HIGH DESERT

Sector Development Plan

A Master Planned Community Prepared for
High Desert Investment Corporation

Volume One

As Recommended by the Environmental Planning Commission on December 17, 1992;
and amended and adopted by the City of Albuquerque on May 3, 1993.

Amended by the Environmental Planning Commission on August 12, 1994.
Amended by the Environmental Planning Commission and approved by the City of Albuquerque on October 5, 1995.
Amended by the Environmental Planning Commission and approved by the City of Albuquerque on March 19, 1999.

Amended by the Environmental Planning Commission on December 20, 2001

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Case Number SD-91-3, AX-92-8, Z-92-63

High Desert Sector Development Plan

I certify that the area of this plan is zoned SU-2 (Special Use for a Planned Development Area) and that this plan is consistent with the sector plan recommended by the Environmental Planning Commission on December 17, 1992 and adopted by the City Council on May 3, 1993; and that the findings and conditions in the official Notice of Decision; the Annexation Ordinance (R-245); the Adopting Legislation (O-93); subsequent amended Adopting Legislation (R-292); Comprehensive Plan Amendment (R-349); and Sector Development Plan Amendment (R-372) have been complied with.

Richard Dowk 11-09-93

Traffic Engineer, Transportation Division Date

Callum K. Frazer 11-19-93

~~Cultural and Recreational Services Division~~ Parks and General Services Dept. Date

Robert W. Kane 11-9-93

Public Works Water Utilities Division Date

Fred J Aguirre 11-19-93

City Engineer~~ing Division~~ Date

Cliff E. Osborn * Nov 19, 1993

AMAFCA ~~Designee~~ Date

* Subject to letter to James R. Topmiller from AMAFCA dated May 1, 1992 and "Notice of Subdivision Plat Conditions" for PLAT OF HIGH DESERT, 1993.

Approval and Conditional Acceptance, as specified by the Development Process Manual:

Jack Cloud 12-23-93

Albuquerque/Bernalillo County Planning Division Date

CITY of ALBUQUERQUE
TENTH COUNCIL

COUNCIL BILL NO. R-245 ENACTMENT NO. 50-1993

SPONSORED BY: Deborah E. Lattimore

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RESOLUTION

ADOPTING THE HIGH DESERT SECTOR DEVELOPMENT PLAN AS A RANK 3 SECTOR DEVELOPMENT PLAN, ESTABLISHING THE ZONING, AND ADOPTING A DESIGN OVERLAY ZONE, ALL AS SPECIFIED IN THE HIGH DESERT SECTOR DEVELOPMENT PLAN.

WHEREAS, the Council, the Governing Body of the City of Albuquerque, has the authority to adopt plans for physical development within the planning and platting jurisdiction of the City as authorized by New Mexico Statutes and by the City Charter as allowed under home rule provisions of the Constitution of the State of New Mexico; and

WHEREAS, the Council recognizes the need for sector development plans to guide the City, County, other agencies, property owners and other individuals to ensure orderly development and effective utilization of resources; and

WHEREAS, the Council recognizes the need for design guidelines for development of lands which contain highly scenic natural features or physical setting, or have highly significant views; and

WHEREAS, the High Desert Sector Development Plan has been reviewed by the official planning bodies having jurisdiction over the plan area in accordance with the interests and needs of the area residents and property owners as expressed through public meetings; and

WHEREAS, the High Desert Investment Corporation has prepared a sector development plan to guide future development of the plan area by addressing requirements for public services, land use, zoning, and design [illegible]

WHEREAS, the Environmental [illegible] on all matters related to planning, zoning and environmental protection approved [illegible] recommended the adoption of the High Desert Sector Development Plan at

a public hearing on December 18, 1992, finding the plan consistent with the provisions of the Albuquerque/Bernalillo County Comprehensive Plan and other adopted City plans and policies; and

WHEREAS, this plan is a creative and innovative response to development of the last large tract of land within the Sandia Foothills at the edge of urban development; and

WHEREAS, it is appropriate, consistent with this sector development plan, to amend the Comprehensive Plan to designate the area which is known as the Highlands as Semi-Urban Area; and

WHEREAS, the area hereby planned is simultaneously being annexed by action of Bill No. O-93 of the Tenth Council.

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BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE:

Section 1. The High Desert Sector Development Plan, attached hereto is hereby adopted as a Rank 3 sector development plan. All development activities within the plan area shall be guided by this plan.

Section 2. The zone map, adopted by Section 7-14-46.C. R.O. 1974 is hereby amended to reflect the zoning specified in Section IV of the attached High Desert Sector Development Plan.

Section 3. The Design Overlay Zone, as proposed in the attached High Desert Sector Development Plan and recommended for adoption by the Environmental Planning Commission, is hereby mapped reflecting the boundaries of the 165 acre area known as the Highlands shown in Section IV of the attached High Desert Sector Development Plan.

Section 4. The design standards contained in Section IV of the attached High Desert Sector Development Plan are hereby adopted and shall be enforced within the boundaries of the Design Overlay Zone.

Section 5. The 10% slope demarcation line shall be mapped to designate those areas for flood control/recreation open space purposes with the intent of public agencies purchasing these areas or, in the event the land is not purchased by a public agency, development of the land shall be subject to additional policies stated in the High Desert Sector Development Plan.

Section 6. The Trail along Simms Park Access Road shall be provided as described in the attached letter of agreement.

PASSED AND ADOPTED THIS 3rd DAY OF May, 1993.

BY A VOTE OF 8 FOR AND 0 AGAINST.

Yes: 8
Excused: Gallegos

Vincent E. Griego, President
City Council

APPROVED THIS 26th DAY OF May, 1993.

Louis E. Saavedra, Mayor
City of Albuquerque

ATTEST:

City Clerk

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CITY of ALBUQUERQUE
TENTH CO UNCIL

COUNCIL BILL NO. O-93 EN ACTMENT NO. 24-1993

SPONSORED BY: Deborah E. Lattimore

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ORDINANCE

ANNEXING 1.067 ACRES MORE OR LESS, LOCATED GENERALLY EAST OF TRAMWAY BOULEVARD NE BETHEEN THE ALBERT S IMMS PARK ACCESS ROAD AND THE NORTHERN BOUNDARY OF THE GLENHOOD HILLS SUBDIVISION TO THE CITY OF ALBUQUERQUE; AMENDING THE ZONE MAP TO ESTABLIS H SU-2 ZONING INCLUDING DESIGN OVERLAY ZONING.

BE IT ORDAINED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE:

Section 1. AREA PROPOSED FO R ANNEXATION. The owner of a majority. of the area annexed hereby presented a properly signed petition to annex the following territory: 987 acres east of Tramway Boulevard NE between the Albert Simms Park Access Road and the northern boundary of the Glenwood Hills Subdivision a n annexation which is attached hereto as Exhibit A and more particularly described as follows:

A. Tracts I-1, I-2, and Tract J, Elena Gallegos Grant as shown on the plat for annexation purposes which is attached.

B. The Open Space parcels of Unit 1, Glenwood Hills North which consists of approximately 62 acres, as shown on the plat attached (added by the City); and

C. All of the public right of way of Tramway Boulevard as well as the Simms Park Access Road, adjoining the land described on the attached plat which consists of approximately 18 acres (added by the City).

The above described territory, totalling 1.067 acres more or less, is contiguous to the City of Albuqu erque A map of this area is attached as Exhibit A

Section 2. ANNEXATION ACCEPTED. The petition and the are. specified in Section 1 and shown on the attached Exhibit A plat 1· hereby annexed.

Section 3. ZONE MAP AMENDED. The zone map adopted by Article 7-14 R.O. 1974 is hereby amended, establishing SU-2 for various land use categories including Design Overlay Zone, as shown on the attachec Exhibit B and as more fully detailed in the sector development plan adopted by Bill No. R-245 of the Tenth Council.

Section 4. SEVERABILITY CLAUSE. If any section, paragraph, sentence, clause, word or phrase of this ordinance is for any reason held to be invalid or unenforceable by any court of competent jurisdiction, such decision shall not affect the validity of the remaining provisions of this ordinance. The Council hereby declares that it would have passed this ordinance and each section, paragraph, sentence, clause, word or phrase thereof irrespective of any provisior being declared unconstitutional or otherwise invalid.

Section 5. EFFECTIVE DATE AND PUBLICATION. This ordinance shall become effective five or more days after publication in full when a copy of the ordinance and a plat of the territory hereby annexed is filed in the office of the County Clerk.

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PASSED AND ADOPTED THIS 3rd DAY OF MAY, 1993

BY A VOTE OF 8 FOR AND 0 AGAINST.

Yes: 8
Excused: Gallegos

Vincent E. Griego, President
City Council

APPROVED THIS 24th DAY OF May, 1993.

Louis E. Saavedra, Mayor
City of Albuquerque

ATTEST:

City Clerk

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CITY of ALBUQUERQUE
TENTH COUNCIL

COUNCIL BILL NO. R-292 ENACTMENT NO. 73-1993

SPONSORED BY: Deborah E Lattimore/dp

RESOLUTION

REPEALING SECTION 5 OF RESOLUTION 50-1993, CONCERNING THE HIGH DESERT SECTOR PLAN.

WHEREAS, Resolution 50-1993 was adopted by the Council on May 3, 1993; and

WHEREAS, an amendment deleting Section 5 was adopted by the Council but was inadvertently overlooked in the enrolling and engrossing procedure; and

WHEREAS, the Council is desirous of eliminating this clerical error from Resolution 50-1993.

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE:

That Section 5 of Resolution No. 50-1993 is hereby repealed.

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PASSED AND ADOPTED THIS 7th DAY OF June, 1993.

BY A VOTE OF 9 FOR AND 0 AGAINST.

Vincent E. Griego, President
City Council

APPROVED THIS 18th DAY OF JUNE, 1993.

Louis E. Saavedra, Mayor
City of Albuquerque

ATTEST:

City Clerk

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CITY of ALBUQUERQUE
TENTH COUNCIL

COUNCIL BILL NO. R-372 ENACTMENT NO. 155-1993

SPONSORED BY: Deborah E. Lattimore

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RESOLUTION

AMENDING THE HIGH DESERT SECTOR DEVELOPMENT PLAN TO CORRECT A MAPPING ERROR IN LAND USE MAP 10.

WHEREAS, the City adopted the High Desert Sector Development Plan in May of 1993 through Council Resolution 50-1993; and

WHEREAS, the Council has the authority to amend such a sector development plan; and

WHEREAS, a technical error was inadvertently made when Land Use Map 10 was approved without the SU-2 HD-RT zone indicated; and

WHEREAS, it was clearly the intent of the City Council to approve the SU-2 HD-RT zone; and

WHEREAS, the proposed amendment will correct the error that occurred; and

WHEREAS, the Environmental Planning Commission in its advisory role has held a public meeting to seek public input on this amendment and recommends approval.

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE:

Section 1. That the Land Use Map 10 of the High Desert Sector Development Plan is hereby amended to include the SU-2 HD-RT zone as indicated in Exhibit A.

PASSED AND ADOPTED THIS 18th DAY OF OCTOBER, 1993.

BY A VOTE OF: 7 FOR 0 AGAINST.

Yes: 7

Excused: Brasher, Kline

Vincent E. Griego, President
City Council

APPROVED THIS 25th DAY OF October, 1993.

Louis E. Saavedra, Mayor
City of Albuquerque

ATTEST:

City Clerk

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CITY of ALBUQUERQUE
TENTH COUNCIL

COUNCIL BILL NO. R-349 ENACTMENT NO. 150-1993

SPONSORED BY: Deborah E Lattimore By Request

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RESOLUTION

AMENDING THE ALBUQUERQUE/BERNALILLO COUNTY COMPREHENSIVE PLAN MAP TO REMOVE THE DESIGNATION OF MAJOR PUBLIC OPEN SPACE FOR A PORTION OF TRACT I-2, HIGH DESERT SUBDIVISION.

WHEREAS, the 165-acre tract, a portion of Tract I-2, High Desert Subdivision, is not to be purchased for open space; and

WHEREAS, the designation as Major Public Open Space is no longer appropriate; and

WHEREAS, appropriate consideration by the Open Space Advisory Board as to purchase of the subject property has been given; and

WHEREAS, appropriate annexation and zoning policies have been followed concerning the 165-acre tract known as the Highlands.

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE:

That the Albuquerque/Bernalillo County Comprehensive Plan map be amended to remove the designation of Major Public Open Space for a portion of Tract I-2, High Desert Subdivision.

PASSED AND ADOPTED THIS 4th DAY OF OCTOBER, 1993.

BY A VOTE OF: 8 FOR 0 AGAINST.

YES: 8

EXCUSED: GUBBELS

Vincent E. Griego, President
City Council

APPROVED THIS 14th DAY OF October, 1993.

Louis E. Saavedra, Mayor
City of Albuquerque

ATTEST:

City Clerk

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

Date: August 12, 1994

OFFICIAL NOTIFICATION OF DECISION

High Desert Investment Corp.
P.O. Box 91976
Albuq., NM; 87199

FILE: SD-91-3-1/Z-94-98
LEGAL DESCRIPTION: Tract Zaia, High Desert Subdivision, located east of Tramway Boulevard NE between Academy Road NE and Spain Road NE, containing approximately 6.8 acres. (F-23) KYM DICOME, CASE PLANNER

On August 11, 1994 the Environmental Planning Commission voted to approve SD-91-3-1, your request for an amendment to the High Desert Sector Development Plan based on the following findings:

Findings: Sector Development Plan:

1. This is a request for an amendment to the High Desert Sector Development Plan. This amendment will consist of changing the land use designation of this site from SU-2 HD/R-LT to SU-2 HD/R-T on the Land Use Map and changing the acreage and density of the SU-2 HD/R-LT to SU-2 HD/R-T on the Land Use Allocation Table. The number of units allowed in each land use category and the total number of units allowed on the entire plan area will not change.

2. The sector development plan amendment will allow for more variety in the types of housing which will accommodate more social diversity. This is one of the main goals of the High Desert Sector Development Plan.

On August 11, 1994, the Environmental Planning Commission voted to approve Z-94-98, your request for a zone map amendment from SU-2 HD/RLT to SU-2 HD/R-T based on the following findings:

Findings: Zone Map Amendment:

1. This is a request for a zone map amendment from SU-2 HD/R-LT to SU-2 HD/R-T for a 6.8 acre tract of land in the High Desert Master Planned Community.

2. There will be no increase in the number of units for the entire Plan area nor will there be a change in the maximum number of units allowed in each land use category. This finding should address any concerns of the Parks & General Services and Transportation Development.

3. The zone change will allow for more variety in the types of housing which will accommodate more social diversity. This is one of the main goals of the High Desert Sector Development Plan and the Comprehensive Plan.

4. The zone change meets the requirements of Resolution 270-1980 as articulated in Comprehensive Plan Policies B.5.d and in that a variety of housing types is more advantageous to the community.

IF YOU WISH TO APPEAL THIS DECISION, YOU MUST DO SO BY AUGUST 26, 1994, IN THE MANNER DESCRIBED BELOW. A NON-REFUNDABLE FILING FEE OF $50 IS REQUIRED AT THE TIME THE APPEAL IS FILED.

Appeal to the City Council: Persons aggrieved with any determination of the Environmental Planning Commission acting under this ordinance and who have legal standing as defined in Section 7-14-45.B.2.c of the City of Albuquerque Comprehensive Zoning Code may file an appeal to the City Council by submitting written application on the Planning Division form to the Planning Division within 15 days of the Planning Commission's decision. The date the determination in question is issued is not included in the 15-day period for filing an appeal, and if the fifteenth day falls on a Saturday, Sunday or holiday as listed in the Merit System Ordinance, the next working day is considered as the deadline for filing the appeal. The City Council may decline to hear the appeal if it finds that all City plans, policies and ordinances have been properly followed. If it decides that all City plans, policies and ordinances have not been properly followed, it shall hear the appeal. Such appeal, if heard, shall be heard within 45 days of its filing.

YOU WILL RECEIVE NOTIFICATION IF ANY OTHER PERSON FILES AN APPEAL. IF THERE IS NO APPEAL, YOU CAN RECEIVE BUILDING PERMITS AT ANY TIME AFTER THE APPEAL DEADLINE QUOTED ABOVE, PROVIDED ALL CONDITIONS IMPOSED AT THE TIME OF APPROVAL HAVE BEEN MET. SUCCESSFUL APPLICANTS ARE REMINDED THAT OTHER REGULATIONS OF THE CITY MUST BE COMPLIED WITH, EVEN AFTER APPROVAL OF THE REFERENCED APPLICATION(S).

Sincerely,

for Rex King
Acting Planning Director

RK/KB/lq

15732

cc: Herbert Denish & Assoc., P.O. Box 2001, Albuq. NM 87103
Don Priola, John B. Robert Neigh. Assoc., 12517 Royal Winslow Pl., Albuq. NM 87111
Donna Skeels Cygan, John B. Robert Neigh. Assoc., 5501 Camino Arbustos NE, Albuq. NM 87111

CITY of ALBUQUERQUE
ELEVENTH COUNCIL

COUNCIL BILL NO. R-298 ENACTMENT NO. 118-1995

SPONSORED BY: Deborah E. Lattimore, by request

RESOLUTION

AMENDING THE HIGH DESERT SECTOR DEVELOPMENT PLAN CHANGING THE ZONING FOR A PORTION OF LOT 14, HIGH DESERT SUBDIVISION, CONSISTING OF APPROXIMATELY 16 ACRES, FROM SU-2 HD/RT TO SU-2 HD/R-1 AND CHANGING THE ZONING FOR A PORTION OF LOT 2A-1C$_1$, HIGH DESERT SUBDIVISION, CONSISTING OF APPROXIMATELY 20 ACRES, FROM SU-2 HD/R-LT TO SU-2 HD/RT.

WHEREAS, the City adopted the High Desert Sector Development Plan on May 3, 1993 through Council Bill R-245; and

WHEREAS, the Council has the authority to amend such a sector development plan; and

WHEREAS, the amendments would not effect the maximum number of units allowed for the entire area as outlined in the sector plan; and

WHEREAS, the zone changes meet the requirements of Resolution 270-1980 as articulated in Policy D.5.d of the Comprehensive Plan and provides a variety of housing types which is more advantageous; and

WHEREAS, the Environmental Planning Commission, it its advisory role has held a public meeting to seek public input on this amendment and recommends approval.

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE:

Section 1. That the Land Use Table 3.A of the High Desert Sector Development Plan be revised to reflect the changes proposed in Exhibit "A" attached hereto.

Section 2. That the Zoning/Land Use Plan (Map 10) of the High Desert Sector Development Plan be revised to reflect the zone changes of the effected properties.

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PASSED AND ADOPTED THIS 18th DAY OF September,

1995

BY A VOTE OF: 6 FOR 0 AGAINST.

Yes: 6

Excused: Brasher, Griego, Robbins

Vincent E. Griego, President
City Council

APPROVED THIS 5th DAY OF October, 1995

Martin J. Chavez, Mayor
City of Albuquerque

ATTEST:

City Clerk

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CITY of ALBUQUERQUE
ELEVENTH COUNCIL

COUNCIL BILL NO. R-299 ENACTMENT NO. 119-199

SPONSORED BY: Deborah E. Lattimore, by request

RESOLUTION

AMENDING THE HIGH DESERT SECTOR DEVELOPMENT PLAN REVISING THE TE
TO DELETE REFERENCES TO LOT SIZE AND WIDTH RESTRICTIONS IN THE SU
HD/RT ZONE AND TO DELETE THE REFERENCE TO BUILDING ENVELOPES IN T
SU-2/RLT ZONE.

WHEREAS, the City adopted the High Desert Sector Development Plan on M
3, 1993 through Council Bill R-245; and

WHEREAS, the Council has the authority to amend such a sector developm
plan; and

WHEREAS, the text amendments constitute minor design issues and will
effect the intent of the High Desert Sector Development Plan; and

WHEREAS, the Environmental Planning Commission, in its advisory role has h
a public meeting to seek public input on this amendment and recommends approv

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY
ALBUQUERQUE:

Section 1. That on page 4.2 under Section 4.A.2 (SU-2 HD/R-LT) of the Hi
Desert Sector Development Plan, Exception 6 and 9 shall be deleted and the remaini
shall be sequentially renumbered.

Section 2. That on page 4.2 under Section 4.A.3 (SU-2 HD/R-T) of the Hi
Desert Sector Development Plan, Exception 5 shall be deleted and the remaining sh
be sequentially renumbered.

Section 3. That on page 3.3 under the SU-2 HD/R-T zone category of the Hi
Desert Sector Development Plan, any reference to "building envelopes" shall
deleted.

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PASSED AND ADOPTED THIS 18th DAY OF September, 1995

BY A VOTE OF: 6 FOR 0 AGAINST.

Yes: 6

Excused: Brasher, Griego, Robbins

Vincent E. Griego, President
City Council

APPROVED THIS 5th DAY OF October, 1995

Martin J. Chavez, Mayor
City of Albuquerque

ATTEST:

City Clerk

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CITY of ALBUQUERQUE
THIRTEENTH COUNCIL

COUNCIL BILL NO. R-168 ENACTMENT NO. 36-1999

SPONSORED BY: Tim Cummins, by request

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RESOLUTION

AMENDING HIGH DESERT SECTOR DEVELOPMENT PLAN TO CHANGE THE REGULATIONS OF THE PLAN'S SU-2 HD/C-1 ZONE, A 26.9 ACRE AREA (SECTION 4.A.5, p. 4.2), TO, 1) ALLOW THE SALE OF ALCOHOLIC DRINK FOR CONSUMPTION OFF PREMISE (PACKAGE LIQUOR) AS AN INCIDENTAL USE LOCATED WITHIN A GROCERY STORE AND, 2) INCREASE THE ALLOWABLE NET LEASABLE SQUARE FEET OF RETAIL SALES AND SERVICE USES FROM 50,000 TO 65,000 SQUARE FEET.

WHEREAS, the City adopted the High Desert Sector Development Plan in May, 1993 through Council Bill R-245, Enactment 50-1993; and

WHEREAS, the Council has the authority to not only adopt but amend such a sector development plan; and

WHEREAS, the Plan established the current pattern of land use for an area containing approximately 1,067 acres; and

WHEREAS, on November 19, 1998, the Environmental Planning Commission, in its advisory role on land use and planning matters, recommended approval of an amendment to the High Desert Sector Development Plan, to the City Council with findings that include that the requested amendment would increase the viability of the commercial zoning and help implement the intent of the High Desert Sector Development Plan for the commercial component of the community center area; and

WHEREAS, the SU-2 HD/C-1 zone covers the 26.9 acre community center area, the amendment affects only the commercial portion of the

community center, the 7.3 acre tract 8A; and

WHEREAS, the increase from 50,000 to 65,000 square feet for allowable commercial space would result in an FAR of .20 for the 7.3 acre commercial area and this represents a relatively low intensity of development; and

WHEREAS, development of the neighborhood commercial center would give the community a degree of self sufficiency and would reduce vehicle trips outside the community as intended by the High Desert Sector Development Plan; and

WHEREAS , the proposed amendment would not be harmful to the surrounding High Desert community; and

WHEREAS, the Environmental Planning Commission found the Sector Plan Amendment request was in conformance with all applicable plans including the Albuquerque/Bernalillo County Comprehensive Plan; therefore,

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE:

1. That Section 4.A.5:1 of the High Desert Sector Development Plan is amended to read as follows:

'1. The sale of alcoholic drink for consumption off premises, as an incidental use within a grocery store, is permissive.'

2. That Section 4.A.5:5. of the High Desert Sector Development Plan is amended to read as follows:

'5. A maximum of 65,000 net leasable square feet of retail sales and service uses is permissive.'

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PASSED AND ADOPTED THIS 1ST DAY OF MARCH, 1999

BY A VOTE OF 7 FOR AND 1 ABSTAIN.

Yes: 7
Abstain: Cummins
Excused: Adams

Vincent E. Griego, Pre sident
City Council

APPROVED THIS 19th DAY OF March, 1999

Jim Baca, Mayor
City of Albuquerque

ATTEST:

City Clerk

Bill No. R-168

Underscored Material - New
[Bracketed Material] - Deletion

City of Albuquerque
Planning Department
Development Services Division
P.O. Box 1293
Albuquerque, New Mexico 87103

Date: December 21, 2001

OFFICIAL NOTIFICATION OF DECISION

FILE: 01138-01553 (Project #1001566)

High Desert Investment Corp
c/o Doug Collister
13000 Academy NE
Albuquerque, NM 87111

LEGAL DESCRIPTION: Request an amendment to the High Sector Development Plan for a portion of Tract 15D1B1C, Desert Highlands at High Desert, zoned SU-2; HD/R-1 and located on Simms Park Road, NE between Tramway Boulevard NE and Cibola National Forest, containing approximately 9.32 acres. (E-24) Simon Shima, Staff Planner

On December 20, 2001, the Environmental Planning Commission voted to approve 01138-01553, an amendment to the High Sector Development Plan, based on the following Findings and subject to the following Conditions:

FINDINGS:

1. This is a request to amend portions of the text of the High Desert Sector Development Plan regarding a visual screening of structures as contained in Section 4.B.4: Highlands Design Overlay Zone, Building Height and Screening;

2. The amendment would apply specifically and exclusively to the property of approximately 9.3 acres in size, located adjacent to the Forest Service Lands to the north and to the east, as identified on the summary page map of the staff report;

3. The single most substantive amendment involved in the request would be to require native landscaping in lieu of the constructed berm as a visual screening device in order to minimize the adverse visual impact of residential structures on the approach to Simms Park;

4. The existing Sector Plan regulation requires that 100% of the view of the north wall of any building not exceeding the straight view line 9 feet above the average natural grade be blocked by topography and the constructed berm, and a minimum of 50 % of the view of the north wall of any building where the straight view line exceeds 9 feet above the average natural grade be obscured by native landscaping, respectively, from Simms Park Road;

5. The proposed amendment would require that an overall minimum of 75% of the view of any improvement including any building or non-native landscaping, at the north line of the building envelope not exceeding the straight view line 16 feet above the average natural grade be blocked from Simms Park Road by topography and native landscaping;

6. As illustrated in Visual Simulation Screening Options as submitted by the applicant, the proposed native landscaping would be more effective as a screening device and more visually pleasing than the constructed berm as required under the existing Sector Plan regulation;

7. Contrary to the applicable goals and policies of the Comprehensive Plan and the Sector Plan, the constructed berm of substantial heights and widths as required to meet the screening requirements under the existing topographic conditions, would destroy the existing vegetation under and adjacent to the constructed berm and would also adversely affect the existing drainage system, thereby rendering adverse environmental impacts;

8. The proposed native landscaping, on the other hand, would rather enhance the existing visual and environmental qualities; and

9. The proposed amendment would achieve and implement the applicable goals and policies of the Comprehensive Plan and the High Desert Sector Development Plan, respectively, more effectively than the existing Sector Plan regulation;

10. Pursuant to the Zoning Code provision under Section 14-16-2-23 (B)(2)(b), the Environmental Planning Commission has the final authority to act on the subject sector development plan amendment.

CONDITIONS:

1. Certain language contained in the amendment be changed as recommended by staff and as indicated on pages 6 through 7 of the staff report.

IF YOU WISH TO APPEAL THIS DECISION, YOU MUST DO SO BY **JANUARY 4, 2002** IN THE MANNER DESCRIBED BELOW. A NON-REFUNDABLE FILING FEE WILL BE CALCULATED AT THE LAND DEVELOPMENT COORDINATOR COUNTER AND IS REQUIRED AT THE TIME THE APPEAL IS FILED.

Appeal to the City Council: Persons aggrieved with any determination of the Environmental Planning Commission acting under this ordinance and who have legal standing as defined in Section 14-16-4-4.B.2 of the City of Albuquerque Comprehensive Zoning Code may file an appeal to the City Council by submitting written application on the Planning Department form to the Planning Department within 15 days of the Planning Commission's decision. The date the determination in question is issued is not included in the 15-day period for filing an appeal, and if the fifteenth day falls on a Saturday, Sunday or holiday as listed in the Merit System Ordinance, the next working day is considered as the deadline for filing the appeal. The City Council may decline to hear the appeal if it finds that all City plans, policies and ordinances have been properly followed. If it decides that all City plans, policies and ordinances have not been properly followed, it shall hear the appeal. Such appeal, if heard, shall be heard within 45 days of its filing.

YOU WILL RECEIVE NOTIFICATION IF ANY OTHER PERSON FILES AN APPEAL. IF THERE IS NO APPEAL, YOU CAN RECEIVE BUILDING PERMITS AT ANY TIME AFTER THE APPEAL DEADLINE QUOTED ABOVE, PROVIDED ALL CONDITIONS IMPOSED AT THE TIME OF APPROVAL HAVE BEEN MET. SUCCESSFUL APPLICANTS ARE REMINDED THAT OTHER REGULATIONS OF THE CITY MUST BE COMPLIED WITH, EVEN AFTER APPROVAL OF THE REFERENCED APPLICATION(S).

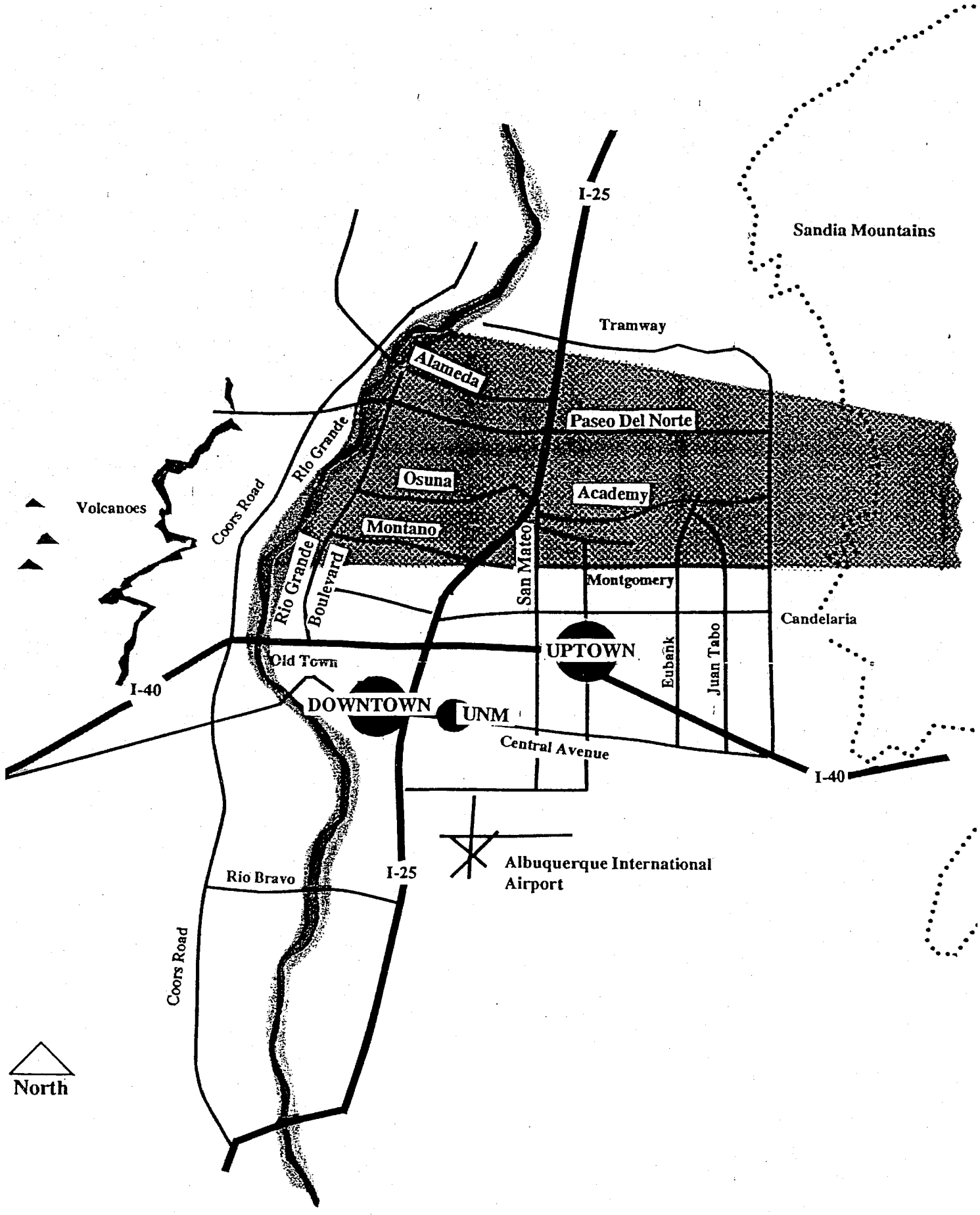
Successful applicants should be aware of the termination provisions for Site Development Plans specified in Section 14-16-3-11 of the Comprehensive Zoning Code. Generally plan approval is terminated 7 years after approval by the EPC.

