrest L. Nagley

Forrest L. Nagley
Junior Planner

FLN:bh

Split Casing 60 4/15/80 encasement date
Creosote Wood Shingles 899 4/15/80

468-76-245.80906 - 8

Don Moehring

36" W.
8'x11' RCB MH w. Bridges

Called Forest Nagley at 11.0 am. Advised that work had not been completed on drainage. No concrete encasement was necessary when track was constructed in 1980 because where the manhole was reconstructed, the pipe was already encased.

YDD

Drainage improvements have not been made.

DB
8/30/82

RECEIVED
AUG 26 1982
Dept. Of Engineering

Santa Fe Pacific Realty Corporation

12850 Spurling Drive, Suite 100
Dallas, Texas 75230
214/980-7707

February 16, 1987

Mr. Michael E. Lindebak, City Engineer
City of Wichita
455 N. Main Street
Wichita, KS 67202

Dear Mr. Lindebak:

As you will recall, we met in December to discuss Santa Fe Land Improvement Company's (SFLI) performance bond with the City of Wichita on the Santa Fe Midland Industrial District. The bond calls for the construction of a permanent drainage system to handle the water currently draining into Lubrication Engineers' pond on Lot 2, Block 2. Drainage into the pond is currently covered by a temporary easement to the City that continues in force until "a permanent drainage structure is constructed from Tulsa Street to the south along the west side of Lot 2".

As you know, several feasibility studies and meetings have taken place over the years to attempt to determine a permanent solution to the problem. During our visit to Wichita, Lubrication Engineers discussed a purchase of SFLI's remaining parcel to the south of their plant site. We felt this would be an opportune time to sell the property to Lubrication Engineers as well as negotiate a drainage agreement. We have, however, been unable to conclude our negotiations with them because of their insistence that they not have an obligation to accept the storm water in their pond on a permanent basis. Since this solution seems to be the only economically viable alternative, we appear to be at an impasse with them on a purchase of the property.

As we understand it, the temporary easement will continue in force until a permanent storm drain system is constructed. Conversely, if no permanent improvements are constructed, the "temporary" easement would continue in perpetuity. At the same time, SFLI is servicing a performance bond that requires the construction of "an open ditch sewer system...at a maximum cost of $123,000.00" as a permanent drainage solution. Lubrication Engineers has indicated they will not accept an open ditch system across their property, since this would make it difficult for them to use the pond as an emergency containment area for their storage tanks. Needless to say, SFLI does not wish to assume the cost of building an underground system.

Since the temporary easement, as well as the permanent easement over Lubrication Engineers' property, is with the City of Wichita, we feel the City must take the lead to resolve this issue. At this point, we feel it might be best to simply not renew the performance bond in July and "force" the City into making a decision for a permanent solution.

If you feel another meeting is called for, please let me know. Obviously it would be in the best interest of all concerned to solve this issue now rather than let it go on for another ten years.

If you have any questions, feel free to call me at (214) 770-3234.

Sincerely,

John Bezzant
Sales Representative
As Agent for Santa Fe
Land Improvement Company

JEB/jb

MEMO

Professional Engineering Consultants
1440 East English
Wichita Kansas
Zip Code 67211

TO: Santa Fe Pacific Realty Corp.
12850 Spurling Dr., Suite 100
Dallas, TX 75230

ATTN: John Bezzant

PROJECT NO. 32-86664-2145

PROJECT: Santa Fe Midland Ind. Park Drainage

DATE: March 12, 1987

COPIES TO:
C. Breitenstein, P.E.

FROM: Michael W. Berry MWB

REFERENCE: Design criteria

PLEASE ADVISE IMMEDIATELY OF ANY MISCONCEPTIONS OR OMISSIONS YOU BELIEVE TO BE CONTAINED HEREIN.

RECEIVED
MAR 13 1987
DESIGN DIVISION

The writer contacted Mr. Chris Breitenstein, P.E., of the City Engineer's office to discuss design criteria on the referenced project. The following items were discussed:

1. The 100-year design storm should be confined to the Tulsa Street right-of-way and/or the drainage easement.

2. Assuming original hydrology computations are correct, the 54" CMP shown on the plans dated 3/2/81 could be replaced with a 42" or 48" RCP due to decreased hydraulic roughness.

3. Hydrological computations should be checked.

4. RCP is the desirable conduit due to decreased roughness and therefore flatter minimum grades.

5. The open channel system across the unplatted tract can be daylighted into the highway right-of-way if the Kansas Department of Transportation agrees.

6. It is understood by the City that an adverse gradient situation exists. This problem must be addressed when platting occurs on the vacant parcel.

7. As a minimum, final approved plans must be complete and advertisement to bidders underway before the existing letter of credit is allowed to expire.

THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
CITY HALL — SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501

October 13, 1987

Mr. Wade Culwell, P.E.
District Engineer
Kansas Department of Transportation
P.O. Box 769
Hutchinson, KS 67504

Reference: Santa Fe Midland Industrial District Storm
Water Sewer From Tulsa Street to I-135
CoW Project 468-76-245-80001-000-000-124

Dear Mr. Culwell:

This letter is regarding your denial of the above-referenced project as stated in a letter from your office to Michael W. Berry, P.E., of Professional Engineering Consultants, P.A., Wichita, Kansas, dated September 25, and as follow up to a telephone conversation between J.A. McClelland of your office and the undersigned.

The Santa Fe Midland Industrial District was developed in the 1970's on previously cultivated land. An original area of 100 acres drained to a 42" cross road pipe at Sta. 136+50 on I-135. As development took place, the north portion was drained into a storm sewer in Industrial Street which empties into the Wichita Drainage Canal, thereby cutting off a portion of the initial drainage area. The south portion was collected into a storm sewer in Tulsa Street, with a temporary discharge pipe into a former borrow pit. The borrow pit now serves as a lake for a private owner, and the City retains only a temporary drainage easement over this lake.

It is desirous of all parties to eliminate the temporary use of the borrow pit and to construct permanent drainage facilities for this plat. Therefore, the referenced project was formulated to construct some 500 linear feet of storm sewer from Tulsa Street to the south plat line. Beyond that point, the final disposition of the currently vacant tract is unknown. At some future date it will likely be platted and developed, but construction of permanent improvements across this parcel seems unwise in light of so many unknowns.

The 42" cross road pipe in I-135 is the original outlet location for this basin. Therefore, we concur with construction of a temporary outfall ditch in this project from the storm sewer pipe to I-135. The grade restraints dictate that the ditch have a level flowline, and unfortunately, the outlet pipe in I-135 is some eighteen inches higher than the ditch bottom. It is recognized that water may pond in this ditch and will only dissipate by evaporation and percolation. However, this is not unlike the present discharge location into the lake formed by the borrow pit which is a permanent body of water.

We concur with the Consultant's design of this project as the best possible given the following constraints:

1. The flowline of the storm sewer in Tulsa Street must be accommodated. Unfortunately, this flowline elevation is approximately the same as that of the 42-inch cross road pipe on I-135.

2. The permanent storm sewer should be constructed with positive downhill gradient in anticipation of further extension, possibly beneath I-135 to the Arkansas River.

3. The open channel should be excavated to the bottom of the 48-inch storm sewer, even though it may possibly stand water and/or accumulate silt in the pipe bottom. Pipe siltation will occur much more slowly under this situation than if the pipe flowline is merely "buried" at its outlet.

4. Construction of a relief pipe system at the lower end of the open channel at the lowest possible elevation will minimize the extent of siltation and ponding described in 3., above.

As for permanent improvement, we would suggest as a minimum, that the existing 42-inch cross road pipe be reset or replaced at a lower elevation compatible with this project at the time of pavement reconstruction on I-135 (Project 135-87-K2617-01). Removal of the twin pipes in the fence line and regrading would also be required.

Based on the background information stated herein, we ask that you reconsider the referenced project and approve the construction of improvements lying within I-135 right-of-way. Otherwise, we will be forced to construct our project in our own easement with absolutely no hydraulic relief.

The property owner currently has a Contractor on site to construct these improvements. A speedy resolution of this matter would be appreciated.

Sincerely,

Chris J. Breitenstein, P.E., Civil Engineer

Enclosures: one set Final Plans

xc: Professional Engineering Consultants, P.A.
Santa Fe Pacific Realty Corporation

CJB/PEC/MWB/mkm

THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
CITY HALL — SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501

October 13, 1987

Mr. Wade Culwell, P.E.
District Engineer
Kansas Department of Transportation
P.O. Box 769
Hutchinson, KS 67504

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Water Sewer From Tulsa Street to I-135
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Based on the background information stated herein, we ask that you reconsider the referenced project and approve the construction of improvements lying within I-135 right-of-way. Otherwise, we will be forced to construct our project in our own easement with absolutely no hydraulic relief.

