



Word of Life Church

WHERE YOU'LL ALWAYS GET THE WORD

September 8, 1999

RE: Word of Life Elementary School

To Whom It May Concern:

We request reconsideration for a septic system at Lot 1, Block 1, Cherokee Sunrise West. Based on subsequent discussions we have had with the Sedgwick County Health Department, we offer the following plan:

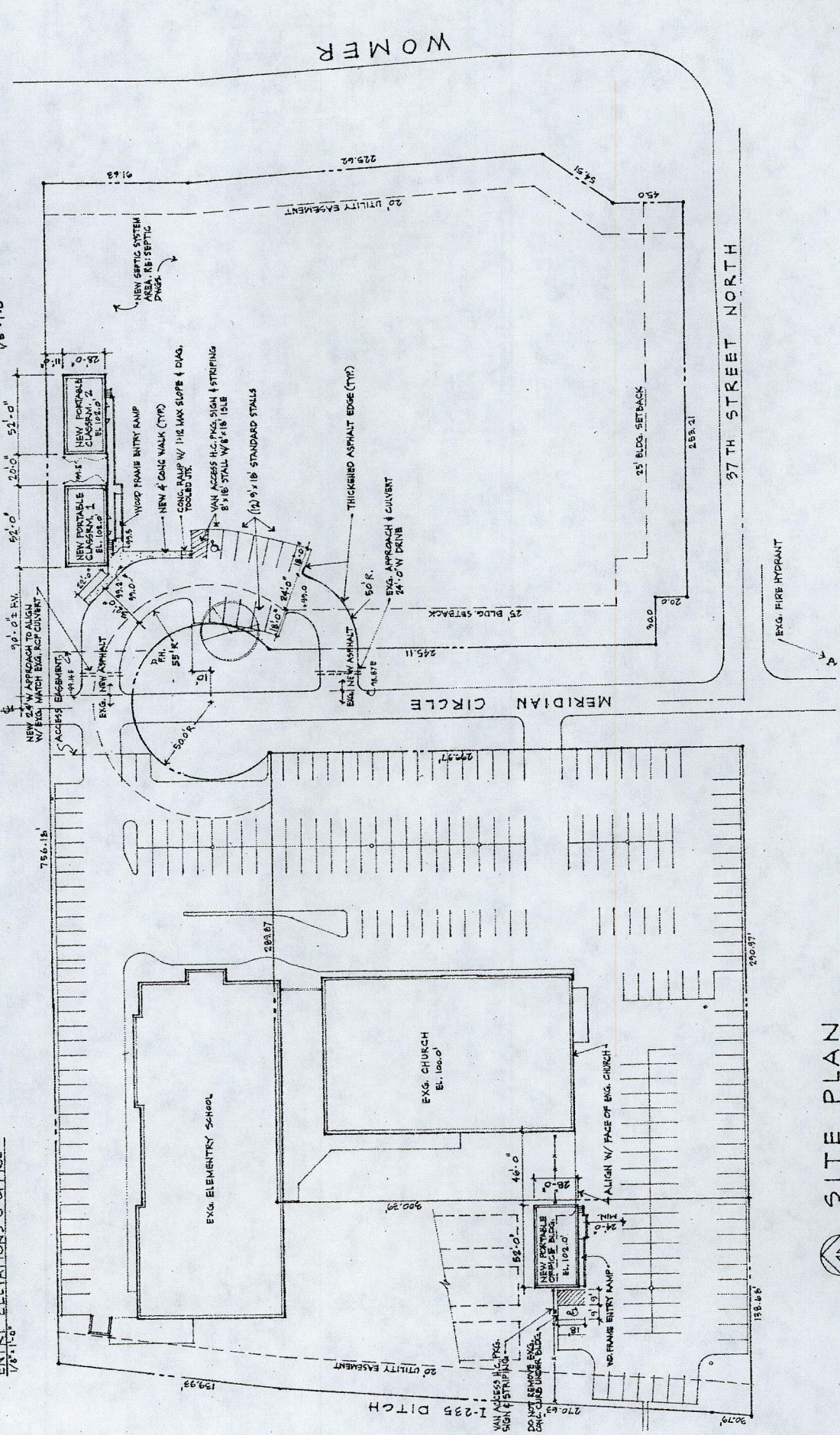
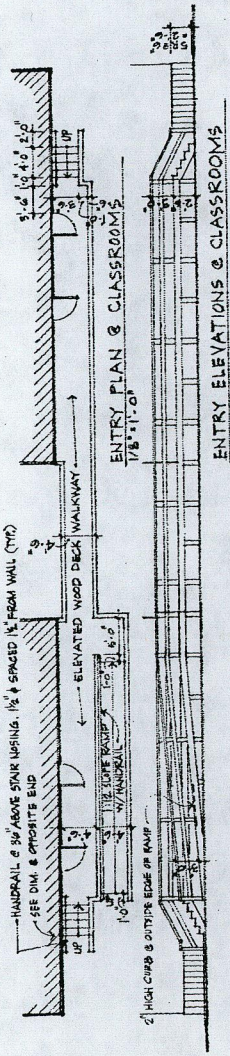
Word of Life is willing to sign a legally binding document guaranteeing that Word of Life will tie into a public waste system within a 3-year period. The existing system serving the Church will be repaired or upgraded to the satisfaction of the Health Department. No requests for additional private septic systems will be made for this property beyond the current request. Any permanent building projects which we propose for development on this site prior to or after the 3-year period will include public tie in at the time of development.

Based on preliminary approvals our church has spent over \$200,000 on Portables and other related expenses including drawings. Based on those same approvals we have received tuition money, signed teacher contracts, etc. We believe the above plan will serve the best interests of the City, the church, the teachers, and the children that are attending the school for the following reasons:

- Our proposal guarantees tie-in within 3 years or sooner. If our request is simply denied, tie-in could be delayed for a much longer period of time.
- The buildings proposed are intended to be temporary. We own approximately 45 acres of ground in this immediate area and plan to build permanent structures as quickly as we can to replace the temporary buildings.
- We plan to tie into the City sewer system at the appropriate time. We understand the concern that a septic system would not be appropriate for a large commercial site, but we do not feel that the addition of three portable buildings with a total area of 4,368 sq.ft. should suddenly require us to tie into the City sewer system.
- The cost to tie-in at this time will put an excessive financial burden on the church.
- If our request is denied, we will either have to tell parents and children that they must make other arrangements for school or we will have to find a way to fit them into our existing facilities. If the latter option were taken, the current septic system would have to handle the extra load. According to Central Inspection, we may be allowed to set the portables without any toilet/plumbing requirements. This arrangement would force the students to go outside and into the existing facility for every restroom break.
- This new school has been featured in the Wichita Eagle, Channel 10, 12, and is soon to be aired on C.B.N., with an audience of several million viewers. The Lord has truly blessed this effort. Many hundreds of families pledged and gave monies to help us purchase these portables. It would be a big dilemma for us if we can't come to a good solution.