Sincerely,

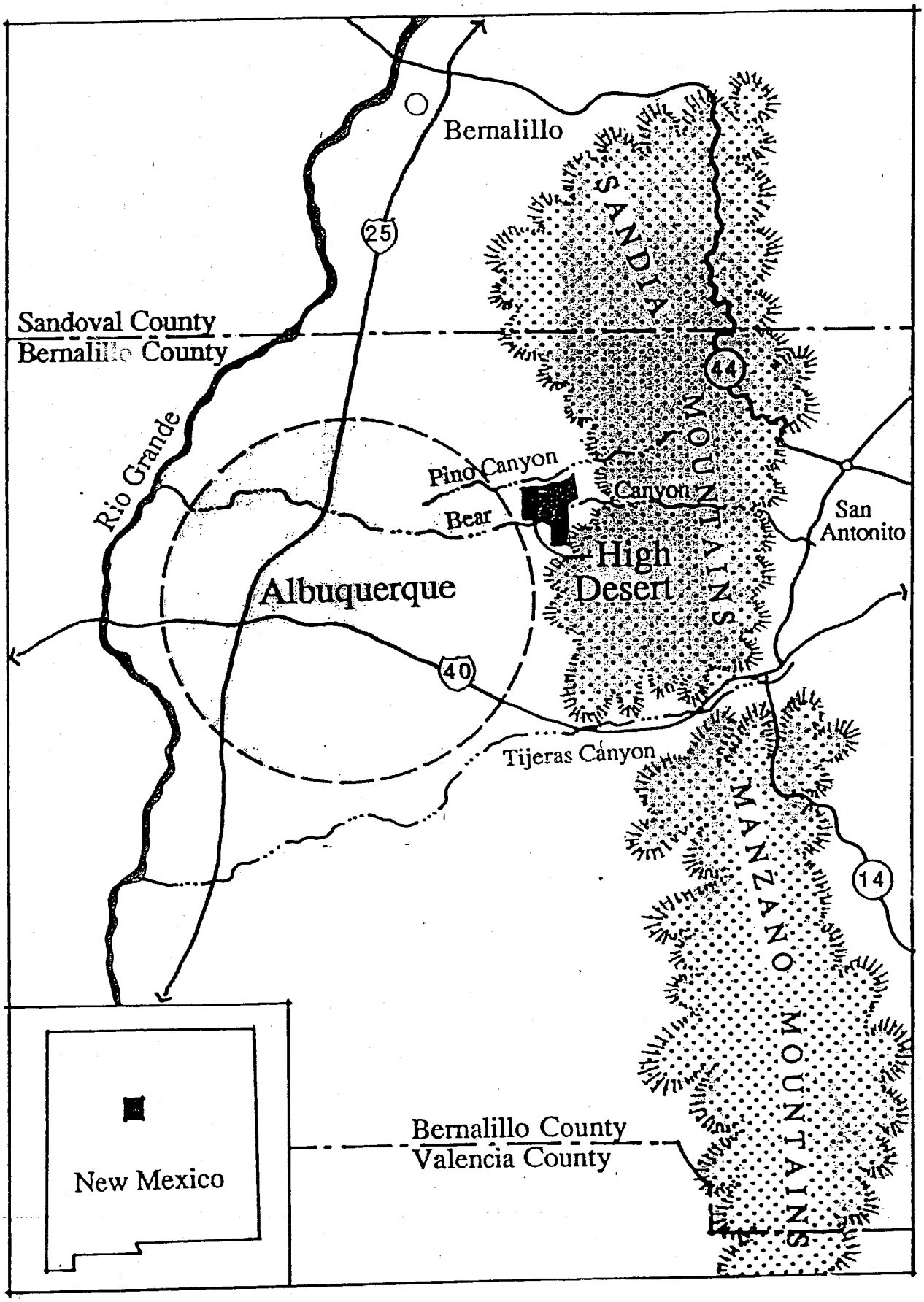
David Steele
Acting Planning Director

DS/SS/nat

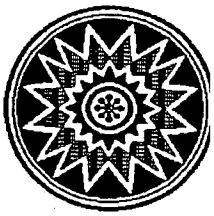
cc: Lawrence Kline, Herb Denish & Associates, Inc., P.O. Box 2001, Albuq., NM 87103



Map #1 - The Elena Gallegos Land Grant in 1716



MAP 2: Site Vicinity



HISTORY

In July 1982 the preservation of thousands of acres of mountain land as open space and wilderness area was ensured when the Albuquerque Academy conveyed 7,761 acres of land on the west face of Sandia Mountain to the City of Albuquerque. This section is a brief history.....

Elena Gallegos a Albert Simms

The land now known as the Elena Gallegos Grant was gifted by the Crown of Spain to Diego Montoya in 1694. Through the office of the Governor and Captain General, Diego Montoya transferred title to his cousin, Elena Gallegos, in 1716. The grant covered a wide swath of land (Map 1) which extended from the Rio Grande to the crest of the Sandias and originally totalled over thirty thousand acres.

Elena Gallegos died in 1731, bequeathing most of the land to her only son. The land was subsequently divided and handed down by succeeding generations. A portion of the original grant, which included the acreage the Academy sold to the City, was acquired in 1934 by Albert G. Simms and his wife, Ruth Hanna McCormick Simms. Mr. Simms was a rancher, financier, United States Congressman and a founder of Albuquerque National Bank. He died in 1964, bequeathing the land in trust to the Academy.

The Simms Trust

This gift from Mr. Simms comprised approximately 9,000 acres of the total of 13,000 acres given in trust to the school, and extended from Tramway Boulevard to the crest of the Sandia Mountains. The income from sale of the Trust land was directed to the endowment of Albuquerque Academy. Originally, control of the Trust was in the hands of co-trustees. The Board of the Academy had little influence and no control over the disposition and ultimate usage of the properties the Trust sold. To establish better control over its future and to ensure the responsible planning and management of this special land, in 1978 the Academy itself purchased all of the remaining land (8,931 acres) from the Trust.

The City and The Federal Government

In 1980, the Academy negotiated a two year option to convey approximately 7,700 acres of this land for open space, wilderness area, and parkland. 640 acres were designated as City open space, (now Simms Park) and the remainder was to be acquired by the Federal government for National Forest Service and Wilderness land. In consideration of academic needs, the Academy retained ownership of 270 acres known as the Bear Canyon Scenic Easement, where experiential education programs are held. The easement restrictions ensure these lands will never be developed.

Negotiations went on for over two years as the City sought funding to acquire the land, which had at that time a total value of $24.5 million, as determined by a federally-contracted appraisal. The Academy agreed to freeze the price during the two years of negotiations.

The United States Congress

The transaction was dependent initially on Congress appropriating up to $20 million to finance the purchase of the land. The balance was to come from the City and State. In March of 1981, it became apparent that neither Congress nor the Administration would appropriate the necessary funds, and the City began to seek other financial resources. The New Mexico State Legislature appropriated one million dollars for the City to use toward the purchase of the property.

Nature Conservancy

In 1981, in an effort to help the stalled transaction, the Nature Conservancy, with federal and local officials, proposed a land trade_involving federal properties scattered throughout New Mexico. Although the Academy agreed to consider a land-swap, the increasingly complex exchange found the City unable to complete the transaction before the two-year option expired in February 1982.

The Academy granted an extension to the City to close the transaction. In March 1982, the City Council voted to fund most of the purchase price through the issuance of bonds supported by a temporary 1/4 cent increase of the gross receipts tax, which went into effect that July. The temporary tax increase was widely supported by citizens of Albuquerque eager to see this and other lands brought into the public domain.

Conveyance

On July 2, 1982, the transaction was completed. Albuquerque Academy transferred 7,760 acres of land to the City of Albuquerque. The City then traded 7,120 of those acres to the federal government; this portion became part of the Cibola National Forest and Sandia Wilderness. A small portion of this acreage was reserved by the City as a water reservoir storage site, along with service road and water line easements. The federal government in turn conveyed to the City approximately 20,000 acres of Bureau of Land Management (BLM) land and other surplus federal land in New Mexico as payment. The Academy retains 20% of the excess proceeds from the sale of these properties.

Retained Lands

In final measure, the Academy retained ownership of approximately 1000 acres directly to the east of Tramway Boulevard to develop at some point in the future. It is made quite clear by the 1982 purchase agreement that this property was retained for development:

> "The Academy is planning to develop the Retained Property. The City will cooperate with the Academy to permit development on the Retained Property consistent with orderly planning, including, without limitation, the construction of a reservoir as discussed herein, the approval of proper zoning for the development, the supplying of normal municipal services, including water and sewer services, and the approval of reasonable density requirements on those parcels on which dwelling units will be constructed, all subject to annexation and regular capital improvements programming."

Since the Transaction....

Since the transaction, the Academy has from time to time assessed the developability of the land against the fulfillment of its financial needs, knowing that the development of the property would eventually be necessary. That time has arrived. The school is prepared to undertake a high-quality, environmentally sensitive development to strengthen the endowment of the Academy, ensure the future of the school, and provide future generations the same quality education that is presently offered.

Founding of Albuquerque Academy

Albuquerque Academy was founded in 1955 by William B.S. Wilburn and incorporated as a nonprofit corporation in New Mexico in 1956. The Academy is fully accredited by the State of New Mexico to provide education in Grades 6 through 12.

Formation of High Desert Investment Corporation

In June 1991, the Board of Trustees of the Academy authorized the formation of High Desert Investment Corporation, a wholly-owned "for-profit" subsidiary charged with preparing the Academy's land east of Tramway Boulevard for development. Control over the subsidiary reflects the deep environmental concern of the Academy Trustees, particularly, that the development be of the highest possible quality, and that the Academy's nearby Bear Canyon Scenic Easement Property continue to be protected and serve its role as an experiential education center.

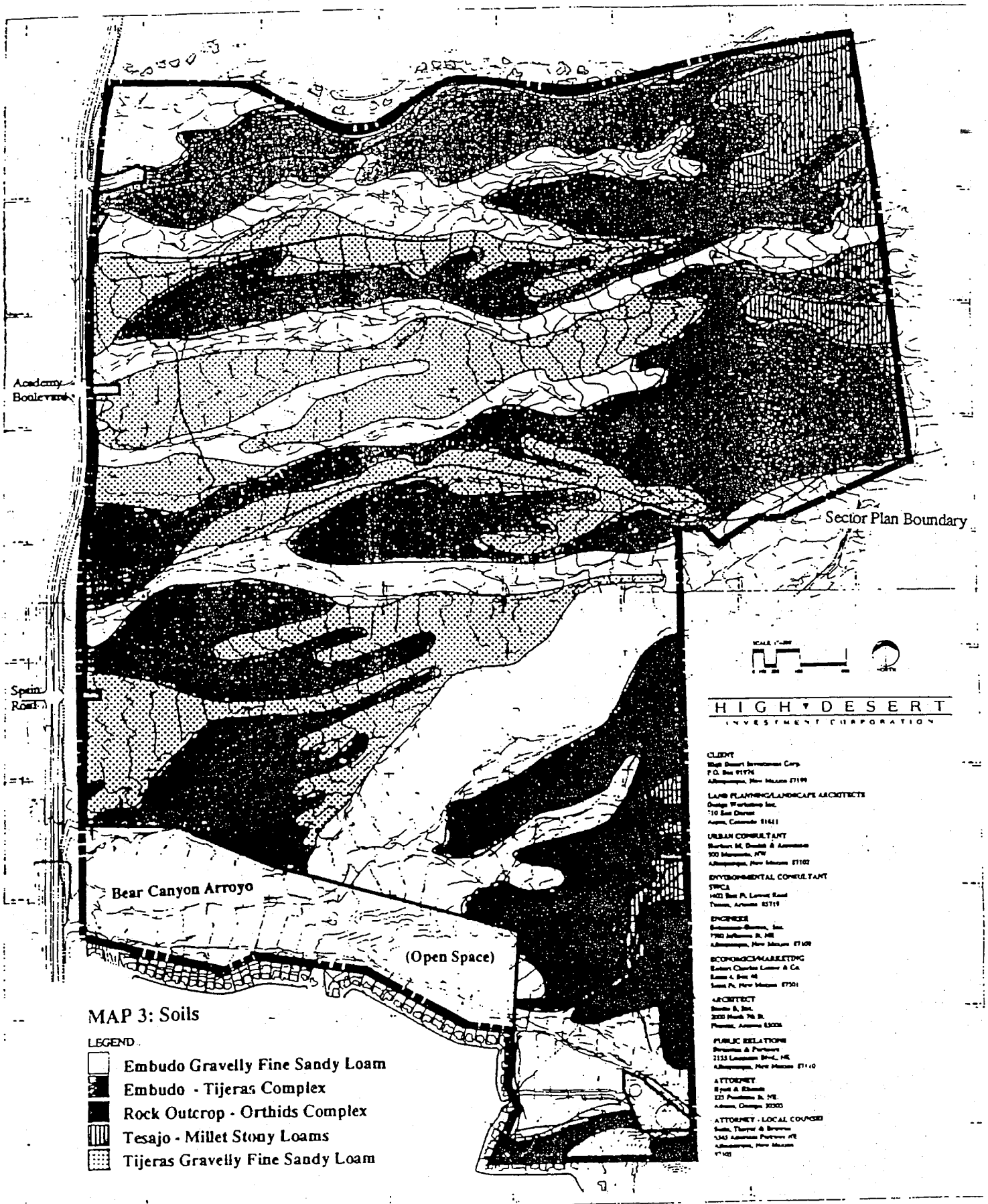
High Desert Investment Corporation's approach to the development of the land is a reflection of Albuquerque Academy's continuing concern for the environment. The Academy, and High Desert, intend to make a major contribution to the quality of life in the community by setting the standard for environmentally sound planning in Albuquerque.

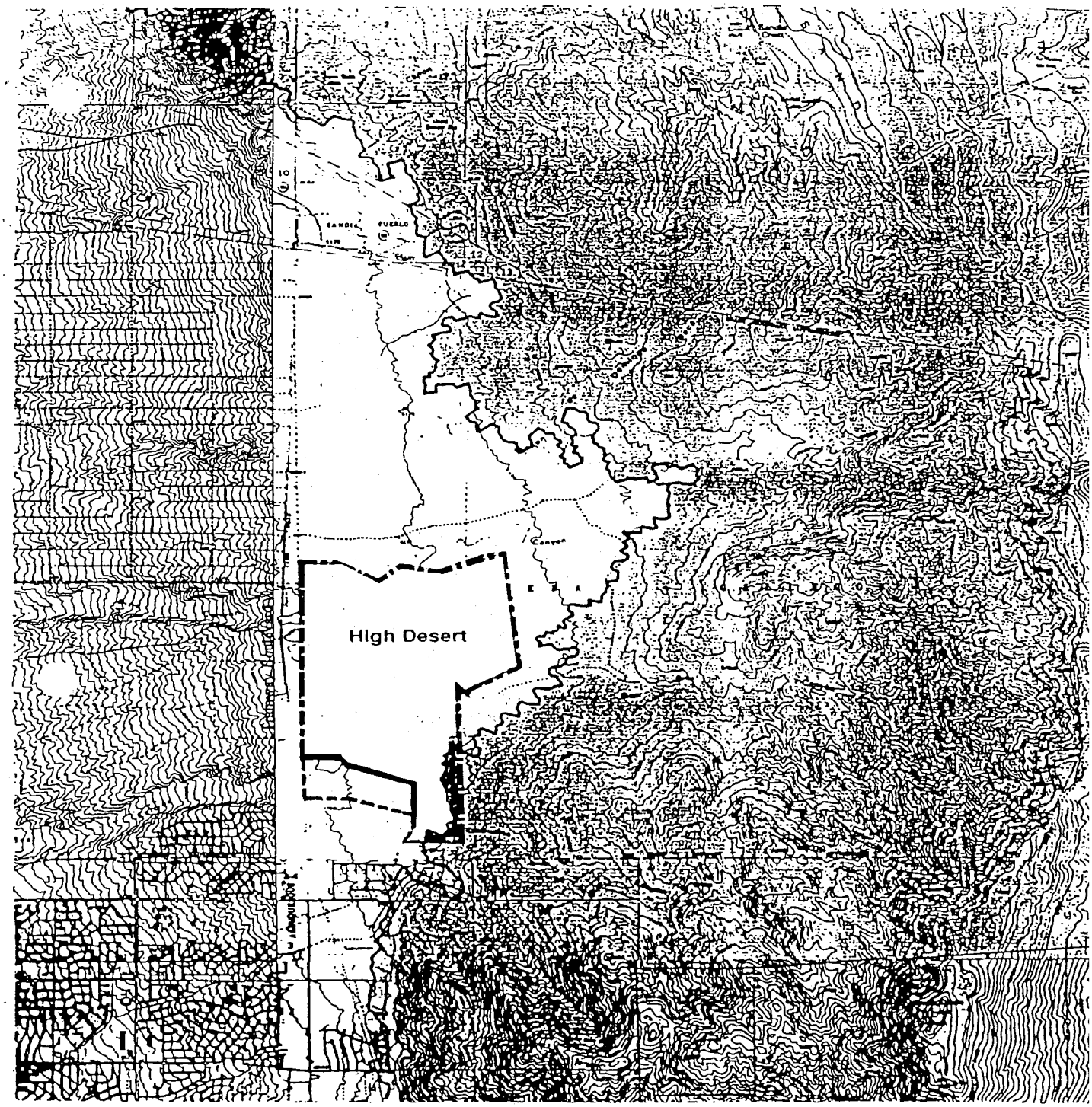
High Desert Investment Corporation's proposal for the site exceeds typical development practices by voluntarily undertaking an environmental evaluation which examines a wide range of issues including a complete survey of plants and wildlife, soil and topography, hydrology and water quality, drainage, archaeological sites, and much more.

The Academy Family

Students, faculty members, alumni, parents, and the administration have been active participants in the project since its inception. Students and faculty members have participated in all the design charettes from which the plan was derived, and have performed research contributing to the plan. Members of the school administration serve both the school and High Desert, so that the interests of each can be known to the other. And, through newsletters and open houses, parents and many other citizens not affiliated with the Academy have had a part in the development of this plan.

As an institution, Albuquerque Academy must be a model for the values and standards it aspires to teach. Just as the Academy is concerned about the development of its students into thinking, caring citizens, it has a deep concern for the way in which our community functions and evolves. The High Desert development will be an expression of that caring.


Academy Boulevard
Spain Road
Sector Plan Boundary
Bear Canyon Arroyo
(Open Space)
HIGH DESERT
INVESTMENT CORPORATION
CLIENT
LAND PLANNING/LANDSCAPE ARCHITECTS
URBAN CONSULTANT
ENVIRONMENTAL CONSULTANT
ENGINEER
ECONOMICS/MARKETING
ARCHITECT
PUBLIC RELATIONS
ATTORNEY
ATTORNEY - LOCAL COUNSEL
MAP 3: Soils
LEGEND
Embudo Gravelly Fine Sandy Loam
Embudo - Tijeras Complex
Rock Outcrop - Orthids Complex
Tesajo - Millet Stony Loams
Tijeras Gravelly Fine Sandy Loam

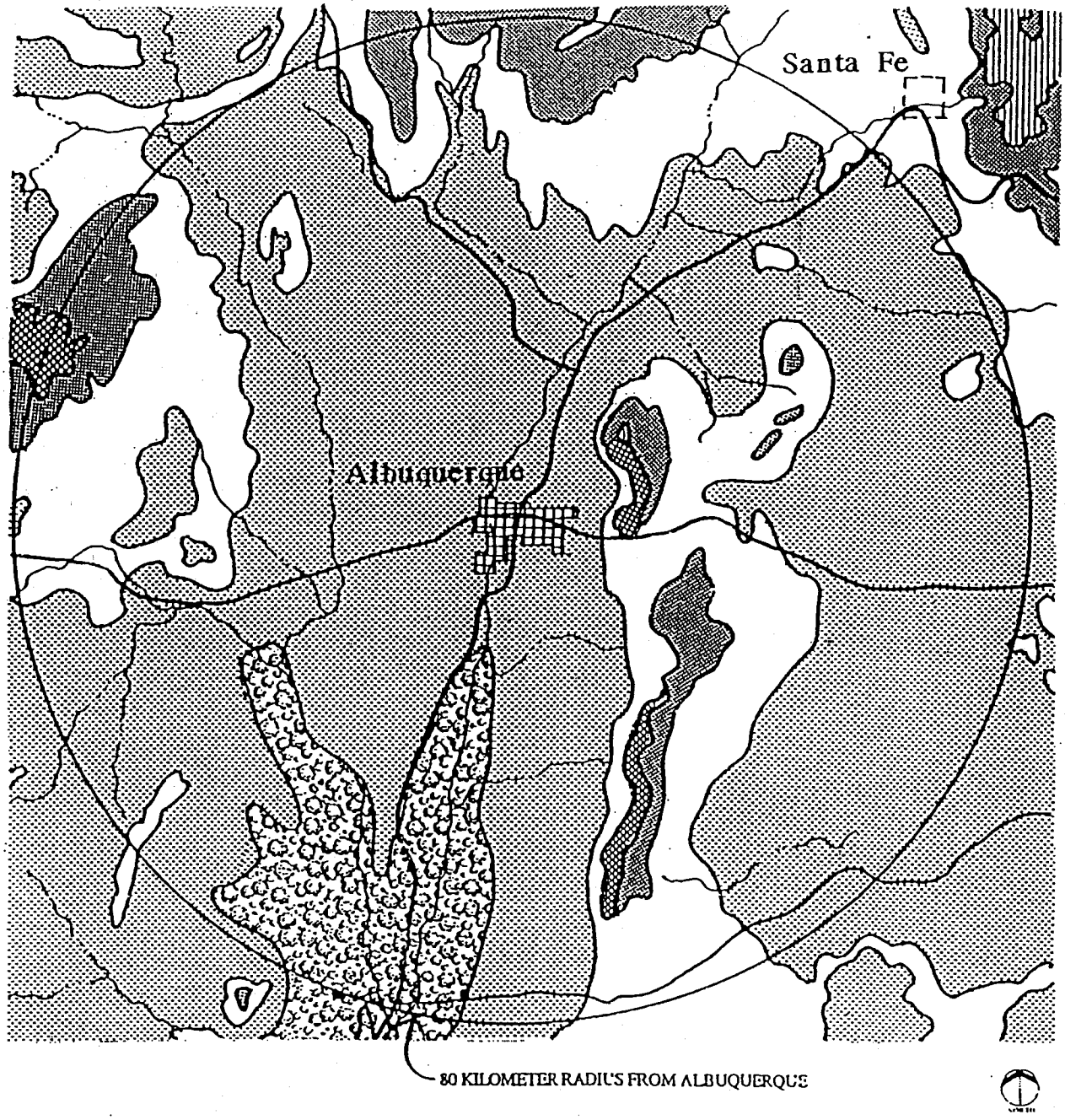


MAP 4: 10% Slope Demarcation Line

LEGEND

Land With Greater Than Ten Percent Slope

Sector Plan Boundary



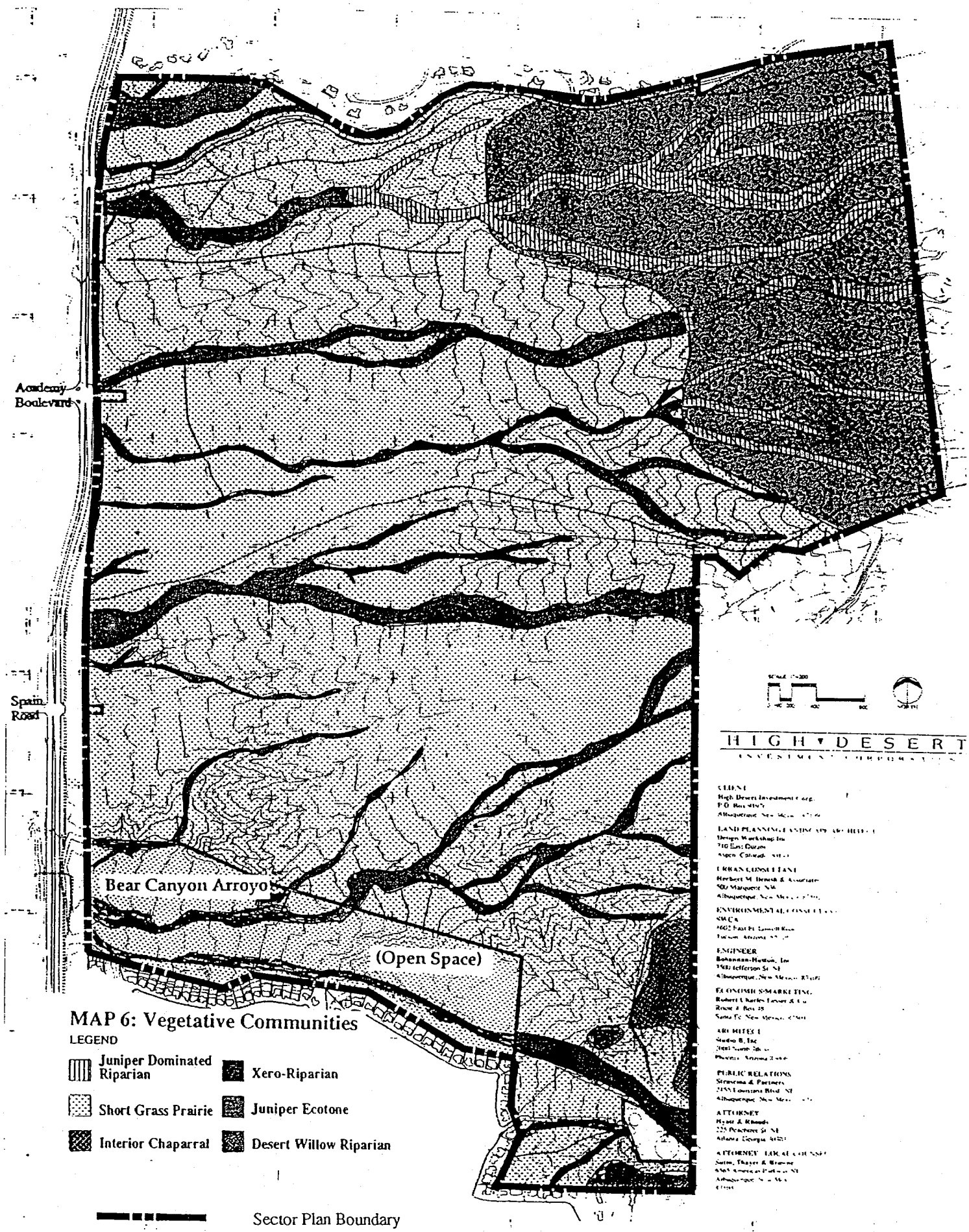
MAP 5: Regional Bio-Geographic Setting

LEGEND

HIGH DESERT

- Rocky Mountain Subalpine Conifer Forest
- Rocky Mountain Montane Conifer Forest
- Great Basin Conifer Woodland
- Great Basin Montane Scrub
- Subalpine Grassland
- Plains and Great Basin Grassland
- Semidesert Grassland

Source: Biotic Communities of the Southwest, D. Brown and C. Lowe, 1980



MAP 6: Vegetative Communities

LEGEND

ENVIRONMENTAL EVALUATION

The property occupies a unique place in the Albuquerque landscape. It lies between the City and the mountains, and between two subdivisions (Sandia Heights and Glenwood Hills) that represent vastly different approaches to development. These factors, and the leadership role that Albuquerque Academy has taken in the community with regard to the environmental soundness of development, led High Desert to retain the services of SWCA of Flagstaff, Arizona. The following material is a synopsis of their environmental assessment of the property, which, as Volume 5 of the Sector Plan, is available for review at the Albuquerque Academy Library.....

Property Description

This property is located on the northeast side of Albuquerque on an alluvial fan at the base of the western slope of the Sandia Mountains at an elevation of 6,000 to 6,300 feet (MAP #2). Located at the northeastern edge of the city along Tramway Boulevard, the project area is bounded on three sides by residential development of varying types and on the east side by the Sandia District of the Cibola National Forest. Portions of the Forest Service lands which abut the property are a designated Wilderness area. The Albert G. Simms City Park is northeast of the project area and is separated from it by a small parcel of Forest Service land. Immediately south of the project area is the Bear Canyon Arroyo, that is part of the City's open space system and an interconnected trail system extending well into the city.

Methodology and Sources

The environmental evaluation includes overviews and analyses of a variety of physical, biological, and cultural resources. SWCA, Inc. was assisted in the preparation of this assessment by:

CH2M- Hill, a local engineering firm, provided the analysis for the geology, hydrology and ambient air quality of the project site.

The Museum of Northern Arizona, provided information on the paleontological resources of the project site, and;

The local firm of Marron Taschek Knight Inc., analyzed the potential for occurrence of hazardous materials.

SWCA investigated the archaeological and ecological resources of the area and made determinations on short and long-term impacts to the project site and adjacent National Forest. The results of these investigations are presented in three sections:

The first section includes discussions of site geology and paleontology, landform and landscape character, trails, and geohydrology;

Biotic Factors

The second section discusses regional biogeography, habitat types on the property, wildlife, and protected species; a special section on mule deer has been provided due to local interest; and,

Human Factors

The third section presents the results of a Class 3 cultural resource survey and Traditional Cultural Properties investigations.

Physical Factors:

Geology

The project area is located along the eastern edge of the Albuquerque Basin, a large north-south tending structural basin located in central New Mexico. The basin consists primarily of unconsolidated Cenozoic sediments (Santa Fe Group and associated deposits) which are up to 10,000 feet thick. The western edge of the basin is defined by a series of sub-parallel faults. The eastern margin of the Albuquerque Basin where the project is located, is defined by the Sandia and Manzano uplifts

which formed the Sandia and Manzano Mountains. The Precambrian and Paleozoic rocks which cap these mountains stand as much as 5,000 feet above the surface of the adjacent Santa Fe Group deposits. The Sandia Fault lies just east of the project area.

Soils

The soils of the High Desert property are primarily composed of level to moderately sloping, well drained loamy and gravelly alluvial deposits. The drainageways are of primarily Embudo Soils (EmB and EtC) derived from decomposed coarse-grained granitic rocks. Embudo soils are prone to periodic flooding and require moisture control for proper compaction. The slopes are primarily of Tesajo (Te) and Tijeras (TgB) soils of alluvial origin. These soils are well-drained and removed from flooding hazards. A small granite rock outcrop (ROF) is present in the southeast corner of the property. Development of the latter area is severely limited because of steep slope (40-80%), exposure of bedrock, and shallow soils.

Slopes

Slopes across the site range from a low of 4% up to 30% in the Rocky Outcrop Formation area in the very southeastern corner. The average across the site is 5%, and the transitions to steep slopes are very abrupt.

The Sandia Foothills Policy Plan, which applies to all property east of Tramway south of and including Glenwood Hills North, contains a slope measurement provision designed to restrict development on the extreme slopes and rock outcrops of the Sandia Foothills. How this "demarcation line" was determined when the plan was adopted in June 1983 is not clearly documented, and hence unknown. However, it appears that a United States Geodetic Survey (USGS) 7.5-minute quadrangle map was utilized. A recalculation of the line by the same method virtually duplicates the line found in the Sandia Foothills Plan. Therefore, this same methodology was utilized to calculate the 10% Slope Demarcation Line shown in Map 4. There are also areas of 10% slopes on the sideslopes of the arroyos on the site.

Paleontology

A paleontologic resource assessment was completed in two parts: first, a records review to determine if any existing fossil localities are known in the project vicinity; and second, detailed field investigations of the project area. The Quaternary Alluvium and Quaternary Terrace Alluvium which occur on the majority of the project site are rated as "high" in paleontologic sensitivity due to the existence of Ice Age vertebrate fossils in the vicinity of the project area. Site areas containing these alluviums were surveyed; no fossils were found.

Landform and landscape character are subjective descriptions of the environmental elements of an area which create a special character or sense of place to the site. These elements include landforms, vegetation, views, and climate.

Landform and Landscape Character

This property is situated upon coalesced alluvial fans that originated from slopes and canyons of the Sandia Mountains immediately east of the property. The site has the classic form and landscape character of desert alluvial landforms: gradual uniform slopes, numerous parallel ridges and arroyos, as well as uniform and open vegetation transitioning to a more wooded habitat with increasing elevation east of the project area.

With few exceptions, the most distinctive landforms affecting character and perception of the site are the Sandia Mountains, east of the project site. These mountains serve as a scenic backdrop, dominating the perception of the property. A small portion of the foothills of the Sandia Mountains occurs on the site, immediately north of Embudito Canyon, in the southern portion of the property.

The numerous parallel ridges and arroyos that dissect the site run from east to west. The arroyos are characterized by greater densities of trees and shrubs, which create visual interest because of increased species and structural diversity. Some of the arroyos contain plantings of Osage Orange, an exotic ornamental tree, probably planted for bank stabilization. In addition, many of the larger arroyos have small bluffs which add vertical diversity to the site. In the northeastern portions of the property, juniper dominated xero-riparian habitat provides a sense of enclosure and screening that does not occur elsewhere on the site.