The property owner currently has a Contractor on site to construct these improvements. A speedy resolution of this matter would be appreciated.

Sincerely,

Chris J. Breitenstein, P.E., Civil Engineer

Enclosures: one set Final Plans

xc: Professional Engineering Consultants, P.A.
Santa Fe Pacific Realty Corporation

CJB/PEC/MWB/mkm

Utility Contractors, Inc.

(316) 265-9506 - 659 N. Market Street - P.O. Box 2079 - Wichita, Kansas 67201

An Equal Opportunity Employer

October 27, 1987

City of Wichita
Operations & Maintenance
455 North Main
Wichita, Kansas 67202

Attention: Tony DeCicco

Re: Storm Water Sewer Improvements
Santa Fe Midland Industrial Park

Gentlemen:

We have discussed the plugging of the 30" RCP storm sewer and leaving it in place in lieu of removing the pipe with Mr. Darrell Patton of Lubrication Engineers. He has approved of the plugging of the pipe in lieu of removal.

Please feel free to call if you have any questions.

Sincerely,

UTILITY CONTRACTORS, INC.

Stephen H. Ramsey

Stephen H. Ramsey, PE
Project Engineer

SHR:mmf

cc: Bill Wenger
Mike Berry, PEC

Approved
10/30/87

OCT 28 1987

PROFESSIONAL
ENGINEERING
CONSULTANTS
PROFESSIONAL ASSOCIATION

July 20, 1987

Michael E. Lindebak, P.E., City Engineer
7th Floor - City Hall
455 North Main
Wichita, Kansas 67202

Attention: Chris Breitenstein, P.E.

Reference: Santa Fe Midland Industrial District Storm Water Sewer
Project No. 468-76-245-80000-000-000-000
PEC File No. 32-87148-2145

Dear Mr. Lindebak:

Transmitted herewith for your review and approval are preliminary plans for the referenced project, as well as drainage computations.

As you may be aware, the Owner desires to construct this project by private contract. Technical specifications are to be in accordance with City of Wichita Standard Specifications. Construction inspection is to be by City of Wichita forces, with costs to be prepaid. Please inform us of any other required conditions due to the nature of the contract.

The Owner intends to dedicate a permanent drainage easement across its property in the unplatted area of Section 10 of sufficient size to accomodate the proposed construction.

There are several private improvements which encroach upon the platted drainage easement in Lot 2, Block 2 of the subject plat: sprinkler systems; fencing; picnic table; barbecues; etc. We assume that the cost of relocating these items to clear the right-of-way will be the responsibility of Lubrication Engineers.

There is a possibility that construction operations cannot be confined to the platted easement. In projects of this type, are temporary construction easements customarily acquired?

Please review these plans and computations at your earliest convenience. If there are any questions or comments, please advise our office.

Very truly yours,

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

Michael W. Berry

Michael W. Berry, P.E.
Project Engineer

enclosures

xc: John Bezzant, Santa Fe Pacific Realty Corporation

MWB/mkm

1440 EAST ENGLISH
WICHITA, KANSAS 67211
(316) 262-2691

MEMO

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

TO: Michael E. Lindebak, P.E.
City Engineer
7th Floor - City Hall
ATTN: Chris Breitenstein, P.E.

PROJECT NO. 32-87148-2145
PROJECT: Santa Fe Midland
Industrial District SWS
DATE: July 21, 1987

COPIES TO:
John Bezzant

FROM: Philip D. Frazier, E.I.T.
REFERENCE: Drainage Computations

PLEASE ADVISE IMMEDIATELY OF ANY MISCONCEPTIONS OR OMISSIONS YOU BELIEVE TO BE CONTAINED HEREIN.

Attached hereto are the computations for the referenced project.

The publication Interim Drainage and Storm Sewer Policy for Design Criteria and Documentation, City of Wichita, as revised 4/1/87, was used as the reference for the hydrologic and hydraulic computations. This publication is hereinafter referred to as the "Design Manual."

Manual #1, as referenced herein, refers to Design of Urban Highway Drainage-The State of the Art. by Reitz & Jens, Inc., April, 1980. Manual #2 refers to Drainage of Highway Pavements, Hydraulic Engineering Circular #12, by Tye Engineering, Inc., March 1984.

HYDROLOGIC ANALYSIS

The rational method was used for hydrologic analysis in accordance with the Design Manual. Runoff coefficients were based on the table provided in Attachment D, of the Design Manual.

The time of concentration was computed based on the Kinematic Wave Formulation presented in Section 4.1.3, of Manual #2. Travel time for flow in gutters was computed by a modified Manning's Equation presented in Chart 2 of Manual No. 2.

HYDRAULIC ANALYSIS

The sizing and spacing of inlets on Tulsa Street was done by others. As they are already constructed. No computations were performed.

Hydraulic computations for the pipe system was performed using Manning's Equation to calculate friction losses in pipes flowing full. Minor losses were assumed as 0.5 ft of head at each structure. All pipes were assumed to be reinforced concrete with a Manning's "n" factor of 0.013. It is desirable to keep the hydraulic grade line approximately one-foot below the top of curb elevations for the minor storm. For the major storm, the hydraulic grade line should not exceed the walk grade.

For this analysis, it is assumed that adequate outfall capacity will be provided in the future to be compatible with the assumed hydraulic grade line of 0.5%.

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

Date 7-20-87 Page 1 of 3

Project 32-87148 SANTA FE MIDLAND INDUSTRIAL PARK SWS.

Item Hydrology Calcs. Comps By: Phil Frazier
Checked By: MMS

Drainage Area (Scaled from Site Plan.)

$(1735)(415)\ ft^2 \times \frac{1}{43560} = 16.5$ acres

Parking lot south adds a contributing area of 0.5 acre.

∴ Drainage Area = 17.0 acres

5 yr Storm

From old plans, 0.32% street grade

From survey, ¼" / pvmt X-slope, 41' bk-bk curb & gutter w/ inlets.

C_{5yr} for C.O.W. = 0.76

Assume land slope of 1% $S = 0.01$

From Kinematic Wave Eq.

$$T_c = \frac{0.93(L)^{0.6}(n)^{0.6}}{(i)^{0.4}\ S^{(0.3)}}$$

$L = 385$ (length to get to street)

$n = 0.016$

$S = 0.01$

Plug in numbers

$$T_c = \frac{11.2013}{i^{0.4}}$$

Iterate and arrive at T_c for overland flow = 5 minutes → $i = 6.53$

Ex. 10 minutes → $i_{5yr} = 5.34$ compare → 5.64

6 minutes → $i_{5yr} = 6.25$ compare → 5.29

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

Date 7-20-87 Page 2 of 3

Project 32-87148 SANTA FE MIDLAND IND PK SWS

Item Hydrology Calcs.

Calculate Gutter flow time

Must travel 1160 ft

$V = \frac{1.12}{n} \sqrt{S} S_x^{0.67} T^{0.67}$ for triangular gutter n for asphalt = 0.016

Assume for 5yr leave one 8' lane open

$T_2 = 18 - 8 + 2.5 = 12.5$ $T_1 = 0$ $\frac{T_a}{T_2} = 0.65 \rightarrow T_a = 8.125$

$V = \frac{1.12}{0.016} (0.32/100)^{0.5} (0.0208)^{0.67} (8.125)^{0.67} = 1.21$ ft/sec.

gutter flow

$\left(\frac{1 \text{ sec}}{1.21 \text{ ft}}\right)\left(1160 \text{ ft}\right)\left(\frac{1 \text{ min}}{60 \text{ sec}}\right) = 16$ minutes

Total Time of Concentration $16 + 5 = 21$ minutes $\rightarrow i_{21 \text{ min}_{5yr}} = 3.90$"

C_{5yr} for industrial $= 0.76$

$Q_{5yr} = (0.76)(3.90)(17) = \underline{50 \text{ cfs}}$

Find Q_{100yr}

$C_{100yr} = 0.84$ for industrial

Assume Street to be boundary for 100 yr flow.

$T_2 = 18 + 2.5 = 20.5$ $T_a = 0.65 T_2 = 13'$

$V = \frac{1.12}{0.016} (0.32/100)^{0.5} (0.0208)^{0.67} (13)^{0.67} = 1.65$ ft/sec.

$\left(\frac{1}{1.65}\right)(1160)\left(\frac{1}{60}\right) = 11.7$ minutes use 12 minutes

$t_{\text{overland flow}} + t_{\text{gutter flow}} = 5 + 12 = 17$ Minutes $= T_c$

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

Date 7-20-87 Page 3 of 3

Project 3C-87148 SANTA FE MIDLAND IND. PK. SWS

Item Hydrology Calcs.