Rob Rotola, Senior Pastor

3811 North Meridian • Wichita, Kansas 67204 • (316) 838-9200 Fax (316) 838-0567



SITE PLAN
1" = 80'-0"



WOMER

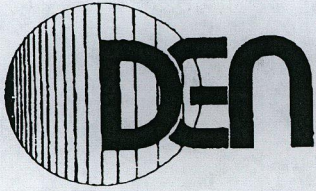
I-235

37TH

I-235

↑ N

wol
cluc
BT



Professional Mechanical Contractors, Inc.
P.O. Box 3171, Wichita, Kansas 67201
(316) 684-1927 FAX (316) 681-1968

FAX

Date: 7/8/99

Number of pages including cover sheet: 1

To:

BRAD TEGRA
SPANCOCK (PHILIA)

Phone: _____

Fax phone: 267-1509

CC: _____

From:

MIKE ROWN

Phone: 316-684-1927

Fax phone: 316-681-1968

REMARKS: Urgent For your review Reply ASAP Please comment

RE: WORD OF LIFE

FURNISH AND INSTALL SANITARY SEWERS FROM
WORD OF LIFE CHURCH, ELEMENTARY, AND 3 PORTABLES
TO NEW SEWER MAIN AT EAST SIDE OF PROPERTY

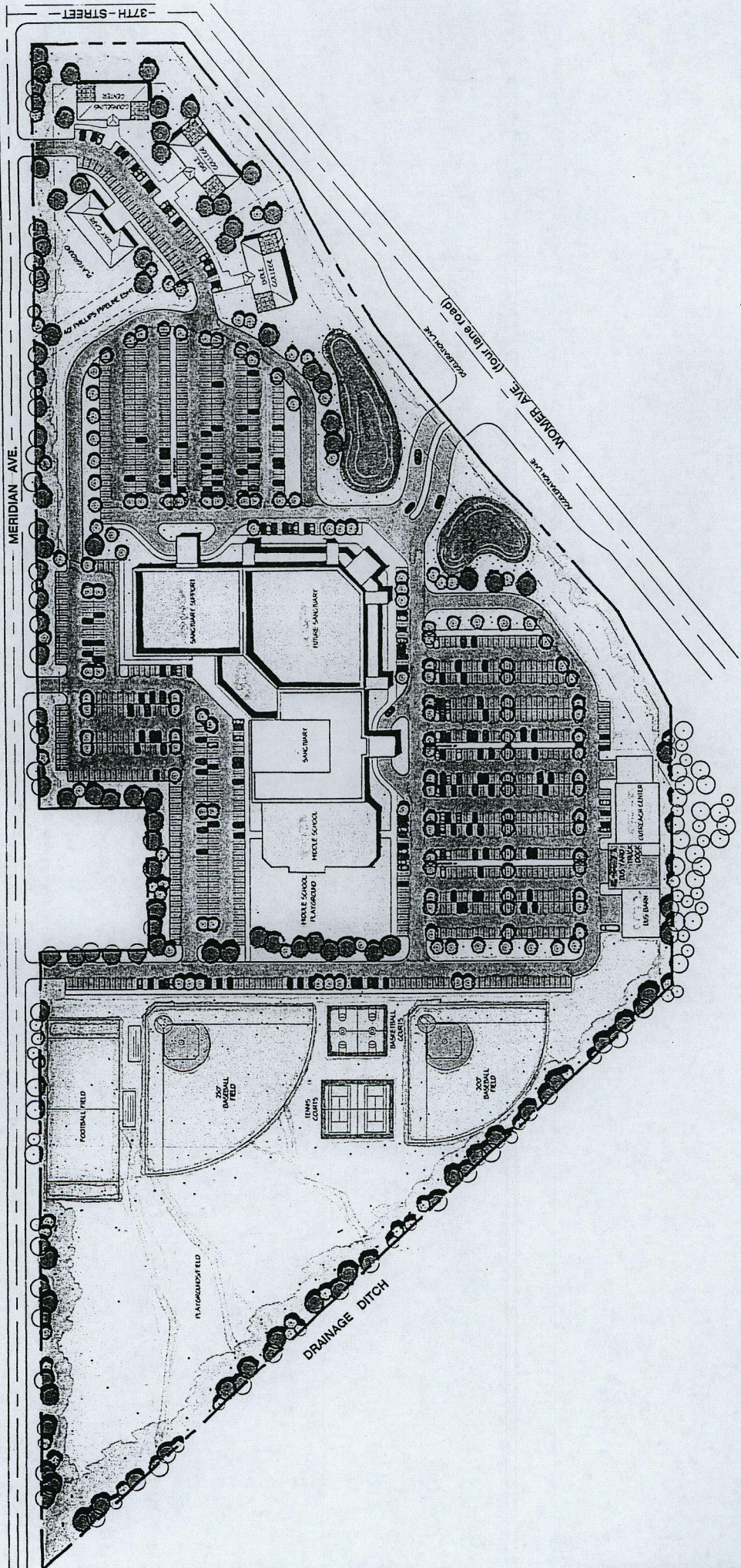
INCLUDE:

- LIFT STATION
- ELECTRICAL FOR LIFT STATION
- EXCAVATION / BACKFILL
- ASPHALT CUT / PATCH
- PIPING

TOTAL NET PRICE \$ 103,298.00

SALES TAX + BOND NOT INCLUDED

HARD COPY WILL FOLLOW YES _____ NO X



S/D No. 81-90 Name Cherokee Sunrise West
Date Application Rec'd. 8-21-81 Preliminary Approval 9-3-81
Scheduled S/D Meeting 10-15-81

DESCRIPTION

General Location North side of 37th St. North in an area west of Womer

Owner Cherokee Properties, Inc., Wm. G. Reece, President
Surveyor/Engineer Professional Engineering Consultants, P.A. (Gary Wiley)
Address 1440 E. English, Wichita, Ks. Zip Code 67211 Phone 263-1107

