HYDROLOGY K19/D65 THREE PLANS

K 19-D65

3 PLANS

COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

March 27, 1986

Joe Jones
Denney-Tibljas-McLean & Associates, Inc.
2400 Comanche Road, NE
Albuquerque, New Mexico 87107

RE: REVISED DRAINAGE PLAN FOR SUN PUEBLO APARTMENTS
(K-19/D66) RECEIVED MARCH 13, 1986

Dear Mr. Jones:

The referenced plan, dated March 6, 1986, is approved for Building Permit sign-off.

Please attach a copy of this approved plan along with the appropriately approved "Drainage Facilities Within City Right-of-Way" document to both sets of construction plans.

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

Cordially,

Billy J. Goolsby

Billy J. Goolsby, P.E.
C.E./Design Hydrology

cc: Dale Cox, Empire West Companies

BJG/bsj

DRAINAGE INFORMATION SHEET

PROJECT TITLE: SunPueblo Apartments ZONE ATLAS/DRNG. FILE #: K-19/D66

LEGAL DESCRIPTION: Unplatted land between Central Ave., Zuni Rd., Shaw Addition Tract A-1 and La Mesa No. 2.

CITY ADDRESS:

ENGINEERING FIRM: DENNEY-TIBLJAS-McLEAN & ASSOC, INC. CONTACT: Joe Jones

ADDRESS: 2400 Comanche NE, Albuquerque, NM 87107 PHONE: 884-0696

OWNER: Empire West Companies CONTACT: Dale Cox

ADDRESS: 5656 E. Grant-Suite 100, Tucson, AZ 85712 PHONE: (602) 886-4000

ARCHITECT: Empire West Companies CONTACT: Dale Cox

ADDRESS: 5656 E. Grant-Suite 100, Tucson, AZ 85712 PHONE: (602) 886-4000

SURVEYOR: DENNEY-TIBLJAS-McLEAN & ASSOC, INC. CONTACT: Fred Denney

ADDRESS: 2400 Comanche NE, Albuquerque, NM 87107 PHONE: 884-0696

CONTRACTOR: N/A CONTACT:

ADDRESS: PHONE:

RECEIVED
MAR 13 1986
HYDROLOGY SECTION

PRE-DESIGN MEETING:

____ YES
____ NO
____ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB No.
EPC No.
PROJ. No.

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
____ DRAINAGE PLAN
____ CONCEPTUAL GRADING & DRAINAGE PLAN
____ GRADING PLAN
____ EROSION CONTROL PLAN
____ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

____ SECTOR PLAN APPROVAL
____ SKETCH PLAT APPROVAL
____ PRELIMINARY PLAT APPROVAL
____ SITE DEVELOPMENT PLAN APPROVAL
____ FINAL PLAT APPROVAL
X BUILDING PERMIT APPROVAL
____ FOUNDATION PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY APPROVAL
____ ROUGH GRADING PERMIT APPROVAL
____ GRADING/PAVING PERMIT APPROVAL
____ OTHER _____ (SPECIFY)

DATE SUBMITTED: 3/12/86

BY: Joe Jones
JOE JONES

REV. 10/85

dtm & associates, inc
Denney-Tibljas-McLean & Associates, Inc.
Consulting Engineers ■ Planners ■ Surveyors

March 11, 1986

HAND DELIVERED

Mr. Carlos Montoya
City of Albuquerque
Hydrology Department
123 Central Avenue NW
Albuquerque, NM 87103

RECEIVED
MAR 13 1986
HYDROLOGY SECTION

Re: SunPueblo Apartments
DTM Job No. 812.22
(K-19/D66)

Dear Carlos:

Enclosed for your approval is one copy of the Drainage and Grading Plan for the above referenced project.

Prior to our last submittal, a few buildings have been shifted onsite. However, these shifts have not affected the concept of the proposed drainage scheme.

The comments of your February 28, 1986, letter have been addressed as follows:

1. Enclosed is a copy of the proposed Plat of the property.
2. Elevations have been adjusted such that the maximum slope along the East Property Line is no greater than 3:1.
3. A grass swale has been provided to carry any excess flow from CB #1 to Central Avenue. Excess flow from CB #2 will back up and discharge out the drive on Zuni Road.
4. The curb elevation has been changed.
5. The runoff will be conveyed to Central Avenue and Zuni Road as per Comment No. 3.

2400 COMANCHE ROAD, NE ■ ALBUQUERQUE, NM 87107
TELEPHONE (505) 884-0696

6. In a telephone conversation I had with Mr. Jim Fink on March 7, 1986, Mr. Fink suggested that since the HGL was not shown on the as-built drawings for the storm sewers on Central and Zuni, the HGL can be assumed at the soffit of the connector pipe on the existing storm drain. However, to be somewhat conservative, I added 0.5' to the soffit elevation and began the HGL calculations at that point.

7. Sidewalk culverts will be used onsite. These will be privately maintained.

This should address all comments for subject project. If you have any questions, please feel free to call.

Sincerely,

Joe Jones

JJ/klb
Enclosures
cc: Mr. Dale Cox

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

February 28, 1986

Joe Jones
Denney-Tibljas-McLean & Associates, Inc.
2400 Comanche Road, NE
Albuquerque, New Mexico 87107

RE; DRAINAGE PLAN FOR SUN PUEBLO APARTMENTS
RECEIVED FEBRUARY 10, 1986 (K-19/D66)

Dear Mr. Jones:

The above referenced plan, dated February 6, 1986, is approved for Rough Grading only.

Prior to Foundation and Building Permit release, the following items need to be addressed:

1. Submit a replat of the property.

2. It appears that the east property line requires retaining walls.

3. Do the proposed catch basins have any provisions for clogging?

4. Catch Basin 2 rim elevation is only 0.2' lower than the curb. The calculations show that the water surface for the grate will be 0.55' above the grate.

5. Please show where the runoff will be conveyed to if the grates clog.

6. Your calculations should include the storm drain connector pipe between the catch basin and the street storm drain pipe.

7. Are sidewalk culverts going to be used with the grass swales?

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

Cordially,

Carlos A. Montoya

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

CAM/bsj

dtm & associates, inc
Denney-Tibljas-McLean & Associates, Inc.
Consulting Engineers ■ Planners ■ Surveyors

February 10, 1986

HAND DELIVERED

RECEIVED
FEB 10 1986
HYDROLOGY SECTION

Mr. Carlos Montoya
Hydrology Department
City of Albuquerque
123 Central Avenue NW
Albuquerque, NM 87103

Re: SunPueblo Apartments
DTM Job No. 812.22
K19-D66

Dear Carlos:

Enclosed is one copy of the Drainage and Grading Plan for the above referenced project.

In order to expedite construction, we would like to obtain a Rough Grading Permit, Foundation Permit and Building Permit.

The site is presently in the process of being replatted.

If you have any questions, please feel free to call.

Sincerely,

Joe Jones

Joe Jones

JJ/klb
Enclosure

2400 COMANCHE ROAD, NE ■ ALBUQUERQUE, NM 87107
TELEPHONE (505) 884-0696

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

November 25, 1985

Joe Jones
Denney-Tibljas-McLean & Associates, Inc.
2400 Comanche Road NE
Albuquerque, NM 87107

REF: CONCEPTUAL GRADING AND DRAINAGE PLAN OF SUN PUEBLO APARTMENTS (K19-D66) FOR SITE DEVELOPMENT PLAN APPROVAL, RECEIVED 11/18/85, REVISED 11/15/85

Dear Joe:

The above referenced submittal is approved for Site Development Plan purposes.