For i_{100yr} = 7.00 in/hr
17 min

$Q_{100\,yr} = C.iA = (0.84)(7.00)(17) = 100$ cfs.

Pipe length is ≈ 500 ft on 0.2% grade.

Hydraulics.

Outlet elevation = 82.5
Inlet elevation = 83.6
Top of Inlet elevation = 89.86

Assume 1' head loss for inlet & manhole combined. (Junction losses)

Assume Concrete Pipe will be used, n = 0.013

Assume maximum head is @ the top of inlet.

Try to get 100 yr storm thru the pipe.

H max is 90

Calculate HGL slope

$S = \left(\frac{Q^2}{K^2}\right)$ Try 42" pipe K = 1006

$S = \frac{(100)^2}{(1006)^2} = 0.0099$

Assume TW @ top of pipe ∴ $82.5 + \frac{42}{12} = 86$

(0.0115)(500) + 1 + 86 = 91.94 too high

Try 48" pipe $S = \frac{(100)^2}{(1436)^2} = 0.0048$

(0.0048)(500) + 1 + 86.5 = 89.92 → O.K.

PROFESSIONAL ENGINEERING CONSULTANTS, PA
1440 E. English
WICHITA, KANSAS 67211

(316) 262-2691

LETTER OF TRANSMITTAL

DATE 8-11-87 JOB NO. 32-87148-2145

ATTENTION C.J. Breitenstein, P.E.

RE: Final reproducible drawings
Proj 46B-76-245-80001-000-000-124

TO City Engineer's Office
7th Floor - City Hall

WE ARE SENDING YOU ☑ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☑ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	Aug 11 87		Sh Nos 1-13

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☑ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☑ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS Final reproducible drawings.

COPY TO John Beezant

SIGNED: Michael W. Berry, P.E.

If enclosures are not as noted, kindly notify us at once.

PROFESSIONAL
ENGINEERING
CONSULTANTS
PROFESSIONAL ASSOCIATION

August 7, 1987

Michael E. Lindebak, P.E., City Engineer
7th Floor - City Hall
455 North Main
Wichita, Kansas 67202

Attention: Mr. Chris Breitenstein, P.E.

Reference: Santa Fe Midland Industrial District SWS
Project No. 468-76-245-80001-000-000-124
PEC File No. 32-87148-2145

Dear Mr. Lindebak:

Transmitted herewith are final plans for the referenced project. Upon review by your staff, please contact our office to arrange a time to affix the approval stamp from your office.

If there are any questions, please contact our office.

Very truly yours,

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

Michael W Berry

Michael W. Berry, P.E.
Project Engineer

enclosure

xc: John Bezzant

MWB/mkm

1440 EAST ENGLISH
WICHITA, KANSAS 67211
(316) 262-2691

32-87148-2745

STATE OF KANSAS

KANSAS DEPARTMENT OF TRANSPORTATION

P. O. Box 769
Hutchinson, Kansas 67504
September 25, 1987

Horace B. Edwards
Secretary of Transportation

Mike Hayden
Governor of Kansas

Professional Engineering Consultants, P.A.
1440 East English
Wichita, Kansas 67211

Re: Storm Drainage
135 & Tulsa
Santa Fe Midland Industrial District

Attn: Mike Barry

Dear Sir:

We have reviewed your plans for the above drainage and deny the proposal as designed. We feel the intentional ponding of water, without means of relief, would create problems.

If you have an alternate design, we would be glad to review it and give our comments.

Very truly yours,

WADE CULWELL, P.E.
DISTRICT ENGINEER

J. A. MC CLELLAND
ENGR. TECHNICIAN V

663-3361

JAM:vjm

cc: Don Foster
File

MEMO

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

TO: Santa Fe Pacific Realty Corp.
12850 Spurling Drive, Suite #100
Dallas, Texas 75230

ATTN: John Bezzant

PROJECT NO. 32-87148-20145

PROJECT: Santa Fe Midland Industrial District

DATE: 9/17/87

COPIES TO:
Michael E. Lindebak, P.E.,
Attn: C. Breitenstein, P.E.
File thru RDP

FROM: Michael W. Berry, P.E. MWB

REFERENCE: Contact with Kansas Department of Transportation

PLEASE ADVISE IMMEDIATELY OF ANY MISCONCEPTIONS OR OMISSIONS YOU BELIEVE TO BE CONTAINED HEREIN.

The writer received a telephone contact on 9/16/87, from Bill Swartz, P.E., Squad Chief, Bureau of Design, Kansas Department of Transportation (KDOT). Mr. Swartz called to inquire about the status of the referenced project. The writer explained that the project was permanent construction to the end of the storm sewer only, and that the open channel was temporary construction.

Mr. Swartz advised that his squad is currently designing a pavement reconstruction project for I-135, Project No. 135-87-K2617-01, scheduled for bid opening in November 1988. This project would be similar to the current reconstruction of I-235: pavement removal, regrading and new pavement construction. Two lanes will be closed to through traffic at any one time. Mr. Swartz further stated that a new drainage structure crossing could be installed at this time by conventional cut and cover methods, rather than boring/tunneling methods required when an interstate route is under traffic.

Our firm would advise that investigation be undertaken of the possibility of coordinated construction to provide a permanent solution to the drainage outlet problem for the Santa Fe Midland Industrial District property, as well as the unplatted area to the south. Construction coordinated with the Interstate work would save a significant amount of funds.

As a full-service civil engineering firm, PEC would be willing to assist you in these matters at your request. Please contact our office if you have any questions.

PROFESSIONAL ENGINEERING CONSULTANTS, PA
1440 E. English
WICHITA, KANSAS 67211

(316) 262-2691

LETTER OF TRANSMITTAL

DATE	JOB NO.
9-1-87	32-8-7148-2145

ATTENTION C. J. Breitenstein, P.E.

RE: Easements

TO City Engineer's Office
7th Floor - City Hall

WE ARE SENDING YOU ☑ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	8-24-87		Copy of recorded permanent drainage easement
1	8-14-87		Original temporary construction easement (unrecorded)

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☑ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19_____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS _____

TO John Bezzant

SIGNED: Michael W. Berry, P.E.

If enclosures are not as noted, kindly notify us at once.

TEMPORARY EASEMENT

THIS EASEMENT made this 14th day of August, 1987, by and between Lubrication Engineers, Inc. of the first part and the City of Wichita on the second part.

WITNESSETH, that the said first party, in consideration of the sum of one dollar ($1.00) and other valuable consideration, the receipt whereof is hereby acknowledged, does hereby grant and convey unto the said second party a temporary construction easement for the purpose of constructing a drainage system, according to the plans and specifications now on file in the office of the City Engineer of the City of Wichita, Kansas, along the following described real estate situated in Sedgwick County, Kansas; to wit:

THE EAST THIRTY FEET OF LOT 1, BLOCK 2, SANTA FE MIDLAND INDUSTRIAL DISTRICT, AN ADDITION TO WICHITA, KANSAS.

This easement does not include a right-of-way over land occupied by a permanent structure. Said easement shall expire upon completion of construction of the drainage system.

IN WITNESS WHEREOF, the said first party has signed these presents the day and year first written.

LUBRICATION ENGINEERS, INC.

By Darrell W. Patton
Darrell Patton, Plant Manager

STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

Personally appeared before me, a notary public, in and for the County and State aforesaid Lubrication Engineers, Inc., By Darrell Patton, its Plant Manager, to me personally known to be the same person who executed the foregoing instrument of writing and said person duly acknowledged the execution thereof.

Dated at Wichita, Kansas, this 14th day of August, 1987.

Janis K. Shunterman, Notary Public

My commission expires 9-12-88

SEAL

JANIS K. SHUNTERMAN
NOTARY PUBLIC
STATE OF KANSAS
My Appt. Expires 9-12-88

MIKE BERRY
P.E.C.

DRAINAGE EASEMENT

THIS EASEMENT made this 24th day of August, 1987, by and between Santa Fe Land Improvement Company, of the first part, and the City of Wichita, of the second part.

