HYDROLOGY

K15/D18

K15-D18

REGINA HALL

DRAINAGE PLAN

1 PLAN

Pre-Design Conf. Notes

RECEIVED
DEC 0 9 1982
CITY ENGINEER

Boyle Engineering Corporation

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers

505 / 883-7700

Mr. Brian G. Burnett
Civil Engineer/Hydrology
Engineering Division
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

December 8, 1982

RE: REGINA HALL - DRAINAGE PLAN
S01-218-18

Dear Mr. Burnett:

As we discussed by telephone this date, you requested that I prepare a letter summarizing the ponding requirements that you stated during the conversation. This is as follows:

Since the Regina Hall site is within an area that is already developed and since the site is relatively small with a minimal contribution to peak runoff, it may not be practical to provide all of the ponding required by current drainage policy. Ponding that can be reasonably and practically constructed should be provided. The remaining volume should be discharged directly to the street. Efforts should be made to retain all nuisance (irrigation) water on site but not at the expense of creating "nuisance ponding" on site.

If you concur with the above as accurately summarizing your comments, please sign in the space provided and return a signed copy of the letter to me.

Sincerely,

BOYLE ENGINEERING CORPORATION

Frank D. Lovelady, P.E.
Senior Civil Engineer

Brian G. Burnett
Civil Engineer/Hydrology

FDL/mw

See attached return letter.

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

December 10, 1982

Mr. Frank Lovelady
Boyle Engineering Corp.
3939 San Pedro N.E.
Suite D
Albuquerque, N.M. 87110

RE: REGINA HALL DRAINAGE PLAN - YOUR LETTER OF DECEMBER 8, 1982

Dear Frank:

After reviewing your letter I would like to offer the following changes to the paragraph.

"For purposes of formulating a drainage plan for the Regina Hall site, existing drainage paths maybe preserved. However, runoff generated for any new impervious areas should be controlled by ponding within limits that are reasonable and practical. All ponded runoff should discharge to the street right-of-way . Special attention should be given to the project interface with existing property to insure that no new problems will develop. Efforts should be made to retain all nuisance (irrigation) water on-site."

Please let me know if you agree with the items listed above.

Very truly yours,

Brian G. Burnett

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

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

K15 - D18

January 19, 1983

Mr. Frank Lovelady
Boyle Engineering
3939 San Pedro N.E.
Suite D
Albuquerque, N.M. 87110

RE: REGINA HALL DRAINAGE PLAN

Dear Frank:

I have an initial review of the referenced plan and forward the following comments:

1 Runoff from area 1 should be routed either to the Street ROW or to the pavement surface. It appears that several options are possible:

a.) the NE corner could be routed to Grand Avenue NE by means of a sidewalk culvert or;

b.) this runoff could be routed under the entrance walkway, combined with runoff from the NW corner, and be directed to the parking area by means of a curb opening.

2. Will gravel or some other means be used to prevent irrigation runoff from leaving the site?

3. Does Section E-E reflect the criteria that the drivepad elevation at the property line should be one-foot above the street flowline (Item K, p.109 of the DPM).

4. It is necessary to utilize 103 LF of 3" PVC pipe connecting the two small ponds in the southeast corner of the site. It's acceptable to me to simply route the pavement runoff around the curbed area and allow any irrigation runoff to remain in the pond.

5. On page 4 of the report it states "that the driveway has a slight swale to channel drainage to the southwest corner until it is full at which time the water will flow out through the driveway." Please include elevations at the drivepad indicating that this will be the case.

If you have any questions concerning these matters, please call.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

Boyle Engineering Corporation

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers

505 / 883-7700

Mr. Brian G. Burnett
Civil Engineer/Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

February 7, 1983

RECEIVED
FEB 09 1983
ENGINEERING

RE: REGINA HALL
DRAINAGE PLAN K15-D-18
S01-118-18

Dear Brian:

In response to your letter of January 19, 1983, the following numbered items correspond to the comments in your letter.

1. Several opetions for draining area 1 were investigated. However, since most of the Area 1 will be irrigated, draining this area to the street will result in nuisance waters being drained on to the pavement. Therefore, as we discussed by telephone it is now proposed to grade the area to collect nuisance water at three locations as shown on the plans.
2. Irrigation runoff will be retained by three depressions described above.
3. Elevations have been added to section E-E. The high point in the driveway is 0.64 feet above the flow line on Elm Street. Then it drops 3 inches on the parking lot side. This does not meet the criterial that the drivepad at the property line should be one foot above street flow line. However, since the flow in Elm Street begins at Grand Avenue less than 120 feet north, it is very doubtful that the flow depth would be significant as it passes the driveway.
4. The 103 LF of pipe connecting the 2 small ponds has been eliminated.
5. Elevations have been shown at the drivepad and the curb returns on the inside of the parking lot. Elevations have also been shown on section E-E as stated in 3 above.

If you have any questions regarding any of the above items, please contact me.

Sincerely,

BOYLE ENGINEERING CORPORATION

Frank D. Lovelady

Frank D. Lovelady, P.E.
Senior Civil Engineer

FDL/mw

Boyle Engineering Corporation
Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers
505 / 883-7700

LETTER OF TRANSMITTAL

TO: MR. BRIAN G. BURNETT, CIVIL ENGINEER/HYDROLOGY DATE: MARCH 2 1983

CITY OF ALBUQUERQUE RE: DRAINAGE PLAN FOR REGINA HALL

P.O. BOX 1293, ALBUQ. N.M. 87103

ATTN: B.E.C. PROJECT No. 501-218-18

GENTLEMEN:
We are sending you: ☐ Attached ☐ Under separate cover via
the following items:

- ☐ Shop Drawings
- ☐ Design calculations
- ☐ Tracings
- ☐ Prints
- ☐ Details
- ☐ Addendum
- ☐ Copy of letter
- ☐ Specifications
- ☐ Schedules
- ☐ Descriptive Literature

RECEIVED
MAR 04 1983
CITY ENGINEER

copies	date	No.	description
3	12/20/82	1 of 1	REGINA HALL DRAINAGE PLAN.

These are transmitted as checked below:

- ☐ For approval
- ☐ Please correct and resubmit
- ☐ Resubmittal not required. Corrections, if any, are noted.
- ☐ Returned for corrections
- ☒ As Requested
- ☐ For Bids due 19
- ☐ Prints returned after loan to us
- ☐ Resubmit copies for approval
- ☐ Return corrected prints
- ☐ For your use
- ☐ For review and comment
- ☐ copies for distribution

REMARKS: THE REVISIONS TO GRADING OF AREA 1 HAVE BEEN MADE AS YOU REQUESTED.

