#124

Federal Emergency Management Agency

Washington, D.C. 20472

NOV 20 2003

03 NOV 26 AM 8:55

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Martin J. Chavez
Mayor, City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

IN REPLY REFER TO:

Case Number:	**04-06-246P**
Community Name:	City of Albuquerque, Bernalillo County, New Mexico
Community Number:	350002
Effective Date of this Revision:	NOV 20 2003

Dear Mayor Chavez:

The Flood Insurance Rate Map (FIRM) for your community has been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panel revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed that provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer (CCO) for your community. If you have any technical questions regarding this LOMR, please contact the Director, Federal Insurance and Mitigation Division of the Federal Emergency Management Agency (FEMA) in Denton, Texas, at (940) 898-5165, or the FEMA Map Assistance Center, toll free, at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our web site at http://www.fema.gov/nfip.

Sincerely,

Kevin C. Long

Kevin C. Long, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

For: Doug Bellomo, P.E., Acting Chief
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

List of Enclosures:

Letter of Map Revision Determination Document
Annotated Flood Insurance Rate Map
List of Current Flood Insurance Study Data

cc: Carlos A. Montoya, City Floodplain Administrator, City of Albuquerque
Shahab Biazar, P.E., Advanced Engineering and Consulting, LLC
Community Map Repository

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO COMMUNITY NO.: 350002	CULVERT FILL STORM SEWER SYSTEM	REISSUANCE
IDENTIFIER	REISSUANCE OF LOMR CASE 03-06-1734P, DATED OCTOBER 9, 2003	APPROXIMATE LATITUDE & LONGITUDE: 35.102, -106.713 SOURCE: USGS QUADRANGLE DATUM: NAD 27	

FLOODING SOURCE & REVISED REACH	UNNAMED SHALLOW FLOODING AREA – bounded by Interstate 40 to the northwest, 64th Street to the east, and Hanover Road to the south

SUMMARY OF REVISIONS

ᴱ“ective Flooding:	Zone AH	BFE*
sed Flooding:	X (unshaded)	X (unshaded)
ases:	NONE	NONE
Decreases:	YES	YES

* BFEs - Base Flood Elevations

ANNOTATED MAPPING ENCLOSURES	ANNOTATED STUDY ENCLOSURES
TYPE: FIRM* NO: 35001C0327 E Date: November 19, 2003	NO REVISION TO THE FLOOD INSURANCE STUDY

* FIRM - Flood Insurance Rate Map

DETERMINATION

This document provides the determination from the Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center, toll free, at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the FEMA MCC Services, 12101 Indian Creek Court, Beltsville, MD 20705. Additional Information about the NFIP is available on our web site at http://www.fema.gov/nfip.

Kevin C. Long

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Hazard Identification Section
Mitigation Division
Emergency Preparedness and
Response Directorate

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the modified culvert rests with your community. We may request that your community submit a description and schedule of culvert activities.

This revision has met our criteria for removing an area from the 1% annual chance floodplain to reflect the placement of fill. The community must ensure that any structures placed within the subject area be constructed such that they are "reasonably from flooding." "Reasonably safe from flooding" means base flood waters will not inundate the land or damage ctures to be removed from the SFHA and that any subsurface waters related to the base flood will not damage existing or proposed buildings. The community and engineers should review and use *FEMA Technical Bulletin 10-01, Ensuring That Structures Built on Fill In or Near Special Flood Hazard Areas Are Reasonably Safe From Flooding*, which may be downloaded directly from the FEMA website at http://www.fema.gov/pdf/fima/tb1001.pdf.

COMMUNITY REMINDERS

We based this determination on the 1% annual chance discharges computed in the submitted hydrologic model for LOMR Case 03-06-1734P, dated October 9, 2003. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State law have been obtained. State or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center, toll free, at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the FEMA MCC Services, 12101 Indian Creek Court, Beltsville, MD 20705. Additional Information about the NFIP is available on our web site at http://www.fema.gov/nfip.

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Response Directorate

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION (CONTINUED)

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

We have enclosed a document, titled *List of Current Flood Insurance Study Data*, which includes this letter, to help your community maintain all information for floodplain management and flood insurance. If any of the items in that document are not filed in your community's map repository, please contact the FEMA Map Assistance Center at the number listed below for information on how to obtain those items.

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Mr. Frank Pagano
Director, Federal Insurance and Mitigation Division
Federal Emergency Management Agency, Region VI
Federal Regional Center, Room 206
800 North Loop 288
Denton, Texas 76209-3698
(940) 898-5127

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center, toll free, at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the FEMA MCC Services, 12101 Indian Creek Court, Beltsville, MD 20705. Additional Information about the NFIP is available on our web site at http://www.fema.gov/nfip.

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Response Directorate

Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

Within 90 days of the second publication in the local newspaper, a citizen may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. This revision is effective as of the date of this letter. However, until the 90-day period elapses, the revised BFEs presented in this LOMR may be changed.

This information will be published in the *Federal Register* and your local newspaper as detailed below.

LOCAL NEWSPAPER Name: *The Albuquerque Journal*
Dates: 12/22/2003 12/29/2003

PUBLIC NOTIFICATION

FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (FEET NAVD)		MAP PANEL NUMBER
		EFFECTIVE	REVISED	
UNNAMED SHALLOW FLOODING AREA	An area of shallow ponding bounded by Interstate 40 to the northwest, 64th Street to the east, and Hanover Road to the south	5,104	NONE	35001C0327 D

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center, toll free, at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the FEMA MCC Services, 12101 Indian Creek Court, Beltsville, MD 20705. Additional Information about the NFIP is available on our web site at http://www.fema.gov/nfip.

Kevin C. Long

Kevin C. Long, CFM, Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and
Response Directorate

LIST OF CURRENT FLOOD INSURANCE STUDY DATA

This list is provided to document all information currently effective for your community for insurance and floodplain management.

Date: NOV 20 2003

Community: City of Albuquerque, Bernalillo County, New Mexico

Community Number: 350002

Page Number: 1 of 2

CURRENT EFFECTIVE FLOOD INSURANCE STUDY DATE: November 19, 2003

FLOOD INSURANCE RATE MAP

Map Index	Effective Date
35001CIND0	November 19, 2003

Panel Numbers	Effective Date
0092 E, 0094 E, 0100 E, 0103 E, 0104 E, 0108 E, 0111 E, 0112 E, 0113 E, 0114 E, 0118 E, 0119 E, 0138 E, 0139 E, 0143 E, 0307 E, 0309 E, 0317 E, 0319 E, 0326 E, 0327 E, 0328 E, 0329 E, 0331 E, 0332 E, 0333 E, 0334 E, 0336 E, 0337 E, 0338 E, 0339 E, 0341 E, 0342 E, 0344 E, 0351 E, 0352 E, 0353 E, 0354 E, 0356 E, 0357 E, 0361 E, 0362 E, 0363 E, 0364 E, 0366 E, 0376 E, 0378 E, 0527 E, 0531 E, 0533 E, 0535 E, and 0555 E	November 19, 2003

Panel Numbers	Effective Date
0109 F, 0116 F, 0128 F, 0129 F, 0133 F, 0136 F, 0137 F, 0141 F, 0142 F, 0144 F, 0161 F, 0163 F, 0358 F, 0359 F, 0367 F, and 0386 F	November 19, 2003

LETTERS OF MAP REVISION

Panel Numbers	Effective Date
0327 E	NOV 20 2003

LETTERS OF MAP AMENDMENT AND MAP REVISION BASED ON FILL

None

BEST AVAILABLE DATA LETTERS

None

CHANGES ARE MADE IN DETERMINATIONS OF BASE FLOOD ELEVATIONS FOR THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, UNDER THE NATIONAL FLOOD INSURANCE PROGRAM

On November 19, 2003, the Federal Emergency Management Agency identified Special Flood Hazard Areas (SFHAs) in Bernalillo County, New Mexico and Incorporated Areas, which includes the City of Albuquerque, through issuance of a Flood Insurance Rate Map (FIRM). The Mitigation Division has determined that modification of the elevations of the flood having a 1% chance of being equaled or exceeded in any given year (base or 100-year flood) for certain locations in this community is appropriate. The modified Base Flood Elevations (BFEs) revise the FIRM for the community.

The changes are being made pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) and are in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, Public Law 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65.

LOMR Case Number 03-06-1734P, dated October 9, 2003, is being reissued since it was superseded by the above-mentioned November 19, 2003 FIRM. The table below indicates existing and modified BFEs for selected locations along the affected lengths of the flooding source cited above.

Location	Existing BFE (feet)*	Modified BFE (feet)*
An area of shallow flooding bounded by Interstate 40 to the northwest, 64th Street to the east, and Hanover Road to the south	5,104	NONE

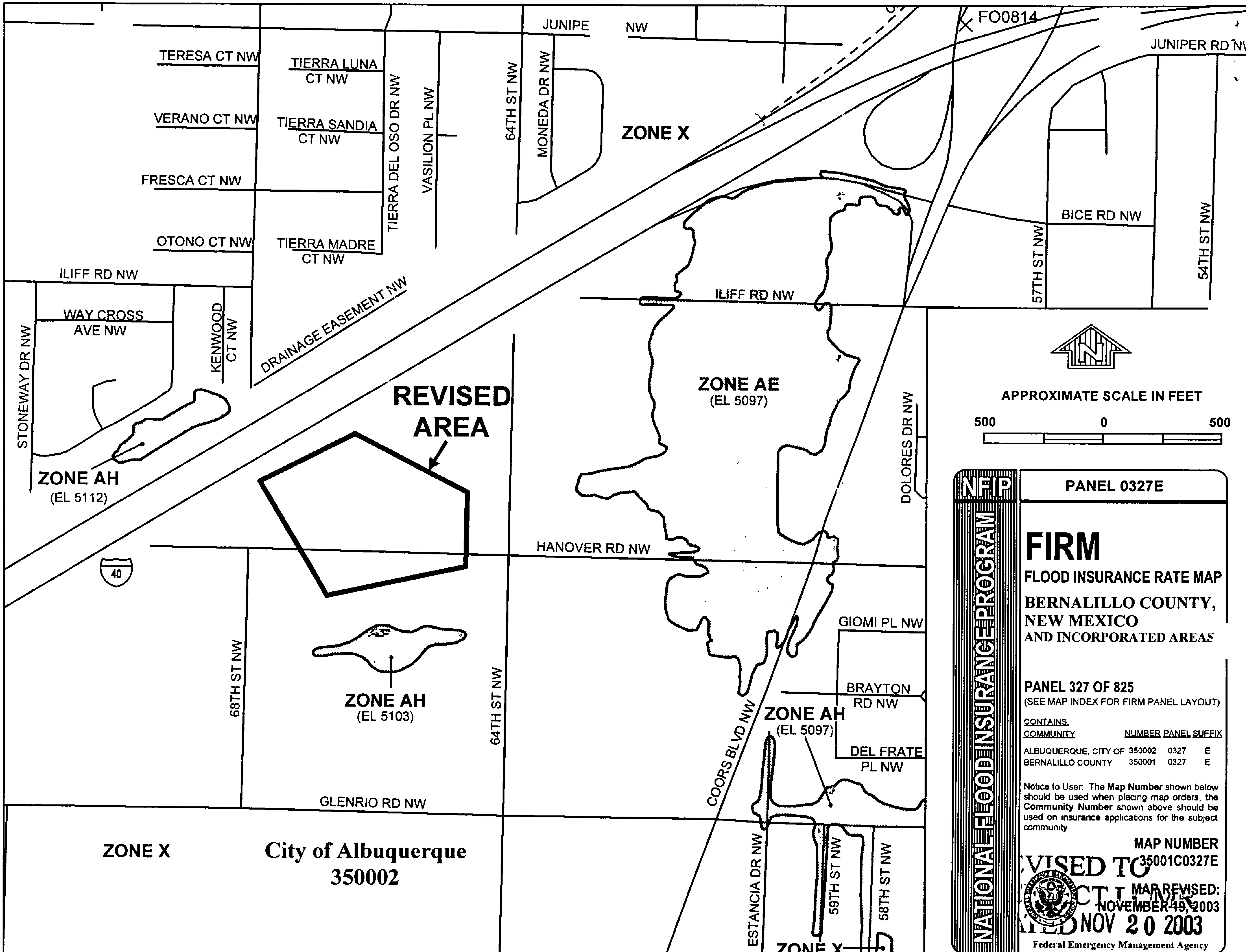
*North American Vertical Datum, rounded to nearest whole foot

Under the above-mentioned Acts of 1968 and 1973, the Mitigation Division must develop criteria for floodplain management. For the community to participate in the National Flood Insurance Program (NFIP), the community must use the modified BFEs to administer the floodplain management measures of the NFIP. These modified BFEs will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and contents.

Upon the second publication of notice of these changes in this newspaper, any person has 90 days in which he or she can request, through the Chief Executive Officer of the community, that the Mitigation Division reconsider the determination. Any request for reconsideration must be based on knowledge of changed conditions or new scientific or technical data. All interested parties are on notice that until the 90-day period elapses, the Mitigation Division's determination to modify the BFEs may itself be changed.

Any person having knowledge or wishing to comment on these changes should immediately notify:

The Honorable Martin J. Chavez
Mayor, City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103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TERESA CT NW
TIERRA LUNA
CT NW
VERANO CT NW
TIERRA SANDIA
CT NW
FRESCA CT NW
OTONO CT NW
TIERRA MADRE
CT NW
TIERRA DEL OSO DR NW
VASILION PL NW
64TH ST NW
MONEDA DR NW
ZONE X
BICE RD NW
57TH ST NW
54TH ST NW
ILIFF RD NW
ILIFF RD NW
WAY CROSS
AVE NW
KENWOOD
CT NW
DRAINAGE EASEMENT NW
STONEWAY DR NW
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HANOVER RD NW
DOLORES DR NW
GIOMI PL NW
BRAYTON
RD NW
DEL FRATE
PL NW
ZONE AH
(EL 5103)
68TH ST NW
64TH ST NW
COORS BLVD NW
ZONE AH
(EL 5097)
GLENRIO RD NW
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City of Albuquerque
350002
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NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0327E
FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO
AND INCORPORATED AREAS
PANEL 327 OF 825
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
ALBUQUERQUE, CITY OF 350002 0327 E
BERNALILLO COUNTY 350001 0327 E
Notice to User: The Map Number shown below should be used when placing map orders, the Community Number shown above should be used on insurance applications for the subject community
MAP NUMBER
35001C0327E
MAP REVISED:
NOVEMBER 19, 2003
VISED TO
NOV 20 2003
Federal Emergency Management Agency

#12 Rec'd 10-17-03 gp

Federal Emergency Management Agency

Washington, D.C. 20472

MAYOR'S OFFICE

03 OCT 16 AM 7:59

OCT 09 2003

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Martin J. Chavez
Mayor, City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

IN REPLY REFER TO:
Case Number: 03-06-1734P
Community Name: City of Albuquerque, Bernalillo County, New Mexico
Community Number: 350002
Effective Date of this Revision: OCT 09 2003

#327

Dear Mayor Chavez:

The Flood Insurance Rate Map (FIRM) for your community has been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panel revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed that provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer (CCO) for your community. If you have any technical questions regarding this LOMR, please contact the Director, Federal Insurance and Mitigation Division of the Federal Emergency Management Agency (FEMA) in Denton, Texas, at (940) 898-5165, or the FEMA Map Assistance Center, toll free, at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our web site at http://www.fema.gov/nfip.