WITNESSETH: That the said first party, in consideration of the sum of One Dollar ($1.00) and other valuable considerations, the receipt whereof is hereby acknowledged, do hereby grant and convey unto the said second party a perpetual right-of-way and easement for the purpose of constructing, maintaining, and repairing drainage system according to the plans and specifications now on file in the office of the City Engineer of the City of Wichita, Kansas, over, along and under the following described real estate situated in Sedgwick County, Kansas, to wit:

A TRACT OF LAND IN THE NORTHWEST QUARTER OF SECTION 10, TOWNSHIP 28 SOUTH, RANGE 1 EAST SIXTY FEET WIDE LYING THIRTY FEET EITHER SIDE OF THE FOLLOWING DESCRIBED LINE: COMMENCING AT THE NORTHWEST CORNER OF SECTION 10, T28S, R1E; THENCE BEARING N90°00'00"E ALONG THE NORTH LINE OF SECTION 10 A DISTANCE OF 1350.90 FEET TO THE POINT OF BEGINNING; THENCE BEARING S0°19'22"W A DISTANCE OF 10.77 FEET; THENCE ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 50.00 FEET THROUGH A CENTRAL ANGLE OF 24°13'25" AN ARC DISTANCE OF 21.14 FEET; THENCE BEARING S24°32'47"W A DISTANCE OF 910.87 FEET; THENCE ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 50.00 FEET THROUGH A CENTRAL ANGLE OF 73°59'21" AN ARC DISTANCE OF 64.57 FEET; THENCE BEARING S49°26'34"E A DISTANCE OF 11.40 FEET MORE OR LESS TO THE EXISTING WESTERLY RIGHT-OF-WAY LINE OF HIGHWAY I-135.

CONTAINING 61,125 SQUARE FEET OR 1.4 ACRES MORE OR LESS.

And said second party is hereby granted the right to enter upon said premises at any time for the purpose of constructing, operating, maintaining, and repairing such drainage system.

IN WITNESS WHEREOF: The said first party has signed these presents the day and year first written.

STATE OF KANSAS } ss
SEDGWICK COUNTY }
FILED FOR RECORD AT 12:05 PM
SEP 1 1987
NO. 9 04625
PAT KETTLER
REGISTER OF DEEDS
Ed Reed Deputy

SANTA FE LAND IMPROVEMENT CO.

By: John F. Salmon
John Salmon, Vice-President

STATE OF CALIFORNIA)
COUNTY OF SAN FRANCISCO) SS

Personally appeared before me, a notary public, in and for the County and State aforesaid John F. Salmon, Vice Pres. of Santa Fe Land Improvement Co., to me personally known to be the same person who executed the foregoing instrument of writing and said person duly acknowledged the execution thereof.

Dated at San Francisco, Ca. this 24th day of August, 1987.

OFFICIAL SEAL
JOANNE M. RAMIREZ
NOTARY PUBLIC - CALIFORNIA
CITY AND COUNTY OF SAN FRANCISCO
My Comm. Expires Aug. 2, 1991

Joanne M. Ramirez
Notary Public

My Commission Expires August 2, 1991.

copy
Mike Yeary
P.E.D.
Mid E. Bimich

MEMO

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA KANSAS
ZIP CODE / 67211

TO: Santa Fe Pacific Realty Corp.
12850 Spurling Drive, Suite #100
Dallas, Texas 75230

ATTN: John Bezzant

PROJECT NO. 32-87148-2@145

PROJECT: Santa Fe Midland Industrial District

DATE: 9/17/87

COPIES TO:
Michael E. Lindebak, P.E.,
Attn: C. Breitenstein, P.E.
File thru RDP

FROM: Michael W. Berry, P.E. MWB

REFERENCE: Contact with Kansas Department of Transportation

PLEASE ADVISE IMMEDIATELY OF ANY MISCONCEPTIONS OR OMISSIONS YOU BELIEVE TO BE CONTAINED HEREIN.

The writer received a telephone contact on 9/16/87, from Bill Swartz, P.E., Squad Chief, Bureau of Design, Kansas Department of Transportation (KDOT). Mr. Swartz called to inquire about the status of the referenced project. The writer explained that the project was permanent construction to the end of the storm sewer only, and that the open channel was temporary construction.

Mr. Swartz advised that his squad is currently designing a pavement reconstruction project for I-135, Project No. 135-87-K2617-01, scheduled for bid opening in November 1988. This project would be similar to the current reconstruction of I-235: pavement removal, regrading and new pavement construction. Two lanes will be closed to through traffic at any one time. Mr. Swartz further stated that a new drainage structure crossing could be installed at this time by conventional cut and cover methods, rather than boring/tunneling methods required when an interstate route is under traffic.

Our firm would advise that investigation be undertaken of the possibility of coordinated construction to provide a permanent solution to the drainage outlet problem for the Santa Fe Midland Industrial District property, as well as the unplatted area to the south. Construction coordinated with the Interstate work would save a significant amount of funds.

As a full-service civil engineering firm, PEC would be willing to assist you in these matters at your request. Please contact our office if you have any questions.

PROFESSIONAL ENGINEERING CONSULTANTS, PA
1440 E. English
WICHITA, KANSAS 67211

(316) 262-2691

LETTER OF TRANSMITTAL

DATE	JOB NO.
9-29-87	32-87148-2145

ATTENTION: C.J. Breitenstein, P.E.

RE: Santa Fe Midland Industrial District SWS
Proj. 468-76-245-80001-000-000-124

KDOT Plan Review

TO City Engineer's Office
7th Floor City Hall
455 N. Main
Wichita, KS 67202

WE ARE SENDING YOU ☑ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☑ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	9/25/87		To PEC from Wade Culwell, P.E., District Engr, KDOT, Hutch.

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☑ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19_____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS _____

COPY TO John Bezzant w/ Att.

SIGNED: Michael W. Berry

If enclosures are not as noted, kindly notify us at once.

32-87148-2145

STATE OF KANSAS

KANSAS DEPARTMENT OF TRANSPORTATION

P. O. Box 769
Hutchinson, Kansas 67504
September 25, 1987

Horace B. Edwards
Secretary of Transportation

Mike Hayden
Governor of Kansas

Professional Engineering Consultants, P.A.
1440 East English
Wichita, Kansas 67211

Re: Storm Drainage
135 & Tulsa
Santa Fe Midland Industrial District

Attn: Mike Barry

Dear Sir:

We have reviewed your plans for the above drainage and deny the proposal as designed. We feel the intentional ponding of water, without means of relief, would create problems.

If you have an alternate design, we would be glad to review it and give our comments.

Very truly yours,

WADE CULWELL, P.E.
DISTRICT ENGINEER

J. A. MC CLELLAND
ENGR. TECHNICIAN V

663-3361

JAM:vjm

cc: Don Foster
File

NOV 2 0 1989

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION

September 28, 1989

Mr. Lavern Squier
WI/SE Partnership for Growth
350 W. Douglas
Wichita, KS 67202-2970

Reference: Site Drainage Review
Tract south of Santa Fe Midland Industrial District
PEC File 32-89484-2570

Dear Mr. Squier:

In accordance with our letter of agreement dated 9/13/89, we have reviewed the drainage at the subject site and have presented our findings in the attached report. If you have any questions, please advise.

Very truly yours,

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

Michael W. Berry

Michael W. Berry, P.E.
Project Engineer

Encl. As noted

MWB/cas

P.S. I would like to know the background related to this.

L. E. A

12-11-89

WICHITA, KANSAS 67211
(316) 262-2691

SITE DRAINAGE REVIEW

3200 Block South Hydraulic
Wichita, Kansas

I. Site Description

The referenced site is an unplatted parcel within the corporate limits of Wichita lying in the northwest quarter of Section 3, Township 28 South, Range 1 East of the Sixth Principal Meridian, Wichita, Sedgwick County, Kansas. It is generally bounded on the west by Hydraulic Avenue, on the south and east by Interstate 135 Highway, and on the north by the extension of 31st Street South. The site currently is under cultivation. The natural topography is quite flat, with some fall from north to south.

II. Existing Drainage Patterns

Drainage of the site under the present conditions is via overland flow to either the I-135 roadside ditch or to the temporary channel recently constructed (1987) to drain the south portion of the Santa Fe Midland Industrial District. The latter channel conveys stormwater drainage from a 48" RCP storm sewer outfall across the site on a 0.00% grade. This channel was intended to drain to an existing 42" CMP culvert in I-135 highway right-of-way. However, construction of the channel was terminated at a point near the right-of-way fence because the Kansas Department of Transportation would not grant permission to construct in their right-of-way.

The only outlet for the parcel under study as well as a 17-acre tract lying to the north is the 42" CMP culvert beneath Interstate 135 Highway. This structure was sized to accommodate agricultural drainage at the time of highway construction, and is equipped with a flapgate to prevent backwater from the Arkansas River from ponding north of the highway.

As shown on the highway plans, its capacity is 56 cubic feet per second with a design headwater elevation of 1275.05. Its capacity is inadequate to convey runoff from a totally industrialized basin.

III. Flood Insurance Study

The site lies near the Arkansas River, with the embankment for Interstate 135 Highway acting as a levee protecting the site. The base flood elevation at cross-section U, lying near the southwest corner of the parcel, is 1275.7. The site is not shown to be in either the floodplain or floodway on the Flood Insurance Study maps. However, if a hydraulic connection across Interstate 135 to the River is made, under flood conditions water would back onto the site, because the existing ground is some three to four feet below this elevation.