Viewsheds

Views on and off the site are important considerations of landscape character. Public hiking trails are generally considered to have the highest sensitivity to visual impacts. The views in this area are protected by distance from the site and screening of views by naturally occurring vegetation. The Foothills trail runs from Simms Park and Pino Canyon south through Forest Service lands crossing the High Desert property prior to reaching the Embudito Canyon trailhead. The trail that runs south from Simms Park to the wilderness area has middleground views of the site. Within the project vicinity the northern-most segment of the trail passes through junipers and drainages and has limited views of the property.

Public Access

Along the project's 2.4 mile border with the National Forest there are three points of public access: Simms Park Road, where a parking area in Simms Park provides 30 parking spaces; at the Embudito trail head in the southeast corner of the project site, where an additional 30 parking spaces are located; and via the Bear Canyon arroyo corridor. These areas already lie in public control, and public access at these locations will not be reduced in any way by development of this project.

Geohydrology

Groundwater is the primary source of drinking water for residents of Albuquerque and Bernalillo County. The alluvial sediments of the Albuquerque Basin typically provide prolific amounts of groundwater to properly sized and constructed wells. The natural quality of the basin's groundwater typically meets all state and federal standards.

Hazardous Materials

A records search and site survey for hazardous materials was conducted. Review of records found no evidence of past disposal or storage of hazardous materials on the property, and that no known sites were within a 1-mile radius of the property. Site surveys found no evidence of improper storage or disposal of hazardous materials, suspect industrial processes, or improper wastewater disposal.

Biotic Factors

Regional Bio-Geographical Setting

A wide variety of biotic communities can be found in the Albuquerque region as a result of differences in elevation and topography, and the consequent variation in precipitation, soil type, drainage, slope, and aspect. Seven upland biotic communities are found within an 80 kilometer radius of Albuquerque. The acreage of these upland communities within the project boundaries is depicted in Table 1. Due to restrictions of scale, riparian and xero-riparian habitat types are not included in the summary.

Habitat

Habitat types within the property were mapped and the vegetation volume measured in each of the delineated habitats (Map 6). These data were collected to provide a quantitative assessment of the habitat value and to form the basis for development of mitigation programs. Table 2 summarizes acreage, and vegetation volume index for woody perennial vegetation, perennial grasses, and total perennial vegetation. Upland habitats identified on the property includ Short Grass Prairie, Juniper-Short Grass Prairie Ecotone, and Interior Chaparral, together covering 828 acres of the project site. Numerous arroyos traverse the property. These drainages support three Xero-Riparian associations, which together cover approximately 158 acres of the property.

Wildlife Preserve

The project occurs within a designated wildlife preserve. The wildlife preserve status of this and adjoining public and private lands is an administrative designation by the New Mexico Game and Fish Department that restricts hunting to archery. It has no other meaning or significance from a resource management perspective. The same designation also applies to Sandia Heights.

Wildlife Habitat

Wildlife species are typical of those expected to be found in the site's habitat types. There are no springs or other natural sources of water on the property to increase its value to wildlife. Breeding bird density is a good indicator of habitat value, and is closely correlated with the volume of woody perennial vegetation. Therefore, the measure of the relative value of wildlife habitats within the project area is based upon general considerations of habitat values as measured by plant community structure. Utilizing this relationship reveals that the Desert Willow Dominated Xero-Riparian habitat has the highest wildlife value on a unit area basis. The next highest are the Interior Chaparral and the Juniper Dominated Xero-Riparian habitats.

TABLE 1: Acreage of Upland Biotic Communities Within 80 km of Albuquerque and on the Project Site

Biotic Community	Acreage Within 80km Radius	Acreage On-Site
Rocky Mountain Subalpine Conifer Forest	4,800	0
Rocky Mountain Montane Forest	239,200	0
Great Basin Conifer Woodland	1,114,400	*167
Great Basin Montane Scrub	33,500	13
Subalpine Grassland	3,200	0
Plains/Great Basin Grassland	3,045,000	650
Semidesert Grassland	342,800	0

* A typical example does not occur within the site; only a transitional area between Great Basin Conifer a Woodland and Short Grass Prairie is found. In this transitional area, the greatest concentration of junipers occurs in arroyos.

TABLE 2: Acreage and Vegetation Volume of Habitat Types Found on the Site

Vegetation Type	Acres	TVVI*	WPVVI	PGVVI
Short Grass Prairie	650.1	0.473	0.049	0.424
Juniper-Short Grass Prairie Ecotone	166.5	0.484	0.064	0.420
Interior Chaparral	12.6	0.543	0.374	0.169
Juniper Dominated Xero-Riparian	46.5	0.553	0.365	0.188
Xero-Riparian Shrub	109.0	0.442	0.318	0.124
Desert Willow Dominated Xero-Riparian	1.9	0.565	0.540	0.025

TVVI = Total Vegetation Volume Index
WPVVI = Woody Perennial Vegetation Volume Index
PGVVI = Perennial Grass Vegetation Volume Index
All vegetation volume indices are reported as meters cubed per square meter (m^3/m^2)

Special Interest Species

Special interest species are those species listed as threatened or endangered by either the state or federal government; species being considered for listing; or species given special consideration by state or federal resource agencies. An eveluation of the likelihood for any occurrance of special interest species on the High Desert Property, involved contacting local resource agency biologists. The list of special interest species obtained through those contacts is provided in the full Volume 5, as are definitions of the various levels of federal and state protection. The list of specieis obtained was then reviewed to determine which species, based upon habitat and life history requirements, could be considered likely to occur in the more general project area. There were seven specieis (four cacti, one species of clover, and two birds) that met these criteria.

Plants

Three of the cacti: Wright's Fishhook, White Viznagito, and Grama Grass Cactus, are known to occur on the project site. The occurrence of these species is known from observations made in the fall field season or from anecdotal reports; there has been no formal field survey to determine the population or distribution of these plants in the project area. Each is state endangered but none is listed or proposed for listing as endangered or threatened by the Federal Government.

The remaining cactus, Club Cholla, is listed as state sensitive. This species is found in valleys and grasslands with sandy soil at elevations of 6,000 to 8,000 feet and is, thus, endemic to New Mexico.

Clover

The last plant species, La Jolla Prairie Clover, is listed as state sensitive. The typical habitats of this species are sandy clay banks, bluffs, and open sandy areas from desert grassland to pinon-juniper, typically ranging from 4,900 to 5,030 feet. It is known to occur in Bernalillo County and even though the project is well above the reported elevational range of this species it may occur. None were observed during field investigations.

Birds

The Peregrine Falcon is federally listed as endangered. Peregrine Falcons nest in the Sandia Mountains, and the western face of these mountains is part of a raptor migration pathway. It is possible that a Peregrine Falcon occasionally forages or flies over the project site. The project site would not be considered to be important foraging habitat for Peregrine Falcons, however, because of the relatively low bird densities found throughout the year.

The Gray Vireo is a State Endangered Group 2 species. Preferred habitat of this bird is open woodland, normally containing juniper, pinon, and an assortment of small shrubs. Only one breeding pair of vireos has been reported in the Sandias and its occurrence on the property is considered unlikely because of its rarity in the Sandias and the relatively low densities of juniper which occur on site.

Mule Deer

While they are not protected by either Federal or State regulation, and thus not strictly under the charge of this report, interviews with concerned citizens indicated that there was a high degree of interest in the mule deer which populate the east face of the Sandia Mountains. The following special section addresses their role in this development.....

Mule deer are common in the Sandia Mountains east of the project site. They are also reported to occasionally occur on the project site as well as in developments north and south of the project area. Chaparral and Juniper/Pinon Pine/Oak habitats east of the project area provide primary winter range for mule deer in the Sandias.

While there is little in the way of quantitative population or habitat preference data for this herd, an aerial survey conducted on January 19, 1992 by the New Mexico Game and Fish Department to determine sex ratios of this deer population found 177 deer in one and one-half hours of flight time. These deer were all found between 7,500 and 8,300 feet in the Domingo-Baca/Pino Canyon area. The New Mexico Game and Fish Department also estimate, though there are no data or survey results, that an additional 200 deer occur in the Sandia Mountains east and southeast of the project site.

A viable, huntable population of deer on public lands adjacent to the development will remain after the development of the High Desert property. Development of the higher density portions will probably preclude the use of those areas by mule deer. However, just as mule deer are regularly found in residential developments north and south of the project area, they are also expected to occur regularly in lower density residential areas and interconnected natural open space areas within the project.

Cultural Resources

A cultural resources survey of the property was completed in October, 1991. The pedestrian survey covered 100 percent of the project area. During the survey two small archaeological sites were found. These sites are located within an area likely to be retained as natural open space. No Traditional Cultural Properties (ritual, ceremonial, or otherwise significant cultural sites) were identified in the project area.

Paleontology

No paleontological resources were found, and no impacts are expected. There is the potential for sub-surface deposits. If such deposits are unearthed during construction, a qualified paleontologist should be contacted.

Impact Assessment: Physical Factors

Soils

The only adverse impact on soil resources that could be expected from development of the project is increased erosion as a result of storm water discharges generated from within developed portions of the property. It is understood that stormwater generated from high-density portions will be discharged into a storm-drain system, and ultimately removed from the site into established public stormwater conveyance system. No adverse off-site erosion is expected.

Landform

The landform and landscape character of the site will be altered by development of this project. These impacts can be minimized by implementation of the recommendation provided.

Viewshed

Impacts to trail viewpoints in Simms Park area from the proposed development of the site will be minimal. Middle ground views to the trail that runs south from the Simms Park to the wilderness will be impacted to varying degrees. Impacts to views from these portions of the trail can be minimized with implementation of the appropriate architectural and engineering design criteria.

Public Access

The project will not result in adverse alteration of the existing points of public access to public forest lands east of the project area.

Groundwater

This project, as proposed, will utilize City water services. In addition, the project will utilize Albuquerque's municipal sewer system, avoiding the potentially adverse impacts septic systems may have on the quality of ground water.

Impact Assessment: Biological Resources

Wildlife Habitat

A summary of impacts by habitat type for the proposed plan (with and without a golf course) is provided in Table 3. Within the table existing acreage by habitat type, undisturbed acreage following construction, and lost habitat value (LHV) as a percentage of the total volume of vegetation lost, are provided. The greates impact of development will be to the Short-Grass Prarie habitat type, with approximately 66% and 76% loss in habitat value in the "no-golf" and "golf" scenarios respectively. The relative impacts to the Juniper Short-Grass Prarie Ecotone Xero-Riparian Habitat were essentially equivalent in the "no-golf" and "golf" scenario with 30% and 39% lost habitat values respectively. Development of a golf course would impact an additional 18% of the Xero-Riparian Habitat. Eleven percent (11%) of the Juniper—Dominated Xero-Riparian Habitat would be lost with or without the development of a golf course. Habitat value of Chapparral and Desert-Willow-Dominated Xero-Riparian Habitats are not reduced by the golf alternative.

In a "no-golf" scenario, 46% of the land surface remains undisturbed. If a golf course is built, 37% of the land surface remains undisturbed.

TABLE 3: Impact Assessment by Habitat Type

Habitat Type	Existing Acreage	Post-Buildout Acreage w/out Golf	LHV*	Post-Buildout Acreage w/ Golf	LHV*
Short Grass Prairie	689	235	66%	166	76%
Juniper-short grass Prairie Ecotone	153	108	30%	108	30%
Interior Chaparral	12	12	0%	12	0%
Juniper dominated Xero-riparian	39	32	16%	32	16%
Xero-riparian	94	68	29%	48	47%
Desert Willow Dominated Xero-Riparian	2	2	0%	2	0%

*LHV: Lost Habitat Value Prior to Mitigation as a percentage of Total Vegetation Volume

Cacti

The population and distribution within the project area of the three state-endangered cacti and the Club Cholla are not known. Some level of impact to the population of these species within the project area would be expected without an appropriate salvage and relocation program.

Clover

It is not known if the La Jolla Clover actually occurs on the site; therefore, an accurate assessment of impacts is not possible. Because of the relatively low protection classification of the species (State Sensitive Grade 2) a more detailed survey is not required by state and local statutes.

Peregrine Falcon

It is very unlikely, given the nature of the habitat on the project site, for this development to adversely impact the Peregrine Falcon.

Grey Vireo

Because of the relatively low tree density of juniper and pinon on the project area; the fact that the species is considered unlikely to occur; and the ability to preserve in place the majority of trees that currently occur on the project site, it is extremely unlikely the development will have an adverse impact on this species.

Impact Assessment: Cultural Resources

Archaeological Sites

There are two small pre-historic sites. While their location in the project area will protect them from direct impact, indirect impacts are possible. No traditional cultural properties were identified within the project area.

Recommendations

The foregoing material was extracted from the report entitled "Environmental Evaluation of Albuquerque Academy Lands East of Tramway" prepared by SWCA, Inc. Environmental Consultants in February 1992. The full text of the document is attached to the sector plan as Volume 5 and is available for inspection in the Albuquerque Academy Library. For ease of reference, the entire text of the "recommendations" portion of that document is reproduced below.; you may also refer to Section 3 of this volume.....

Paleontology

Though no fossils were found on the surface of the two Quaternary rock units, there is potential for the presence of subsurface paleontologic resources which could be uncovered by construction activities. In the event that vertebrate fossils are uncovered during construction a local paleontologist should be called to assess the significance of the finds and to determine mitigation if any. Qualified paleontologists from the Paleontology Department of the New Mexico Museum of Natural History and the Geology Department of the University of New Mexico can be contracted for this work. Both institutions are located in Albuquerque.

Slopes

Areas above the 10% Slope Demarcation Line should be protected by granting them as public open space. Impact on areas of arroyo sideslope greater than 10% should be mitigated through limitations on building siting, area, and construction methods.

Landforms

Recommendations to preserve, and/or mitigate impacts associated with development of existing landform and character are presented below:

- Maintain arroyo land forms in an undisturbed or enhanced condition to allow for view corridors across the site to the valley and the mountains.
- Preserve existing trees on site, particularly in the Juniper transition area. Pre-select house building and grading envelopes to minimize disturbance.
- Minimize over-lot grading in order to maintain the character of the existing landform. To the greatest degree possible buildings and roadways should be designed to adjust for changes in grade rather than adjusting grade to compensate for the design of a building.
- Mitigate off-site views of Tramway through landscaping and earthen berms. Create openings in the visual screen at the arroyos to allow for views of the Sandias across the site.
- Landscaping, especially trees and in many cases shrubs, should be predominately native species either indigenous to the site or from upland and riparian areas immediately adjacent to the site. Large scale landscaped features, possibly employing skyline canopy trees such as Fremont Cottonwood or ash should be limited to designated portions of the site.
- Landscape buffers should be employed in combination with fences, walls or earthen berms, to control negative off-site or on-site views and noise.
- Limit building roofline and vegetation heights to protect views across the site, and to minimize contrast with the existing landform.
- Buildings should repeat the form, line, color (reflectivity) and texture of the existing site landscape and surrounding mountains.

Habitat Value

SWCA recommends that vegetation lost through development be replaced, on a volume basis, at a 1:1 ratio. Native plants which occur in the adjacent foothills and low elevations of the Sandias, such as pinon, juniper, ponderosa pine, and Interior Chaparral species should be used. These species can be established at these lower elevations through implementation of appropriate water harvesting techniques. This approach would be consistent with overall project goals of water conservation. Not only are native trees and shrubs more appropriate as a landscape amenity than are the native grasses, they will also create a habitat on the site which is structurally much more diverse than the existing grassland. As a result, breeding bird densities can be expected to increase on the property.

Special Interest Species

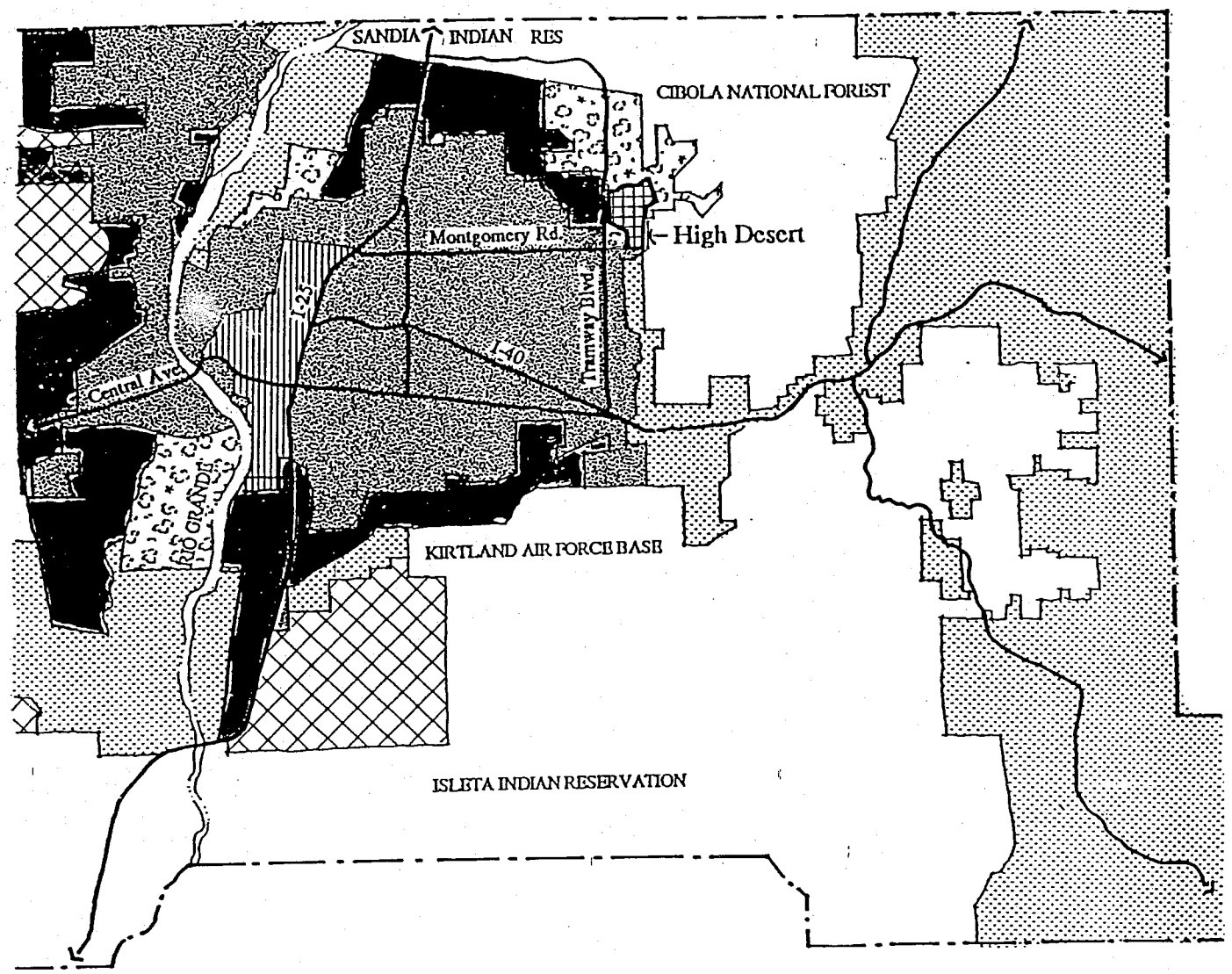
Three New Mexico state endangered cacti, *Mammilaria wrightii, Neolloydiaintertextus*, and *Toumeya papyracantha*, are known to occur on the project site. These small, cryptic species are relatively widespread and common; the primary threat to each is collection. *Toumeya papyracantha* is threatened by habitat modification. The New Mexico Endangered Plant Species Act provides no regulatory requirement relating to these species and the development of the property. It is proposed in this report that a salvage and relocation program for each of these species be initiated concurrent with construction. It is SWCA's opinion that this would adequately mitigate direct impacts to each of these species.

Salvaging of the cacti would require a special permit, which should be easily obtained from the Secretary of the New Mexico Natural Resources Department. Cacti should be relocated to suitable habitat within designated open space areas of the development, or to nearby public lands. Relocation of the cacti to public lands would require coordination with the appropriate agencies.

Cultural Resources

Both pre-historic sites have been registered with the New Mexico State Laboratory of Anthropology and are considered potentially eligible for the National Register of Historic Places under Criterion "D". These sites should be avoided in the development of the property. Because of the potential for indirect impact, it is further recommended that the sites be recorded in detail and surface collected. This work should be planned and implemented by a qualified archaeologist. The ten Isolated Occurrences are deemed "not eligible" for the National Register of Historic Places.

It is possible, though not probable, that buried cultural deposits are present in the project area. Because there is no concrete evidence of such buried deposits, monitoring of construction is not recommended.



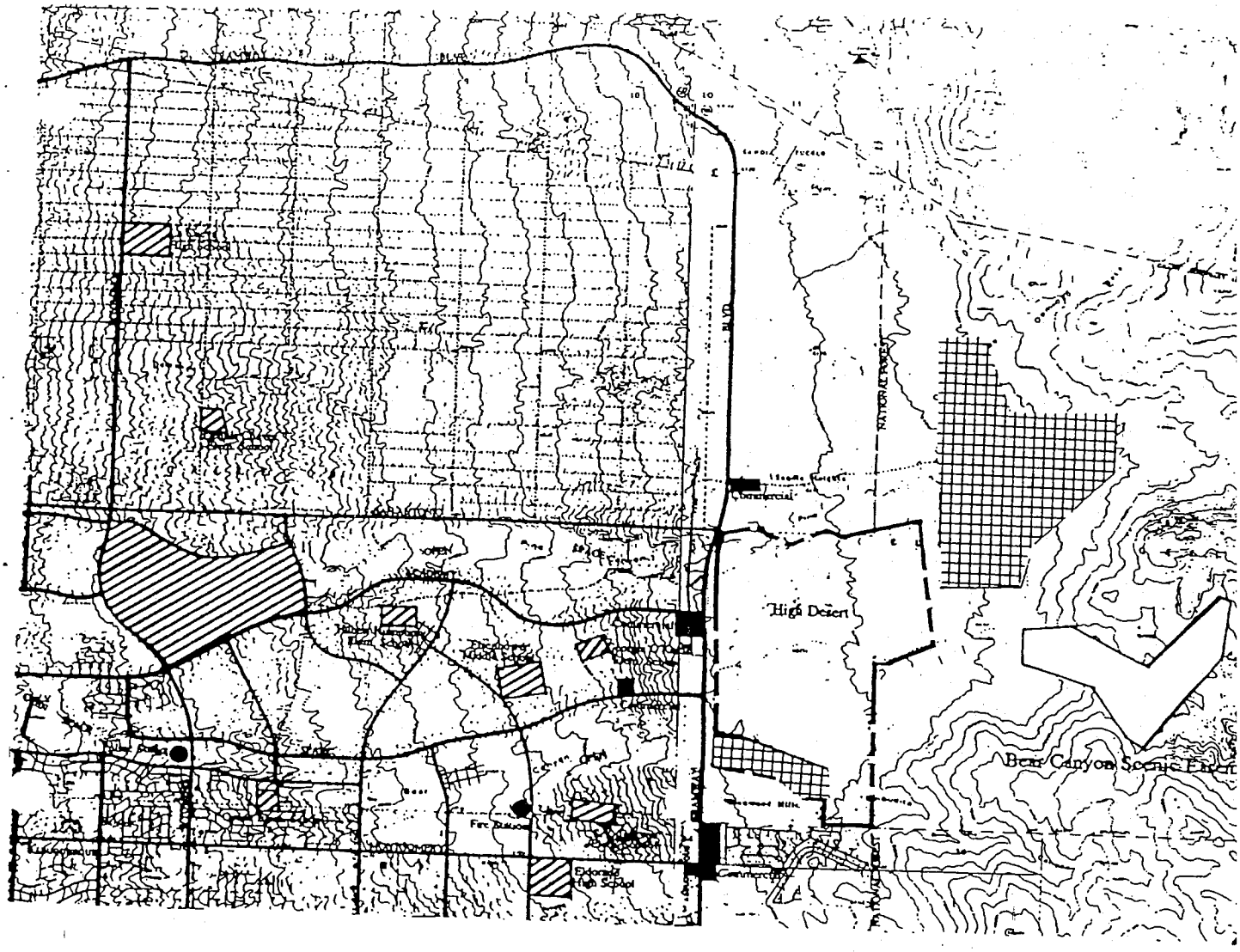
MAP 7: Comprehensive Plan Concext

Albuquerque Bernalillo County

HIGH DESERT
INVESTMENT CORPORATION

LEGEND

- Central Urban
- Established Urban
- Developing Urban
- Semi-Urban
- Rural
- Reserve



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ENVIRONMENTAL CONSULTANT

ENGINEER

ECONOMICS/MARKETING

ARCHITECT

PUBLIC RELATIONS

ATTORNEY

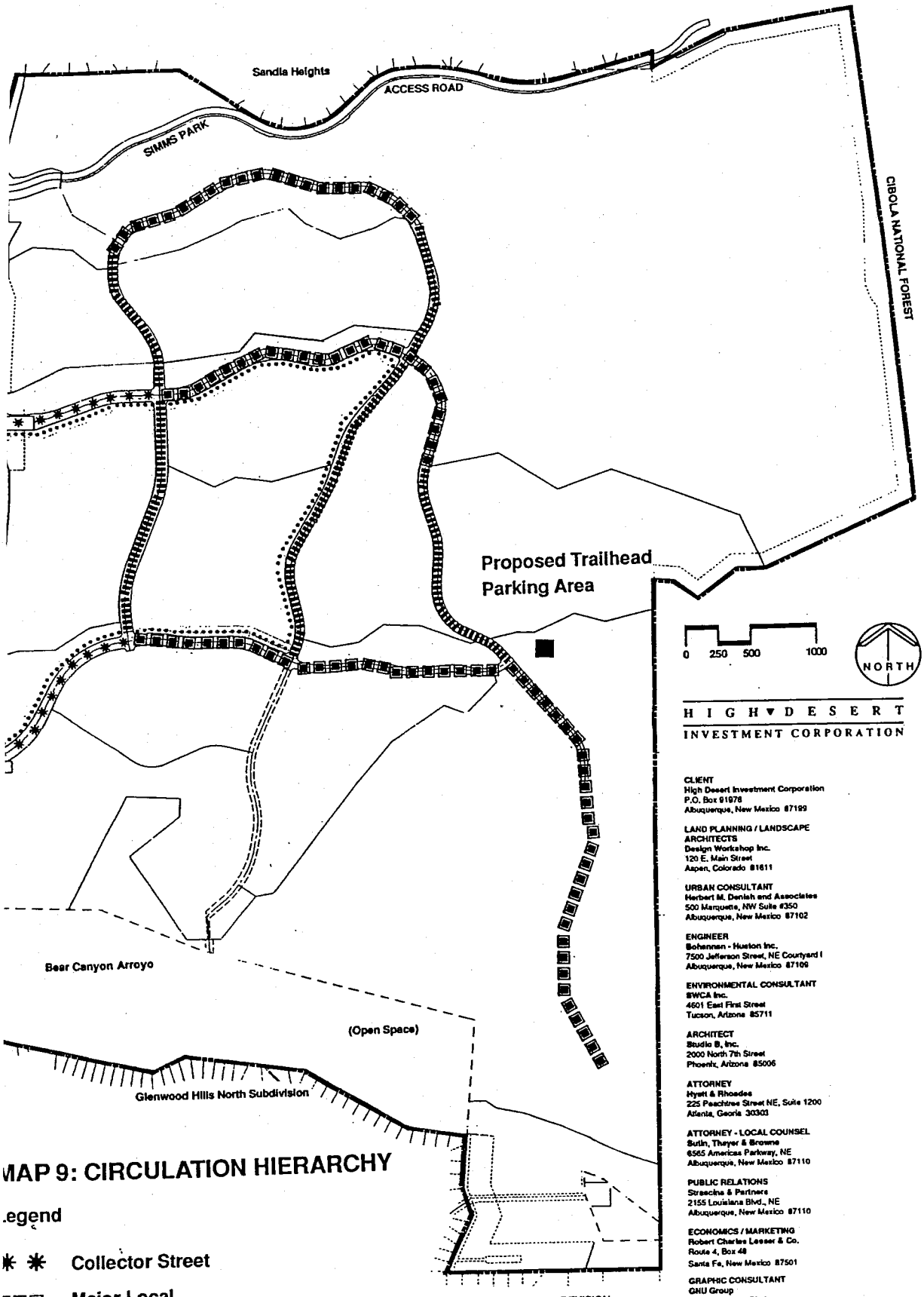
ATTORNEY

MAP 8: Existing Community Facilities

LEGEND

- Commercial
- Schools
- Police or Fire Station
- Parks or Open Space

High Desert Sector Plan Boundary



MAP 9: CIRCULATION HIERARCHY

Legend

- Collector Street
- Major Local
- Divided Major Local
- Transit Route
- Sector Plan Boundary

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NOTE: Street upgrades may be permitted, provided platted right-of-way is adequate.

