HYDROLOGY G15/D25 NO PLANS

G15/D25

NO PLANS

DRAINAGE REPORT

FOR

BOYDSTON ELECTRIC

LOT 15, BLOCK 1, COMAN INDUSTRIAL DISTRICT

JUNE, 1979

RECEIVED
JUN 06 1979
CITY ENGINEER

Prepared By:

T. T. Burnett Engineering, Inc.
120 Morningside Dr. NE
Albuquerque, New Mexico 87108

Prepared For:

Boydston Electric, Inc.
3716 Edith Blvd. NE
Albuquerque, New Mexico 87107

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR NO 5110 NEW MEXICO JEAN J. BORDENAVE

Jean J. Bordenave, N.M.P.E. & L.S. #5110

TABLE OF CONTENTS

PURPOSE	1
LOCATION AND TERRAIN	1
PROPOSED DEVELOPMENT	2
UPLAND DRAINAGE	2
INTERNAL DRAINAGE	2
CONCLUSIONS	2
COMPUTATIONS	
PLATES	
I Location Map G - 15 - Z	
II Site Plan	

DRAINAGE REPORT

FOR

BOYDSTON ELECTRIC

LOT 15, BLOCK 1, COMAN INDUSTRIAL DISTRICT

PURPOSE

The purpose of this report is to present to governing agencies a reasonable method of complying with City Ordinance 59-1976 and thereby lessen runoff from the proposed development to an amount not in excess of the flow to be expected from the property in its present state. The report is composed of a narrative of existing and proposed conditions and computations to determine recommended runoff control structures.

LOCATION AND TERRAIN

The proposed development is located on the south side of Rankin Road, just east of Rankin Lane, in the northeast quadrant of the city. (See Plate I for the exact location.)

The front two hundred (200) feet of the property slopes northwesterly at a rate of approximately two (2) percent and the rear one hundred (100) feet slopes northerly at approximately two (2) horizontal to one(1) vertical. Universal Construction Co. is located at the top of the slope and they have constructed a swale along the top of the slope directing runoff flows westerly.

The soil is composed of silty sand with some gravel with no vegetative cover. Due to the lack of vegetative cover and the frequent use of the property by vehicles, the infiltration rate is quite low.

PROPOSED DEVELOPMENT

It is proposed to construct an office and warehouse of approximately 9,000 square feet and an asphalt parking area and gravel yard area. The southerly 100 feet of the lot will not be used for any purpose, due to the extreme slope.

UPLAND DRAINAGE

Drainage from the south (at the top of the slope) is intercepted by a swale and diverted southwesterly beyond the property in question. Drainage from the east is intercepted by Interstate 25. There is one lot between this development and Interstate 25 which drains to Rankin Road. Properties to the northwest both drain away from the proposed development.

The property is not shown as being in a flood hazard area as per Sheet No. 9, City of Albuquerque, New Mexico, Flood Hazard Boundary Map.

INTERNAL DRAINAGE

The asphalt parking area and office portion and one-half of the warehouse will drain directly to Rankin Road. The remaining side areas will be routed through a retention pond. The volume of the pond as designed is approximately 25 percent in excess of the minimum requirement. Runoff stored within this pond will be dissipated through infiltration and evaporation.

CONCLUSIONS

There are no flows entering the property from offsite areas.

Flows generated onsite will be partially stored in a single retention pond, the volume of which is in excess of the minimum requirement.

DRAINAGE REPORT
for
BOYDSTON ELEC.

JJB 5/79

RUNOFF SOURCE

Existing Condition

		Area #	Runoff Coeff.	Effective Area #
Soil	300 × 150	45,000	0.45	20,250

Developed Condition

Soil undisturbed	18257	0.45	8216
yard area	9318	0.75	6989
pavement & sidewalk	6990	0.95	6641
planters	1615	0.00	0
building	8820	0.95	8379
	45000		30,225