- | | |
|---|--|
| 1. Gross Acreage of Plat <u>10.93 ac +</u> | 7. Lineal Feet of New Street |
| 2. Number of Lots : | a. <u> </u> R/W <u> </u> ft. |
| Residential <u>1</u> | b. <u> </u> R/W <u> </u> ft. |
| Commercial <u> </u> | c. <u> </u> R/W <u> </u> ft. |
| Industrial <u> </u> | d. <u> </u> R/W <u> </u> ft. |
| Other <u> </u> | e. <u> </u> R/W <u> </u> ft. |
| Total Number of Lots <u>1</u> | TOTAL <u>-0-</u> New <u> </u> ft. |
| 3. Minimum Lot Frontage <u>289.17</u> | 8. Sidewalk adjacent to all |
| 4. Minimum Lot Area <u>476,074 sq. ft.</u> | streets <u> </u> yes <u>x</u> no |
| 5. Existing Zoning <u>LC and AA</u> | |
| 6. Proposed Zoning <u>R-5 (Z-2369)</u> | |
| 9. Is public water available <u>X</u> Yes <u> </u> No, Name <u>City of Wichita</u> | |
| 10. Is sanitary sewer available <u>X</u> Yes <u> </u> No, Name <u>City of Wichita</u> | |
| 11. Has Health Dept. approval been obtained (where applicable) <u>NA</u> Yes <u> </u> No | |
| 12. City of Wichita <u>X</u> 3-Mile Area <u> </u> Outside of 3-Mile Area <u> </u> | |

STAFF COMMENTS:

- A. The City Engineer's office shall be prepared to comment on the applicant's final drainage plan and state what drainage improvements are required with this plat.
- B. The applicant shall guarantee extension of sanitary sewer to serve this site.
- C. The applicant shall guarantee extension of water in 37th Street from Womer to Meridian.
- D. The applicant shall guarantee the paving of Meridian Circle and 37th Street North including a sidewalk adjacent to both sides of the streets.
- E. The applicant shall guarantee the closure of the old K-96/37th Street intersection.
- F. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- G. Sixty feet of complete access control to 37th Street just west of Womer shall be shown on the final plat tracing and referenced in the plat's text.
- H. The applicant shall make satisfactory arrangements with K.G. and E. for relocation of some of their utilities now located on this property.
- I. The condemnation case numbers for the Interstate right-of-way and for Womer shall be indicated on the final plat tracing.
- J. The plat's text shall state that abutter's access rights are being granted "to the appropriate governing body." The reference to previous plats being vacated shall state that "all portions of Smith Valley Addition, Womer's Sherwood Glen Third Addition, 37th Street North, Meridian, and old K-96 Highway within the above described tract are hereby vacated and replatted by virtue of .A. 12-512(b)."

Since all property abutting Meridian Circle will be zoned "LC" or "R-5", it is recommended that this street right-of-way be increased to 66 feet to provide for adequate paving width.

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

Preliminary plat
SUBDIVISION REPORT

SUBDIVISION COMMITTEE
METROPOLITAN AREA
PLANNING COMMISSION

S/D No. 81-90 Name Cherokee Sunrise West
Date Application Rec'd. August 21, 1981 Preliminary Approval _____
Scheduled S/D Meeting 9-3-81

DESCRIPTION

General Location North side of 37th St. North in an area west of Womer.

Owner Cherokee Properties, Inc., William G. Reece, Pres.
Surveyor/Engineer Professional Engineering Consultants, P.A. (Gary Wiley)
Address 1440 E. English, Wichita, Ks. Zip Code 67211 Phone 263-1107

- | | |
|---|---|
| 1. Gross Acreage of Plat <u>10.93 Ac +</u> | 7. Lineal Feet of New Street |
| 2. Number of Lots : | a. _____ R/W _____ ft. |
| Residential <u>1</u> | b. _____ R/W _____ ft. |
| Commercial _____ | c. _____ R/W _____ ft. |
| Industrial _____ | d. _____ R/W _____ ft. |
| Other _____ | e. _____ R/W _____ ft. |
| Total Number of Lots <u>1</u> | TOTAL <u>-0-</u> New _____ ft. |
| 3. Minimum Lot Frontage <u>289.17</u> | 8. Sidewalk adjacent to all streets _____ yes <u>X</u> no |
| 4. Minimum Lot Area <u>476,074 sq. ft.</u> | |
| 5. Existing Zoning <u>LC and AA</u> | |
| 6. Proposed Zoning <u>R-5 (Z-2369)</u> | |
| 9. Is public water available <u>X</u> Yes _____ No, Name <u>City of Wichita</u> | |
| 10. Is sanitary sewer available <u>X</u> Yes _____ No, Name <u>City of Wichita</u> | |
| 11. Has Health Dept. approval been obtained (where applicable) <u>NA</u> Yes _____ No | |
| 12. City of Wichita <u>X</u> 3-Mile Area _____ Outside of 3-Mile Area _____ | |

STAFF COMMENTS:

NOTE: A zone change request from "AA" and "LC" to "R-5" is scheduled for review by the Planning Commission August 27, 1981 (Z-2369). This plat is proposing the vacation of the old K-96 highway right-of-way as well as the old Meridian right-of-way north of Skateland.

- A. Approval of the final plat of Cherokee Sunrise West shall be subject to approval of associated zone case Z-2369.
- B. Existing right-of-way for the north half of 37th Street is 50 feet. Because of the "LC" zoning to the south and the proposed "R-5" to the north, 35 feet of half-street right-of-way should be retained.
- C. The street name on the east boundary of the plat shall be "Womer", not "Amidon."
- D. The existing "complete access control" shall be labeled along the west, north and east sides of the plat. Sixty feet of complete access control to 37th Street just west of Womer shall also be labeled on the final plat.
- E. The applicant shall guarantee the closure of the old K-96/37th Street intersection.
- F. The applicant shall guarantee extension of sanitary sewer to serve the site.
- G. The applicant shall guarantee extension of City water to serve the site. A 12-inch water line has been extended west in 37th to the west side of Womer.
- H. The applicant shall guarantee the paving of Meridian Circle and 37th Street North including a sidewalk adjacent to both sides of the streets.
- I. The City Engineer's representative shall be prepared to comment on the applicant's drainage concept and state if any drainage improvements are required.
- J. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.

- K. 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. The applicant should be prepared to discuss with the Subdivision Committee the manner in which it is proposed to provide for such utilities and facilities, e.g., petition, actual construction, money guarantees, etc.
- L. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

METROPOLITAN AREA PLANNING DEPARTMENT

March 15, 1984

TO Robert B. Feldner, Superintendent of Central Inspection
 Mike Lindebak, City Engineer
 Bill McKinley, Traffic Engineer

FROM Art Chambers, Senior Planner

SUBJECT DP-137 Cherokee Sunrise West Commercial C.U.P.

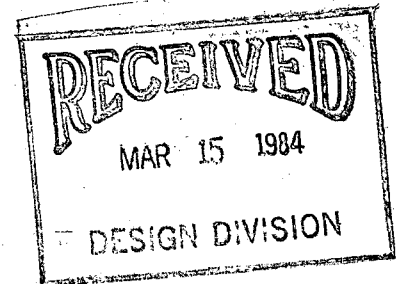
Attached for your review is a copy of a proposed commercial C.U.P. The C.U.P. would permit 210,211 square feet of warehousing, wholesaling, electronic assembly, professional services, etc. We would appreciate receiving your comments regarding access, uses, etc., by Wednesday, March 21, 1984. The associated zone case is requesting "C" commercial zoning.

