HYDROLOGY

F17/D48

PEP BOYS AT
SAN MATEO

F17- D 48

2 PLANS

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

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

December 5, 1984

Mr. Brian Burnett
Bohannan-Huston, Inc.
4125 Carlisle NE
Albuquerque, NM 87107

REF: GRADING AND DRAINAGE PLAN FOR PEP BOYS AT SAN MATEO (F17-D48)
RECEIVED NOVEMBER 5, 1984

Dear Brian:

I have reviewed the above referenced submittal and forward the following comments:

1. The professional engineer's stamp, signature and date are not on the plan.

2. The drainage plan for Uncle Cliff's Expansion (F17-D31A) identifies that the maximum allowable discharge from this site is to be 5 cfs. The proposed discharge from this site exceeds that allowable rate.

3. Volumes of runoff have not been addressed in the calculations.

4. The maximum allowable runoff from this site to Osuna would be 4.1 cfs and 4.27 from Tract D-2 or a total of 8.37 cfs. The calculations show 11.37 or 3 cfs more than the allowable.

5. The plan does not have a vicinity map.

6. There are no existing City top of curb or flowline elevations given.

7. Roof drains and details should be identified on the plan.

8. Is there to be any landscape area on-site?

9. Property line elevations adjacent to San Mateo should be provided. The minimum requirement is 0.33 feet above existing top of curb.

10. The required spot elevations for standard City drivepad have not been provided at Osuna Road. Also, the TBM will be lost with the construction of the drivepad. For City inspection, it is recommended that the TBM be relocated.

11. The plan indicates off-site grading not only on the west but also the north, east and south. Written concurrence from all the adjacent owners will be required for final approval.

Should you have any questions or comments, please contact me at 766-7644.

Sincerely yours,

Billy J. Goolsby

Billy J. Goolsby, PE
Civil Engineer/Hydrology

BJG:mrk

BOHANNAN-HUSTON INC.
4125 CARLISLE BLVD., N.E. ALBUQUERQUE, NEW MEXICO 87107 505 881-2000
UNIVERSITY PLAZA, 330 GARFIELD SUITE 104 SANTA FE, N. M. 87509 505 986-7671
6713 VISCOUNT BLVD. EL PASO, TEXAS 79925 915 778-4491

December 28, 1984

Mr. Gary Hayes
4800 Osuna Road N.E.
Albuquerque, NM 87109

Re: Offsite Grading at Pep Boys Site - San Mateo Boulevard and Osuna Road

Dear Gary:

During the City review process of the subject grading plan, the Hydrology Section has required that written authorization be provided by those adjacent property owners affected by offsite grading. Your concurrence below authorizes offsite grading on Uncle Cliff's Familyland properties south and west of the Pep Boys site. The offsite grading will be performed in accordance with the grading plan you reviewed earlier.

If we can answer any questions, please contact James Topmiller or me.

Truly yours,

Brian G. Burnett

Brian G. Burnett, P.E.
Division Manager

CONCURRENCE:

Gary Hayes

Gary Hayes, General Manager
Uncle Cliff's Familyland

cc: Mr. Ken Mori
Mr. John Hartsock

JT/mls
Job No. 4 257 5

RECEIVED
JAN 04 1985
HYDROLOGY SECTION

PRINCIPALS
JERRY R. BOHANNAN, P.E. & L.S.
LARRY W. HUSTON
MICHIAL M. EMERY, P.E.

DRAINAGE INFORMATION SHEET

PROJECT TITLE: PEP BOYS @ SAN MATEO ONE ATLAS/DRNG. FILE #: F-17 / D48

LEGAL DESCRIPTION: TRACTS D-1, D-2, D-3, G.A.G.E. SUBD.

CITY ADDRESS:

ENGINEERING FIRM: POHANNAN-HUSTON CONTACT: BRIAN BURNETT

ADDRESS: 4125 CARLISLE NE PHONE: 881-2000

OWNER: PEP BOYS CONTACT: JOHN HARTSOCK

ADDRESS: PHONE:

ARCHITECT: REEVES & ASSOC. CONTACT: KEN MORI

ADDRESS: PHONE: 213-680-3230

SURVEYOR: CONTACT:

ADDRESS: PHONE:

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

___ YES

X NO

___ COPY OF CONFERENCE RECORD SHEET PROVIDED

RECEIVED JAN 04 1985 HYDROLOGY SECTION

DRB NO.