At time of submittal for Building Permit the following items will be required:

1. Detailed Drainage Plan following the outline in the DPM.
2. HGL elevation of the existing storm drains you intend to tie into to.
3. Q, V and HGL calculations for proposed storm drains.
4. Permits to construct storm drain improvements within City Right-of-Way.

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

Sincerely,

Roger A. Green, PE

Roger A. Green, PE
CE/Design Hydrology

RAG:mrk

cc: Empire West Companies, 5656 E. Grant, Suite 100, Tucson, AZ 85712

DRAINAGE INFORMATION SHEET

PROJECT TITLE: SunPueblo Apartments ZONE ATLAS/DRNG. FILE #: K-19 / D66

LEGAL DESCRIPTION: An unplatted tract of land between Central Avenue, Zuni Road, Shaw Addition Tract A-1 and La Mesa No. 2.

CITY ADDRESS:

ENGINEERING FIRM: DENNEY-TIBLJAS-McLEAN & ASSOC, INC. CONTACT: Joe Jones

ADDRESS: 2400 Comanche, N.E. PHONE: 884-0696

OWNER: Empire West Companies CONTACT: Dale Cox

ADDRESS: 5655 E. Grant, Suite 100 Tucson, AZ 85712 PHONE: (602) 886-4000

ARCHITECT: Empire West Companies CONTACT: Dale Cox

ADDRESS: 5656 E. Grant, Suite 100 Tucson, AZ 85712 PHONE: (602) 886-4000

SURVEYOR: DENNEY-TIBLJAS-McLEAN & ASSOC, INC. CONTACT: Fred Denney

ADDRESS: 2400 Comanche N.E. PHONE: 884-0696

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

X YES
___ NO
___ COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED NOV 18 1985 HYDROLOGY SECTION

DRB No.
EPC No.
PROJ. No.

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
___ DRAINAGE PLAN
X CONCEPTUAL GRADING & DRAINAGE PLAN
___ GRADING PLAN
___ EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
X SITE DEVELOPMENT PLAN APPROVAL
___ FINAL PLAT APPROVAL
___ BUILDING PERMIT APPROVAL
___ FOUNDATION PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ ROUGH GRADING PERMIT APPROVAL
___ GRADING/PAVING PERMIT APPROVAL
___ OTHER _____ (SPECIFY)

DATE SUBMITTED: 11/18/85

BY: Joe Jones
Joe Jones

dtm & associates, inc
Denney-Tibljas-McLean & Associates, Inc.
Consulting Engineers ■ Planners ■ Surveyors

November 15, 1985

RECEIVED
NOV 18 1985
HYDROLOGY SECTION

HAND DELIVERED

Mr. Roger Green
City of Albuquerque-Hydrology
123 Central NW
Albuquerque, NM 87103

Re: SunPueblo Apartments
DTM Job No. 812.22
(K-19/D 66)

Dear Mr. Green:

Enclosed is one copy of the revised Conceptual Drainage Plan for the above referenced project.

The comments have been addressed as follows:

1. There is an existing ridge at the east boundary of the site. Offsite flows from the south side of the ridge will be diverted to Zuni. We have been granted free discharge, so this should be OK. Offsite flows from the north will be accepted at two curb openings and will be allowed to cross the site and enter the proposed catch basin. The final design will be graded such that no retaining walls will be required.

2. An erosion control berm has been added to the plan.

If you have any further questions, please feel free to call.

Sincerely,

Joe Jones

Joe Jones

JJ/klb
Enclosure

2400 COMANCHE ROAD, NE ■ ALBUQUERQUE, NM 87107
TELEPHONE [505] 884-0696

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

November 8, 1985

Joe Jones
Cunney-Tibljas-McLean & Associates, Inc.
2400 Comanche Road, NE
Albuquerque, New Mexico 87107

RE: CONCEPTUAL GRADING & DRAINAGE PLAN FOR SUN PUEBLO APARTMENTS SUBMITTED OCTOBER 21, 1985 FOR SITE DEVELOPMENT PLAN APPROVAL (K-19/D66)

Dear Joe:

I have reviewed the referenced submittal and have the following items to be satisfied before approval for site development plan:

1. Please address the off site flows and existing conditions along the east property line with existing spot elevations, to determine the need for retaining walls or diversions, etc.

2. Please provide a conceptual erosion control plan as required by the DPM outline.

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

Cordially,

Roger A. Green, PE

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

cc: Empire West Companies
5656 E. Grant Suite 100
Tucson, Arizona 85712

RAG/bsj

DRAINAGE INFORMATION SHEET

PROJECT TITLE: SunPueblo Apartments ZONE ATLAS/DRNG. FILE #: K-19 / D66

LEGAL DESCRIPTION: An unplatted tract of land between Central Avenue, Zuni Road, Shaw Addition Tract A-1 and La Mesa No. 2.

CITY ADDRESS:

ENGINEERING FIRM: DENNEY-TIBLJAS-McLEAN & ASSOC, INC. CONTACT: Joe Jones

ADDRESS: 2400 Comanche, N.E. PHONE: 884-0696

OWNER: Empire West Companies CONTACT: Dale Cox

ADDRESS: 5656 E. Grant, Suite 100 Tucson, AZ 85712 PHONE: (602) 886-4000

ARCHITECT: Empire West Companies CONTACT: Dale Cox

ADDRESS: 5656 E. Grant, Suite 100 Tucson, AZ 85712 PHONE: (602) 886-4000

SURVEYOR: DENNEY-TIBLJAS-McLEAN & ASSOC, INC. CONTACT: Fred Denney

ADDRESS: 2400 Comanche N.E. PHONE: 884-0696

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

RECEIVED
OCT 21 1985
HYDROLOGY SECTION

PRE-DESIGN MEETING:

X YES
NO
X COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB No. 85 687 10/8/85
EPC No.
PROJ. No.

TYPE OF SUBMITTAL:

- DRAINAGE REPORT
- DRAINAGE PLAN
- X CONCEPTUAL GRADING & DRAINAGE PLAN
- GRADING PLAN
- EROSION CONTROL PLAN
- ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

- SKETCH PLAT APPROVAL
- PRELIMINARY PLAT APPROVAL
- X SITE DEVELOPMENT PLAN APPROVAL
- FINAL PLAT APPROVAL
- BUILDING PERMIT APPROVAL
- FOUNDATION PERMIT APPROVAL
- CERTIFICATE OF OCCUPANCY APPROVAL
- ROUGH GRADING PERMIT APPROVAL
- GRADING/PAVING PERMIT APPROVAL
- OTHER _____ (SPECIFY)

DATE SUBMITTED:

BY:
Joe Jones

dtm & associates, inc
Denney-Tibljas-McLean & Associates, Inc.
Consulting Engineers ■ Planners ■ Surveyors

October 21, 1985

RECEIVED
OCT 21 1985
HYDROLOGY SECTION

HAND DELIVERED

Mr. Fred Aguirre, P.E.
City of Albuquerque-Hydrology
P.O. Box 1293
Albuquerque, New Mexico 87103

Re: SunPueblo Apartments
DTM Job No. 812.22
DRB No. 85-687

Dear Mr. Aguirre:

Enclosed for your approval is one copy of the Conceptual Drainage and Grading Plan for the above referenced project.

This Conceptual Plan adheres to the recommendations set forth at the Predesign Conference conducted October 16, 1985. An onsite storm drain will be constructed to convey and discharge directly into the storm drains in Zuni Road and Central Avenue.