If you have any questions, please call.

Art Chambers
 Art Chambers
 Senior Planner

ADC:jps
 Attachment

*Item 4 Drainage
 approval City Engr
 3-21-84*



Kansas Department of Transportation

Box 769
Hutchinson, Kansas
February 16, 1982

RECEIVED

FEB 17 1982

METROPOLITAN PLANNING
ROUTE _____

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

Attention: Dick Linn

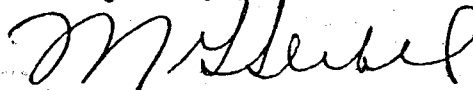
Re: Project No. 36-81166-1310
Cherokee-Sunrise West
Drainage Plan

Gentlemen:

We have checked the plat of Cherokee-Sunrise West in the field and do not foresee any problems with the drainage or the providing of power to the lighting system.

Based on this, we are willing to accept drainage from this plat onto highway right of way. Also, we foresee no problems in satisfactory arrangements for electric service to existing highway lights.

Very truly yours, *



M. G. SEIBEL, P.E.
DISTRICT ENGINEER

MGS:s1

cc: Louise Olivarez, Sr. Planner, MAPD, City Hall, Wichita, KS.
Robert L. Grant, F.E.A., Wichita-Kellogg Office

RECEIVED
MAR 16 1982
Dept. Of Engineering

ML

CHEROKEE PROPERTIES, INC.

Real Estate Investments Management

250 Pennsylvania
Wichita, Kansas 67214
(316) 263-6117

RECEIVED

MAR 10 1982

Dept. Of Engineering

March 8, 1982

Robert Feldner
Superintendent of Central Inspection
7th Floor - City Hall
455 N. Main
Wichita, Kansas 67202

RE: Final Plat of Cherokee Sunrise West
S/D 81-90

Dear Mr. Feldner:

The Subdivision Committee of the Metropolitan Area Planning Commission recommended that the above-referenced plat be approved subject to the closure of the old K-96/37th Street, intersection.

Mr. Mike Lindebak, Engineering department has suggested the appropriate way to guarantee the closure would be to make it a requirement of the first building permit on subject property.

As owners of this property, we agree to close the street intersection, in connection with new driveway construction, upon issuance of a building permit for the first phase of construction.

Very Truly Yours,

William G. Reece
Cherokee Properties, Inc.

WGR/pkf

cc: Mike Lindebak ✓
Louise Olivarez

COPY

WGR

WGR

KANSAS DEPARTMENT OF TRANSPORTATION



JOHN B. KEMP, Secretary of Transportation

JOHN CARLIN, Governor

Box 769
Hutchinson, Kansas
February 16, 1982

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

Attention: Dick Linn

Re: Project No. 36-81166-1310
Cherokee-Sunrise West
Drainage Plan

Gentlemen:

We have checked the plat of Cherokee-Sunrise West in the field and do not foresee any problems with the drainage or the providing of power to the lighting system.

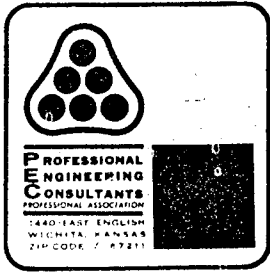
Based on this, we are willing to accept drainage from this plat onto highway right of way. Also, we foresee no problems in satisfactory arrangements for electric service to existing highway lights.

Very truly yours,

M. G. SEIBEL, P.E.
DISTRICT ENGINEER

MGS:s1

cc: Louise Olivarez, Sr. Planner, MAPD, City Hall, Wichita, KS.
Robert L. Grant, F.E.A., Wichita-Kellogg Office



MEMO

TO: Bob Grant

PROJECT NO. 36-81166-1310

Field Engineering Administrator

PROJECT: Cherokee-Sunrise West

Kansas Department of Transportation

COPIES TO:

ATTN: 4448 W. Kellogg

DATE: January 26, 1982

Louise Olivarez, Sen. Planner

FROM: Dick Linn

Mike Lindebak

REFERENCE: Drainage Plan

City Engineering Department

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

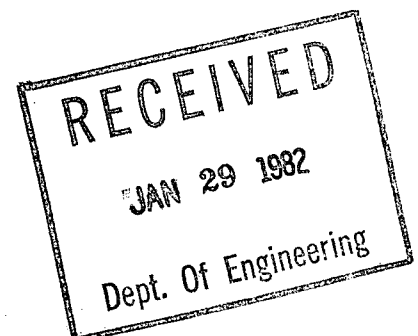
Attached is a copy of the Drainage Plan for Cherokee-Sunrise West Addition. The plan indicates the concept of site drainage, which is required in the platting process. A detailed site drainage plan will be prepared with the site development plans. It is intended to sheet drain adjacent open spaces into the highway right-of-way. Driveways and paved parking areas will be drained into Meridian Avenue.

The attached letter requests that we obtain a letter from KDOT indicating a willingness to accept drainage from this plat onto highway right-of-way.

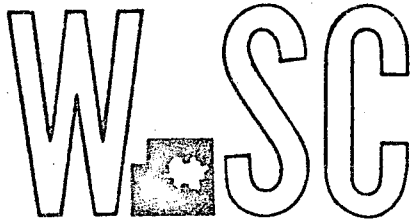
Item M in the attached letter requires that we make satisfactory arrangements with KDOT for electric service to existing highway lights.

The existing overhead service located in Meridian Avenue will remain until a new underground service is provided for the development. Existing service for the highway lights will be continued and connected into the underground system prior to removal of the overhead service.

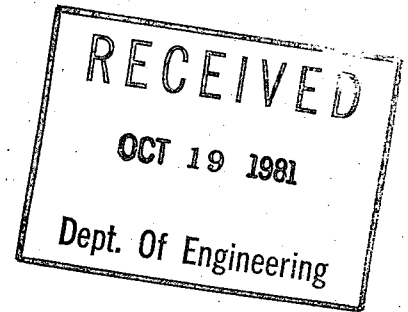
If additional information is desired, please contact me.