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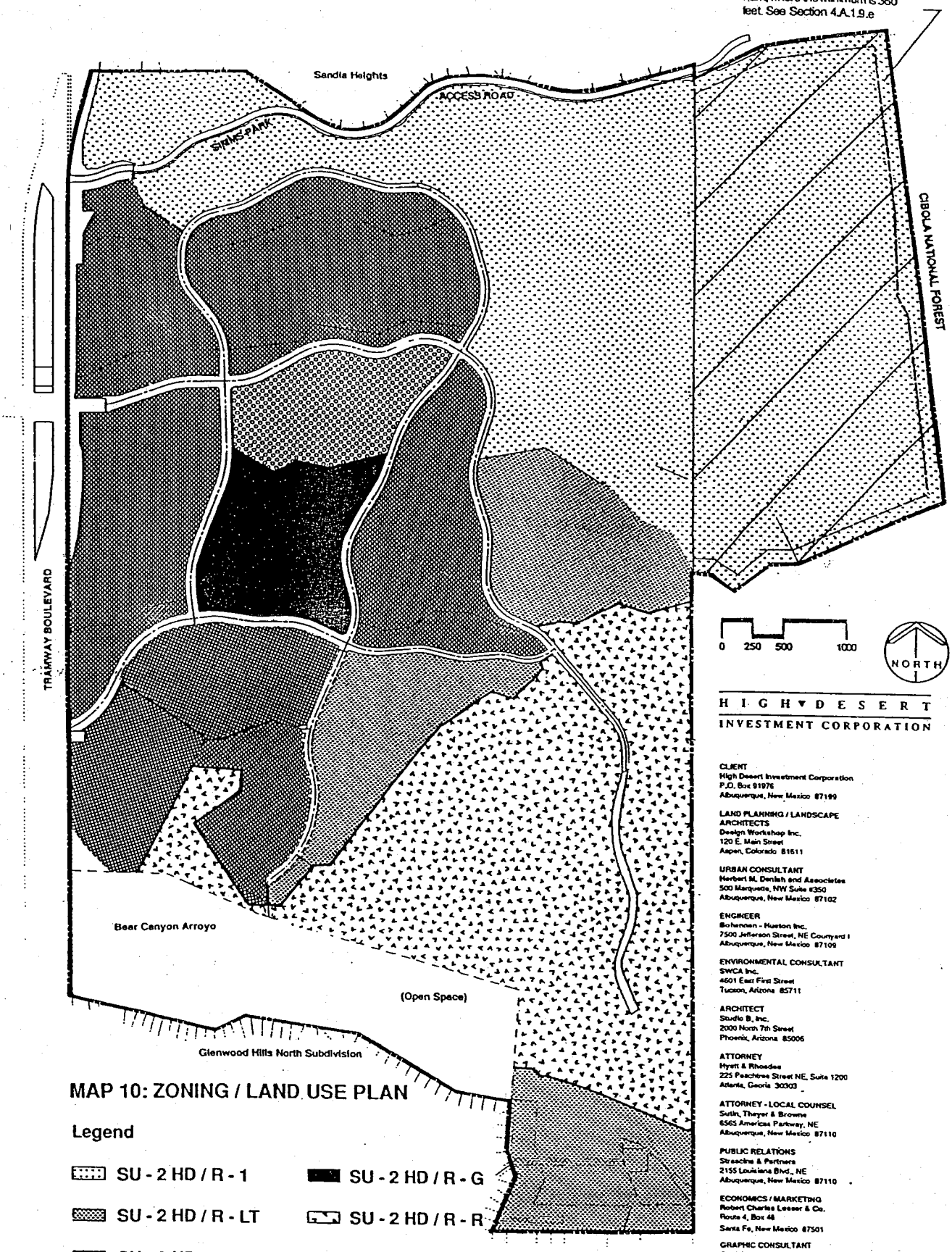

MAP 10: ZONING / LAND USE PLAN

Legend

- SU - 2 HD / R - 1
- SU - 2 HD / R - G
- SU - 2 HD / R - LT
- SU - 2 HD / R - R
- SU - 2 HD / R - T
- SU - 2 HD / C - 1
- Design Overlay Zone (Maximum 165 Dwelling Units)
- SU - 2 HD / OPEN SPACE
- High Desert Sector Plan Boundary

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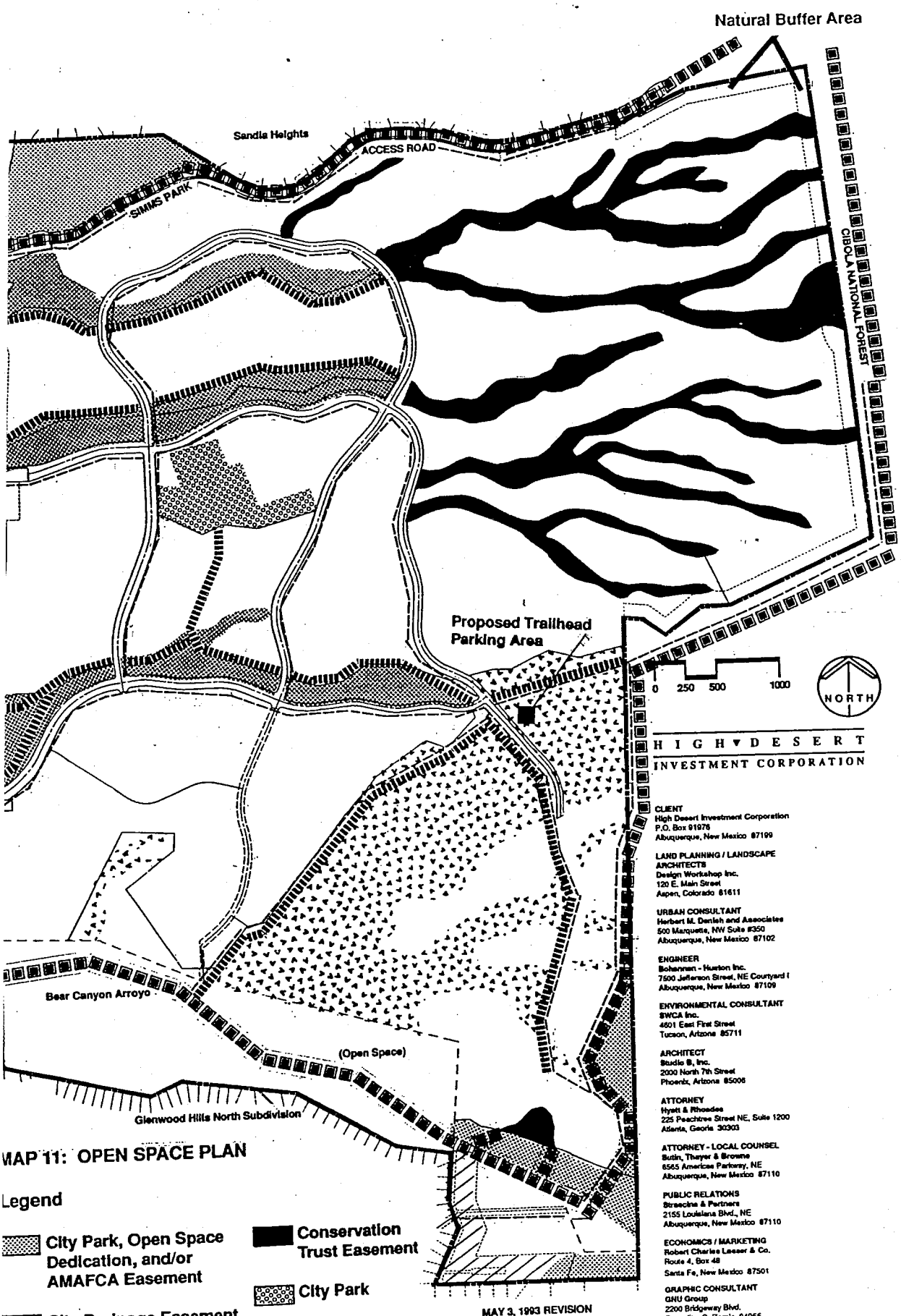

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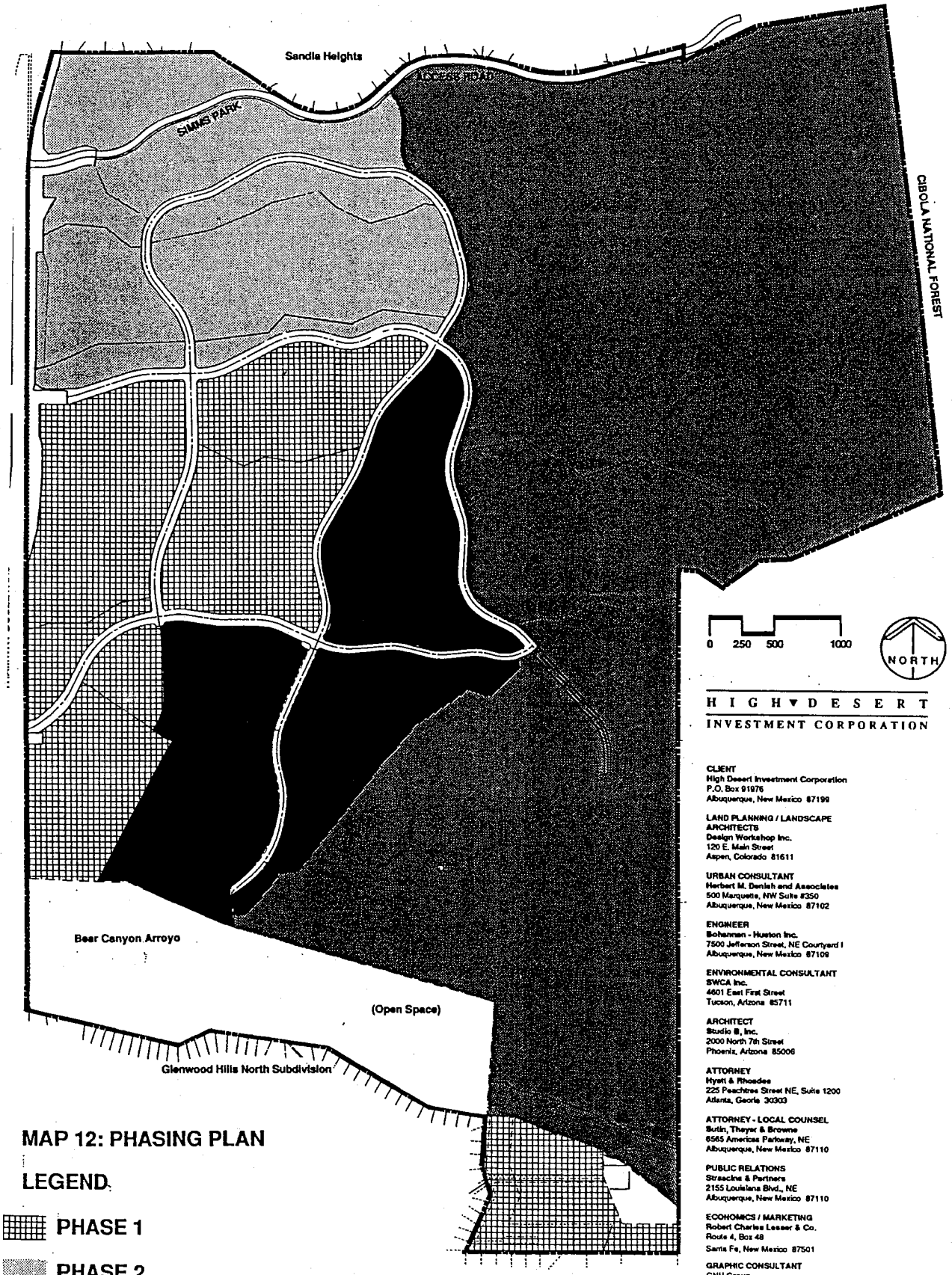
MAP 11: OPEN SPACE PLAN

Legend

- City Park, Open Space Dedication, and/or AMAFCA Easement
- City Drainage Easement, Private and/or Conservation Easement
- Homeowners Assoc., Private Open Space, Land Lease for Golf, and/or AMAFCAEasement
- Conservation Trust Easement
- City Park
- Pedestrian and/or Equestrian Trail
- Pedestrian Trail
- Bike Route
- 200'-0" Natural Buffer
- High Desert Sector Plan Boundary



MAP 12: PHASING PLAN

LEGEND

- PHASE 1
- PHASE 2
- PHASE 3
- PHASE 4
- SECTOR PLAN BOUNDARY

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Issues, Impacts, and Mitigations

High Desert is set in the foothills of the Sandia Mountains. Its rolling contours are bounded by the City on one side and by the massive forms of the Sandias on the other. It is home to wildlife and wildflowers and is host to people seeking relief from the urban environment. The outdoors, and the relationship of man to his environment are important parts of New Mexico culture. As indicated in the previous section, planning for High Desert began with a thorough assessment of the environmental structure of the land, and a thorough appreciation of what impacts development would have.

Completion of the environmental studies set the stage for the development of a land use plan which would respect natural resources while providing a sustainable urban environment. Market research and social goals establish the mixture of uses and life styles. However, the plan must also direct attention to mitigation of environmental impacts external to the site, and must also comply with the policies set forth in the Albuquerque/Bernalillo County Comprehensive Plan. The purpose of this section is to document the aspects of this plan which address these issues. This section synopsizes impacts and responses that are further detailed in the other technical sections of this plan...

Project Setting

The High Desert Sector Plan comprises approximately 1067 acres at the eastern margin of the City of Albuquerque. It is the last large piece of undeveloped land between the urban areas of the city and the Sandia Mountains to the east, and is thus important in creating a suitable transition between urbanized and open natural areas.

The property lies at the end of Academy Boulevard, which reaches east from I-25 through a predominately residential portion of the city characterized by neighborhoods of single family detached houses, punctuated by clusters of apartments, shopping centers, and parks. Much of this development followed the Academy-Tramway-Eubank Sector development plan as approved by the City in 1978 and amended in 1984. All of the development proximate to the project site and west of Tramway Boulevard falls within the guidelines of that plan and is essentially complete.

To the north lies Sandia Heights. Like the northeast heights of the city, it is essentially a residential area, with limited public and commercial facilities. While it is in the County of Bernalillo it does have limited access to public utility services, and is characterized by a much more" natural" approach to development. Water courses, vegetation, and landforms are better preserved here than in traditional urban development. To the south is Glenwood Hills, the eastern-most extension of "typical" urban platting and development. Glenwood Hills North, most proximate to the project site, was created in the late 1970s from the bottom of the Embudito Arroyo. It is arranged to follow the banks of what is now the Bear Canyon Arroyo, and the phalanx of large single family homes which faces the project area forms a firm southern boundary.

To the east is Albuquerque's most significant natural feature, the Sandia Mountains and the forest and wilderness areas that comprise a huge natural open-space area. The rocky foothills of the mountain extend down to generally within a half-mile of the project area. In one area of its southeast corner, the a rock outcrop of the mountain protrudes into the property.

Hiking, hang-gliding, mountain biking, horse-back riding, and picnicking are all popular activities in the Sandias. The interaction between urban and recreational uses is of prime importance to development in the project area.

Planning Goals

High Desert is envisioned as a planned residential neighborhood which seeks to create a sense of community by fulfilling seven primary planning goals:

- Completing the transition from urbanized to natural open space areas on the eastern side of the city.

• Relating appropriately to the character of the land and land uses which surround it.

• Providing a broad mixture of housing types at various price points to accommodate social diversity and respond to market demand.

• Providing a full complement of neighborhood facilities including a park, school, church, and commercial activities, sufficient to minimize automobile trips outside of the plan area.

• Clustering these services into a neighborhood center within easy walking distance of the majority of project residents to encourage community values and multi-modal transportation.

• Creating a comprehensive system of public and private open space areas and a walkway and trail network to link residential areas and the neighborhood center together internal to the site; and link the plan area and the city to regional recreational and natural open space areas.

• Creating a hierarchical road system which links residential areas together and connects these residential areas to the neighborhood center rather than dividing the development into private enclaves.

Land-Use Transition Concepts

Because of its location, the project must serve as a link between natural open areas and urban activity. Thus uses within the plan area must range from very low intensity recreational and residential opportunities to the level of intensity necessary to provide essential retail and institutional services to its residents. Therefore, the land-use plan is designed around a neighborhood "center" and the transition from that center to natural open areas at its edges.

From the neighborhood center, residential land use densities transition from higher densities in the project center to lower densities at the interface with adjacent lands. For example, apartments within the project are located next to the neighborhood center. This also places the tallest buildings within the interior of the site with lower buildings along Tramway. Such a relationship provides a more visually pleasing interface with Tramway Boulevard and responds to concerns expressed in meetings with residents of adjacent neighborhoods. The core area would be surrounded by residential areas at a density generally equivalent to the northeast heights. As development approaches the project boundaries to the north and east, the density continues to diminish, leaving the least dense residential areas (generally equivalent to similar development in Sandia Heights) at boundaries with natural open space areas.

The neighborhood center would be the focal point of an internal system of trails, themselves connected to the regional network of trails connecting the city to the natural open space areas to the east. Regional trails would be located in arroyos preserved in their natural state as stormwater management areas or as natural open areas, both public and private.

In addition to the passive public and private open space provided by the preservation of existing arroyos, a ten acre neighborhood park will be dedicated and developed within the neighborhood center. Facilities to be included within this park will be determined through cooperative efforts with the City, although it is generally intended that this park be "passive" in nature. High Desert has proposed to design, construct, and dedicate this park during an early phase of project development through a cost sharing method. In addition to the major park, various subdivisions of the plan will contain private parks approximately one acre in size to act as focal points at a smaller scale.

General Circulation Plan

The project would be linked to the City by two access points on Tramway Boulevard: extensions of Academy and Spain Roads. These extensions would join to form a loop generally in the middle of the site. The more urban land uses including the neighborhood center, park, and apartment areas would lie within the loop. Lower density residential areas would lie outside the loop. A second major internal road links the Academy and Spain extensions on the north-south direction, providing additional road capacity in the most dense parts of the plan. Roadway sections in the lower density areas would be minimized to contribute to the appearance of transition from higher to lower densities.

Utility Concept

Water and sewer will be provided through normal city systems. Septic tanks will not be permitted; the only well permitted on site will, if private, irrigate a golf course, and if public, may be used as a supply source for the Canada and Simms Reservoirs. A closed-loop water pumping system might be used for part of the project area depending on the construction schedule for the Canada Reservoir. Effluent re-use (subject to further approvals) is being considered for golf course irrigation. All other normal private utility services can be supplied to the site.

Form of the Plan

The Plan is presented in the form of an SU-2 Special Neighborhood Plan, due to the special zoning restrictions that are proposed. The Zoning Code states that such a plan is appropriate if:

"The area .....should develop with a pattern of mixed land uses, which would need careful control and coordination of development at a sub-area scale in order to ensure a desirable inter-mixture of uses."

Description of Land Uses

The land use plan proposed is a mixture of residential types ranging from single family units on large lots to apartments; a neighborhood center consisting of commercial, institutional, and recreational uses; an extensive system of public and private open space and trails; and opportunities for both active and passive recreation. The project as a whole will not be walled or secured, although individual subdivisions may be. These land uses and zoning designations for each area is illustrated on the Land Use Map (Map#10) described in Chapter 4. The proposed uses with their corresponding zones are, in brief:

SU-2 HD-R-1 ["Estate" Lots]

This zone is intended for large single family detached units on larger lots adjacent to the Sandia Heights and forest service boundaries; building siting determined by "building envelopes" and large areas of land surface left in its natural condition. Approximate density: 1 dwelling unit per gross acre. The corresponding zone in the Comprehensive City Zoning Code is R-1. In addition to the general requirements of the plan, portions of this area are subject to the Viewshed Guidelines in Section 4.A.

SU-2 HD-R-LT ["Custom" Lots]

This zone is intended for large single-family detached units on a "standard" lot. Approximate density: 3 dwelling units per gross acre. The corresponding zone in the Comprehensive City Zoning Code is R-LT. Like the HD•R-1 area, portions of this zone are subject to Viewshed Guidelines.

• Both Estate and Custom Lot areas will be permitted to have "caretaker quarters" on the same lot as the primary unit. These are defined as "providing for elderly parents who desire a degree of independence yet need close attention, mentally and physically challenged individuals, or older children attending the university or other schools housing of individuals employed in the principal residence.". These units are part of the maximum building area allowed on each lot, and cannot be separately conveyed. A maximum of 200 such units is proposed. Additionally, there is a Design Overlay Zone for the area shown as "the Highlands"; refer to Section 4.B of this plan.

SU-2 HD-R-T ["Garden" and Townhouse" Lots]

This zone is provided for traditional single-family detached and attached units development ranging from 4 to 10 dwelling units per gross acre. Lot layout is governed by typical setbacks, except where townhouses are "clustered" under special provisions of the zoning incorporated in Section 4 of this plan. "Over-lot" grading is anticipated. The equivalent zone in the Comprehensive City Zoning Code is R-T. Approximate average density: 7.5 dwelling units per gross acre.

SU-2 HD-R-G* [Apartments]

This zone, equivalent to R-G in the Comprehensive City Zoning Code, except for its density limit, provides for townhouse and low density apartment construction up to 13 dwelling units per net acre.

This area contains the commercial and institutional uses of the plan, including the retail services, church, and school; it may also be used for townhouse and apartment developments. It is to be sited immediately adjacent to a central 10-acre public neighborhood park (as defined in the Parks Facilities Plan) and will be the focus of an internal trail system.

SU-2 HD-C-1* [Neighborhood Center]

It is the equivalent of the C-1 Neighborhood Commercial Zone, with the addition of several permissive uses, notably full-service sale of liquor in restaurants and outdoor activities including outdoor restaurants. The area is limited to 65,000 net leasable square feet of retail and service uses.

SU-2 HD-R-R [Recreational and Resort]

This zone, which encompasses the area between the north edge of the Bear Canyon Arroyo and the north edge of the Embudito Arroyo, combines a variety of uses ranging from flood-plain and resource efficient golf course through a potential resort and conference center. Consequently, it is designed to allow various levels and types of review for various uses; it is the only zone in the plan without a City equivalent. This zone shall require site development plan approval by the Environmental Planning Commission for any proposed golf-course, related facilities, and resort/conference center.

****Due to requirements of the Subdivision Ordinance, tracts in the Sector Plan zoned SU-2 HD R-G and SU-2 HD C-1 must be returned to the DRB for platting and compliance with Subdivision Improvement Agreement and Subdivision Ordinance requirements prior to or as part of their development.***

SU-2 HD•OS "Open Space"

The uses described above will comprise the 987 acres of land held by High Desert Investment Corporation. In addition to this land, the Sector Plan also contains the Bear Canyon Open Space which was previously granted to the City in the late 1970s. It is maintained in the plan as passive Open Space* and is the focus of the City-wide trail system.

Rights-of Way

The Sector Plan Boundary also contains the right-of-way of Tramway Boulevard and the right-of-way of the Simms Park Access Road. Existing Public Open Space and these rights-of-way will be annexed along with High Desert's property, thus bringing the total Sector Plan area to 1067 acres.

Note that elsewhere in the plan the capitalized term "Open Space" refers to lands publicly dedicated to the City as Open Space for management by the Open Space Division. Other lands referred to as open space may be privately held, or granted to other public agencies as easements. Each of the zones described above contains some area that will be used as open space; the location and disposition of these areas is described in Table 3.B.

Comprehensive Plan Compliance

Semi-Urban Area

The property is located in the Semi-Urban Area of the Comprehensive Plan.

Development within the semi-urban area shown by the Plan map shall be consistent with development limitations imposed by topography, soil conditions, groundwater quality, agricultural potential, flood potential, scenic qualities, recreation potential, and existing development; overall gross density shall be up to three dwelling units per acre.

Policy A

The sector plan proposed here is responsive to each of these programmatic concerns:

Slopes

In the initial study phases, the site was mapped using Ground Positioning Satellite (GPS) technology to provide the most accurate contour data base possible. The resulting maps have been used to accurately locate slope areas in excess of ten percent (10%) as required by the Sector Development Plan regulations. Areas of excess slope meeting the intent of the Slope Demarcation Line of the Sandia Foothills Plan are preserved either by direct dedication to public entities or by easements retained and controlled by the developer or its successors. Arroyo sideslopes in excess of 10% in the area known as the Highlands will be developed in a limited fashion as defined in Section 4 of the Plan.

Soils

Soils were mapped using conventional Soil Conservation Survey data. In combination with the preservation of excess slope areas, none of the soils present any hazard whatsoever in normal development practice.

Groundwater Quality

Concerns about groundwater quality and quantity continue to grow throughout the region. The site is to be annexed and served by public systems; septic tanks will not be permitted. Only one well will be permitted; if private, it will serve to irrigate the golf course. If public it may be used to supply area-wide needs through the Canada Reservoir. Geohydrologic testing to determine the location and environmental safety of the well site will be conducted by the appropriate party if and when the well is implemented. Recreational uses might also be irrigated with partially treated effluent of sufficient standard as to not threaten groundwater supplies. Implementation of this technique will require considerable further approval. Palettes of native plant materials for use in the urbanized areas of the plan will be developed; a large portion of the plan area will be left in an undisturbed state. Arroyos and their vegetation will be preserved. Stormwater which falls on the site is to be, in part, "harvested" and used to enhance vegetation. A monitoring system will be installed during Phase 1 to monitor the groundwater for the effects of fertilizers, pesticide, road salts, petrochemical products and other potential pollutants potentially contained in the harvested water; the City will be responsible for the testing of this well. The water-harvesting system will be designed to be immediately taken out of operation if risks to groundwater are detected by the monitoring system.

Table 3.A.
Land Use Allocation

Land Use Designations	Probable Buildout [1]			Minimum Buildout [1]		
	Gross Acres	Dwellings Allowed	Gross Density	Gross Acres	Dwellings Allowed	Gross Density
SU-2 HD•R-1	321	380 [2]	1.18	321	335 [2]	1.04
SU-2 HD•R-LT	203	460 [2]	2.26	203	405 [2]	2.00
SU-2 HD•R-T [3]	223	1160	5.20	223	1050	4.71
SU-2 HD•R-G	33.1	430	13.0	33.1	380	11.48
SU-2 HD•C-1 [4]	26.9	30	-	26.9	0	-
SU-2 HD•R-R [3]	180	300	1.67	180	260	1.45
Developable Acreage Subtotals	987	2730	2.77	987	2400	2.43
Bear Canyon Open Space	61 [5]	-	-	61	-	-
Tramway Boulevard Right-of-Way	13 [5]	-	-	13	-	-
Simms Park Access Right-of-Way	6 [5]	-	-	6	-	-
Non-Developable Acreage Subtotals [5]	80	-	-	80	-	-
Total Land-Use Allocation	1067	2730	2.56	1067	2400	2.25

1. Unit counts refer to the maximum number of units that can be built throughout the plan area; internal transfers may occur. Section 4 of the Plan (Zoning Regulations) provides that the High Desert Homeowner's Association must certify to the City, prior to application for any required approval, that proposed plans and plats do not exceed the maximums allowed by the Plan. However, no units may be added to the 165 units allowed in the "HIghlands" and the density on any site after units are transferred in may not exceed the density permitted by the land use category mapped for the area.
2. These zones also permit caretaker quarters on the same lot as the primary residence; 110 such units in the R-1 zone; 90 such units in the R-LT zone.
3. The densities for these zones appear low due to the large amounts of public or private open space contained in each zone. The respective maximum buildout densities on the developable acreage are: 5.71 in the R-T zone, and 2.85 in the R-R zone.
4. The C-1 zone is composed of a 10 acre neighborhood park site, an 8 to 10 acre school site, a 5 to 7 acre church site, and a 3 to 5 acre neighborhood shopping center site.
5. These areas were conveyed to the public prior to the development of this plan, and are thus not part of the developable acreage.

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Water-Harvesting as used in this Plan refers to a passive collection system that will convey a small portion of the storm-water generated from developed areas of the project to landscaped areas, or to existing arroyos preserved in their natural landform. The purpose of this effort is to provide supplemental irrigation to landscaped areas and to enhance wild-life habitat within the arroyos. This system is not designed, or required, to be part of the storm-water management system, or to augment ground-water recharge.

Definition of Water Harvestin

The property has been traditionally used for light grazing of feed stock and horses; this use will be discontinued.

Agricultural Potential

In the majority of circumstances, floodplain areas are proposed to be left in their natural condition. Careful management practices in the past have resulted in a partially modified system of natural arroyos whose pattern and flow is an integral part of the drainage system of the northeast heights. To the extent possible, this plan leaves the arroyo pattern in place, with a minimum of artificial control devices. As part of system maintenance, incidental control devices in keeping with the Facility Plan for Arroyos may occasionally have to be implemented, and necessary sedimentation ponds may have to be emptied.

Flood Potential

The site perches at the edge of one of the great scenic assets of the State of New Mexico. Visual access to the mountains to the east and the City and Mesas to the west will be preserved by the preservation of major arroyos as public or private open areas, creation of building envelopes, and limitations on building heights. Internally, the maintenance of the pattern of arroyos and their vegetation will contribute to a perception of openness consistent with the psychological role of the Foothills. Concerns have been raised about the area of the project most proximate to the Elena Gallegos Park and surrounded by Forest Service; this area is commonly known as "the Highlands". A special set of design regulations (Section 4.A of this plan) will govern development in the Highlands area and addresses land use intensity, building heights, colors, material reflectivity, roof lines, and roof-top equipment.

Scenic Qualities

The plan also respects its urban neighbors and their influence on the site setting. The lowest density uses are placed against the Forest , Wilderness, park access, and existing open space boundaries. The northern and southern boundaries maintain land use intensities similar to Sandia Heights and Glenwood Hills respectively. These relationships are discussed in detail under "boundaries and Interfaces" on page 3.10.

Existing Development

The plan area abuts the Cibola National Forest (Sandia Mountain Unit), the Sandia Mountain Wilderness, and the Simms Park Access Road. It also contains the trailhead for the Embudito Trail, owned by the City, which receives use by hikers and mountain bikers alike. The recently adopted Bear Canyon Arroyo Trail System will pass through and become part of the site. In addition, an easement will be provided for a trail through Bear Canyon and along the Simms Park access road. The large amounts of public and private open areas planned within the development allow recreation potential, whether maintained in their native state or as manicured areas for active recreation such as golf and tennis. The location, extent, and probable governance of these areas is illustrated on Map 11, and is charted in Table 3.B on page 3.7. The framework of regional trails will be joined by a public trail system internal to the project area, provided primarily for the purpose of linking the residential districts to both the open areas and central community uses located in a neighborhood center. Every attempt will be made to conform to the goals, objectives of the Parks, Open Space, and Trails (POST) documents in the design of these systems. These trails are also depicted on Map 11.

Recreational Potential

The gross area of the plan is 1067 acres. Eighty acres comprised of the Tramway and Simms Park Access Road rights-of-way and the Bear Canyon Open Space Area were granted to the City prior to the development of this plan, and thus do not constitute part of the developable acreage. The gross developable acreage of the plan is thus 987 acres, representing the property held by High Desert. The maximum number of units permitted is 2961, representing the 3 dwelling unit per gross acre limit of the Semi-Urban Area. The maximum requested is 2730 units representing 2.77 units per gross developable acre; the probable scenario at 2400 units represents 2.43 units per gross developable acre.

Density

"Development in semi-urban areas shall include trail corridors, where appropriate, and shall be compatible with economic policies and historical and socio-cultural values, and shall maintain and integrate existing and new buildings and spaces of local significance into the community."

Policy B

Visual and physical access across the site is critical to the interface between the City and its most significant recreational asset, the Sandia Mountains. The relationship between urban aggregations and natural open areas is a critical socio-cultural element of life in New Mexico.

The site is essentially alluvial in nature, and the system of arroyos, perpendicular to the mountains, is a long standing physical and psychological connection between the City and the mountain. To the extent possible these arroyos are preserved in the plan to maintain and enhance the environment.

The north and south boundaries of the site are defined by arroyo beds. The more significant of these is the Bear Canyon Arroyo which separates the site from Glenwood Hills to the south. Proceeding from a narrow rock-lined channel within the Bear Canyon Scenic easement to the east of the site, the floodplain of the Bear widens as it crosses the alluvial fan; in places it is up to 500 feet wide. The entire course of this arroyo is to be protected. The easternmost extension of the trail system defined by the Bear Canyon Arroyo Corridor Plan will run through it. A sub-trail will lead up the course of the Embudito Arroyo to the City's existing trail-head at the Simms Reservoir. A secondary trail will lead up the Bear Canyon itself.

The north boundary of the site is defined by the access road to Simms Park. The roadway follows the banks of an existing arroyo, and this system will be paralleled by an equestrian/ pedestrian trail. The two east-west arms formed by the Embudito Trail and the Simms Park Access Trail will be joined by a north-south trail lying primarily within Forest Service property.

Two other main arroyo systems internal to the site, the Bear Tributary and the South Pino Tributary Arroyo, will also be maintained in their natural state and will be paralleled by multiple-mode transportation corridors. Each will contain a pedestrian and bicycle system as well as one of the main access road extensions.

Policy C governs the manner in which commercial and industrial development will be provided. There are three thematic elements to this policy:

Policy C

1. Neighborhood-scale centers are appropriate.
2. Strip commercial is discouraged - development should be clustered at major intersections.
3. Mixed use areas should protect residential uses, and offer local employment opportunities.

The plan contains a mixed use area of approximately 30 acres devoted to four major public uses: shopping, church, park, and school facilities. The retail and service uses would consume approximately 3 to 5 acres of land and would be limited to 65,000 square feet of leasable area. Consequently, the marketing area of the center will be limited to the project and its immediate environs. It will also employ approximately 150-250 persons, thus providing some opportunity for employment on-site. This is the equivalent of a small neighborhood shopping center. The remainder of the site would be allotted to a school site (approximately 10 acres) and church site of approximately six acres. Each of these uses will be arranged for adjacency to a neighborhood park (as defined in the Parks Facilities Plan) park element approximately ten acres in size, simultaneously fulfilling the park requirement for the development, as well as satisfying the need for a centralized public space to serve as the focus of the new community. To the extent possible, all these uses will share common parking facilities.

The neighborhood center is situated to place the majority of the project residents within a one-half-mile walking radius to the center. A network of paths, trails, and sidewalks will be provided to connect residences with the neighborhood center and recreational trail system. An extension of the City's mass transit system is proposed to link the neighborhood center to Academy and Spain and the balance of the City transit system.

These community facilities are immediately proximate to the highest density areas of the site. Townhouses flank the public center on either side while apartments are planned immediately south. The "island" formed by this combination of public and higher-density residential uses is immediately adjacent to the major internal streets, thus protecting lower density residential and recreational spaces from the higher trip generation factors and other impacts.

Impacts And Mitigations

The single largest impact of development is on the land form itself, through the removal of natural features and the disturbance of the earth's surface. To lessen these impacts the following measures will be implemented:

- The fundamental tenet of the plan is the combination of urban development with the preservation and enhancement of the natural arroyos connecting the city to the mountains. Thus, all of the major arroyo floodplains and the vegetation in them are preserved.
- Those areas corresponding to those which would be protected through imposition of the 10% Slope Demarcation Line found in the Sandia Foothills Policy Plan are to be preserved.
- Impact on areas of arroyo sideslope greater than 10%, particularly in the Highlands, will be minimized through limitations on building siting, area, and construction methods.

Quantitatively:

- The major arroyos within the property (Bear Canyon, Embudito, South Pino, South Pino Tributary, Bear, and Bear Tributary, as well as the finger arroyos in "the Highlands"), maintained in their natural landform, constitute 15% to 25% of the project area, depending on whether a golf course is constructed.

Table 3.B: Disposition of Private and Public Open Areas

Common Name	General Description	Area	Disposition for Governance
South Pino Arroyo	Floodplain north of Simms Park Access Road.	18	Dedication to City for Park or Public Open Space w / AMAFCA easement and joint-use agreement; drainage maintenance by AMAFCA.
South Pino Tributary Arroyo	Floodplain between Tramway and internal loop road.	17	City drainage easement and private or conservation easements; land and drainage maintenance by High Desert.
Bear Arroyo	Floodplain between Tramway and internal loop road.	26	City drainage easement and private or conservation easements; land and drainage maintenance by High Desert.
Bear Tributary Arroyo	Floodplain between Tramway and internal loop road.	15	City drainage easement and private or conservation easements; land and drainage maintenance by High Desert.
Bear Canyon Arroyo	Floodplain of major east-west arroyo; connects to pre-existing Public Open Space and Forest lands.	119	AMAFCA easement and Open Space trails; joint-use agreement to allow construction of golf course; drainage maintenance by AMAFCA; other maintenance by High Desert.
Embudito Arroyo	Narrow floodplain extended from Bear Canyon Arroyo east to Forest Service lands.	9	AMAFCA easements; joint-use agreement with City to allow trails; drainage maintenance by High Desert.
Dendritic Arroyos in the HD-R-1 Area	Floodplains of "finger" arroyos in the "Highlands" Area.	57	Private Conservation easements and AMAFCA easements; drainage maintenance by High desert; land maintenance by Conservation Trust.
Mountain Face in SE Corner	Area above 10% Slope Demarcation Line.	11	Dedication to the City as Public Open Space; maintenance by Open Space Division.
"The Knoll"	Circular rock outcrop north of Embudito Arroyo.	1	Private conservation easement; maintenance by High Desert.
Panhandle Buffer	200' buffer around 29-unit subdivision south of Embudito Arroyo.	8	Private conservation easement; maintenance by High Desert.