If you have any further questions, please feel free to call.

Sincerely,

Joe Jones

Joe Jones

JJ/klb
Enclosure

2400 COMANCHE ROAD, NE ■ ALBUQUERQUE, NM 87107
TELEPHONE (505) 884-0696

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO.: K19 DATE: 10/10/85

PLANNING DIVISION NOS: EPC: _____ DRB: 85-687

SUBJECT: Sun Tuscany Apts

STREET ADDRESS (IF KNOWN): _____

SUBDIVISION NAME: Approximately 500' east of La. Cuchillo approximately 12.5 acres situated between Tramway + Zuni + La Mesa

APPROVAL REQUESTED: #2 Rev to Site Dev Pl.

____	PRELIMINARY PLAT	____	FINAL PLAT
✓	SITE DEVELOPMENT PLAN	____	BUILDING PERMIT
____	OTHER	____	ROUGH GRADING

ATTENDANCE:	WHO	REPRESENTING
	Gary Tibbles	DTM Engineer
	John Meyer	Attorney for Developer
	Fred J. Aguilar	City

FINDINGS:

1. An approved Conceptual Grading + Drainage Plan required for site plan approval.
   - Free discharge appropriate given the recent construction of Phase II Foothills Storm Drain System
   - Conceptual plan must identify method of discharge into the recently constructed S.D. Recommend S.D. system should be used to convey flow discharge directly into the S.D. in Zuni / Central.

2. Conceptual Grading + Drainage Plan must identify the existing legal desc. plan. ~~The~~

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED: [signature] SIGNED: [signature]

TITLE: Design Hydrologist TITLE: DTM - President

DATE: 10/10/85 DATE: 10/10/85

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

DRAINAGE MANAGEMENT PLAN

SUNPUEBLO APARTMENTS

JANUARY, 1986

DTM JOB NO. 812.12

dtm & associates, inc

Denney-Tibbles-McLean & Associates, Inc.
Consulting Engineers ■ Planners ■ Surveyors

2400 Comanche Road, NE
Albuquerque, NM 87107
Telephone (505) 884-0696

DRAINAGE INFORMATION SHEET

PROJECT TITLE: SunPueblo Apartments ZONE ATLAS/DRNG. FILE #: K-19/D66

LEGAL DESCRIPTION: Unplatted land between Central Ave., Zuni Rd., Shaw Addition Tract A-1 and La Mesa No. 2.

CITY ADDRESS:

ENGINEERING FIRM: DENNEY-TIBLJAS-McLEAN & ASSOC, INC. CONTACT: Joe Jones

ADDRESS: 2400 Comanche NE, Albuquerque, NM 87107 PHONE: 884-0696

OWNER: Empire West Companies CONTACT: Dale Cox

ADDRESS: 5656 E. Grant-Suite 100, Tucson, AZ 85712 PHONE: (602) 886-4000

ARCHITECT: Empire West Companies CONTACT: Dale Cox

ADDRESS: 5656 E. Grant-Suite 100, Tucson, AZ 85712 PHONE: (602) 886-4000

SURVEYOR: DENNEY-TIBLJAS-McLEAN & ASSOC, INC. CONTACT: Fred Denney

ADDRESS: 2400 Comanche NE, Albuquerque, NM 87107 PHONE: 884-0696

CONTRACTOR: N/A CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

X YES
NO
X COPY OF CONFERENCE RECAP SHEET PROVIDED

RECEIVED FEB 10 1986 HYDROLOGY SECTION

DRB No.
EPC No.
PROJ. No.

TYPE OF SUBMITTAL:

X DRAINAGE REPORT
DRAINAGE PLAN
CONCEPTUAL GRADING & DRAINAGE PLAN
GRADING PLAN
EROSION CONTROL PLAN
ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

SECTOR PLAN APPROVAL
SKETCH PLAT APPROVAL
PRELIMINARY PLAT APPROVAL
SITE DEVELOPMENT PLAN APPROVAL
FINAL PLAT APPROVAL
X BUILDING PERMIT APPROVAL
X FOUNDATION PERMIT APPROVAL
CERTIFICATE OF OCCUPANCY APPROVAL
X ROUGH GRADING PERMIT APPROVAL
GRADING/PAVING PERMIT APPROVAL
OTHER (SPECIFY)

DATE SUBMITTED: 2/10/86

BY: Joe Jones
JOE JONES

REV. 10/85

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO.: K19 DATE: 10/16/85

PLANNING DIVISION NOS: EPC: _____ DRB: 85-687

SUBJECT: Sun Pueblo Apts

STREET ADDRESS (IF KNOWN): _____

SUBDIVISION NAME: Approximately 500' east of La. contains approxima. 12.5 acres situated between Central & Zuni + La Mes #2 and the Shaw Add.

APPROVAL REQUESTED:

____	PRELIMINARY PLAT	____	FINAL PLAT
✓	SITE DEVELOPMENT PLAN	____	BUILDING PERMIT
____	OTHER	____	ROUGH GRADING

ATTENDANCE:	WHO	REPRESENTING
	Gary Tiblsas	DTM Engineer
	John Meyers	Attorney for Developer
	Fred J. Aguirre	City

FINDINGS:

1. An approved Conceptual Grading + Drainage Plan required for site plan approval.
   - Free discharge appropriate given the recent construction of Phase II Fairground storm drain system
   - Conceptual plan must identify method of discharge into the recently constructed S.D. Recommend S.D. system on-site to convey and discharge directly into the S.D. in Zuni / Central.

2. Conceptual Grading + Drainage Plan must identify the existing legal description. ~~[illegible]~~

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED:	[signature]	SIGNED:	[signature]
TITLE:	Design Hydrologist	TITLE:	DTM - President
DATE:	10/16/85	DATE:	10/16/85

NOTE: PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL.

I, Gary W. Tibljas, hereby certify that the enclosed documents and drawings were prepared under my supervision and are true and correct to the best of my knowledge and belief.

Gary W. Tibljas

New Mexico Professional Engineer No. 8117

GARY W. TIBLJAS
NEW MEXICO
8117
REGISTERED PROFESSIONAL ENGINEER

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COMPUTATIONS

Exhibit I Location Map
Exhibit II FEMA Flood Plain Map
Exhibit III Drainage and Grading Plan
Exhibit IV Demolition Plan
Exhibit V Approved Conceptual Drainage Plan

DRAINAGE MANAGEMENT PLAN
SUNPUEBLO APARTMENTS

I. PURPOSE

The purpose of this report is to determine an economical and effective stormwater management scheme while following the guidelines set forth in the approved Conceptual Drainage and Grading Plan (November 25, 1985 K19-D66).

II. GENERAL

The development site consists of 12.476 acres and is located approximately one block east of the intersection of Louisiana Boulevard and Central Avenue SE (See Exhibit I). Presently the site slopes from east to west at approximately 2% and consists of Madurez Wink Soil, Type "B". Previously the site was bounded by a flood plain on Central Avenue and Zuni Road SE; however, recent construction of the Phase II Fairground Storm Drain in both streets has eliminated this area from the flood plain (See Exhibit II). Free discharge to this storm drain has been established in a predesign conference with City Hydrology.

III. DRAINAGE

The proposed site will be graded such that all runoff will enter the parking areas and flow via asphalt swales to "Double D" catch basins located at the northwest and southwest corners of the site (See Exhibit III). These catch basins will connect directly into the Phase II Fairground Storm Drain System via 24" RCP connector pipes.