WICHITA - SEDGWICK COUNTY



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



October 16, 1981

Professional Engineering Consultants, P.A.
Gary Wiley
1440 E. English
Wichita, Kansas 67211

Re: S/D 81-90 - Final plat of Cherokee Sunrise West

Dear Mr. Wiley:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on October 15, 1981, the above-captioned plat was considered. The action of the Committee was to recommend that this plat be approved, subject to:

- A. The applicant's drainage plan has been approved subject to the applicant obtaining a letter from KDOT indicating their willingness to accept drainage from this plat onto highway right-of-way.
- B. The applicant shall guarantee extension of sanitary sewer to serve this site.
- C. The applicant shall guarantee extension of water in 37th Street from Womer to Meridian.
- D. The applicant shall guarantee the paving of Meridian Circle and 37th Street North including a sidewalk adjacent to both sides of the streets.
- E. The applicant shall guarantee the closure of the old K-96/37th Street intersection.
- F. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- G. Appropriate right-of-way shall be dedicated for the sanitary sewer lift station.
- H. The applicant shall make satisfactory arrangements with K.G. and E. for relocation of some of their utilities now located on this property.
- I. The condemnation case numbers for the Interstate right-of-way and for Womer shall be indicated on the final

WICHITA - SEDGWICK COUNTY

- J. The platlor's text shall state that abutter's access rights are being granted "to the appropriate governing body." The reference to previous plats being vacated shall state that "all portions of Smith Valley Addition, Womer's Sherwood Glen Third Addition, 37th Street North, Meridian, and old K-96 Highway within the above described tract are hereby vacated and replatted by virtue of K.S.A. 12-512(b)."
- K. Since all property abutting Meridian Circle will be zoned "LC" or "R-5", it is recommended that this street right-of-way be increased to 66 feet to provide for adequate paving width.
- L. The applicant shall be advised that this property will be in a future storm water sewer benefit district.
- M. The applicant shall make satisfactory arrangements with KDOT for relocating electric service to some existing highway lights.
- N. 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 October 22, 1981, at 1:30 p.m. If you should have any questions concerning this matter, please call.

Sincerely,

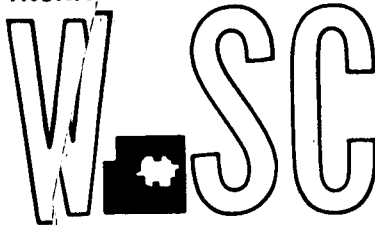


Louise Olivarez
Senior Planner

LO:bh

cc: Cherokee Properties, Inc., Wm. G. Reece, President, 410 E. English,
67202
X Mike Lindebak, City Engineering

WICHITA-SEDGWICK COUNTY



METROPOLITAN AREA PLANNING
DEPARTMENT

CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202

Professional Engineering Consultants, P.A.

Gary Wiley
1440 N. English
Wichita, Kansas 67211

RECEIVED

SEP 8 1981

Dept. Of Engineering

September 8, 1981

Re: S/D 81-90 - Preliminary plat of Cherokee Sunrise West

Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission, September 4, 1981, the above-captioned plat was considered. The action of the Committee was to approve the preliminary plat and authorize preparation of the final plat subject to the following:

- A. Prior to submitting a final plat, the applicant shall submit a drainage plan to City Engineering.
- B. Existing right-of-way for the north half of 37th Street is 50 feet. Because of the "LC" zoning to the south and the proposed "R-5" to the north, 35 feet of half-street right-of-way should be retained.
- C. The street name on the east boundary of the plat shall be "Womer", not "Amidon."
- D. The existing "complete access control" shall be labeled along the west, north and east sides of the plat. Sixty feet of complete access control to 37th Street just west of Womer shall also be labeled on the final plat.
- E. The applicant shall guarantee the closure of the old K-96/37th Street intersection.
- F. The applicant shall guarantee extension of sanitary sewer to serve the site.
- G. The applicant shall guarantee the paving of Meridian Circle and 37th Street North including a sidewalk adjacent to both sides of the street.
- H. The applicant shall guarantee any drainage improvements required by the platting of this property.
- I. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.

P.E.C., P.A. Gary Wiley
September 8, 1981
Page 2

- J. The applicant shall be advised that K.G. and E. has some existing equipment on this property which will either need to be covered with a utility easement or relocated at the applicant's expense.
- K. Approval of this plat shall be subject to approval of associated zone case Z-2369 "AA" and "LC" to "R-5."
- L. 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. The applicant should be prepared to discuss with the Subdivision Committee the manner in which it is proposed to provide for such utilities and facilities, e.g., petition, actual construction, money guarantees, etc.
- M. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

Enclosed herewith is the "marked" copy of the preliminary plat for your information and files.

If you have any questions concerning this matter, please call.

Sincerely,


Forrest L. Nagley
Junior Planner

FLN:bh

cc: Cherokee Prop., Inc., c/o Wm. G. Reece, President, 410 E. English,
67202
✓ Mike Lindebak, City Engineering



Date 9-11-81 Page 1 of 5

Project Cherokee Sunrise

Item Drainage Plan Calcs.

Pipe size crossing 37th Street

Area: $160' \times 640 = 102,400 \text{ sq}'$
 $\frac{1}{2} \times 160 \times 640 = 51,200 \text{ sq}'$
 TOTAL $153,600 \text{ sq}' = 3.52 \text{ Ac.}$

c: Proposed land use: Condominiums.
 Assume runoff coefficient, $c = 0.8$

t_c : $\frac{600'}{50'}$ pavement @ 1% Avg slope = 9.5 minutes
 turf @ 2% Avg. Slope = 2 minutes
 TOTAL 11.5 minutes

I: Based on t_c of 11.5 minutes,
 $I_2 = 4.50$ $I_5 = 5.79$ $I_{10} = 6.75$ $I_{25} = 7.72$ $I_{50} = 8.84$ $I_{100} = 9.97$

Q: $Q = cIA = cAI = (0.8)(3.52)I = 2.82I$
 $Q_2 = 12.69$ $Q_5 = 16.32$ $Q_{10} = 19.03$ $Q_{25} = 21.77$ $Q_{50} = 24.92$ $Q_{100} = 28.11$

Design Cross-road culvert on $Q_2 = 12.7 \text{ cfs.}$



Date 9-11-81 Page 2 of 5

Project Cherokee Sunrise

Item Drainage Calcs.

Elev. \bar{H} Culvert (Future) 1333.1
 Elev. Shor. 37th = 1335.2
 Allowable Head 2.1'

METAL PIPE: (see graph attached)

	<u>H</u>	<u>D</u>	<u>H/D</u>	<u>Q</u>
18"	2.1'	1.5'	1.40	9 cfs
21"	2.1'	1.75'	1.20	11 cfs
24"	2.1'	2.0	1.05	14 cfs *
27"	2.1'	2.25	0.93	15.5 cfs

CONCRETE PIPE: (see graph attached)

	<u>H</u>	<u>D</u>	<u>H/D</u>	<u>Q</u>
18"	2.1'	1.5'	1.40	10.5 cfs
21"	2.1'	1.75'	1.20	13 cfs *
24"	2.1'	2.0'	1.05	15 cfs
27"	2.1'	2.25	0.93	17 cfs

USE: 24" CMP or 21" RCP or equivalent



Date 9-11-81 Page 3 of 5
Project Cherokee Sunrise
Item _____

Check flow in street gutter (Q_c)