• The steep rock outcrops in the southeastern portion of the property, with the exception of "the knoll" will be dedicated as Public Open Space; the knoll will be retained as a natural open area through private easements. These areas comprise approximately 12 acres or 0.8%.

• An additional 20% of the ground surface including the minor arroyos in the HD•R-1 or "Highlands" areas will, although privately held, be left undisturbed through development restrictions such as floor area ratios, building envelopes, or conservation easements.

Through these actions, fully 40% of the gross land area of the site is protected as Public Open Space, private open space, or lands left in their natural state. High Desert will use New Mexico's new conservation easement laws for the first time. The private open space areas will, in the majority, be granted to a conservation trust for protection; while the individual owner could freely use the property, alterations to the land or its vegetation would not be permitted except to mitigate a public hazard. It is probable that the five-year old Albuquerque Conservation Trust will be selected for this purpose, thus offering a strong and valuable endorsement for this local group.

reservation of : Natural Land Surface

The native vegetation, natural topography, and views in many areas that will be developed are also being protected by the designation of building envelopes, rather than standard setbacks. Floor area ratios which limit the size home that can be built on each lot have been established to preserve a balance between built area and open area on each site. All construction, including all non-native landscaping installations, must take place within the enclosed areas of the envelope, thus preserving the rest of the lot surface in its native state. Outside the envelope, only native plant material can be used, thus enhancing the natural landscape and minimizing the use of irrigation water. Temporary drip-irrigation systems could be used during the initial growing seasons, but permanent irrigation will not be encouraged. Means of using developed run-off from roofs and paved areas are being investigated but are not proposed as part of this plan. Low pollen producing plants will be strongly encouraged.

Preservation and ıhancement of Vegetation

In development, vegetation is removed, disturbing wildlife habitats and making the ground susceptible to erosion. This impact will be mitigated by:

- Replacing lost vegetation with equal or greater volumes.
- Developing a plant palette consistent with the natural landscape.
- Limiting grading to limit vegetation loss.

In addition to conserving resources, many aspects of the plan are designed to enhance them. Foremost is the habitat replacement plan or "vegetation budget". Development by its nature removes habitat. By calculating the amount of vegetation to be removed, a quantity of plant material to be re-planted is thus established. Doing so not only mitigates the loss of existing material, but actually results in a total net increase of vegetation for wildlife habitat. There are several distinct types of habitat in the plan area, some of which are more important than others in fostering wildlife. Development will take place in the least vital habitat areas. The volume of habitat removed is then replaced by an equal or greater volume of the habitat types most likely to support wildlife on the site.

Plant Palette

An extensive native plant palette will be developed to ensure that landscapes within the development are consistent with natural landscapes on public lands adjacent to the project. Native plants which occur in the adjacent foothills and low elevations of the Sandias, such as pinon, juniper, ponderosa pine, and Interior Chaparral species should be used. These species can be established at these lower elevations through implementation of appropriate irrigation techniques. The water-harvesting system described elsewhere in this plan is consistent with overall project goals of water conservation. Not only are native trees and shrubs more appropriate as a landscape amenity than are the native grasses, they will also create a habitat on the site which is structurally much more diverse than the existing grassland. As a result, breeding bird densities can be expected to increase on the property.

The plant palette, except for small areas adjacent to residences and enclosed by walls, will utilize native trees and shrubs exclusively. The goal of the landscaped planting within the development will be to increase the volume of woody perennial vegetation two and a half times over the existing condition. Studies have demonstrated that within urban areas the density and diversity of native breeding bird populations are directly correlated with the volume of native woody vegetation. The ultimate goal of this wildlife landscaping theme will be to maintain the same volume of perennial

plants by increasing the volume of woody perennials. Based upon previous work in the southwest it is predicted that when the landscape plantings are mature the density of breeding birds will at least double in the project area.

Demonstration Garden

High Desert will provide, as part of the neighborhood center, a communal native landscaping garden, which will be used to grow examples of appropriate plant species.

Special Interest Species

Three New Mexico state endangered cacti are known to occur on the project site. These small, cryptic species are relatively widespread and common; the primary threat to each is collection. One species, *Toumeya papyracantha*, is particularly threatened by habitat modification. The New Mexico Endangered Plant Species Act provides no regulatory requirement relating to these species and the development of the property.

Although not required by law, these three cacti will receive special attention during development. Each will be the subject of a salvage and relocation program initiated concurrent with construction. Salvaging of the cacti would require a special permit, which should be easily obtained from the Secretary of the New Mexico Natural Resources Department. Cacti should be relocated to suitable habitat within designated public or private open space areas of the development, or to nearby public lands. Relocation of the cacti to public lands would require coordination with the appropriate agencies. Prior to grading any parcel of land within the development a survey will be conducted for these cacti. If any are found the owner or developer will be provided with recommended transplant protocols for the species. If the plants cannot be relocated within the specific parcel on which they were found, an alternative location within the development will be selected.

Water harvesting (as previously defined on page 3.5) will be used to enhance habitat value by increasing the volume of vegetation. Rather than simply being discharged off the site as quickly as possible, some of the stormwater will be collected and used to irrigate habitat enhancement programs within the arroyos and public and private open space. Two basic systems will be utilized: passive systems along landscaped roadways and within the urban landscape, and a more elaborate system to be utilized in arroyos which traverse the higher density portions of the project site.

Particularly in the estate lot areas, water courses and drainage patterns will be preserved in their natural state and cross lot drainage will not be impeded by re-grading or lot line walls. Streets are proposed to very narrow and of a simple curb-less design to prevent the collection and velocity increases associated with standard street sections. Instead stormwater will simply flow off the edges of the roadways. In these ways, natural flows to the arroyos will be encouraged to continue. Along the access corridors (the three major east-west streets), portions of flows developed in the streets will be collected and distributed in the arroyo bottom through a system of distribution fields. This method will also be used in the large-lot and private open space areas to create watering holes for wildlife to encourage continued use of the site as habitat.

Protecting views from without and within the site will be handled by:

- Maintaining arroyo land forms in an undisturbed or enhanced condition to allow for view corridors across the site to the valley and the mountains.
- Mitigating views of Tramway through landscaping and earthen berms. Create openings in the visual screen at the arroyos to allow for views of the Sandias across the site.
- Limiting building roofline and vegetation heights to protect views across the site, and to minimize contrast with the existing landform.
- Designing structures to repeat the form, line, color, reflectivity, and texture of the existing site landscape and surrounding mountains.

Viewshed Protection

Visual access to the mountains to the east and the City and Mesas to the west will be preserved by the preservation of major arroyos as public or private open space, creation of building envelopes, and limitations on building heights. Internally, the maintenance of the pattern of arroyos and their vegetation will contribute to a perception of openness consistent with the psychological role of the Foothills. Over-lot grading will be minimized especially in the eastern areas to preserve the appearance of continuity of the ground surface. Existing trees, particularly those in the Juniper

Transition Area will be preserved, and building and grading envelopes will be preselected to minimize disturbance.

e of Building Envelopes

Current zoning districts within the city provide for the establishment of building setbacks based upon standard dimensions from front, rear, and side property lines as prescribed in the city code. In order to limit encroachment of buildings into the major arroyos of the site, respond to site topography, and preserve existing vegetation, High Desert's HD•R-1 and HD•R-LT zones establish a building envelope. This envelope, which will be recorded on the final plat for each portion of the development in these zones , will establish setbacks on an individual lot basis. In establishing building envelopes, existing drainages, vegetation, and topography, as well as views to and from adjacent lots will be considered. The building envelope will serve as the limit of all improvements, including landscaping. Within the envelope, exotic species and traditional irrigation will be allowed. Outside the envelope drip irrigation systems will be encouraged, and only native plant species will be allowed.

ilding Heights

Building heights and site lighting levels will also be keyed to view preservation.

From the neighborhood center, residential land use densities transition from higher densities in the project center to lower densities at the borders with adjacent lands. The lowest structures, governed by the Highlands Design Overlay Zone Regulations and in the Special Regulations related to Glenwood Hills (both contained in Section 4) , will be against the boundaries with the Forest Service lands. Apartments within the project are located next to the neighborhood center. This also places the tallest buildings within the interior of the site with lower buildings along Tramway. Such a relationship provides a more visually pleasing interface with Tramway Boulevard and in turn responds to concerns expressed in meetings with residents of adjacent neighborhoods.

Site Lighting

In order to conserve energy and preserve night views of the city skyline and night sky, it is proposed that street lights in the eastern, estate lot portion of the property be limited to major intersections and the ends of cul-de-sacs. This portion of the project is proposed to be of comparatively low density. It is not believed, therefore, that the typical lighting standards of more urbanized areas is appropriate for this condition. This limitation on street lighting is also consistent with the desires of residents in adjacent neighborhoods. Street lighting throughout the remainder of the project will be low level, decorative fixtures at standard city spacings. In addition solar energy efficient lighting systems will be considered along designated bike and pedestrian pathways.

Project Boundaries nd Interfaces

While attempting to incorporate its own land use standards, new development must be sensitive too the social and physical character of the properties which bound it. The project area has four "faces" - the semi-rural nature of Sandia Heights; the urban quality of the Tramway frontage the semi-urban character of Glenwood Hills; and the natural character of the Bear Canyon Public Open Space and the foothills. The following paragraphs describe how each of these aspects is to be treated:

Sandia Heights

The same size lots or larger as those found in Sandia Heights are proposed in order to maintain continuity with the pre-existing neighborhood. Furthermore, based upon numerous conversations with the Sandia Heights neighborhood association, no road connections between High Desert and Sandia Heights are proposed. Subdivision standards for these portions of the project will include narrow roadways, low impact street lighting and natural landscaping consistent with the character of Sandia Heights. We believe this approach is consistent with the wishes expressed by neighbors during several meetings with the neighborhood association.

In addition to these steps, it is also proposed that approximately eighteen acres of land in the North Pino arroyo, which divides Sandia Heights from High Desert, be dedicated to the City for open space. (Please see table 3.B for a list of private and public open space areas and their disposition) This will preserve a natural division between the two communities. This dedication is proposed to be made in a manner that will not preclude limited development of this land as a neighborhood park. In order to ensure that any such park development does not negatively impact the adjacent homes, prohibition of parking areas and lighted ballfields will be a condition of the dedication. Dedication of this land will be made in conjunction with final plat approval of the adjacent residential lands.

Tramway Boulevard

A significant landscape buffer will be provided along the portion of the property that borders Tramway Boulevard consistent with the wishes of the Peppertree/Royal Oaks and other neighborhood associations surrounding the property. Due to expansion of Tramway Boulevard and extension of its trail system, a strong separation will be created between High Desert and the properties on the west side of Tramway*.

** EPC Condition #10 requires that "the developer shall provide maintenance of landscaping at each entrance to the site in the Tramway Boulevard public right-of-way for a period of three years". By agreement with the Parks and General Services Division, this requirement is being held in abeyance pending completion of a public landscaping project in the right-of-way.*

Glenwood Hills "Panhandle"

In the portion of the property south of the Embudito Arroyo referred to as "the panhandle", lots will generally be equivalent to those found in Glenwood Hills North. In addition, the use of building envelopes is proposed to ensure that a minimum of 200 feet is provided between existing homes in Glenwood Hills North and new homes in High Desert; outside the building envelope areas will remain in their natural state (subject to the necessary location of trails and utilities). Special care will be taken with in planning and designing the area. Building heights will be limited to nineteen (19) feet, and building envelopes will be utilized to protect view corridors. Certain improvements, as listed in Section 4.C of the Plan, will be provided within the existing neighborhood. This portion of the property will not have direct access to the balance of the land north of the Embudito Arroyo.

Bear Canyon Public Open Space

Sixty acres of the flood-plain of the Bear Arroyo, already held by the City as Public Open Space, form a major buffer adjacent to Glenwood Hills. Furthermore, approximately nine acres of the flood channel of the Embudito Arroyo, extending east from its confluence with the Bear to Forest Service land, will be preserved as open space through an AMAFCA easement, forming a continuous physical and visual link to the Sandia Mountains. This action will provide the last remaining land parcel required to carry out the Bear Canyon Arroyo Trail Plan in the vicinity of the project site. The grant of easement of the flood channel of the Embudito arroyo will be made simultaneously with final plat approval of the adjacent lands.

Forest Service Boundary

Mixed single-family detached and attached housing (HD•R-1 and HD•R-LT zones) is proposed along the majority of the boundary with the USDA Forest Service lands. In the recreational/resort zone (HD•R-R), townhouses surrounded by common public or private open areas may form an adjacent land use. This will provide a low density transition to the public lands on the eastern border of the property. As with the Sandia Heights interface, these areas will be developed with narrow roadways, low impact street lighting, and "in-kind" landscaping which will reinforce the natural image of the area. The project will be separated from the Forest Service lands by a smooth wire fence to be installed and maintained by High Desert.

In the portion of the project known as "the Highlands" (i.e., the 165 acre area east of the section line) certain additional "viewshed regulations" will apply which govern land use intensity, building height, colors, materials, roof-lines, and roof-top equipment. Complete details of the viewshed regulations are described in Section 4.B of this sector plan.

Open Space and Trails

The site abuts the Cibola National Forest (Sandia Mountain Unit), the Sandia Mountain Wilderness, and Simms Park. It also contains the trailhead for the Embudito Trail, owned by the City, which receives use by hikers and mountain bikers alike.

One of the chief goals of the plan is to preserve the major existing arroyos as public or private open areas. These arroyos form the structure of the recreational system within the project and provide locations for the creation of a trail system which ties the development together internally, and connects it to the regional Public Open Space and trail system. In addition, the large amounts of private open space areas planned within the development allow recreation potential, whether maintained in their native state or as manicured areas for active recreation such as golf or tennis.

In addition to maintaining existing trail heads and easements through the Embudito Arroyo, an additional trail will be established to provide an alternative connection from the Bear Canyon Arroyo Corridor to Public Open Space east of the project. The alignment of this trail is shown on Map #11, and will be dedicated by the bulk land division plat. Land for a 20-car trailhead parking lot will be dedicated in the Bear Canyon Arroyo Open Space at the end of the Spain Road extension.

The recently adopted Bear Canyon Arroyo Trail System will pass through and become part of this site. Easements will be provided for trails through the Bear Canyon where it traverses the project to a point of intersection with the existing north-south trail within Forest Service lands; and along the Simms Park access road to the closest point of approach to Simms Park. The project will not result in alteration of the existing points of public access to public forest lands east of the project area.

Cultural Resources

Paleontology

Though no fossils were found on the surface there is potential for the presence of subsurface paleontologic resources which could be uncovered by construction activities. In the event that vertebrate fossils are uncovered during construction a local paleontologist should be called to assess the significance of the finds and to determine mitigation if any. Qualified paleontologists from the Paleontology Department of the New Mexico Museum of Natural History and the Geology Department of the University of New Mexico can be contracted for this work. Both institutions are located in Albuquerque

Archeology

There are two small pre-historic sites in areas to be dedicated as open space. While their location in the project area will protect them from direct impact, indirect impacts are possible. No traditional cultural properties were identified within the project area.

Although final plans have not yet been prepared, a mitigation plan to avoid the potential for indirect impacts to the two small historical sites located within natural open areas in the project is likely to include detailed site mapping, recordation, and surface collection of cultural materials, and limited test excavation to confirm the expected absence of significant subsurface deposits. The State Historic Preservation Officer will be consulted during planning of the proposed mitigation program to ensure compliance with all applicable laws and regulations.

Both pre-historic sites have been registered with the New Mexico State Laboratory of Anthropology and are considered potentially eligible for the National Register of Historic Places under Criterion "D". These sites should be avoided in the development of the property. Because of the potential for indirect impact, it is further recommended that the sites be recorded in detail and surface collected. This work should be planned and implemented by a qualified archaeologist. The ten Isolated Occurrences are deemed "not eligible" for the National Register of Historic Places.

It is possible, though not probable, that buried cultural deposits are present in the project area. In the event that historic or pre-historic artifacts are uncovered during construction a local archeologist should be called to assess the significance of the finds.

Infrastructure Issues

High Desert, like any development, is dependent on the provision of public infrastructure to service its residents. The High Desert Development will impact each of those infrastructures as well as the regional systems and must be assessed.....

Traffic

The project is accessed from Tramway Boulevard by Academy and Spain Roads. Of these two roadways, Academy is assumed to be the principal entrance into the project as it is classified as an arterial street on the Long Range Major Street Plan. Extensions of these two roads within the project form a loop road system which will serve the majority of the development and offer easy automobile access to the residential areas. This loop will also carry the City's Suntran bus system. No other access points from Tramway Boulevard are contemplated as Tramway is a limited access road, nor are direct connections to Sandia Heights or Glenwood Hills being considered, except for the twenty-nine units proposed for the Panhandle Area south of the Embudito Arroyo. In order to enhance the appearance of Tramway Boulevard, High Desert will augment landscaping in easements within the Tramway right-of-way adjacent to the main entry points for a period of three years, at which time the easements and landscaping shall revert to the City.

A traffic study involving the projection of generated trips and the analysis of intersection volumes and capacity was performed as part of the preparation of this plan. The Traffic Impact Analysis, which is attached in its entirety to the Plan as Volume 2. The major thrust of the traffic studies to date has been to gauge the impact of the traffic produced within the project on the street network outside the project; the internal street network must still be analyzed to assure that circulation within the project is properly designed in accordance with DPM standards*. The major conclusions of the study are:

• Various street intersections and segments will experience growth in traffic volumes.

• Some intersections (Academy/Wyoming, and Eubank/Montgomery) are heavily impacted already. Addition of High Desert's traffic neither causes nor alters the poor levels of service at these intersections.

• Other intersections will experience growth but will still operate at acceptable levels of service.

Mitigations of impacts will take three major forms:

• Provision of mixed uses designed to encourage multi-modal access to retail, service, recreational and institutional uses by internalizing trips.

• Automobile trip generation will be specifically attacked by the provision of access to alternative modes.

• Street improvements within the impacted area of the regional network will have to be constructed.

Great effort was expended during the planning of the project to eliminate vehicle trips and their consequent impacts on the road network. The neighborhood commercial area and non-residential uses such as the school, church, and park, are clustered in the center of the development in order to more easily serve those that will live in the project. The separation from Tramway will discourage those outside the project from using these facilities. Thus, these uses will draw minimal external trips into the project area, and will simultaneously decrease the number and length of trips outside the project that would be necessary had these uses not been provided. Advantage will be taken of transit service to the project area and use of these facilities will be encouraged as much as possible. As transit ridership increases within the metropolitan area, additional vehicle trips will be eliminated. The project also proposes an extensive system of pedestrian and bicycle trail links throughout the neighborhood and surrounding areas (as shown on Map 11) which should also contribute to trip reduction. In combination, these planned amenities will reduce total trips. However, there is not enough empirical information available to quantify the reduction . Therefore this report assumes a conservative approach and does not apply any reduction to the trip generation rates based on multi-modal factors.

Transportation Improvements

By agreement with the Transportation Development Division dated October 19, 1992 and as modified by memorandum dated November 5, 1992 and submitted to the Environmental Planning Commission, High Desert agrees to make the following improvements and contributions to the street system:

•All transportation improvements within the project will be designed, financed and constructed by High Desert in accordance with the approved Traffic Impact Analysis.

• At the onset of the project, High Desert will construct at its own cost the intersections of Tramway and Spain and Tramway and Academy, estimated at a value of $130,000.

• In 2000, High Desert will make a cash contribution to the City of $170,000 for the City's construction of improvements at Juan Tabo and Spain and Tramway and Paseo Del Norte. The principal of these monies will be subject to 3% simple interest. No developemtn will be permitted after this date until the cash contribution is made.

• High Desert will make further contributions to unspecified link and intersection improvements, to be expended at the discretion of the City, according to the following schedule: Beginning at 12.5% of development (337 residential units) and at each succeeding increment of 676 units High Desert will make a payments of $150,000 (1992 dollars) to the City to be used for unspecified link and intersection improvements in the area included in the TIS. The principal of such monies is subject to simple interest at a rate of 3% per annum.

Air Quality

Development brings with it the automobile and fireplaces - both are sources of air pollution. The primary mitigations of air quality degradation are reduced vehicle trips and reduced wood-burning.

Automobiles and wood-burning fireplaces constitute the largest sources of pollutants. The plan is literally centered on the provision of a neighborhood center providing commercial, school, park, and church uses in one central location within a walking radius of the majority of the residents in the development. The pedestrian trail system is extensive, and is paralleled by an equally extensive

**** Pursuant to the studies required by this section, the Circulation Hierarchy Map (map #9) and the Street Section Diagrams (Table 5) have been modified at the instruction of the Traffic Engineer; the map and tables in the Plan are consistent with DPM standards at the time of plan approval.***

system of bike trails. The location of the "neighborhood center" will help reduce internal automobile trips, while simultaneously discouraging the importation of vehicle trips from beyond the project boundary. The design of the roadway system for the project is also conducive to use of the City's transit system.

In order to reduce the impact of wood-burning, the following table is hereby adopted limiting the number of wood-burning fireplaces permitted in the Sector Plan Area:

Table 3.C: Fireplace Limitations

Residential Zone	% With Fireplaces*	No. With Fireplaces	% With Gas Only	No.With Gas Only	Total Units
HD•R-1	100	380	0	0	380
HD•R-LT**	100	460	0	0	460
Caretaker Units	0	0	100	200	200
HD•R-T	50	580	50	580	1160
HD•R-G	0	0	100	430	430
HD•R-R***	0	0	100	350	350

* Fireplace means a constructed hearth or integral unit burning wood as its principal fuel. All fireplaces shall be equipped with a gas-starter device. No more than one woodburning fireplace is permitted per unit; all other fireplaces must be gas fired using artificial logs. An EPA approved woodburning stove or a gas-log fireplace may be substituted for any woodburning fireplace.

** If any custom lots are placed into townhouse uses, then these dwelling units will fall under the requirements listed in the townhouse zone

*** Woodburning fireplaces would be permitted in common use areas, such as lobbies, lounges, and ballrooms, etc., if the resort option is excercised.

Stormwater Management

The stormwater management system was derived directly from environmental criteria calling for the preservation of the natural landscape of the arroyos and the enhancement of natural vegetation in arroyos. To accomplish these stormwater management goals, the development can be divided into four major land use areas employing different drainage management concepts. These major land use areas consist of varying degrees of intensity ranging from undeveloped open areas to commercial and institutional development. The following paragraphs contain general descriptions of the various land use areas and their associated drainage management concepts.

Flood Plain Zone

The flood plain zone is those areas that could potentially be inundated in a 100-Year Storm, and will be set aside as separate parcels for public and private open space and stormwater management purposes. These include the Bear Canyon and Embudito Arroyos, and the portion of the Pino Arroyo immediately adjacent to Sandia Heights. No development is proposed for the floodplain zones other than recreational uses.

The land use plan allows for the potential development of a golf course primarily within the southern arroyo systems on the property. Design and installation of the golf course will minimize obstruction to the flows of the arroyo by restricting major grading operations to the existing land forms and contours.

Arroyos are to remain in a natural condition conveying essentially historic flows. No improvements to the arroyos are planned except for occasional crossing structures. Present plans call for one free-span crossing of the thalweg of the Bear Canyon Arroyo which will not interfere with the flow regime.

The legal disposition of the easements for these arroyos is discussed in the Drainage Management Plan, Volume 4, and is charted in Table 3.B on page 3.7.

Semi-Urban Residential Zone

This zone consists of the low to moderate density residential areas (including the Highlands) with densities ranging from 2 dwelling units per acre (du/ac) to 7.5 du/ac. These zones are located predominately in the upland areas of the project, and will be developed in a manner intended to minimize disturbance to ground cover and existing arroyos. Existing hydrological conditions will be impacted in negligible fashion. The sheet flow pattern of the natural surface will generally be maintained; flow rates will be essentially unaffected.

Development on the lot will remain outside the identified arroyo floodplains and prudent lines. To minimize lot grading, cross lot drainage will be permitted in the uplands area where there is to be low-density development and preserved by platted easements and other land use covenants. The arroyos will remain in their natural state, and convey upland flows and flows from adjoining development until they terminate in sedimentation basins where the flows will be diverted into the parallel underground conveyances of the Landscaped Buffer Zone. The area within the prudent lines should be viewed as a "maintenance" area, where work may from time to time be required to control arroyo meander.

Landscaped Buffer Zone

This zone represents the major arroyos located in the high density development area and includes the South Pino Tributary, the Bear Arroyo Tributary, and the Bear Canyon Arroyo. Each of these is paralleled by a main internal street. In this zone upstream flows will have been diverted into parallel underground stormwater conveyance systems. The resulting "dry" arroyo will function as an overflow system for the de-silting basins in the event of storms larger than the 100-Year event and will also be areas targeted for vegetation enhancement. The majority of run-off from higher density development will be collected and discharged to the conventional storm-drain system. A portion of the run-off will be diverted and used to irrigate habitat enhancement plantings in the preserved arroyos.

Although storm flows have been removed, the arroyos will continue to remain in a natural condition, preserved by protective covenants and drainage easements and maintained by the homeowners' association.

Urban Residential Zone

This zone contains the higher density development areas ranging from 5 dwelling units per acre to 20 dwelling units per acre. Apartment, commercial and institutional developments are also included. Overlot mass grading, with the exception of the major "dry" arroyos adjacent to the Landscape Buffer Zone as described above, will be predominant. Stormwater management techniques will consist of street flow collected in underground conveyances and discharged to the major underground conveyances that discharge to the structures beneath Tramway Boulevard, and ultimately to either the Tramway or John Robert Dam basins.

Required Improvements

In order to carry out the drainage management guidelines established in this section, the following major drainage improvements are proposed for the development of this property:

- Utilize stormwater harvesting and sedimentation ponds in low density development zones.
- Install the South Pino Tributary, Bear Arroyo Tributary and Bear Arroyo public storm drain systems, including sedimentation ponds, to remove large upstream flows from the arroyos flowing through the higher density developed areas.
- Upgrade the existing South Pino Tributary/Bear Arroyo Tributary, and Bear Canyon Arroyo training dikes to comply with new FEMA standards for freeboard and sedimentation analysis.
- Modify the structures under Tramway Boulevard to induce the required capacity.

Implementation

The drainage facilities identified in the "Drainage Management Plan" volume will be designed, financed and constructed by High Desert. With respect to upgrading the South Pino Tributary/Bear Arroyo Tributary and Bear Canyon Arroyo Training Dikes, AMAFCA's participation in any potential upgrading will be sought. For further discussion of the methodology and results of the Drainage Concept Study please refer to Volume 4: Drainage Management Plan.

Groundwater Protection

Provision of septic tanks and private groundwater wells would be antithetical to the general scheme of resource preservation of the plan. Use of private systems could pose an eventual threat to groundwater supplies. In the interest of preserving the quality of water supplies, private residential systems will not be allowed.

Water and Sewer Provision

Consequently, the site is to be annexed in its entirety and served by public systems; wells and septic tanks will not be permitted, except for one well, which if private, could be used only for irrigation of the golf course, if any; and if public, would be used for supplying the Canada or Simms Reservoir when constructed. Recreational uses may in the future be irrigated with partially treated effluent of sufficient standard as to not threaten groundwater supplies. Otherwise, the project will utilize City water services. In addition, the project will utilize Albuquerque's municipal sewer system, avoiding the potentially adverse impacts septic systems may have on the quality of ground water.

Nota Bene: The use of treated effluent for irrigation cannot presently be, and is not, approved by the City as part of this Sector Plan. Implementation of this technique will require approval of a private tertiary treatment plant, approval of all State and Federal environmental permits and amendment of the City's Wastewater Facilities Plan.

Closed Loop System

The construction of the Canada Reservoir, the Simms Pump Station, and the connecting transmission line may be required for permanent service to Water Zones 11E and 12E, of which the eastern half of the project area comprises a portion. Water service to this portion of the project will be provided through a closed-loop pumping system until such time as the Canada Reservoir is ready for service. As water service to these areas would be in advance of public system provision, the cost of the system, including the electrical costs, will be paid by High Desert. The pumping station for this system would be located at the Simms Reservoir site.

nplementation

Funding of master-plan water and sewer lines throughout the project will be handled in accordance with standard City Water Utility Extension Policies. All other utilities constructed to service the project that are not master-planned facilities will be designed, financed, and constructed by High Desert under normal subdivision improvement procedures.

Existing easements and rights-of-way for major utilities at the project boundaries are shown Volume 4. Easements and rights-of-way for major utilities within the project will follow the schematic locations of water and sewer lines shown in Volume 4. These generally follow, and are congruent with, transportation corridors and their location within these corridors will be approved with the subdivision design process. Water and sewer lines crossing existing or proposed Public Open Space (which in general is the bottom of major arroyos) will be designed in accordance with standards for locating utilities in such areas and will be modified as requested and approved during the design process.

High Desert seeks to create a mixed use community which applies state of the art solutions to environmental, engineering, and planning issues. But the plan must also form a coherent, administrable whole consistent with the general intent of the zoning regulations. Its zoning pattern will therefore consist of carefully composed variations on zones already contained in the Comprehensive City Zoning Code of the City of Albuquerque. These zones, and special procedural and design considerations are presented in this section.....

The zones and terms described below were devised for the purpose of carrying out the High Desert Sector Plan. Where not specifically defined in Section 4.A.8 of this plan, all terms refer to the definitions contained in the Comprehensive Zoning Code of the City of Albuquerque. Refer to Section 4.A.7 of this plan regarding allocation of densities within residential zones.

Section 4.A.1 SU-2 / HD•R-1

This zone corresponds to the R-1 Residential Zone in the Comprehensive City Zoning Code and provides for low-density residential housing and uses incidental thereto. It is subject to the same regulations as that zone with the following exceptions. Portions of this zone are also subject to the Design Overlay Zone described in Section 4.B of this sector plan.

1. Density: A maximum of 380 units exclusive of caretaker quarters is permissive in this zone.
2. Up to 110 Caretaker units as defined herein are permissive in this zone. Caretaker quarters consist of not more than 750 square feet and not more than bedroom, and incorporating separate bath and kitchen facilities. The unit must be attached to the primary residence or to an accessory building. The square footage of the caretaker quarters shall be assessed against the total square footage allowed on the lot. The Caretaker Quarters cannot be conveyed separate from the primary residence on the lot.
3. Private parks are permissive.
4. Recreational trails, whether public or private, are permissive.
5. Parking Reserve Areas as defined herein are permissive.
6. Walls and Fences are limited to eight (8') in height and must be constructed entirely within the building envelope area defined below.
7. Lot Size:
    a. Minimum Net Lot Area shall be 21,780 square feet.
    b. Minimum lot width shall be one hundred (100) feet.
8. Floor Area Ratio
    Lots shall have a maximum floor area ratio of 0.30.
9. Setback
    a. Setbacks shall be established by building envelopes shown on the subdivision plat.
    b. Building envelopes shall not enclose more than 12,000 square feet of land.
    c. Building envelopes shall be separated from property lines by a minimum of ten (10) feet.
    d. Minimum setback from a right-of-way line to a building envelope shall be twenty (20) feet.
    e. Minimum setback from the edge of the High Desert external boundary in the Highlands Design Overlay Zone shall be 100 feet, except along the east boundary, opposite the Simms Park, the setback shall also be at least 360 feet from the west boundary of Simms Park.
10. Agricultural animal keeping is not permitted.

Section 4.A.2: SU-2 HD•R-LT

This zone corresponds to the R-LT Residential Zone in the Comprehensive City Zoning Code and provides for houses, and limited townhouses and uses incidental thereto. It is subject to the same regulations as that zone with the following exceptions. Portions of this zone are also subject to the Design Overlay Zone described in Section 4.B and 4.C of this sector plan.

1. Density : A maximum of 460 dwelling units exclusive of Caretaker Quarters is permitted in this zone.
2. Up to 90 Caretaker Quarters as regulated in the HD•R-1 zone are permissive.
3. Private parks as regulated in the HD•R-1 zone are permissive.
4. Public or private recreational trails as regulated in the HD•R-1 zone are permissive.

5. Parking Reserve Areas as defined herein.
6. Lot Size
    a. If developed as detached houses, minimum net lot area shall be 7,500 square feet, and minimum lot width shall be seventy-five (75) feet.
    b. If developed as townhouses, minimum net lot area shall be 4,200 square feet and minimum lot width twenty-two (22) feet.
7. Floor Area Ratio
    a. If developed as detached houses, lots shall have a maximum floor area ratio of 0.65.
    b. If developed as townhouses, lots shall have a maximum floor area ratio of 0.70.
8. Clustering of Townhouses

Notwithstanding the provisions of this plan, or any provision of the Comprehensive City Zoning Code, up to eight (8) townhouse units may be clustered on a townhouse site as defined herein provided that a subdivision plat shall be approved by the City showing that: the minimum area of such site is equal to the number of units times the minimum net lot area defined above; that the Off-Street Parking Regulations of the Comprehensive City Zoning Code are met; that the minimum amount of area conveyed for ownership (including the townhouse, any accessory structures, and private outdoor spaces) is not less than 1400 square feet as measured at the ground plane; that proper evidence of common title to the residual lands is evidenced on the plat; and that proper evidence that the residual lands may only be used for common open areas, vehicular circulation, or recreational purposes is also shown on the plat.