Copies also sent to:

From: FRANK LOVELADY

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

K15 - D18

March 9, 1983

Mr. Frank Lovelady
Boyle Engineering Corp.
3939 San Pedro NE, Suite D
Albuquerque, N.M. 87110

RE: REGINA HALL DRAINAGE PLAN

Dear Frank:

Based on your recent submittal of March 2, 1983 the referenced report is hereby approved. Please see that the most recent plans (dated 2/9/83) are placed in the City construction sets along with approved copies of "Construction of Drainage Facilities in City Right-of-Way" for the 4" PVC outlet pipes.

Very truly yours,

Brian G. Burnett
Civil Engineer/Hydrology

BGB/tsl

INFORMATION SHEET

PROJECT TITLE REGINA HALL DRAINAGE PLAN

TYPE OF SUBMITTAL Engineer's Certification

ZONE ATLAS PAGE NO. K 15

CITY ADDRESS 806 Grand Ave. N.E.

LEGAL DESCRIPTION Por. Blk. 25, Vac. Alley N1/2 of Vac. Tijeras Ave.

ENGINEERING FIRM BOYLE ENGINEERING CORPORATION

CONTACT Thornton D. Schwenk PHONE 883-7700

ADDRESS 3939-D San Pedro, N.E.

OWNER Regina Hall Investors

CONTACT Bob Moraga PHONE 255-8668

ADDRESS 115 Amherst Dr. S.E.

ARCHITECT Stevens Mallory Pearl & Campbell

CONTACT Bob Moraga PHONE 255-8668

ADDRESS 115 Amherst Dr. S.E.

SURVEYOR Hall Engineering

CONTACT Richard J. Hall PHONE 884-6200

ADDRESS 2625 Pennsylvania N.E.

CONTRACTOR Summit Construction Co.

CONTACT Rocky Granzow PHONE 842-8113

ADDRESS 900 Hazeldine S.E.

DATE SUBMITTED December 2, 1983

BY Thornton D Schwenk

RECEIVED

DEC 05 1983

ENGINEERING

RECEIVED

DEC 05 1983

ENGINEERING

Boyle Engineering Corporation

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers

505 / 883-7700

City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103

December 2, 1983
AL-S19-100-00
(AL-S01-218-18)

ATTN: Mr. Fred J. Aguirre, Civil Engineer/Hydrology

RE: ENGINEER'S CERTIFICATION OF COMPLIANCE WITH APPROVED DRAINAGE PLAN, REGINA HALL, 806 GRAND AVE., N.E., K15-D18

Dear Fred:

The Drainage Plan dated January 7, 1983, for the above-referenced project was approved by Brian Burnett of the City's Hydrology Section on March 9, 1983. Approved Special Order No. 19 drawings for "Construction of Drainage Facilities in City Right-of-Way" are contained in that Plan which is on file in your office.

We have recently completed our survey of as-built information which relates to site drainage for this project. This information has been added to the Drainage Plan stamped orginally by Frank Lovelady on February 9, 1983.

As shown on the plan, two asphalt berms approximately 3 inches high were built on the parking surface by the contractor as an added assurance that runoff will be directed to the appropriate landscaped median islands. Slight differences between invert design elevations and as-built elevations in some locations have been investigated. We have concluded that these differences will not adversely affect the original design intent for positive site drainage.

Based on these findings, we state that the as-built drainage features are in substantial compliance with the approved Drainage Plan and we recommend issuance of the Certificate of Occupancy.

An Information Sheet is included with two copies of the stamped, as-built plans. Please call if you have any questions.

BOYLE ENGINEERING CORPORATION

Thornton D. Schwenk

Thornton D. Schwenk, P.E.
Senior Civil Engineer

REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW MEXICO
No. 4799
THORNTON D. SCHWENK

cc: Rocky Granzow, Summit Construction, Inc.
Bob Moraga, SMPC

Boyle
Engineering
Corporation
consulting engineers
Suite 2
1939 San Pedro N.E.
Albuquerque, New Mexico 87110
505/883-2700

REGINA HALL
DRAINAGE PLAN

ALBUQUERQUE , NEW MEXICO

JANUARY 7,1983

S01-218-18

Boyle Engineering Corporation

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers

505 / 883-7700

Mr. Brian G. Burnett
Civil Engineer/Hydrology
Engineering Division
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

January 10, 1983

RE: REGINA HALL DRAINAGE PLAN
S01-218-18

Dear Mr. Burnett:

Submitted herewith are three (3) copies of Regina Hall Drainage Plan and necessary calculations and back-up information.

If you have any questions, please do not hesitate to contact me.

Sincerely,

BOYLE ENGINEERING CORPORATION

Frank D. Lovelady, P.E.
Senior Civil Engineer

cc: Bob Moraga
Stevens, Mallory, Pearl & Campbell

FDL/mw

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DRAWINGS

Drainage Plan

Site Plan

Site Survey

INFORMATION SHEET

PROJECT TITLE REGINA HALL DRAINAGE PLAN

TYPE OF SUBMITTAL Drainage Plan

ZONE ATLAS PAGE NO. K 15

CITY ADDRESS 806 Grand Ave. N.E.

LEGAL DESCRIPTION Por. Blk. 25, Vac. Alley N1/2 of Vac. Tijeras Ave.

ENGINEERING FIRM Boyle Engineering Corp. PHONE 883-7700
CONTACT Frank D. Lovelady
ADDRESS 3939 San Pedro N.E., Suite D

OWNER Regina Hall Investors PHONE 255-8668
CONTACT Bob Moraga
ADDRESS

ARCHITECT Stevens Mallory Pearl & Campbell PHONE 255-8668
CONTACT Bob Moraga
ADDRESS 115 Amherst Drive, S.E.

SURVEYOR Hall Engineering PHONE 884-6200
CONTACT Richard J. Hall
ADDRESS 2625 Pennsylvania N.E.

CONTRACTOR Summit Construction Co. PHONE 842-8113
CONTACT Tony Thomas
ADDRESS 900 Hazeldine S.E.