Sincerely,

Kevin C. Long

Kevin C. Long, CFM
Project Engineer
Hazard Study Branch
Emergency Preparedness and Response Directorate

For: Doug Bellomo, P.E., Acting Chief
Hazard Study Branch
Emergency Preparedness and Response Directorate

List of Enclosures:

Letter of Map Revision Determination Document
Annotated Flood Insurance Rate Map
List of Current Flood Insurance Study Data

cc: Carlos A. Montoya, City Floodplain Administrator, City of Albuquerque
Shahab Biazar, P.E., Advanced Engineering and Consulting, LLC
Community Map Repository

 | Issue Date: October 9, 2003 | Effective Date: October 9, 2003 | Case No.: 03-06-1734P | LOMR-APP

Federal Emergency Management Agency
Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO COMMUNITY NO.: 350002	CULVERT FILL STORM SEWER SYSTEM	HYDROLOGIC ANALYSIS NEW TOPOGRAPHIC DATA
IDENTIFIER	RUSH ENTERPRISES	APPROXIMATE LATITUDE & LONGITUDE: 35.102, -106.713 SOURCE: USGS QUADRANGLE DATUM: NAD 27	

FLOODING SOURCE & REVISED REACH	UNNAMED SHALLOW FLOODING AREA – bounded by Interstate 40 to the northwest, 64th Street to the east, and Hanover Road to the south

SUMMARY OF REVISIONS

Effective Flooding:	Zone AH	BFE*
'sed Flooding:	X (unshaded)	X (unshaded)
ases:	NONE	NONE
..creases:	YES	YES

* BFEs - Base Flood Elevations

ANNOTATED MAPPING ENCLOSURES	ANNOTATED STUDY ENCLOSURES
TYPE: FIRM* NO: 35001C0327 D Date: September 20, 1996	NO REVISION TO THE FLOOD INSURANCE STUDY

* FIRM - Flood Insurance Rate Map

DETERMINATION

This document provides the determination from the Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

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Response Directorate

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Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

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NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the modified culvert rests with your community. We may request that your community submit a description and schedule of culvert activities.

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COMMUNITY REMINDERS

We based this determination on the 1% annual chance discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

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LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION (CONTINUED)

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Mr. Frank Pagano
Director, Federal Insurance and Mitigation Division
Federal Emergency Management Agency, Region VI
Federal Regional Center, Room 206
800 North Loop 288
Denton, Texas 76209-3698
(940) 898-5127

STATUS OF THE COMMUNITY NFIP MAPS

We are processing a FIRM and FIS report for Bernalillo County, New Mexico and its incorporated areas, in our countywide format. The countywide FIRM and FIS report, which include flood hazard information for your community, will become effective on November 19, 2003. Because the effective date has already been established, we will not incorporate the modifications made by this LOMR into the countywide FIRM and FIS report before they become effective. Therefore, the modifications made by this LOMR will be superceded when the countywide FIRM and FIS report become effective. After the effective date, we will issue a letter to revalidate the modifications made by this LOMR and revise the newly effective FIRM and FIS report.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Assistance Center, toll free, at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the FEMA MCC Services, 12101 Indian Creek Court, Beltsville, MD 20705. Additional Information about the NFIP is available on our web site at http://www.fema.gov/nfip.

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LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

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This information will be published in the *Federal Register* and your local newspaper as detailed below.

LOCAL NEWSPAPER Name: *The Albuquerque Journal*
Dates: 10/23/2003 10/30/2003

PUBLIC NOTIFICATION				
FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (FEET NGVD)		MAP PANEL NUMBER
		EFFECTIVE	REVISED	
UNNAMED SHALLOW FLOODING AREA	An area of shallow ponding bounded by Interstate 40 to the northwest, 64th Street to the east, and Hanover Road to the south	5,101	NONE	35001C0327 D

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Hazard Study Branch
Emergency Preparedness and
Response Directorate

LIST OF CURRENT FLOOD INSURANCE STUDY DATA

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Date: OCT 09 2003

Community: City of Albuquerque, Bernalillo County, New Mexico

Community Number: 350002

Page Number: 1 of 6

CURRENT EFFECTIVE FLOOD INSURANCE STUDY DATE: September 20, 1996

FLOOD INSURANCE RATE MAP

Map Index	Effective Date
350001CIND0	April 2, 2002

Panel Numbers	Effective Date
0092 D, 0094 D, 0100 D, 0103 D, 0104 D, 0108 D, 0111 D, 0112 D, 0113 D, 0114 D, 0118 D, 0119 D, 0138 D, 0139 D, 0143 D, 0309 D, 0317 D, 0319 D, 0326 D, 0327 D, 0328 D, 0329 D, 0331 D, 0332 D, 0333 D, 0334 D, 0336 D, 0337 D, 0038 D, 0339 D, 0341 D, 0342 D, 0344 D, 0351 D, 0352 D, 0353 D, 0354 D, 0356 D, 0357 D, 0361 D, 0362 D, 0363 D, 0364 D, 0366 D, 0376 D, 0378 D, 0527 D, 0531 D, 0533 D, and 0555 D	September 20, 1996
0109 E, 0116 E, 0128 E, 0129 E, 0133 E, 0136 E, 0137 E, 0141 E, 0142 E, 0144 E, 0161 E, 0163 E, 0358 E, 0359 E, 0367 E, and 0386 E	April 2, 2002

LETTERS OF MAP REVISION

Panel Numbers	Effective Date
0108 D	December 20, 1996 February 4, 1999

LETTERS OF MAP REVISION *(continued)*

Panel Numbers	Effective Date
0109 E	October 21, 1998 February 4, 1999
0112 D	March 16, 1999
0113 D	September 18, 1998
0114 D	January 26, 1998 September 18, 1998 March 16, 1999
0116 E	January 6, 1997 October 21, 1998
0117 D	October 21, 1998
0119 D	January 8, 2003
0128 E	February 23, 1998 September 11, 1998 October 21, 1998 September 29, 1999 April 30, 2003
0129 E	February 23, 1998 September 11, 1998 September 29, 1999
0133 E	February 23, 1998 September 11, 1998
0136 E	February 23, 1998 September 29, 1999 April 30, 2003
0137 E	August 1, 1997 November 24, 1997 February 23, 1998 March 25, 1998 September 11, 1998 September 29, 1999 July 30, 2001 August 4, 2003

LETTERS OF MAP REVISION *(continued)*

Panel Numbers	Effective Date
0138 D	February 29, 2000
	January 8, 2003
0141 E	September 23, 1996
	August 1, 1997
	February 23, 1998
	March 25, 1998
	April 24, 1998
	April 24, 1998
	September 11, 1998
	April 26, 1999
	July 30, 2001
	July 16, 2002
0142 E	April 24, 1998
0144 E	May 2, 1997
	July 13, 2000
0161 E	May 2, 1997
	July 13, 2000
0163 E	May 5, 1997
	July 13, 2000
0326 D	September 5, 1997
0327 D	September 10, 1997
	September 25, 1997
	March 27, 2003
	May 14, 2003
	OCT 0 9 2003
0328 D	September 25, 1997
	October 3, 1997
	January 24, 2000
	June 13, 2003
	August 15, 2003
0329 D	September 25, 1997
	October 3, 1997
	December 1, 2001
	March 5, 2003
	September 8, 2003

LETTERS OF MAP REVISION *(continued)*

Panel Numbers	Effective Date
0332 D	March 21, 2000
0336 D	August 8, 1997 August 26, 1997 October 24, 1997 April 15, 1999 September 27, 1999
0337 D	July 17, 1998 April 15, 1999
0339 D	June 18, 1998
0342 D	April 24, 1998
0344 D	April 11, 1997
0351 D	July 1, 1997 January 8, 2003
0356 D	September 15, 1997
0357 D	September 15, 1997
0358 E	July 16, 1997 July 13, 2000
0359 E	July 16, 1997 July 13, 2000
0367 E	July 16, 1997 August 1, 2002
0527 D	June 18, 1998

LETTERS OF MAP AMENDMENT AND MAP REVISION BASED ON FILL

Panel Numbers	Effective Date
0114 D	April 4, 1997
0118 D	September 10, 1997

LETTERS OF MAP AMENDMENT AND MAP REVISION BASED ON FILL *(continued)*

Panel Numbers	Effective Date
0119 D	January 30, 1998 June 3, 1998
0137 D	January 30, 1998 June 8, 1999
0141 D	June 16, 2000 June 20, 2001
0144 D	March 12, 1997 August 17, 1998 December 14, 1998
0327 D	March 17, 1997 June 18, 1997 April 8, 1998 January 13, 2000 August 16, 2000
0328 D	June 25, 1998 January 24, 2000
0329 D	December 30, 1997 April 7, 1998 April 13, 1998
0332 D	January 13, 2000 March 21, 2000
0333 D	April 23, 1999
0336 D	March 17, 1997
0337 D	December 8, 1998 January 18, 2000
0339 D	December 4, 1996 January 17, 2001 February 7, 2001
0341 D	September 10, 1997
0352 D	August 10, 2001

LETTERS OF MAP AMENDMENT AND MAP REVISION BASED ON FILL *(continued)*

Panel Numbers	Effective Date
0354 D	May 16, 1997
	June 9, 1998
	January 14, 1999
	March 31, 1999
	August 2, 2000
	December 1, 2000
	March 14, 2001
	March 26, 2001
	April 12, 2000
	May 16, 2001
	August 29, 2001
0356 D	January 3, 1997
	April 14, 1997
0357 D	April 28, 1997
	February 11, 1998
	May 12, 1998
	June 15, 1998
	August 5, 1998
	October 19, 1999
	February 14, 2001
0358 D	March 2, 1999
0362 D	May 20, 1998
	August 2, 2000
0367 D	July 2, 1997

BEST AVAILABLE DATA LETTERS

None

CHANGES ARE MADE IN DETERMINATIONS OF BASE FLOOD ELEVATIONS FOR THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, UNDER THE NATIONAL FLOOD INSURANCE PROGRAM

On September 20, 1996, the Federal Emergency Management Agency identified Special Flood Hazard Areas (SFHAs) in Bernalillo County, New Mexico and Incorporated Areas, which includes the City of Albuquerque, through issuance of a Flood Insurance Rate Map (FIRM). The Mitigation Division has determined that modification of the elevations of the flood having a 1% chance of being equaled or exceeded in any given year (base or 100-year flood) for certain locations in this community is appropriate. The modified Base Flood Elevations (BFEs) revise the FIRM for the community.

The changes are being made pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) and are in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, Public Law 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65.

A hydrologic analysis was performed to incorporate the placement of fill in the 1% annual chance floodplain, the construction of a larger culvert, and the construction of an upgraded storm sewer system, and has resulted in the removal of an area of shallow flooding, designated Zone AH, bounded by Interstate 40 to the northwest, 64th Street to the east, and Hanover Road to the south. The table below indicates existing and modified BFEs for selected locations along the affected lengths of the flooding source cited above.

Location	Existing BFE (feet)*	Modified BFE (feet)*
An area of shallow flooding bounded by Interstate 40 to the northwest, 64th Street to the east, and Hanover Road to the south	5,101	NONE

*National Geodetic Vertical Datum, rounded to nearest whole foot

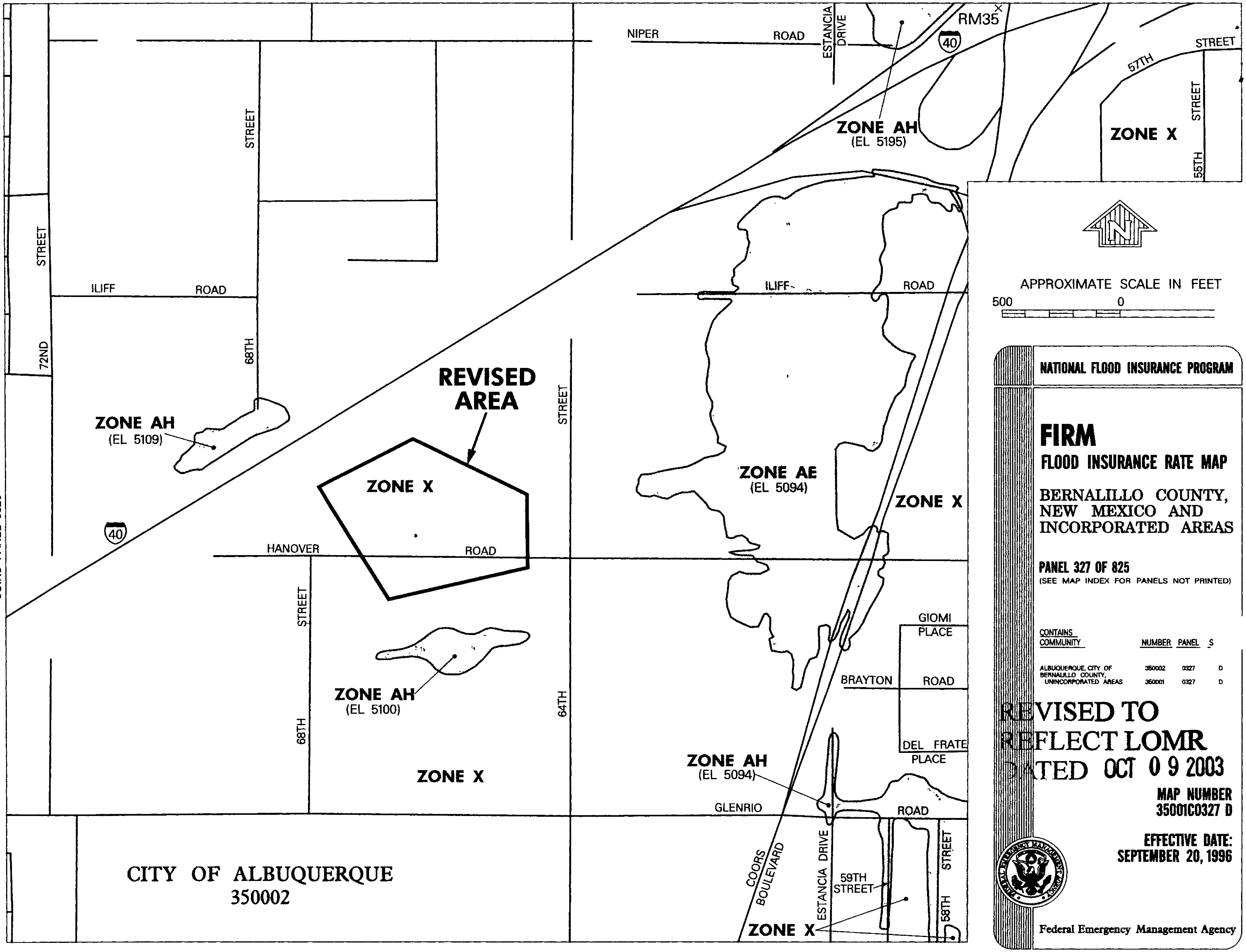
Under the above-mentioned Acts of 1968 and 1973, the Mitigation Division must develop criteria for floodplain management. For the community to participate in the National Flood Insurance Program (NFIP), the community must use the modified BFEs to administer the floodplain management measures of the NFIP. These modified BFEs will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and contents.

Upon the second publication of notice of these changes in this newspaper, any person has 90 days in which he or she can request, through the Chief Executive Officer of the community, that the

Mitigation Division reconsider the determination. Any request for reconsideration must be based on knowledge of changed conditions or new scientific or technical data. All interested parties are on notice that until the 90-day period elapses, the Mitigation Division's determination to modify the BFEs may itself be changed.

