

DRAINAGE INFORMATION SHEET

E10/D3A

PROJECT TITLE: SANTA FE VILLAGE ZONE ATLAS/DRNG. FILE #: E10/D8DRB #: _____ EPC #: _____ WORK ORDER #: 3116.90LEGAL DESCRIPTION: SANTA FE VILLAGE, UNIT 1CITY ADDRESS: NAENGINEERING FIRM: BORDENAVE DESIGNS CONTACT: J. BORDENAVEADDRESS: P.O. Box 91194, 87199 PHONE: 823-1344OWNER: SMC PROPERTIES, INC. CONTACT: S. ThompsonADDRESS: P.O. Box 11519, 87192 PHONE: 291-3715

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: DMJM CONTACT: J. BORDENAVEADDRESS: P.O. Box 91194, 87199 PHONE: 823-1344

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
☐ DRAINAGE PLAN
☐ CONCEPTUAL GRADING & DRAINAGE PLAN
☒ GRADING PLAN
☐ EROSION CONTROL PLAN
☐ ENGINEER'S CERTIFICATION
☐ OTHER

PRE-DESIGN MEETING:

- ☐ YES
☒ NO
☐ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SKETCH PLAT APPROVAL
☐ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D. APPROVAL
☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
☐ SECTOR PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY APPROVAL
☒ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ S.A.D. DRAINAGE REPORT
☐ DRAINAGE REQUIREMENTS
☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: 04/23/92BY: JP Bordenave

APR 23 1992



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Ken Schultz
Mayor

UTILITY DEVELOPMENT DIVISION
HYDROLOGY SECTION
(505) 768-2650

February 4, 1987

Lee Bell
DNJM
5700 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87112

RE: GRADING & EROSION CONTROL PLAN SUBMITTAL OF SANTA FE VILLAGE
UNIT I, PHASE V, RECEIVED FEBRUARY 4, 1987 FOR ROUGH GRADING
PERMIT APPROVAL (E-10/D3)

Dear Lee:

The above referenced submittal, revised February 4, 1987, is approved for Grading Permit and as the Final Grading Plan for inclusion with the construction set reviewed at the DRC. The contractor can proceed with the grading in accordance with the approved plan.

This approval does not constitute any approval of proposed street grades, since this is done at the DRC. I also recommend that the Drainage R.O.W. width for the concrete rundown between Lots 12A and 13A be eleven feet to be consistent with the structure width.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, P.E.

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Andre Houle, DRC
Coda Roberson

RAG/bsj

PUBLIC WORKS DEPARTMENT

Walter Nickerson, P.E., City Engineer

ENGINEERING GROUP

Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER

THIS COVENANT made this 29 day of DECEMBER, 1986, by and between the City of Albuquerque, a municipal corporation, (City) and ROBERSON CONSTRUCTION COMPANY, INC. (Owner, which term includes successors and assigns.)

RECITAL

The Owner is owner of certain real property located at Santa Fe Village, Unit I in Albuquerque, New Mexico, (the Property) and more particularly described as follows:

Lots 34A thru 43A, Blk. 1 of Santa Fe Village, Unit I between Valentino Street, N.W. & Bogart St., N.W. on Lamar Avenue, N. W.

Recorded 12-29-86, Book C-32, Page 110, Bernalillo County

Pursuant to City ordinances, regulations, and other applicable laws, the Owner is required to install and/or maintain certain drainage facilities on the Property, and the parties wish to provide for an agreement as to the obligations and responsibilities for same.

DESCRIPTION OF FACILITIES

The following facilities are to be constructed and/or maintained by the owner: A solid wall a minimum of 12" above the finished surface in Lots 34A thru 43A must be maintained. Lot storm drainage must flow to Lamar Ave., NW

CONSTRUCTION OF DRAINAGE FACILITIES

The Owner shall construct the drainage facilities in accordance with standards, plans, and specifications prescribed and approved by the City. EJO/D3

MAINTENANCE OF FACILITIES

The Owner shall, at his cost in accordance with the standards, plans, and specifications prescribed by the City, maintain said drainage facility. The City shall have the right to enter periodically upon the Property to inspect the drainage facility.

FAILURE TO COMPLY AND LIEN

In the event that the Owner shall fail to construct the drainage facility in accordance with standards, plans, and specifications prescribed and approved by the City or fail to adequately maintain said facilities, the City shall give the Owner notice in writing to construct, correct, or maintain said facilities, and if the Owner fails to comply therewith within 30 days, the City may enter upon said property to perform the necessary construction or maintenance. The cost of the City's performing such construction or maintenance shall be paid by the Owner. In the event the Owner fails to pay said cost within thirty (30) days after being billed for same, the City may file a lien against the Property.

LIABILITY

The City shall not be liable for any damages to the Owner resulting from its construction, modification, or maintenance of said facilities.

NOTICE

The written notice provided for herein shall be accomplished by mailing same to: ROBERSON CONSTRUCTION COMPANY, INC.

6001 Atrisco Road, N. W.

Albuquerque, NM 87120

The Owner may change said address by giving written notice, certified mail, return receipt requested, to the City Engineer, City/County Building One Civic Plaza, Albuquerque, New Mexico 87103.

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

1986 DEC 30 AM 9:37

DOLORES C. WALLER
CO. CLERK & RECORDER

INDEMNIFICATION AND HOLD HARMLESS

908

The Owner agrees to defend, indemnify, and hold harmless, the City, its officials, agents and employees from and against any and all claims, actions, suits, or proceedings of any kind brought against said parties for or on account of any matter arising from the drainage facility provided for herein or the Owner's failure to construct, maintain, or modify the drainage facility under this Covenant.

COVENANT RUNNING WITH THE PROPERTY

The obligation of the Owner set forth herein shall be binding upon the Owner, his heirs, and assigns, and the property of the Owner as described herein and will run with said property until released by the City.

OWNER

Ruby L. Roberson

CITY OF ALBUQUERQUE, NEW MEXICO

Patricia D. Parker
City Engineer

RAG 9/19/86

ATTEST:

N/A
City Clerk

REVIEWED BY:

William W. Kearney
Assistant City Attorney

James H. [Signature]
City Attorney

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 19th day of September, 1986, by Ruby L. Roberson of Roberson Const. Co. Inc.

[Signature]
Notary Public

My Commission Expires:

12/30/87

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this _____ day of _____, 19____, by _____, Chief Administrative Officer of the City of Albuquerque.

Notary Public

My Commission Expires:

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

November 19, 1986

Lee Bell
DMJM
5700 Harper Drive, NE
Albuquerque, New Mexico 87109

RE: DRAINAGE REPORT SUBMITTAL OF SANTA FE VILLAGE UNIT I PHASE V,
RECEIVED NOVEMBER 14, 1986 FOR PRELIMINARY PLAT AND ROUGH
GRADING PERMIT APPROVAL (E-10/D3)

Dear Lee:

The above referenced submittal dated November 14, 1986, is approved for Preliminary Plat. Prior to Final Plat sign-off by the City Engineer, an executed Subdivision Improvements Agreement is required.

Prior to Rough Grading Permit approval and submittal of construction drawings to the DRC, a detailed Grading and Drainage Plan must be submitted for review and approval. Include notes to the contractor requiring a Topsoil Disturbance Permit, and provide or reference Grading Specifications.

If you have any questions, call me at 768-2650.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Andre Houle, DRC
Coda Roberson

RAG/bsj

PUBLIC WORKS DEPARTMENT

Walter Nickerson, P.E., City Engineer

ENGINEERING GROUP

Telephone (505) 768-2500

AN EQUAL OPPORTUNITY EMPLOYER

FILE COPY



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

May 8, 1986

Lee Bell
DMJM
5700 Harper Drive, NE
Albuquerque, New Mexico 87109

RE: DRAINAGE REPORT SUBMITTAL OF SANTA FE VILLAGE, UNIT I,
PHASE IV RECEIVED MAY 5, 1986, FOR PELIMINARY PLAT APPROVAL
(E-10/D3)

Dear Lee:

The above referenced submittal revised May 2, 1986 is approved for purpose of Preliminary Plat. Work Order construction drawings must include the concrete wall along the arroyo.

Prior to Final Plat sign-off by the City Engineer, a Ratification Agreement to the existing Subdivision Improvements Agreement is required, and the platted boundaries of Drainage Channel R.O.W., Tract C, must be consistent with "Prudent Line" survey provided by Resource Technology, Inc. Also, an executed Drainage Covenant is required for the wall along the arroyo.

If on site grading is required, a resubmittal and rough grading permit request is required. At that time, the erosion control plan should be revised removing retaining walls previously shown, and a note requiring contractor to obtain a Topsoil Disturbance permit.