DATE SUBMITTED
BY

Use this Information Sheet when submitting the following:

Drainage report or plan, conceptual grading and drainage plan, engineer's certification plan, erosion plan and grading plan. Provide the information applicable to your submittal.

OFFICIAL NOTICE

DECIS. ON A REQUESTED SPECIAL EXCEPTIC

As provided by the Comprehensive City Zoning Code,
Chapter 7, Article XIV, Revised Ordinances of Albuquerque, NM, 1974

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
PLANNING DIVISION
P. O. Box 1293, Albuquerque, NM 87103

Regina Hall Investors requests conditional use in order to allow Doctors' Offices on Lots 7 through 12, Block 25, Huning Highland Addition, zoned SU-2/RO, and located at 806 Grand Avenue, N.E. (K-17)

Decision No.: ZA-82-242
Hearing Date: 9/8/82
Decision Date: 9/23/82

FINDINGS: The SU-2/RO zone of the Huning Highland Plan permits consideration of offices as a conditional use so long as the use does not alter the residential character of the neighborhood and any signs conform to the sign regulations of the O-1 zone. The original intent of this zone was to allow the consideration of mixed-use development in certain designated areas (zones) within the Plan area. While not a mixed-use development, this proposed use of a former convent as offices would not alter the residential character of the neighborhood. Any changes to the premises must be reviewed by the Landmarks and Urban Conservation Commission and will require issuance of a Certificate of Appropriateness. A Site Plan and other exhibits, as may be required, should be prepared and submitted to the Landmarks and Urban Conservation Commission prior to any request for building permits.

DECISION: A conditional use for physicians' offices is approved as requested. A Site Plan and other documents as required are to be reviewed and approved by the Landmarks and Urban Conservation Commission prior to approval of any building permits or modification of the premises in any way.

If you wish to appeal this decision, you may do so by October 8, 1982 in the manner described below.

Appeal is to the Planning Commission within 15 days of the decision.

A filing fee of $40 shall accompany each appeal application. When an application is withdrawn, the fee shall not be refunded.

An appeal shall be heard by the Planning Commission within 60 days of its filing. The Municipal Development Department shall give written notice of an appeal, together with a notice of the date, time, and place of hearing to the applicant, a representative of the opponents, if any are known, and the appellant.

You will receive notice if any other person files an appeal. If there is no appeal, you can receive building permits any time after the appeal deadline quoted above provided all conditions imposed at the time of approval have been met. However, the Zoning Examiner may allow issuance of building permits if the public hearing produces no objection of any kind to approval of an application. To receive this approval, the applicant agrees in writing to return related building permits if an appeal is duly filed.

Successful applicants are reminded that other regulations of the City must be complied with, even after approval of a special exception is secured. This decision does not constitute approval of plans for a building permit. If your application is approved, bring this decision when you apply for any related building permit or occupancy tax number.

Approval of a conditional use or variance application is void after one year from date of approval if the rights and privileges granted thereby have not been exercised or utilized.

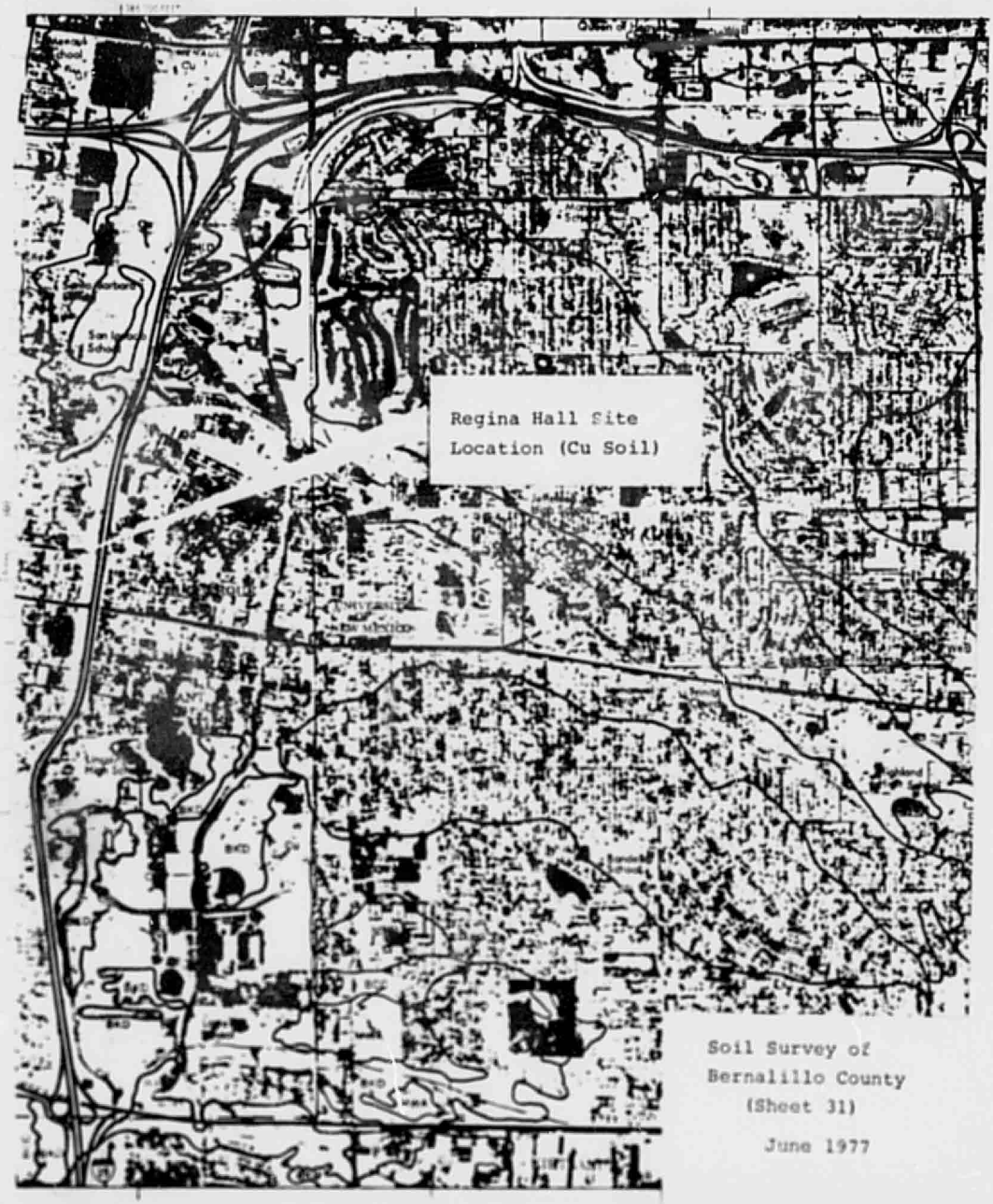
cc: George C. Pearl, 115 Amherst Drive, S.E.
Ken Roberts, 801 Loma Vista Drive, N.E.
Martin I. Mendlick, 1001 Medical Arts, N.E.
Rehab. Division.