Subarea 1 drains onto Meridian Circle

By prorating areas $\frac{2.59 \text{ Ac}}{3.52 \text{ Ac}} \times 12.7 \text{ cfs} = 9.3 \text{ cfs}$

Assume street grade = 0.32%

Resulting street flow depth = 0.45' (see chart attached)

Subarea 2 drains onto 37th Street

By prorating areas $\frac{0.93}{3.52} \times 12.7 \text{ cfs} = 3.4 \text{ cfs}$

Assume 37th to be curb & gutter in future

Assume street grade = 0.32%

Resulting street flow depth = 0.31' (see chart attached)



Date 9-11-81 Page 4 of 5

Project Cherokee Sunrise

Item Drainage

Check flow in street R-O-W (Q_{100})

Meridian Circle - Subbasin 1

By prorating areas $\frac{2.59}{3.52} \times 28.11 \text{ cfs} = 20.7 \text{ cfs}$

Street slope = 0.32%

Resulting depth of water = 0.62' (see attached chart)

37th Street - Subbasin 2

By prorating areas $\frac{0.93}{3.52} \times 28.11 = 7.4 \text{ cfs}$

Street slope = 0.32%

Resulting depth of water = 0.41' (see attached)



Date 9-11-81 Page 5 of 5

Project Cherokee Sunrise

Item Drainage

Check clearance of cross-road pipe
crossing 37th Street

Shoulder of road = 1335.2

Cover required = 1.0'

Allowable top pipe elev. = 1334.2

Approx. FE = 1333.0

Allowable pipe size = 1.2' = 14.4" (max 15")

USE: 2 21" x 15" CMPA (Area = $1.6 \text{ sq}' \times 2 = 3.2 \text{ sq}'$)
in lieu of 24" CMP (Area = $3.14 \text{ sq}'$)

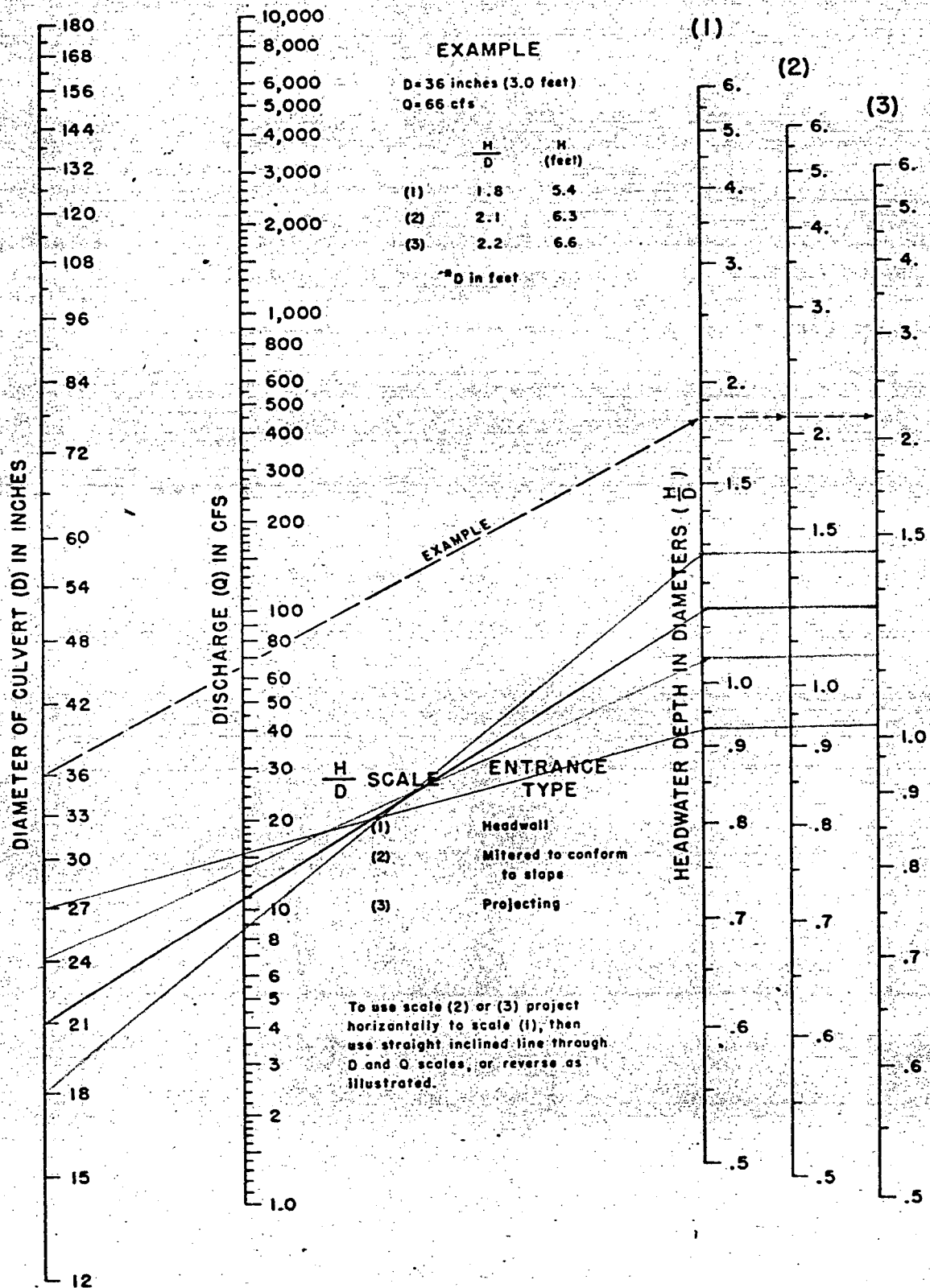


Figure 8-9. Headwater depth for corrugated-metal pipe culverts with entrance control. (U.S. Bureau of Public Roads.) 288-D-2909.

To use scale (2) or (3), project horizontally to scale (1), then use straight inclined line through D and Q scales, or reverse as illustrated.