EPC NO.

PROJ. NO.

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT

X DRAINAGE PLAN (RESPONSE TO COMMENTS)

___ 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

X BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

___ OTHER _____ (SPECIFY)

DATE SUBMITTED: Jan. 04, 1985

BY: James Topmiller

BOHANNAN-HUSTON INC.
4125 CARLISLE BLVD. N.E. ALBUQUERQUE, NEW MEXICO 87107 505 881-2000
UNIVERSITY PLAZA, 330 GARFIELD SUITE 104 SANTA FE, N.M. 87509 505 988-7671
6713 VISCOUNT BLVD. EL PASO, TEXAS 79925 915 778-4491

January 3, 1985

Mr. Billy Goolsby
City/County Floor Ordinance
Design Hydrology Section
123 Central N.W.
Albuquerque, NM 87102

Re: Response to Hydrology Comments - Pep Boys at San Mateo Grading/ Drainage Plan (F17-D48)

Dear Billy:

The purpose of this letter is to respond to and address comments you provided on December 5, 1984 concerning the subject site. The abbreviated comment and response is listed below. Please refer to your original letter for the full comment.

1. **Engineer's Stamp:** Has been added.

2. **Site Discharge:** Uncle Cliff's Expansion drainage plan (F17-D31A) limits runoff from a drainage area (which includes the Pep Boys site) to 3.1 cfs per acre. The site is 1.32 acres which corresponds to an allowable discharge of 4.09 cfs to Osuna Road from the site. As shown in the calculations, the developed site discharge is only 3.67 cfs.

3. **Runoff Volumes:** Volume calculations are included.

4. **Allowable Runoff:** The Pep Boys site meets the criteria for drainage as indicated above. However, an error was made in the calculation of the 11.37 cfs figure. A runoff of 5.63 cfs was used from the Pep Boys site. This should have been 3.67 cfs. Further, the runoff from Tract D-2 (5.74 cfs) assumed a developed discharge without any ponding in order to size a conservatively designed swale to Osuna Road. When Tract D-2 does develop, it will be necessary to limit discharge to 4.27 cfs by either utilizing roof top or some other form of detention ponding.

5. **Vicinity Map:** Has been added to the bottom of Sheet 1.

RECEIVED
JAN 04 1985
HYDROLOGY SECTION

PRINCIPALS
JERRY R. BOHANNAN, P.E. & L.S.
LARRY W. HUSTON
MICHIAL M. EMERY, P.E.

6. **TC and FL Elevations:** Have been added.

7. **Roof Drains:** The location and direction of roof drains are identified on the plan.

9. **Property Line Elevations:** Previous Traffic Division comments during Building Permit Plan check review and existing offsite/onsite constraints prohibit placing property line elevations 1' above street flowline. We request that the standard property line criteria be waived in this case because:

   a) Traffic Engineer has called for maximum 6-7 percent entrance grades to the site for traffic safety reasons. These grades cause the high point of the entrance to be inside the property line. However, the 1' difference has been placed in the entrance at a point 16' behind curb, an adequate distance from the street.

   b) At this location, existing ground elevations fall off sharply from the TC at the street due to an arroyo through the site.

   c) The location of the property line (28' behind curb) is unusual due to existing utilities between property line and the sidewalk. Any raising of ground elevations in this area would increase depth of cover over these utilities.

   d) The sidewalk already lies +0.9' above the street flowline.

10. **Spot Elevations:** The drivepad elevations have been provided. Further, the drivepad has been moved away from the TBM in compliance with Traffic comments.

11. **Off-site Grading:** Written concurrence is provided herein from the owner of the property to the south and west. Grading to the north occurs only within a platted easement for drainage and access.

If you have any questions concerning these responses, please call James Topmiller or me.

Truly yours,

Brian G. Burnett

Brian G. Burnett, P.E.
Division Manager

cc: Mr. Ken Mori
Mr. John Hartsock

BGB/mls
Job No. 4 257 2

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

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

January 15, 1985

Brian Burnett
Bohannan-Huston, Inc.
4125 Carlisle Blvd., NE
Albuquerque, New Mexico 87107

RE: GRADING & DRAINAGE PLAN FOR PEP BOYS AT SAN MATEO (F-17/D48)
RECEIVED JANUARY 4, 1985

Dear Brian:

The referenced plan dated January 2, 1985, is approved.

