HYDROLOGY H15/D7 2 PLANS

H15/D7

2 PLANS

Active Plumbing Supply Warehouse

1) Approval (final) can not be given on preliminary plans.

⇒ the plan is acceptable in concept.
Onsite & offsite flows provided for
C is taken to be 1.0 in computing volumes (50 yr storm)

1) Are the catch basins primarily for settlement - If so won't the silt clog the sand
2) Why are the detention beds higher than the catch basins.
3) South pond overflow onto "property adjacent to the west", what's over there?
4) What effect will subsurface detention basins full to capacity for any period have on the foundation. Soil is termed "sandy-gravelly."
5) Is the 18" min. cover over the detention basins sufficient? Will it be compacted? Will the basins themselves be compacted
6) Note: swale on East side of building will be tricky & must slope south

WB

Attachment A

Active Plumb File

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

June 19, 1979

Mr. T. Gordon
Gordon & Associates
1300 Luisa Street, Suite 21
Santa Fe, N.M. 87501

Re: Active Plumbing Supply Warehouse
1500 Candelaria N.E., Albuquerque, N.M.

Dear Mr. Gordon:

A field inspection indicates that presently very little, if any runoff leaves the site, due to the alluvial nature of the soils. Further, the absence of adequate drainage facilities of the Valley Area makes it imperative that no additional runoff be conveyed onto Candaleria Road, to prevent the worsening of the existing flooding problems. It is therefore requested that the site be graded in such a manner as to collect the runoff from the proposed paved area and from the roof of the building, and to convey it to the south into an appropriate ponding and infiltrating area. The ponding volume to be provided must be no less than 8900 cu.ft. (44376 x 2.4/12 cu.ft.): This volume can be supplied by depressing the area to the south by approximately 3.0".

If you have any questions, please do not hesitate to call my office.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology
766-7467

BC/ms

cc - Richard Heller, City Engineer
Richard Leonard, AMAFCA
Fred Aguirre
Drainage File

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

March 24, 1980

T. R. Gordan, Jr., P.E.
Gordon and Associates
1300 Luisa Street
Santa Fe, New Mexico 87501

Reference: Active Plumbing Warehouse
1500 Candelaria, NE

Dear Mr. Gordan:

I am unable to give the drainage plan a complete review since I do not have the drainage report with all the calculations, nor do I know the conditions agreed upon by your Engineer and the assistant City Engineer Hydrology.

Please submit the information needed so that we can give a complete review for the above referenced drainage report.

Very truly yours,

Fred Aguirre

Fred Aguirre
Civil Engineer

lc

GORDAN and ASSOCIATES

1300 LUISA STREET SUITE 21 SANTA FE NEW MEXICO 87501

505-982-2587

April 2, 1980

Mr. Fred Aguirre
Civil Engineer, Engineering Division
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Re: Active Plumbing Supply Warehouse
1500 Candelaria, NE

Dear Sir:

With regard to your letter of March 24, 1980, please find enclosed the drainage report, associated calculations, and an updated plan of the proposed drainage system for the Active Plumbing Warehouse.

Your review and comments will be appreciated.

Sincerely,

T. R. Gordan, Jr., P.E.

cag

xc: Harold Thomas w/encl.