Ponding Required

$(2.6/12)(30,225-20,250) = 2161\ ft^3$

Pond Provided

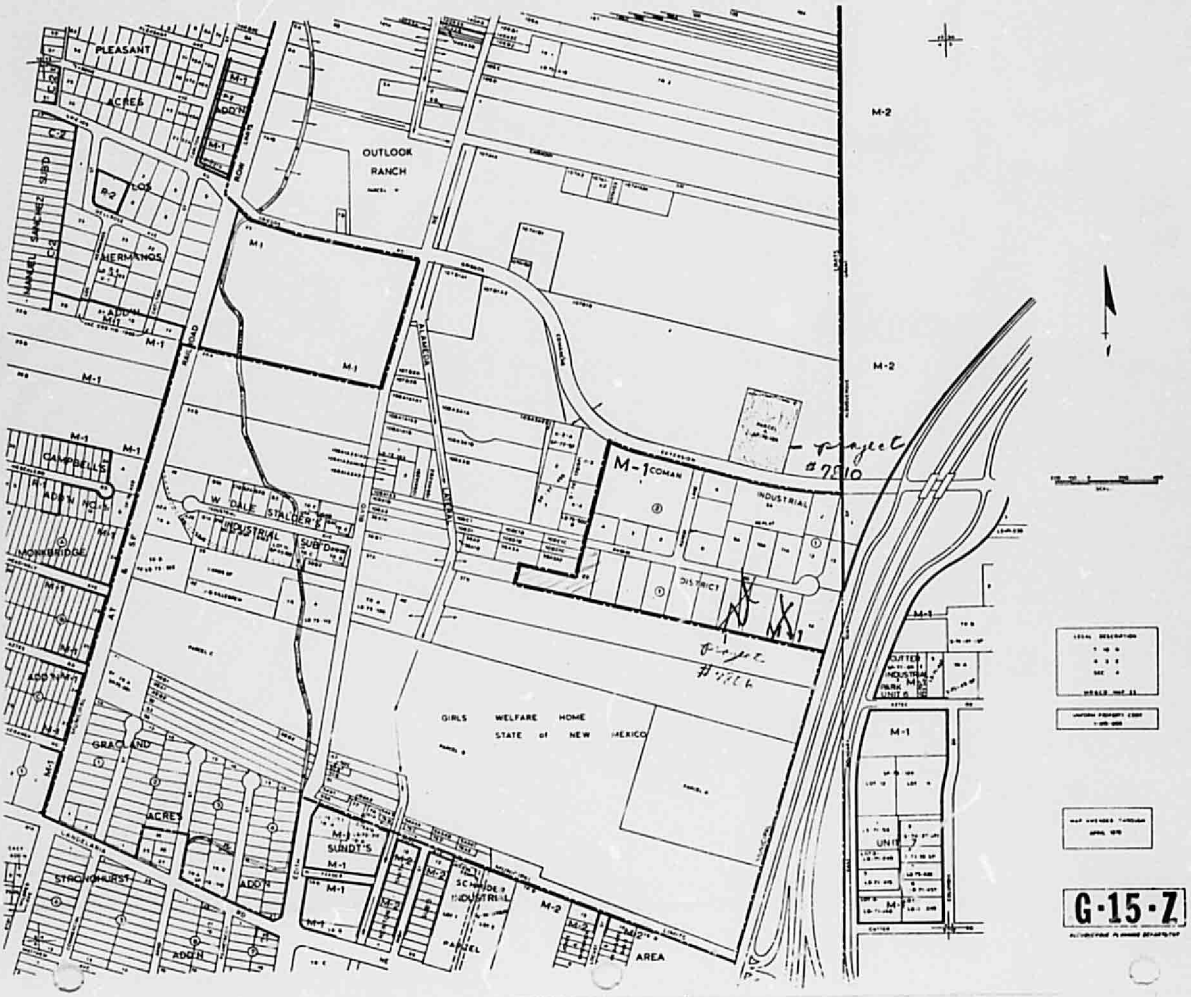
Contour Elevation	Area	Volume
97°	756#	1410
98°	2064#	1237
98.5	2883#	2647 ft³

6 Hour Runoff to Pond

Soil undisturbed	16882	0.45	7597
yard area	9318	0.75	8852
Building	3360	0.95	3192
Pond	2883	1.00	2883
			22,524

Volume = (22524)(2.6/12) = 4880 ft³

Excess Capacity = (2647-2161)/2161 = 22% = 486 ft³


PLEASANT
ACRES
ADDN
OUTLOOK
RANCH
HERMANOS
M-1
M-2
CAMPBELL
ADDN
LACKSBRIDGE
W DALE STALCER'S
INDUSTRIAL
SUBD
M-1 COMAN
INDUSTRIAL
DISTRICT
project #7810
project #7816
GIRLS WELFARE HOME
STATE of NEW MEXICO
GRAFLAND
ACRES
ADDN
STRONGHURST
SUNDY'S
SCHUDEL INDUSTRIAL
PARCEL
AREA
UNIT
G-15-Z