Please attach a copy of this approved plan to the construction set prior to Hydrology sign-off.

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

Cordially,

Carlos A. Montoya
City/County Floodplain Administrator

CAM/bsj

RECEIVED
AUG 29 1986
HYDROLOGY SECTION

uncle Cliff's
Amusement Park

August 27, 1986

Pep Boys
Don Pointer
4202 West Washington
Phoenix, Arizona 85009

Dear Don:

I want to bring to your attention again the problem of water seeping through and under our common property line. For more than a year I have contacted Luther Construction to express my concerns about this condition. On at least one occassion, I received word from your office that this problem would be resolved. To remind you of how serious this problem is, over the winter we noticed a considerable amount of water approximately three feet deep and six feet on to our property side. This is a condition that can no longer be overlooked.

It is of no importance to us who is financially responsible for correcting this problem.

This letter will hereby put on notice to all parties involved in the construction of your San Mateo location that we will hold any and all such parties responsible for damage resulting from the continued seepage of water through and under this wall.

I anticipate that this letter will be the final communication neede to resolve this situation and that legal action will not be necessary.

Thanks very much,

Gary Hays

Gary Hays

4800 Osuna, NE • Albuquerque, New Mexico 87109 • (505) 883-9063 • (505) 881-9373

uncle Cliff's
Amusement Park

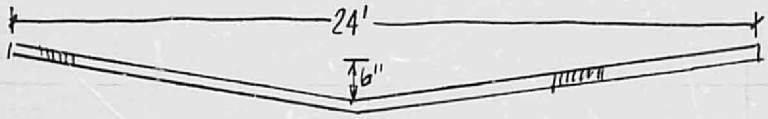
Copies sent to the following:

Luther Construction
912 3rd NW
Albuquerque, NM 87102

Bohannan Huston Inc.
7500 Jefferson NE
Albuquerque, NM 87109

City of Albuquerque
Hydrology Department
123 Central NW
Albuquerque, NM 87102

4800 Osuna, NE • Albuquerque, New Mexico 87109 • (505) 883-9063 • (505) 881-9373



n = 0.016
A = 6 sq.ft.
Slope = 0.005 (min.

hydraulic radius, $R_h = A/P = 6/24$
$R_h = 0.25'$

then $Q = \frac{1.486}{0.016}(6)(0.25)^{.67}(0.005)^{0.5}$
$= 15.65$ cfs > 11.37 cfs

VOLUME CALCULATIONS:

100-year storm $V = C(\text{Rainfall})A$
$= 1.0\,(2.2/12)\,1.32$
$= 0.24$ acre-ft.

10-year storm $V = 1.0\,(2.2/12 \cdot 0.657)\,1.32$
$= 0.16$ acre-ft.

LANDSCAPING: Landscaping area on the site is minimal and has been assumed negligible in determining the "C" value.

RECEIVED
JAN 04 1985
HYDROLOGY SECTION

PROJECT NAME Pep Boys @ SAN MATEO SHEET 3 OF 3
PROJECT NO. 42572 BY James Top DATE 1/3/85
SUBJECT Drainage Calc CH'D DATE

DRAINAGE REPORT
FOR
PEP BOYS
SAN MATEO NEAR OSUNA ROAD
October 1984

INFORMATION SHEET

PROJECT TITLE Pep Boys at San Mateo TYPE OF SUBMITTAL Drainage Plan

ZONE ATLAS PAGE NO. F-17/D48 CITY ADDRESS

LEGAL DESCRIPTION Tract D-3 of the Gage Subdivision

FIRM Bohannan-Huston, Inc. CONTACT Brian Burnett

ADDRESS 4125 Carlisle NE, Albuq. NM 87107 PHONE 505/881-2000

OWNER The Pep Boys CONTACT John Hartsock

ADDRESS 1122-24 Washington Blvd. Los Angeles, CA 90015

PHONE 213/741-0597

ARCHITECT Reeves Associates Architects CONTACT Ken Mori

ADDRESS 417 South Hill Street, Los Angeles, CA 90013

PHONE 213/680-3230

SURVEYOR _____ CONTACT _____

ADDRESS _____ PHONE _____

CONTRACTOR _____ CONTACT _____

ADDRESS _____ PHONE _____

PRE-DESIGN MEETING:

DRB-84-651 9/25/84
Z 80 118 9/19/80

____ YES
x NO
____ COPY OF CONFERENCE RECAP SHEET PROVIDED

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

____ SKETCH PLAT APPROVAL
____ PRELIMINARY PLAT APPROVAL
____ SITE DEVELOPMENT PLAN APPROVAL
____ FINAL PLAT APPROVAL
____ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY APPROVAL
x ROUGH GRADING PERMIT APPROVAL
____ GRADING/PAVING PERMIT APPROVAL
x OTHER Drainage Report (SPECIFY)

RECEIVED
NOV 05 1984
DESIGN HYDROLOGY SECTION

DATE SUBMITTED: 11/5/84

BY: James Topmiller

DRAINAGE REPORT
FOR
PEP BOYS
SAN MATEO NEAR OSUNA ROAD

October 1984

PREPARED FOR:

THE PEP BOYS
1122-24 WASHINGTON BOULEVARD
LOS ANGELES, CALIFORNIA 90015

PREPARED BY:

BOHANNAN-HUSTON, INC.
4125 CARLISLE N.E.
ALBUQUERQUE, NEW MEXICO 87107

Job No.

Brian G. Burnett, P.E.
N.M.P.E. No. 8541

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FIGURES

1 - Site Location
2 - Soils Map
3 - Flood Plain Map

APPENDIX

Calculations

PLATES

Drainage/Grading Plan

PURPOSE

The purpose of this report is to outline the drainage management plan for a 1.32 acre commercial site near the intersection of San Mateo Boulevard and Osuna Road. The City Drainage Ordinance and Development Process Manual will be used to establish the plan.

SITE LOCATION AND DESCRIPTION

The site is legally described as Tract D-3 of the GAGE SUBDIVISION. Tract D-2, immediately to the north of the site, is currently under the same ownership as the site.

The site is currently undeveloped. Undeveloped lands also lie at the site's north and west boundaries. Uncle Cliff's Familyland, a developed amusement park, is located at the south boundary. An improved San Mateo Boulevard forms the site's east property/right-of-way line.

The site slopes naturally to the west at approximately 2-3%. As shown on the soils map, Figure 2, the SCS soil type is Embudo and Tijeras soils and is listed as hydrological soil group "B". As shown in Figure 3, the site is not located within an existing flood zone. Existing topography is shown on Sheets 1 and 2 of Plate 1 in the rear pocket of this report.

EXISTING CONDITIONS

The site currently discharges onsite runoff of 2.09 cfs (100-year storm) in a free manner. An existing arroyo near the south property line drains most of the onsite flows and 5.39 cfs of offsite runoff (100-year storm) from an asphalt parking area on the Familyland property. Additional minor flows occur along the common border with the Familyland as shown on Plate 1. Total existing discharge from the site to the arroyo (and thereafter the Familyland property) approximates 7.48 cfs.

PROPOSED (DEVELOPED) CONDITIONS

A. Method of Analysis

The Rational Method, as developed within Section 22.2 of the Albuquerque Development Process Manual, Volume 2, has been used to determine the 100-year, 6 hour rainfall event for this site. All runoff rates provided in this report are based on the 100-year, 6 hour event.

B. Onsite Conditions

Per conditions established for the area by the Drainage Report for Uncle Cliff's Raceway (F17-D31), permissible free discharge to Osuna Road for the site was limited to 3.1 cfs per acre, equivalent to 4.09 cfs total for the 1.32 acre site. As shown in the calculations included within this report, site developed discharge

has been established at 3.67 cfs. This is based in part on the guttered roof drain system of the building which reduces roof discharge to a negligible rate. The roof then acts as a pond and reduces the free discharge area of the site. As a result of these calculations, the site is permitted continued free discharge.

C. Offsite/Onsite Runoff Conveyance

Discharge of onsite runoff will be directed to Osuna Road via a 25' drainage easement. An asphalt drainage swale will be constructed to carry this runoff. Offsite runoff will continue to be discharged to the arroyo west of the site via an asphalt drainage swale along the south property line.