Any person having knowledge or wishing to comment on these changes should immediately notify:

The Honorable Martin J. Chavez
Mayor, City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103


NIPER
ROAD
ESTANCIA DRIVE
RM35
40
57TH
STREET
ZONE AH
(EL 5195)
ZONE X
STREET
55TH
STREET
STREET
ILIFF
ROAD
ILIFF
ROAD
72ND
68TH
APPROXIMATE SCALE IN FEET
500
0
NATIONAL FLOOD INSURANCE PROGRAM
REVISED AREA
STREET
ZONE AH
(EL 5109)
FIRM
FLOOD INSURANCE RATE MAP
ZONE AE
(EL 5094)
BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS
ZONE X
ZONE X
JOINS PANEL 0326
40
HANOVER
ROAD
PANEL 327 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)
STREET
GIOMI PLACE
CONTAINS COMMUNITY
NUMBER
PANEL
S
ALBUQUERQUE, CITY OF 350002 0327 D
BERNALILLO COUNTY, UNINCORPORATED AREAS 350001 0327 D
BRAYTON
ROAD
ZONE AH
(EL 5100)
64TH
68TH
REVISED TO REFLECT LOMR DATED OCT 0 9 2003
DEL FRATE PLACE
ZONE X
ZONE AH
(EL 5094)
MAP NUMBER
35001C0327 D
GLENRIO
ROAD
EFFECTIVE DATE:
SEPTEMBER 20, 1996
CITY OF ALBUQUERQUE
350002
COORS BOULEVARD
ESTANCIA DRIVE
59TH STREET
STREET
58TH
ZONE X
Federal Emergency Management Agency

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

August 7, 2003

James Urisko
PBS&J
12101 Indian Creek Court
Beltsville, Maryland 20705

RE: Request for a Letter of Map Revision for RUSH Enterprises 6521 Hanover Road, NW, Case No. 02-06-1734P

City of Albuquerque, New Mexico, Community No. 350002, FIRM Panel 35001C0327D Effective Date September 20, 1996

Dear Mr. Urisko,

Mr. Shahab Biazar has asked me to respond to item 2 from your June 4, 2003 letter.

a. Our Floodplain Ordinance requires that residential structures be built one foot above the base flood elevation.
b. The City reviews all permit applications, subdivisions, and other proposed new developments to determine whether such proposals will be reasonably safe from flooding. In compliance with Section 65.6 of the National Flood Insurance Program (NFIP) regulations any property or structure, existing or proposed, to be removed from the Special Flood Hazard Area (SFHA) meets minimum floodplain Management criteria of Section 60.3 of the NFIP regulations and is reasonably safe from flooding. The City uses the Floodplain Ordinance criteria and the100-year standard for design and protection.
c. The consultant and developer are required to obtain applicable Federal and State permits. The City reviews easements and permits before we release work orders and building permits.
d. Our Floodplain Ordinance addresses the requirements that are necessary to build in the 100-year floodplain. We check all commercial and residential building permit to see if they are in a floodplain. If they are in a floodplain they are required to submit a drainage plan from a professional engineer that addresses the drainage and floodplain.
e. The City of Albuquerque Floodplain Ordinance does not allow any fill or development in the floodway.

If you have any questions, you can contact me at (505) 924-3982.

Sincerely,

Carlos A. Montoya
City Floodplain Administrator

C: Shahab Biazar, Advanced Engineering and Consultant

'5 /

NATIONAL FLOOD INSURANCE PROGRAM
FEMA MAP COORDINATION CONTRACTOR

JUN 04 2003

Shahab Biazar, P.E.
Advanced Engineering and Consulting, LLC.
10205 Snowflake Ct. NW
Albuquerque, NM 87114

IN REPLY REFER TO:
Case No.: 03-06-1734P
Community: City of Albuquerque, Bernalillo County, New Mexico
Community No.: 350002

316-ACK.FRQ

Dear Mr. Biazar:

This responds to a request, dated May 14, 2003, that the Federal Emergency Management Agency (FEMA) issue a revision to the Flood Insurance Rate Map (FIRM) for the above-referenced community. Pertinent information about the request is listed below.

Identifier:	Rush Enterprises
Flooding Source:	Large Drainage Basin
FIRM Panel Affected:	Bernalillo County, New Mexico and Incorporated Areas FIRM number 35001C0327 D, dated September 20,1996

We have completed an inventory of the items that you submitted. The items identified below are required before we can begin a detailed review of your request.

1. The following forms, which were omitted from your previous submittal, must be provided:
   - Form 2, titled "Riverine Hydrology and Hydraulics Form"
2. In compliance with Section 65.6 of the National Flood Insurance Program (NFIP) regulations, the community official responsible for floodplain management must provide in writing a statement that a property or structure, existing or proposed, to be removed from the Special Flood Hazard Area (SFHA) meets minimum floodplain management criteria of Section 60.3 of the NFIP regulations and is reasonably safe from flooding. This statement provides FEMA with assurance that the community has reviewed all development plans and has found them to meet the following requirements:
   a. The lowest floor elevations (including basement) of all residential structures built in the area to be removed from the SFHA are at or above the base flood (Paragraph 60.3(b)).
   b. The area to be removed from the SFHA (including any existing or proposed structures) has been determined to be "reasonably safe from flooding" (Subparagraphs 60.3(a)(3) and 60.3(a)(4), and *Technical Bulletin 10-01*).
   c. All applicable Federal and State permits have been obtained (Subparagraph 60.3(a)(2)).
   d. All applicable local permits have been obtained. This includes a local development permit to grade or place fill in the SFHA, and a permit for all existing or proposed construction (Subparagraph 60.3(b)(1)).

e. Fill has not been placed in a floodway (Subparagraph 60.3(d)(3)) that causes a rise in flood elevations associated with the base flood discharge.

To assist communities in determining if a property or structure, existing or proposed, is reasonably safe from flooding, FEMA has published *Technical Bulletin 10-01*. This bulletin outlines safe building practices that, when followed, reduce the risk of flood damage to a property or structure. Community Officials interested in obtaining copies of this bulletin should visit our Internet site at http://www.fema.gov/pdf/fima/tb1001.pdf or by calling the FEMA Map Assistance Center toll free at 1-877-FEMA MAP (1-877-336-2627).

3. Please submit hydrologic modeling representing the currently effective conditions for the unnamed ponding area bounded by Hanover Road to the south, 64th Street to the east, and Interstate 40 to the northwest.

Please send the required data to us at the address shown at the bottom of the first page. If all required items are not submitted within 90 days of the date of this letter, FEMA will treat any subsequent request as an original submittal, and it will be subject to all submittal/payment procedures as outlined in Paragraph 72.7(a) of the NFIP regulations (44 CFR Parts 59-78).

If you are unable to meet the 90-day deadline for submittal of required items and would like FEMA to continue processing your request, you must request an extension of the deadline. This request must be submitted to us in writing and must provide (1) the reason why the data cannot be submitted within the requested timeframe and (2) a new date for the submittal of the data. FEMA receives a very large volume of requests and cannot maintain inactive requests for an indefinite period of time. Therefore, the fees will be forfeited for any request for which neither the requested data nor a written extension request is received within 90 days.

When you write to us about your request, please include the case number referenced above in your letter. If you have general questions about your case, FEMA policy, or the NFIP, please call FEMA's toll free map assistance line at 1-877-FEMA MAP (1-877-336-2627). If you have specific questions concerning your request, please contact the Engineer assigned to your case, Mr. James Urisko, by phone at 1-800-697-7275 Ext. 788, or by e-mail at jurisko@pbsj.com.

Sincerely,

Joseph A. Martinenza, Jr.
Program Manager, Region VI

cc: Carlos A. Montoya, City Floodplain Administrator, City of Albuquerque

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 15, 2003

Joseph A. Martinenza
PBS&J
12101 Indian Creek Court
Beltsville, Maryland 20705

RE: Request for a Letter of Map Revision for RUSH Enterprises 6521 Hanover Road, NW

City of Albuquerque, New Mexico, Community No. 350002, FIRM Panel 35001C0327D Effective Date September 20, 1996

Dear Mr. Martinenza,

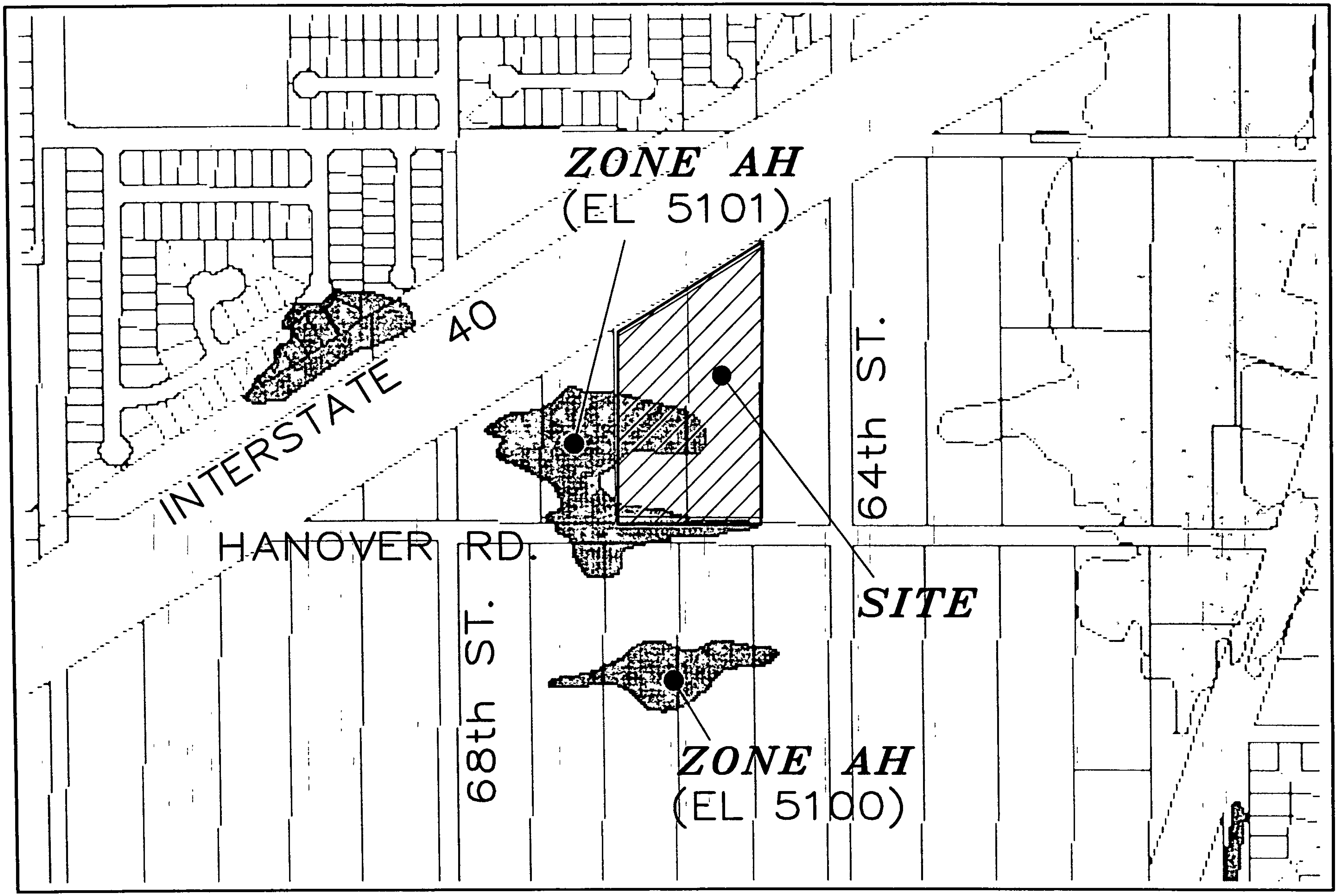
The purpose of this submittal is to convey the documents in order to request a Letter of Map Revision based on existing storm to revise the 100-year floodplain.
Enclosed with this letter are storm drain construction drawings, hydraulic analysis, drainage plan, and a check in the amount of $4,200.00.

As the City Floodplain Administrator, I have reviewed the response provided with this submittal. Our Community would greatly appreciate your prompt response and approval for this Letter of Map Revision.
If you have any questions, you can contact me at (505) 924-3982.

Sincerely,

Carlos A. Montoya
City Floodplain Administrator

C: Bill Blanton, Federal Emergency Management Agency Headquarters
Jack Quarles, FEMA Region VI
Shahab Biazar, Advanced Engineering and Consulting, LLC
Lynn Mazur, AMAFCA
Brian Kent, Bernalillo County Acting Floodplain Administrator



FIRM MAP: 1"=±400 35001C0327 D

TABLE OF CONTENTS

FORM 1

REVISION REQUESTER AND COMMUNITY OFFICIAL

FEDERAL EMERGENCY MA.. .GEMENT AGENCY
REVISION REQUESTER AND COMMUNITY OFFICIAL

O.M.B No. 3067-014_
Expires April 30, 2001

Public reporting burden for this form is estimated to average 2.13 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and ımpleting and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions .or reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

1. REQUESTED RESPONSE FROM FEMA

This request is for a:

☐ CLOMR A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60,65 & 72).

☒ LOMR A letter from FEMA officially revising the current NFIP map to show the changes to floodplains, floodway or flood elevations. LOMRs typically decrease flood hazards. (See 44 CFR Ch. 1 Parts 60 & 65.)

☐ Other Describe: _____

2. OVERVIEW

1. The basis for this revision request is (are): (check all that apply)

☒ Physical Change ☐ Improved Methodology/Data ☐ Floodway Revision

☐ Other Describe: _____

Note: A photograph is not required, but is very helpful during review.

2. Flooding Source: LARGE DRAINAGE BASIN

3. Project Name/Identifier: RUSH ENTERPRISES

4. FEMA zone designations affected: AH (ELEVATION 5101)
(example: A, AH, AO, A1-A30, A99, AE, V, V1-V30, VE, B, C, D, X)

5. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Ex: 480301 480287	Katy, City Harris County	TX TX	480301 48201C	0005D 0220G	02/08/83 09/28/90
350001	CITY OF ALBUQUERQUE, BERNALILLO COUNTY	NM	35001C	0327D	09/20/96

6. The area of revision encompasses the following types of flooding and structures. Check all that apply.

Types of Flooding	Structures
☐ Riverine	☐ Channelization
☐ Coastal	☐ Levee/Floodwall
☐ Alluvial fan	☐ Bridge/Culvert
☒ Shallow Flooding (e.g. Zones AO and AH)	☐ Dam
☐ Lakes	☐ Fill
☐ Other (describe)	☒ Other (describe)

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

ADDITIONAL INFORMATION FOR FORM-1
(REVISION REQUESTER AND COMMUNITY OFFICIAL)

1. REQUESTED RESPONSE FORM FEMA

Due to changes of the original contributing basin and extension of the 48" RCP, we are requesting a LOMR in order to remove the floodplain from the map. The floodplain was mainly created by the runoff from the north side of I-40. The runoff from the north side of I-40 in intercepted by the existing retention ponds. And in near future the I-40 diversion channel will intercept all the retention pond the will drain the runoff east along the I-40. The only runoff contributing to the floodplain is the some runoff from the I-40 right-of-way and some runoff from the south side of I-40. Based on the a master plan for West Mesa Diversion Project prepared by Smith Engineering Company, a 48" storm sewer pipe was proposed for Hanover in order to intercept the runoff in the low point the Hanover. This pipe has recently been designed and built under Advanced Engineering and Consulting, LLC supervision and approved by the City of Albuquerque. See Appendix A for Drainage Report and drainage basins and runoff calculations.