Presently the site is cluttered with concrete, asphalt and debris from a trailer park that previously existed onsite (See Exhibit IV). All debris onsite will be removed prior to the grading of the site.

IV. CONCLUSION

The total developed stormwater runoff for the proposed development site is 40.1 cfs This runoff will be directed via asphalt swales into "Double D" catch basins located at the northwest and southwest corners of the site. These catch basins will discharge directly into existing storm drains in both Central Avenue and Zuni Road. Free discharge into these storm drains has been established in a predesign meeting with City Hydrology. Offsite runoff from the east is minimal and will be accepted and passed through the site.

DENNEY - GROSS & ASSOCIATES, INC.
ENGINEERS SURVEYORS PLANNERS
2400 COMANCHE ROAD N.E.
ALBUQUERQUE, NEW MEXICO 87107
(505) 884-0695

LOCATION SUN PUEBLO APARTMENTS
PROJ. NO. 812.22
DATE 1/6/86
DESIGNER J. JONES
PAGE 1

UNDEVELOPED RUNOFF

NOTE: SOIL SERIES MADUREZ WINK ASSOC. TYPE "B" "SOIL SURVEY OF BERNALILLO COUNTY"

A=12.476 Ac

50% IMPERVIOUS (APPROXIMATE)

C=0.43

$I = 6.84 (R) T_c^{-0.51}$

R=2.4 (DPM 22.2 D-1)

$T_c = 0.0078 \frac{L^{0.77}}{S^{0.385}}$

L=960'

S=0.02

$T_c = 0.0078 \frac{(960)^{0.77}}{(0.02)^{0.385}} = 6.96$ MINUTES → USE 10 MINUTES

$I = 6.84(2.4)(10)^{-.51} = 5.1$

RATIONAL METHOD

Q=CIA

Q=0.43 (5.1)(12.476) = 27.4 cfs UNDEVELOPED RUNOFF

DEVELOPED RUNOFF

A=12.476 Ac

I=5.1

61% IMPERVIOUS

C=0.63

Q=CIA

Q=0.63(5.1)(12.476) = 40.1 cfs DEVELOPED RUNOFF

DENNEY - GROSS & ASSOCIATES, INC.
ENGINEERS SURVEYORS PLANNERS
2400 COMANCHE ROAD N.E.
ALBUQUERQUE, NEW MEXICO 87107
(505) 884-0695

LOCATION SUN PUEBLO
PROJ. NO. 812.22
DATE 1/6/86
DESIGNER J. JONES
PAGE 2

DRAINAGE BASINS

BASIN 1
A=6.75 Ac.

Q=CIA

Q=0.63(5.1)(6.75)= 21.7 cfs

BASIN 2
A=1.4 Ac

Q=0.63(5.1)(1.4) = 4.5 cfs

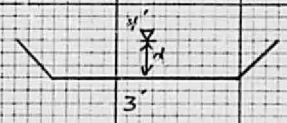
BASIN 3
A=4.33 Ac

Q = 0.63(5.1)(4.33) = 13.9 cfs

TOTAL Q = 40.1 cfs

SWALE CAPACITY

TRY d=0.48'



$A = \frac{1}{2}(3+3.96)(0.48)$ A=1.67

$R = \frac{1.67}{3.96} = 0.42$

MANNINGS

$Q = \frac{1.486}{n} S^{1/2} A R^{2/3}$

n=0.03
S=0.01
A=1.67
R=0.34

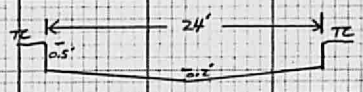
$Q = \frac{1.486}{0.03}(0.01)^{1/2}(1.67)(0.42)^{.67} = 4.6$ cfs > 4.5 cfs

CONCLUSION: DEPTH OF 100 YR FLOW IN SWALE APPROXIMATELY 0.48'

DENNEY - GROSS & ASSOCIATES, INC.
ENGINEERS SURVEYORS PLANNERS
2400 COMANCHE ROAD N.E.
ALBUQUERQUE, NEW MEXICO 87107
(505) 884-0695

LOCATION SUNVEBLO
PROJ. NO. 812.22
DATE 1/6/86
DESIGNER J. JONES
PAGE 3

ASPHALT DRIVE
SWALE ANALYSIS



TYPICAL SECTION
(MINIMUM WIDTH + DEPTH)

MANNING'S

$Q = \frac{1.486}{n} S^{1/2} A R^{2/3}$

$n = 0.017$

$S = 0.005$ (MINIMUM)

$A = 14.4 SF$

$R = A/P = \frac{14.4}{25.4} = 0.57$

$A = 0.5(24) + \frac{1}{2}(24)(0.2)$

$A = 14.4 SF$

$Q = \frac{1.486}{0.017}(0.005)^{1/2}(14.4)(0.57)^{2/3}$

$Q = 61 CFS \gg 21.7 CFS$

CONCLUSION: DRIVE HAS MUCH MORE THAN ADEQUATE CAPACITY FOR THE 6 HR 100 YR STORM.

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LOCATION SUNPUEBLO
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DESIGNER J JONES
PAGE 4

CATCH BASIN ANALYSIS

DOUBLE "D" CATCH BASIN
OPEN AREA = 9.38 SF

CHECK CRITICAL DEPTH OVER INLET

$F^2 = \frac{V^2}{gd} = 1$ @ CRITICAL DEPTH

$V = Q/A$
$Q = 21.7$ cfs
$A = 9.38$
$g = 32.2$

$F^2 = \left(\frac{21.7}{9.38}\right)^2 = 32.2d$

$d = 0.55'$ = DEPTH OF FLOW OVER GRATE

CHECK ORIFACE EQUATION

$Q = CA\sqrt{2g\Delta H}$

$C = 0.6$
$A = 9.38$
$\Delta H = 0.55'$
$g = 32.2$

$Q = 0.6(9.38)\sqrt{64.4(0.55)}$

$Q = 33.5$ cfs > 21.7 cfs

CATCH BASIN #1 HAS CAPACITY WITH 21.7 cfs
THEREFOR CATCH BASIN #2 HAS CAPACITY WITH 18.4 cfs

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LOCATION SUNPUEBLO
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PAGE 5

CONNECTOR PIPE ANALYSIS

CHECK INLET CONTROL (SEE CHART 2)

18" CONNECTOR

$\frac{Hw}{D} = 4.0$ (WORST CASE)

D = DIAMETER
Hw = REQUIRED HEADWATER DEPTH

$Hw = 1.5(4) = 6'$ NO GOOD

24" CONNECTOR

$\frac{Hw}{D} = 1.5$

$Hw = 1.5(2) = 3'$ (OK)

CHECK 24" RCP CAPACITY

MANNING'S

$Q = \frac{1.486}{n} S^{1/2} A R^{2/3}$

$n = 0.013$
$A = \pi$
$R = 0.5$
$S = 0.02$ (MINIMUM)