B O Y D S T O N E L E C T R I C

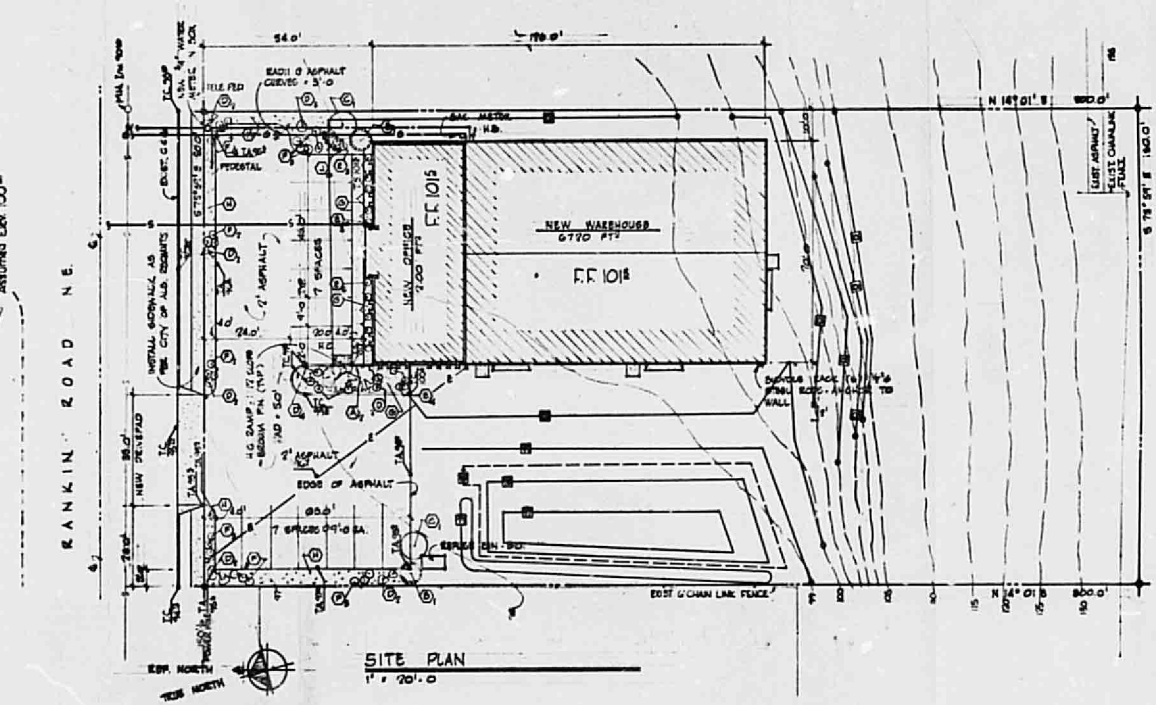
BOYDSTON 4-25-79

Design Data

U.B.C. edition	1976
Land zone	M-1
Fire zone	3
Seismic zone	2
Occupancy	B-2
Floor area	8,820 ft^2
Type of construction	V-N
Wind load	25 psf
Roof load	20 psf
Concrete strength at 28 days	3000 PSI
Soil pressure	1500 (Assumed)
Parking required	14
Parking provided	14
Landscaping required	471 ft^2
Landscaping provided	1,700 ft^2
Map index no.	G-15-Z

Legal Description

Common Industrial District
Lot 15, Block 1



SITE PLAN
1" = 20'-0

LANDSCAPING SCHEDULE

MK.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
A	2	PINUS EDULIS	PINON PINE	2" CAL	
B	2	PINUS PONDEROSA	PONDEROSA PINE	2" CAL.	
C	2	ELEAGNUS ANGUSTIFOLIA	RUSSIAN OLIVE	2" CAL.	
D	12	YUCCA FENDLERI	YUCCA	5 GAL.	
E	17	JUNIPERUS SAB. TAMARISCIFOLIA	TAM JUNIPER	5 GAL	
F	20	SANTOLINA CHAMAECYPARISSUS	LAVENDER COTTON	5 GAL	
		GROUND COVER			
G			BARK GROUND COVER	1"-1½" DIA	
H			PIT RUN GRAVEL	¾"-1" DIA	
J	P		RAILROAD RIBS		

STATE OF NEW MEXICO — NELSON B. BUCK NO. 1022 — REGISTERED ARCHITECT

JOB NO	9112
DATE	8/7/79
REVISED	
DRAWN	CAM

NELSON B. BUCK-ARCHITECT
812 ARIZONA S.E. ALBUQUERQUE
NEW MEXICO 87108 265-7155

JOB: BOYDSTON ELECTRIC

SHEET TITLE: SITE PLAN

1

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE February 28, 1980 REF. NO.

