

MEMO

TO: Mr. Chris Breitenstein, P.E.

PROJECT NO. 36-84596-299

City Hall - 7th Floor

PROJECT: St. Francis Regional

Wichita, KS 67202

Medical Center 2nd Addition

COPIES TO:

ATTN:

DATE: December 11, 1984

Forest Nagley, MAPD

FROM: Charles S. Brown, P.E.

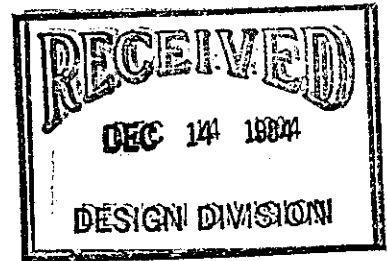
REFERENCE: Drainage Plan

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

Transmitted herewith is one copy of the Drainage Plan for the proposed St. Francis Regional Medical Center 2nd Addition to Wichita.

Since the proposed 2nd Addition is a replat of St. Francis Regional Medical Center Addition, we have just red-marked a print of the original drainage plan to show the new street and storm sewer alignments. We feel that changes to the hydrology and hydraulics of the original system are insignificant and do not warrant recalculation.

If you have any questions, or need any additional information, please advise.



S/D No.: 84-117 Name: ST. FRANCIS REGIONAL MEDICAL CENTER
2ND ADDITION

Preliminary Approved:
Scheduled S/D Meeting: 12/20/84

DESCRIPTION

General Location: North of Murdock between Topeka and Santa Fe.
Owner: St. Francis Regional Medical Center, Inc., P.O. Box 1358,
Wichita, KS 67201
Surveyor/Engineer: Professional Engineering Consultants, P.A.

1. Gross Acreage of Plat: 36.6 Acres +
 2. Number of Lots:
Residential:
Office:
Commercial: 3
Industrial:
Total: 3
 3. Minimum Lot Area: 1.7 Acres +
 4. Existing Zoning: "C"
 5. Proposed Zoning: "C"
-

STAFF COMMENTS:

NOTE: This property is subject to the provisions of Community Unit Plan DP-132. An administrative adjustment to this Community Unit Plan has recently been granted which permits the 10th Street/Santa Fe alignment changes subject to the submission of revised Community Unit Plan copies and replatting within six months. The primary purpose of this replat is to provide a greater turning radius for the 10th Street/Santa Fe intersection, and to move the curve in Santa Fe (south of Lot 1, Block 1) approximately 77 feet to the south.

- A. The applicant shall guarantee the abandonment of the sanitary sewer lateral on Lot 1, Block 2, which is not being covered by an easement.
- B. The applicant shall obtain, by separate instrument, the contingent street dedication indicated near the southeast corner of Lot 2, Block 1. The applicant, or his agent, shall be prepared to advise the Committee of the terms of the proposed contingency.
- C. The applicant shall dedicate, by separate instrument, the off-site street dedication indicated near the southeast corner of Lot 2, Block 1.
- D. The pavement of Santa Fe Street, south of 9th Street, is now proposed to be 29 feet rather than 27 feet. The applicant shall repetition for the pavement of Santa Fe from 9th to St. Francis.
- E. The final plat shall reference, in the platlor's text, the 14.5-foot contingent dedication for Santa Fe Street as indicated on Lot 1, Block 1.
- F. As this plat proposes the vacation of portions of the original St. Francis plat, proper reference to K.S.A. 12-512(b) shall be made on the final plat.
- G. For those improvements guaranteed by petition, a notarized certificate shall be submitted which lists the petitions.
- H. The turning radius for 10th Street is being increased to nearly 120 feet by this replat. The representative from the City Engineer's office should be prepared to comment on the need for a new intersection paving petition.
- I. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision REGULATIONS.
- J. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

S/D No.: 84-117 Name: ST. FRANCIS REGIONAL MEDICAL CENTER
2ND ADDITION

Preliminary Approved: 12/20/84
Scheduled S/D Meeting: 1/31/85

DESCRIPTION

General Location: North of Murdock between Topeka and Santa Fe.
Owner: St. Francis Regional Medical Center, Inc., P.O. Box 1358,
Wichita, KS 67201
Surveyor/Engineer: Professional Engineering Consultants, P.A.