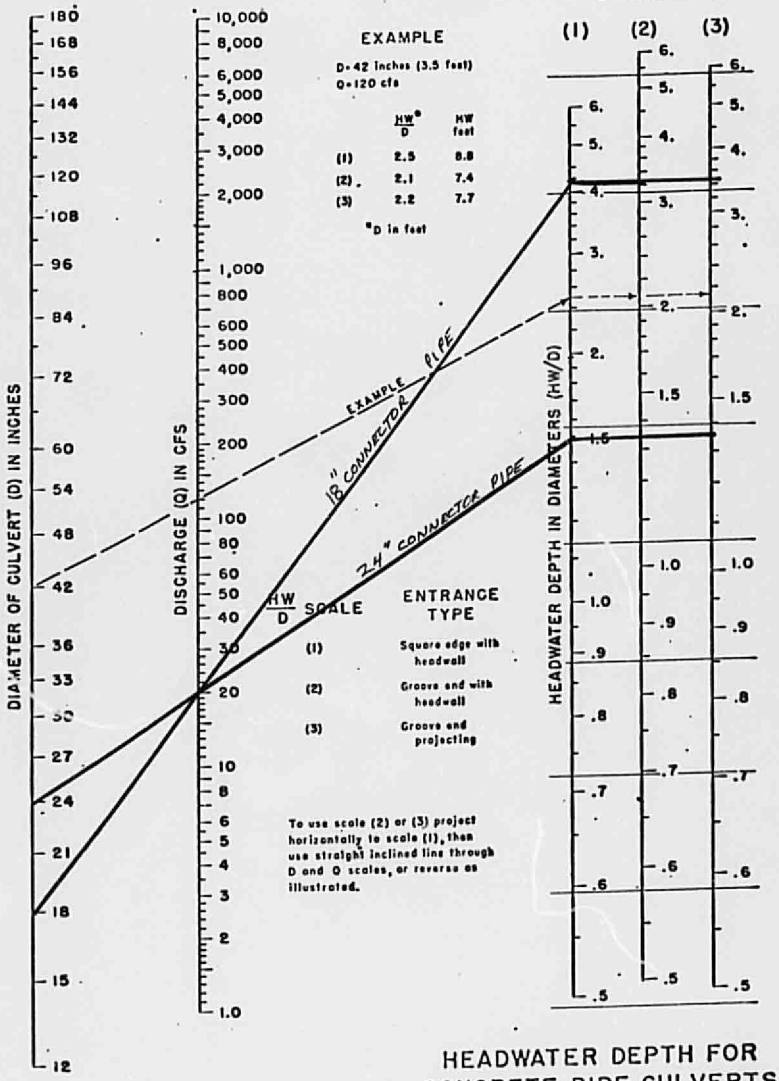
$Q = \frac{1.486}{0.013}(0.02)^{1/2}(\pi)(0.5)^{2/3}$

$Q = 31.9$ cfs > 21.7 cfs (OK)