Section 4.A.3: SU-2 HD•R-T

This zone corresponds to the R-T Residential Zone in the Comprehensive City Zoning Code and provides suitable sites for houses, townhouses, and uses incidental thereto. It is subject to the same regulations as that zone with the following exceptions:

1. Density: A maximum of 1160 dwelling units is permitted in this zone.
2. Private parks as regulated in the HD•R-1 zone are permitted.
3. Public or private recreational trails as regulated in the HD•R-1 zone are permitted.
4. Parking Reserve Areas as regulated in the HD•R-1 zone are permissive.
5. Floor Area Ratio shall be as regulated in the HD•R-LT zone.
6. Clustering of Townhouses, as regulated in the HD•R-LT zone.

Section 4.A.4: SU-2 HD•R-G

This zone corresponds to the R-G Residential Zone in the Comprehensive City Zoning Code and provides suitable sites for houses, townhouses, and low density apartments. It is subject to the same regulations as that zone with the following exceptions:

1. Density: A maximum of 430 dwelling units is permitted in this zone; density shall not exceed 13 dwelling units per net acre.
2. Private parks as regulated in the HD•R-1 zone are permissive.
3. Private or public recreational trails as regulated in the HD•R-1 zone are permissive.
4. Parking Reserve Areas as regulated in the HD•R-1 zone are permissive.
5. Clustering of Townhouses, as regulated in the HD•R-LT zone, is permissive.

Section 4.A.5: SU-2 HD•C-1

This zone corresponds to the C-1 Neighborhood Commercial zone in the Comprehensive City Zoning Code and is subject to the same regulations as that zone with the following exceptions:

1. The sale of alcoholic drink for consumption on premises is permissive; and, the sale of alcoholic drink for consumption off premises, as an incidental use within a grocery store, is permissive.
2. The following additional services and special events with outdoor storage and activities are permissive:
    a. Outdoor retail sales of food and drink including alcoholic drink for consumption on-premises.
    b. Music, Theater, and Artistic Performances
    c. Crafts Fairs
    d. Antique Fairs
    e. Farmer's Market

f. Charitable Fund Raising Special Events
g. Neighborhood (non-commercial) recycling activities
h. Public and community gardens

3. Assisted Living Facility as defined herein including medical care for project residents, but not a hospital for human beings, is permissive.
4. One Caretakers Quarters for public or private school is permissive.
5. A maximum of 65,000 net leasable square feet of retail sales and service uses is permissive.

Section 4.A.6: SU-2 HD•R-R Recreational/Re Zone

This zone, unlike the other zones described in this section, does not correspond to any existing zoning classification. It provides for stormwater management; the construction of a golf course; and permits a mixture of dwelling unit types, including a resort/conference center and related commercial facilities. It is subject to the following regulations:

1. Permissive Uses, when pursuant to only the Sector Development Plan:
   a. Uses permissive in the HD•R-G zone.
2. Density: If developed as R•G the total number of units shall not exceed 300.
3. Permissive Uses, when pursuant to the Sector Plan and to a Site Development Plan and Landscaping Plan approved by the Environmental Planning Commission:
   a. Golf Course
   b. Uses Related to a Golf Course , including:
      1. Structures incidental to a golf course (shelters, bathrooms, maintenance buildings, and utility housings) provided the aggregate net leasable area of such uses does not exceed 12,000 square feet.
      2. Public trails for pedestrian, equestrian, bicycle, and physically disadvantaged use.
      3. Private trails and golf-cart paths.
      4. Facilities for the maintenance of the common area and trails whether public or private, provided that the aggregate net leasable area of such facilities does not exceed 6,000 square feet.
      5. One "Caretakers Quarters" as regulated in the HD•R-1 zone.
      6. A construction Office in connection with a specific construction project provided it is limited to a period of one year.
   c. Resort/ Conference Center, with a maximum of 350 hotel rooms, the aggregate of which shall not exceed 245,000 net leasable square feet, and meeting facilities not exceeding 20,000 net leasable square feet; and incidental maintenance and recreational structures not exceeding 12,500 net leasable square feet.
   d. Uses Related to the Resort/Conference Center, including:
      1. Swim Club and Tennis Center not to exceed 15,000 net leasable square feet exclusive of structures containing indoor recreational courts and swimming pools.
      2. Retail sales of food and drink, including alcoholic drink, for consumption on-premises.
      3. Commercial Club for recreational or athletic activity, not to exceed 25,000 net leasable square feet.
      4. Golf Clubhouse, not to exceed 50,000 net leasable square feet.
4. Signs: As regulated in the HD•C-1 zone.
5. Conditional Uses
   a. Conditional Uses the HD•R-LT zone, excluding private utility structures.

Section 4.A.7: Provision for Design Review

1. Unless otherwise provided herein, the zones described in this Sector Plan shall be developed in accordance with the regulations and procedures of the Subdivision Ordinance and Comprehensive City Zoning Code. Further the High Desert Homeowner's Association or its successors shall certify to the City at time of submittal for approval to the Development Review Board that any proposed plat meets the requirements of the Sector Development Plan, and at time of submittal for building permit for new construction or renovation, that any construction plans meet the requirements of the Sector Plan. The Homeowner's Association shall further certify that the number of units constructed in the zone does not exceed the maximum allowed by the Sector Plan.
2. Where so provided herein, approval of the Planning Director shall mean delegation to the Development Review Board.
3. Where so provided herein, approval of conditional uses shall be subject to the provisions of the Special Exceptions provisions of the Comprehensive City Zoning Code.

Section 4.A.8: Definitions

Unless otherwise provided herein, all terms are defined as they are defined in the Definitions of the Comprehensive City Zoning Code.

1. Area, Net Lot is the lot area remaining after dedication of public right-of-way or the granting of access easements, but prior to the granting of easements for any other purpose.

2. Assisted Living Facility is an apartment or complex of apartments including medical facilities serving only those living on-site, and providing living assistance and skilled nursing care to those residents unable to care for themselves or requiring assistance with day-to-day functions. It does not replace the group residential programs defined in the Definitions section of the Comprehensive City Zoning Code, but is intended, like "caretaker quarters", to provide for an alternative life-style. It does not provide the diagnostic services or treatments associated with hospitals. Such facilities may be subject to licensing by the State of New Mexico.

3. Building Envelope means an area proscribed on the plat of an individual lot which limits horizontal development of the lot in response to topographic, drainage, and other natural features of the site.

4. Caretaker Quarters means separate living quarters with not more than one bedroom, bath, and kitchen facilities, contained within or attached to the house or an accessory building on a residential lot.

5. Cluster Townhouse means a group of townhouses on a given site where the majority of land area is held in common and separate title is held only to a living unit, its accessory structures, and private outdoor spaces.

6. Commerce Association means the High Desert Commercial Owner's Association, a New Mexico non-profit corporation, responsible for the administration of all non-residential property and common area within non-residential areas within the community and for the preservation and maintenance of architectural standards for the commercial properties under the Declaration of Covenants, Conditions and Restrictions. Each owner of commercial property in High Desert automatically becomes a member of the Association upon taking title, and remains a member until title is conveyed. Membership is mandatory and cannot be transferred except in connection with the transfer of title to the property.

7. Conservation Easement means an easement granted specifically to a third, non-profit entity for the purpose of entering upon and maintaining property held in common for open space purposes.

8. Homeowners Association means the High Desert Residential Owner's Association, a New Mexico non-profit corporation, responsible for the administration of all residential property and common area within residential areas within the community and for the preservation and maintenance of architectural standards for the residential properties under the Declaration of Covenants, Conditions and Restrictions. Each owner of residential I property in High Desert automatically becomes a member of the Association upon taking title, and remains a member until title is conveyed. Membership is mandatory and cannot be transferred except in connection with the transfer of title to the property.

9. House means a single family detached dwelling unit, containing not more than one dwelling unit and one Caretaker Quarters unit.

10. Lot means a tract or parcel of land consistent with the zoning provisions of this plan platted and placed on the County Clerk's records in accordance with all applicable laws and ordinances

11. Walls and Fences are those walls and fences situated within building envelopes which are primarily for the purpose of enclosing private areas, mitigating noise, and providing security. They are generally non-structural and should be consistent with the architectural materials and colors of the structures to which they are related.

12. Parking Reserve Area designates areas reserved for off-street parking detached from the residential unit it serves which might otherwise be required by the parking regulations. Parking reserve areas shall:

1. Be within 300 feet along the nearest path of travel of the unit they are intended to serve.
2. Shall not contain more than 10 parking spaces.
3. Shall be landscaped in accordance with the General Landscaping Regulations of the Comprehensive City Zoning Code.

13. Residential Zone for the purpose of this Plan means the- HD•R-1, HD•R-LT, HD•R-G, and HD•R-R zones.

14. Townhouse Site means a property intended for the development of townhouses for condominium ownership, wherein the size of the site is determined by multiplying the number of units desired by the required minimum lot size of the zone. The plat of a townhouse site must show the ground plane area allocated to each unit to be demised, and must certify that the remainder of the site is to be held in common ownership and used for common purposes.

Section 4.B: Highlands Design Overlay Zone

As noted before, one of the main principles driving the High Desert Sector Plan is the transition from open areas to urban uses. Nowhere is this transition more important than at the project boundary with Simms Park Access Road, and U.S. Forest Service Lands. The following regulations, to be jointly administered by the City and High Desert, are designed to ensure a successful transition.....

Section 4.B.1: Area of Application

These guidelines apply to all construction in the HD•R-1 and HD•R-LT Zones of the Sector Plan east of the eastern boundary of section 26, Township 11-N, Range 4-E. This area is commonly known as "the Highlands".

Section 4.B.2: Enforcement

The following issues are addressed, and are enforceable, as part of the zoning granted by the City of Albuquerque:

- Land Use Intensity
- Building Height
- Building and Roof Color and Reflectivity

- Roof-Lines and Roof-Massing
- Roof-Top Equipment
- Topography
- Landscaping

All parties should be aware that many other controls in the form of Covenants and Restrictions apply to construction within the Sector Plan area.

All construction in the Highlands Design Overlay Zone is subject to the development criteria and policies established by the Sandia Foothills Area Plan, except that Policy B, streets parallel to contour, and Policy H, densities do not apply.

Section 4.B.3: Land Use Intensity

Development within the Highland Design Overlay Zone shall be limited to one-hundred sixty five (165) single family detached residences as governed by the HD•R-1 and HD•R-LT zones previously described.

Section 4.B.4: Building Height and Screening

Building Height shall be subject to the following criteria:

a. From the highest point of the natural grade adjacent to any wall of the building in question, building height exclusive of chimneys shall not exceed nineteen (19) feet.

b. No vertical wall plane, exclusive of chimneys, shall exceed twenty-two (22) feet in height as measured from the highest point of natural grade at its base.

c. The overall height of a structure, exclusive of chimneys , from the highest point to the lowest, measured at natural grade, shall not exceed twenty-six (26) feet.

ection 4.B.4.d.1, , 3 was amended by the City of Albuquerque on ecember 20, 2001 and text reflects the amendment

d. To minimize the visual impact of residential structures on the approach to Simms Park, the following requirements apply when a building is within 250 feet of the north property line of the High Desert development:

1. No part of a structure or building, other than a chimney, shall be higher than any straight line beginning five feet above the finished grade at the centerline of Simms Park Road just north of High Desert and extending through any point 16 feet over the average natural grade along the north line of the platted building envelope;

2. Topography and existing or planted native vegetation (at maturity), either within High Desert or in the National Forest, shall substantially (at a minimum - 75%) block the view from Simms Park Road at its centerline (from the points defined below) of the north line of the platted building envelope;

3. For the purposes of this section, sightings shall be taken from 90 degrees (perpendicular) from the centerline of Simms Park Road to the centerline of the north line of each platted building envelope and then 45 degrees generally northwest from the centerline of the north line of the platted building envelope back to the centerline of Simms Park Road.

e. In order to better buffer the view from Simms Park to the east High Desert will contract with the City's Open Space Division to provide native and naturalized evergreen and semi-evergreen trees and shrubs (including pinons and/or junipers) equal to five gallons or better, to be planted in the City's park in order to better obscure the buildings in the Highlands of High Desert.

NOTE: The Zoning Code definition of height of a building does not apply to this section.

Section 4.B.6: Building Color

Hue is an important a characteristic of color within the viewshed area as is the reflectivity of the color. Just as bright, saturated colors should be avoided, so should dark, deep toned colors which give the impression of excess mass. Likewise, a narrow limit on reflectivity is specified to avoid the impression of either very light or dark colors which contrast with their background. As with the other regulations in the viewshed area these regulations are intended to assure an architecture which grows out of its landscape rather than being superimposed upon it or in contrast to it.

The predominant color of the building may be chosen from the set of twelve pre-approved samples below, or others closely approximating them. Generally, approved colors include the yellow ochres, ochres, browns, dull reds, and grey greens of the natural landscape of the mesa and in the foothills. These colors have been chosen for their compatibility with the environment, as well as their harmony with one another.

Oriental* Tierra Mocha	Oriental Mesa	Oriental Rancho Brown	Oriental Saddle Tan
Oriental Desert Adobe	El Rey* Buckskin	El Rey Driftwood	El Rey La Luz
El Rey Santa Fe Brown	El Rey Fawn	El Rey Adobe	El Rey Cottonwood

* Local Manufacturer's Name

Table 4.B: Approved Building Colo

Section 4.B.7: Reflectivity

All the pre-approved colors have a "light reflective value" of 40% or less and may be used anywhere within the area governed by these regulations. Other colors may be submitted for specific approval related to a specific site, but they also must have an "LRV" of 40 or less. The material samples shown are of stucco; this does not prohibit the use of other materials, provided the color and reflectivity standards are met.

Section 4.B.8: Accent Colors

In keeping with New Mexico tradition, accent colors on front doors, window sash, and other incidental elements is allowed as long as, in the opinion of the Homeowners's Association, the accent color does not overwhelm the building's basic color or create a visual distraction from the adjacent streets, lots, or public areas. The same standards for coloration also apply to such appurtenances as exterior artwork or sculptures.

Section 4.B.9: Glazing

While not governed in terms of color, reflectivity standards also apply to glazing. Metallic coated, or mirrored glass with a transmissivity of less than 85% of incident light is prohibited. The heat transmission characteristics of glass are not addressed by this standard.

Section 4.B.10: Roof-Lines

Since roofscapes form an important part of the visual environment, they must be carefully designed. In keeping with the goals for visual harmony and sensitivity to predominant historical New Mexico styles, pitched roofs are strongly discouraged in favor of flat or parapeted types.

If pitched roofs are proposed, they must comply with the following:

1. Maximum slope of 4.0 in 12
2. No ridges or peaks may be silhouetted against the skyline. They must abut a parapet or wall which is higher.
3. No metal roofs are allowed.
4. No asphalt shingles are allowed.
5. Tile roof materials must be of the following type or characteristic:
    a. 2-part molded.
    b. Variegated colors darker than the building walls.
    c. Non-reflective
    d. Mudded or grouted joints
    e. Serpentine in pattern
6. No mechanical equipment or skylights may be located in pitched roofs.

Roof materials are governed by the same reflectivity standard (40% LRV) as wall materials.

ection 4.B.11: Rooftop Equipment

Roof-mounted mechanical equipment is prohibited on any roof, unless in the judgement of the Homeowner's Association it does not adversely affect views from public streets, public spaces, or other lots. Even if permitted, such equipment must be screened from view from such public streets, public spaces, and lots. Such screening must comply with the color and reflectivity standards described above.

ection 4.B.12: Provision for esign Review

The High Desert Homeowner's Association or its successors shall certify at time of submittal for building permit approval that any proposed plan for new construction or renovation within the Highland Design Overlay Zone meets the requirements of the special controls imposed by this section. Appeal from the interpretation of the Zoning Enforcement Manager is to the Environmental Planning Commission.

The additional guidelines suggested here are administered by the Homeowner's Association through its Covenants and Restrictions, anbd are enforceable only through the provisions of this sector plan; refer to Section 4.A.7: Design Review.

ection 4.B.13: Massing and Articulation mmendations

In order to preserve the visibility of the natural environment, building masses should be predominately horizontal rather than vertical, but should avoid the appearance of unbroken, unnatural planes or horizontal lines. Unless otherwise approved by the Homeowner's Association, each structure shall be composed of at least three visual building masses distinguished from one another by both horizontal and vertical offsets of at least two (2) feet. The height of each mass shall be measured from its highest adjacent natural grade. At least three distinct masses shall be perceivable in each building elevation. While it is anticipated that buildings- will follow natural site contours, nothing in these guidelines shall prohibit residences with a single floor level provided the building height requirements previously described are otherwise met. The floor or roof plan of each structure should clearly show the extent of each building–with relevant information pertaining to its height above grade.

Surface articulation and visual strength are also important factors in creating the perception of appropriate mass. Therefore, all doors and windows not protected by overhangs or portales shall be recessed at least four (4) inches as measured from the door surface or window sash to the exterior face of the finished wall.

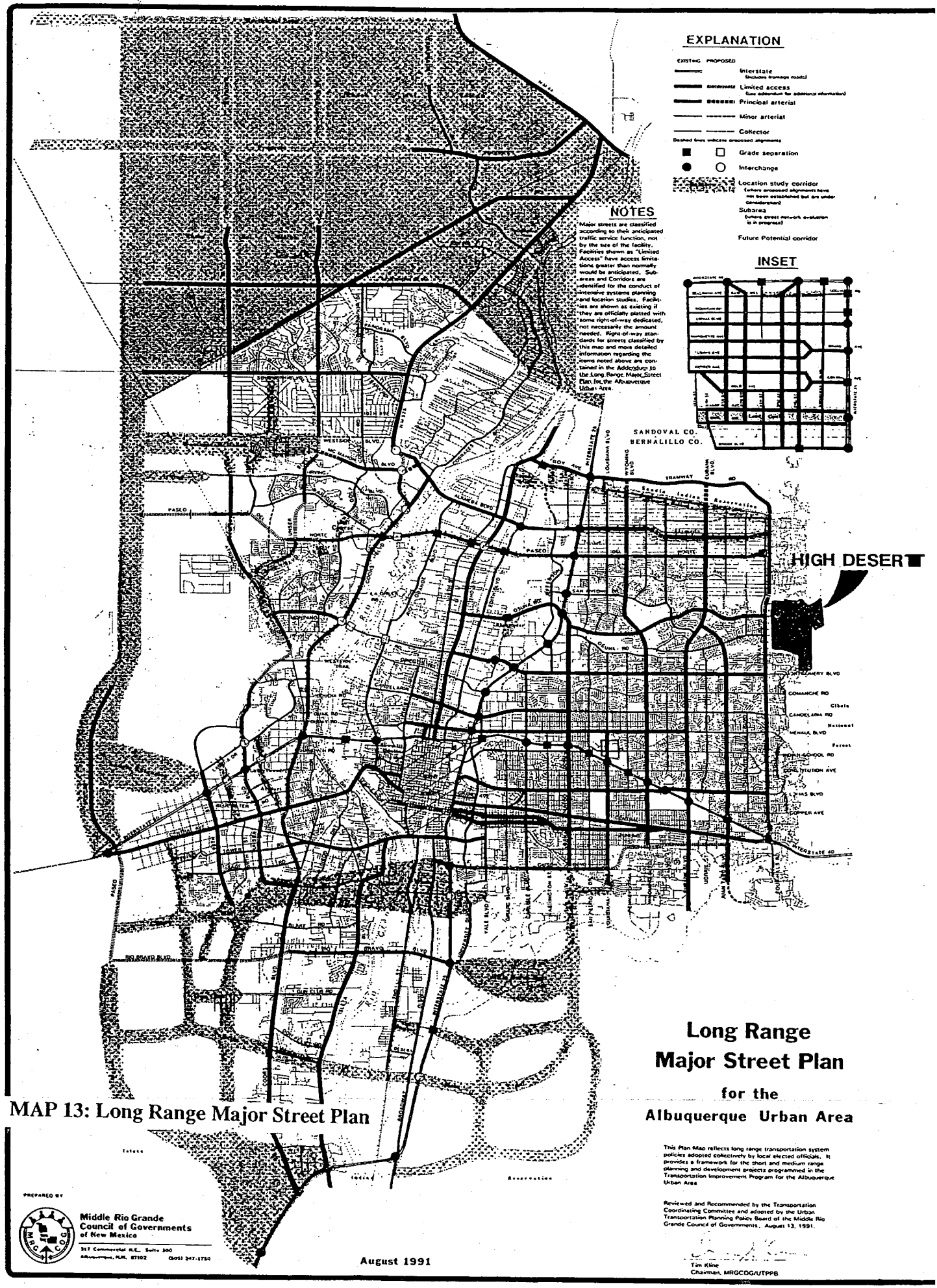
Section 4.C: lenwood Hills "Panhandle"

The following restrictions shall apply to development south of the Embudito Arroyo in the "panhandle" area, and are hereby adopted as part of the Sector Plan:

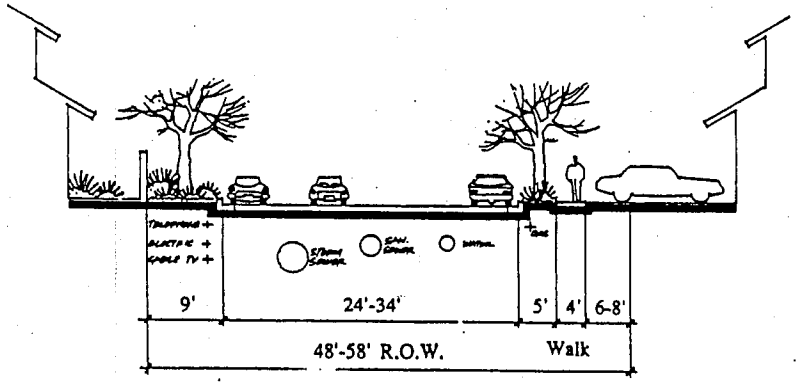
1. The area of development will be defined on the west and south by a 200' buffer granted as a permanent private conservation easement.
2. Development shall consist of 29 single family residential units.
3. Structures shall not exceed nineteen (19) feet in height as defined by the Comprehensive City Zoning Code.
4. A sidewalk will be provided from the Glenwood Hills/Cedarbrook intersection through the subdivision to the Simms Reservoir Trailhead parking lot.
5. A conventional drainage system, connecting to existing stormwater improvements in Glenwood Hills, will be employed

In addition, the following transportation improvements will be provided within Glen wood Hills at High Desert's expense:

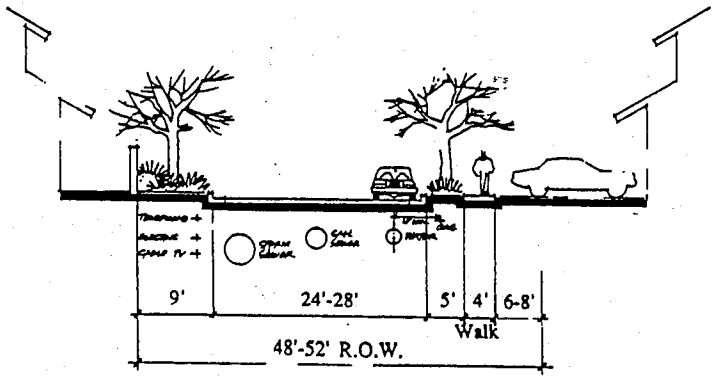
1. The east bound leg of Glenwood Hills Drive and Cedarbrook intersection will be reconfigured to more efficiently channel traffic and to attempt to increase sight distance as much as possible.
2. Sidewalks will be constructed in the vicinity of the Larchmont/Montgomery intersection.



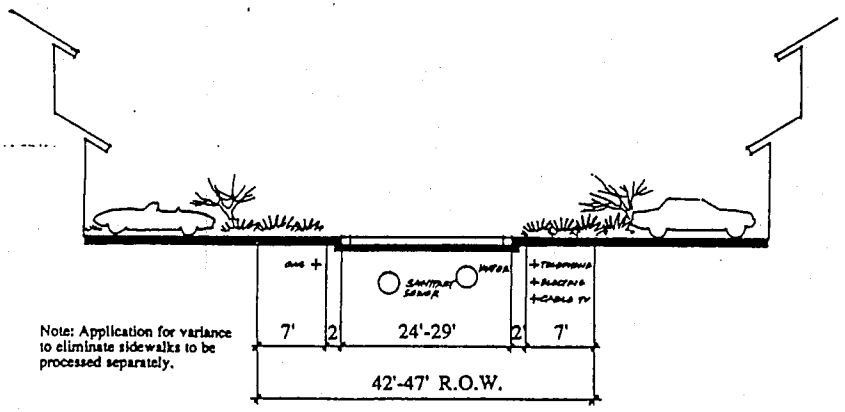
MAP 13: Long Range Major Street Plan



Normal Street

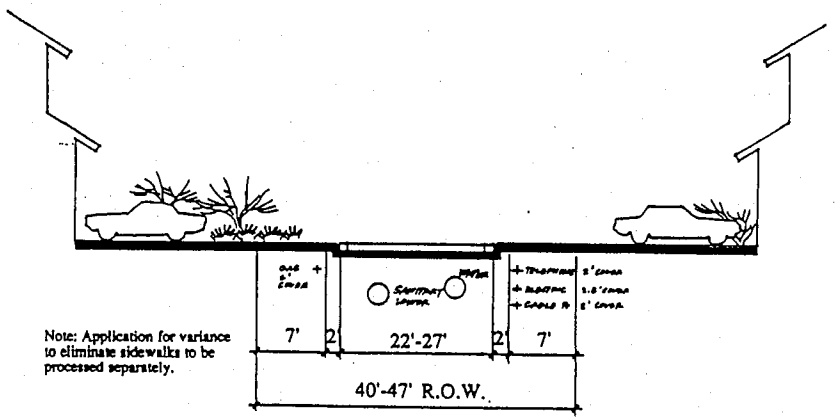


Access Street



Note: Application for variance to eliminate sidewalks to be processed separately.

Local Street - Estate Section



Note: Application for variance to eliminate sidewalks to be processed separately.

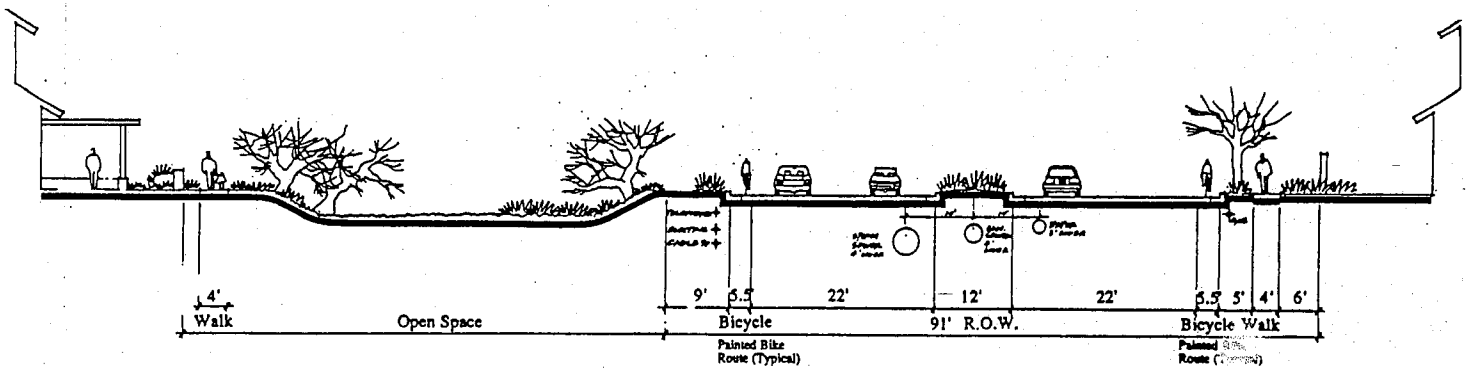
Access Street - Estate Section

Street Sections

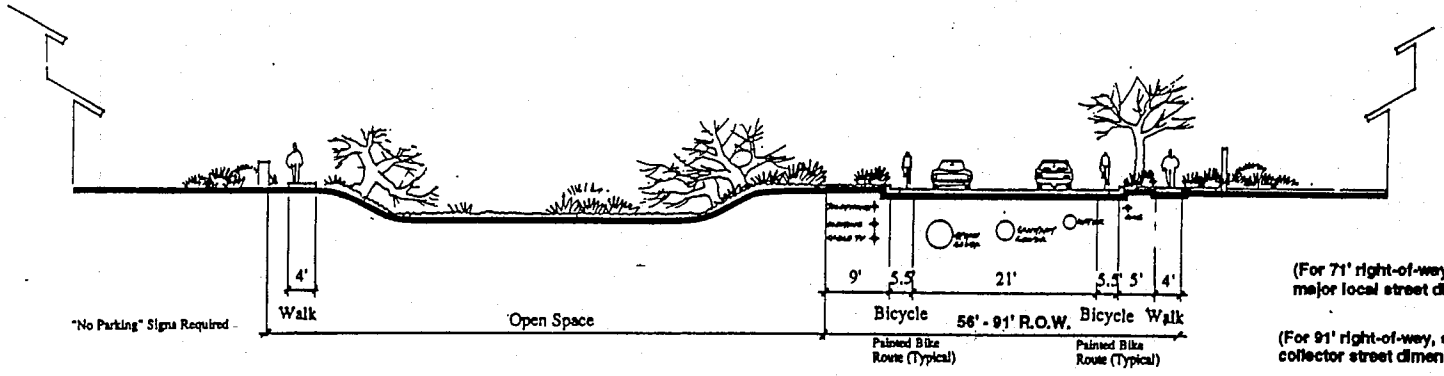
Date: April 11,1992

UTILITIES ADDED: 8/20/92

HIGH DESERT
INVESTMENT CORPORATION



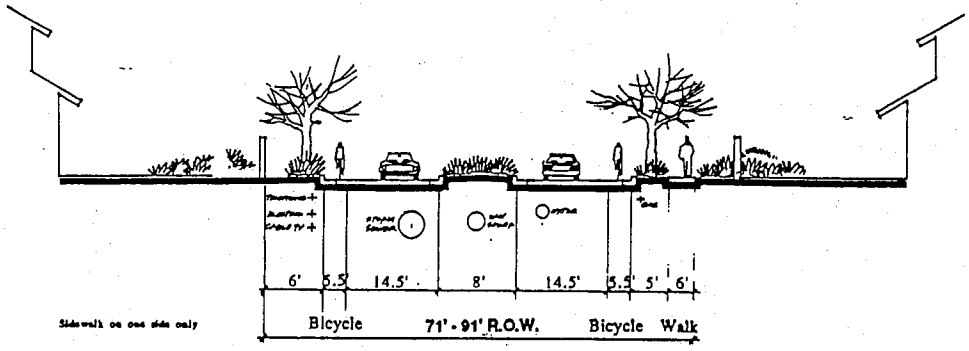
Collector Streets



(For 71' right-of-way, see (divided) major local street dimensions.)

(For 91' right-of-way, see collector street dimensions.)

Major Local Street



*For 91' right-of-way, see collector street dimensions.

(Divided) Major Local Street

HIGH DESERT
INVESTMENT CORPORATION

Street Sections

TRAFFIC IMPACT ANALYSIS

The project site is at the north-eastern extremity of the City, relatively separate from employment and cultural functions of the City as a whole. The people who live there will need access to the other functions of the City....access that is traditionally provided by the automobile. Consequently, assessment of the impact of new development on the traffic system of the City is a necessity. This section briefly describes the methodology and results of the Traffic Impact Analysis study performed for the project. While it is a distillation of the maps, tables, and text of the Traffic Impact Analysis, it is not intended to be, nor should it be considered, a substitute for the full analysis....

Pre-Scoping

The parameters of the traffic study were developed simultaneously with the development of the land use plan as a whole, and in concert with those agencies ultimately responsible for their review. Even before the first land use scenarios were developed, meetings were held with the City of Albuquerque's Transportation Development Division and with the Middle Rio Grande Council of Governments (MRGCOG) to determine how the impacts of the project were going to be modelled and estimated.

During the pre-scoping meeting, a decision was made to analyze three time frames for the sector plan. The MRGCOG regional modelling process was to be used to produce Year 2000 and Year 2010 forecasts for the Study Area Street Network and selected intersection turning movements. For the immediate analysis point (Year 1994) existing traffic volumes, and manual analysis techniques for traffic volume growth, distribution, and assignment would be used for comparison purposes and determination of Levels of Service.

Scenario Development

The first major step was taken by High Desert: estimating the actual extent of development and establishing project scenarios, even before a full land use analysis had been completed. In order to investigate a broad range of possibilities and their potential effects, two scenarios were developed. The smaller included 2230 residential units, with a narrow range of amenities. The larger included 2730 residential units with a broad range of on-site amenities including neighborhood shopping, school, and church, and an 18-hole golf-course and resort or conference center. For the purposes of the traffic study, the larger scenario was used in the belief that it would represent a conservative basis for studying traffic impacts.