Floyd D. Baker

Zoning Hearing Examiner

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

BERNALILLO COUNTY, AND PARTS OF SANDOVAL AND VALENCIA CO



Soil Survey of
Bernalillo County
(Sheet 31)

June 1977

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

DRAINAGE CALCULATIONS

I. GENERAL INFORMATION

A. Offsite Conditions. The site has paved streets on three sides. To the east is Locust Street which is also the Frontage Road for Interstate 25. This street is paved with curb and gutter with 30 inch storm sewer.

To the north is Grand Avenue which slopes to the west at about 3 percent. To the west is Elm Street, also paved with curb and gutter, which slopes toward the south at about 1/2 percent.

To the south is an existing paved church parking lot which drains to Elm Street. This parking lot it to be repaved as part of this project.

B. On-site Conditions.

1. Area of site 1.1568 Acres
2. 6 hour rainfall volume, plate 22.2 D-1 2.25 inches
3. Watershed soils per Bernalillo County Soils Survey is is Cut and Fill Land Cu. Hydrologic Soil Group A
4. Time of Concentration

$$Tc = 0.0078 \frac{L^{0.77}}{S^{0.385}} = 2.08 \text{ use 10 minutes}$$

5. Average Velocity - calculate using Tc = 2.08

$$V = \frac{L}{Tc \times 60} = \frac{300}{2.08 \times 60} = 2.40 \text{ Ft/Sec.}$$

6. Intensity

$$I_{100} = (2.25 \text{ inches}/6 \text{ hours})\ 6.84\ (10)^{-0.51} = 4.76\ \frac{\text{inches}}{\text{hour}}$$

I_5 = 4.76 X 0.541 = 2.58 inches/hour

I_{10}= 4.76 X 0.657 = 3.13 inches/hour

II. DRAINAGE AREAS

For the purpose of drainage analysis, the site is divided into three areas.

Area I. Area between Grand Avenue and the proposed parking lot, about 0.59 acres. The runoff is, if anything, considerably less after development due to the replacement of the concrete tennis court (see key note 15)* with grass and due to recontouring the area around the building to provide ponding.

Area II. The area between the building and the south property line (keyed note 1)*. This area is about 0.57 acres, presently bare earth and is to be AC paved parking. This is the only area where runoff will be greater after development requiring some ponding.

Area III. The existing paved parking lot belonging to the church is to be regraded and repaved to be compatible with the Regina Hall parking lot. No increase in runoff will occur as a result of development.

III. DRAINAGE SUB-AREAS

Area II is further subdivided into several smaller areas dictated by the location of drainage ponds.

* See Key Notes on Site Plan

SUB-AREA A. Contains 940 S.F. drains into island near east entrance.

SUB-AREA B. Contains 9240 S.F. and drains into long east-west curb divider in center of parking lot.

SUB-AREA C. Contains 1530 S.F. and drains into the parking island near the west entrance.

SUB-AREA D. Contains 13,120 S.F., some of which drains into the southwest corner of the parking lot.

IV. STORAGE VOLUMES

For the calculation of storage volumes, the soil type according to the Bernalillo County Soil Survey is Cu, Cut and Fill Land, Hydrologic Soil Group A. The C factor before and after development are as follows:

Undeveloped = 0.76 gravel street, Group A soil, plate 22.2 C-2

Developed = 0.98 paved street, Group A soil, plate 22.2 C-2

SUB-AREA A. Required Storage Vol. = 0.98-0.76 (2.25/12) 940=39 CF

Pond Vol. 22' long X 6' wide X 0.5' deep. with 2:1 side slopes: X-SEC Area = 2.5 SF approx. vol. = 2.5 X 22 = 55 CF > 35 CF OK.

SUB-AREA B. Required Storage Vol.= 0.98-0.76 (2.25/12) 9240= 381 CF

Pond Vol. 2 ponds each with following dimensions 30' long X 6' wide X 1.5' deep with 2:1 side slopes X-SEC Area = 4.5 SF

To maintain min. of 15' from canopy piers only the last 30' of the Planter on each end can be

used for storage Approx. Vol. = 4.5 X 30 X 2 = 270 < 381. Remaining drainage to overflow to street. (see letter regarding ponding requirements, 12-10-82).

SUB-AREA C. Required Storage Vol. = 0.98-0.76 (2.25/12) 1530= 63 CF.
Pond Vol. same as pond for SUB-AREA A
55 CF < 63 CF.
(see letter regarding ponding requirements,12-10-82).

SUB-AREA D. Required Storage Vol. = 0.98-0.76 (2.25/12) 13120= 541 CF.
Pond Vol. low point at S.W. corner of parking lot is elev. 21.75. Elev. low point of driveway is 22.45. Depth of ponding is 0.70', about 8 inches. Area is approx. 450 SF. Vol. = 450 X 0.70/3 = 105. The pond vol. is less than 1 fifth of the required volume. The remaining volume will discharge through the parking lot extrance into the street. Please note that the driveway has a slight swale to channel drainage to the southwest corner until it is full at which time the water will flow out through the driveway. (see letter regarding ponding requirements, 12-10-82).

V. POND INLETS (Curb Cuts)

SUB-AREA A. Peak Flow - Q = Ci A = 0.98 X 4.76 X (940/43560) = 0.16 CFS.

$Q = CLH\ 3/2 \qquad C = 0.6 \qquad L = 1.0' \qquad H = 0.1'$

$Q = 0.6\ (1.0)(0.1)^{1.5} = 0.019 < 0.16$ CFS.

TRY $H = 0.3'$

$Q = 0.6\ (1.5)(0.2)^{1.5} = 0.08$

Number of openings = 0.16/0.08 = 2

SUB-AREA B. Q = Ci A = 0.98 X 4.76 X (9240/43560) = 0.99 CFS.