If you have any questions, call me at 766-7644.

Cordially,

Roger A. Green, PE

Roger A. Green, P.E.
C.E./Hydrology Section

cc: Andre Houle, DRC
Coda Roberson Construction

RAG/bsj

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

March 17, 1986

Lee Bell
DMJM
5700 Harper Drive, NE
Albuquerque, New Mexico 87109

RE: DRAINAGE REPORT SUBMITTAL OF SANTA FE VILLAGE, UNIT I
RECEIVED FEBRUARY 25, 1986 FOR PRELIMINARY PLAT APPROVAL
(E-10/D3)

Dear Lee:

I have reviewed the above referenced submittal and have the following comments. The Drainage Scheme, Erosion Control Plan, and Grading Plan are approved, except for platting purposes along the north side of Lots 32A thru 43A. The Erosion Control Plan, Table IV, Site Plan should be revised to be consistent with the Grading Plan, Table II, in regards to the Drainage Easement widths.

I recommend that platting be deferred until the Drainage Report proposing a "Prudent Line," defining limits of platting and development, is approved for the Middle Branch of the San Antonio Arroyo. If a "Prudent Line" is approved by this office, with no channel treatment required, a survey will be done to establish the metes and bounds of the thalweg of the channel and the "prudent lines" for platting purposes. This would also eliminate the need for the 6" unreinforced channel lining proposed by your Grading Plan. We will try to have a decision regarding the "Prudent Line" approach within two weeks.

If you have any questions regarding this project, call me at 766-7644.

Cordially,

Roger A. Green, P.E.

Roger A. Green, P.E.
C.E./Design Hydrology

cc: Roberson Construction Company

RAG/bsj

MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwayne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

December 23, 1985

Michael E. Kibbee
DMJM/Adam, Hamlyn & Anderson
5700 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: DRAINAGE REPORT FOR SANTA FE VILLAGE UNIT I, PHASE IV
SUBMITTED FOR REPLATTING AND WORK ORDER PROCESSING (E-10/D3)

Dear Mike:

In follow up to my previous letter dated December 9, 1985, in regards to the referenced submittal, I realized that replatting of Phase IV area is being proposed. Replatting requires submittal of a detailed revised Drainage Report. One specific item of concern is the arroyo along the north end of project site. For Preliminary Plat approval, the arroyo will need to be either:

1. proposed as a lined channel;
2. have interim treatment along existing Rights-of-Ways to protect proposed lots;
3. be left untreated with a prudent line proposed setback requirement for development;
4. be designed and constructed as a stable earth channel.

Your previous submittal of November 7, 1985, for Work Order processing was not consistent with standard procedures. Normally, after Preliminary Plat approval from Design Hydrology and DRB, construction drawings are prepared and submitted to Design Section for DRC review

MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwayne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

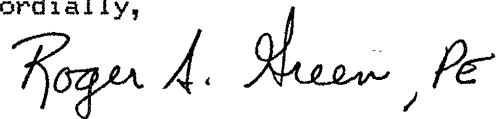
AN EQUAL OPPORTUNITY EMPLOYER

Michael E. Kibbee
December 23, 1985
Page Two of Two

and approval for the Work Order process. Submittals to this office (Design Hydrology) concerning the work order process are only needed when construction drawings have drainage schemes or details different from the approved Drainage Report.

If you have any questions, call me at 766-7644.

Cordially,

A handwritten signature in dark ink that reads "Roger A. Green, P.E." The signature is written in a cursive style with a large, stylized 'R' and 'G'.

Roger A. Green, P.E.
C.E./Design Hydrology Section

cc: Form letter to:
Roberson Construction Co.
6001 Atrisco Road, NW

RAG/bsj



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

December 9, 1985

Michael E. Kibbee
DMJM/Adam, Hamlyn & Anderson
5700 Harper Drive, NE Suite 280
Albuquerque, New Mexico 87109

RE: REVISED DRAINAGE REPORT FOR SANTA FE VILLAGE UNIT I, PHASE
IV - SUBMITTED NOVEMBER 12, 1985 FOR REPLATTING AND WORK
ORDER PROCESSING (E-10/D3)

Dear Michael:

I have reviewed the referenced submittal and find that the following items are not consistent with the revised Drainage Report dated July, 1982:

1. Carney Avenue @ Gable Street, R.C.P. is shown as 24" but is designed as 27" R.C.P. in Drainage Report downstream of double "A" catch basins.
2. Carney Avenue @ Bogart Street, R.C.P. diameters shown on drawing are not consistent with those designed in Drainage Report downstream of Double "B" catch basins.
3. Azuelo Avenue @ Bogart Street, drawings shown Type "A" catch basins, where Drainage Report calls for Double "A". Also, outlet R.C.P. size is not consistent.

MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwayne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

Michael E. Kibbee
December 9, 1985
Page Two of Two

4. Conrad Avenue @ Bogart Street, drawings show two 18" R.C.P. outletting into a 24" R.C.P., where the Drainage Report does not identify a combined outlet R.C.P.

Drawings must be consistent with Drainage Report or else submit revised design calculations for storm drainage systems showing Q, V, and HGL as required by the DPM. Also, provide calculations for minimum widths of Drainage Easements for storm drains according to formula in the DPM. Since Drainage Report requires concrete channels through Drainage Easements for excess runoff, provide a typical channel cross section and label on plan view. Channels must include freeboard according to the DPM and meet detail requirements of STD. DRWG. K-23 and the DPM.

Your submittal letter dated November 7, 1985, listed ~~vicinity map~~, replat, and a list of infrastructures as attachments, but none are with Drainage File. Please resubmit these items.

If you have any questions or comments regarding this project, please call me at 766-7644.

Cordially,

Roger A. Green, P.E.

Roger A. Green, P.E.
C.E./Design Hydrology Section

cc: Standard Letter to:
Roberson Construction Co.
6001 Atrisco Road, NW 87124

RAG/bsj

SITE LOCATION

Santa Fe Village Unit 1 is located on the northwest quadrant of Albuquerque and is bounded on the north by existing townhouse development, on the east by existing San Antonio Arroyo, on the south by the south branch of the San Antonio Arroyo and on the west by Rincon Subdivision. The site was rough graded in 1984 to the existing contours shown on Plate I.

PROPOSED DEVELOPMENT

Santa Fe Village Unit 1 is zoned SU-1 for RT purposes and will be developed as townhouses or single family, detached, with a density of approximately 7 dwelling units per acre. Lots will be a minimum of 45 feet wide and 95 feet deep. Streets will be 32 feet wide from face to face of curb. Bogart Street south of Conrad Avenue will transition to 40 wide from face to face of curb.

OFFSITE DRAINAGE

Rincon Subdivision will contribute approximately 20 cfs from the west, see drainage report F10/D3. Santa Fe Village Unit III will contribute approximately 1.5 cfs from the south, see drainage report F10/D6. Three (3) lots from Santa Fe Village Unit 1, Phase III will drain into this basin, see drainage report E10/D2. For purposes of design, these will be included with the internal drainage.

INTERNAL DRAINAGE

All lot drainage will be directed into the street. Assume landscaping to be 25% southwest and 75% grass, see Page 21. Offsite drainage combined with internal flows will be directed to the intersection of Conrad and Bogart. Two catch basins will be used to take nuisance flows into the existing storm sewer which outlets into the south branch of the San Antonio Arroyo. This outlet was constructed with City Project Number 2794.

The intersection at Conrad and Bogart is designed to be a sump. The catch basin on Bogart is at the low point in this sump. An overflow at this catch basin will carry excess flows into the San Antonio Arroyo. Maximum depth of water at this point will be 0.80 feet. This is less than the 0.87 feet allowed. The outlet for this overflow will be built into the existing riprap in the San Antonio Arroyo. It will also be sized to carry the Q100 of 32.9 cfs in the event the storm sewer becomes clogged.

STORM SEWER DESIGN

Capacities are based on the existing 24" diameter outlet into the south branch of the San Antonio Arroyo. The type "A" catch basin on Conrad Ave. will take 5.4 cfs and the modified double "D" catch basin on Bogart Street will take 13.5 cfs. At the junction of the 24" diameter pipe and the channel sidewall, assume the water surface in the south branch of the San Antonio Arroyo to be 5124.10 (see City drawing 2794). Soffit of existing 24" diameter pipe is 5124.06. System is designed as a pressure condition.

13.5
5.4
18.9 cfs

OVERFLOW DESIGN

The catch basin on Bogart Street will be a double "D" modified to have a 6" high curb on the east side. This overflow is designed as a weir and will allow the water to flow over the sidewalk, see Section B-B, Page 31.