2. OVERVIEW

1. Upstream basin (north of I-40) has been intercepted by retention ponds and will be diverted to the east in near future by I-40 Diversion Channel. A 48" RCP is extended to intercept the remaining runoff contributing the floodplain.

6. The site falls within Zone AH (Elevation 5101). The floodplain is intercepted by the newly built 48" RCP. And the site has been raised to drain the runoff from north to south to Hanover Road where the storm sewer pipe is located. See as-built construction plans located in the map pocket.

4. ENCROACHMENT INFORMATION

1. Does the State have jurisdiction over the floodway or its adoption by communities participating in the NFIP?
☐ Yes ☒ No

Yes, attach a copy of a letter notifying the appropriate State agency of the floodway revision and documentation of the approval of the revised floodway by the appropriate State agency.

2. Does the development in the floodway cause the 1% annual chance (base) elevation to increase at any location by more than 0.000 feet? ☐ Yes ☐ No ☒ N/A

3. Does the cumulative effect of all development that has occurred since the effective SFHA was originally identified cause the base flood elevation to increase at any location by more than one foot (or other increase limit if community or state has adopted more stringent criteria - even if a floodway has not been delineated by FEMA)? ☐ Yes ☒ No

If the answer to either items is Yes, please attach documentation that all requirements of Section 65.12 of the NFIP regulations have been met, regarding evaluation of alternatives, notice to individual legal property owners, concurrence of CEO, and certification that no insurable structures are impacted.

5. MAINTENANCE RESPONSIBILITY

The community is willing to assume responsibility for ☒ performing ☒ overseeing compliance with the maintenance and operation plans of the 48" STORM SEWER PIPE (Name) flood control structure. If not performed promptly by an owner other than the community, the community will provide the necessary services without cost to the Federal government.

Operation and maintenance plans are attached. ☐ **Yes** ☐ **No** ☒ **N/A**

6. REVIEW FEE

The review fee for the appropriate request category has been included. ☒ Yes Fee amount: $4,200.00

OR

This request is based on a federally sponsored flood-control project where 50 percent or more of the project's cost is federally sponsored, or the request is based on detailed hydrologic and hydraulic studies conducted by Federal, State, or local agencies to replace approximate studies conducted by FEMA and shown on the effective FIRM; thus the project is fee exempt.
☐ Yes

Please see Instructions for Fee Amounts

7. SIGNATURE

Note: **I understand that my signature indicates that all information submitted in support of this request is correct**

Signature of Revision Requester

SHAHAB BIAZAR, P.E.
Printed Name and Title of Revision Requester

ADVANCED ENGINEERING AND CONSULTING, LLC
Company Name

Telephone No.: (505-899-5570) Date: 03/13/2003

Note: **Signature indicates that the community understands, from the revision requester, the impacts of the revision on flooding conditions in the community.**

Signature of Community Official

Carlos A. Montoya, City floodplain Adm
Printed Name and Title of Community Official

Albuq. N.Mex
Community Name

505 924 3982
Telephone No.: Date: 5-15-03

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is in accordance with 44 CFR Ch. 1, Sect 65.2

Signature

SHAHAB BIAZAR, P.E.
Printed Name and Title of Revision Requester

Registr No. 13479 Expires (Date) 12/31/2003 State NM

Type of License/Expertise: GENERAL CIVIL

Check which forms have been included with this request

Form Name and (Number)	Required if ......
☒ **Hydrologic** (3)	new or revised discharges
☐ **Hydraulic** (4)	new or revised water-surface elevations
☒ **Mapping** (5)	floodplain/floodway changes
☐ **Channelization** (6)	channel is modified
☐ **Bridge/Culvert** (7)	addition/revision of bridge/culvert
☐ **Levee/Floodwall** (8)	addition/revision of levee/floodwall
☐ **Coastal** (9)	new or revised coastal elevations
☐ **Coastal Structures** (10)	addition/revision of coastal structure
☐ **Dam** (11)	addition/revision of dam
☐ **Alluvial Fan** (12)	structures proposed on alluvial fan

FORM 4

REVERINE HYDRAULIC ANALYSIS

FEDERAL EMERGENCY M GEMENT AGENCY
RIVERINE HYDRA ANALYSIS

O.M.B No. 3067-01
Expires April 30, 20_.

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 2.25 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information ollections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington DC 20472; and to the Office of lanagement and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

Note: Fill out one form for each flooding source studied

Community Name: CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Flooding Source: LARGE DRAINAGE BASIN1

Project Name/Identifier: RUSH ENTERPRISES

1. REACH TO BE REVISED

Describe the limits of the revision OR submit a copy of the FIRM with the revision area clearly highlighted.
Copy of FIRM(s) attached depicting area of the revision (highlighted, or circled)? ☒ Yes

Downstream Limit: SEE ATTACHED EXHIBIT

Upstream Limit: SEE ATTACHED EXHIBIT

2. MODELS SUBMITTED

Requirements: for areas which have detailed flooding:	for areas which do not have detailed flooding:
Full input and output listings along with files on diskette for each of the models listed below (items 1-4) and a summary of the source of input parameters used in the models must be provided. The summary must include a description of any changes made from model to model (e.g., Duplicate Effective model to Corrected Effective model). At a minimum, the Duplicate Effective (item 1) and the Revised or Post-Project Conditions (item 4) models must be submitted. See instructions for directions on when other models may be required.	Only the 100-year (Base) flood profile is required. A hydraulic model is not required for areas which do not have detailed flooding; however, BFEs may not be added to the revised FIRM. If a hydraulic model is developed for the area, items 3 and 4 described below must be submitted.

hydraulic models are not developed, hydraulic analyses (including all calculations) for existing or pre-project conditions d revised or post-project conditions must be submitted.

1. Duplicate Effective Model ☐ **Natural** **File Name** _____ ☐ **Floodway** **File Name** _____
Copies of the hydraulic analysis used in the effective FIS, referred to as the effective models (10-, 50-, 100-, and 500-year multi-profile runs and the floodway run) must be obtained and then reproduced on the requester's equipment to produce the Duplicate Effective model. This is required to assure that the effective models input data has been transferred correctly to the requester's equipment and to assure that the revised data will be integrated into the effective data to provide a continuous FIS model upstream and downstream of the revised reach.

2. Corrected Effective Model ☐ **Natural** **File Name** _____ ☐ **Floodway** **File Name** _____
The Corrected Effective model is the model that corrects any errors that occur in the Duplicate Effective model, adds any additional cross sections to the Duplicate Effective model, or incorporates more detailed topographic information than that used in the currently effective model. The Corrected Effective model must not reflect any man-made physical changes since the date of the effective model. An error could be a technical error in the modeling procedures, or any construction in the floodplain that occurred prior to the date of the effective model but was not incorporated into the effective model.

3. Existing or Pre-Project Conditions Model ☐ **Natural** **File Name** _____ ☐ **Floodway** **File Name** _____
The Duplicate Effective model or Corrective Effective model is modified to produce the Existing or Pre-Project Conditions model to reflect any modifications that have occurred within the floodplain since the date of the Effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the effective model, then this model would be identical to the Corrected Effective model or Duplicate Effective model.

4. Revised or Post-Project Conditions Model ☐ **Natural** **File Name** _____ ☐ **Floodway** **File Name** _____
The Existing or Pre-Project Conditions model (or Duplicate Effective model or Corrected Effective model, as appropriate) is revised to reflect revised or post-project conditions. This model must incorporate any physical changes to the floodplain since the effective model was produced as well as the effects of the project. When the request is for the proposed project this model must reflect proposed conditions.

5. Other – Please attach a sheet describing all other models submitted along with the file names. ☐ **Natural** ☐ **Floodway**

PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS

3. S TING WATER-SURFACE ELEVATION N/A

Explain how they were determined. Explanation Attached? ☐ Yes ☐ No

NOTE: If the effective study is an approximate study, the slope/area method is recommended. For detailed analysis studies, using a known water-surface elevation is recommended.

4. RESULTS (from the model used to revise the 100-year water surface elevations)

If the results indicate any of the following, attach an explanation - to this form, or to the hydraulic model printout- as to the reasonableness of the situation.

- ☐ Supercritical depth ☐ Critical Depth ☐ Drawdowns ☐ Negative Floodway Surcharges
- ☐ Floodway Surcharges Greater Than Maximum Allowed by Community/State
- ☐ Water surface elevations higher than the end points of cross sections.
- ☐ Floodway discharge is different than the Natural 100-year (base) flood discharge.
- ☐ Project causes 100-year floodplain or floodway elevations to increase (state if increases are located off the requester's property)

Explanation attached with Form ☐ **Explanation provided on attached printout** ☐

If Hydraulic model used is HEC-2, has it been checked with FEMA'S CHECK-2 computer program? ☐ **Yes** ☐ **No**
(see instructions for information on how to obtain CHECK-2)

5. REVISED FIRM/FBFM AND FLOOD PROFILES

1. Profile Transition N/A

a. 100-Year Water-Surface Elevations - indicate the difference in water surface elevations where the project 100-year elevations tie into the existing 100-year water surface elevations at each end of the project.

Downstream End _____ within _____ (feet) Upstream End _____ within _____ (feet)
Cross-Section # *Cross-Section #*

b. Floodway Elevations - indicate the difference in water surface elevations where the project floodway elevations tie into the existing floodway water surface elevations at each end of the project.

Downstream End _____ within _____ (feet) Upstream End _____ within _____ (feet)
Cross-Section # *Cross-Section #*

c. Floodway widths - indicate the difference in floodway widths where the project floodway widths tie into the existing floodway width at each end of the project.

Downstream End _____ within _____ (feet) Upstream End _____ within _____ (feet)
Cross-Section # *Cross-Section #*

2. Profile Checklist (check box if information has been provided on profile) N/A

The following information (unless in parentheses) must be included at the same scale as the existing profiles for this project:

- ☐ Stream Name ☐ Community Name ☐ Corporate Limits labeled ☐ Study limits labeled
- ☐ Confluences labeled ☐ Channel Stationing ☐ Streambed profiled ☐ Cross Sections labeled
- ☐ Horizontal/Vertical Scales indicated ☐ 100-year elevs profiled*
- ☐ Road Crossings ☐ Labeled ☐ Low Chord Elevations ☐ Top of Road Elevations

*All recurrence intervals in the effective study must also be profiled.

Floodway Data Table

Attach a Floodway Data Table for each cross section listed in the published Floodway Data table in the FIS report.

Floodway Data Table Attached ☐ **Yes** ☐ **Not Required**

ADDITIONAL INFORMATION FOR FORM-4
(REVERINE HYDRAULIC ANALYSIS)

1. REACH TO BE REVISED

Exhibit showing the modification to the existing floodplain are attached.

2. MODELS SUBMITTED

New drainage calculations and revised contributing basin is shown in the Drainage Report. See Appendix A (Drainage Report) of this submittal for the drainage basin exhibits as well as runoff calculations.

4. RESULTS

The revised basin show that the runoff generated is not substantial and the inlets and storm sewer in Hanover are adequately size to intercept the runoff of this magnitude and larger. The project has caused the runoff to drain to the newly constructed 48" RCP in Hanover Road. Therefore, we have eliminated the floodplain.

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 327 OF 825

(SEE MAP INDEX FOR PANELS NOT PRINTED)

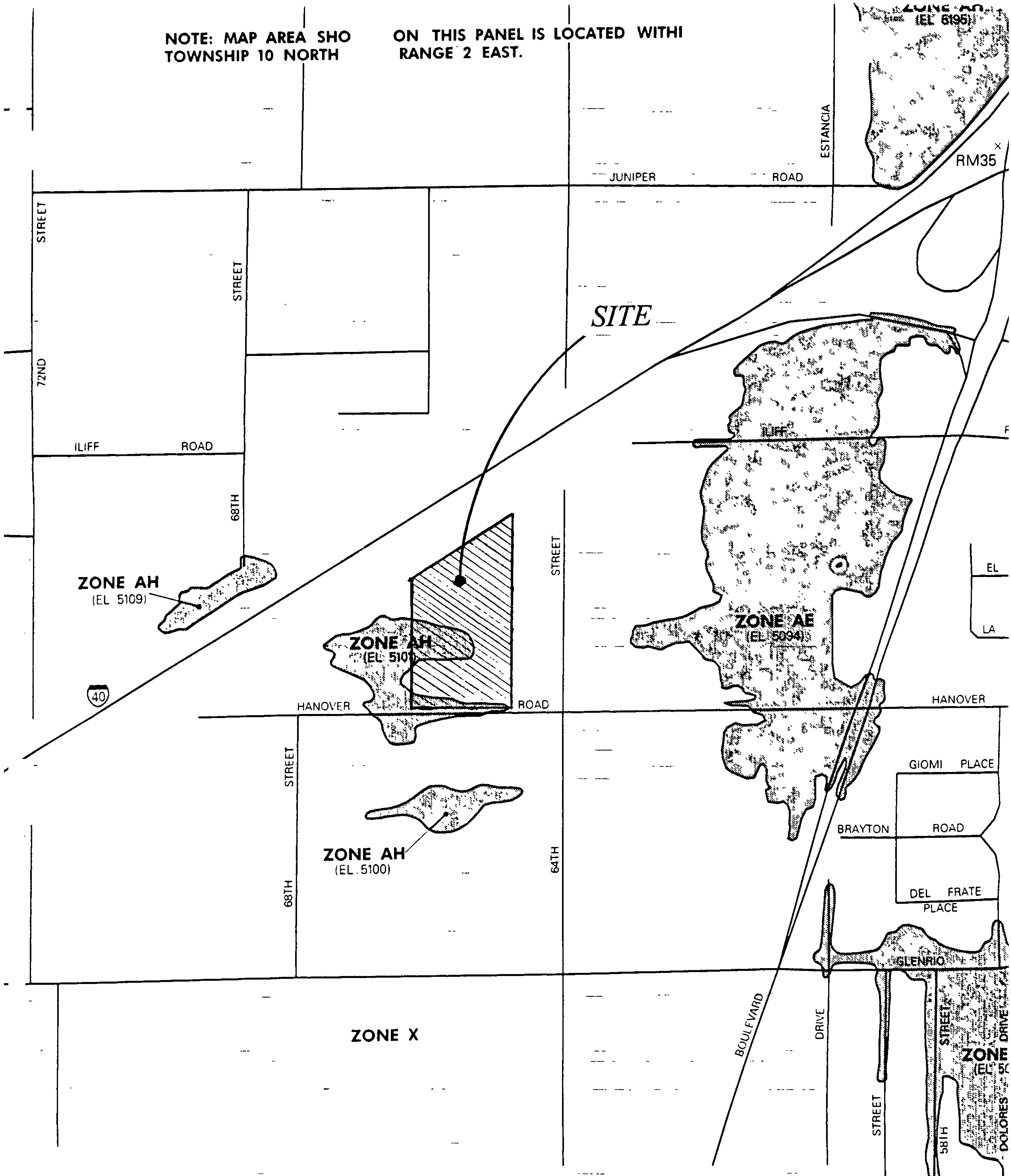
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE CITY OF	350002	0327	D
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0327	D