PIPE DOES NOT FLOW FULL

USE 24" RCP CONNECTOR PIPE

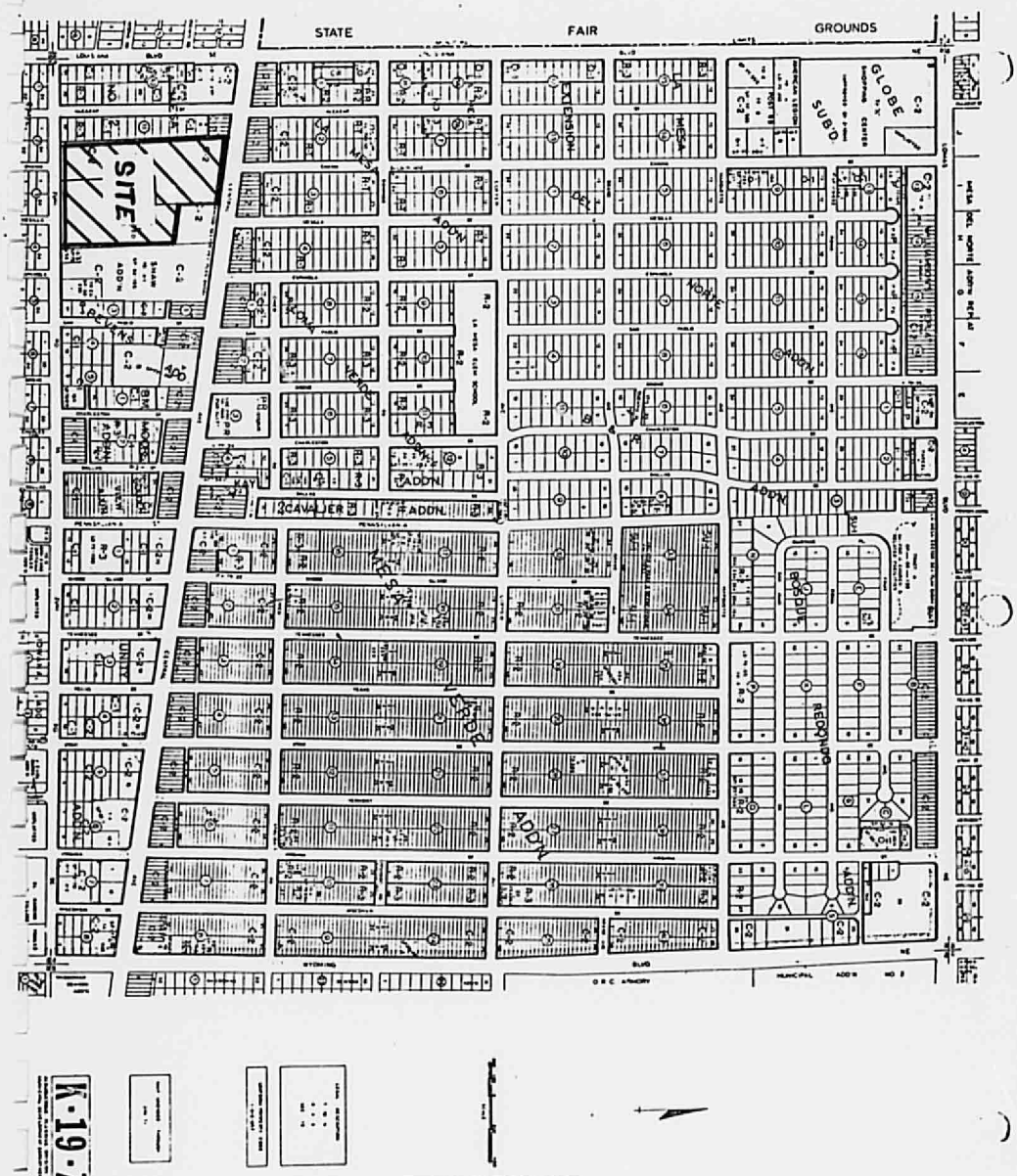
CHART 2



HEADWATER DEPTH FOR CONCRETE PIPE CULVERTS WITH INLET CONTROL

HEADWATER SCALES 283
REVISED MAY 1964

BUREAU OF PUBLIC ROADS JAN. 1963


STATE
FAIR
GROUNDS
SITE
GLOBE
SUB'D
CAVALIER
ADDN
REDONDO
ADDN
ADDN
ADDN

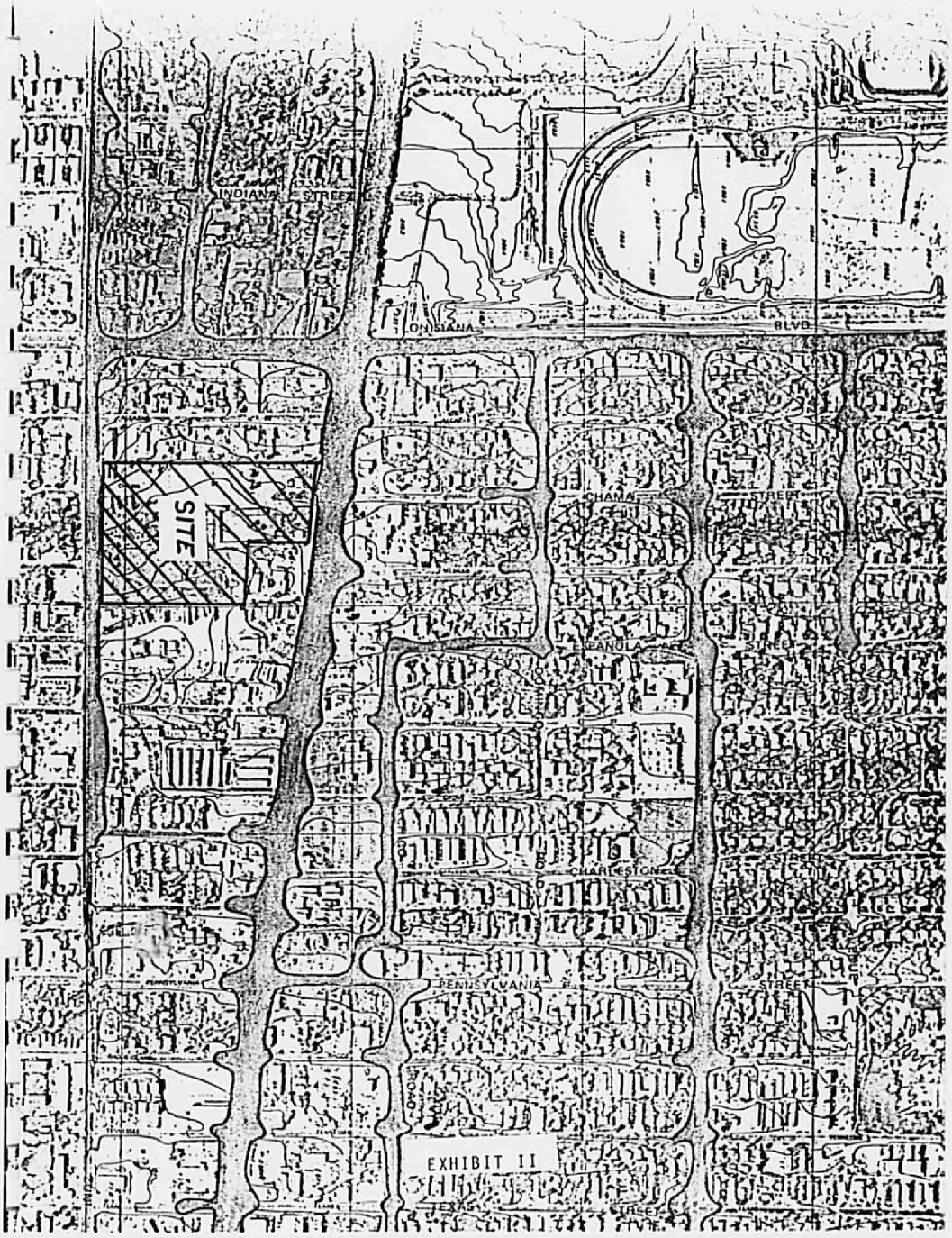

INDIANA
STREET
LOUISIANA
BLVD.
SITE
CHAMA
STREET
PANOLA
STREET
CHARLESTON
PENNSYLVANIA
STREET
TEXAS
STREET

EXHIBIT II

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(505) 884-0695

LOCATION SUNPUEBLO APARTMENTS
PROJ. NO. 812.22
DATE 3/6/86
DESIGNER J JONES
PAGE 1

STORM DRAIN CALCULATIONS

CATCH BASIN #1

$Q = 27.1$ cfs

$S_f = ?$ FRICTIONAL SLOPE

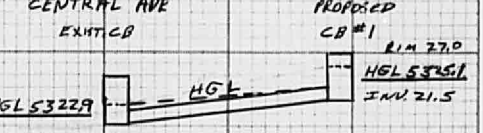
MANNING'S

$Q = \frac{1.486}{n} S_f^{1/2} A R^{2/3}$

$Q = 27.1$ cfs
$A = \pi$
$R = 0.5$
$n = 0.013$

$27.1 = \frac{1.486}{0.013} S_f^{1/2} (\pi)(0.5)^{2/3}$

$S_f = 0.0144$



ASSUME HGL IN EXISTING CB = 5322.9

CB #1 $HGL = 5322.9 + (L)(S_f) + 1.5 \frac{V^2}{2g}$ ($1.5 \frac{V^2}{2g}$ IS ENTERANCE LOSS IN CB #1)

$V = Q/A = 27.1/\pi = 8.6$

$L = 33$
$S_f = 0.0144$

$HGL = 22.9 + (33)(0.0144) = 23.38$

CB #1 $HGL = 23.38 + 1.5 \frac{V^2}{2g}$

$= 23.38 + 1.5 \frac{(8.6)^2}{64.4} = 5325.1$ HGL IN CB #1

RECEIVED
MAR 13 1986
HYDROLOGY SECTION

DENNEY - GROSS & ASSOCIATES, INC.
ENGINEERS SURVEYORS PLANNERS
2400 COMANCHE ROAD N.E.
ALBUQUERQUE, NEW MEXICO 87107
(505) 884-0695

LOCATION: SUN PUEBLO APARTMENTS
PROJ. NO. 812.22
DATE 3/6/86
DESIGNER J JONES
PAGE 2

STORM DRAIN CALCULATIONS

CATCHBASIN #2

$Q = 18.4$ cfs

FRICTIONAL SLOPE $S_f = ?$

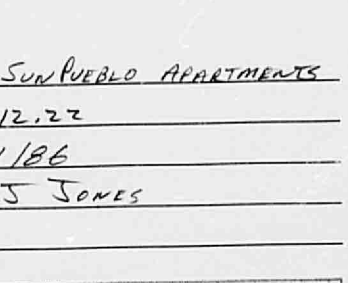
MANNING'S

$$Q = \frac{1.486}{n} S^{1/2} A R^{2/3}$$

$Q = 18.4$
$n = 0.013$
$A = 1.77$
$R = 0.375$

$$18.4 = \frac{1.486}{0.013} S_f^{1/2} (1.77)(0.375)^{2/3}$$

$$S_f = 0.0308$$



ASSUME HGL IN EXISTING CB IS 5322.9

$$CB\#2\ HGL = 5322.9 + (L)(S_f) + 1.5\, V^2/2g$$

$$HGL = 22.9 + 40\,(0.0308) = 24.13$$

$$CB\#2\ HGL = 24.13 + 1.5\, V^2/2g$$

$$V = Q/A = \frac{18.4}{1.77} = 10.4 \text{ FPS}$$

$$HGL = 24.13 + 1.5\,\frac{(10.4)^2}{64.4} = \underline{5326.6}$$

HGL IN CB #2

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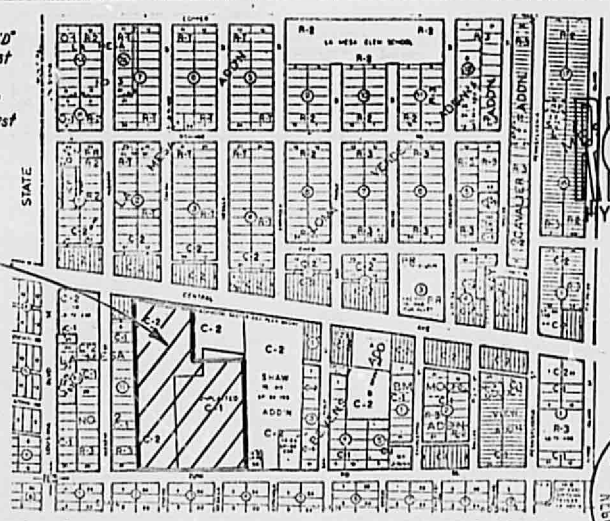
HYDROLOGY SECTION

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

Description of Work

1) *Facility #1: Double "D" Catchbasin, Northwest Corner of Site.*
2) *Facility #2: Double "D" Catchbasin, Southwest Corner of Site.*



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AUG 21 1986
HYDROLOGY SECTION

GARY W. TIBLJAS
NEW MEXICO
8117
REGISTERED PROFESSIONAL ENGINEER
8/12/86

LEGAL DESCRIPTION

An unplatted tract of land between Central Ave., Zuni Rd. SE., Shaw Addition Tract A-1 and La Mesa No. 2.