Critical water depth at the face of curb is 0.25 feet. Critical water depth at property line is 0.39 feet. This creates a maximum water depth in the street of 0.80 feet. The pool created by this condition will be contained within the street right-of-way. The entrance to the outlet channel will be paved with additional sidewalk to protect against erosion.

In the event the storm sewer becomes clogged the water depth at the face of curb will be 1.11 feet. Although this is greater than the allowable, this is considered an emergency situation and will not be considered in the design.

DMJM

ALBUQUERQUE

PROJECT

SANTA FE VILLAGE UNIT 1

PROJECT NO.

4605-20-01

PAGE

21

BY:

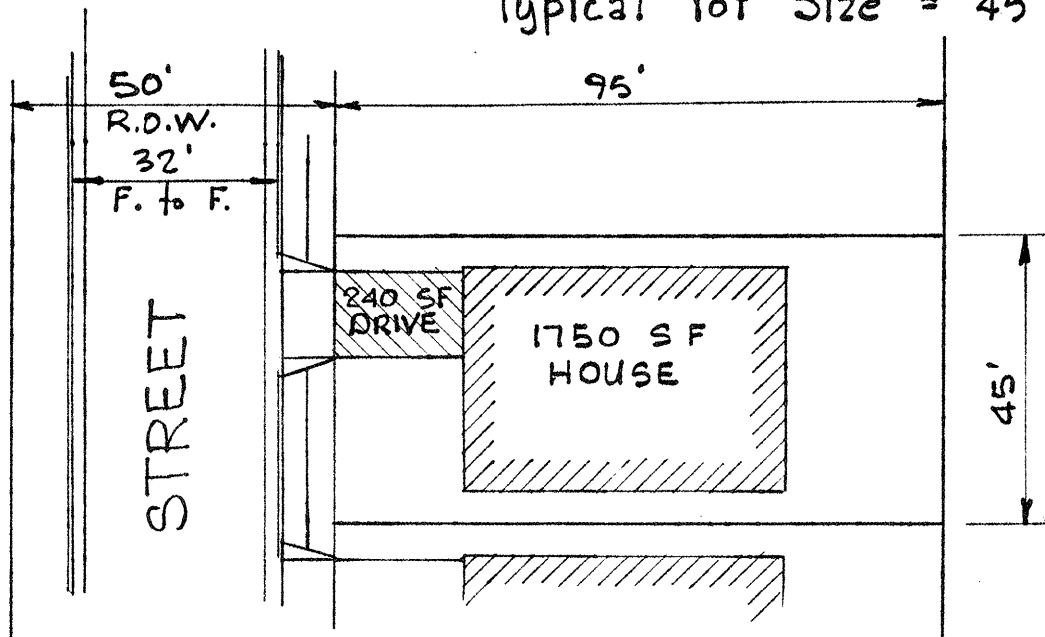
LEE

DATE:

11/3/86

SUBJECT

Typical lot Area = 4275 S.F.
 Typical lot Size = 45' x 95'



Typical Bldg size = 35' x 50'
 Typical Driveway size = 12' x 20'

LANDSCAPING

75% GRASS ; 25% S.W.

PERVIOUS AREA = 2285 #

$$570 (0.70) = 400$$

$$1715 (0.30) = 515$$

2285

915

$$915/2285 = 0.40 C_{perv.}$$

STREET

$$9 (0.30) = 2.70$$

$$2.70/9 = 0.30 C_{perv.}$$

BUILDINGS

IMPERVIOUS AREA = 1990 #

$$1750 (0.90) = 1575$$

$$240 (1.00) = 240$$

1990

1815

$$1815/1990 = 0.91 C_{imp.}$$

STREET

$$33 (0.90) = 29.7$$

$$8 (1.00) = 8.0$$

41

37.7

$$37.7/41 = 0.92 C_{imp.}$$

DMJM

ALBUQUERQUE

PROJECT

SANTA FE VILLAGE UNIT I

PROJECT NO.

4605-20-01

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BY:

LEE

DATE:

11/3/86

SUBJECT

DRAINAGE BASIN C

Area = 244,000 S.F.

Area impervious = 126,000 S.F.

 $(39)(1990) + (41)(1175)$

Area pervious = 118,000 S.F.

$$\begin{array}{rcl} \text{Comp C} = & 118,000 (0.40) = & 47,200 \\ & 126,000 (0.91) = & 114,660 \\ \hline & 244,000 & 161,860 \end{array}$$

$$161,860 / 244,000 = \underline{0.66}$$

SUBJECT

DRAINAGE BASIN A

(data from Drainage Report
for Rincon Subdivision)

Analysis Point ①

$$A = 7.55 \text{ Acres}$$

$$C = 0.58$$

$$L = 1300$$

$$S = .017$$

$$T_c = 10 \text{ min. (9.36)}$$

$$I = 4.81$$

$$Q = 20.36$$

$$V = 3.5$$

$$d = 0.42$$

DRAINAGE BASIN B

(data from Drainage Report
for Santa Fe Village Unit III)

Analysis Point ②

$$A = 0.42 \text{ Acres}$$

$$L = 600$$

$$S = .025$$

$$T_c = 10 \text{ min (4.44)}$$

$$I = 4.65$$

$$Q = 1.50$$

$$V = 1.0$$

$$d = .18$$

$$14600 (.90) = 13140$$

$$3700 (.25) = 925$$

$$\begin{array}{r} 13140 \\ + 925 \\ \hline 14065 \end{array}$$

$$C = 0.77$$

DMJM

ALBUQUERQUE

PROJECT

SANTA FE VILLAGE UNIT 1

PROJECT NO.

4605-20-01

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BY:

LEE

DATE:

11/3/86

SUBJECT

DRAINAGE BASIN C

A = 5.60 Acres

L = 875

S = .013

 $T_c = 10 \text{ min (7.64)}$ $I = 4.65$ $Q = 17.19$ $V = 1.46$ $d = .42$ $C = 0.66$

Analysis Point ③

A = 13.15

L = 2175

S = .015

 $T_c = 14.59$ $I = 3.85$ $Q = 31.39$ $V = 2.49$ $d = .49$

5.6

7.6

0.4

13.6

31.4

1.5

32.9

$$\textcircled{A} \quad 328878 \quad (.58) = 190700$$

$$\textcircled{C} \quad \begin{array}{r} 244000 \quad (.66) = 161860 \\ \hline 572878 \end{array} \quad \begin{array}{r} 352560 \end{array}$$

 $C = 0.62$

7

DMJM

ALBUQUERQUE

PROJECT

SANTA FE VILLAGE UNIT 1

PROJECT NO.