CITY ENGINEER

TO: Richard S. Heller, City Engineer

FROM: Malcolm W. deVesty, Assistant City Attorney Mac

SUBJECT: Ponding Requirements in the Valley Area

On the 24th of July, 1979, you forwarded to Mr. Kraemer a request for an opinion on ponding requirements in the Valley area, a copy of which is attached hereto for your information. Recently, Bruno made inquiries as to the disposition of this matter, and since my division was not involved at the time the opinion was requested, I went back to the original files and found in it an original response to your request by Phyllis Dow dated October 25, 1979. A copy of this opinion is attached hereto, and I have reviewed same, and concur with her conclusions.

MWdeV/nkb
Enclosures

cc: Bruno Conegliano, Asst. City Engineer, Hydrology
H. R. Orr, Deputy Director, Municipal Development

RSH	RSH	ADM	
HEO		SUR	
CDS		COUN	
DES		SEC	
INSP		FILE	
HYDRO		RETURN	

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE October 25, 1979 REF. NO._____

TO: Richard S. Heller, City Engineer

FROM: Phyllis A. Dow, Assistant City Attorney

SUBJECT: Ponding Requirements in the Valley Area

The main problem concerning whether or not the City Engineer's Office has the power to require 100% ponding in the Valley Area is one of delegation of authority. That is, whether the City Council has delegated to the City Engineer's Office the necessary powers to enable it to require 100% ponding.

An example of this delegation of authority is found in the Subdivision Ordinance. Section 43.B states:

> Building permits shall not be issued or allowed by the City, unless the applicant presents both . . . (B) [a]pproval by the City Engineer that (1) [t]he alteration of the natural topography, drainage pattern, and perviousness of any lot resulting from the intended construction and prior or planned site preparation complies with a previously submitted and approved drainage report and/or plan, if any has been required.

Under Section 2.B dealing with plats and data for preliminary approval, the City Engineer may require a drainage report or plan. Further, the final plat pursuant to Section 22.A.17 must have certification of the City Engineer of water courses and storm drainage facilities. And, under Section 10.B.1, any grading must be consistent with the recommendations of the approved drainage plan and report.

It should also be noted that Section 10.A.4 provides:

> Land with the following types of problems shall have subdivision approval withheld until it is demonstrated by means of an engineering analysis that such hazards have been or will be eliminated. A. Special drainage conditions.

Thus, for those areas covered by the Subdivision Ordinance, the City Engineer's Office has the power to require and approve drainage plans. However, there will obviously be development of property in the Valley Area which is not governed by the Subdivision Ordinance, and other sources must be examined to discover whether or not there has been a delegation of authority to the City Engineer's Office as to the latter.

The Comprehensive City Zoning Code contains very little having to do with drainage. Under Section 2, it is stated that the intent of the Ordinance, among other items, is to properly channel flood water runoff. When off-street parking is required pursuant to Section 40A, subsection 7.d provides that "[w]herever feasible, landscaped areas shall be used to collect and infiltrate storm water and to serve as retention or detention areas for storm water from the site." And, detached open space may be used for flood water storage in certain areas under Section 40.H.4.

However, these provisions appear to be of little value in the instant case, as they do not actually delegate any authority to the City Engineer's Office to require a certain pattern of storm drainage.

Resolution 59-1976 is the final document which might furnish the needed authority. This Resolution adopts "minimum design standards setting forth the minimum degree of flood protection to be followed." It further states that "[p]roperty owners who change the use of land have an inherent responsibility to deal with surface runoff passing through or originating on their land so that other property is not adversely affected by the change in use." And, "[p]reservation of life and protection of property shall be the major considerations in the planning of drainage and flood control systems."

As to what the design standards are, the Resolution provides that "[d]rainage and flood control systems shall be designed for runoff generated during the 100 year frequency flood. Hydrologic criteria shall be as set forth in the 'Master Plan of Drainage, City of Albuquerque and Environs, 1963' prepared by Gordon Herkenhoff and Associates . . ." Further, "[w]here adequate hydrologic data is

unavailable or there is substantial justification for deviation from such data, the analysis and determination of hydrologic and hydraulic criteria shall adhere to professional engineering techniques . . . The approval of the appropriate local official is required on all drainage reports and construction plans and shall comply with current standards and specifications adopted by the local government subdivision" [emphasis added].