Since storage can only accomodate 270/381 of the required volume, inlet channels should be sized accordingly. (270/381) 0.95 = 0.67 CFS curb opening Q = CLH 3/2

$Q = 0.6\ (1.5)(0.3)^{1.5} = 0.15 =$

Number of curb cuts 0.67/0.15 = 4.46 say 5

SUB-AREA C. Q = Ci A = 0.98 X 4.76 (1530/43560) = 0.16 CFS.

Curb opening Q = CLH 3/2

$Q = 0.6\ (1.5)(0.2)^{1.5} = 0.08$ CFS.

Number of openings is 0.16/0.08 = 2.0

SUB-AREA D. Ponding is in the parking lot - no entrance channel.

VI. POND DISCHARGE PIPES

SUB-AREA A. Q5 = 0.98 X 2.58 X (940/43560) = 0.05 CFS.

TRY 3" pipe - Use orifice equation

$Q = CA\sqrt{2gh} \qquad C = 0.6 \qquad A = (\frac{3}{12})^2 \frac{\pi}{4} = 0.05$ SF

$h = 1.5'$

$Q = 0.6\ (0.05)\ \sqrt{2 \times 32.2 \times 1.5} = 0.29$ CFS. OK.

SUB-AREA B. $Q_5 = 0.98 \times 2.58\ (9240/43560) = 0.54$ CFS

Assume 1/2 for each of the 2 ponds.

Discharge of first pond - Use 3 inch dia. pipe maximum discharge same as SUB-AREA A above 0.29 CFS.

0.29 CFA > 0.27

Discharge of second pond must equal the required discharge for that pond plus first two ponds.

0.27 + 0.27 + 0.05 = 0.59 CFS

TRY 4" dia. pipe $A = (4/12)^2\ (\pi/4) = 0.09$

$Q = 0.6\ (0.09)\ \sqrt{2 \times 32.2 \times 1.5} = 0.53$ CFS 0.59

SUB-AREA C. $Q_5 = 0.98 \times 2.58\ (1530/43560) = 0.09 < 0.29$ CFS

3" dia. pipe is adequate

SUB-AREA D. $Q_5 = 0.98 \times 2.58 \times (13.120/43560) = 0.76$ CFS.

$Q = CA\sqrt{2gh}$ $h = 22.60-21.75$ 0.85 FT

$A = (4/12)^2\ (\pi/4) = 0.09$ SF

$Q = 0.6\ (0.09)\ \sqrt{2 \times 32.2 \times 0.85} = 0.4$ CFS

Number of 4 inch diameter pipes 0.74/0.4 = 1.85

Use 2

VII. JUNCTION BOX

An existing 8" concrete drain pipe from the chruch court yard presently "daylights" in the church parking lot. There is no place for this pipe to discharge except into the gutter on Elm Street. The pipe is too large to be extended under the curb. Allowing it to coninue discharging into the parking lot is not desireable since it will create a nuisance and possible safety hazard.

It is proposed to remove a portion of the downstream end of the pipe back to the point where it will have at least 4 inches of cover. At that point a concrete junction box is proposed. Between the junction box and the curb on Elm Street will be a 4" diameter PVC pipe and a 3" diameter PVC pipe. The discharge pipes from two of the ponds will connect to the junction which will be equipped with a removeable grate.

The rational for having a smaller outlet pipe cross section area than the area of incoming pipes is as follows: During storms, the outlet pipe will essentially carry only slightly more than pond discharge flows. Any excess from the 8" drain pipe that cannot be carried by the 3" and 4" discharge pipes will flow out of the junction box through the grate, across the parking lot and under the curb to Elm Street via the other two PVC pipes that drain the southwest corner of the parking lot. This should occur only for brief periods during heavy rainfall. At all other times the flows that are less than peak flows, including any nuisance flows from the drain pipe, will be carried via the 3" and 4" pipe to Elm Street. This will greatly improve the present situation by eliminating the possibility of ice forming in the parking lot where the drain pipe now discharges and will also eliminate the present unsightly condition.

DRAINAGE FACILITY WITHIN CITY RIGHT-OF-WAY

VICINITY MAP
SCALE: 1"=750.0'
(CITY MAP NO. K-15-Z)

NORTH

PROJECT LOCATION
POR BLK 25 VAC.
ALLEY & N1/2 OF
VAC. TIJERAS AVE.

OWNER:
REGINA HALL
INVESTORS

NOTICE TO CONTRACTOR

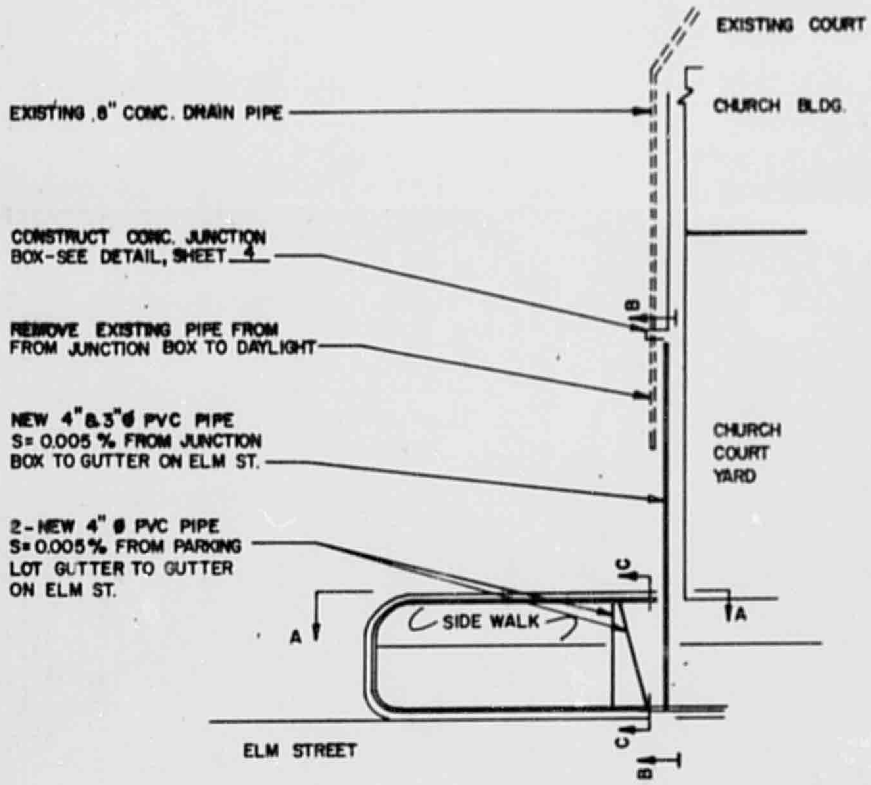
1. An excavation/construction permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 31 "
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 RESIDENTIAL street use.