4605-20-01

PAGE

25

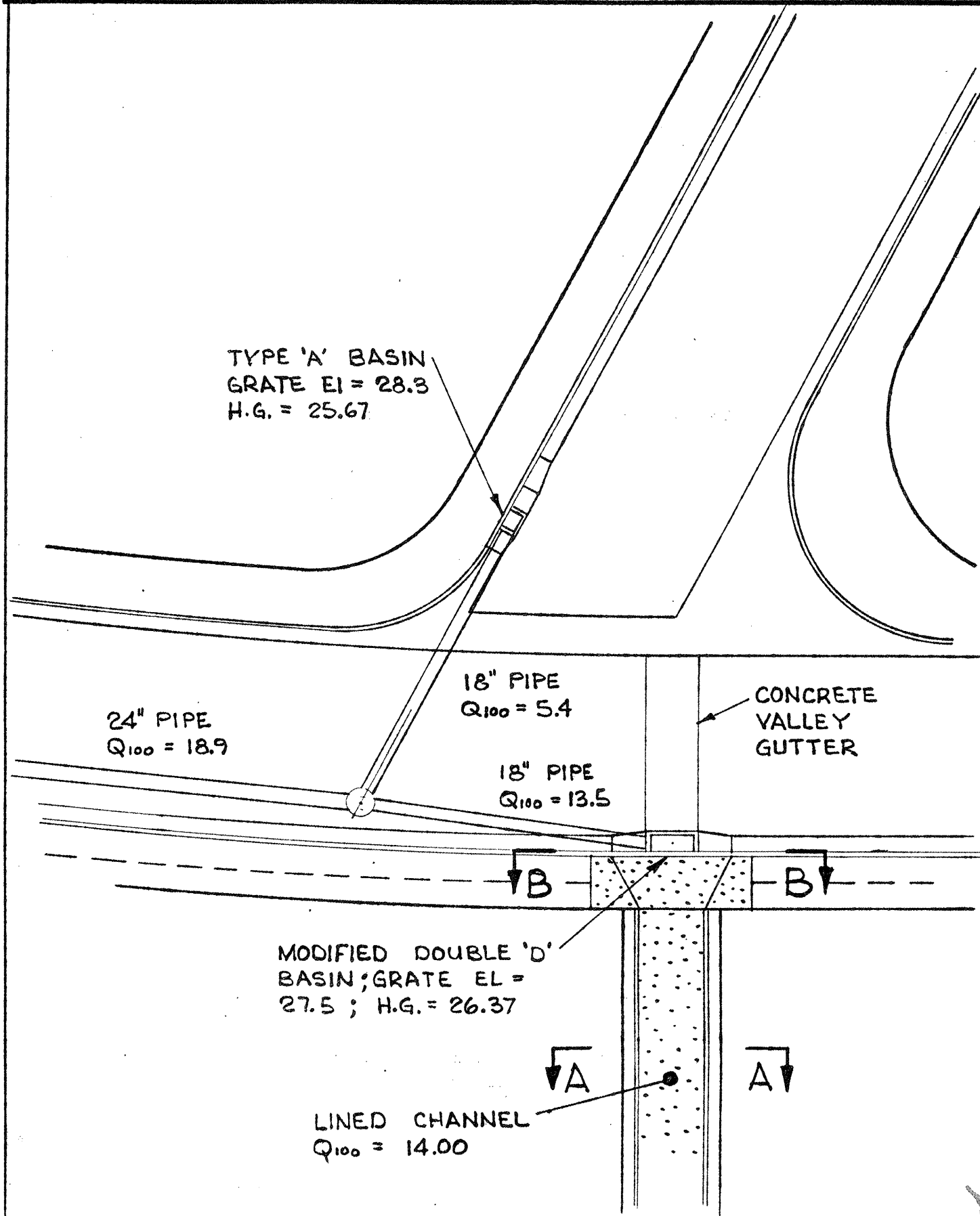
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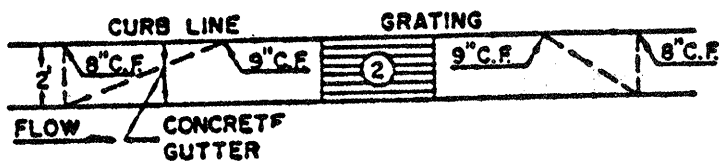
LEE

DATE:

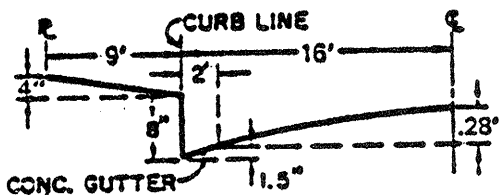
11/3/86

SUBJECT

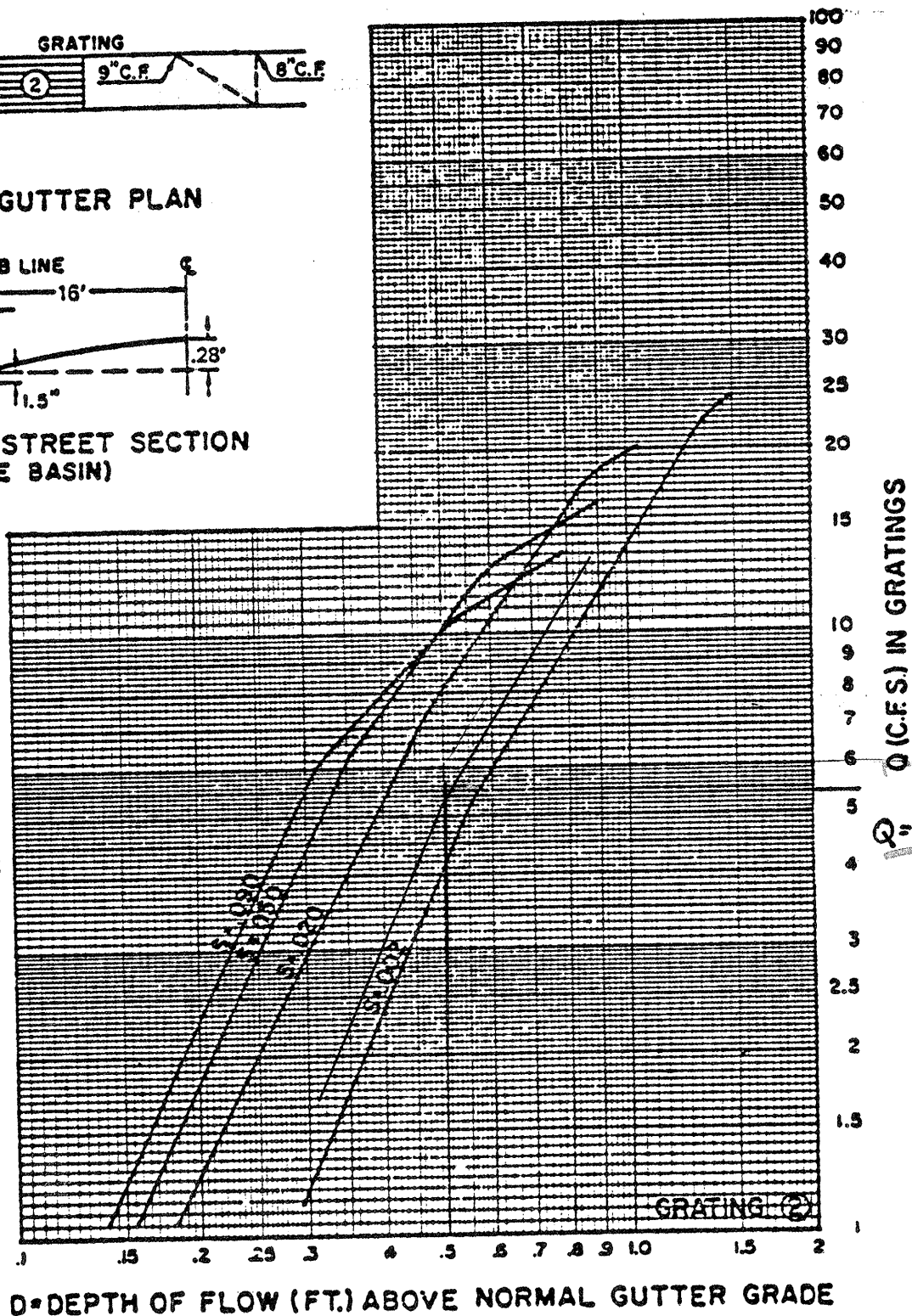




GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION (ABOVE BASIN)



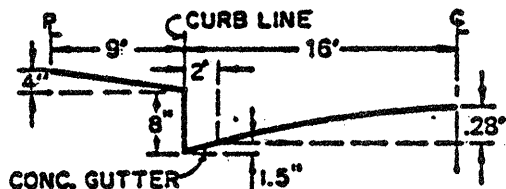
1/2 street flow depth
16 cfs @ .008 ft/s
⇒ D = 0.53'