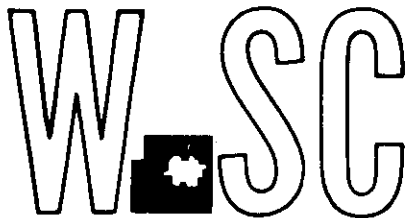
1. Gross Acreage of Plat: 35.8 Acres
 2. Number of Lots:
 - Residential:
 - Office:
 - Commercial: 3
 - Industrial:
 - Total: 3
 3. Minimum Lot Area: 1.7 Acres +
 4. Existing Zoning: "C"
 5. Proposed Zoning: "C"
-

STAFF COMMENTS:

- NOTE: This property is subject to the provisions of Community Unit Plan DP-132. An administrative adjustment to this Community Unit Plan has recently been granted which permits the 10th Street/Santa Fe alignment changes subject to the submission of revised Community Unit Plan copies and replatting within six months. The primary purpose of this replat is to provide a greater turning radius for the 10th Street/Santa Fe intersection, and to move the curve in Santa Fe (south of Lot 1, Block 1) approximately 77 feet to the South.
- A. The applicant shall guarantee the abandonment of the sanitary sewer lateral on Lot 1, Block 2, which is not being covered by an easement.
 - B. The applicant shall obtain, by separate instrument, the contingent street dedication indicated near the southeast corner of Lot 2, Block 1. The applicant, or his agent, shall be prepared to advise the Committee of the terms of the proposed contingency.
 - C. The applicant shall dedicate, by separate instrument, the off-site street dedication indicated near the southeast corner of Lot 2, Block 1.
 - D. The pavement of Santa Fe Street, south of 9th Street, is now proposed to be 29 feet rather than 27 feet. The applicant shall repetition for the pavement of Santa Fe from 9th to St. Francis.
 - E. The applicant shall repetition for the 10th Street and Santa Fe intersection paving.
 - F. For those improvements guaranteed by petition, a notarized certificate shall be submitted which lists the petitions.
 - G. On the final plat tracing, the signature block for the County Commission shall be filled out in the following order:
 1. DONALD E. GRAGG
 2. BERNARD A. HENTZEN
 3. TOM SCOTT
 - H. On the final plat tracing, the Deputy to the Register of Deeds shall be indicated as ED RESA. The County Clerk is DON WRIGHT.

- I. Regarding the exception indicated to the west of this lot, the final plat tracing shall indicate this exception as being "part of Lot 1, Block 1, St. Francis Regional Medical Center Addition."
- J. Closure computations shall be submitted with the final plat tracing.
- K. Recording of the plat within 30 days after approval by the Board of City Commissioners.

WICHITA—SEDGWICK COUNTY



METROPOLITAN AREA PLANNING
COMMISSION

CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561



December 21, 1984

Mr. Gary Wiley
Professional Engineering Consultants, P.A.
1440 East English
Wichita, KS 67211

Re: S/D 84-117 - Preliminary Plat of St. Francis Regional
Medical Center 2nd Addition

Dear Gary:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on Thursday, December 20, 1984, the above-captioned plat was considered. The action of the Committee was to approve the preliminary and authorize preparation of the final plat, subject to the following:

- A. The applicant shall guarantee the abandonment of the sanitary sewer lateral on Lot 1, Block 2, which is not being covered by an easement.
- B. The applicant shall dedicate, by separate instrument, the off-site street dedication indicated near the southeast corner of Lot 2, Block 1.
- C. The applicant shall obtain, by separate instrument, the contingent street dedication indicated near the southeast corner of Lot 2, Block 1. The contingency shall be based on removal of the existing structure. An appropriate date by which time the structure must be removed shall be specified.
- D. The pavement of Santa Fe Street, south of 9th Street, is now proposed to be 29 feet rather than 27 feet. The applicant shall repetition for the pavement of Santa Fe from 9th to St. Francis.
- E. The final plat shall reference, in the plat's text, the 14.5-foot contingent dedication for Santa Fe Street as indicated on Lot 1, Block 1.

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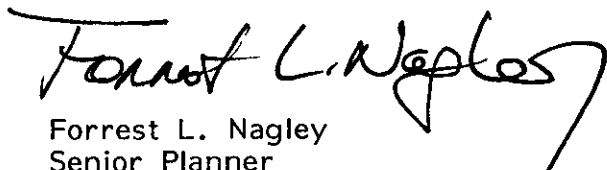
Mr. Gary Wiley
Professional Engineering Consultants, P.A.
Re: S/D 84-117 - Preliminary Plat of St. Francis Regional
Medical Center 2nd Addition
December 21, 1984
Page 2

- F. As this plat proposes the vacation of portions of the original St. Francis plat, proper reference to K.S.A. 12-512(b) shall be made on the final plat.
- G. For those improvements guaranteed by petition, a notarized certificate shall be submitted which lists the petitions.
- H. The applicant shall repetition for the 10th Street and Santa Fe intersection paving.
- I. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations.
- J. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

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

If you should have any questions, please call.