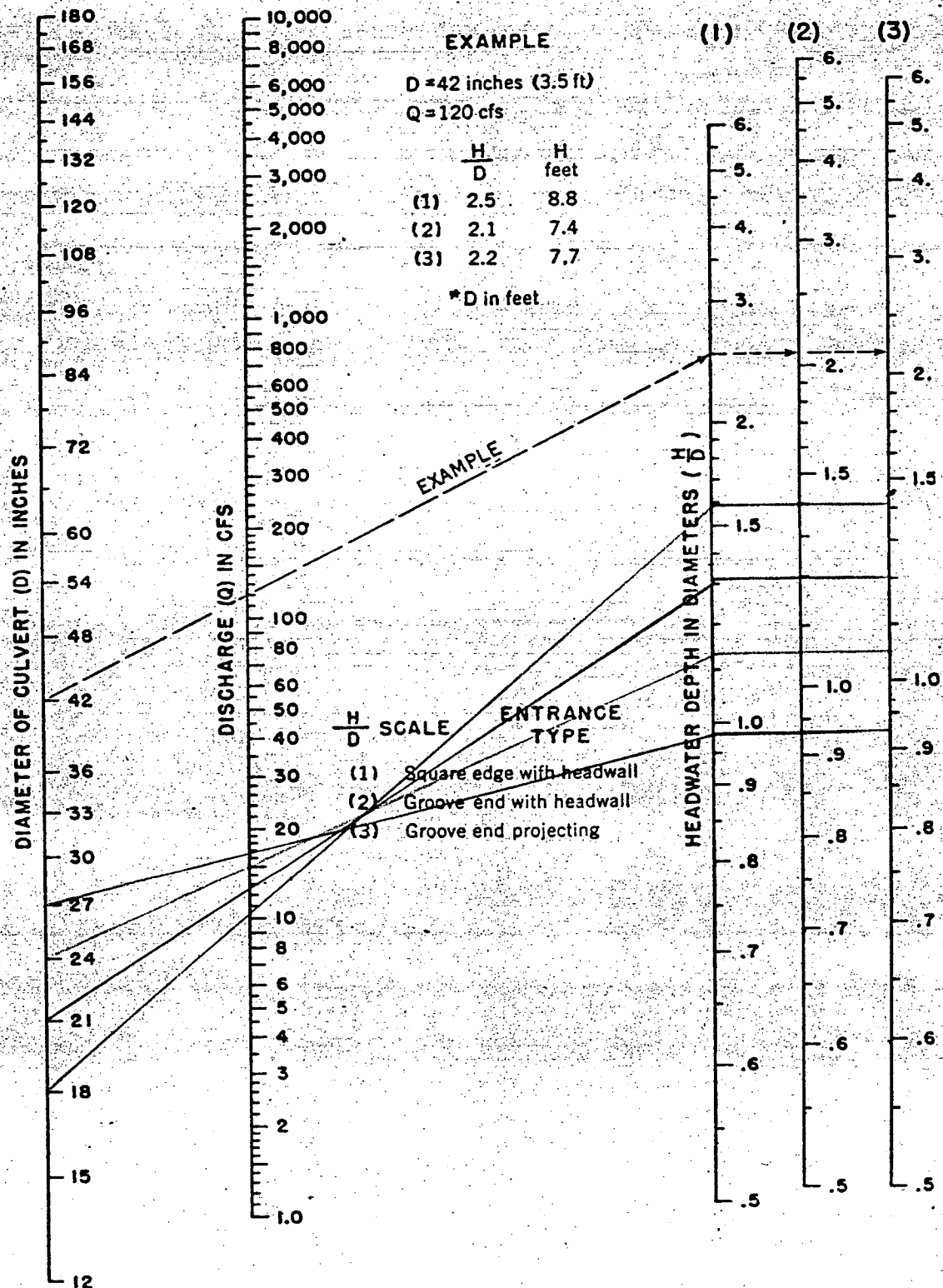
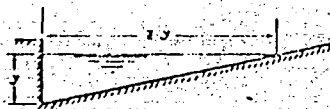


Figure 8-8. Headwater depth for concrete pipe culverts with entrance control. (U.S. Bureau of Public Roads.) 288-D-2908.

1072.03

$n = 0.013$

$Z/n = 2461$



EQUATION: $Q = 0.56 \left(\frac{Z}{n}\right)^{3/2} Y^{5/2}$

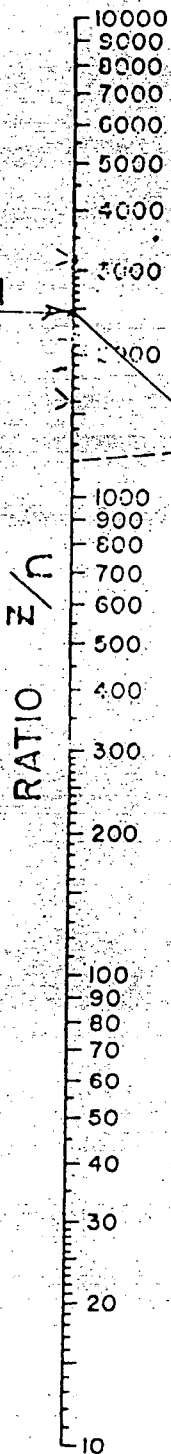
n IS ROUGHNESS COEFFICIENT IN MANNING FORMULA APPROPRIATE TO MATERIAL IN BOTTOM OF CHANNEL

Z IS RECIPROCAL OF CROSS-SLOPE

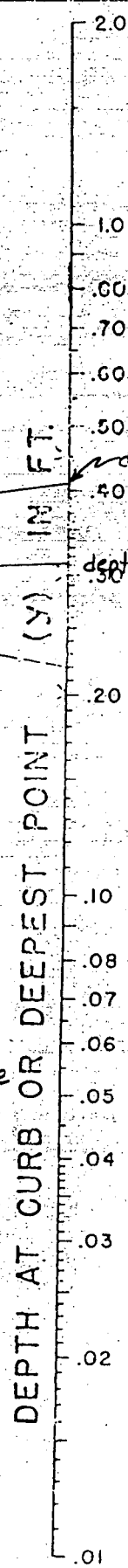
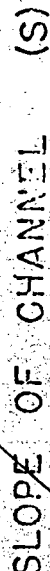
REFERENCE: M. R. S. PROCEEDINGS 1946, PAGE 450, EQUATION (14)

EXAMPLE (SEE DASHED LINES)

GIVE: $Z/n = 0.03$
 $Z = 24$
 $n = .02$
 $Y = 0.22$
 FIND: $Q = 2.0$ CFS



TURNING LINE



INSTRUCTIONS

1. CONNECT Z/n RATIO WITH SLOPE (S), AND CONNECT DISCHARGE (Q) WITH DEPTH (Y). THESE TWO LINES MUST INTERSECT AT TURNING LINE FOR COMPLETE SOLUTION.

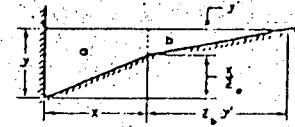
2. FOR SHALLOW V-SHAPED CHANNEL AS SHOWN USE MONOGRAPH WITH $Z = \frac{1}{Y}$



3. TO DETERMINE DISCHARGE Q_2 IN PORTION OF CHANNEL HAVING WIDTH X : DETERMINE DEPTH Y FOR TOTAL DISCHARGE IN ENTIRE SECTION a . THEN USE MONOGRAPH TO DETERMINE Q_2 IN SECTION b FOR DEPTH $Y' = Y \cdot \left(\frac{X}{Z}\right)$.