GRATING CAPACITIES FOR TYPE DOUBLE

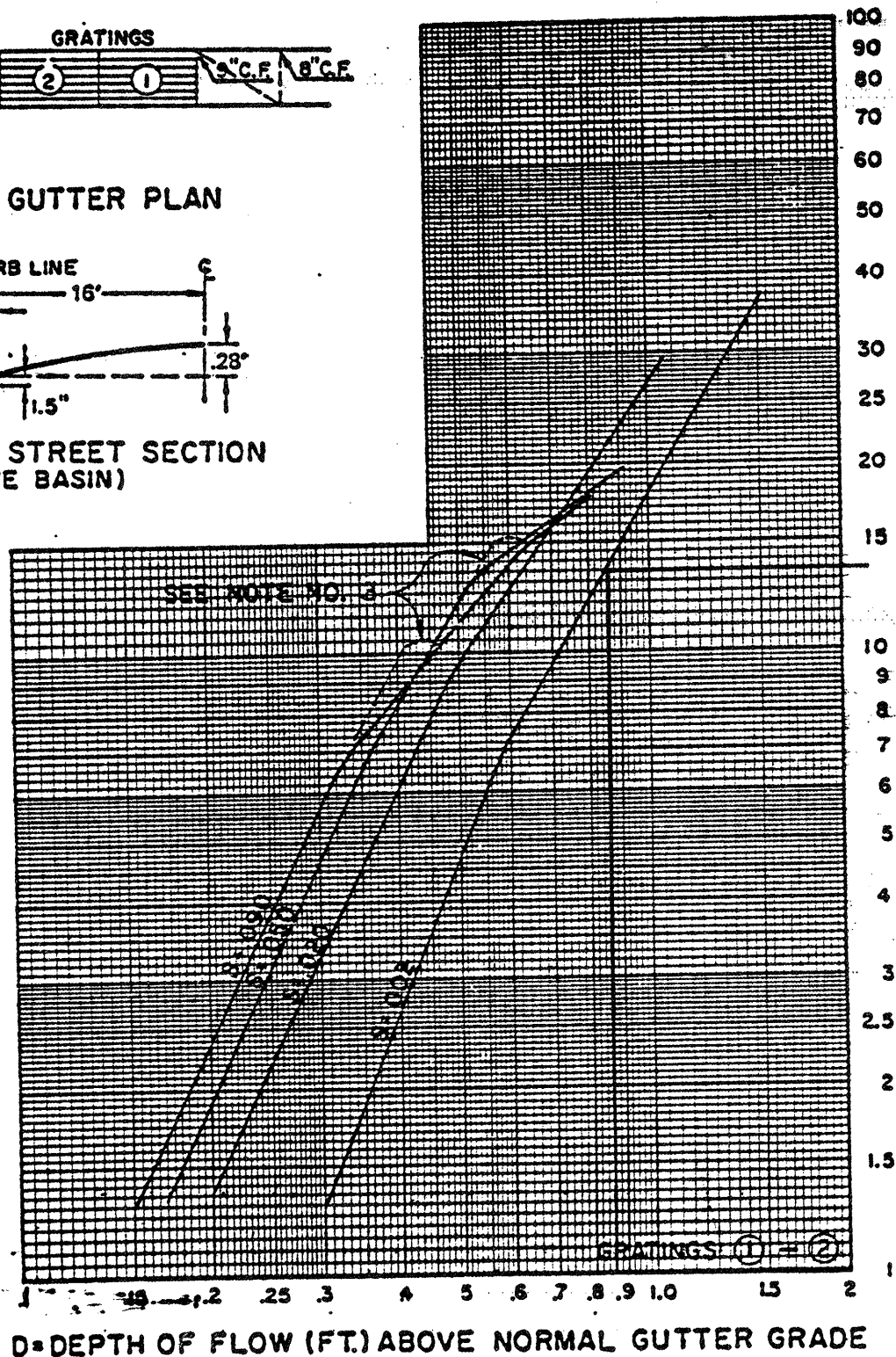
"C." AND "D" Page 27

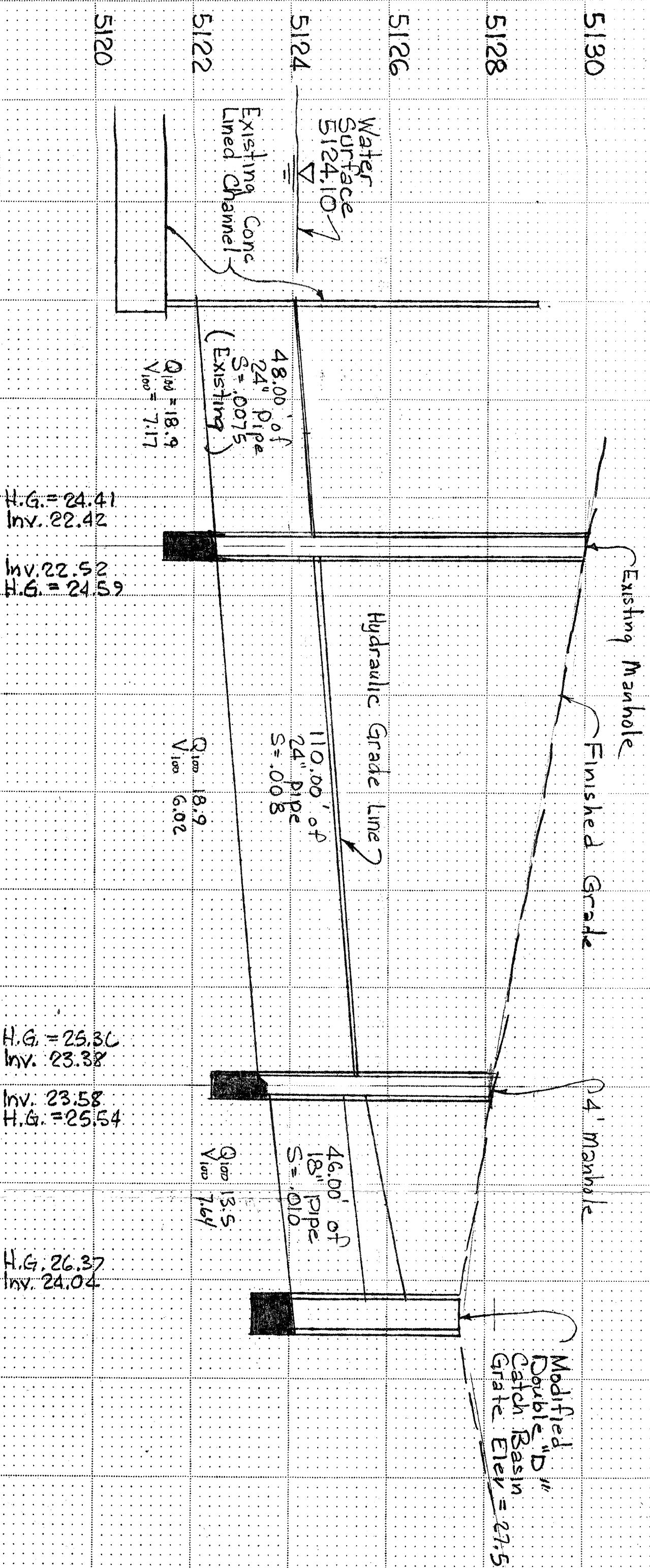


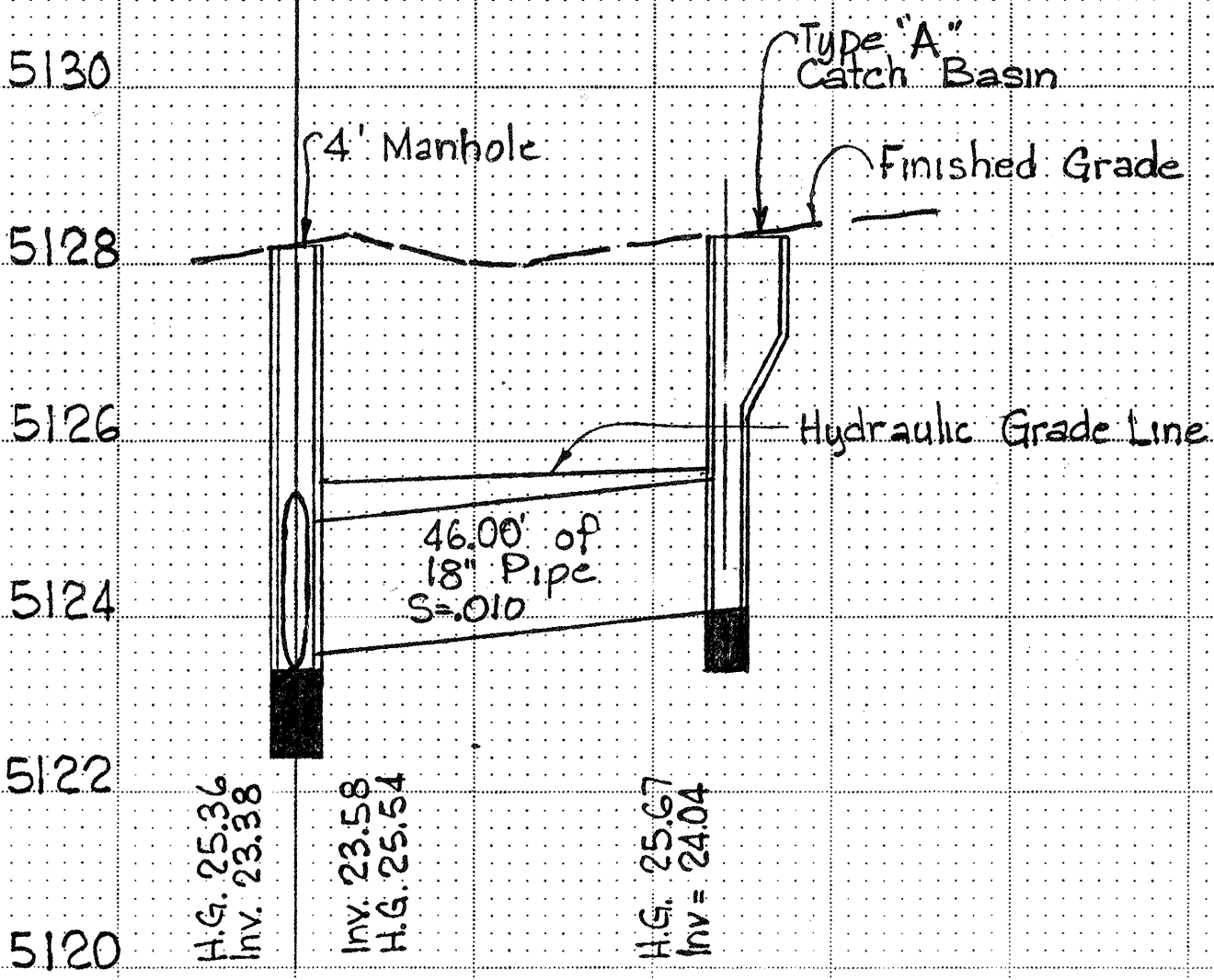
GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION (ABOVE BASIN)







13
DMJM

ALBUQUERQUE

PROJECT

SANTA FE VILLAGE UNIT 1

PROJECT NO.