CITY OF ALBUQUERQUE

APPROVALS	ENGINEER	DATE	TITLE
A.C.E. / DESIGN			REGINA HALL DRAINAGE PLAN VICINITY MAP
INSPECTOR			
A.C.E. / FIELD			PERMIT NO. / SHEET 1 OF 4 / MAP NO.

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

DRAINAGE FACILITY WITHIN CITY RIGHT-OF-WAY

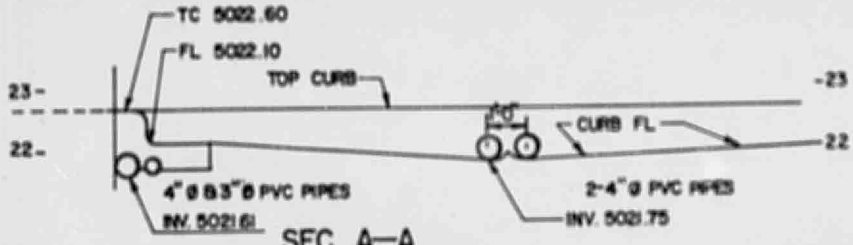


FOR SECTION SEE SHEET 3 OF 4

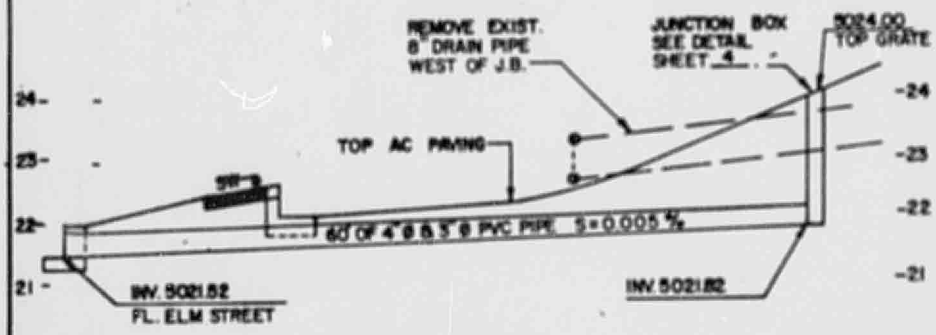
CITY OF ALBUQUERQUE

APPROVALS	ENGINEER	DATE	TITLE REGINA HALL DRAINAGE PLAN PLAN - SW CORNER PARKING LOT	
A.C.E. / DESIGN				
INSPECTOR			PROJECT NO. 2 OF 4	MAP NO.
A.C.E. / FIELD				

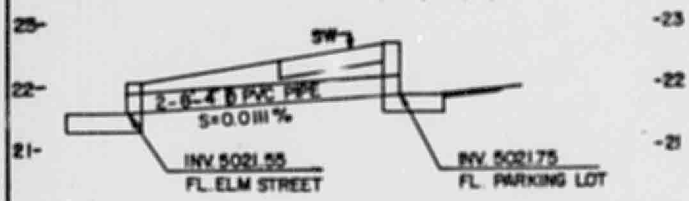
DRAINAGE FACILITY WITHIN CITY RIGHT-OF-WAY



SEC A-A
NTS.



SEC B-B
NTS.

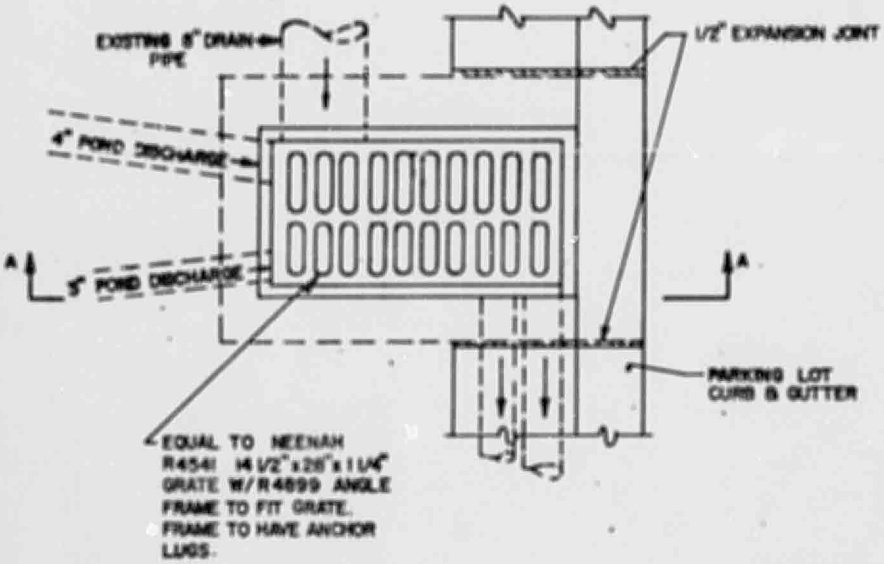


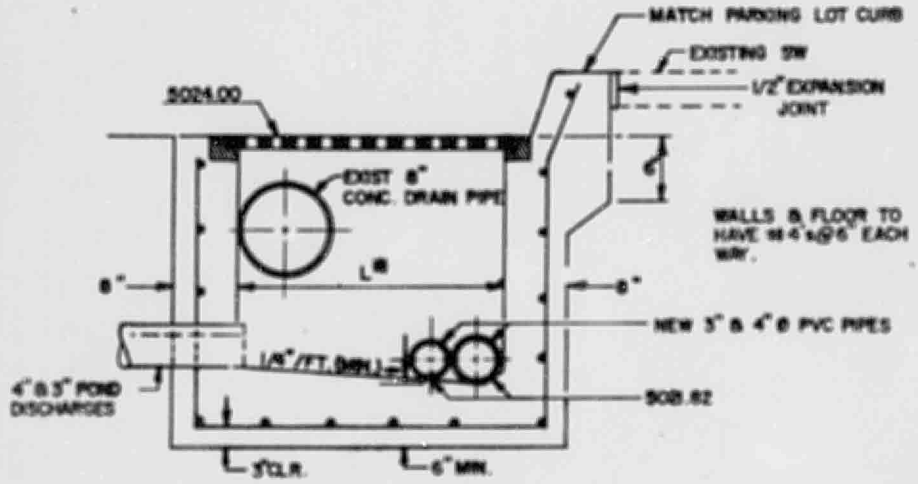
SEC C C
NTS.