BENCH MARK

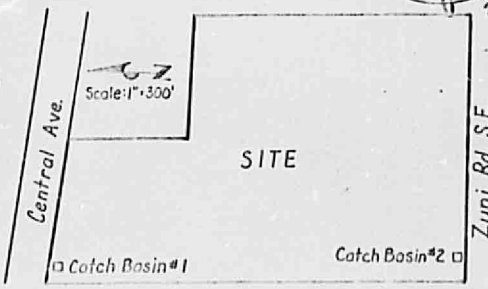
Station is a standard ACS brass tablet stamped "7-K19", located at the intersection of Central Ave. and Louisiana Blvd. S.E. The station is 65.5' east of the centerline of Louisiana and 25.7' south of the centerline of the west bound lanes of Central. The station is located on the nose of the median.
Elevation = 5323.308 ft.

TEMPORARY BENCH MARK

T.B.M. is an existing storm drain manhole rim located at the intersection of Central Ave. and Chama St. S.E. Elevation = 5329.48 ft.

VICINITY MAP

Zone Atlas K-19



NOTICE TO CONTRACTOR

K19-D00

1. An excavation/construction permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with City of Albuquerque Interim Standard Specifications, 1985.
3. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to ARTERIAL street use.

8/26/86 ⚠ *Revised Catch Basin #1. See Sht #2 of 4* 8/20/86

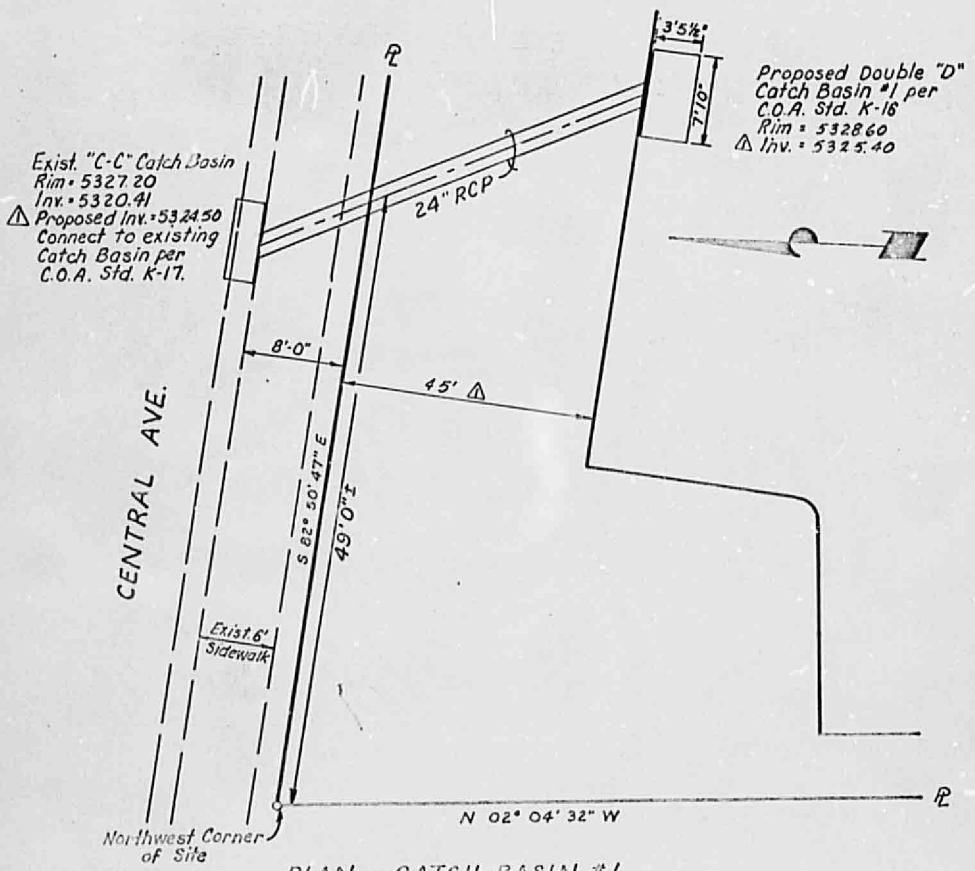
STARTING CONSTRUCTION

K-19

APPROVALS	NAME	DATE	TITLE: SUNPUEBLO APARTMENTS STORM DRAIN CONNECTIONS 7320 CENTRAL AVE SE
ACE [illegible]		8/26/86	APPROVED 28111

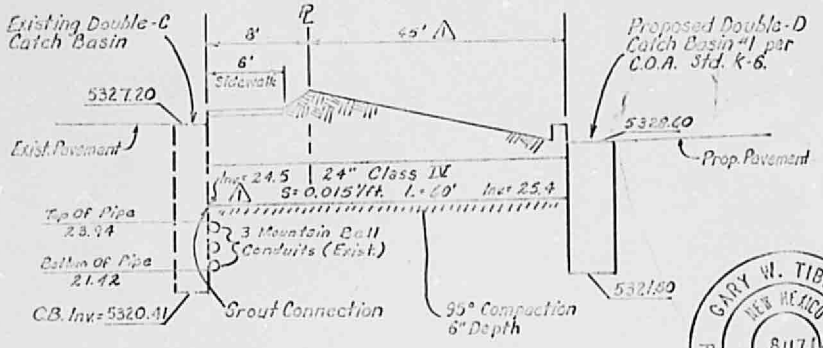
CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



PLAN - CATCH BASIN #1

N.T.S.



SPARLING CONST.

PROFILE - CATCH BASIN #1

N.T.S.

7/22/86 ⚠ Pipe Relocated Due To Field Location of Mountain Bell Conduits.