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APR 04 1980
CITY ENGINEER

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structural design
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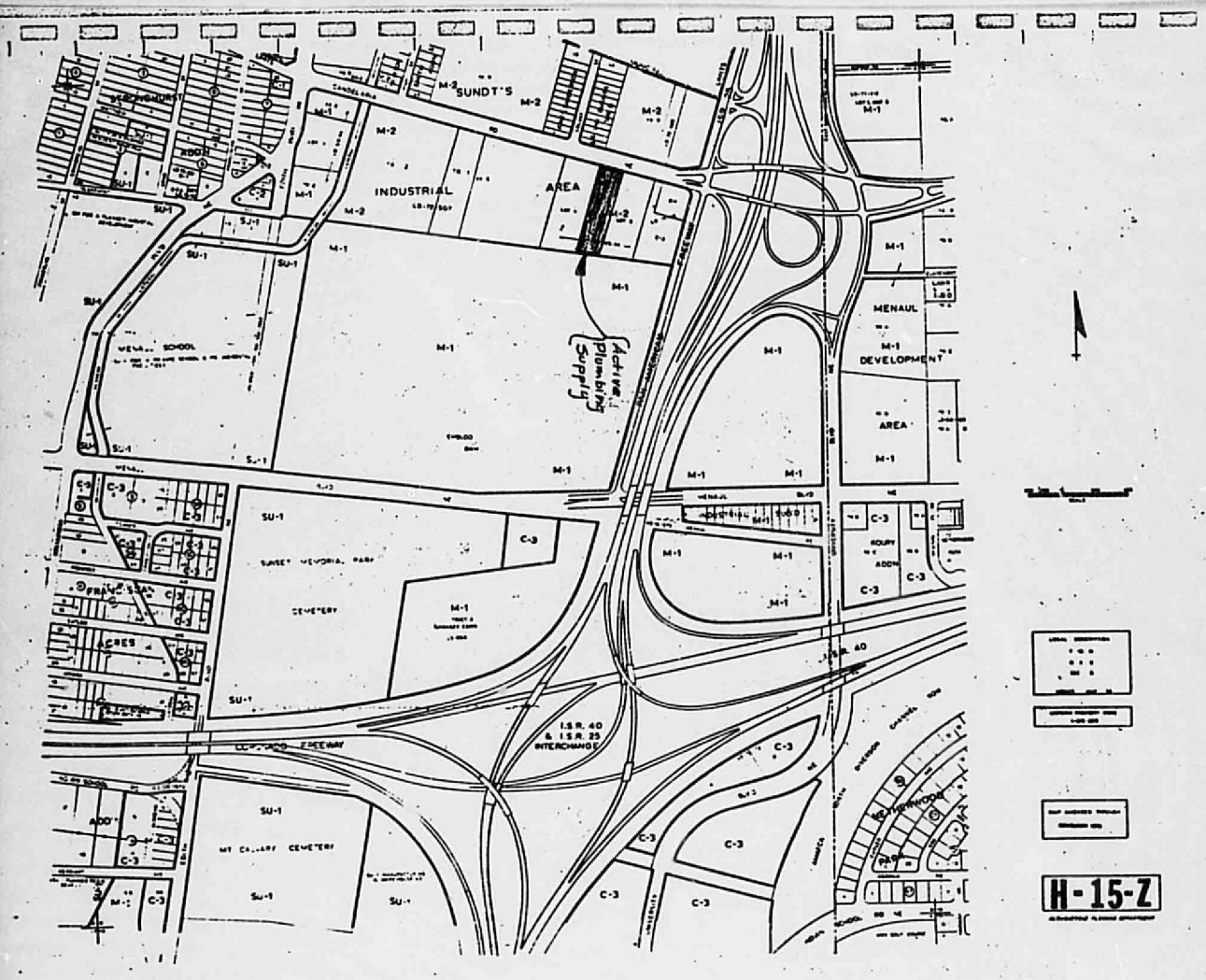
environmental assessment
site engineering


SUNDT'S
INDUSTRIAL
AREA
M-1
M-2
SU-1
C-3
MENAUL
DEVELOPMENT
AREA
Active Plumbing Supply
SUNSET MEMORIAL PARK
CEMETERY
MT CALVARY CEMETERY
I.S.R. 40
& I.S.R. 25
INTERCHANGE
I.S.R. 40
ACRES
NEIGHBORHOOD
PARK
H-15-Z

DRAINAGE REPORT
ACTIVE PLUMBING SUPPLY WAREHOUSE
1500 CANDELARIA, N.E.
ALBUQUERQUE, NEW MEXICO

By: Gordan and Associates
Santa Fe, New Mexico
March, 1980

Introduction

In accordance with "Drainage Resolution 1972," Albuquerque Metropolitan Arroyo Flood Control Authority, and the requirements of the Hydrology Section of the City of Albuquerque Engineering Division, this report and accompanying plan detail a proposal to collect, detain, and infiltrate stormwaters at the Active Plumbing Supply warehouse. A map showing the location of the property follows.

Flooding Potential

The property is located out of any flood plains. There is an arroyo immediately to the south of the property, but it is not expected to overflow or flood the property.

Relation of the Property to its Surroundings

A certain amount of stormwaters does and will drain onto the property from the adjacent lot to the east. This runoff will be conveyed to the new ponding and infiltrating area at the south end of the property. The amount of runoff from the adjacent property is believed to be small in relation to the runoff generated on the site itself, and was not considered in sizing the pond and infiltration areas.

Site Grading

The new warehouse, which has already been built, is presently surrounded by a largely unpaved area for parking and storage. This area will be graded and paved to direct runoff into two ponds and infiltration beds. Runoff from the east half of an older, existing building and a small parking area on the north end of the property will continue to drain onto Candelaria Road as it has for several years.

Storm Water Retention

The Assistant City Engineer of Hydrology has required that the property detain and infiltrate all the stormwater runoff that it generates, with the addition of the new warehouse and paving of the parking and storage areas. See the attached letter dated June 19, 1979. The warehouse is located in the valley area and guidelines from the City Engineer for computing the required volume of retention in that area were followed. Detailed volume calculations are attached, and drainage areas on the property have been outlined on the accompanying plan. Stormwater runoff will be detained in two detention/infiltration beds where, when the infiltration rate of the beds is exceeded, water collects in the pores of the bed and then rises to be detained in two paved ponds in the

parking and storage area. Only when the storage capacities of the beds and ponds have been exceeded, and runoff continues to be greater than the infiltration rates of the gravel beds, will stormwater overflow onto either Candelaria Road or the property adjacent to the west.