Sincerely,

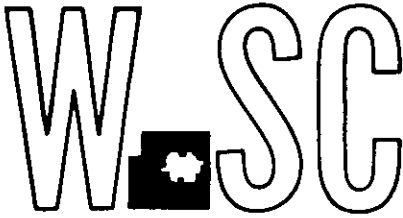


Forrest L. Nagley
Senior Planner

FLN:mlh

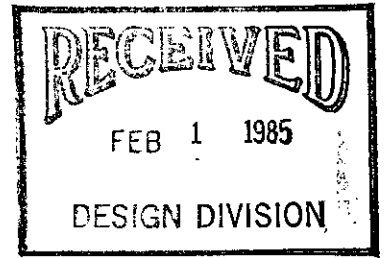
cc: Mr. Alan McLeod, St. Francis Regional Medical Center, Inc.,
P.O. Box 1358, Wichita, KS 67201
Mike Lindebak, City Engineer

WICHITA--SEDGWICK COUNTY



METROPOLITAN AREA PLANNING
COMMISSION

CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561



February 1, 1985

Mr. Gary Wiley
Professional Engineering Consultants, P.A.
1440 East English
Wichita, KS 67211

Re: S/D 84-117 - Final Plat of St. Francis Regional
Medical Center 2nd Addition

Dear Mr. Wiley:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on Thursday, January 31, 1985, the above-captioned plat was considered. The action of the Committee was to recommend that this plat be approved subject to:

- A. The applicant shall guarantee the abandonment of the sanitary sewer lateral on Lot 1, Block 2, which is not being covered by an easement.
- B. The applicant shall obtain, by separate instrument, the contingent street dedication indicated near the southeast corner of Lot 2, Block 1. The applicant, or his agent, shall be prepared to advise the Committee of the terms of the proposed contingency.
- C. The applicant shall dedicate, by separate instrument, the off-site street dedication indicated near the southeast corner of Lot 2, Block 1.
- D. The pavement of Santa Fe Street, south of 9th Street, is now proposed to be 29 feet rather than 27 feet. The applicant shall repetition for the pavement of Santa Fe from 9th to St. Francis, including necessary drainage.
- E. The applicant shall repetition for the 10th Street and Santa Fe intersection paving.
- F. For those improvements guaranteed by petition, a notarized certificate shall be submitted which lists the petitions.

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Mr. Gary Wiley
Professional Engineering Consultants, P.A.
Re: S/D 84-117 - Final Plat of St. Francis Regional Medical
Center 2nd Addition.
February 1, 1985
Page 2

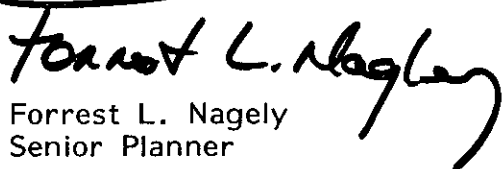
- G. On the final plat tracing, the signature block for the County Commission shall be filled out in the following order:
1. DONALD E. GRAGG
 2. BERNARD A. HENTZEN
 3. TOM SCOTT
- H. On the final plat tracing, the Deputy to the Register of Deeds shall be indicated as ED RESA. The County Clerk is DON WRIGHT.
- I. Regarding the exception indicated to the west of this lot, the final plat tracing shall indicate this exception as being "part of Lot 1, Block 1, St. Francis Regional Medical Center Addition."
- J. Closure computations shall be submitted with the final plat tracing.
- 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. The certificate will be required if petitions are submitted. 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, February 7, 1985 at 1:30 p.m. If you have any questions concerning this matter, please call.

Sincerely,


Forrest L. Nagely
Senior Planner

FLN:mlh

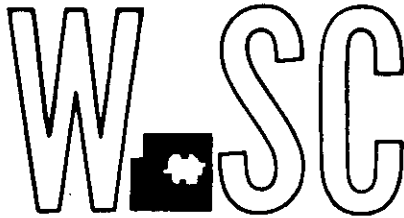
cc: Mr. Alan McLeod, St. Francis Regional Medical Center, Inc.,
P.O. Box 1358, Wichita, KS 67201
✓ Mike Lindebak, City Engineer

- d. Exist. St. Francis from the South: One 18" lead between inlets will be eliminated. Existing street is platted as drainage easement.
16. Some type of "delineation" is required to differentiate between public and private streets at the St. Francis south connection. This is used by the Police Department in the field for accident reporting.
17. Intersection shading for quantity calculations is not required for "arterial type" street projects.
18. Curb and Gutter types should be as few as possible. Where the gutter pan slope is adverse, it should be noted as "special," but no separate bid item is to be used.
19. Utilities will be processed thru the ULCC method.
20. A set of plans were submitted to D. Brewer on 6/7/85 for televising of existing sewers to remain.
21. PEC requested time to assess the issue of pavement width and other geometric changes.

Two (2) copies of a Drainage Map are being forwarded with this memo for your files.