CITY OF ALBUQUERQUE

APPROVALS	ENGINEER	DATE	TITLE REGINA HALL DRAINAGE PLAN PIPE CROSS SECTIONS	
A.C.E. / DESIGN				
INSPECTOR			PERMIT NO.	MAP
A.C.E. / FIELD			SHEET 3 OF 4	NO.

DRAINAGE FACILITY WITHIN CITY RIGHT-OF-WAY





* LENGTH AND WIDTH OF INSIDE OF BOX TO EQUAL INSIDE DIMENSIONS OF ANGLE FRAME.

CITY OF ALBUQUERQUE

APPROVALS	ENGINEER	DATE	TITLE REGINA HALL DISCHARGE PLAN JUNCTION BOX DETAILS	
A.C.E. / DESIGN				
INSPECTOR			PERMIT NO.	MAP NO.
A.C.E. / FIELD			SHEET 4 OF 4	

DRAINAGE FACILITY WITHIN CITY RIGHT-OF-WAY

VICINITY MAP
SCALE: 1" = 7500'
(CITY MAP NO. K-15-Z)

BENCH MARK LOCATION:
ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO NMSHC MONUMENT "I-25-26", A BRASS CAP 6 FEET WEST OF THE NORTHWEST CORNER OF THE BRIDGE FOR SOUTH-BOUND LANE OF I-25 AT GRAND AVENUE OVERPASS. ELEVATION = 5068.8'

NORTH

PROJECT LOCATION FOR BLK 25 VAC. ALLEY & N1/2 OF VAC. TIJERAS AVE.

OWNER:
REGINA HALL INVESTORS

NOTICE TO CONTRACTOR

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 "Contract Documents for City-Wide Utilities and Cash Paving No. 31 "
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 RESIDENTIAL street use.

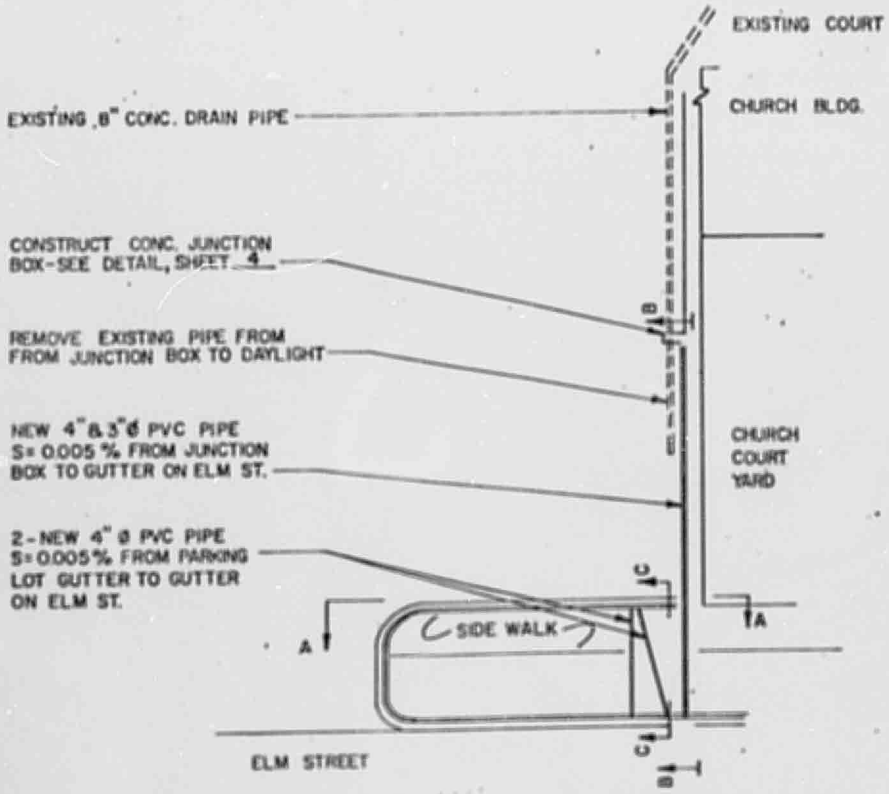
Summit P-07340 C-20

CITY OF ALBUQUERQUE C-20

APPROVALS	ENGINEER	DATE	TITLE
A.C.E. / DESIGN	[illegible]	[illegible]	REGINA HALL DRAINAGE PLAN VICINITY MAP (806 GRAND AVE. NE)
INSPECTOR	[illegible]	11/4/83	
A.C.E. / FIELD	[illegible]	11-14-	PERMIT NO. / SHEET 1 OF 4 / MAP NO. K-15