4605-20-01

PAGE

31

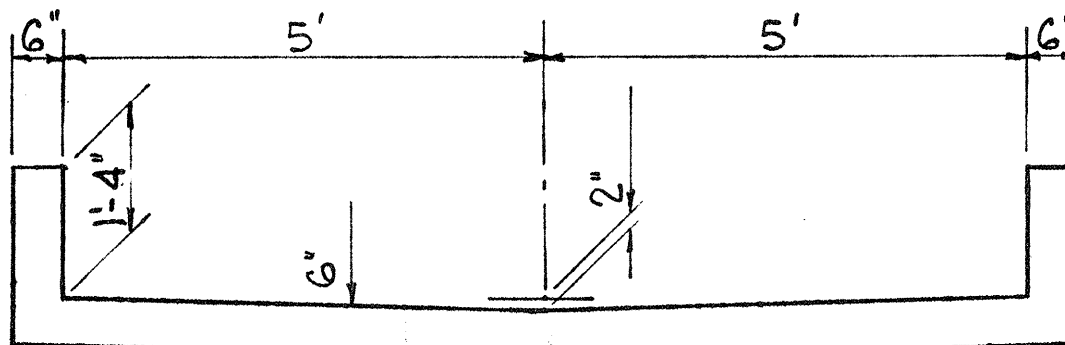
BY:

LEE

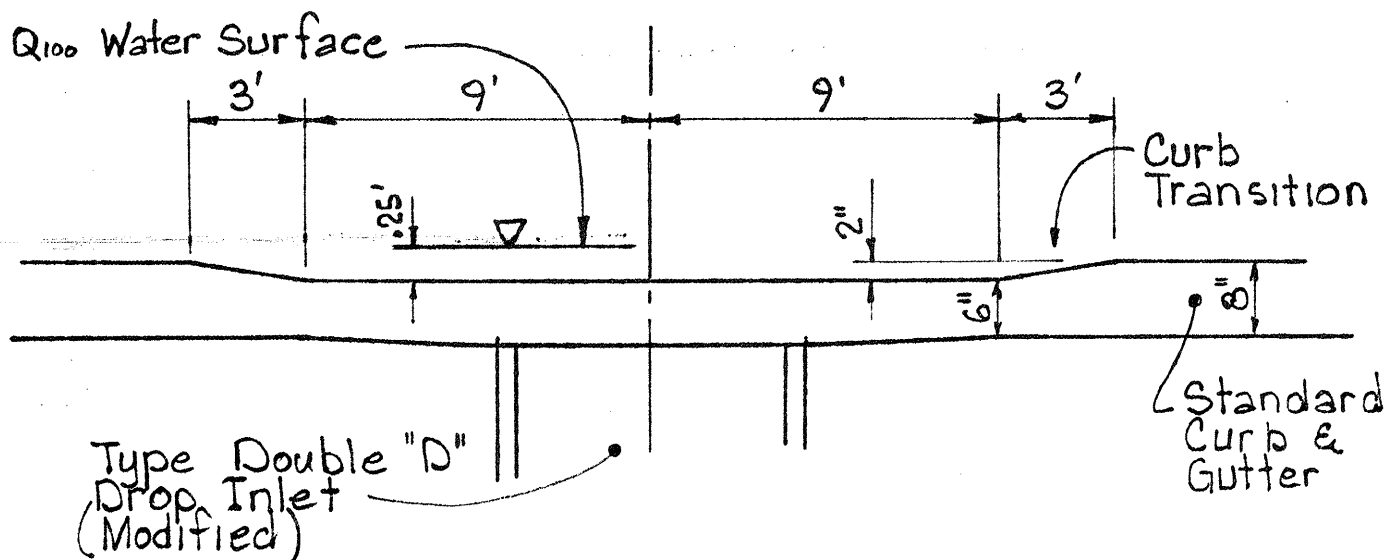
DATE:

11/5/86

SUBJECT



SECTION A-A



SECTION B-B

TRAPEZOIDAL CHANNEL ANALYSIS
CRITICAL DEPTH COMPUTATION
November 12, 1986

=====

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Flow Rate (cubic feet per second).....	14.0
Manning's Roughness Coefficient (n-value).....	0.0150
Channel Side Slope - Left Side (horizontal/vertical)....	12.00
Channel Side Slope - Right Side (horizontal/vertical)...	12.00
Channel Bottom Width (feet).....	18.0

=====

PROGRAM RESULTS:

DESCRIPTION	VALUE
Critical Depth (feet).....	0.25
Critical Slope (feet per foot).....	0.0054
Flow Velocity (feet per second).....	2.66
Froude Number.....	1.000
Velocity Head (feet).....	0.11
Energy Head (feet).....	0.36
Cross-Sectional Area of Flow (square feet).....	5.27
Top Width of Flow (feet).....	24.02

=====

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A manual with equations & flow chart is available.

TRAPEZOIDAL CHANNEL ANALYSIS
CRITICAL DEPTH COMPUTATION
November 12, 1986

```
=====
PROGRAM INPUT DATA:
DESCRIPTION                                                    VALUE
-----
Flow Rate (cubic feet per second)..... 14.0
Manning's Roughness Coefficient (n-value)..... 0.0150
Channel Side Slope - Left Side (horizontal/vertical).... 0.00
Channel Side Slope - Right Side (horizontal/vertical)... 0.00
Channel Bottom Width (feet)..... 10.0
=====
```

```
=====
PROGRAM RESULTS:
DESCRIPTION                                                    VALUE
-----
Critical Depth (feet)..... 0.39
Critical Slope (feet per foot)..... 0.0050
Flow Velocity (feet per second)..... 3.56
Froude Number..... 1.000
Velocity Head (feet)..... 0.20
Energy Head (feet)..... 0.59
Cross-Sectional Area of Flow (square feet)..... 3.93
Top Width of Flow (feet)..... 10.00
=====
```

```
=====
TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A manual with equations & flow chart is available.
=====
```

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION
November 13, 1986

=====

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Flow Rate (cubic feet per second).....	14.0
Channel Bottom Slope (feet per foot).....	0.0100
Manning's Roughness Coefficient (n-value).....	0.0150
Channel Side Slope - Left Side (horizontal/vertical)....	12.00
Channel Side Slope - Right Side (horizontal/vertical)...	12.00
Channel Bottom Width (feet).....	18.0

=====

PROGRAM RESULTS:

DESCRIPTION	VALUE
Normal Depth (feet).....	0.21
Flow Velocity (feet per second).....	3.25
Froude Number (Flow is Super-Critical).....	1.324
Velocity Head (feet).....	0.16
Energy Head (feet).....	0.37
Cross-Sectional Area of Flow (square feet).....	4.31
Top Width of Flow (feet).....	23.04

=====

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A manual with equations & flow chart is available.

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION
November 13, 1986

=====

PROGRAM INPUT DATA:
DESCRIPTION

	VALUE
Flow Rate (cubic feet per second).....	14.0
Channel Bottom Slope (feet per foot).....	0.0100
Manning's Roughness Coefficient (n-value).....	0.0150
Channel Side Slope - Left Side (horizontal/vertical)....	0.00
Channel Side Slope - Right Side (horizontal/vertical)...	0.00
Channel Bottom Width (feet).....	10.0

=====

PROGRAM RESULTS:
DESCRIPTION

	VALUE
Normal Depth (feet).....	0.32
Flow Velocity (feet per second).....	4.42
Froude Number (Flow is Super-Critical).....	1.386
Velocity Head (feet).....	0.30
Energy Head (feet).....	0.62
Cross-Sectional Area of Flow (square feet).....	3.17
Top Width of Flow (feet).....	10.00

=====

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A manual with equations & flow chart is available.