Safety

The proposed drainage provisions shoud not constitute or create an attractive nuisance or safety hazard. Maximum ponding depths are less than eight inches, with the deeper pond located to the rear of the property, drainage to the ponds is positive, and inlet manholes to the drainage beds are covered with heavy catch basin grates and are yet reasonably accessible for periodic cleaning.

T. R. Gordan, Jr., P. E.

Attachment B

PONDING VOLUME CALCULATIONS

1. Retention Volume – South Pond and Bed

Watershed Area: 57,750 SF

Retention Required: $(57{,}750)\left(\frac{2.2}{12}\right) = 10{,}588$ CF

Volume in Parking Lot Pond*:

Area	within	99.5	Contour	= 21,460 SF
"	"	99.4	"	= 17,135 SF
"	"	99.3	"	= 13,580 SF
"	"	99.2	"	= 10,360 SF
"	"	99.1	"	= 7,175 SF
"	"	99.0	"	= 4,300 SF
"	"	98.9	"	= 1,540 SF

$$\checkmark \text{Vol.} = 0.1\left(\frac{21{,}460}{2} + 17{,}135 + 13{,}580 + 10{,}360 + 7{,}175 + 4{,}300 + \frac{1{,}540}{2}\right) = 6{,}405 \text{ CF}$$

Volume in Gravel Detention/Infiltration Bed**:

$$\text{Vol.} = \frac{(192)(18) + (184)(10)}{2}(4)(0.4) = 4{,}237 \text{ CF}$$

Total Volume Provided: 10,642 CF.

2. Retention Volume – North Pond and Bed

Watershed Area: 27,013 SF

Retention Required: $(27{,}013)\left(\frac{2.2}{12}\right) = 4952$ CF

Volume in Parking Lot Pond*:

Area	within	99.5	Contour	= 8,630 SF
"	"	99.4	"	= 4,965 SF
"	"	99.3	"	= 2,330 SF
"	"	99.2	"	= 780 SF
"	"	99.1	"	= 0

---

* Areas determined by Planimeter.

** Assumes a porosity of 40% in the gravel bed.

$$Vol. = 0.1\left(\frac{8,620}{2} + 4,965 + 2,330 + 780 + \frac{0}{2}\right)$$

$$= 1239 \text{ CF}$$

Volume in Gravel Detention/Infiltration Bed**:

$$Vol. = \frac{(78)(36)+(70)(28)}{2}(4)(0.4) = 3814 \text{ CF}$$

Total Volume Provided: 5053 CF

Note: No allowance was made for infiltration into the soil during a storm; this provides a safety factor which may be fairly substantial due to the sandy-gravelly nature of the soil.

J. Kretzmann 3/27/80
Acme Plumbing Supply Warehouse
Grading and Drainage Plan
Attachment B

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

March 24, 1980

H15-017

T. R. Gordan, Jr., P.E.
Gordon and Associates
1300 Luisa Street
Santa Fe, New Mexico 87501

Reference: Active Plumbing Warehouse
1500 Candelaria, NE

Dear Mr. Gordan:

I am unable to give the drainage plan a complete review since I do not have the drainage report with all the calculations, nor do I know the conditions agreed upon by your Engineer and the assistant City Engineer Hydrology.

Please submit the information needed so that we can give a complete review for the above referenced drainage report.

Very truly yours,

Fred Aguirre

Fred Aguirre
Civil Engineer

lc

345-858

GORDAN and ASSOCIATES

1300 LUISA STREET SUITE 21 SANTA FE NEW MEXICO 87501
505-982-2587

February 11, 1980

RECEIVED
FEB 14 1980
CITY ENGINEER

Mr. Bruno Canegliano
City Engineers Office
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: Active Plumbing Warehouse
1500 Candelaria, NE

Dear Sir:

In anticipation of paving the parking and storage area adjacent to the improvements on this site, we are submitting the enclosed plan for your comments. You may recall the drainage plan was given conditional approval prior to the construction of the warehouse. A revised drainage plan was to be submitted for the site for your approval.

Your comments will be appreciated.

Sincerely,

T. R. Gordan, Jr., P.E.

xc: Harold Thomas

TRG/mev

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environmental assessment
site engineering

GORDAN and ASSOCIATES

1300 LUISA STREET SUITE 21 SANTA FE NEW MEXICO 87501

505-982-2587

February 11, 1980

RECEIVED

FEB 14 1980

CITY ENGINEER

Mr. Bruno Canegliano
City Engineers Office
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: Active Plumbing Warehouse
1500 Candelaria, NE

H15-D7

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T. R. Gordan, Jr., P.E.

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site engineering

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

MAYOR
David Rusk

June 19, 1979

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Gordon & Associates
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Santa Fe, N.M. 87501

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1500 Candelaria N.E., Albuquerque, N.M.

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If you have any questions, please do not hesitate to call my office.

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Assistant City Engineer-Hydrology

BC/ms

cc - Richard Heller, City Engineer
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Fred Aguirre
Drainage File