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

DRAINAGE FACILITY WITHIN CITY RIGHT-OF-WAY



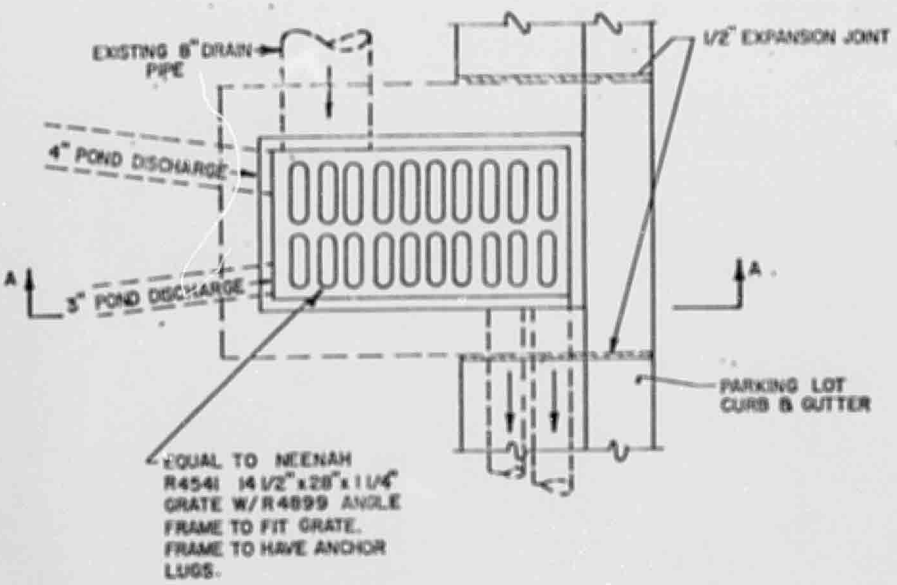
FOR SECTION SEE SHEET 3 OF 4

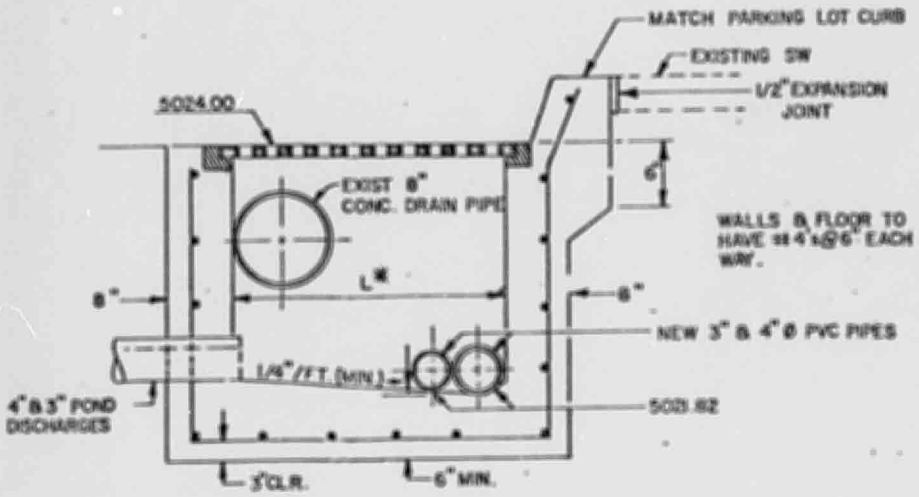
Emit P-07340 C-20

CITY OF ALBUQUERQUE

APPROVALS	ENGINEER	DATE	TITLE REGINA HALL DRAINAGE PLAN PLAN-SW CORNER PARKING LOT
A.C.E. / DESIGN	[illegible]	2/56	
INSPECTOR	[illegible]	11/21/53	PROJECT NO. 2 OF 4
A.C.E. / FIELD	[illegible]	11-14-53	MAP NO. K-15

DRAINAGE FACILITY WITHIN CITY RIGHT-OF-WAY





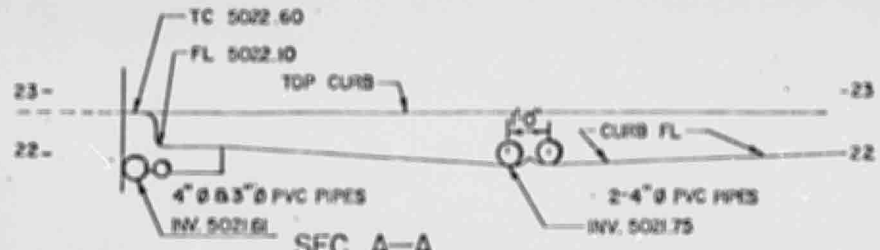
* LENGTH AND WIDTH OF INSIDE OF BOX TO EQUAL INSIDE DIMENSIONS OF ANGLE FRAME.

Sheet P-07340 C-20

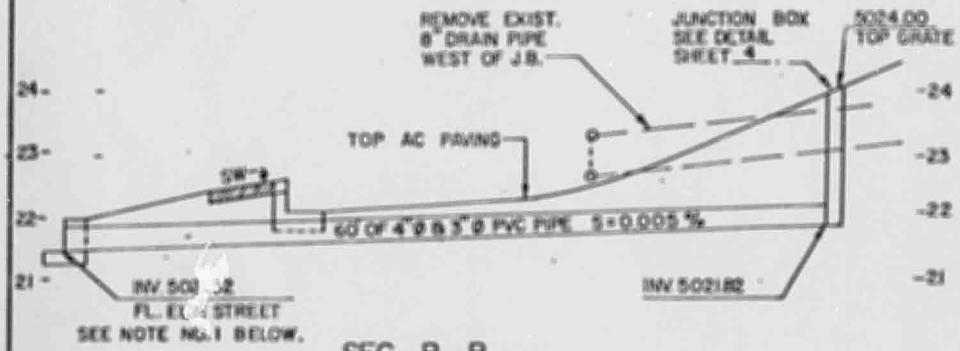
CITY OF ALBUQUERQUE

APPROVALS	ENGINEER	DATE	TITLE
A.C.E. / DESIGN	[illegible]	[illegible]	REGINA HALL DISCHARGE PLAN JUNCTION BOX DETAILS
INSPECTOR	[illegible]	[illegible]	PERMIT NO.
A.C.E. / FIELD			SHEET 4 OF 4 — MAP NO. K-15

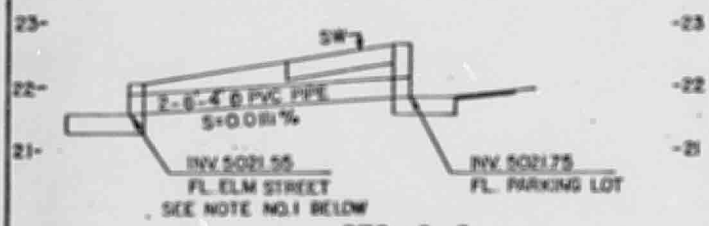
DRAINAGE FACILITY WITHIN CITY RIGHT-OF-WAY



SEC A–A
NTS.



SEC B–B
NTS.



SEC C C
NTS.

NOTE:

1. CONSTRUCT DRAIN LINE THROUGH CURB IN ACCORDANCE WITH CITY STD. DWG. K-15

Summit P-07340 C-20

CITY OF ALBUQUERQUE

APPROVALS	ENGINEER	DATE	TITLE
A.C.E. / DESIGN	[illegible]	2-14-83	REGINA HALL DRAINAGE PLAN PIPE CROSS SECTIONS
INSPECTOR	[illegible]	2/14/83	PERMIT NO. / SHEET 3 OF 4
A.C.E. / FIELD	[illegible]	[illegible]	MAP NO. K-15