IV. Regulatory Requirements

A. Federal Emergency Management Agency

As discussed in Section III above, the site does not lie within the floodplain boundaries of any stream. As such, no floodplain regulations apply.

B. City of Wichita

The City does not have a published policy statement concerning stormwater runoff from developed areas. As a requirement for platting a subdivision, the City requires preparation of a Drainage Plan by a registered professional engineer. Taking the proposed land uses into account, a schematic drainage design is completed, including inlet locations and conduit and/or channel sizes required by which the site will be drained. In development of the Drainage Plan, it must be demonstrated that the 100-year runoff from and through the site can be conveyed on public rights-of-way, i.e. street right-of-way, drainage easements, or drainage dedications. Also, any buildings must be elevated a minimum of one foot above the expected 100-year water surface elevation.

In addition the City will on a case-by-case basis determine if stormwater detention facilities are appropriate on a given site. These facilities are generally designed to reduce the peak rate of runoff from the 100-year storm off the developed basin down to that of the undeveloped state.

As applied to the site in question, it is our opinion that a detention facility would not be advisable due to the proximity to the Arkansas River and due to the site's location in the lower reaches of the river within the City Limits. Without detention, City requirements would require conveyance of the 100-year runoff beneath I-135 to the River, which will require a much larger structure than presently available. Without a positive hydraulic cutoff by means of a sluice gate, the buildings on the site would have to be elevated above the Arkansas River base flood elevation. If a sluice gate is used, provision must be made to provide storage or pumping of runoff while the River is at high stage.

C. Kansas Department of Transportation (KDOT)

The only logical outfall location for this site lies across the I-135 highway. Construction across the right-of-way is governed by the Kansas Department of Transportation Utility Accommodation Policy. Under normal conditions, any new drainage structure must be bored or tunnelled beneath the highway without disruption to highway traffic.

The Department of Transportation is finalizing construction plans to rehabilitate I-135 adjacent to the site. The rehabilitation project involves rerouting of traffic onto a single pair of lanes, removal of the existing pavement, and reconstruction of the pavement. This project will be staged so as to rebuild the northbound and southbound lanes at different times. As such, it provides a unique opportunity to construct a new drainage crossing by conventional cut-and-cover methods.

Contact with KDOT officials indicates that they would be willing to cooperate on such a project, but that funding by KDOT would be limited to reconstruction of the existing 42" CMP culvert at a lower elevation. Construction of a larger structure would have to be borne by an outside agency.

The project is scheduled to be let in January 1990. Actual removal and reconstruction of pavement is not anticipated until spring 1990. As a practical matter, there is not enough time to design a new outfall compatible with any sort of proposed development prior to issuance of final plans for the highway reconstruction project. Time does remain to develop a design for a structure that could be installed concurrent with the highway improvement.

IV. Existing Drainage Study

Drainage on the subject parcel was studied by the Atchison Topeka and Santa Fe Railway Company in 1980-81. This data was presented to the City at that time. The proposed plan provided for a 50-year design and included a detention facility in the northeast corner. A new 48-inch outfall pipe was to be bored and jacked under the interstate highway.

City staff have indicated that the concepts in the present study are acceptable, but that the design requires revision to 100-year standards. Also, complete design computations and documentation were not submitted to the City, and were not available for review in the preparation of this report.

V. Conclusions and Recommendations

Upon a review of the available data concerning drainage, the parcel in question appears to be suitable for development. This statement is made based on the information available; no hydrologic or hydraulic computations have been made above or beyond those already on file; and no data has been checked in the field.

In order to develop this site, the following issues must be dealt with;

a) Provision to either store, detain, or convey the 100-year runoff from and through the site to the Arkansas River beneath I-135.

b) Provision to protect the proposed building(s) from Arkansas River backwater via either 1) elevation above the base flood elevation (BFE); 2) placement of fill over the building site(s) to an elevation above the BFE; 3) or a positive hydraulic cutoff between the river and the site. Under item (3) above, provision must be made to store or pump runoff from and to the site which may occur when the river is in flood condition.

c) Design of parking areas and material storage areas so that each drains well. Upon approval by the City, these areas may be placed in locations subject to backwater from the river provided they do not represent a threat to life and limb.

d) Provision to protect public improvements, i.e. streets, sanitary sewers, and water lines, from backwater from the Arkansas River.

VI. Disclaimer

The statements in this report reflect the best engineering judgment of the author and constitutes his professional opinion. No guarantees are expressed or implied. Statements regarding requirements imposed by regulatory agencies are based on the best available information and may be subject to change.

VII. Reference Documents

1) The Atchison, Topeka and Santa Fe Railway Co., Eastern Lines, Topeka, Kansas. Sheet No. 1, Drawing No. 4867, "Santa Fe Midland Industrial District Storm Drainage Plan," March 2, 1981.

2) City of Wichita, Dept. of Engg. Letter from C.J. Breitenstein to C.L. Holman, Asst. Gen. Mgr. - Engineering, A.T.&S.F. Ry Co., Topeka, KS, July 20, 1981.

3) Federal Emergency Management Agency. Flood Insurance Study, City of Wichita, KS., Community #200328, 2 Vols., May 15, 1986.

4) State Highway Commission, Construction Plans for Proj. No. 35W-87I-35W-1(28)43 Part I, 1959.

Santa Fe Midland Drainage

Alternate		Cost
I	42" Pipe remains 2 - 6'x3.5' RCB @ .23% at Existing FE, There will be ponding on site.	$70,000
II	Replace 42" pipe with 72" pipe /flap gate, FE of Pipe to be ~ 3 - 3.5' lower than Existing FE + grading down stream.	$80,000

Santa Fe Midland

New Criteria $t_c = 30$ min $I_{100} = 5.4$

$Q_{100} = 0.8 \times 5.4 \times 70 = 302$ cfs

Existing 42" pipe to remain which has a capacity of 56 cfs.

Additional capacity required

$= 302 - 56 = 246$ cfs

Need 3 - 48" pipe @ 0.33%

Or 2 - 6' x 3.5' RCB @ 0.23%

Or 1 - 9' x 4' RCB @ 0.23%

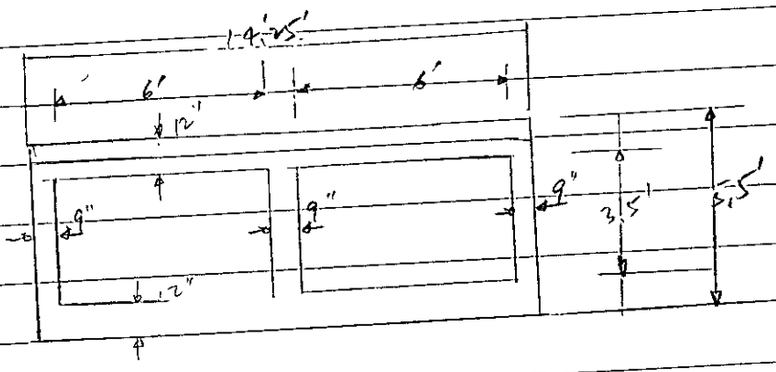
8' x 5'

1 = 72" Pipe

Existing 48" pipe FF is 1.5' below 42" pipe

Assume FF of pipe crossing is to be lowered by 3' — Use 72" pipe

Cost Estimate based on 2 – 6' x 3.5' RCB



For precast box

164' x 2 = 328' of 6' x 3.5' Box

$120 x 328 = $39,360

2 Headwalls @ $10,000/ea

$59,360

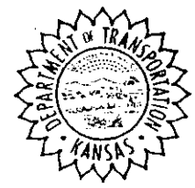
Say $70,000

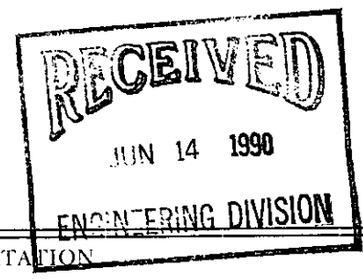
Add Sluice Gate

KDOT Benny

6/18/90
Santa Fe is unwilling to pay at this time.