It can be argued that this denotes the City Engineer as the appropriate local official to approve all drainage reports and construction plans within that area not governed by AMAFCA. And, the Valley Area is not included in AMAFCA's Resolution 1972-2. The design standards adopted by the City would appear to be that required for the 100 year frequency flood. If 100% ponding is necessary for this and if it meets general hydrologic criteria, then it can probably be required in the Valley Area.

PAD:gs

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

MAYOR
David Rusk

April 17, 1979

Mr. John A. Segotta
Fred Denney & Assoc., Inc.
5643 Paradise Blvd. N.W.
Albuquerque, New Mexico 87114

Re: Drainage Report for Van Cleave Mobile Home Park

Dear Mr. Segotta:

I have received the drainage report for the referenced development and my comments are as follows:

The AMAFCA Resolution 72-2 specifies necessary conditions that must be satisfied before approval for proposed new development is granted. Nevertheless when in specific locations, poor drainage and/or flooding conditions are known to exist, the requirements of the City may be more stringent than those of the mentioned resolution. Verbal O.K. from Mc deVerty!

Such is the case for the proposed mobile home development. Wyoming Blvd. in the proximity of Trumbull, Zuni and Central Ave. is known to be subject to flooding, which is the result, at least in part, of the uncontrolled runoff from the existing Drive-in Theaters. Eventhough the existing conditions of complete imperviousness of the grounds would be slightly improved by the proposed conversion of one of the theaters to a mobile home park, the modest reduction in the peak flow indicated in the drainage report is not sufficient to alleviate substantially the present poor drainage conditions. In order to grant approval to this development, I am therefore requesting that on this site ponding provisions be supplied to the same extent as of the initial conditions even those of bare ground with vegetative cover instead of a paved area. In other words the amount of runoff allowed to exit the site will be that which can be computed by using a runoff coefficient C=0.4.

The engineer will also have to evaluate the present conditions of Trumbull Ave. when he proposes to discharge the flow from this development. The watershed contributing its runoff to that street must be identified, the peak discharge evaluated together with the maximum depth and velocity of flow at critical points in the street (i.e. at the location of the changes in grade and at the intersection with Wyoming Blvd.).

The grading plan indicates that extensive regrading of the site will be performed, which will result in the raising of the ground level at the N.W. corner of the parcel by some 5.5 feet. Retaining walls will have to be provided at the boundary of the property to absorb the difference in elevation between the proposed elevations and the existing ground level. I want also at this point to call the attention of the engineer to Section 40C of the Zoning Code in regard to the maximum wall height between adjacent residential areas. Compliance with this requirement must be verifiable through an inspection of the site grading plan which must be furnished with much greater detail than the one submitted with the drainage report. I will be available to discuss these matters further if you find it necessary.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/fs

cc - Dick Heller, City Engineer
Rich Leonard, AMAFCA
Drainage File

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

MAYOR
David Rusk

June 15, 1979

G15-02a

Mr. Jean J. Bordenave
T. T. Burnett Engineering, Inc.
120 Morningside, N.E.
Albuquerque, NM 87108

Re: Boydston Electric, Inc. Drainage Report

Dear Mr. Bordenave:

Due to the large number of drainage reports received in the past three weeks by the City Engineer's Office and to the limited staff resources, it has not been possible to reply within the time specified by the AMAFCA Res. 72-2. This letter is to acknowledge the reception of your drainage report and assure you that the best efforts will be made to reply in the shortest possible time.

Very truly yours,

Richard S. Heller

Richard S. Heller
City Engineer

BC/RSH/ms

cc-Richard Leonard-AMAFCA
Drainage File
Bruno Conegliano

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

MAYOR
David Rusk

June 20, 1979

G15-D2a

Mr. Jean J. Bordenave
T. T. Burnett Engineering, Inc.
120 Morninside, N.E.
Albuquerque, NM 87108

Re: Boydston Electric, Inc. Drainage Report

Dear Mr. Bordenave:

I have reviewed the drainage report for the referenced development and I am in substantial disagreement with the assessment of the existing conditions.

A field inspection was made and it was found that the materials in place are the same alluvial deposits that are quarried on the other side of Carmony Lane for sand and fine gravel: The absence of vegetation in itself is an indication of very high infiltration and penetration rates. Further, due to the absence of drainage facilities in the Valley Area, where eventually Rankin Road drains, makes it imperative that no runoff be allowed to leave the site.