The study area considered in this report is trapezoidal in shape. Along Tramway Boulevard, it ranges from the Montgomery Boulevard intersection north to the Paseo Del Norte intersection. From Tramway, it extends west as far as Wyoming Boulevard.

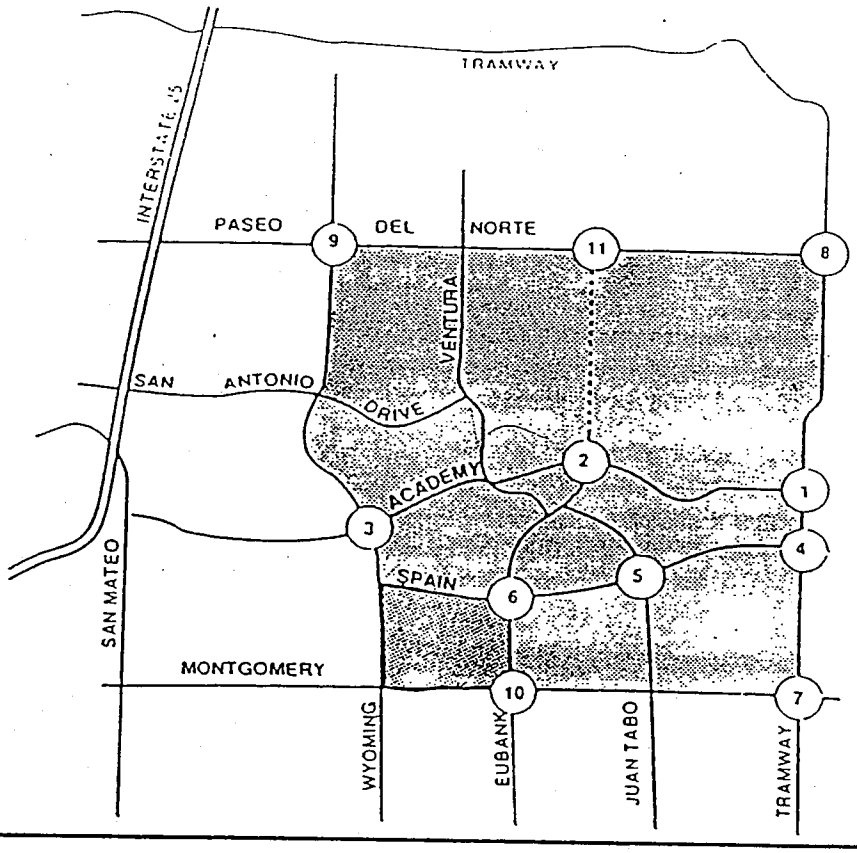
Defining the Study Area

The study area was defined in conjunction with City staff and represents the area at whose outer limits the MRGCOG regional model would not show significant changes in the total traffic flow as a result of this development. The intersections selected for analysis are major intersections which have the potential to be affected by increases in turn movement volumes generated by the proposed development and are indicative of impacts that may occur throughout the area. Beyond those points, the traffic from the site is more dispersed and represents a smaller percentage increase in the existing and projected traffic volumes. These intersections are numbered on the map below, and various charts in the text refer to this numbering system.

Implementation, Mid-Point, and Horizon Years

In order to determine when the impacts from the proposed development would occur, it was then necessary to establish study years. This traffic study is based on three dates: 1994, the year when construction would begin on the project; 2000, the time the project is anticipated to be 50% complete, and also a year for which COG has already developed socio-economic projections ; and 2010, the year in which the project is anticipated to be built out, but, more importantly, is also a base datum or "horizon year" for which the Council of Governments has developed socio-economic projections. 1994 is then known as the Implementation Year; 2000 as the "Mid-Point" year, and 2010 as the Horizon Year. For the purposes of this brief summary, the Year 2000 study results have been omitted; please refer to Volume 2 of the Sector Plan.

MAP #13a: Traffic Study Area



"Base-Case" Scenarios

Any traffic study requires a standard of comparison to show how traffic impacts change over time. This requires a "base-case" scenario. For the 1994 Implementation Year Study, the base case was defined by "background traffic", based on actual intersection counts (from 1990) updated mathematically to account for growth.

The Horizon Year base case scenario was developed from the "2010 Socio-Economic Projections" prepared by the Middle Rio Grande Council of Governments. Through interviews with individuals and agencies involved with development, COG develops a vision of what the City will be like in the "horizon year", usually 20 years in the future, that can be used to guide development decisions today.

Study Methodology

The goals of the traffic study are five-fold:

- Estimate how much additional traffic is created over the "base case";
- Establish its origin and destination;
- Evaluate its impacts on the road system, and;
- Determine what, if any, improvements are needed
- Assist in allocating responsibility for those improvements

Level of Service Defined

Ultimately, a traffic study looks at intersections, because these points are the constraints to traffic flow on the street network. The standard measure of operation for intersections is Level of Service (LOS). LOS is defined in terms of delay per vehicle using the intersection. Delay is an indirect measure of driver discomfort, frustration, fuel consumption, and lost travel time. The amount of delay is also a factor in determining the amount of auto emissions and consequent effects on air quality. Predicted delay is dependent on a number of factors including: quality of traffic flow, traffic signal cycle length, the amount of green time available and the ratio of Volume to Capacity (V/C).

Predicted traffic volume is determined by several factors: the background level (what is on the streets today without regard to new development); the traffic generated by the proposed development; distribution of this traffic to various points in the metropolitan area; the mode of transport used; and the specific route chosen to get to the destination.

Capacity Defined

"Capacity" is a theoretical standard defined for various types of intersection "geometries". It is the "maximum rate of flow through the intersection under prevailing traffic, roadway, and signalization conditions" and is measured in terms of vehicles per hour.

Application of "Level of Service"

Level of Service (LOS) is what we perceive as congestion. It is represented by a simple alphabetical code "A" through "F". Level of Service "A" describes operations with very low delays - less than 5.0 seconds per vehicle. Level of Service "F" describes delays greater than 60 seconds per vehicle.

The letters in between describe a whole range of delays. A mid-range Level of Service "D", or delay times from 25-40 seconds per vehicle is the lowest desirable level for design in Albuquerque. Many intersections already operate near or at this Level of Service; some intersections, however, already operate near, at, or beyond capacity at Level of Service "F".

Whenever possible, efforts should be made to keep intersections operating at acceptable Levels of Service. If an acceptable Level of Service is unattainable, as a minimum an effort should be made to restore the intersection to the Level of Service at which it was operating prior to the proposed development. This may require immediate infrastructure improvements or it may consist of monetary contributions for improvements to be made in the future.

Synopsis of the Traffic Analysis

This study, presented here in synopsis form, was conducted to evaluate the impacts of the proposed development on the transportation system surrounding the site. A full copy of the study, measuring all scenarios, and presenting all calculations, is available as Volume 2 of the High Desert Sector Plan submittal.....

Project Location

The High Desert Development area is located east of Tramway Boulevard, north of Montgomery Boulevard, and south of Paseo Del Norte. The site is bounded on the north by the Simms Park access road which abuts the Sandia Heights South subdivisions, on the east by the United States Forest Service lands, on the south by the Bear Canyon Arroyo Open Space and the Glenwood Hills North subdivision, and on the west by Tramway Boulevard. Its relation to the Long Range Major Street Plan is depicted in Map 13.

Existing Conditions

The existing site is currently undeveloped and is owned by Albuquerque Academy. The Sandia Heights South subdivision to the north is approximately 90% built out with predominately single family detached housing units. The Glenwood Hills North subdivision to the south is fully built out with predominately single family detached housing units. The Forest Service lands serve as regional recreational space. Residential properties to the west of Tramway Boulevard are predominately built-out but some commercial properties remain vacant.

Proposed Development

The proposed project consists primarily of residential development with a small portion of retail and other land use types to support the needs of the project. The Land Use Plan (Map 10) describes the development proposed for this site. The density will range from less than 0.5 to as much as 18 dwelling units per acre, with an overall aggregate density of less than 3 dwelling units per acre. The following scenario describes the product mix investigated by this study. Please note that the traffic study is based on scenarios; the land use plan proposed may vary slightly in the number and distribution of units and land use zones.

Phasing

The entire development will consist of four phases over approximately 12-15 years, thus being complete by the "horizon" year of 2010. The initial phase of construction is assumed to be complete by the implementation year, 1994, and consists of approximately 26% of the final residential product, the 10,000 S.F. church, and approximately 25% (12,500 S.F.) of the total commercial development.

TABLE 5.A: "Full-Buildout" Scenario

Residential Uses:

1860 single-family detached units*
470 single-family attached units
400 apartment units
2730 total residential units

In addition to the residential uses, some commercial, institutional, and recreational uses were also assumed:

50,000 square foot neighborhood retail center
600 student elementary school
10,000 square foot church
18-hole golf course
350 - room Conference Center*

*The developer reserves the option of providing a 350-room Conference Center with 1510 single family detached dwelling units. The trip generation rate during the peak hours on the street system for single family units is higher than for the equivalent number of rooms at a conference center. Therefore, the model using 1860 dwelling units is conservative.

Multi-Modal Considerations

Great effort was expended during the planning of the project to eliminate vehicle trips and their consequent impacts on the road network. The neighborhood commercial area and non-residential uses such as the school, church, and park, are clustered in the center of the development in order to more easily serve those that will live in the project. The separation from Tramway will discourage those outside the project from using these facilities. Thus, these uses will draw minimal external trips into the project area, and will simultaneously decrease the number and length of trips outside the project that would be necessary had these uses not been provided. Advantage will be taken of transit service to the project area and use of these facilities will be encouraged as much as possible. As transit ridership increases within the metropolitan area, additional vehicle trips will be eliminated. The project also proposes a liberal number of vehicle and bicycle trail links throughout the neighborhood and surrounding areas (as shown on Map 11) which should also contribute to trip reduction. In combination, these planned amenities will reduce total trips. However, there is not enough empirical information available to quantify the reduction . Therefore this report assumes a conservative approach and does not apply any reduction to the trip generation rates based on multi-modal factors.

Access Points and Internal Streets

Access to the site will be provided from Tramway Boulevard at its Academy and Spain intersections, with the main entrance being the Academy/Tramway intersection. Academy and Spain roadways will be developed as collector streets from Tramway Boulevard to their first major intersection to the east. Within the development's boundaries they will be intersected by local and residential streets throughout the project. An analysis of the internal street system has not been submitted for review. Therefore, the adequacy and specific limits for elements of the internal street network, are preliminary in nature and may need for revision.

Street Network

The following configuration of major streets is presently in place, or planned:

- Tramway Boulevard, which bounds the west side of the site, is currently under construction by the Bernalillo County Public Works Department to improve the facility to a 4-lane major arterial with provisions for future expansion to a 6-lane facility.
- Wyoming Boulevard is currently 6-lanes south of Academy and 4-lanes between Academy and Paseo Del Norte. This study assumes 6-lanes on Wyoming between Montgomery and Paseo Del Norte by the year 2000.
- Eubank Boulevard is currently a 6-lane major arterial from Interstate 40 to Montgomery and 4-lanes from Montgomery to Academy where it dead ends in a T-intersection. The 2000 Year analysis assumes Eubank to be constructed as a 4-lane arterial between Academy and Paseo Del Norte. By the 2010 Horizon Year, it is assumed (in keeping with the MRGCOG's Transportation Improvement Program) that Eubank will be in place as a 6-lane facility between Montgomery and Paseo Del Norte. Montgomery Boulevard is a 6-lane major arterial providing an east -west link for the transportation system. The 6-lane section exhausts the available right-of-way and there are no plans for expansion in the foreseeable future.
- Paseo Del Norte is currently under design as a 6-lane major arterial from I-25 to Wyoming and four lanes further east with limited access restrictions and is scheduled in the Transportation Improvements Plan to be complete by late 1993 or early 1994.

• Spain Road, which is a 4-lane collector from Tramway to Eubank and 2-lanes from Eubank to Wyoming runs through highly developed residential areas, is not planned to be expanded at any time in the future.

• Academy Boulevard, which is a 4-lane minor arterial with a wide landscaped median, was originally designed for future expansion to 6-lanes. This study assumes that it will remain a four-lane facility from the Wyoming intersection to the east.

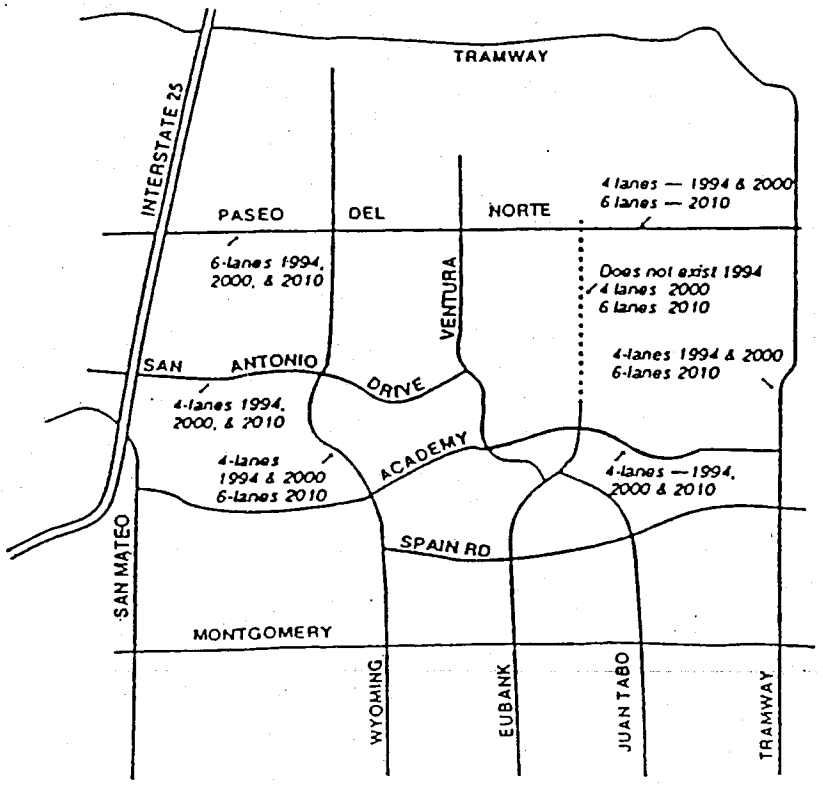
The Existing Street Network Map on the next page is a graphical representation of the existing transportation system.

Study Variables by Analysis Year

It should be noted that there is a difference between the methodology used in the 1994 study compared to the 2010 study. In the 1994 Implementation Year Analysis, background traffic was determined by assigning growth rates to current actual intersection counts. Background traffic growth was estimated using historical baseline data from the previous five years. Trip generation rates for new development were derived from the Institute of Traffic Engineer's (ITE) trip generation rate tables.

In the 2010 Horizon Year study, both base-case data and proposed condition traffic volumes were generated by the MRGCOG computer model which uses statistical regression equations to estimate trip-production and attraction between the centers of socio-economic zones.

Both methodologies compare background, background growth, trip generation, and trip origin and destination points. The 1994 Year is based on actual numbers; the 2010 methodology is a strict computer modelling technique. The MRGCOG model is not used for the 1994 Implementation Year because a "data set" doesn't exist for that specific year. Computer modelling techniques are used for long term forecasts due to significant changes in growth and the street network. These changes can not be reliably accounted for using growth trends and existing traffic volumes. Although the methods differ for the different time frames, each is the standard method for the respective time frames, and both use the same parameters for calculating the results.



MAP #13b: Existing Street Network

1984 Implementation Year Analysis

The transportation analysis conforms with the nationally-recognized Institute of Transportation Engineers methodology for traffic impact studies. The analysis for the 1994 Implementation Year includes trip generation, distribution, and assignment of traffic from the proposed High Desert development. The estimated site traffic is added to the projected 1994 background traffic at critical intersections within the study area as displayed on Map #13a. Intersection capacity analyses are performed to determine Level of Service (LOS) and Average Vehicle Delay for both the background and proposed conditions.

The proposed land use and development mix for full buildout are shown in the Land Use Plan on Map 10 and described in the development scenario previously presented. The 1994 Implementation Phase will consist of only a portion of the full build-out, specifically:

Partial Buildout Scenario

Residential Uses:	
20% of Single Family Units	1860 x 20% = 372
25% of Townhouse Units	470 x 25% = 118
55% of Apartment Units	400 x 55% = 220
Non - Residential Uses	
25% of Commercial Area	50,000 S.F. x 25% = 12,500 S.F.
100% of Church	= 10,000 S.F.

The Generation

The estimated traffic from the site was calculated using Version 3.0 of the Trip Generation computer program developed by the Microtrans Corporation which calculates trips on the basis of the Institute of Transportation Engineers Trip Generation Report (Fifth Edition, 1991). The results are summarized in Table 5 below and are included in full in Volume 2 of this report.

TABLE 5.B: Trip Generation Rates

LAND USE	Size	2-Way Volume	AM Peak In	AM Peak Out	PM Peak In	PM Peak Out
Single Family Dwelling	372 Units	3461	66	187	230	124
Residential Condominium	118 Units	750	10	49	47	24
Apartment (post-1973)	220 Units	1384	27	85	85	48
Shopping Center	12,500 SF	1927	30	18	87	87
Church	10,000 SF	93	5	3	4	3
Total		**7615**	**138**	**342**	**453**	**286**

The background traffic was determined by adjusting existing intersection counts by a growth factor derived from examination of Traffic Flow maps for the previous 5 years. A straight line regression analysis program was applied to the historical data and the results used to predict the growth rate for each intersection leg.

Existing Traffic Counts

Existing traffic counts were obtained from the City of Albuquerque for the following intersections:

1. Tramway and Academy
2. Academy and Eubank
3. Academy and Wyoming
4. Tramway and Spain
5. Juan Tabo and Spain
6. Spain Eubank
7. Montgomery and Tramway
8. Paseo Del Norte and Tramway*
9. Paseo Del Norte and Wyoming
10. Eubank and Montgomery

* Tramway/Paseo Del Norte is calculated from AAWDT volumes.

The intersections were counted by JHK Associates as part of a project performed for the City at the end of 1989. The only intersections within the study area as defined in the pre-scoping meeting which do not have intersection counts are the Eubank/Paseo Del Norte intersection which does not exist as a signalized intersection and the Tramway/Paseo Del Norte intersection, as it was under construction when the counts were performed. The Eubank/Paseo Del Norte Intersection will not be analyzed for the 1994 Implementation Year. The turn movement volumes for the Tramway/Paseo Del Norte intersection are estimated from the 1990 Average Annual Week Day Traffic (AAWDT) link volumes using traffic characteristics of adjacent intersections.

Employment Gravity Model

Since High Desert is predominately residential, the trips have been distributed to and from the Albuquerque Metropolitan area based on an employment modified gravity model. The distribution is directly proportional to the employment and inversely proportional to the distance between the development and the employment location.

Employment data was taken from the 2010 Socioeconomic Forecasts for State Planning and Development District 3 by Data Analysis Subzones, TR-104, published by the Middle Rio Grande Council of Governments in December 1989. Table 7 was taken from that publication and shows Total Employment for the Data Analysis Zones (DAZ's) in the Albuquerque area. The distribution was computed based on these volumes (as shown in Volume 2) and then a straight line interpolation was used to compute distribution for 1994. The assignments result in the following distribution: 19.1% north on Tramway Boulevard, 47.0% south on Tramway Boulevard, 21.2% west on Academy Boulevard, and 12.7% west on Spain Road.

Based upon this distribution and the development characteristics of the Sector Plan 45% of the traffic will enter or exit the site at the Academy/Tramway intersection and the remaining 55% will use the Tramway/Spain intersection. The selected study area intersections were analyzed in accordance with – standard procedures for signalized intersections. Since the spacing of intersections matches the Long Range Major Street Plan and new signals are not proposed a signal system analysis was not performed.

The intersections were analyzed for both background traffic and the background plus the proposed traffic. Results are provided in the chart below: By way of explanation, the terms included are:

AM or PM Peak represents the two daily "rush hours" during which traffic volumes are at their highest;

LOS, or Level of Service, is a relative measure of perceived congestion as measured by delay times. LOS "A" means delays of less than 5 seconds. LOS "F" means substantial delays of up to 60 seconds.

TABLE 5.C: 1994 Implementation Year LOS in the Background Count and Partial Buildout Scenarios

Intersection	Background		Partial Buildout	
	AM	PM	AM	PM
1. Tramway and Academy (as is)	B	B	C	C
Tramway and Academy (NB dual lefts)	B	B	C	C
2. Eubank and Academy	B	B	B	B
3. Wyoming and Academy (as is)	*	*	*	*
Wyoming and Academy w/ improvements	D	D	D	D
4. Tramway and Spain	B	B	B	C
5. Juan Tabo and Spain w/WB dual lefts	C	C	C	C
6. Eubank and Spain	C	C	C	C
7. Tramway and Montgomery (as is)	C	D	D	D
Tramway and Montgomery (NB dual lefts)	C	C	C	D
8. Tramway and Paseo Del Norte	B	B	B	B
9. Wyoming and Paseo Del Norte	C	B	C	B
10. Eubank and Montgomery (as is)	C	E	C	F
Eubank and Montgomery w/improvements	C	D	C	D
11. Eubank and Paseo Del Norte	(not analyzed: does not exist in 1994)			

* Volume/Capacity Ratio greater than 1.2; LOS not meaningful.

Mid-Point Year Analysis

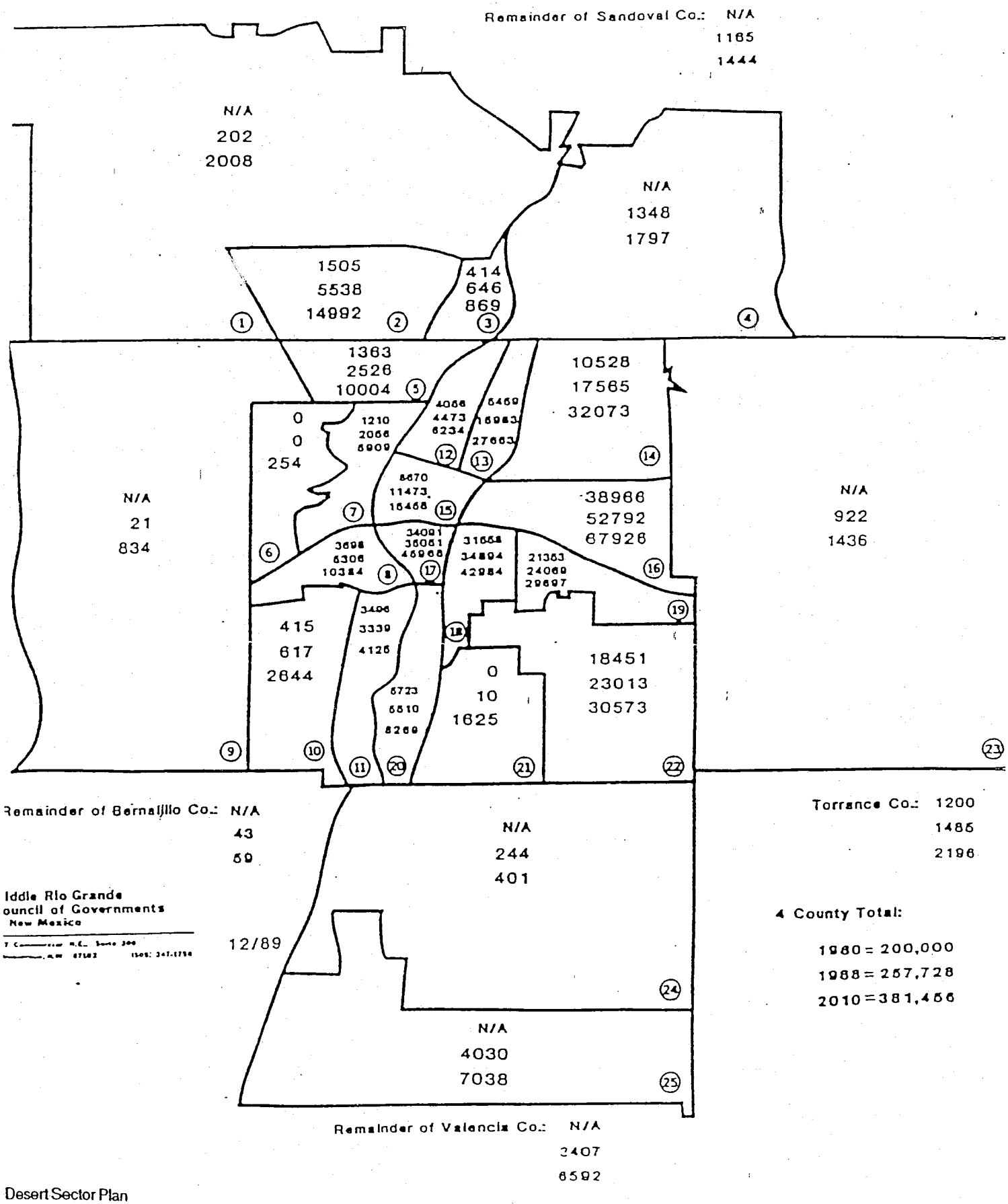
The full contents of the Mid-Point Year Analysis are presented in Volume 2 of the Sector Plan. For the purposes of brevity, they are omitted here.

2010 Horizon Year Analysis

The analysis for the 2010 horizon year was conducted using the Base Scenario, with the assumption that the project is 100% complete.

The traffic forecasts for both the 2010 Horizon Year and 2000 Mid-Point Year were produced by the regional traffic forecasting model maintained by MRGCOG. The 2010 data set was modified to account for additional development on the High Desert site. Traffic generated by the site was estimated by a series of regression equations which use the socioeconomic data as independent variables. In calculating trip distribution, travel desires are determined. An equilibrium assignment then chooses appropriate routes based upon minimizing system wide travel time.

EMPLOYMENT HISTORY AND PROJECTION
1980, 1988, AND 2010 BY SUBAREAS



Middle Rio Grande Council of Governments
New Mexico

4 County Total:

1980 = 200,000
1988 = 257,728
2010 = 381,456

The selected study area intersections were analyzed in accordance with standard procedures for signalized intersections. Since the spacing of the intersections matches the Long Range Major Street Plan and new signals are not proposed a signal system analysis was not performed.

Intersection capacity analyses were performed on the Base Case Scenario and Full-Buildout Scenario to determine LOS and Average Vehicle Delay. The results for the 2010 Horizon Year are summarized in Table 9 below:

TABLE 5.E: 2010 Horizon Year LOS in the Base Case and Full Buildout Scenarios

Intersection	Base Case		Full Buildout	
	AM	PM	AM	PM
1. Tramway and Academy w/NB dual lefts	C	C	C	C
2. Eubank and Academy w/ improvements	C	D	C	D
3. Wyoming and Academy (as is)	*	*	*	*
Wyoming and Academy w/ improvements	D	D	D	D
4. Tramway and Spain (as is)	C	C	D	C
Tramway and Spain with NB dual lefts	C	C	C	C
5. Juan Tabo and Spain (as is)	D	D	E	D
Juan Tabo and Spain with WB dual lefts	D	D	D	D
6. Eubank and Spain with NB dual lefts	D	D	D	D
7. Tramway and Montgomery with NB and EB dual lefts	C	C	D	C
8. Tramway and Paseo Del Norte w/imp.	B	B	B	B
9. Wyoming and Paseo Del Norte	(projections not available)			
10. Eubank and Montgomery (as is)	*	*	*	*
Eubank and Montgomery w/improvements	F	E	F	E
11. Eubank and Paseo Del Norte	C	C	C	C

* Volume/Capacity Ratio exceeds 1.2; LOS not meaningful.

Recommendations

The High Desert development is located adjacent to Tramway Boulevard and relatively close to Paseo Del Norte, which have been planned, and are currently under design or construction, as high-capacity transportation corridors. As shown by this study, these facilities have been planned with adequate capacity to support this and other future development in this area. However, various street intersections and segments will experience growth in traffic volumes.

The Tramway/Montgomery intersection is anticipated to experience heavy left turn movements from both the background and proposed traffic volumes. This intersection is, however, currently constructed for easy expansion to dual left turn lanes in both the northbound and eastbound approaches to accommodate these heavy movements.

The far northeast heights is dependent on Academy Boulevard to carry traffic westward toward the heart of the City. This is apparent by the congestion that currently occurs at the Wyoming/Academy intersection, and is a result of the insufficient number of north-south arterial roadways in the area which would serve to dissipate traffic onto other east-west arterials. Although High Desert's impact on the Academy/Wyoming intersection is less than 2% compared to both the 1994 background traffic and the "base-case" scenario in 2010, the traffic impact analysis illustrates that this intersection already operates at or above capacity (Level of Service "F"); the intersection would experience this Level of Service under normal growth rates alone.

It was assumed that Academy Boulevard would remain a four-lane facility east of the Wyoming intersection through the 2010 Horizon Year, allowing the preservation of the aesthetic qualities it now enjoys with its landscaped medians. The analysis validates this assumption, indicating Academy will function adequately at four lanes in this segment, if appropriate improvements are made to the Academy /Wyoming intersection. These improvements are relatively minor in the Implementation Year, but are extensive by the Year 2000, including three through lanes, dual lefts, and right turn bays in all directions. While not specifically addressed in the study, it appears that a portion of the Academy link east of this intersection will need to be reconstructed to provide three

through lanes on Academy at the intersection. It should be noted that this level of improvement is required whether or not High Desert is carried forward.

The results indicate that the Academy/ Tramway and Academy/Eubank intersections operate adequately with Academy as four lanes under all scenarios. Academy Boulevard will, however, remain the most significant east west link in the system until other corridors such as Paseo Del Norte and San Antonio/Harper are operational.

Spain Road is not designated or designed for large volumes of traffic. It is a four-lane divided roadway reaching from Tramway to Juan Tabo, and a four-lane undivided roadway from Juan Tabo to Eubank. Therefore, it does not presently attract a large volume of traffic. The Spain/ Juan Tabo and Spain/Eubank intersections will continue to operate, with the addition of a double left for westbound traffic at Juan Tabo and for northbound traffic at Eubank, at acceptable levels of service and thus have adequate capacity to support the estimated traffic generated from the High Desert development.

The final facility analyzed in this report is the Eubank/Montgomery intersection which, similar to Academy/Wyoming, is estimated to carry less than a 10% increase above the background and base case volumes due to the proposed development. The traffic impact analysis shows that the Level of Service drops from E to F in the 1994 PM peak hour analysis and it operates at or above full capacity (LOS "F") with background and base case traffic alone, and that High Desert's development does not cause or alter its Level of Service.

Conclusion

Many improvements to the street network in the study area have already been planned in preparation for anticipated growth in background levels with or without High Desert. The study concludes that some additional improvements over those planned will be necessary to support the additional traffic generated by the High Desert development. A list of infrastructure improvements will be derived to accommodate future needs and to determine financial responsibility for the provision of improvements.

AIR QUALITY

The Comprehensive Zoning Code of the City of Albuquerque requires that the Air Pollution Control Division (APCD) review land use actions that exceed prescribed threshold criteria for their potential impact on ambient air quality. Based on the magnitude of the proposed sector plan, and the anticipated change in trip generation and distribution compared to that allowed by the existing uses on the site, APCD determined that an air quality study was required. This section summarizes the air quality analysis, which is presented in its entirety as Volume 3 of the Sector Plan submittal. It is not intended as, nor should it be considered, a substitute for review of the full analysis.....

Pre-Study Scoping

The traffic assumptions and data used in this study reflect the assumptions used in the High Desert Development Traffic Impact Study prepared by Bohannan-Huston Inc., and presented as Volume 2 of this Sector Plan. The methodology for the air quality study was determined in concert with the Air Pollution Control Division staff in the same manner as the traffic impact study methodology was devised. For a better understanding of the transportation aspects of the High Desert Development project readers of this study should first be familiar with the traffic impact study.

Study Objectives

The objective of this study is two-fold: to assess the impact on ambient air quality resulting from development of the project; and to inventory the total volume of emissions within a study area. Air quality impact, by definition, occurs when implementation of a project is likely to: cause a violation of federal ambient air quality standards; contribute to an existing violation condition; or result in a substantial increase in background pollutant concentrations.

Albuquerque does not meet the standard, i.e., Albuquerque is a "non-attainment area", for carbon monoxide. The City Zoning Code requires that new development be evaluated specifically with regard to "non-attainment" pollutants.

"Non-attainment" is measured (or modelled) at "air quality receptors". An air quality receptor is a location having public access where it is likely that people will remain or reside for the periods of time required by the federal ambient air quality standards , i.e., 1-hour or 8-hour periods. Thus, homes, schools and shopping centers are typical receptor sites. Impacts are identified by air quality models that theoretically predict the concentration of pollutants at selected air quality receptor sites. In some cases, the receptor is theoretical.