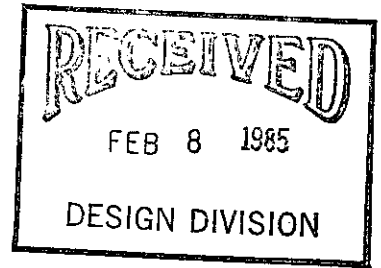
MWB/mkm

WICHITA—SEDGWICK COUNTY



METROPOLITAN AREA PLANNING
COMMISSION

CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561



February 7, 1985

Mr. Gary Wiley
Professional Engineering Consultants, P.A.
1440 East English
Wichita, KS 67211

C
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P
Y

Re.: S/D 84-117 - Final Plat of St. Francis Regional Medical
Center 2nd Addition

Dear Mr. Wiley:

At the regular meeting of the Metropolitan Area Planning Commission on Thursday, February 7, 1985, the above-captioned plat was considered. The action of the Planning Commission was to recommend that the plat be approved as recommended by the Subdivision Committee subject to the conditions stated in our letter of February 1, 1985.

In addition to complying with those 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. Submission of the fully completed and signed tracing of the subdivision to the Metropolitan Area Planning Department.
2. Submission of a title report by an abstract or title insurance company or an attorney's opinion that fee title is vested in the plattor.
3. Certification that all real estate taxes for 1984 (both first and second halves) and prior years have been paid.

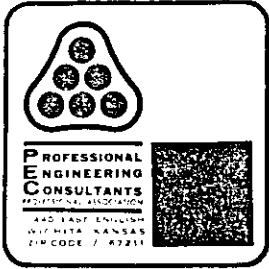
Please call if you have any questions.

Very truly yours,

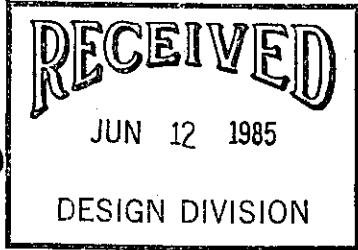
Barbara R. Bonanni
Junior Planner

BRB:mlh

cc: Alan McLeod, St. Francis Regional Medical Center., Inc., P.O. Box 1358,
Wichita, KS 67201
Mike Lindebak, City Engineer



MEMO



TO: File

PROJECT NO. 32-84131-042

PROJECT: St. Francis Ave &
Santa Fe Ave Relocation

ATTN:

DATE: 6/7/85

COPIES TO:

M.E. Lindebak, P.E.

FROM: Michael W. Berry, P.E.

D.E. Schneider, P.E.

REFERENCE: Design Concept Review

Project No: 472-76-245-81241-000-000-001

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

The Design Concept Review Meeting was held 6/7/85, at 10 a.m., at the MAPD - Design Division offices. In attendance were the following:

C. Gipson, P.E.

M. Berry, P.E.

C.O.W.

P.E.C., P.A.

D. Schneider, P.E.

B. Rensberg, P.E.

Several topics were discussed. The following is a summary of the important topics.