MAP NUMBER
35001C0327 D

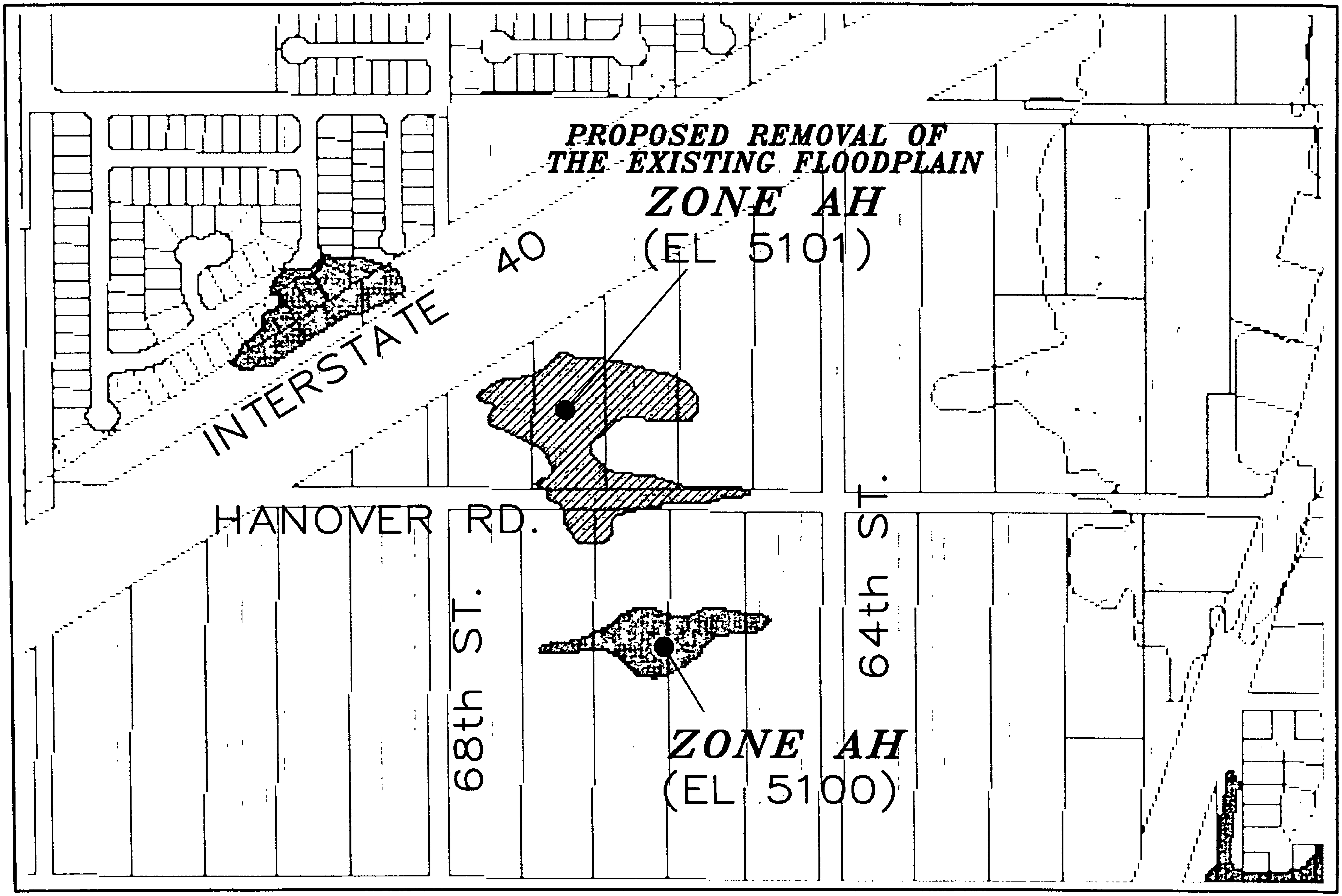
EFFECTIVE DATE:
SEPTEMBER 20, 1996

Federal Emergency Management Agency



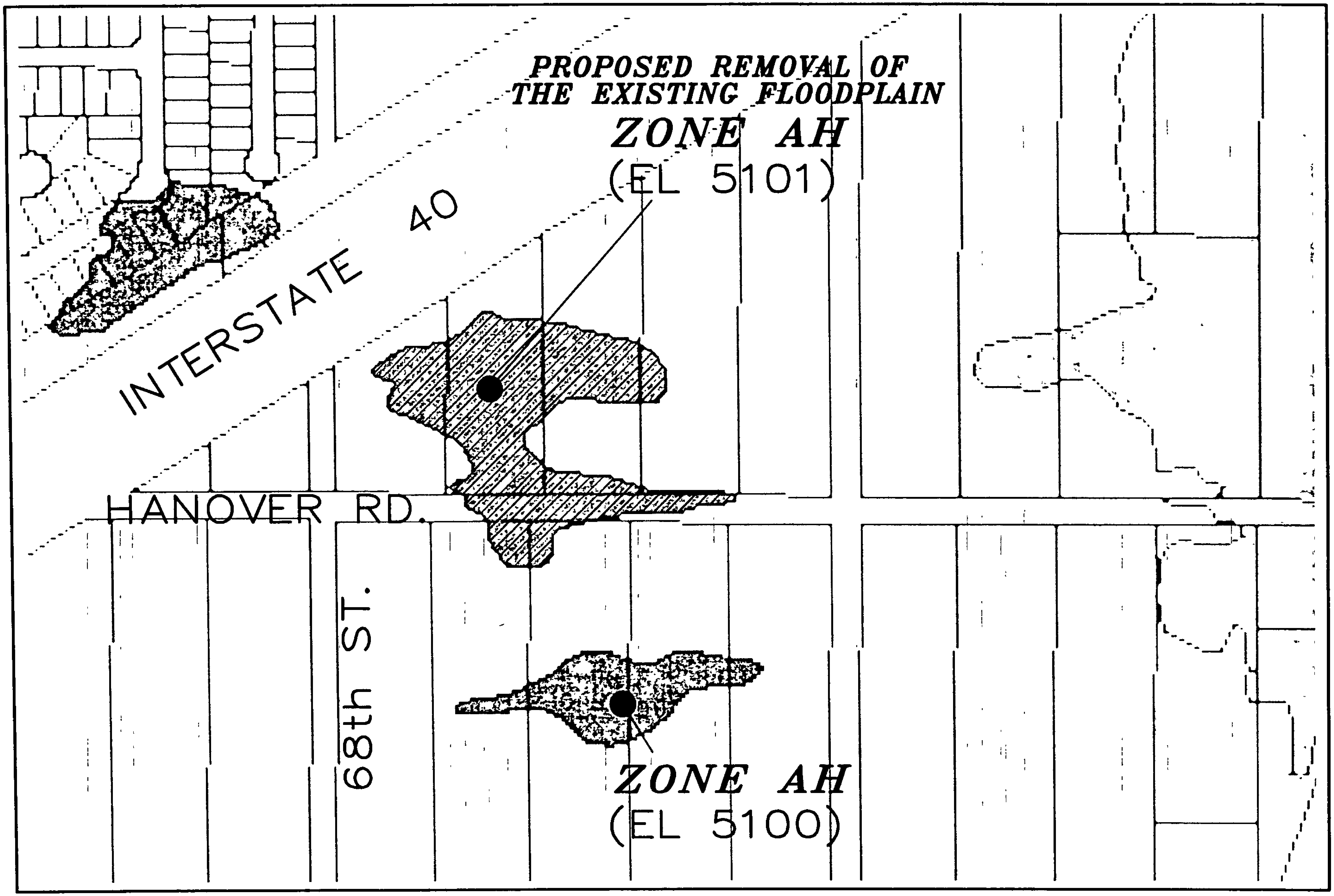
PORTION OF THE FRIM MAP NUMBER 35001C0327 D

(WITH LOCATION OF THE PROJECT SHOWN ON THE MAP)



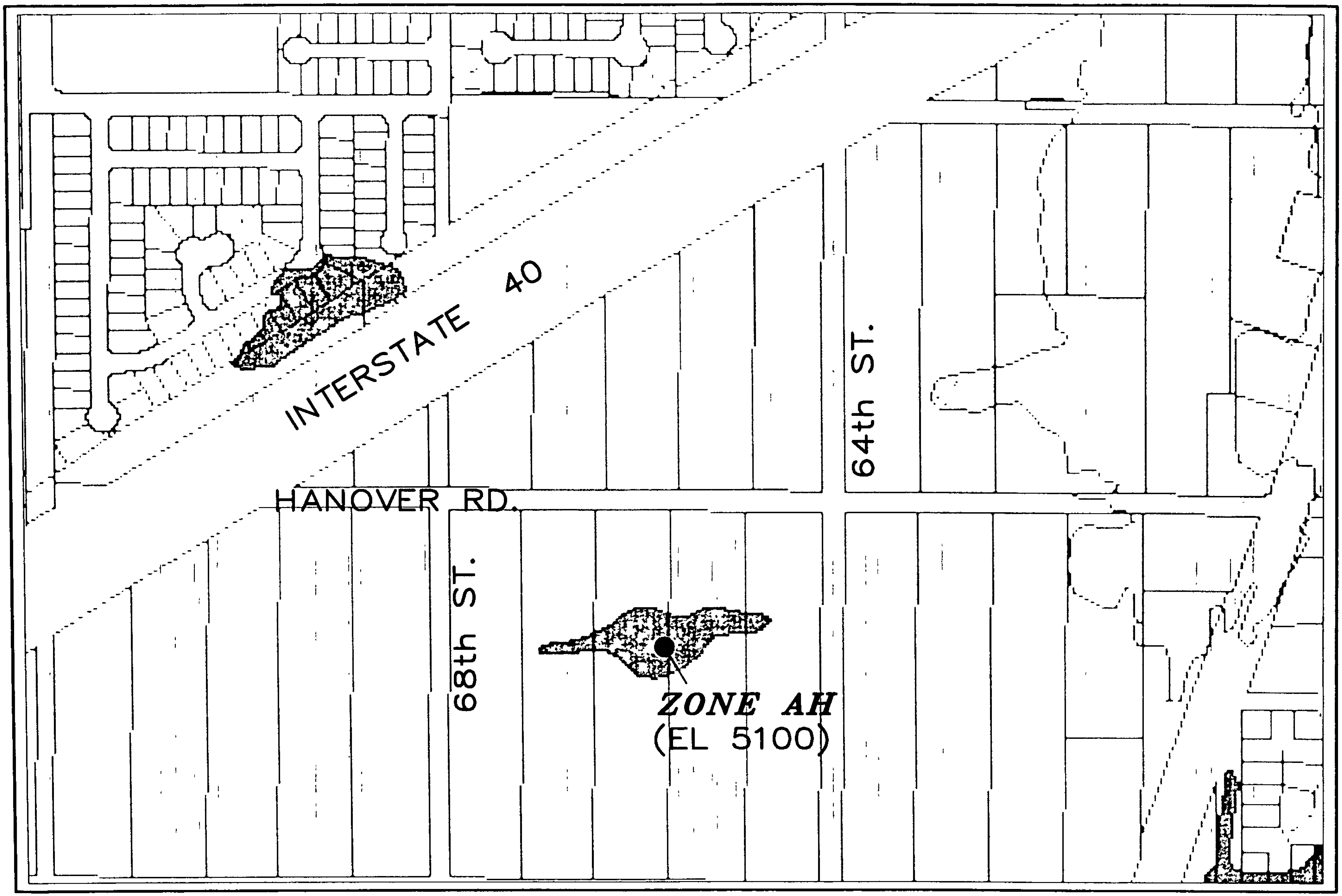
FLOODPLAIN REMOVAL EXHIBIT

1"=±400



FLOODPLAIN REMOVAL EXHIBIT

1"=±300



FIRM MAP AFTER REMOVAL OF THE FLOODPLAIN 1"=±400

PORTION OF THE FRIM MAP NUMBER 35001C0327 D
(WITH PORTION OF THE FLOODPLAIN MARKED BEING REMOVED)

PAYMENT INFORMATION SHEET

FEDERAL EMERGENCY MANAGEMENT AGENCY

PAYMENT INFORMATION FORM

ommunity Name: CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

Project Identifier: RUSH ENTERPRISES

THIS FORM MUST BE MAILED, ALONG WITH THE APPROPRIATE FEE, TO ONE OF TWO POST OFFICE BOXES (SEE BELOW) OR FAXED TO THE FAX NUMBER BELOW.

Type of Request:

MT-1 application fee
MT-2 application fee } (Insert **3173** as the P.O. Box number in the address below)

External Data Requests (EDRs) (Insert **398** as the P.O. Box number in the address below)

Federal Emergency Management Agency
Revisions Fee-Collection System Administrator
P.O. Box 3173
Merrifield, Virginia 22116
Fax: (703) 849-0282

Request No.: (if known)

Amount: $4,200.00

☐ INITIAL FEE* ☐ FINAL FEE ☐ FEE BALANCE** ☐ MASTER CARD ☐ VISA ☒ CHECK ☐ MONEY ORDER

*Note: Check only for EDR and/or Alluvial Fan requests (as appropriate).

**Note: Check only if submitting a corrected fee for an ongoing request.

MPLETE THIS SECTION ONLY IF PAYING BY CREDIT CARD

EXP. DATE

1 2 3 4 — 5 6 7 8 — 9 10 11 12 — 13 14 15 16 Month Year

CARD NUMBER

Date

Signature

NAME *(AS IT APPEARS ON CARD)*:
(please print or type)

ADDRESS:
(for your credit card receipt-please print or type)

DAYTIME PHONE:

CURRENT FEE SCHEDULE FOR MITIGATION PRODUCTS AND SERVICES (effective as of September 1, 2002).

Requests for Single Lot, Single Structure Map Change	Fee	Comment
Single lot, single structure LOMA	**Free**	**N/A**
Single lot, single structure CLOMA and CLOMR-F	**$500**	**Flat Fee**
Single lot, single structure LOMR-F	**$425**	**Flat Fee**
Single lot, single structure LOMR-F based on as-built information (CLOMR-F previously issued by FEMA)	**$325**	**Flat Fee**

Requests for Multiple Lot, Multiple Structure Map Change	Fee	Comment
Multi-lot, multi-structure LOMA	**Free**	**N/A**
CLOMA	**$700**	**Flat Fee**
CLOMR-F and LOMR-F	**$800**	**Flat Fee**
LOMR-F based on as-built information (CLOMR-F previously issued by FEMA)	**$700**	**Flat Fee**

Requests for Map Change Requiring Special Technical Review	Fee	Comment
CLOMR based on new hydrology, bridge, culvert, channel or combination thereof	**$4,000**	**Flat Fee**
CLOMR based on levee, berm, or other structural measures	**$4,500**	**Flat Fee**
LOMR/PMR based on bridge, culvert, channel or combination	**$4,200**	**Flat Fee**
LOMR/PMR based on levee, berm, or other structural measures	**$6,000**	**Flat Fee**
LOMR based on as-built information (CLOMR previously issued by FEMA)	**$3,800**	**Flat Fee**
LOMR/PMR based solely on submission of more detailed data	**Free**	**N/A**
LOMR/CLOMR based on structural measures on alluvial fans	**$5,000**	**Initial fee plus $50 per hour. Requester will be invoiced for remaining balance**

Payment must be received before services will be rendered. Check, money orders, and credit cards are accepted.