STATE OF KANSAS





KANSAS DEPARTMENT OF TRANSPORTATION

3200 East 45th Street North
Wichita, Kansas 67220
(316) 744-1271

Horace B. Edwards
Secretary of Transportation

Mike Hayden
Governor of Kansas

June 13, 1990

The Atchison, Topeka and Santa Fe Railway Company
5429 LBJ Freeway, Suite 600
Dallas, Texas 75240-2609

Attn: John Bezzant
Richard Blackford

Dear Sir:

This letter is in reference to the proposed drainage improvements for your property alongside I-135 in Wichita, Kansas. This property is located on the west side of I-135 between Hydraulic Avenue and K-15 Highway. The land currently drains to a channel that ends at the Kansas Department of Transportation's right-of-way fence on I-135. The proposed improvements would allow the channel to dump out onto the K.D.O.T. right-of-way and cross under I-135, flowing east to the Arkansas River, through a new 84" concrete pipe. The City of Wichita has given us a preliminary plan of what should be accomplished to achieve the required drainage and asked K.D.O.T. for a bid price to complete the work.

This area on I-135 is currently being reconstructed under a contract let by K.D.O.T. We have asked our Contractor for a price to complete the proposed drainage. As it stands now, the price would be approximately $150,000. This is assuming that the work can be fit into the normal schedule. Before K.D.O.T. can authorize the work, a Permit Agreement for Highway Right-of-Way Use needs to be submitted and approved. This approval will have to be gained through the Federal Highway Administration as well as K.D.O.T., which could take a minimum of two weeks with a "rush" on it. The Contractor says it will be a minimum of four (4) weeks to get the pipe ordered, manufactured and delivered upon notification to do the work. The longer it takes to get the permit submitted, with finalized plans, the higher the cost will be due to the Contractors work schedule and K.D.O.T.'s time limitations specified in the construction contract.

Chris Breitenstein, City of Wichita, has been our primary contact for all correspondence to date. Please try to proceed with this issue as soon as possible. It will minimize the overall cost in the long run.

If you have any questions, please contact me at your convenience.

Benny P. Tarverdi, P.E.
Area Engineer

Alan G. Farrington, P.E.
Construction Engineer

cc: City of Wichita
Koss Construction Company
file

STATE OF KANSAS

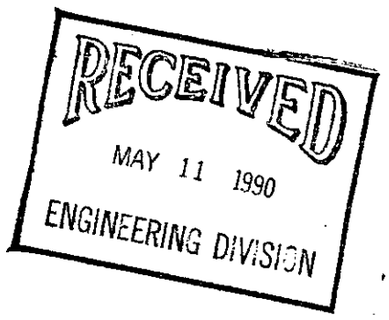
KANSAS DEPARTMENT OF TRANSPORTATION

3200 East 45th Street North
Wichita, Kansas 67220
(316) 744-1271

Horace B. Edwards
Secretary of Transportation

Mike Hayden
Governor of Kansas

May 10, 1990



Ray M. Collins, Vice President
Koss Construction Company
4090 Westown Parkway
W. Des Moines, IA 50265

Re: 135-87 2617-01/IR-BHI-135-1(181)
Sedgwick County

Dear Mr. Collins

A private land owner in conjunction with the City of Wichita has made a request to the Kansas Department of Transportation to cooperate in a change in plans to the 42" C.M.P. cross road pipe at station 136+50 on the above referenced project. Presently, water backs up outside of our right-of-way in a channel on privately owned land to the west of I-135 at station 136+50. The land owner would like the capability to drain their property onto K.D.O.T. right-of-way, but the flowline elevation of the existing 42" C.M.P. is too high to allow drainage from their property, onto K.D.O.T. right-of-way, under I-135, and to the Arkansas River to the east. The City has asked us to obtain a price for each of two alternatives designed to alleviate this problem.
They are as follows:

ALTERNATIVE NO. 1 :

a. Removal and disposal of the existing 42" C.M.P. (166 lin. ft.) at station 136+50.
b. Installation of 200 lin. ft. of 84" R.C.P. to a flowline elevation of 1267.4; at station 136+50.
c. Construction of concrete headwalls at each end of the new pipe with installation of an 84" flapgate in the east headwall. The existing east headwall is to replaced under the present contract, but will need to be enlarged to accommodate the new 84" R.C.P.
d. Earthwork necessary to taper the flowline of the existing/ reconstructed ditches to the new lower flowline elevation.

ALTERNATIVE NO. 2 :

a. Installation of 200 lin. ft. of a new 72" R.C.P. to be located at station 136+00 to a flowline elevation of 1267.4. This is in addition to the existing pipe and its modifications at station 136+50.
b. Construction of headwalls at each end of the 72" R.C.P. with installation of a 72" flapgate in the east headwall.
c. Earthwork necessary to taper the flowline of the existing/ reconstructed ditches to the new lower flowline elevation.

The City and private landowner will be responsible for future construction necessary to drain the water to our right-of-way on the west side and then from our right-of-way to the river on the east side.

Please provide a price for each alternative with a breakdown of items as they are categorized above.

If you have any questions, please call.

Sincerely,
Benny P. Tarverdi, P.E.
Area Engineer

Alan G. Farrington, P.E.
Construction Engineer

cc: Chris Breitenstein, City of Wichita
Project
File

Santa Fe Midland

1. The existing 42" Culvert is too small and too high to drain the property. In order to provide positive drainage this pipe needs to be lowered 3.5 to 4 feet. (see letter of Feb 27, 1990 to KDOT)

The cost for lowering this 42" pipe is

164' pipe removal @ $5/LF =	820
200' of 42" pipe @ $45/LF =	9000
Downstream ditching	$10,000
	$ 19,820 -
	4955
	$ 24,775
say	$ 25,000

2. Replace 42" pipe with a 84" pipe

200' of pipe @ $200/LF =	40,000
2 Headwall @ $10,000 ea =	20,000
1 Flapgate @ $10,000 =	10,000
Downstream Ditching	10,000
	80,000
+25%	20,000
	100,000

3. Leave existg 42" culvert as is, and install an additional 72" pipe

200' @ $150 =	$30,000
2 Headwalls	$20,000
Flapgate	$10,000
Downstream Ditching	$10,000
	70,000
+25%	17,500
	87,500

In summary

1. In order to provide positive drainage the existing 42" culvert needs to be lowered. The cost including downstream grading will be about $25,000

2. In order to have a structure sufficiently sized to handle the developed runoff, a 84" pipe needs to be installed. The cost, including Headwalls and Flapgate, is $100,000 or $75,000 on top of the cost for KDOT.

3. Flapgate may be eliminated if minimum building pad is established 1' above the ~~base flood~~ elev. of the river.

4 If the 42" pipe is left as is, an additional 72" pipe will be needed to drain the property. ~$12,000 may be saved.

February 27, 1990

Mr. Bert Stratmann, Bureau chief
Bureau of Design
Kansas Department of Transportation
Docking State Office Building
Topeka, Kansas 66612-1568

Subject: Project No. 135-87-K2617-01

Dear Mr. Stratmann:

It has come to my attention that you are doing some redesign on the above referenced project prior to re-bidding the project.

I feel it would be in everyone's best interests if the existing 42" culvert approximately midway between Hydraulic and K-15 were lowered as a part of the highway project. I feel if the existing culvert were lowered to an elevation of 1267.4 (approximately 4 feet) it would serve its intended purpose much better than at the current elevation.

Several times over the last few years there have been opportunities for Santa Fe Pacific Realty to sell the property immediately west of your drainage structure. However, the development costs were excessive due to the cost of boring and jacking additional drainage structures and casing pipe under the highway. If additional drainage structure could be incorporated into your project, Santa Fe Pacific Realty might be interested in participating due to the lower costs.

Please provide me with your thoughts on this matter.

Sincerely,

Michael E. Lindebak
City Engineer

CB/MEL:wt

cc: Benny Tarverdi - KDOT

DRAINAGE EASEMENT

A tract of land in the Northwest Quarter of Section 10, Township 28 South, Range 1 East of the Sixth Principal Meridian in Wichita, Sedgwick County, Kansas, being more particularly described as follows:

Beginning at a point on the north line of said Northwest Quarter, said point being 1345.6 feet easterly of the northwest corner of said Northwest Quarter; thence south along the east line of Lot 1, Block 2 of Santa Fe Midland Industrial District as shown on recorded plat extended, a distance of 393.0 feet to a point of curve to the right having a radius of 90.0 feet; thence continuing around said curve; a distance of 62.8 feet to end of said curve; said point being 60.0 feet northwesterly of the northerly property line of Interstate Highway I-35; thence continuing in a southwesterly direction and parallel with said highway property line a distance of 430.0 feet to a point of curve to the left having a radius of 110.0 feet; said point being 60.0 feet northwesterly of the northerly property line of Interstate Highway I-35; thence continuing around said curve a distance of 80.6 feet to end of curve; thence tangent to last described course a distance of 50.0 feet southerly to the intersection of the northerly property line of Highway I-35; thence in a northeasterly direction along said highway property line a distance of 27.8 feet; thence northerly a distance of 22.0 feet to a point of curve to the right having a radius of 90.0 feet; thence continuing around said curve a distance of 65.9 feet, said point being 40.0 feet northwesterly of the northerly property line of Highway I-35; thence northeasterly continuing parallel with said highway property line a distance of 430.0 feet a point of curve to the left having a radius of 110 feet; said point being 40.0 feet northwesterly of the property line of Highway I-35; thence northerly continuing around said curve a distance of 76.8 feet to end of curve; thence continuing in a northerly direction a distance of 393.0 feet to a point on the north line of the Northwest Quarter of Section 10; thence west along said north line a distance of 20.0 feet to the point of beginning, containing 20,118 square feet (0.46 acres) of land; more or less.