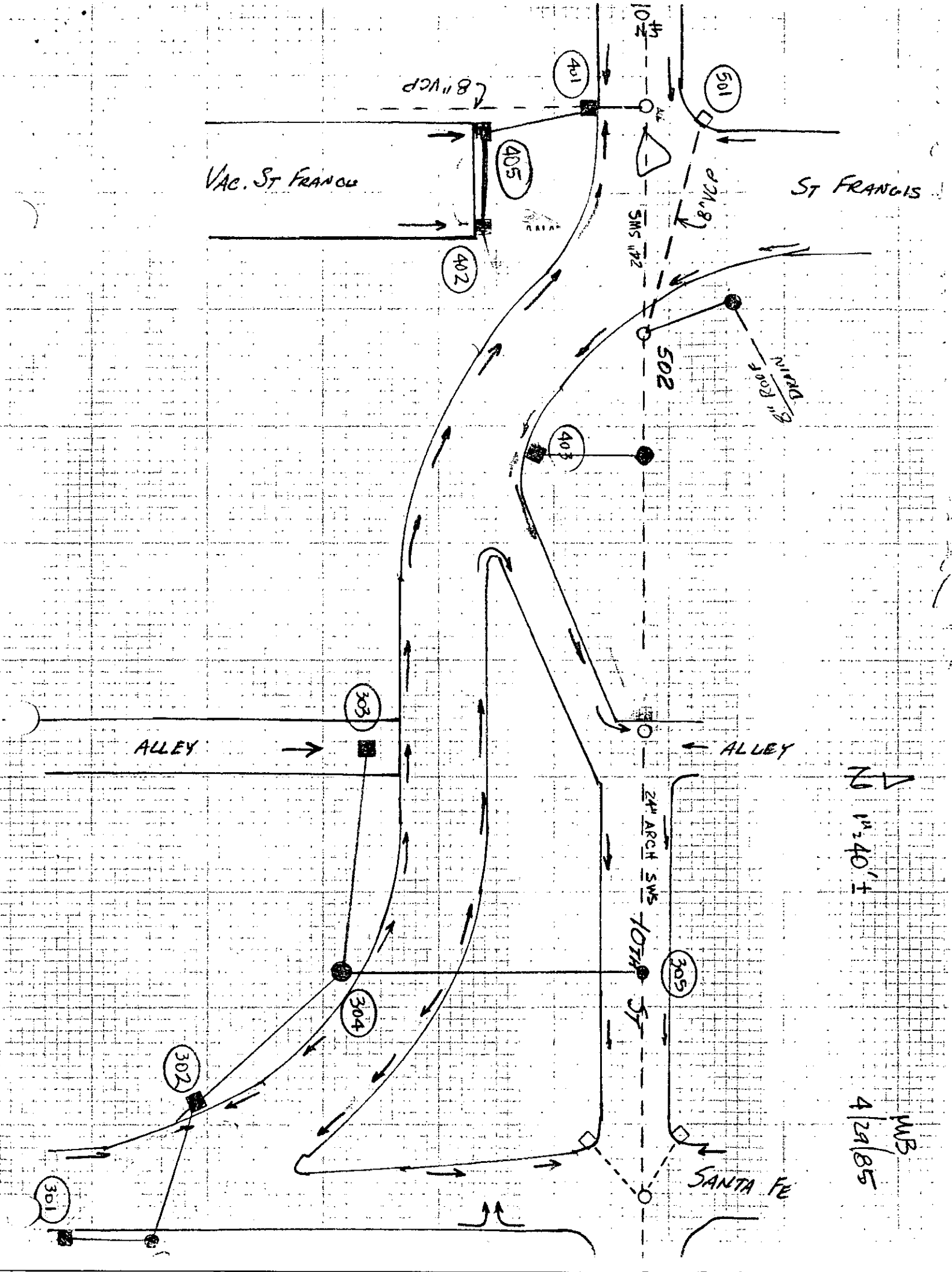
1. C.O.W. staff would like a 5' drainage easement Rt Sta 10+42 to Sta 11+75. The 36" SWS lies extremely close to the R.O.W. line.
2. A traffic signal pedestal at the NE corner of Murdock & St Francis requires relocation. A check will be made with Traffic Engineering as to whether the paving contract will provide for said relocation.
3. The question was raised as to the design speed for the mainline curves ($R = 134$ ft, Superelevation = $3/8$ in/ft = 0.03125 ft/ft). On Fig III-17, Page 213 of A Policy on Geometric Design of Highway & Streets, 1984, entering with $e = 0.03125$, intercepting an interpolated line for $R = 134$; find $V_d = 24.5$ mph. The design speed should be taken as 20 mph.
4. C.O.W. staff requests sidewalk along the west side of Santa Fe from St. Francis to Ninth. The minimum parking width should be 10 ft. This will require either sidewalk construction on private property or granting of a sidewalk easement. The decision on which option will be taken shall be left up to St. Francis.

5. Storm sewer manhole Rt Sta 14+75 should be moved further back from curb.
 6. A ditch inlet will be added Rt Sta 16+00 to pick up the railroad ditch along the west side of the ATSF tracks.
 7. PEC will further investigate Ninth Street R.O.W. west of the west line of Santa Fe Street.
 8. The northeast return at 9th & Santa Fe will be revised to a 20' radius. The southwest and southeast returns will remain 10' returns to avoid conflict with existing improvements.
 9. The half-width street replacement at 10th and Santa Fe shall match the existing surface.
 10. Traffic engineering requests revision of the connection of the Santa Fe extension to the mainline (Sta 29+00).
 11. A slotted drain inlet was approved for the alley between Santa Fe and St. Francis. If Armco cannot fabricate an 18-inch slotted drain from 12-ga material, a superceeding specification will be required.
 12. Sidewalk is requested by C.O.W. staff on the southerly side from the building Lt Sta 29+00 to St. Francis, to be constructed at the R.O.W. line.
 13. An alley entrance instead of drive entrance shall be constructed Lt Sta 30+88.
 14. C.O.W. staff requests wheelchair ramps to be constructed in the NE and NW quadrants of 10th & St. Francis to serve east-west pedestrian movements.
 15. Drainage at 10th & St. Francis:
 - a. NW Cor: The existing 8" VCP inlet lead will be replaced. Minimum size is 12". Relocation of SWBT duct will be required if 12" leads cannot be accomodated. Due to minimal earth cover over the leads, ductile iron pipe is suggested. If possible, the lead will run south to proposed manhole to minimize the length of run.
 - b. NE Cor: Construct a junction box structure to intercept the 8" roof drain and replace inlet lead with 8" PVC.
 - c. SW Cor: Intercept 8" VCP in west parking of St. Francis with bend and route to proposed inlet. Use of the 38" X 24" RCPHE may overtax the existing outfall. If this is a problem, Sewer Maintenance can install some type of throttling device until such time as an improved outfall is constructed.
-

- d. Exist. St. Francis from the South: One 18" lead between inlets will be eliminated. Existing street is platted as drainage easement.
16. Some type of "delineation" is required to differentiate between public and private streets at the St. Francis south connection. This is used by the Police Department in the field for accident reporting.
17. Intersection shading for quantity calculations is not required for "arterial type" street projects.
18. Curb and Gutter types should be as few as possible. Where the gutter pan slope is adverse, it should be noted as "special," but no separate bid item is to be used.
19. Utilities will be processed thru the ULCC method.
20. A set of plans were submitted to D. Brewer on 6/7/85 for televising of existing sewers to remain.
21. PEC requested time to assess the issue of pavement width and other geometric changes.