Please review the site grading plan to supply a ponding area of sufficient volume to prevent the release of runoff from this property.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/ms

cc-Richard Heller, City Engineer
Richard Leonard, AMAFCA
Drainage file
Reading file

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE July 24, 1979 REF. NO._____

TO: William L. Kraemer, Assistant City Attorney

FROM: Richard S. Heller, City Engineer Richard S. Heller

SUBJECT: Request for Legal Opinion on Ponding Requirements in the Valley Area

A legal opinion is required on requirements for ponding in the Valley Area. The City Engineer's Office requested 100% retention on advice of Mr. Kimmick, City Engineer in 1977, due to the severe flooding potential in the Valley Area. This requirement exceeds the requirements stipulated in the AMAFCA Resolution 72-2. A more restrictive requirement was extended (because the AMAFCA Resolution does not apply to the Valley Area since it is outside the area's jurisdiction of AMAFCA).

The attached memo from Mr. Orr indicates that the authority of the City Engineer' Office to stipulate more stringent requirements has been questioned. It is therefore requested that you review the existing statutes, namely, AMAFCA Resolution 72-2, the Drainage Policy Resolution 59-1976, passed by the City Council, and the Flood Hazard Zone Ordinance, 55-1976, again passed by the City Council, and define as specific legislative organization is necessary to specify requirements or whether the City Engineer's Office can under the City Police power issue such regulations.

RSH/fs
Enclosure
cc - H. R. Orr, Deputy Dir. MDD
Bruno Conegliano, Asst. City Engineer-Hydrology

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE July 12, 1979 REF. NO._____

TO: Richard Heller, City Engineer

FROM: H. R. Orr, Jr., Deputy Director, Municipal Development

SUBJECT: DRAINAGE PLAN APPROVAL
BOYDSTON ELECTRIC SITE
COMAN INDUSTRIAL DISTRICT

In view of our deficiency of authority to require 100% retention, the Engineer's calculated 22% excess capacity in the on-site pond, and the builder's commitment via my telephone conversation with Jake Bordenave this morning that landscape areas will be revised to collect some of the flow from the parking area, this is to instruct that you accept the drainage report and expedite drainage approval on the building plans.

HRO:rs
cc: Jake Bordenave (T. T. Burnett Engineering)
Fred Aguirre, Engineering

RECEIVED
JUL 13 1979
CITY ENGINEER

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

MAYOR
David Rusk

June 20, 1979

Mr. Jean J. Bordenave
T. T. Burnett Engineering, Inc.
120 Morninside, N.E.
Albuquerque, NM 87108

Re: Boydston Electric, Inc. Drainage Report

Dear Mr. Bordenave:

I have reviewed the drainage report for the referenced development and I am in substantial disagreement with the assessment of the existing conditions.

A field inspection was made and it was found that the materials in place are the same alluvial deposits that are quarried on the other side of Carmony Lane for sand and fine gravel: The absence of vegetation in itself is an indication of very high infiltration and penetration rates. Further, due to the absence of drainage facilities in the Valley Area, where eventually Rankin Road drains, makes it imperative that no runoff be allowed to leave the site.

Please review the site grading plan to supply a ponding area of sufficient volume to prevent the release of runoff from this property.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/ms

cc-Richard Heller, City Engineer
Richard Leonard, AMAFCA
Drainage file

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

MAYOR
David Rusk

June 15, 1979

Mr. Jean J. Bordenave
T. T. Burnett Engineering, Inc.
120 Morningside, N.E.
Albuquerque, NM 87108

Re: Boydston Electric, Inc. Drainage Report

Dear Mr. Bordenave:

Due to the large number of drainage reports received in the past three weeks by the City Engineer's Office and to the limited staff resources, it has not been possible to reply within the time specified by the AMAFCA Res. 72-2. This letter is to acknowledge the reception of your drainage report and assure you that the best efforts will be made to reply in the shortest possible time.

Very truly yours,

Richard S. Heller

Richard S. Heller
City Engineer

BC/RSH/ms

cc-Richard Leonard-AMAFCA
Drainage File
Bruno Conegliano

T. T. Burnett Engineering, Inc.
Consulting Engineers
120 MORNINGSIDE N. E.
ALBUQUERQUE, NEW MEXICO 87108

TELEPHONE
(505) 255-7545

June 6, 1979

RECEIVED
JUN 06 1979
CITY ENGINEER

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

Dear Mr. Conegliano:

Submitted herewith for your review and approval are two copies of a Drainage Report for Boydston Electric, Inc.

Very truly yours,

Jean J. Bordenave
President

ms