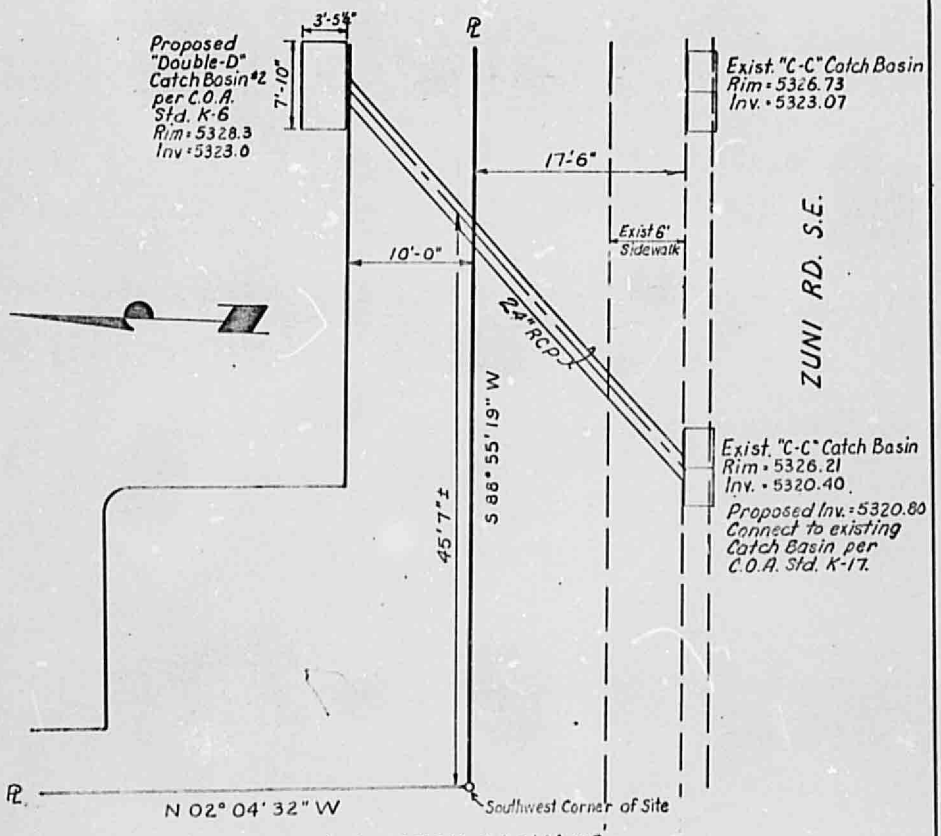
F-19

GARY W. TIBLJAS NEW MEXICO 8117 REGISTERED PROFESSIONAL ENGINEER

APPROVALS	NAME	DATE	TITLE: SUNPUEBLO APARTMENTS STORM DRAIN CONNECTIONS 7320 CENTRAL AVE SE
A.C.E./DESIGN			
INSPECTOR			

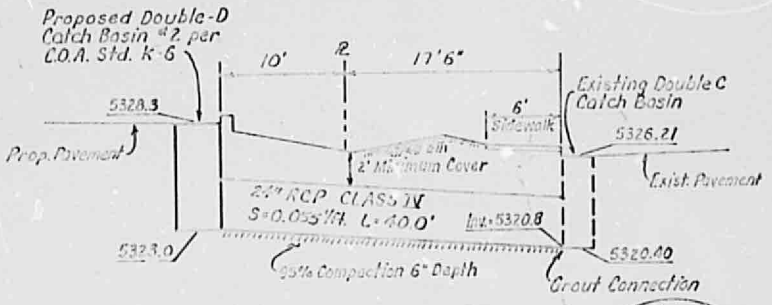
CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



PLAN-CATCH BASIN #2

Scale: 1" = 10'



PROFILE - CATCH BASIN #2

Scale: Horiz. 1" = 10' Vert. 1" = 5'

GARY W. TIBLJAS NEW MEXICO 8117 REGISTERED PROFESSIONAL ENGINEER

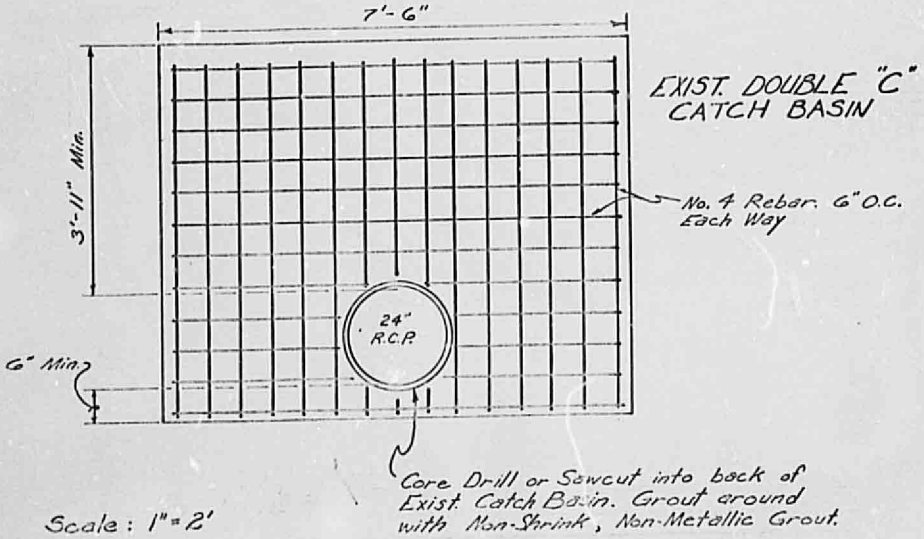
F-19

APPROVALS	NAME	DATE	TITLE: SUNPUEBLO APARTMENTS STORM DRAIN CONNECTIONS 7320 CENTRAL AVE SE
A.C.E./DESIGN		05/24/06	
INSPECTOR			

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

CONNECTION TO EXISTING CATCH BASINS



Scale: 1" = 2'

GARY W. TIBBITS
NEW MEXICO
8111
REGISTERED PROFESSIONAL ENGINEER

F-19

SPARLING CONSTRUCTION

APPROVALS	NAME	DATE	TITLE: SUNPUEBLO APARTMENTS STORM DRAIN CONNECTIONS 7320 CENTRAL AVE SE
ACE VERIFIER			
INSPECTOR			LOCATION: [illegible] MAP NO. K-10

HYDROLOGY

K19/D65

CHRIS VIGIL GENERAL

CONTRACTOR

GRADING & DRAINAGE

K19 / D65

1 PLAN

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Grading & Drainage ZONE ATLAS/DRNG. FILE #: K19/D65

LEGAL DESCRIPTION: Lots 21 & 22 Block 25 of Mesa Verde Addtn

CITY ADDRESS:

ENGINEERING FIRM: Frank Lovelady CONTACT: George Rodriguez

ADDRESS: 7408 Morrow NE PHONE: 883-7973

OWNER: Chris Vigil CONTACT:

ADDRESS: 220 Monte Altopi NE PHONE: 293-9269

ARCHITECT: Roger Cinelli CONTACT:

ADDRESS: 1020 Tijeras NE PHONE: 842-5892

SURVEYOR: CONTACT:

ADDRESS: PHONE:

CONTRACTOR: Chris Vigil CONTACT:

ADDRESS: 220 Monte Altopi NE PHONE: 293-9269

RECEIVED OCT 04 1985 HYDROLOGY SECTION

PRE-DESIGN MEETING:

___ YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. ___

EPC NO. ___

PROJ. NO. ___

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAINAGE PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

✓ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER ___ (SPECIFY)

DATE SUBMITTED: 10/4

BY: George Rodriguez

City of Albuquerque
P.O. BOX 1293 ALBUQUE QUE, NEW MEXICO 87103

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

October 7, 1985

Mr. George T. Rodriguez
Lovelady & Associates
12800 San Juan NE
Albuquerque, NM 87123

REF: DRAINAGE PLAN FOR CHRIS VIGIL (K19-D65) ENGINEER'S STAMP DATED 9/24/85

Dear George:

Based on the information provided on your October 4, 1985 submittal, the above drainage plan is approved.

If I can be of further assistance, please feel free to contact me at 766-7644.

Sincerely,

Carlos A. Montoya

Carlos A. Montoya, PE
City/County Flood Plain Admin.

CAM:BJM:mrk