Two (2) copies of a Drainage Map are being forwarded with this memo for your files.

MWB/mkm



CONTINGENT DEDICATION

WHEREAS, St. Francis Health Corporation, is the owner of the following described tract of land:

Beginning at a point in the north line and 12.26 feet west of the NE corner of lot 40, on 5th Avenue (now Santa Fe Avenue), in Thomas Addition, to Wichita, Sedgwick County, Kansas, thence parallel to and 12.26 feet west of the west line of Santa Fe Avenue bearing S 0°19'14" W a distance of 50.00 feet to a point on the south line and 12.26 feet west of the SE corner of lot 38, Santa Fe Avenue, in said Thomas Addition; thence northwesterly on a curve to the left having a radius of 105.00 feet and a chord of 51.54 feet, bearing N 13°53'14" W through a central angle of 28°24'56", an arc distance of 52.07 feet to a point in the north line of said lot 40; thence bearing S 89°50'09" E along said north line a distance of 12.65 feet to the point of beginning.

and

WHEREAS, St. Francis Health Corporation, desires to make a contingent dedication of the above described real estate for street right-of-way purposes, but, at the present time, there is a building located on the above described real estate;

and

WHEREAS, it is the intention of St. Francis Health Corporation, to dedicate to the public the above described real estate for street right-of-way purposes, effective on December 1, 1987, or earlier if the building is removed at an earlier date.

NOW, THEREFORE, St. Francis Health Corporation, hereby dedicates the above described real estate to the public, for street right-of-way purposes, this Contingent Dedication shall become, without further notice or act, in full force and effect on December 1, 1987, or upon removal of the existing building.

This Contingent Dedication shall be a covenant running with the land and shall be binding upon St. Francis Health Corporation, its successors and assigns and any and all subsequent owners of any part of the above described real estate.

Executed this 16th day of August, 1985.

St. Francis Health Corporation

Sister M. Sylvia Egan

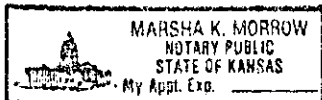
State of Kansas

SS

County of Sedgwick

Personally appeared before me a Notary Public, in and for the County and State aforesaid came St. Francis Health Corporation, Sister M. Sylvia Egan, on behalf of the Corporation, 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 16 day of August, 1985



Marsha K. Morrow
Notary Public

My Commission Expires:

5-8-89

DEDICATION

KNOW ALL MEN BY THESE PRESENTS:

That for and in consideration of the sum of One Dollar (\$1.00) and other good and valuable considerations, the receipt of which is hereby acknowledged, the undersigned, St. Francis Health Corporation

being the owner of the following described real estate in Sedgwick County, Kansas, to wit:

The east 12.26' of lots 38 and 40, 5th Avenue (now Santa Fe Avenue), Thomas Addition, Wichita, Sedgwick County, Kansas.

do hereby dedicate the above described real estate to the public for street purposes.

Executed this 16th day of August, 1985.

St. Francis Health Corporation

[Signature]

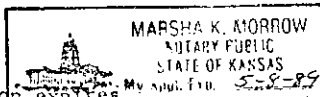
STATE OF KANSAS)
SEDGWICK COUNTY) SS

BE IT REMEMBERED, that on this 16th day of August, 1985, before me a Notary Public in and for the said County and State came

St. Francis Health Corporation, Sister M. Sylvia Egan

to me personally known to be the same person who executed the foregoing instrument and duly acknowledged the execution of the same.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my official seal, the day and year last above written.



[Signature]
Notary Public

My Commission expires

THE CITY OF WICHITA

OFFICE OF MAPD-DESIGN

DATE September 5, 1985

TO Forrest Nagley, Senior Planner

FROM Larry Henry, Program Development Engineer

SUBJECT St. Francis Regional Medical
Center 2nd Addition

The required petitions for the above-referenced addition have been received.

Larry Henry
Program Development Engineer

LH:mgr

TRANSMITTAL

TO: Forrest Nagley

FROM: Mike Lindebak, City Engineer

CITY OF WICHITA
CITY ENGINEER'S OFFICE
455 N. MAIN, 7TH FLOOR
WICHITA, KANSAS 67202

TELEPHONE: 4266 or (316) 268-4501

PROJECT TITLE:

N/A

PROJECT NUMBER:

N/A

DATE:

March 18, 1987

THE FOLLOWING ITEMS ARE BEING TRANSMITTED TO YOU:

- Plans, prints or tracings Specifications Certificate of Insurance Petition
 Change order Correspondence Agreement form
 Other Easement

THE ITEMS ARE BEING TRANSMITTED FOR THE FOLLOWING PURPOSE:

- For your approval and signature For your files For your use
 For your review and resubmittal Returned for revisions To advise of approval
 Other _____

COMMENTS:

We have no objection to accepting the attached easement across a portion of St. Francis Regional Medical Center 2nd Addition.