D. Offsite Grading

A significant amount of offsite grading will occur along the west property. However, drainage characteristics will not be significantly altered in this area. The manager of this portion of Uncle Cliff's Familyland, Gary Hayes, 881-9373, plans to develop this area in the foreseeable future and has granted permission for the offsite grading.

A small amount of offsite grading will also occur along the south property line of the site in an effort to match onsite grades with those of the Familyland.

EROSION CONTROL

Erosion control for the site has been provided along the north and west boundaries of the site. This is the direction of natural runoff from the site. Control of erosion will be accomplished by a trench/berm combination providing a 2' barrier to erosion. A detail of the trench and berm is shown on Plate 1 in the rear pocket.

DRAINAGE MANAGEMENT PLAN

The following key elements comprise the drainage management plan for the Pep Boys Site:

1) Per previous Report F17-D31, discharge will be limited to 3.1 cfs per acre;

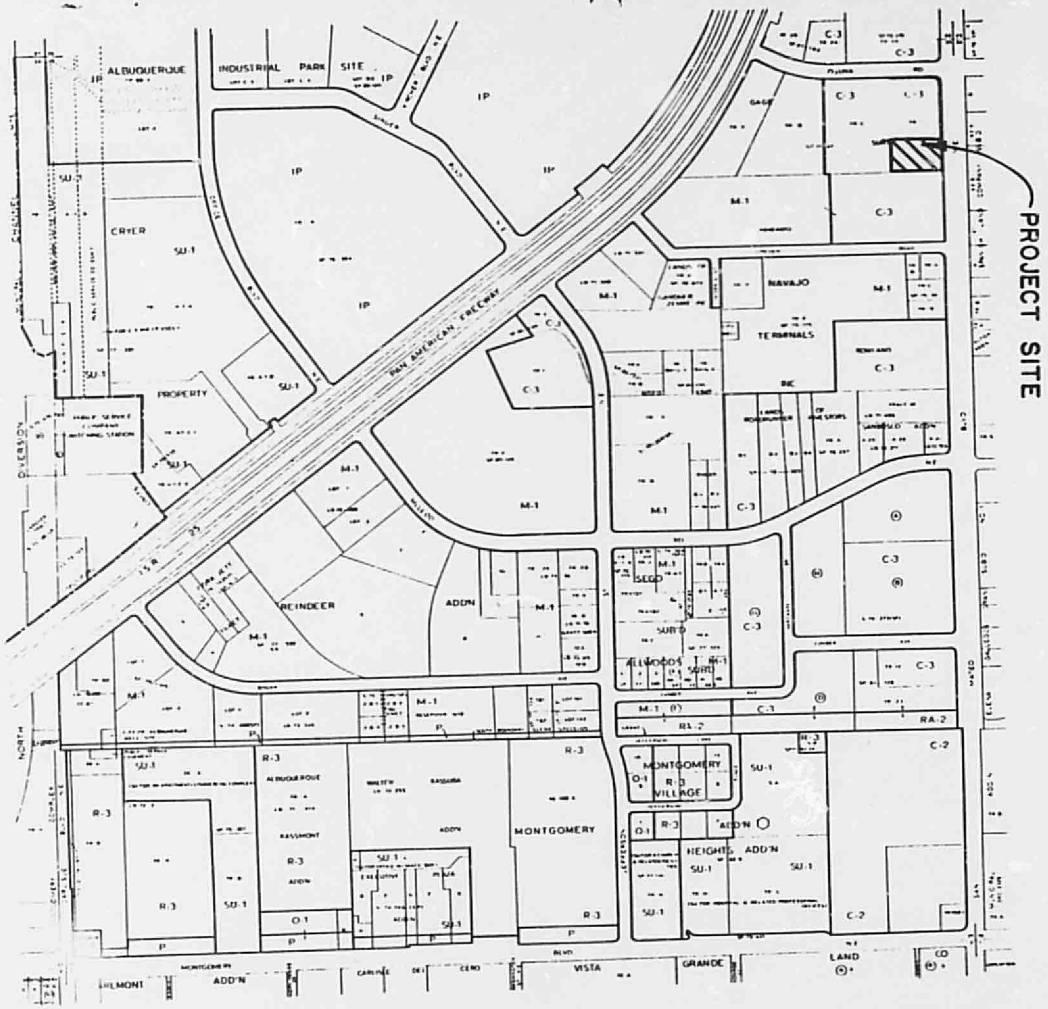
2) Free discharge will occur to Osuna Road through an asphalt-lined drainage easement;