TRAPEZOIDAL CHANNEL ANALYSIS
CRITICAL DEPTH COMPUTATION
November 13, 1986

=====

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Flow Rate (cubic feet per second).....	33.0
Manning's Roughness Coefficient (n-value).....	0.0150
Channel Side Slope - Left Side (horizontal/vertical)....	0.00
Channel Side Slope - Right Side (horizontal/vertical)...	0.00
Channel Bottom Width (feet).....	10.0

=====

PROGRAM RESULTS:

DESCRIPTION	VALUE
Critical Depth (feet).....	0.70
Critical Slope (feet per foot).....	0.0044
Flow Velocity (feet per second).....	4.74
Froude Number.....	1.000
Velocity Head (feet).....	0.35
Energy Head (feet).....	1.05
Cross-Sectional Area of Flow (square feet).....	6.97
Top Width of Flow (feet).....	10.00

=====

TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A manual with equations & flow chart is available.

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION
November 13, 1986

=====

PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Flow Rate (cubic feet per second).....	33.0
Channel Bottom Slope (feet per foot).....	0.0100
Manning's Roughness Coefficient (n-value).....	0.0150
Channel Side Slope - Left Side (horizontal/vertical)....	0.00
Channel Side Slope - Right Side (horizontal/vertical)...	0.00
Channel Bottom Width (feet).....	10.0

=====

PROGRAM RESULTS:

DESCRIPTION	VALUE
Normal Depth (feet).....	0.54
Flow Velocity (feet per second).....	6.13
Froude Number (Flow is Super-Critical).....	1.472
Velocity Head (feet).....	0.58
Energy Head (feet).....	1.12
Cross-Sectional Area of Flow (square feet).....	5.38
Top Width of Flow (feet).....	10.00

=====

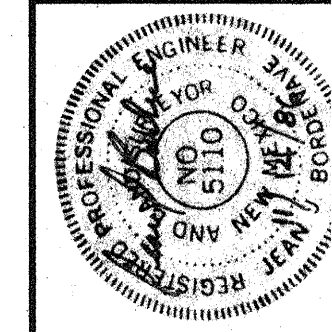
TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.1 (c) 1986
Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092
(713) 895-8322. A manual with equations & flow chart is available.



SANTA FE VILLAGE UNIT 1
DRAINAGE BASIN MAP

TITLE	
SHEET	OF

JOE NUMBER	4605-20-01
FILE NUMBER	
DATE	Nov. 12, 1986

[illegible]

LEE	11/86
DESIGNED	DATE
JM	11/86
DRAWN	DATE
LEE	11/86

CLIENT

DMJM
Daniel, Mann,
5700 Harp
Albuquerque
(505) 822

DRAINAGE CHANNEL RIGHT OF WAY
100 YEAR FLOOD PLAIN

SCALE: 1"=50'

GAS CO. PIPE LINE EASEMENT
DRAINAGE CHANNEL RIGHT OF WAY

Taper dike from
0' to 5' high.

SECTION A-A

SECTION B-B

SECTION C-C

4' Snow Fence

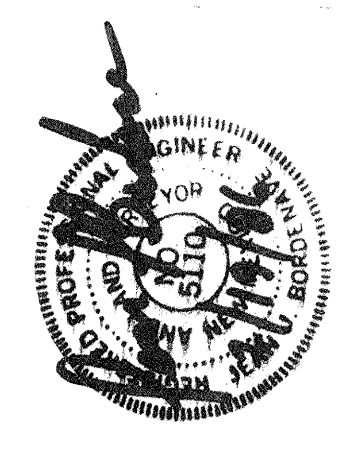
4' Snow Fence

5140

Revised May 2, 1986

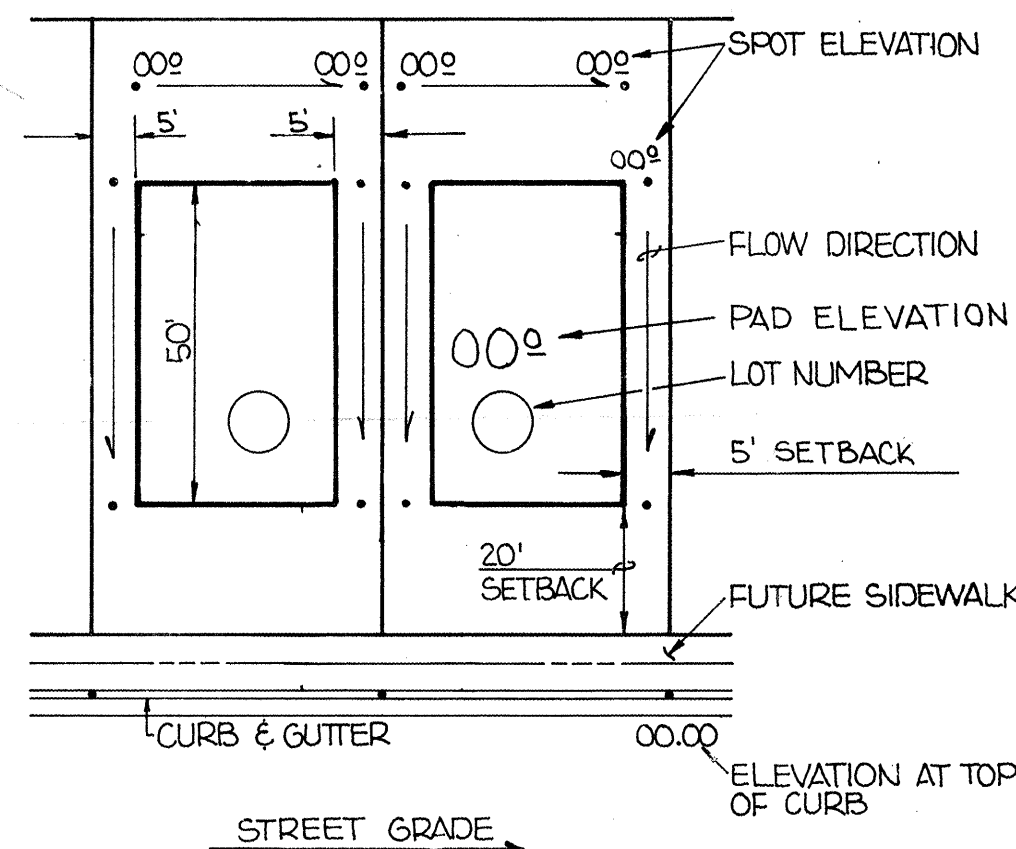
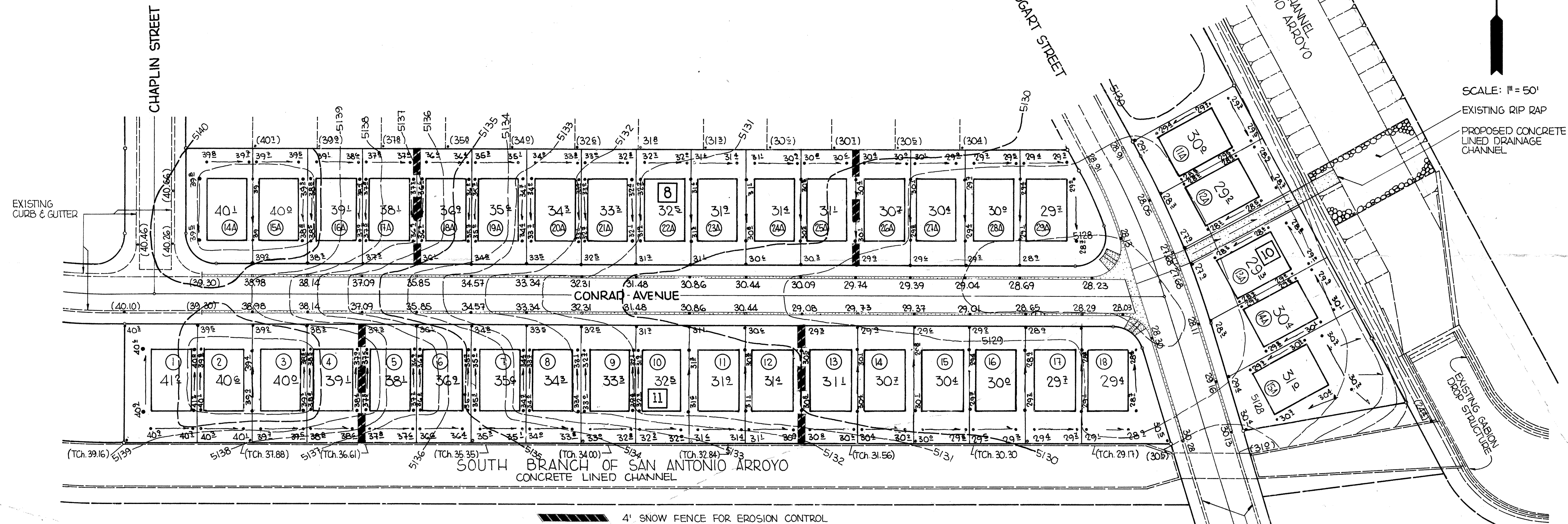
CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENGINEERING DIVISION MAY 05 1986					
TITLE: SANTA FE VILLAGE UNIT II EROSION CONTROL PLAN					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E. - Design			Traffic		
A.C.E. - Hydrology			Water		
DRAWING NO.	2635	MAP NO.	E10 & F10	SHEET	OF

SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
NO.	FIELD NOTES	AC5 "G-E-10"	ELEV. 5134.777	CONTRACTOR	DATE
BY		A square "L" chisled on top of conc. curb at the East North East curb return of Atrisco Road and Flor Del Sol Place NW.		INSPECTOR	DATE
				FIELD CHANGE BY	DATE
				VERIFICATION BY	DATE
				CORRECTED BY	DATE
				MICRO-FILM	INFORMATION
				RECORDED BY	DATE
				NO.	



ENGINEER'S SEAL

NO.	DATE	REMARKS	BY
		DESIGN	
		REVISIONS	
		DATE	
		DATE	
		DATE	



TYPICAL LOT GRADING

NOTE: FINISH FLOOR ELEVATION EQUALS
FINISH PAD ELEVATION PLUS 4".

EROSION CONTROL MEASURES:

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

1. EXISTING TOPOGRAPHY IS BASED ON A FIELD SURVEY BY D.M.J.M. DATED NOVEMBER 1986.
2. SOILS REPORT LABELED VOLCANO CLIFFS - PHASE I DATED MAY 13, 1981 WILL BE USED FOR EARTHWORK SPECIFICATIONS.

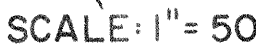
LEGEND

- 5130- EXISTING CONTOUR
- (302) EXISTING SPOT ELEVATION
- 302 PROPOSED SPOT ELEVATION
- (Tch300) TOP OF CHANNEL(EXISTING)
- DIRECTION OF FLOW
- CONCRETE

AS BUILT INFORMATION			BENCH MARKS			SURVEY INFORMATION			ENGINEER'S SEAL		
CONTRACTOR	WORK	DATE	CONTRACTOR	WORK	DATE	NO.	BY	DATE			
INSPECTED BY	DATE		INSPECTED BY	DATE							
FIELD	DATE		FIELD	DATE							
VERIFICATION BY	DATE		VERIFICATION BY	DATE							
MICRO-FILM INFORMATION			MICRO-FILM INFORMATION			REVISIONS			DESIGN		
RECORDED BY	DATE		RECORDED BY	DATE		NO.	DATE		DESIGNED BY	DATE	
									DRAWN BY	DATE	
									CHECKED BY	DATE	

CITY OF ALBUQUERQUE MUNICIPAL DEVELOPMENT DEPARTMENT ENGINEERING DIVISION					
TITLE: SANTA FE VILLAGE UNIT I PHASE V GRADING PLAN & EROSION CONTROL PLAN					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
DRAWING NO. 3116		MAP NO. F-10		SHEET 3 OF 11	

APPROVED FOR ROUGH
GRADING ±
CITY-HYDROLOGIST
DATE 4-21-92



JUL 09 1984

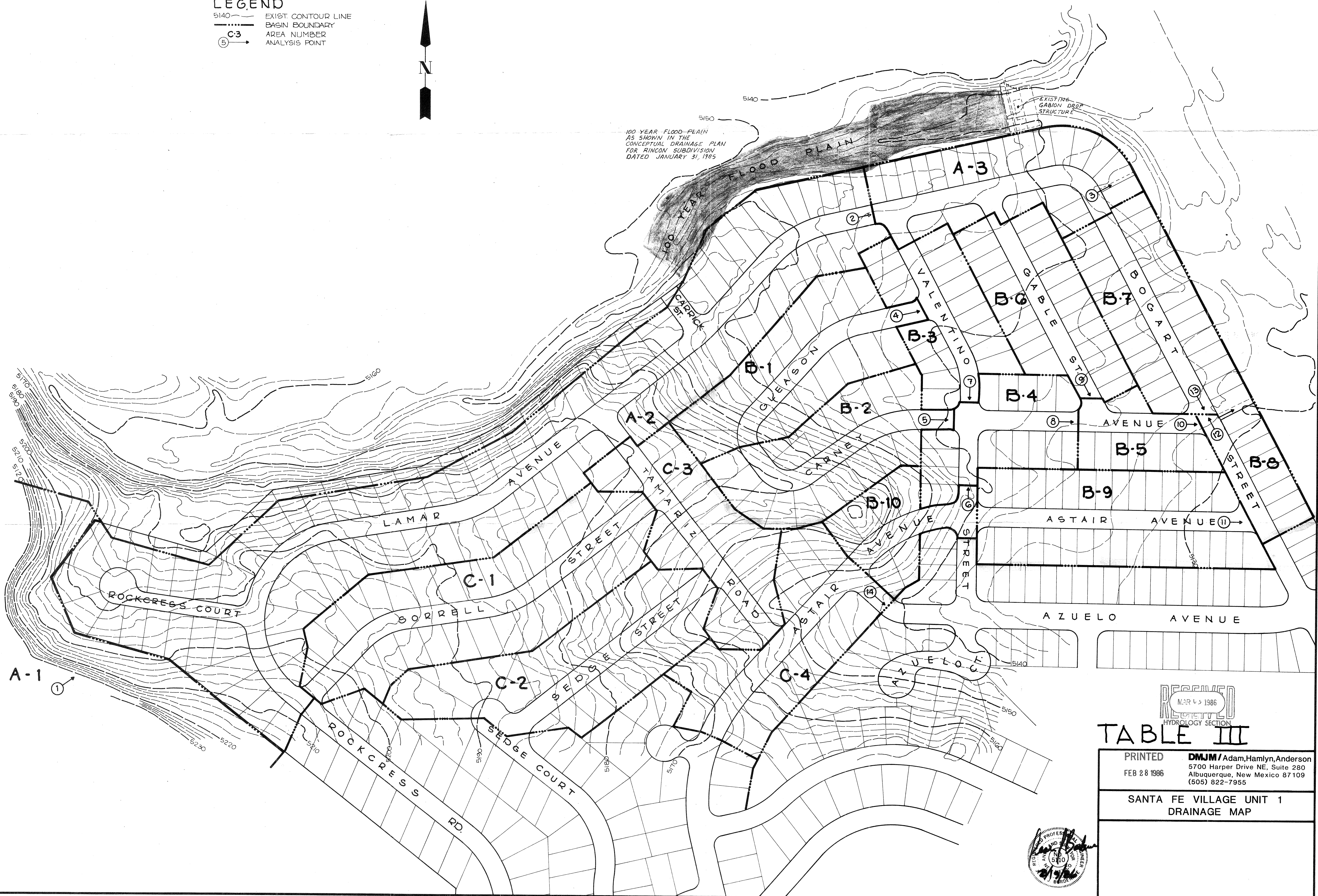
APPROVED FOR ROUGH
GRADING $\pm 1'$
Billy G. Goodley 7/3/84
CITY-HYDROLOGIST DATE

LEGEND

5140 ——— EXIST. CONTOUR LINE
 - - - - - BASIN BOUNDARY
 C-3 AREA NUMBER
 ⑤ ANALYSIS POINT



100 YEAR FLOOD-PLAIN
 AS SHOWN IN THE
 CONCEPTUAL DRAINAGE PLAN
 FOR RINCON SUBDIVISION
 DATED JANUARY 31, 1985



RECEIVED
 MAR 13 1986
 HYDROLOGY SECTION

TABLE III

PRINTED **DMJM**/Adam, Hamlyn, Anderson
 FEB 28 1986 5700 Harper Drive NE, Suite 280
 Albuquerque, New Mexico 87109
 (505) 822-7955

SANTA FE VILLAGE UNIT 1
 DRAINAGE MAP