/JLL:ms
Attachment
cc: Carl Gipson, Civil Engineer

EASEMENT

THIS EASEMENT made this 6th day of March, 1987,
by and between St. Francis Regional Medical Center, Inc.
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 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 all public utilities, over, along and under the following described real estate situated in Sedgwick County, Kansas, to wit:

The east 20' of Lot 1, Block 2, St. Francis Regional Medical Center 2nd Addition.

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 said public utilities.

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

St. Francis Regional Medical Center, Inc.

Sr. M. Sylvia Egan, President

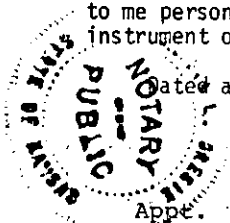
Sr. M. Sylvia Egan

STATE OF KANSAS) SS
SEDGWICK COUNTY)

Personally appeared before me a notary public in and for the County and State aforesaid Sr. M. Sylvia Egan, as President and Chief Executive Officer of St. Francis Regional Medical Center, Inc.

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 6th day of March 1987.



Sandra L. Dresie
Notary Public

(My Commission expires November 28, 1988)

SANITARY SEWER PIPE SIZING CALCULATIONS

DATA :

EXISTING MANHOLE IN 9TH ST.
FLOW LINE ELEVATION = 108.80 FT.

9/22/67 EXISTING MANHOLE IN MURDOCK
FLOW LINE ELEVATION = 107.55 FT.

DIFFERENCE = 1.25 FT

*Use 21" PVC based on
Burns & McDonnell Study of
Sanitary Sewer Districts 1&20
North of Douglas.*

ELB EXISTING LENGTH OF 18" SANITARY SEWER LINE
FROM 9TH ST. TO MURDOCK = 1,440 FT.

EXISTING SLOPE = $1.25 / 1,440 = 0.086\%$

PROPOSED LENGTH OF NEW SANITARY SEWER LINE
FROM 9TH ST. MANHOLE WEST TO TOPEKA, THEN
SOUTH ALONG TOPEKA TO MURDOCK AND THEN
EAST TO EXISTING MANHOLE = 2,300 FT.

PROPOSED SLOPE = $1.25 / 2,300 = 0.054\%$

BASIS :

ASSUME EXISTING PIPE RUNS 2/3 FULL (REF: WICHITA
CITY DESIGN REQUIREMENTS)

ASSUME ABSOLUTE ROUGHNESS FOR EXISTING PIPE = 0.02
FOR OLD CONCRETE PIPE (REF: MARKS HANDBOOK)

ASSUME ABSOLUTE ROUGHNESS FOR NEW PIPE = 0.005
(REF: MARKS HANDBOOK)

CALCULATIONS :

USING DARCY - WEISBACH EQUATION

$$H_f = \frac{f \times L \times V^2}{4m \times 2g}$$

FOR EXISTING PIPE :

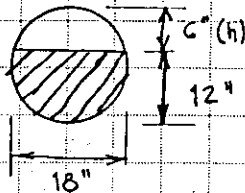
$$H_f = 1.25 \text{ FT. HEAD DIFFERENCE}$$

f = FOR RELATIVE ROUGHNESS OF 0.013 (0.02 ÷ 1.5)
 AND REYNOLDS NO. OF 10⁴ THE VALUE OF
 f WILL BE 0.046 (REF: MARKS HANDBOOK)

$$L = 1.440 \text{ FT LENGTH}$$

$$g = 32.2 \text{ ACCELERATION OF GRAVITY}$$

$$m = \text{HYDRAULIC RADIUS} = \text{AREA} \div \text{WETTED PERIMETER}$$



$$\frac{h}{D} = \frac{6}{18} = 0.333$$

$$\text{TOP ARC} = 1.2239 \times \text{DIAMETER}$$

$$\text{TOP AREA} = 0.2260 \times (\text{DIAMETER})^2$$

(REF: MARKS HANDBOOK)

$$\text{TOP ARC} = 1.2239 \times 1.5 = 1.836 \text{ FT}$$

$$\text{TOTAL PERIMETER} = \pi \times D = \pi \times 1.5 = 4.714 \text{ FT}$$

$$\text{BOTTOM ARC} = \text{TOTAL PERIMETER} - \text{TOP ARC}$$

$$= 4.714 - 1.836 = 2.878 \text{ FT}$$

$$\text{TOP AREA} = 0.2260 \times (1.5)^2 = 0.508 \text{ FT}^2$$

$$\text{TOTAL AREA} = \frac{\pi}{4} \times D^2 = \frac{\pi}{4} \times (1.5)^2 = 1.768 \text{ FT}^2$$