APPENDIX A

DRAINAGE REPORT

DRAINAGE REPORT
FOR

RUSH ENTERPRISES

PORTION OF TRACT 267 & 268, UNIT 8,
TOWN OF ATRISCO GRANT, BERNALILLO

Prepared by:

ADVANCED
ENGINEERING
and CONSULTING, LLC

10205 Snowflake Ct. NW
Albuquerque, New Mexico 87114

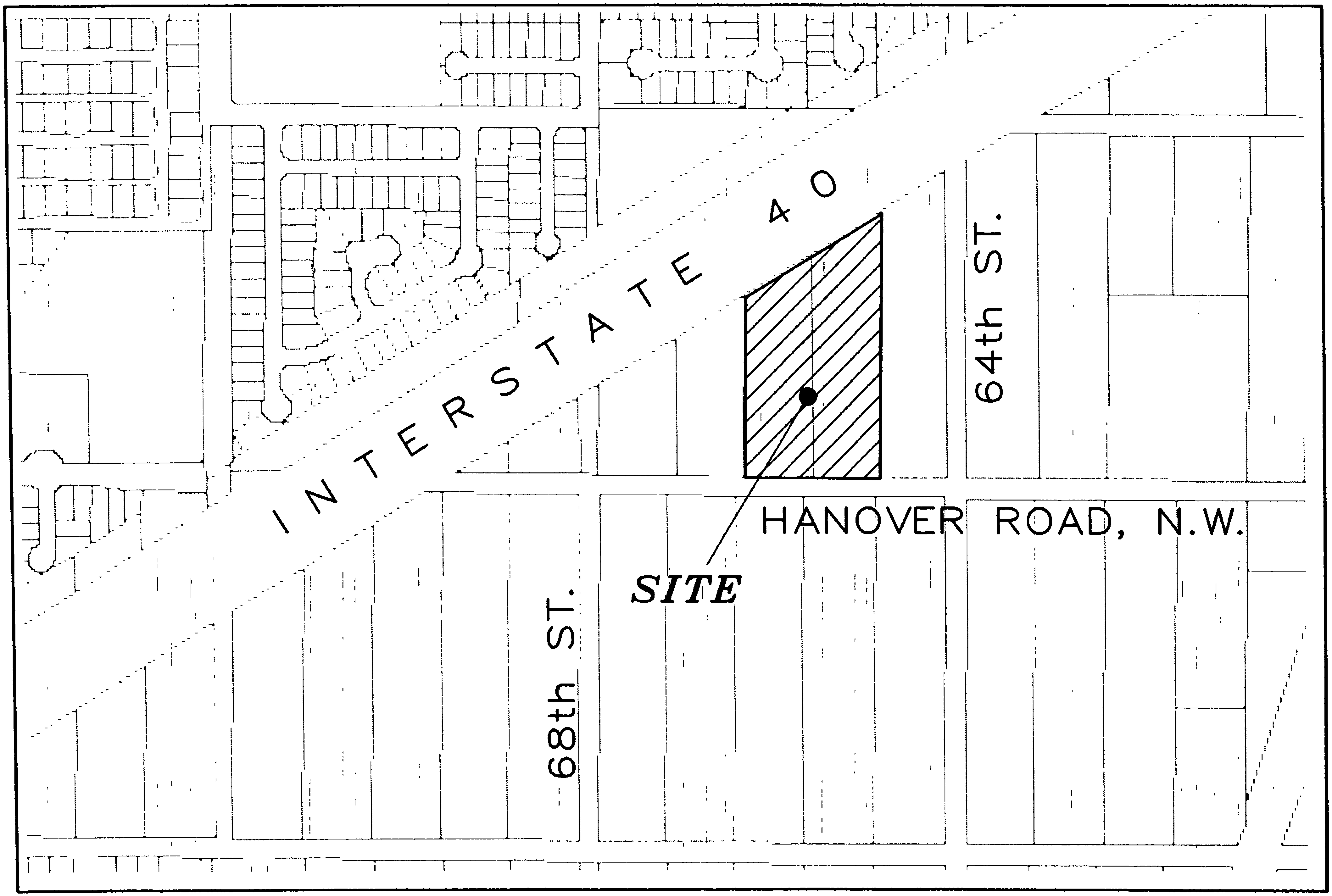
Prepared For:

Ed Donahue
Rush Peterbilt Truck Center
2900 Vassar Dr. NE
Albuquerque, NM 87107

February, 2002

SHAHAB BIAZAR
NEW MEXICO
13479
REGISTERED PROFESSIONAL ENGINEER
2/10/02

Shahab Biazar
PE NO. 13479



VICINITY MAP: J-10-Z

Location

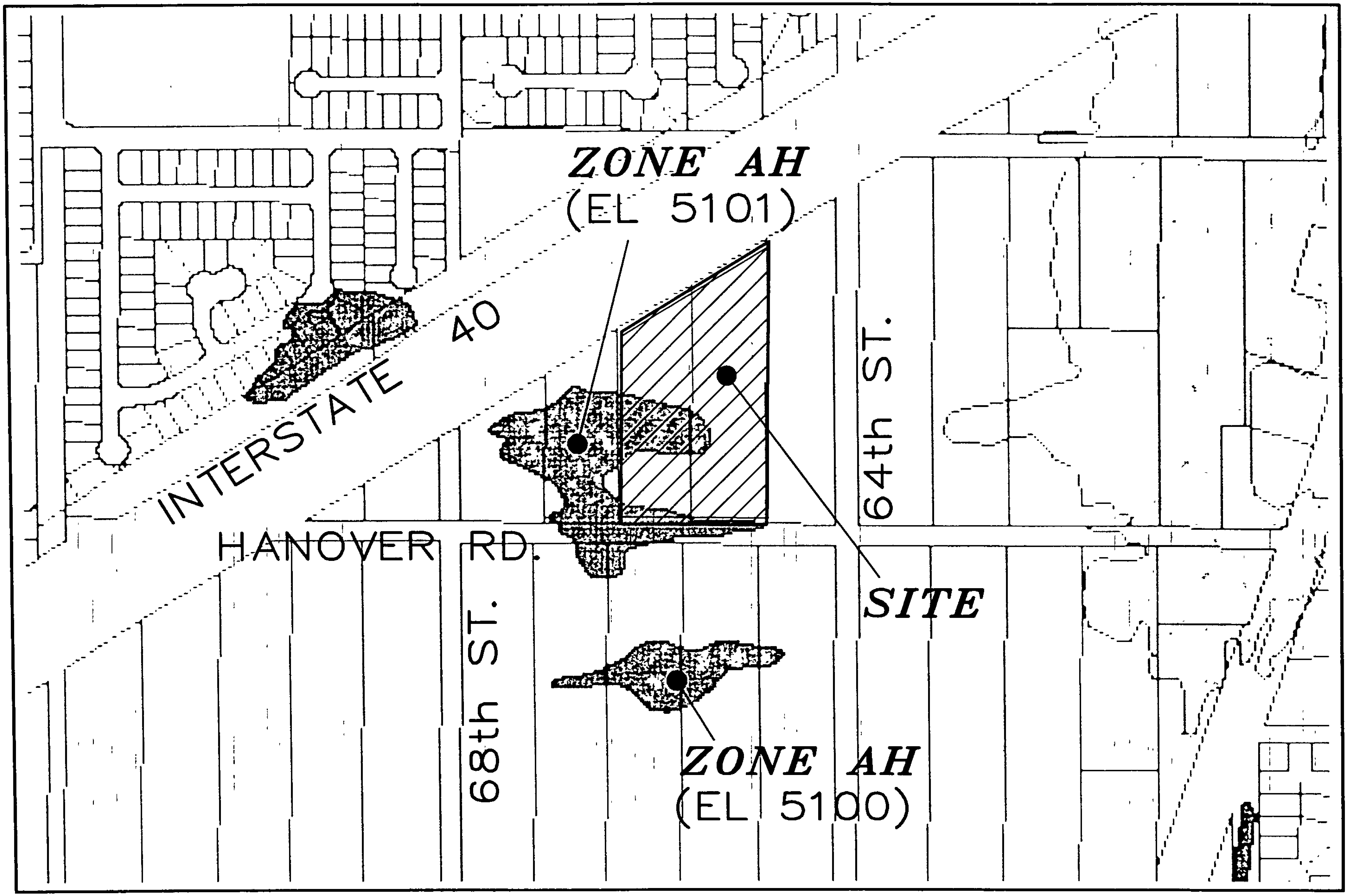
The proposed site is Portions of Tract 267 & 268, Unit 8, Town of Atrisco Grant, Bernalillo County, Containing ±6.2522 Acres, is located north side of Hanover Road and east side of 64th Street. See attached vicinity map for exact location of the site.

Purpose

The purpose of this drainage report is to present a grading and drainage solution for the proposed site. We are requesting rough grading approval, site development plan for subdivision purposes, site development plan for building permit, final plat approval and building permit approval.

Existing Drainage Conditions

The site drains to a low point on site. There is an offsite runoff of 20 cfs from the Interstate 40's median that drains to adjacent offsite basin through the 6'x3' culvert crossing ±550' west of our site. The 20 cfs from the 6'x3' culvert drains to the adjacent site and then east towards our project. Since there are existing retention ponds on the north side of the I-40, and the inverts of the culvert crossing are much higher than top of the ponds, no other runoff crosses I-40 to the south near our site. Since historically there has been a significant runoff draining to the low point within and near our site the site has been determined as a floodplain Zone AH (elevation 5101). See attached FIRM Map 35001C0327 D for the location of the site and the floodplain limits.



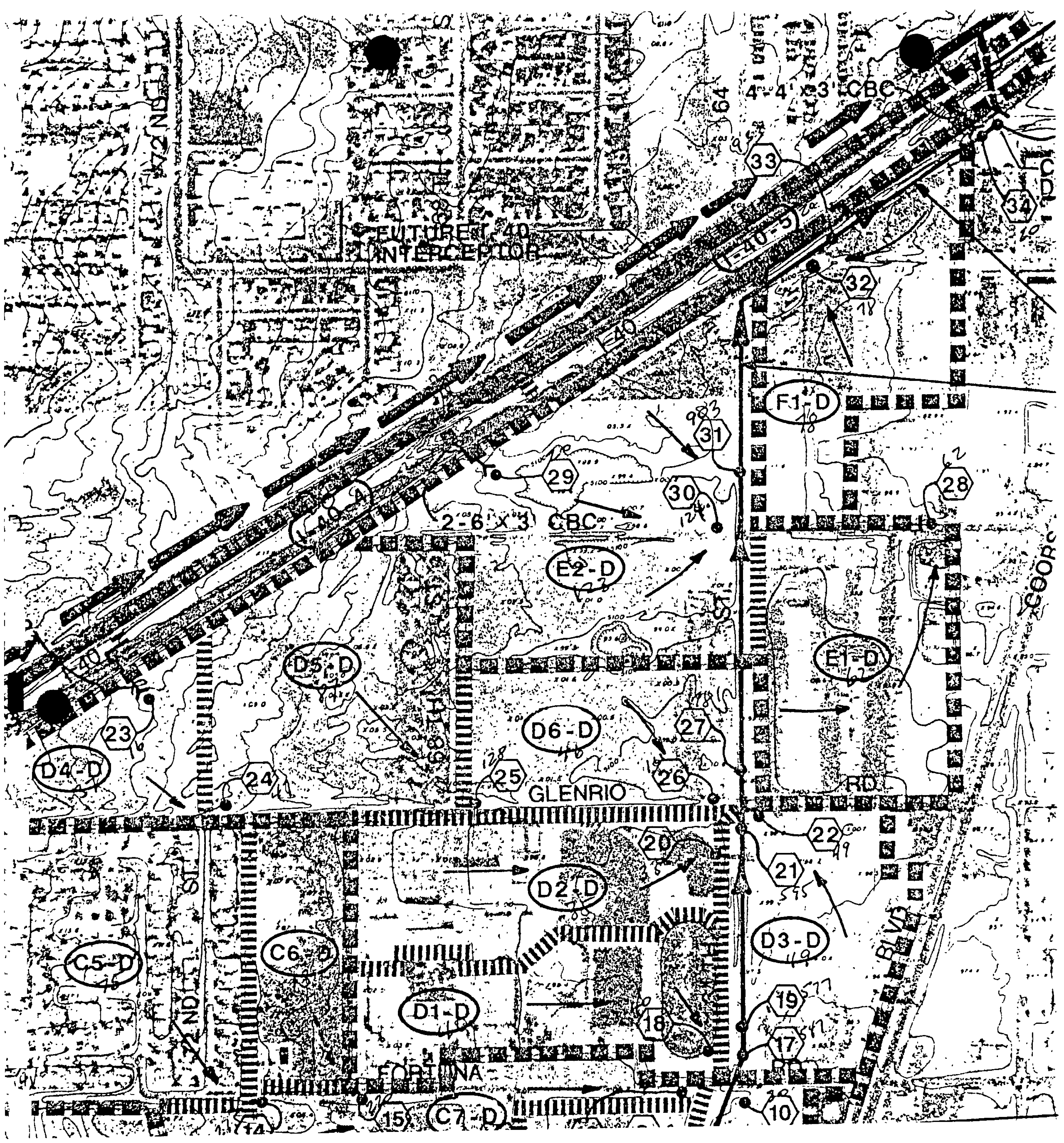
FIRM MAP: 1"=±400 35001C0327 D

Proposed Conditions and On-Site Drainage Management Plan

Overall

The site falls within "West Mesa Diversion Project Drainage Analysis". Smith Engineering has prepared overall drainage basin maps for developed conditions. The site falls within Basin E2-D. A portion of this map is attached. AMAFCA is getting ready to send out the construction plans for the I-40 diversion channel which has been prepared by Wilson and Company. The construction of the I-40 diversion channel will divert all of the runoff which drains to south side of the freeway. Since there are existing retention ponds on the north side of the I-40 and these ponds are much lower than the culvert crossing inverts and intercept all the offsite runoff which historically used to contribute to the offsite runoff, the timing of the I-40 diversion channel will not impact our project and removal of the flood plain after all the storm sewer improvement on Hanover Road.

Smith Engineering Basin map under developed conditions reflects all the future drainage improvements. Under the West Mesa Diversion Project a 108" RCP has been built in 64th Street. As proposed under the master drainage plan, a 48" RCP will be extended west on Hanover Road for approximately 600' to the low point of the street to intercept the runoff and to eliminate the floodplain, Under the proposed conditions the 48" pipe will carry ±124 cfs east to the existing 108" RCP. A series inlets will be place at the west end of the 48" RCP to intercept the runoff in the low point of the street. A LOMR will be submitted to FEMA once the storm sewer pipe is in place to remove the floodplain from the site.