3) Offsite runoff will continue its historic path after being carried through the site by an asphalt drainage swale;

4) Runoff return to the arroyo west of the site has been reduced from 7.48 cfs to 5.63 cfs by development of the site;

5) No onsite ponding is required.

FIGURES


PROJECT SITE
ALBUQUERQUE
INDUSTRIAL PARK SITE
IP
CRYER
SU-1
PROPERTY
PAN AMERICAN FREEWAY
NAVAJO
TERMINALS
M-1
C-3
C-1
C-2
REINDER
ADDN
SEED
SUPPLY
ALLWOOD
MONTGOMERY
VILLAGE
HEIGHTS ADD'N
R-3
RA-2
O-1
P
DIVERSION
NORTH
VISTA
GRANDE
LAND
CD

F-17-Z

FIGURE

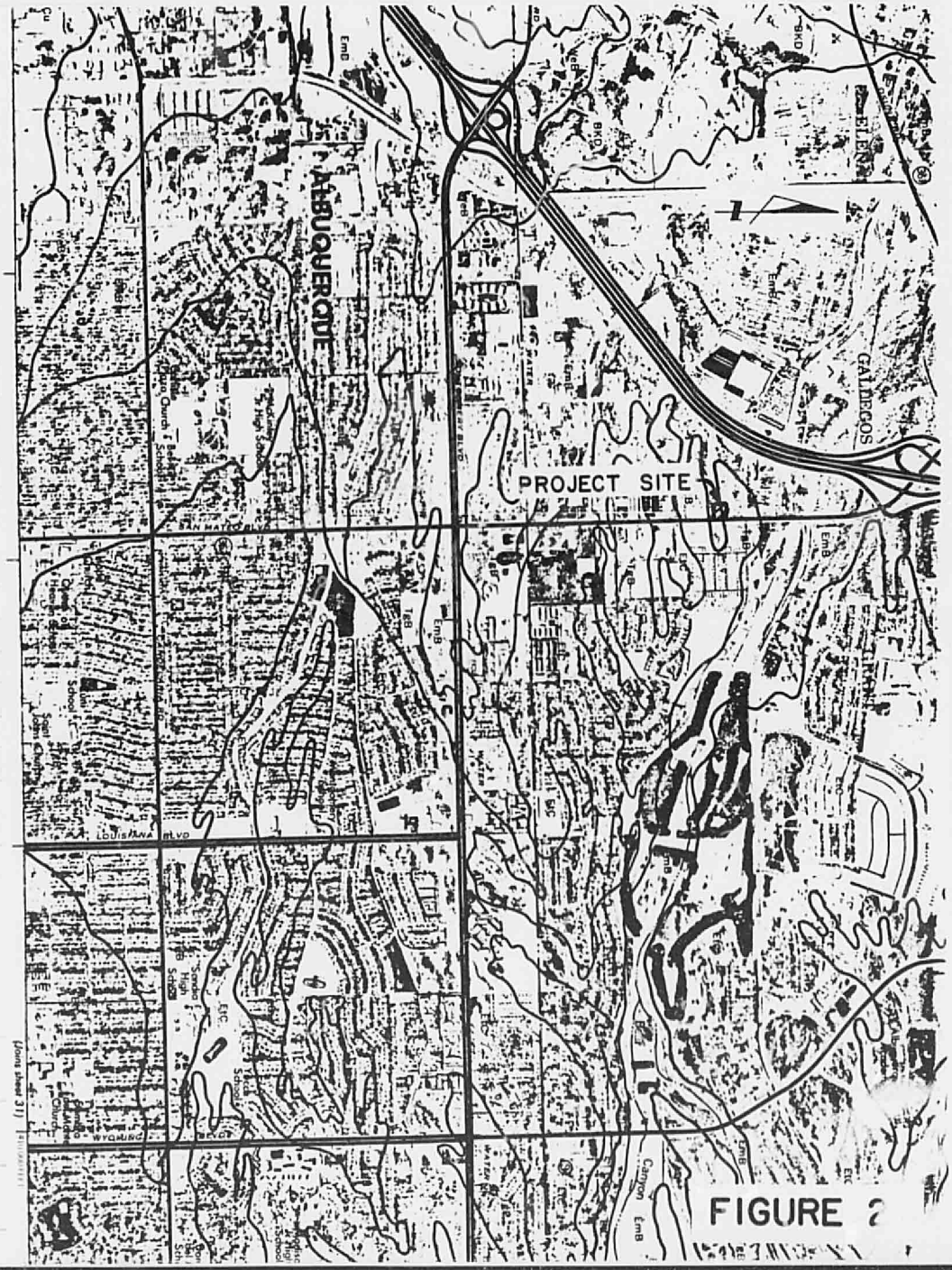
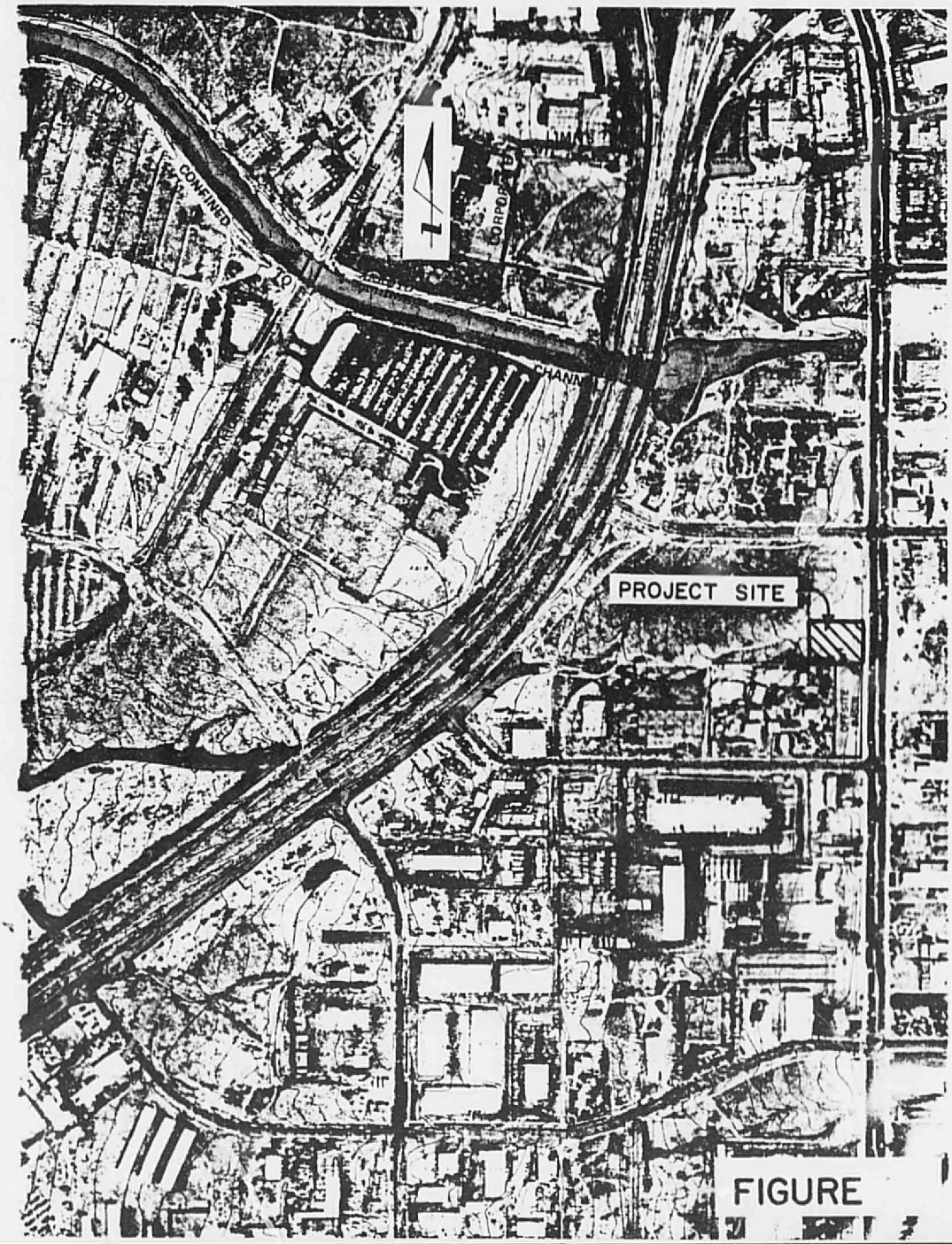