Sat Plat.

DRAINAGE EASEMENT

A tract of land in the Southwest Quarter of Section 3, Township 28 South, Range 1 East of the Sixth Principal Meridian in Wichita, Sedgwick County, Kansas, being more particularly described as follows:

Beginning at a point on the south line of said southwest quarter, said point being 1345.6 feet easterly of the southwest corner of said southwest quarter of Santa Fe Midland Industrial District as shown on recorded plat; thence north along the east line of Lot 1, Block 2, a distance of 473.36 feet to the south line of Tulsa Street extended; thence east along the south line of Tulsa Street extended a distance of 20.0 feet; thence south along a line that is 20.0 feet easterly of and parallel to the east line of Lot 1, Block 2, a distance of 473.28 feet to a point on the south line of said southwest quarter; thence west along the south line of said quarter section a distance of 20.0 feet to the point of beginning, containing 9,466 square feet (0.217 acres) of land more or less.

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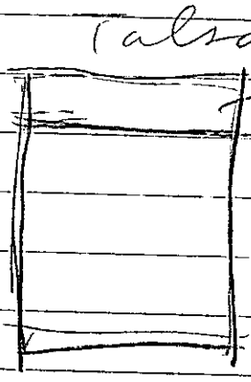
1919 E Tulsa

Lot 1, Block 2, Santa Fe Midland Industrial District Add'n



35' Range Sewer Easement along

Jim Huntley

265-9367

~~Rivera de Cuba~~

~~Parking~~ alley

Midland Industr. Distr.
Runoff Summary, Area 'A'

Boughton	160 CFS peak, 100-yr.
CES 5970 (computer)	130 CFS " "
Mod. Rat'l.	120 CFS " "

City of Wichita	9.3 Ac. Ft. capac. requested
CES 5970 (computer)	7.4 Ac. Ft. calc. (100-yr.)
Capac. of prop. pond*	10.4 Ac. Ft. to F/L prop. pipe

* The depth prop. for the ponding area is based on the height needed to have enough slope for the overflow to drain to existing Hwy. ditches.

Modified
Rational
Formula

RAINFALL RUNOFF FROM WATERSHED OR DRAINAGE AREA

USING SANTA FE RY CO MODIFIED RATIONAL FORMULA

Division: Middle District: _____ Bridge: Area 'A'

Q = C I A

A D. A. (Drainage Area in Acres): 31.3

S (Average Slope of Drainage Area in Ft/Mile): 17

Type of Soil (Soil Classification): Sandy Loam Paved

C (Runoff Coefficient): = 1.00 − (C_1 + C_2 + C_3)

(From Attached Graph) = 1.00 − (0.206 + 0.210 + 0.027) = 0.557

L (Length from bridge to most remote point on DA, Ft): 1500

H (Difference in Elev of most remote point and F/L at Bridge, Ft): 5

Slope = H ÷ L = $\frac{5}{1500}$ = 0.00333

K = L ÷ $\sqrt{\text{Slope}}$ = $\frac{1500}{0.05774}$ = 25981

t (Time of Collection) = 0.0078 x $K^{0.77}$ (From Attached Graph) = 20 Min

D. P. (Design Period - Frequency, Years); Use 50

I (Rainfall to be expected once in the design period) Inches / Hour:

I for 30 (Min) = 2.67

I for 15 (Min) = 1.68

$\frac{1.68}{1.00} \times \frac{5}{15} = \frac{1.68}{0.33}$

$2.01 \times \frac{60}{20} = 6.03$

Design Q = C I A (Rainfall Runoff) cfs:

Q = (0.557)(6.03)(31.3) = 105.1

25 YR = 93

AGM EO Topeka, 10-27-50 date

USE: 105 - 50 YR

100 YR = 117

Modified Rational Formula

RAINFALL RUNOFF FROM WATERSHED OR DRAINAGE AREA

USING SANTA FE RY CO MODIFIED RATIONAL FORMULA

Division: _____ District: _____ Bridge: Area 'B'

$Q = C\ I\ A$

A D. A. (Drainage Area in Acres): 18.7

S (Average Slope of Drainage Area in Ft/Mile): 13

Type of Soil (Soil Classification): Sandy loam & paved

C (Runoff Coefficient): $= 1.00 - (C_1 + C_2 + C_3)$

(From Attached Graph) $= 1.00 - (0.214 + 0.210 + 0.027) = 0.549$

L (Length from bridge to most remote point on DA, Ft): 1,450

H (Difference in Elev of most remote point and F/L at Bridge, Ft): 3.6

$\text{Slope} = H \div L = \frac{3.6}{1,450} = 0.00248$

$K = L \div \sqrt{\text{Slope}} = \frac{1450}{0.04983} = 29,100$

t (Time of Collection) $= 0.0078 \times K^{0.77}$ (From Attached Graph) = 21 Min

D. P. (Design Period - Frequency, Years); Use 50

I (Rainfall to be expected once in the design period) Inches / Hour:

I for 30 (Hr)(Min) = 2.68

I for 15 (Hr)(Min) = 1.68

$\frac{1.68}{1.00} \times \frac{6}{15} = \frac{1.68}{0.40}$

$2.08 \times \frac{60}{21} = 5.94$

Design $Q = C\ I\ A$ (Rainfall Runoff) cfs:

$Q = (0.549)(5.94)(18.7) =$ 61

AGM EO Topeka, date _____

100 Yr. = 68 CFS USE: 61 (50 Yr.)

Modified Rational Formula

RAINFALL RUNOFF FROM WATERSHED OR DRAINAGE AREA

USING SANTA FE RY CO MODIFIED RATIONAL FORMULA

Division: _____ District: _____ Bridge: Area 'C'

$Q = C\ I\ A$

A D. A. (Drainage Area in Acres): 14.0

S (Average Slope of Drainage Area in Ft/Mile): 14

Type of Soil (Soil Classification): Sandy loam & paved

C (Runoff Coefficient): $= 1.00 - (C_1 + C_2 + C_3)$

(From Attached Graph) $= 1.00 - (0.212 + 0.210 + 0.027) = 0.551$

L (Length from bridge to most remote point on DA, Ft): 1,300

H (Difference in Elev of most remote point and F/L at Bridge, Ft): 2.7

$$\text{Slope} = H \div L = \frac{2.7}{1,300} = 0.00208$$

$$K = L \div \sqrt{\text{Slope}} = \frac{1,300}{0.04557} = 28.525$$

t (Time of Collection) $= 0.0078 \times K^{0.77}$ (From Attached Graph) = 21 Min

D. P. (Design Period - Frequency, Years); Use 50

I (Rainfall to be expected once in the design period) Inches / Hour:

I for 30 (Hr)(Min) = 2.68

I for 15 (Hr)(Min) = 1.69

$$\frac{1.69}{1.00} \times \frac{6}{15} = \frac{1.68}{0.40}$$

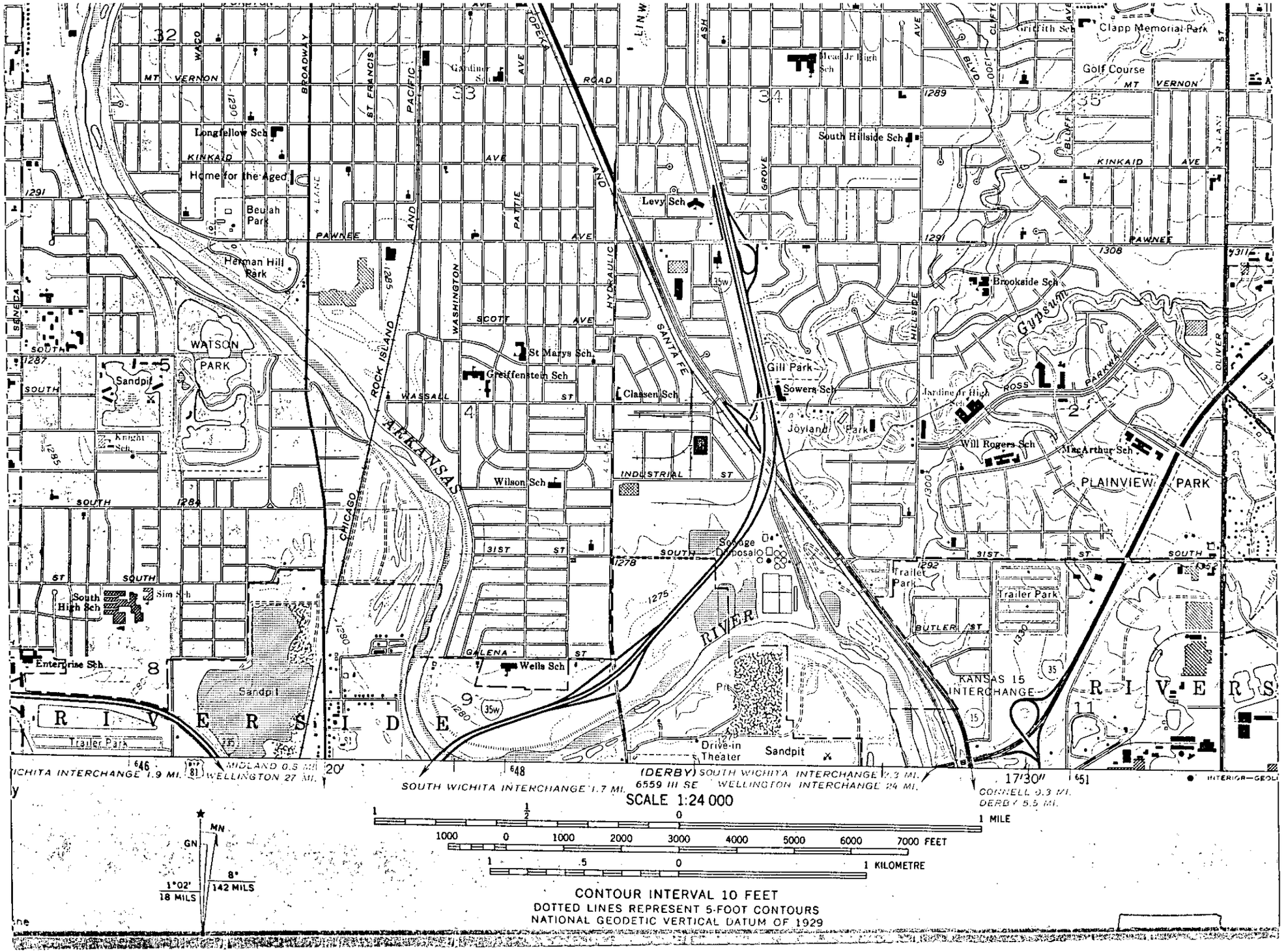
$$2.08 \times \frac{60}{21} = 5.94$$

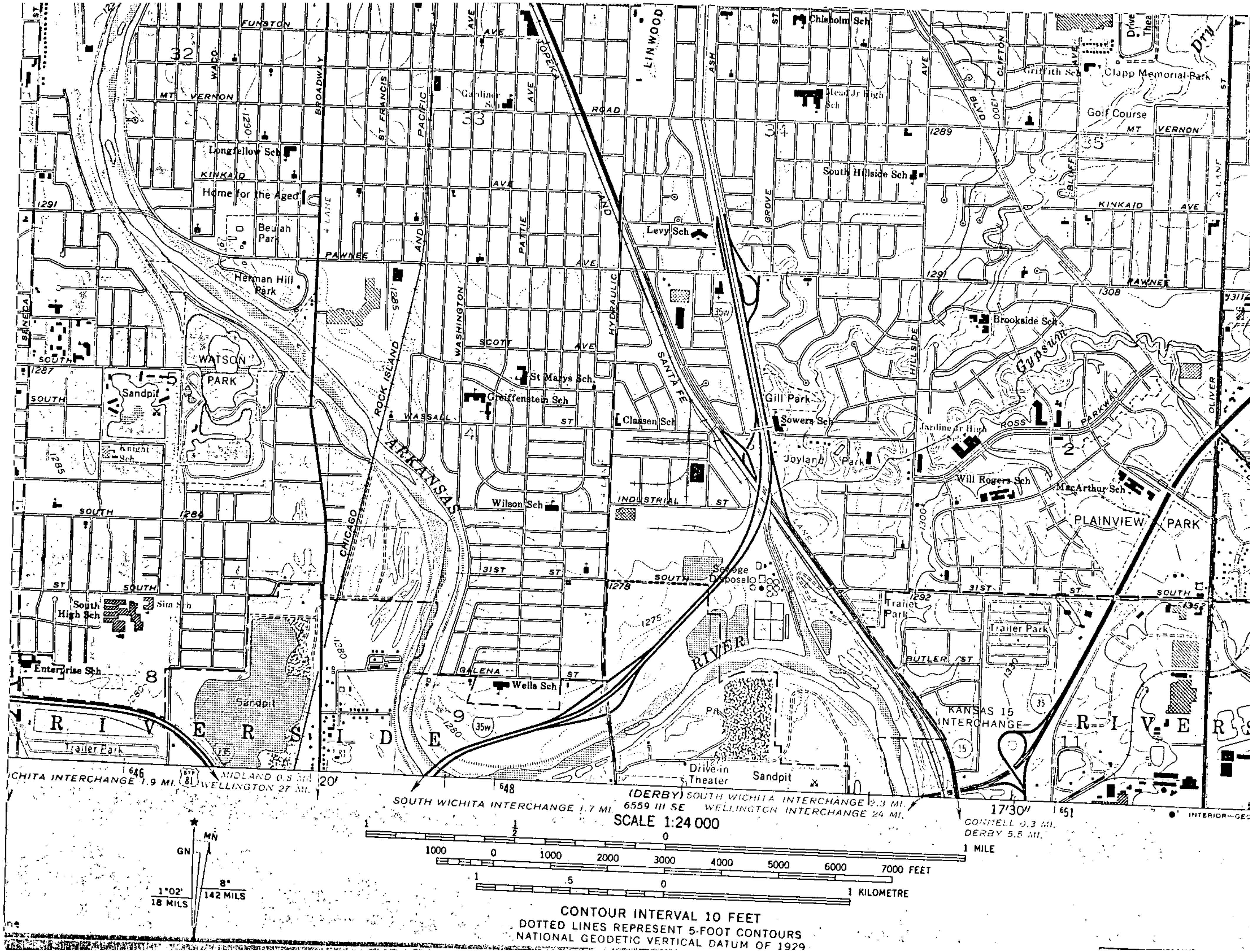
Design $Q = C\ I\ A$ (Rainfall Runoff) cfs:

$Q = (0.551)(5.94)(14.0) =$ 46

AGM EO Topeka, date - - - - -

USE: 100 Yr. = 51 CFS | 46 (50 yr.)


Longfellow Sch
Home for the Aged
Beulah Park
Herman Hill Park
WATSON PARK
Sandpit
Knight Sch
South High Sch
Sim Sch
Enterprise Sch
Sandpit
Trailer Park
Levy Sch
St Marys Sch
Greiffenstein Sch
Claasen Sch
Wilson Sch
Wells Sch
Sewage Disposal
Gill Park
Sowers Sch
Joyland Park
South Hillside Sch
Meade Jr High Sch
Griffith Sch
Clapp Memorial Park
Golf Course
Brookside Sch
Jardine Jr High Sch
Will Rogers Sch
MacArthur Sch
PLAINVIEW PARK
Trailer Park
Trailer Park
Drive-in Theater
Sandpit
KANSAS 15 INTERCHANGE
ARKANSAS RIVER
RIVERSIDE
RIVERS
MT VERNON
KINKAID AVE
PAWNEE AVE
SCOTT AVE
WASSALL ST
INDUSTRIAL ST
31ST ST SOUTH
GALENA ST
BUTLER ST
ROSS PARKWAY
ROCK ISLAND
SANTA FE
HYDRAULIC
CHICAGO
TOPEKA
LINWOOD BLVD
ASH AVE
GROVE
HILLSIDE
BLUFF
OLIVER
WACO
BROADWAY
ST FRANCIS
PACIFIC
PATTIE
WASHINGTON
GYPSUM
MIDLAND 0.5 MI.
WELLINGTON 27 MI.
SOUTH WICHITA INTERCHANGE 1.7 MI.
6559 III SE
WELLINGTON INTERCHANGE 24 MI.
(DERBY) SOUTH WICHITA INTERCHANGE 9.3 MI.
CONNELL 0.3 MI.
DERBY 5.5 MI.
SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETRE
MN
GN
1°02'
18 MILS
8°
142 MILS
CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929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17′30″
RIVERSIDE
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