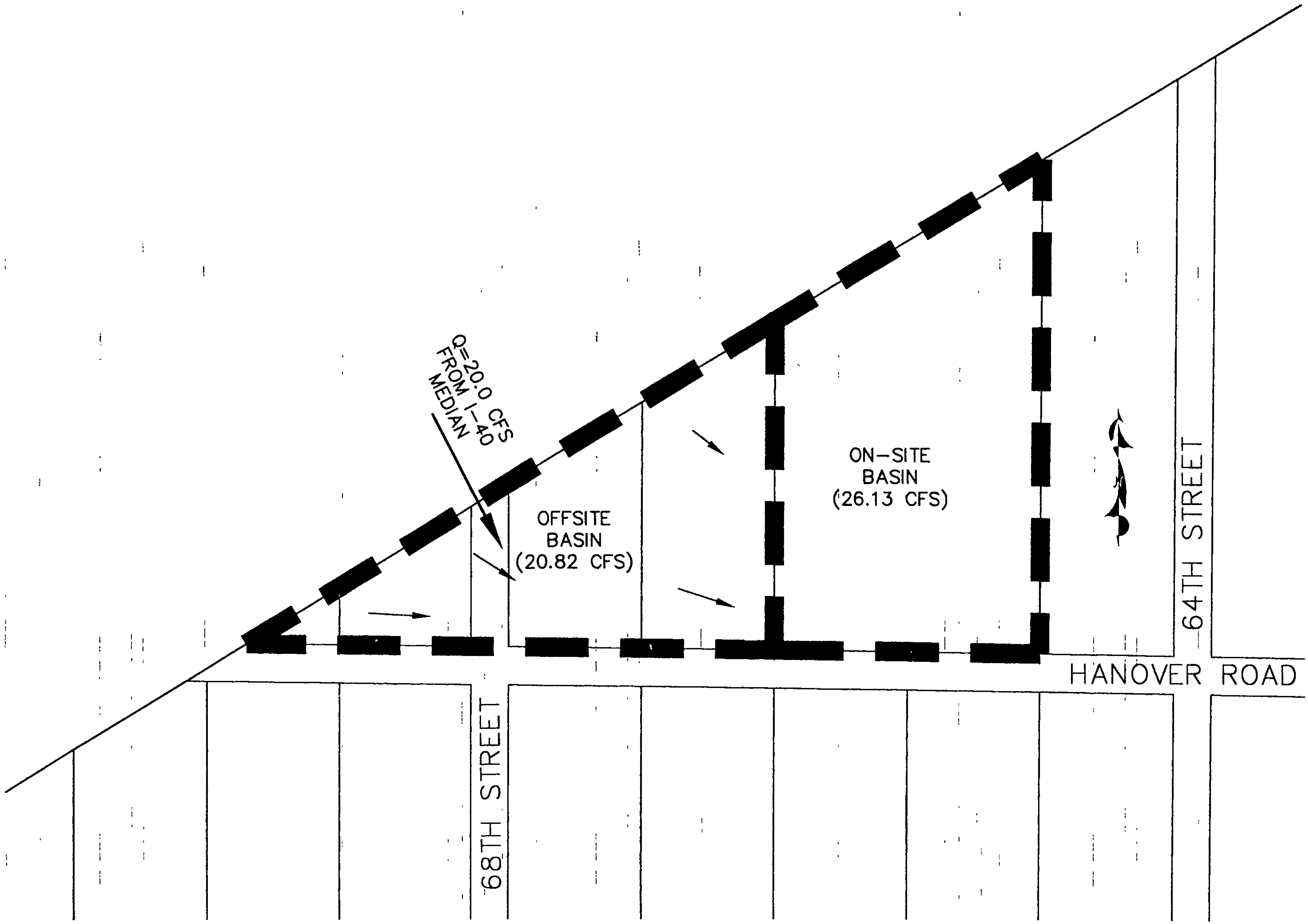
PORTION OF "DRAINAGE AREA MAP"
UNDER THE DEVELOPED CONDITIONS
FOR WEST MESA DIVERSION PROJECT
PREPARED BY SMITH ENGINEERING COMPANY

On-site

The 20 cfs from the 6'x3' along with the offsite basin located to the west will continue to drain east toward our site at total developed runoff of 40.82 cfs. We will divert this runoff to the south to a 30" RCP and then to the proposed 48" RCP in Hanover. On site runoff will drain to a series of inlets on site and then diverted to the proposed 48" RCP in Hanover.

Calculations

City of Albuquerque, Development Process Manuel, Section 22.2, Hydrology Section, revised January, 1993, was used for runoff calculations.


Q=20.0 CFS
FROM I-40
MEDIAN
OFFSITE
BASIN
(20.82 CFS)
ON-SITE
BASIN
(26.13 CFS)
64TH STREET
68TH STREET
HANOVER ROAD

BASIN MAP

RUNOFF CALCULATION RESULTS

BASIN AREA

ON-SITE	AREA (SF)	AREA (AC)	AREA (MI^2)
OFFSITE	217,023.39	4.9822	0.007785
ON-SITE	272,349.14	6.2523	0.009769

EXISTING

ON-SITE	Q-100 CFS	Q-10 CFS
OFFSITE	6.47	1.23
ON-SITE	8.11	1.54

PROPOSED

ON-SITE	Q-100 CFS	Q-10 CFS
OFFSITE	20.82	13.52
ON-SITE	26.13	16.96

AHYMO INPUT FILE

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* ZONE 1
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*******************************************************************
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                        RAIN ONE=1.87 IN RAIN SIX=2.20 IN
                        RAIN DAY=2.66 IN DT=0.03333 HR
* OFFSTIE
COMPUTE NM HYD          ID=1 HYD NO=101.0 AREA=0.007785 SQ MI
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                        TP=0.1333 HR MASS RAINFALL=-1
* ON-STIE
COMPUTE NM HYD          ID=1 HYD NO=102.0 AREA=0.009769 SQ MI
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                        TP=0.1333 HR MASS RAINFALL=-1
*
*******************************************************************
*          100-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)       *
*******************************************************************
*
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RAINFALL                TYPE=1 RAIN QUARTER=0.0 IN
                        RAIN ONE=1.87 IN RAIN SIX=2.20 IN
                        RAIN DAY=2.66 IN DT=0.03333 HR
* OFFSTIE
COMPUTE NM HYD          ID=1 HYD NO=103.0 AREA=0.007785 SQ MI
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                        TP=0.1333 HR MASS RAINFALL=-1
* ON-STIE
COMPUTE NM HYD          ID=1 HYD NO=104.0 AREA=0.009769 SQ MI
                        PER A=0.00 PER B=5.00 PER C=5.00 PER D=90.00
                        TP=0.1333 HR MASS RAINFALL=-1
*
*******************************************************************
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COMPUTE NM HYD          ID=1 HYD NO=111.0 AREA=0.007785 SQ MI
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                        TP=0.1333 HR MASS RAINFALL=-1
* ON-STIE
COMPUTE NM HYD          ID=1 HYD NO=112.0 AREA=0.009769 SQ MI
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                        TP=0.1333 HR MASS RAINFALL=-1
*
*******************************************************************
*          10-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)        *
*******************************************************************
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                        RAIN ONE=1.25 IN RAIN SIX=1.47 IN
                        RAIN DAY=1.77 IN DT=0.03333 HR
* OFFSTIE
COMPUTE NM HYD          ID=1 HYD NO=113.0 AREA=0.007785 SQ MI
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                        TP=0.1333 HR MASS RAINFALL=-1
* ON-STIE
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FINISH
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SUMMARY OUTPUT FILE

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START										TIME= .00
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COMPUTE NM HYD	114.00	-	1	.00977	16.96	.597	1.14585	1.500	2.713	PER IMP= 90.00
FINISH										

STORM DRAIN INLET

SINGLE 'D':

Area at the grate:

L $= 38.375" - 7\,(1/2"_{\text{middle bars}})$
$= 34.875"$
$= 2.906'$

W $= 25.5" - 13\,(1/2"_{\text{middle bars}})$
$= 19"$
$= 1.583'$

Area $= 1.583 \times 2.906$
$= 4.601\ \text{ft}^2$

Flow Capacity:

$Q = CA\sqrt{(2gh)}$

$Q = 0.60 \times 4.601 \sqrt{(2 \times 32.2 \times 1.00)}$

Q = 22.15 cfs, OK maximum flow contributed to any of the inlets on site is 10 cfs.

STORM DROP INLET
Double 'A'

<u>Area at the grate:</u>

L $= 88\ \tfrac{3}{4}" - 2(6"_{\text{ends}}) - 6"_{\text{center piece}} - 14(\tfrac{1}{2}\ _{\text{middle bars}})$
$= 63\ \tfrac{3}{4}"$
$= 5.3125'$

W $= 25\ \tfrac{1}{2}" - 13(\tfrac{1}{2}"_{\text{middle bars}})$
$= 19"$
$= 1.5833'$

Area $= 5.3125' \times 1.5833'$
$= 8.41\ ft^2$

Effective Area $= 8.41 - 8.41\ (0.5\ _{\text{clogging factor}})$
$= 4.21\ ft^2$ at the grate

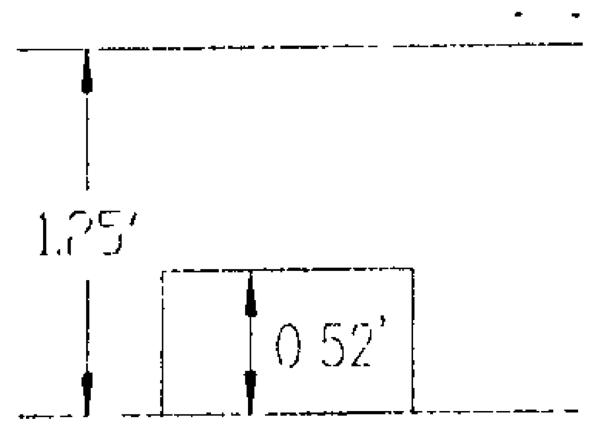
<u>Area at the throat:</u>

L $= 13.50"$

H $= 10\ \tfrac{3}{4}" - 4\ \tfrac{1}{2}"$
$= 6\ \tfrac{1}{4}"$
$= 0.5208'$

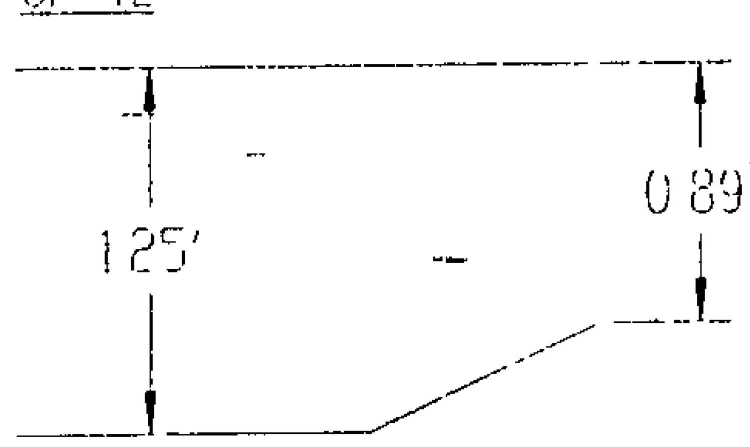
Area $= 13.50' \times 0.5208'$
$= 7.03\ ft^2$ at the throat

<u>THROAT</u>



$H = 1.25$
$Q = CA\sqrt{2gH}$
$Q = 0.60(7.03)\sqrt{2(32.2)(1.25)}$
$Q = 37.84$ CFS

<u>GRATE</u>



$H = (1.25 + 0.89)/2 = 1.08$
$Q = CA\sqrt{2gH}$
$Q = 0.60(4.21)\sqrt{2(32.2)(1.08)}$
$Q = 21.07$ CFS

<u>TOTAL</u>

$Q = 21.07 + 37.84 = 58.91$ CFS

<u>Number Of Inlets Required</u>:

Total Q=124 cfs - 26.13 cfs (intercepted by storm sewer pipe on-site) = 97.87 cfs

\# of inlets = 97.87/58.91 = 1:66 ∴ **<u>Use 2 Inlets</u>**

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: 20133-30

Comment: 30" PIPE FLOW CAPACITY

Solve For Full Flow Capacity

Given Input Data:

Diameter..........	2.50 ft
Slope.............	0.0200 ft/ft
Manning's n.......	0.012
Discharge.........	62.84 cfs

Computed Results:

Full Flow Capacity.....	62.84 cfs
Full Flow Depth........	2.50 ft
Velocity..........	12.80 fps
Flow Area.........	4.91 sf
Critical Depth....	2.41 ft
Critical Slope....	0.0175 ft/ft
Percent Full......	100.00 %
Full Capacity.....	62.84 cfs
QMAX @.94D........	67.60 cfs
Froude Number.....	FULL

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: 20133-48

Comment: 48" PIPE FLOW CAPACITY

Solve For Full Flow Capacity

Given Input Data:

Diameter..........	4.00 ft
Slope.............	0.0070 ft/ft
Manning's n.......	0.012
Discharge.........	130.20 cfs

Computed Results:

Full Flow Capacity.....	130.20 cfs
Full Flow Depth........	4.00 ft
Velocity..........	10.36 fps
Flow Area.........	12.57 sf
Critical Depth....	3.41 ft
Critical Slope....	0.0066 ft/ft
Percent Full......	100.00 %
Full Capacity.....	130.20 cfs
QMAX @.94D........	140.05 cfs
Froude Number.....	FULL

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: 20133-18-1.5

Comment: 18" PIPE FLOW CAPACITY

Solve For Full Flow Capacity

Given Input Data:

Diameter..........	1.50 ft
Slope.............	0.0150 ft/ft
Manning's n.......	0.012
Discharge.........	13.94 cfs

Computed Results:

Full Flow Capacity.....	13.94 cfs
Full Flow Depth........	1.50 ft
Velocity..........	7.89 fps
Flow Area.........	1.77 sf
Critical Depth....	1.38 ft
Critical Slope....	0.0130 ft/ft
Percent Full......	100.00 %
Full Capacity.....	13.94 cfs
QMAX @.94D........	14.99 cfs
Froude Number.....	FULL

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: 20133-18-1

Comment: 18" PIPE FLOW CAPACITY

Solve For Full Flow Capacity

Given Input Data:

Diameter..........	1.50 ft
Slope.............	0.0100 ft/ft
Manning's n.......	0.012
Discharge.........	11.38 cfs

Computed Results:

Full Flow Capacity.....	11.38 cfs
Full Flow Depth........	1.50 ft
Velocity..........	6.44 fps
Flow Area.........	1.77 sf
Critical Depth....	1.29 ft
Critical Slope....	0.0093 ft/ft
Percent Full......	100.00 %
Full Capacity.....	11.38 cfs
QMAX @.94D........	12.24 cfs
Froude Number.....	FULL

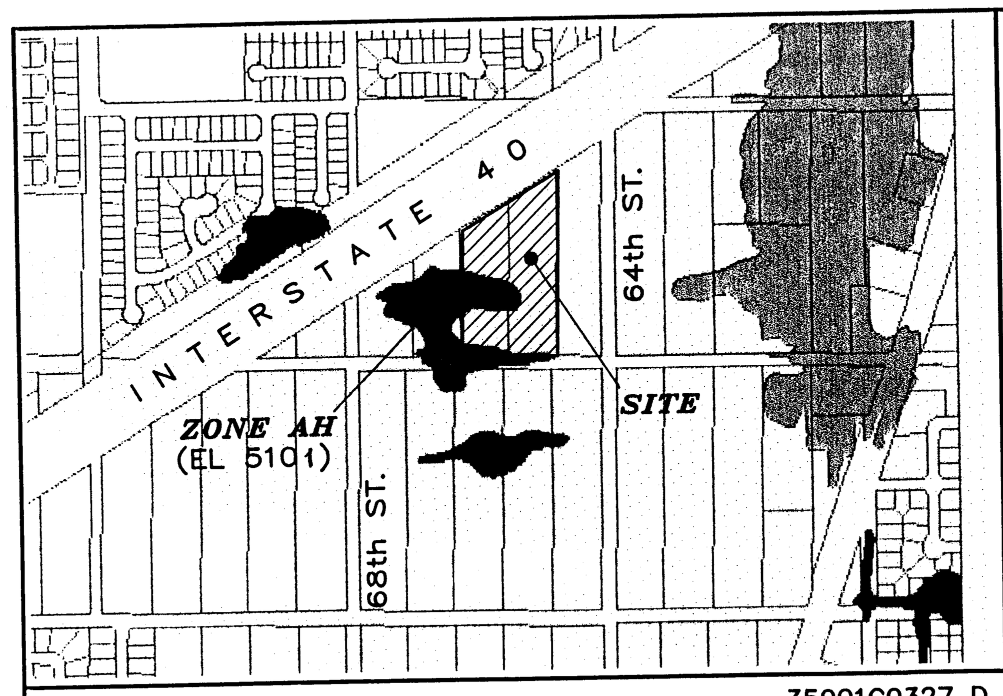
MAP POCKET

AS-BUILT DRAWINGS:

Grading and Drainage Plan For Rush Enterprises

Hanover Road NW / Storm Sewer Improvements
(Extension of the 48" RCP)

Disk With AHYMO Files



FIRM MAP: 35001C0327 D

EROSION CONTROL PLAN
AND POLLUTION PREVENTION NOTES

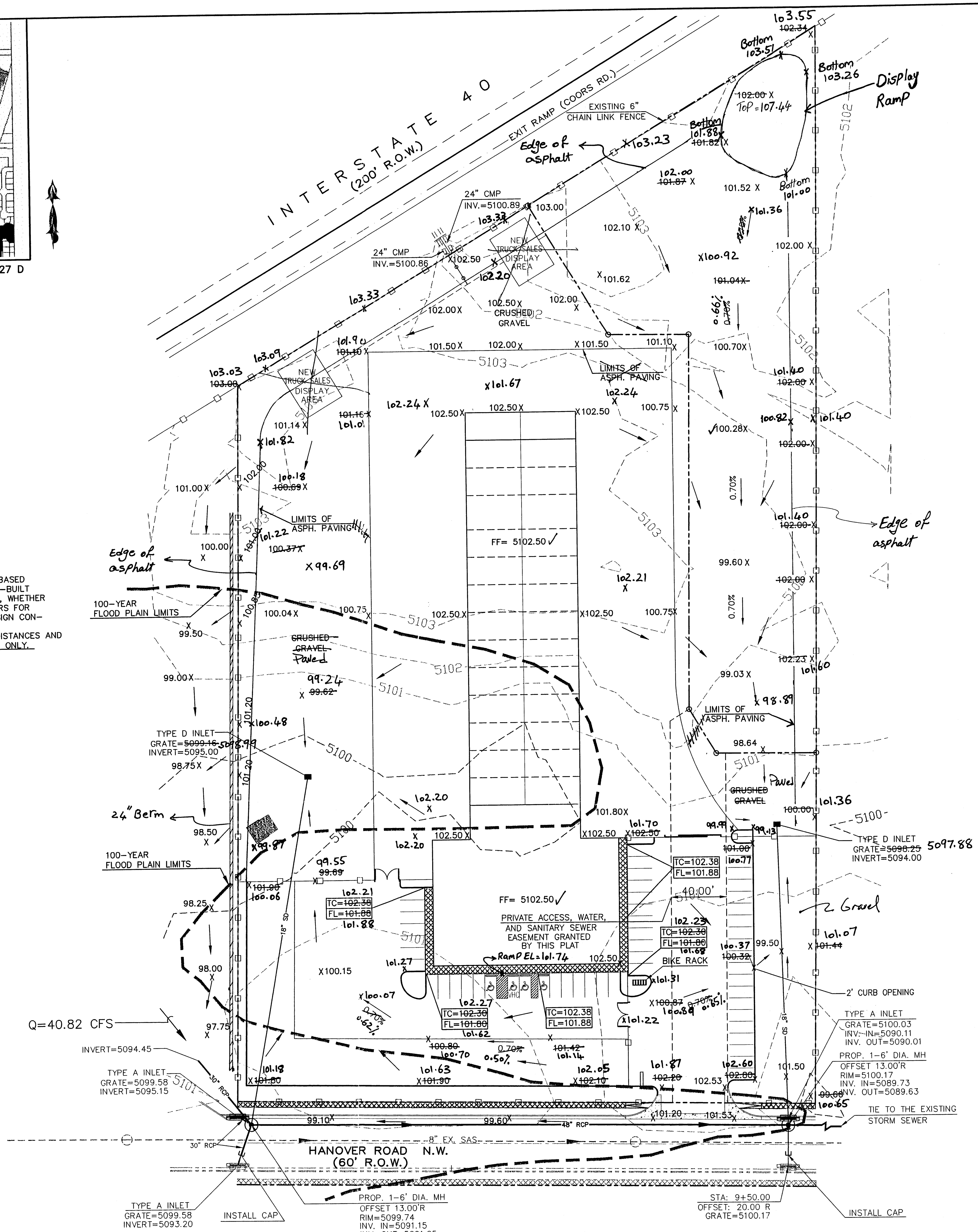
1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT OUT OF EXISTING RIGHT-OF-WAY.
3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL STORM RUNOFF ON SITE.
4. REPAIR OF DAMAGED FACILITIES AND CLEAN-UP OF SEDIMENT ACCUMULATION ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.
6. ALL THE DISTURBED AREAS MUST BE REVEGETATED.

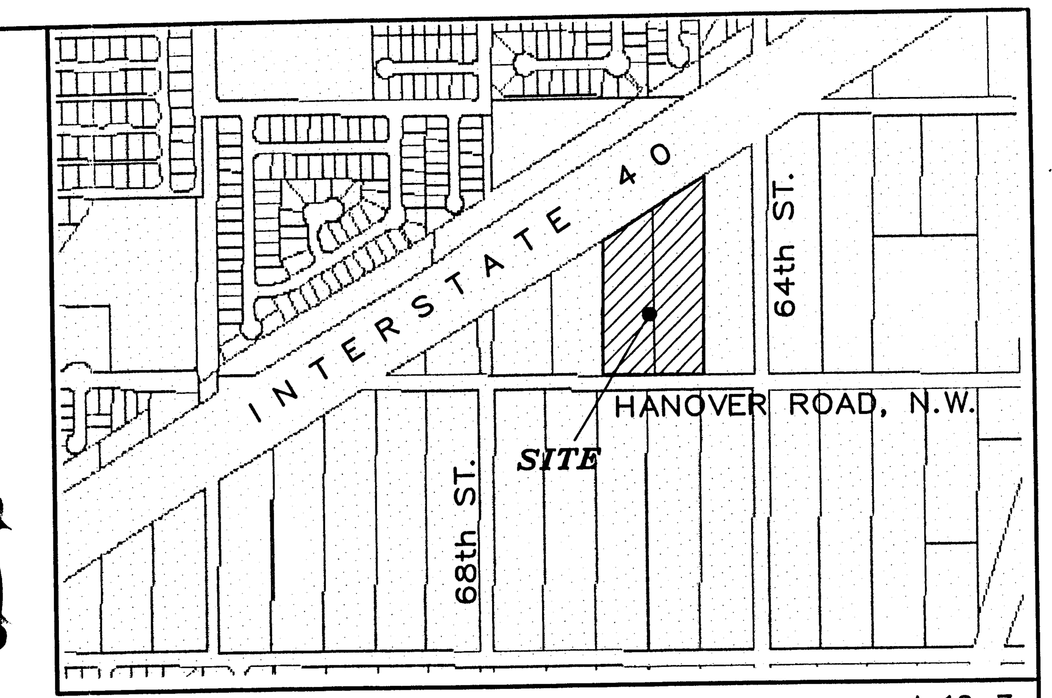
NOTES:

1. EDGE OF THE NEW ASPHALT PAVEMENT
2. MATCH EXISTING GRADE AT THE PROPERTY LINE

GENERAL NOTES:

1: ADD 5100 TO SPOT ELEVATIONS TO SHOW TRUE ELEVATION.
2: CONTOUR INTERVAL IS ONE (1) FOOT.
3: UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/ OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
4: THIS IS NOT A BOUNDARY SURVEY, BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.
5: SLOPES ARE AT 4:1 MAXIMUM.





VICINITY MAP: J-10-Z

LEGAL DESCRIPTION:
PORTION OF TRACT 267 & 268, UNIT 8, TOWN OF ATRISCO GRANT, BERNALILLO CONTAINING 6.2522 ACRE

SITE ADDRESS
HANOVER ROAD

NOTICE TO CONTRACTORS

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 FOR PUBLIC WORKS CONSTRUCTION.

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 CONSTRUCTIONS. 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.

6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

LEGEND

◌	EXISTING SAS MANHOLE
—5100—	EXISTING CONTOUR (MAJOR)
—5101—	EXISTING CONTOUR (MINOR)
———	BOUNDARY LINE
x 5103.00	EXISTING GRADE

I SHAHAB BIAZAR, A REGISTER ENGINEER, CERTIFY THAT THIS PROJECT WAS BUILT IN SUBSTANTIAL COMPLIANCE TO THE APPROVED GRADING PLAN DATED 04/26/2002. THE AS-BUILT GRADES WERE PROVIDED BY ADVANCED ENGINEERING AND CONSULTING, LLC ON FEBRUARY 10, 2003.

GRAPHIC SCALE
40 20 0 40
SCALE: 1"=40'

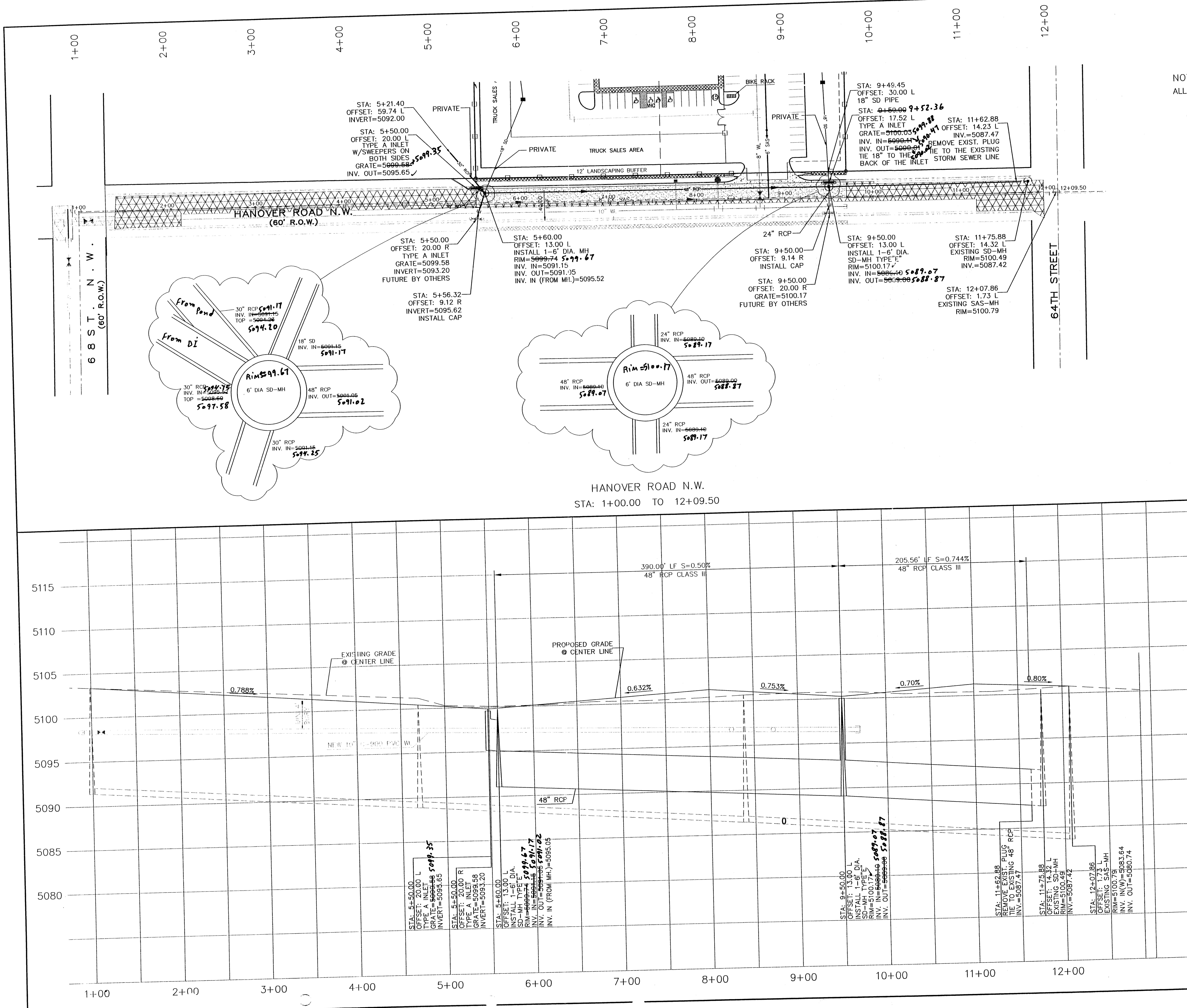
SHAHAB BIAZAR
P.E. #13479

ADVANCED ENGINEERING and CONSULTING, LLC
10205 SNOWFLAKE CT., NW
ALBUQUERQUE, NEW MEXICO 87114
(505)899-5570

RUSH ENTERPRISES
GRADING AND DRAINAGE PLAN

DRAWING:	DRAWN BY:	DATE:	SHEET #
200133-GR.DWG	SIIH	10-11-01	3 OF 5

LAST REVISION: 07-11-02



AS BUILT INFORMATION

CONTRACTOR Joiner Const. Co. Inc.

WORK STAKED BY Advanced Eng.

INSPECTOR'S ACCEPTANCE BY Advanced Eng.

FIELD VERIFICATION BY Advanced Eng.

DRAWINGS CORRECTED BY Advanced Eng.

MICRO-FILM INFORMATION

RECORDED BY | DATE | NO.

BENCH MARKS

ACS "6-J10", FROM INTERSECTION OF I-40 & COORS BLVD., TRAVEL WEST ON I-40 0.81 MILES. THE STATION IS 2.2' SOUTH OF A WIRE FENCE LOCATED ON THE CENTER MEDIAN. (6-J10 1999, 3 1/4" ALUM. CAP) CENTRAL STATION

DATA-NAD 1927, NM STATE PLANE COORDINATES

X=360,389.13

Y=1,492,117.53

Da=-00°16'06"

ELEV=5117.133 NGVD 1929

SURVEY INFORMATION

FIELD NOTES | NO. | BY | DATE

ENGINEER'S SEAL

NEW MEXICO REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS / REMARKS	BY
		DESIGN	

DESIGNED BY SB DATE 5-02

DRAWN BY SB DATE 5-02

CHECKED BY SB DATE 5-02

ADVANCED ENGINEERING and CONSULTING, LLC

10205 SNOWFLAKE CT., NW
ALBUQUERQUE, NEW MEXICO 87114
(505)899-5570

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: *HANOVER ROAD N.W.*
STORM SEWER IMPROVEMENTS

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	MO./DAY/YR.	MO./DAY/YR.
APPROVED JUN 2 6 2002 DESIGN REVIEW COMMITTEE	APPROVED AUG 1 3 2002 CITY ENGINEER		

LAST DESIGN UPDATE

CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF
686281	J-10-Z	6	8