4. TO DETERMINE DISCHARGE IN COMPOSITE SECTION -- FOLLOW INSTRUCTION 3. TO OBTAIN DISCHARGE IN SECTION a AT ASSUMED DEPTH Y ; OBTAIN Q_2 FOR SLOPE RATIO Z , AND DEPTH Y' . THEN $Q_1 = Q_2 + Q_3$.



2461

$Q_1 = 7.4$ cfs

$Q_2 = 3.4$ cfs

depth = 0.41

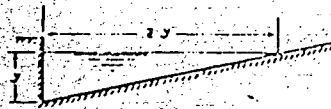
depth water = 0.3

Street Slope = 0.32%

Cherokee Sunrise (Meridian Circle)

1072.03

$z = 1/18$
 $n = 0.013$
 $Q = 2461$



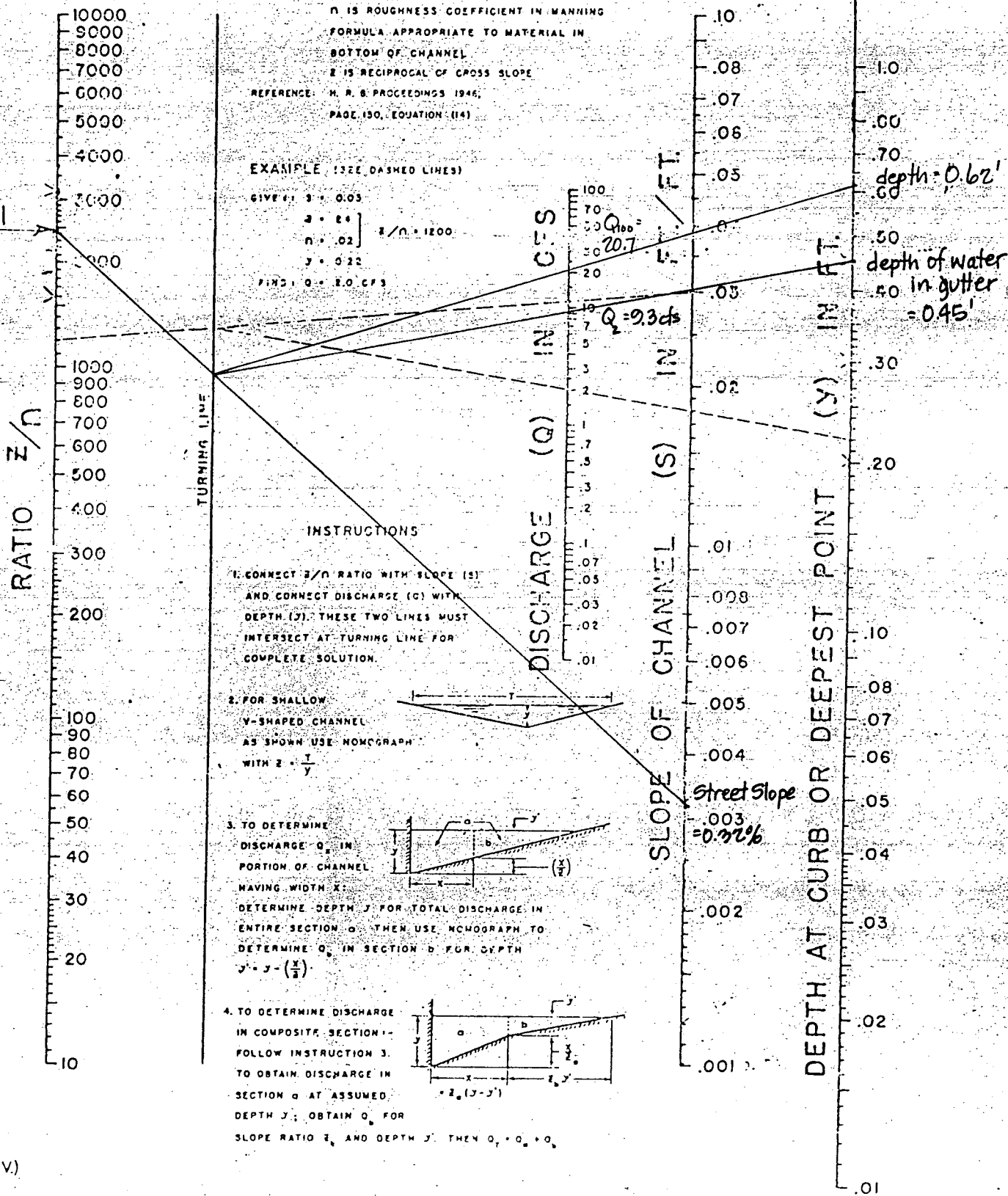
EQUATION: $Q = 0.56 \left(\frac{z}{n}\right)^{5/3} y^{5/3}$

n IS ROUGHNESS COEFFICIENT IN MANNING
FORMULA APPROPRIATE TO MATERIAL IN
BOTTOM OF CHANNEL
 z IS RECIPROCAL OF CROSS SLOPE

REFERENCE: H. R. S. PROCEEDINGS 1946,
PAGE 130, EQUATION (114)

EXAMPLE (SEE DASHED LINES)

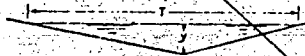
GIVE: $z = 0.05$
 $Q = 24$
 $n = .02$ $z/n = 1200$
 $y = 0.22$
FIND: $Q = 2.0$ CFS



INSTRUCTIONS

1. CONNECT z/n RATIO WITH SLOPE (S) AND CONNECT DISCHARGE (Q) WITH DEPTH (Y). THESE TWO LINES MUST INTERSECT AT TURNING LINE FOR COMPLETE SOLUTION.

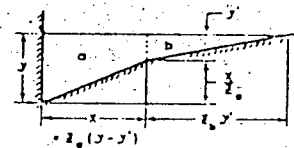
2. FOR SHALLOW V-SHAPED CHANNEL AS SHOWN USE NOMOGRAPH WITH $z = \frac{1}{y}$



3. TO DETERMINE DISCHARGE Q_x IN PORTION OF CHANNEL HAVING WIDTH x : DETERMINE DEPTH y FOR TOTAL DISCHARGE IN ENTIRE SECTION. THEN USE NOMOGRAPH TO DETERMINE Q_x IN SECTION b FOR DEPTH $y' = y - (\frac{x}{z})$.



4. TO DETERMINE DISCHARGE IN COMPOSITE SECTION - FOLLOW INSTRUCTION 3. TO OBTAIN DISCHARGE IN SECTION a AT ASSUMED DEPTH y ; OBTAIN Q_b FOR SLOPE RATIO z' AND DEPTH y' . THEN $Q_t = Q_a + Q_b$.



JUN. 1950 (REV.)
MAY 1949