$$\text{BOTTOM AREA} = \text{TOTAL AREA} - \text{TOP AREA}$$

$$= 1.768 - 0.508 = 1.26 \text{ FT}^2$$

$$\text{HYDRAULIC RADIUS} = 1.26 \div 2.878 = 0.438$$

$$1.25 = \frac{0.046 \times 1,440 \times V^2}{4 \times 0.438 \times 2 \times 32.2} = 0.587 V^2$$

$$V^2 = 1.25 \div 0.587 = 2.13$$

$$V = \sqrt{2.13} = 1.46 \text{ FT/SEC.}$$

$$\begin{aligned} \text{CAPACITY OF PIPE} = Q &= A \times V = 1.26 \times 1.46 \\ &= 1.84 \text{ CUFT/SEC} \end{aligned}$$

FOR NEW PIPE :

$$Q = A \times V \quad 1.84 = A \times V$$

$$H_f = 1.25 \text{ FT.}$$

f = FOR RELATIVE ROUGHNESS OF 0.0033 (0.005 - 1.5)
AND REYNOLDS NO. OF 2×10^4 THE VALUE OF
 f WILL BE 0.03

$$L = 2,300 \text{ FT.}$$

$$g = 32.2$$

$$M = \text{HYDRAULIC RADIUS}$$

$$1.25 = \frac{0.03 \times 2,300 \times V^2}{4 \times M \times 2 \times 32.2} = \frac{0.268 V^2}{M}$$

$$1.25 M = 0.268 V^2$$

ASSUMING A 18" DIAMETER PIPE

MASSAGLIA-NEUSTROM-BREDSON, INC.
CONSULTING ENGINEERS
800 EAST 101ST TERR.
KANSAS CITY, MO. 64131
(816) 941-2300

JOB SFRMC - SANITARY SEWER
SHEET NO. (4) OF 4
CALCULATED BY JSL DATE 9/3/87
CHECKED BY _____ DATE _____
SCALE # 4648

$$1.25 \times 0.438 = 0.266 V^2$$

$$V^2 = 2.043 \quad V = 1.43 \text{ FT/SEC}$$

$$Q = \text{CAPACITY} = A \times V = 1.26 \times 1.43 \\ = 1.80 \text{ WFT/SEC}$$

THE CAPACITY OF NEW 18" PIPE
IS ALMOST SAME AS EXISTING. SO USE 18" PIPE FOR
THE PROPOSED ROUTING.

CONCLUSIONS :

18" PIPE REQUIRED FOR NEW ROUTING

**MASSAGLIA.NEUSTROM.BREDSON, INC.
CONSULTING ENGINEERS**

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KANSAS CITY, MO. 64131

(816) 941-2300

LETTER OF TRANSMITTAL

TO CITY ENGINEER'S OFFICE
CITY HALL, 7TH FLOOR
455 NORTH MAIN STREET
WICHITA, KS 67202

DATE	SEPT. 14, 1987	JOB NO.	4648
ATTENTION	MR. CARL GIPSON, P.E.		
RE:	ST. FRANCIS REGIONAL MED. CENTER		
	SAN. SEWER RE-ROUTING		

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

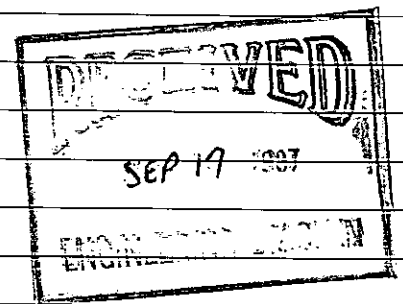
- Shop drawings Prints Plans Samples Specifications
 Copy of letter Change order CALCULATIONS

COPIES	DATE	NO.	DESCRIPTION
2	9/3/87	--	SANITARY SEWER PIPE SIZING CALCULATION

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 PLEASE ESTIMATE PRELIMINARY COSTS FOR NEW 18" LINE.
PLEASE CALL ME IF YOU HAVE ANY QUESTIONS.



COPY TO _____

SIGNED: J. Limaye

JAYANT S. LIMAYE, P.E.

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FLOW LINE ELEVATION = 108.80 FT.

EXISTING MANHOLE IN MURDOCK
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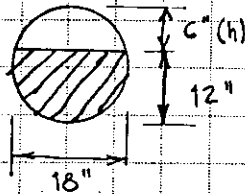
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$$1.25 M = 0.268 V^2$$

ASSUMING A 16" DIAMETER PIPE

MASSAGLIA-NEUSTROM-BREDSON, INC.
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$$Q = \text{CAPACITY} = A \times V = 1.26 \times 1.43 \\ = 1.80 \text{ CFS/SEC}$$

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CONCLUSIONS :

18" PIPE REQUIRED FOR NEW ROUTING