ALBUQUERQUE
PROJECT SITE
GALLEGOS
ELENA
Canyon
Sandia High School
Louisiana Blvd
Wyoming Blvd
San Mateo Blvd
Quad Sheet 111

FIGURE 2



FIGURE

APPENDIX

CALCULATIONS

Rational Method
Section 22.2
DPM

Site acreage = 1.32 acres

site acreage - bldg area - south drainage swale = 0.79 acres

undeveloped "C" value = 0.34 (0% impervious)
developed "C" value = 1.0 (100% impervious)

Soil group "B" (see text)

100-year 6-hr rainfall = 2.2", then intensity, I =
$(2.2)\ 6.84\ (10)^{-0.51} = 4.65$ in/hr

T_c = 10 min. (small basin)

undeveloped discharge (site only) — Q = C I A (in cfs) = 0.34 (4.65) 1.32 = 2.09 cfs (0% impervious)

offsite discharge onto site (Uncle Cliffs Family land parking lot) = 0.89 (4.65) 1.3 = 5.38 cfs (92% impervious)

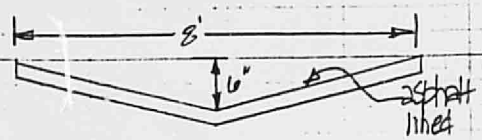
developed discharge to Osuna Road (neglecting bldg. area which acts as a pond) = 1.0 (4.65) 0.79 = 3.67 cfs (approx. 100% impervious)

south drainage swale discharge = 1.0 (4.65) 0.055 = 0.26 cfs

discharge to west property = 0.26 + 5.38 = 5.63 cfs

PROJECT NAME Rep Boys @ SAN MATEO SHEET 1 OF 3
PROJECT NO. 42572 BY JamesTop DATE 10/30/84
SUBJECT DRAINAGE CALCS CH'D DATE

CHECK SOUTH DRAINAGE SWALE



using Manning's equation:

min. slope = 0.025 %

"n" value for asphalt = 0.016

Area of flow when full = 2 sq. ft.

hydraulic radius, $R_h = A/P = 2/8 \approx 0.25$

$$Q = VA = \frac{1.486}{0.016}(2)(0.25)^{.67}(0.025)^{.5}$$

$$= 11.66 \text{ cfs} > 5.67 \text{ cfs OK}$$

CHECK DRAINAGE SWALE IN 25' EASEMENT

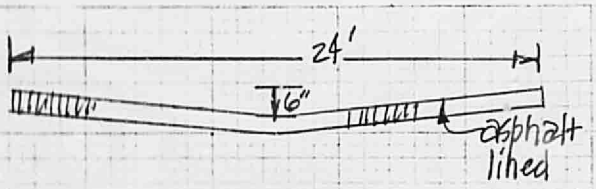
Tract D-2 runoff – assume $C = 0.90$
$A = 1.37$ acres
$I = 4.65$ in/hr

$$Q = CIA = 0.90(4.65)1.37 = 5.74 \text{ cfs}$$

site runoff to swale = 5.63 cfs

total swale Q = 5.74 + 5.63 = 11.37 cfs

using Mannings equation:



n=0.016 hydraulic radius, $R_h = A/P = \frac{6}{24'} = 0.25'$

Area = 6 sq.ft.

min. slope = 0.005

then: $Q = \frac{1.486}{0.016}(6)(0.25)^{.67}(0.005)^{.5}$

$= 15.65$ cfs $>$ 11.37 cfs OK

PROJECT NAME Pop Boys @ San Mateo SHEET 3 OF 3
PROJECT NO. 42572 BY James Top DATE 10/30/84
SUBJECT Drainage Calc CH'D DATE