In addition to the prediction of pollutant concentrations, a qualitative assessment of air quality impacts can also be made based on the relative increase in overall emission volume that occurs within an area. This form of study includes an inventory of vehicle-generated hydrocarbons (HC) and oxides of nitrogen (NOx) as well as carbon monoxide. HC and NOx are important because they are "pre-cursors" of ozone. The emissions analysis was included at the request of APCD because of the magnitude of the proposed project.

Study Years

Two time frames have been included in this study: 1994, which is the Implementation Year, and 2010, which is the Horizon Year. For each of these time frames, two development scenarios were evaluated: a "base case" condition and the "build" alternative.

Definition of the Study Area

Because the predominant source of air pollutant emissions from the proposed project will be the result of transportation sources, it was decided by the APCD that the air quality study area and traffic study area should be consistent with one another. The air quality study area is , therefore, the same area used in the traffic study and is depicted in Map 13a on page 5.2.

Regional Conditions

Albuquerque and the surrounding portions of Bernalillo County have the potential to develop concentrations of carbon monoxide (as well as other pollutants) due to the area's physiographic and meteorological features. The City's physical nature, being set in a river valley sheltered by the Sandia Mountains to the east and by the mesa and volcanic escarpment to the west, limits

horizontal dispersion between local and regional air flows. This effect is compounded in the winter months by the occurrence of frequent regional high pressure systems which result in extremely low wind speeds. Drainage of cold air from the adjacent mountains contributes to nightly temperature "inversions", where a layer of cold air traps the warm, polluted air below it, keeping it from mixing vertically. The combination of low wind speeds and temperature inversions thus severely limits air movement both horizontally and vertically, resulting in poor dispersion of pollutants, especially in the evening and nighttime hours. For these reasons, ambient air quality violations in Albuquerque have historically occurred on winter nights.

Recent Improvements

Although Bernalillo County has been designated as a non-attainment area for carbon monoxide (CO) since 1978, air quality in the Albuquerque metropolitan area has been improving. Historically, air quality monitors in the Uptown area and the Del Norte High School area have recorded numerous violations of the federal eight-hour CO standard. However, the frequency of violations and the concentration of CO recorded during violation episodes have declined substantially over the last ten years. For the last three years violations of the CO standard have been restricted to a single microscale air monitor located at the intersection of San Mateo Boulevard and Menaul Boulevard.

The decline in ambient concentrations of CO is attributed to several factors, perhaps the most important of which is the Federal Motor Vehicle Control Program or FMVCP. This program establishes emission standards for automobiles sold in the United States and is considered a primary factor in the decline of ambient CO concentrations experienced in Albuquerque and other major metropolitan areas throughout the nation. Other programs have also provided substantial improvements to local air quality. These programs include a motor vehicle inspection and maintenance program; an oxygenated fuels program; a wood-burning control program; and land use strategies contained within the Albuquerque/Bernalillo County Comprehensive Plan and the zoning codes of both City and County.

Even though air quality has improved in our area, it is extremely important to maintain current efforts to ensure that additional growth does not reverse the decline in CO levels and prevent the area from attaining and maintaining federal air quality standards.

Ozone

While CO concentrations have been declining, ozone concentrations have been stable over the last five years. Within Bernalillo County, ozone levels have not exceeded the federal standard; however, concentrations approaching the standard have been recorded in several areas. Ozone is a photochemical oxidant that results from a chemical reaction between its "pre-cursors", i.e. hydrocarbons and oxides of nitrogen, in the presence of sunlight. Locally, the predominant sources of hydrocarbon emissions include motor vehicles, fuel storage and retail facilities, and industrial operations. Oxides of nitrogen are primarily attributed to motor vehicles and industrial operations. The formation of ozone requires several hours; consequently, the distance between the major sources of hydrocarbons and oxides of nitrogen, and areas of high ozone concentrations may be substantial. In Albuquerque the highest concentrations of ozone have been measured in the north and northeastern fringe areas of the City and County.

Present Conditions in the Study Area

The High Desert Development Site is located on the northeastern edge of Albuquerque and is partially bordered by City of Albuquerque Open Space and the Cibola National Forest. Some residential development is present immediately north and south of the project site. Because of the geographic setting and the low intensity of surrounding land uses, ambient concentrations of CO and other vehicular emissions are generally low within the project boundaries. However, moderate concentrations of CO have been measured at Air Monitor Station 2ZM, located at Del Norte High School, approximately two miles west of the study area boundary, and approximately five miles west of the project boundary. **It is important to note that there are no physical monitors presently located within the study area.** The higher CO levels towards the west are due to the higher density of land use and the consequent heavier traffic volumes travelling on the street network. The second highest CO levels recorded at 2ZM for each of the last three years are shown in figure on the next page:

Year	1-Hour	8-Hour	1 to 8-hour ratio
1991	10.0 ppm	5.5 ppm	0.55
1990	9.0 ppm	5.1 ppm	0.57
1989	11.0 ppm	6.5 ppm	0.59

TABLE 6.A: CO Concentrations By Year*

* Second Highest Annual Values at the Monitor Located at 4700 San Mateo Blvd., NE

While CO levels are moderate within the study area, ozone concentrations are generally high. Concentrations in excess of 100 parts per billion (ppb) have been recorded for eight of the last twelve years at Air Quality Monitor 2ZH, located approximately one mile west of the intersection of Alameda and Tramway Boulevards. Because of the time required for ozone formation and summer prevailing wind direction, the high ozone levels occurring at this monitor are most likely a consequence of precursor emissions from other areas within Albuquerque rather than from emissions generated within the study area. Nonetheless, precursor emissions from study area activities do contribute to ozone formation within the Albuquerque region.

Synopsis of the Analysis

The High Desert Development Air Quality Study included two objectives. The first objective involved the quantification of CO concentrations in the vicinity of the project area roadways and the comparison of predicted CO concentrations with the federal ambient air quality standards. The second objective, an emissions analysis, was used to estimate the total mobile source (i.e., vehicular) emissions that occur from travel on the major streets within the study area and a comparison of the relative difference in emissions between the "base-case" and "build" scenarios. A brief description of the methodology and assumptions used for each objective are described in the following sections of this summary report. Additional information is available in the High Desert Development Air Quality Study prepared by JHK and Associates and presented as Volume 3 of the Sector Plan submittal.

To determine the incremental increase in CO concentrations that result from the proposed development and the potential for the project to cause or contribute to an existing hotspot condition, a project level air quality analysis was prepared. The analysis was conducted in accordance with procedures outlined by the Environmental Protection Agency (EPA) in the document Guideline for Modelling CO Concentrations From Roadway Intersections dated October 1990. The scope of the study and the assumptions used in the analysis were discussed with and established by APCD during project scoping meetings.

By joint decision, two models were used in the analysis. Mobile 4.1, a mobile source emissions model developed by the EPA, was first used to generate vehicle emission factors specific to Bernalillo County. CAL3QHC, an EPA-developed model for the prediction of carbon monoxide concentrations near roadways and intersections was then used to estimate CO levels at selected air quality receptor locations proximate to major intersections within the study area.

Scenarios Studied

The air quality study included analysis of the following scenarios:

1994 Implementation Year Background Condition;
1994 Implementation Year Partial Buildout Scenario;
2010 Horizon Year "Base-Case" Scenario; and
2010 Horizon Year "Full Buildout" Condition.

The 1994 Background Condition is based on 1990 traffic counts that have been adjusted to account for area growth. The 1994 build condition assumes completion of an initial construction phase consisting of 26% of the residential units, approximately 12,500 square feet of commercial development and a 10,000 square foot church. The 2010 "base-case" assumes a level of development consistent with the Middle Rio Grande Council of Governments (MRGCOG) socioeconomic forecasts for the study area. Full build-out of the High Desert Development Site is assumed in the 2010 "build" scenario." These scenarios are more thoroughly described in the previous section of the sector plan pertaining to traffic impact analysis.

1994 Implementation Year Analysis

The results of the air quality / intersection analysis indicate that CO levels in the 1994 background condition are moderate. Most of the receptors evaluated are well below the federal ambient air quality standards with the exception of the receptors proximate to the Wyoming/Academy intersection. At this intersection CO levels equal to or slightly above the standard are predicted. With construction of the initial phases of the High Desert development CO levels will increase at most of the air quality receptors evaluated. In the majority of cases the increase is minor, and the predicted CO concentrations remain below federal standards. A summary of the analysis results is shown in Table 6.C on the next page.

Potential impacts have been identified at the Wyoming / Academy intersection. Here, predicted CO concentrations which equal or exceed the 9.0 PPM standard have been identified at three of the 16 receptors evaluated. **The high concentrations at this intersection are a consequence of the congested conditions at this intersection which occur with or without the proposed development.** The increase in CO levels that results from the implementation of the initial phase of High Desert is minor, with a maximum increase of 0.3 ppm predicted.

2010 Horizon Year Analysis

Analyses of 2010 year conditions were also conducted. The analysis for the Horizon Year indicates that CO levels decline within the study area as compared to the levels predicted for 1994. This decline occurs even with full build-out of the High Desert site. CO concentrations at all of the intersections evaluated were well below the federal 8-hour standard for both the base case and full build-out conditions. The increase in concentrations between the two Horizon Year scenarios is also minor. Where concentrations increased, the change generally ranged from 0.1 to 0.4 ppm.

Reasons for the Decline

The decline in predicted CO levels for the horizon year is partially attributed to the lower vehicle tail pipe emission rates that occur as older vehicles are replaced by newer, less polluting vehicles. According to the Mobile 4.1 emissions model used in this analysis, 1994 vehicle emission rates are approximately twice those predicted for the 2010 horizon year. This reduction in emission rates is a consequence of vehicle attrition, improved engine technology, and the use of alternative-fuel vehicles in the future. In addition to fleet improvements, improvements in the street network also contribute to the lower CO levels. Vehicle emissions are inversely related to travel speed: emissions increase as speed decreases. For this reason, planned street improvements that facilitate traffic flow and increase average travel speed will further serve to reduce the concentration of CO in the horizon year.

Emissions Inventory

In addition to the air quality / intersection analysis, an inventory analysis was also conducted. This analysis was conducted to estimate the total emissions of CO, non-methane hydrocarbons, and oxides of nitrogen emitted within the project study area. The inventory analysis was based on the vehicle miles of travel (VMT) for each roadway link within the study area combined with emission factors specific to each link. The inventory is not intended as an absolute estimate of total emissions, but rather as an indicator of the relative difference in area wide emissions between the base case and the build conditions. The methodology used in the emissions analysis is discussed in detail in the complete report. The results of the emissions analysis are shown in the table below:

TABLE 6.B: Total Emissions By Development Scenario and Type*

Type	1994 No-Build	1994 Build	% Change	2010 No-Build	2010 Build	% Change
HC	507.7	571.2	0.13	600.0	650.3	0.08
NOx	129.9	142.7	0.10	124.7	136.0	0.09
CO	1366.0	1592.6	0.17	944.4	1046.0	0.11
VMT**	41555.0	44456.9	0.07	53488.5	57586.2	0.08

* Emissions are in pounds per PM peak hour
** "VMT" is Vehicle Miles Travelled

The emissions of non-methane hydrocarbons, oxides of nitrogen, and CO increase by 10 to 17 per cent in the 1994 implementation year. By comparison, VMT increases by 7%. The difference between the increase in emissions and VMT is the effect of additional vehicles travelling on study area roads that result in congestion and slower travel times. In the Horizon Year, the percent increase in emissions is less with an approximate increase of 10% expected in 2010. However, the difference between the increase in emissions and VMT is minor, with a difference of approximately 2% expected. With respect to air quality, these findings suggest that development of the High Desert site will add to congestion experienced in the 1994 Implementation Year but, due to planned public street improvements, will not cause substantial congestion and consequent emissions in the Horizon Year.

MAXIMUM PREDICTED 8-HOUR CO CONCENTRATIONS IN PPM*
(BY INTERSECTION QUADRANT)

Intersection	1994 Year			2010 Year		
Quadrant and Receptor	No Build	Build	Change	No Build	Build	Change
Paseo del Norte and Wyoming						
NE Queue	5.9	5.9	0.0	5.4	5.4	0.0
SE Queue	6.3	6.3	0.0	5.8	6.1	0.3
SW Approach	6.2	6.2	0.0	5.5	5.6	0.1
NW Queue	6.0	6.1	0.1	5.2	5.3	0.1
Spain and Eubank						
NE Residence	5.3	5.3	0.0	4.7	4.8	0.1
SE Restaurant	6.2	6.2	0.0	5.4	5.4	0.0
SW Apartments	6.3	6.4	0.1	5.6	5.6	0.0
NW Residence	6.6	6.6	0.0	5.9	5.9	0.0
Wyoming and Academy						
SW Apartments	8.9	8.9	0.0	6.6	7.2	0.6
SE Approach	9.1	9.1	0.0	6.3	7.2	0.9
NE Queue	9.0	9.0	0.0	6.4	6.8	0.4
NW Alejandro's	8.9	8.9	0.0	6.4	6.7	0.3
Academy and Tramway						
SE Queue	5.3	7.3	2.0	4.2	4.7	0.5
NE Queue	4.0	5.8	1.8	4.1	4.5	0.4
NW Queue	4.3	4.9	0.6	4.1	4.1	0.0
SW Queue	4.8	5.4	0.6	4.1	4.5	0.4
Spain and Tramway						
SE Queue	4.3	5.3	1.0	4.2	4.7	0.5
NE Queue	3.9	5.5	1.6	4.3	4.7	0.4
NW Residence	3.5	4.0	0.5	3.7	3.9	0.2
SW Queue	4.2	5.5	1.3	4.6	4.9	0.3
Montgomery and Tramway						
SE Wild Plum	6.5	6.8	0.3	5.3	5.4	0.1
NE McDonalds	6.2	6.7	0.5	5.0	5.0	0.0
NW Queue	7.6	7.8	0.2	5.7	5.7	0.0
SW Commercial	5.7	6.1	0.4	5.1	5.3	0.2
Montgomery and Eubank						
SW Commercial	7.4	7.5	0.1	6.3	6.5	0.2
SE Commercial	7.2	7.8	0.6	6.2	6.2	0.0
NE Vacant Lot	7.1	8.0	0.9	6.2	6.3	0.1
NW Commercial	7.5	7.6	0.1	6.3	6.4	0.1

TABLE 6.C: 2010 Horizon Year Analysis

* Includes background concentrations
A persistence factor of 0.6 was used to calculate 8-hour CO concentrations
The federal 8-hour standard for CO is 9.0 ppm

Conclusions and Recommendations

Based on the air quality / intersection analysis and emissions analysis prepared for the proposed development, substantial adverse impacts to ambient air quality are not anticipated as a consequence of the development of the High Desert Sector Plan. The project will cause a minor increase in ambient concentrations of carbon monoxide and an increase in study area emissions of hydrocarbons, oxides of nitrogen, and carbon monoxide. Concentrations of CO equal to or slightly greater than the federal 8-Hour standard are predicted at the intersection of Wyoming Boulevard and Academy Boulevard in the 1994 Implementation Year. However, this condition exists both with and without the project. In the Horizon Year, vehicle fleet advancements are expected to cause a decline in tailpipe emissions, and, as a consequence, all of the air quality receptors evaluated are predicted to be well below federal criteria. Nonetheless, this project will contribute to area emissions and will therefore contribute to existing air quality problems within Albuquerque and Bernalillo County. For this reason measures to reduce and/or offset project-generated emissions should be incorporated into the Sector Plan.

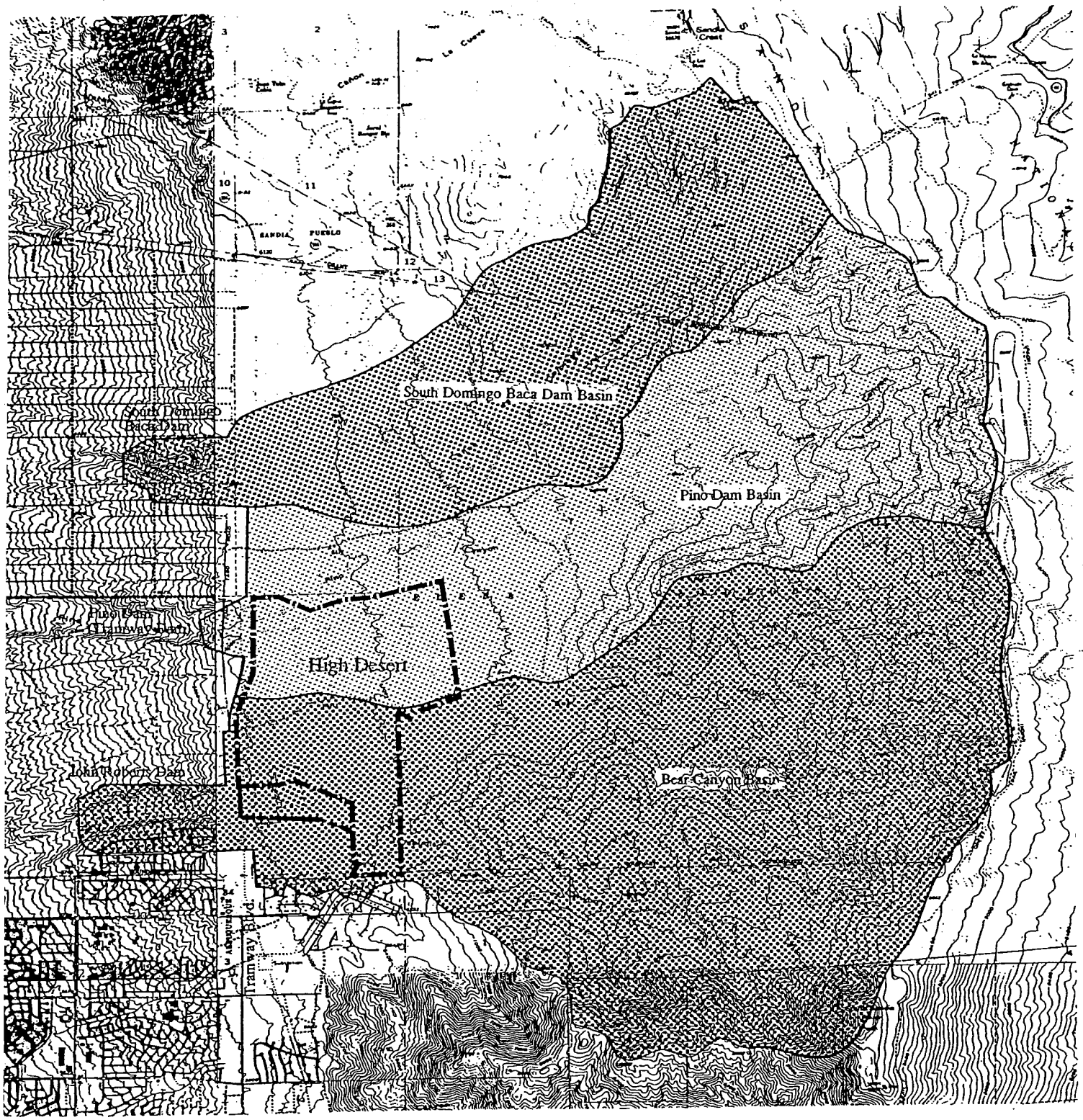
The High Desert plan concept includes measures that reduce vehicular travel. The provision of neighborhood services such as the commercial development, school, and church will serve to reduce travel by plan-area residents. The plan also includes pedestrian and bicycle facilities to further reduce on-site vehicular travel. While these strategies will reduce vehicle travel and hence emissions, additional measures are still warranted. Those intersections and roadways with insufficient capacity, and those expected to operate at a poor Level of Service in the future were identified in both the Traffic Impact and Air Quality analyses. To improve traffic operations and hence minimize vehicle emissions at these locations, intersection and roadway improvements that facilitate traffic flow should be implemented.

In addition to infrastructure improvements, other strategies that offset mobile source emissions are also available. According to the carbon monoxide source apportionment study conducted by the City of Albuquerque and Sandia Laboratories, wood-burning is responsible for approximately one-third of the total CO occurring during a typical winter night. Based on this finding, measures that reduce wood-burning emissions could be used to help offset mobile sources of CO. Since the High Desert development site will include up to 2,700 residential units, a substantial reduction of CO and particulate emissions can be achieved by replacing conventional masonry fireplaces with natural gas log fireplaces and woodburning appliances that utilize emission reduction technology.

According to emissions data developed by the Colorado Department of Health Air Pollution Control Division, gas log fireplaces produce hourly CO and PM-10 (inhalable particulates) emissions that are less than 3% and 0.2%, respectively, of those produced by a conventional fireplace. Wood stoves and fireplace inserts that meet the EPA's phase II emission requirements are also considerably cleaner burning than conventional fireplaces. The emissions produced by this type of unit contain approximately 33% of the emissions generated by a conventional fireplace during a complete burn cycle. The differences in emissions between the various types of devices suggests that a substantial reduction of CO and PM-10 emissions generated by residential woodburning can be avoided if woodburning alternatives are employed in the Sector Plan.

Because woodburning habits vary considerably, the number of homes using woodburning devices on any given day is highly variable. For this reason, the study did not attempt to quantify the emissions reduction potential of conventional fireplace alternatives. Instead the relative difference between natural gas log fireplaces and conventional fireplaces was estimated. The High Desert traffic study represents 2730 dwellings. If natural gas log fireplaces are utilized in 100% of the apartments, 50% of the townhouses, and 25% of the single family residences, the total woodburning emissions of CO from High Desert can be reduced by approximately 40%. The reduction is based on an average emission rate of 7 grams per hour for a natural gas log fireplace and 256 grams per hour for conventional fireplaces. If a portion of the remaining units are equipped with EPA Phase II devices, the total emissions can be further reduced.

The combination of the above measures including site planning to minimize travel, area infrastructure improvements, and the use of gas fireplaces and fireplace inserts, will serve to reduce the contribution of emissions from the High Desert project.

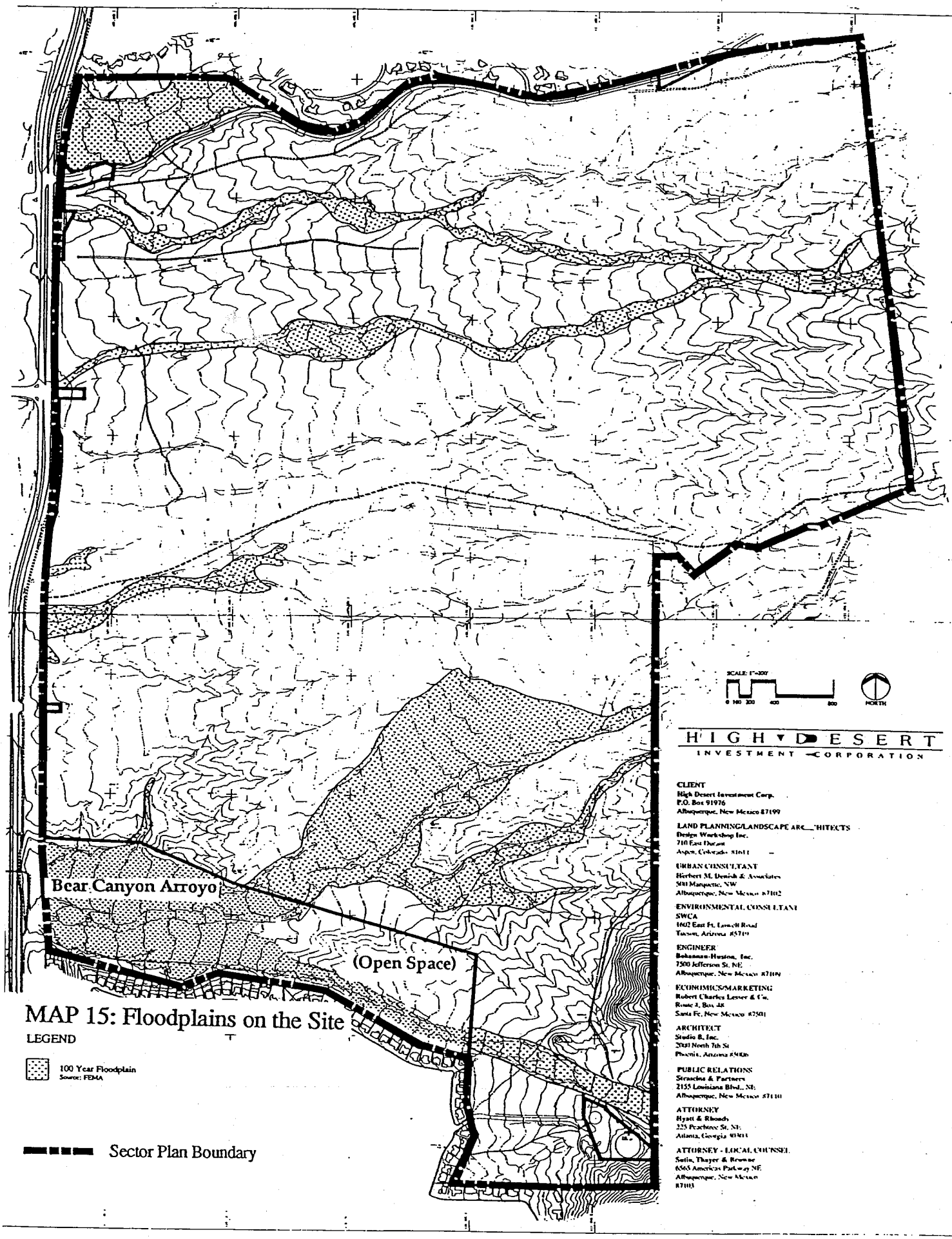


MAP 14: Drainage Basins Affecting the Site

LEGEND

- South Domingo Baca Dam Basin
- Pino Dam Basin
- Bear Canyon Basin

HIGH DESERT
INVESTMENT CORPORATION



MAP 15: Floodplains on the Site

LEGEND

100 Year Floodplain
Source: FEMA

Sector Plan Boundary

HIGH DESERT
INVESTMENT CORPORATION

CLIENT
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Albuquerque, New Mexico 87199

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Albuquerque, New Mexico 87102

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SWCA
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Tucson, Arizona 85719

ENGINEER
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ECONOMICS/MARKETING
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STORMWATER MANAGEMENT

This section describes the special land-use requirements and hydrologic conditions which must be met to devise a drainage management plan consistent with the land use plan for the project. The guidelines and recommendations of this report will form the basis of future drainage design within the development. A detailed technical report, entitled "Conceptual Drainage Management Plan for High Desert Development, Technical Report, February 1992" has been prepared by Bohannan-Huston, Inc. and is available for review as Volume 4 of the Sector Plan submittal.....

Purpose and Scope

The key elements of this conceptual drainage management plan include the following major areas of study:

- Research and consideration of previous and coincident drainage studies on or adjacent to the proposed development.
- Determination of the existing hydrological conditions of the property, including sedimentation concerns.
- Determination of future hydrological conditions following development of the property.
- Conceptual identification and description of drainage improvements, structures and systems required under developed conditions.

Proposed Development

The development concept consists primarily of residential land uses with some minor commercial and institutional (possibly including a church and a school site) land uses. Current land use planning for the site proposes a zoning that will permit approximately 2,700 residential dwelling units. Additional flexibility within the land use plan is proposed to permit the inclusion of a resort/ conference center site and a golf course should future conditions warrant these types of developments.

The property is currently situated outside the city limits but is proposed for annexation during the planning process. Actual land development and home construction activities are anticipated to begin in the last quarter of 1993 or the first quarter of 1994. Phasing of the infrastructure for this development is planned to coincide with estimated lot absorption rates.

Public Review Process

This conceptual drainage management plan will be submitted to the City of Albuquerque and AMAFCA simultaneously with the Sector Development Plan submittal. Review and comment by these entities will form the bulk of the technical comments concerning the development's drainage planning.

With Sector Development Plan approval and further development progress, additional drainage studies will be conducted in order to implement the recommendations of this master plan and to prepare actual construction documents.

Phasing of the project will require individual drainage management plans to identify the extent of infrastructure required for the planned phase. These plans must be submitted for agency review at the time of their preparation.

Study Methodology

The methodology selected for hydrological analysis of the proposed development is the City of Albuquerque's Development Process Manual, Chapter 22, as recently revised (August, 1991). This chapter presents a computer program (AHYMO) for the determination of 6-hour, 100-year storm runoff volumes and flow rates. The model is particularly useful for large watersheds with significant routing analysis requirements.

Sediment yield and bulking analysis for the affected watersheds were analyzed using the Pacific Southwest Interagency Commission (PSIAC) methodology for sediment analysis. The PSIAC method provides a general guide for estimating sediment yields based on climatological factors and physical characteristics of the watershed. The method is typically intended for broad planning purposes and was selected after consultation with AMAFCA.

Site Description

The approximately 1,000 acre parcel comprising the proposed High Desert Development is currently in a fully undeveloped state and has only been minimally impacted by human activities. Site vegetation primarily consists of native prairie grasses. The easternmost portions of the site consist of a mix of these grasses with juniper trees. Slopes across the project site range from 4% to above 30%, however, the bulk of the project lies in the 5% slope category with a relatively short transition from this 5% slope to the 30% slopes in the southeast corner of the property. In this area, the Sandia Mountain face extends into the property and forms the only significant area of high slopes on the project. The Soil Conservation Service has classified the soils in this site area as soils of high gravel and sand content.

Existing Hydrologic Conditions

The property is currently impacted by six floodplains. These floodplains are located in the Pino Arroyo, South Pino Arroyo Tributary, Bear Arroyo Tributary, Bear Arroyo, Bear Canyon Arroyo, and Embudito Arroyo watersheds. The Existing Conditions Basin Map (Map #14) at the beginning of this section identifies these floodplains. The upstream drainage watersheds for some of these floodplains are large and extend to the crest of the Sandia Mountains. Map 15 locates the extent of these floodplains within the project area in more detail. Existing hydrological conditions for the 6-hour, 100-year storm were analyzed for six major arroyo basins on the property. The flow rates are generally higher than the rates for similar conditions predicted in previous reports. This was anticipated in light of recent changes to the hydrology methods contained in the City's Development Process Manual.

Sediment Yield

The PSIAC sediment yield analysis determined a 100-year 6-hour storm single event sediment yield of 6 acre-feet of sediment per square mile for non-mountainous areas. The value compares favorably with sediment yield values determined for the heavily studied west side mesas in the Albuquerque area. This sediment yield corresponded to a bulking factor of 12%, again with favorable comparisons to other reports.

Design Goals

The primary goals of the conceptual drainage management plan are the provision of:

Adequate drainage and flood control systems
Environmentally sensitive design
Enhanced natural vegetation
Minimal disturbance of existing land forms
Systems that preserve open space

Relation to Land Use

To accomplish these goals, the development can be divided into four major land use types employing different drainage management concepts. These major land use types consist of varying degrees of density ranging from undeveloped open spaces to commercial and institutional development. The following paragraphs contain general descriptions of the various land use types and the associated drainage management schemes proposed.

Open Space and Floodplain Areas

No development is proposed for the floodplain zones. Arroyos are to remain in a natural condition conveying essentially historic flows. No improvements to the arroyos are planned except for occasional crossing structures.

- Adjacent areas contain low to moderate density development utilizing drainage management schemes which prevent developed flows from reaching the arroyos.
- The land use plan allows for the potential development of a golf course primarily within the southern arroyo systems on the property. Design and installation of the golf course will minimize obstruction to the flows of the arroyo by restricting major grading operations to the existing land forms and contours.
- Conservation easements will be established for the floodplains in these zones. Other existing floodplains currently identified by the Federal Emergency Management Agency (FEMA) will be conveyed as easements.
- Maintenance easements will be granted to the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) for treatment of extraordinary drainage associated with peak storm conditions.
- Drainage in the vicinity of the Bear Canyon Arroyo will conform to the Bear Canyon Arroyo Corridor Plan, i.e., the impact of development will be restricted to the undeveloped condition.

Landscape Buffer Zones

These zones primarily represent the major arroyos located in the high density development area. No development is planned in this zone.

- Historic flows are removed from the arroyos. Arroyo flows are collected in sedimentation basins at the eastern, upstream edge of the zone and conveyed to crossing structures at Tramway Blvd. via major storm drain lines.
- Although storm flows have been removed, the arroyos will continue to remain in a natural condition, preserved by protective covenants and drainage easements and maintained by the homeowner association.
- Vegetation in these "dry" arroyos will be enhanced through the use of water harvesting techniques. These techniques collect stormwater from developed area runoff and irrigate the arroyo in order to sustain higher densities of animal and plant life.

Semi-Urban Residential Zones

This zone consists of the low to moderate density residential areas with densities ranging from 2 dwelling units per acre (2 du/ac) to 6 du/ac. These zones are located predominately in the upland areas of the project, and will be developed in a manner intended to minimize disturbance to ground cover and existing arroyos. Existing hydrological conditions will be impacted in negligible fashion.

- Lot development will remain outside the identified arroyo floodplains and prudent lines.
- Runoff from roofs and other hard surfaces will be collected and discharged onsite using storm water retention/infiltration methods.
- To minimize lot grading, cross lot drainage will be permitted and preserved by platted easements and other land use covenants.
- Roadways will typically be placed high on the ridges and designed without curb and gutter in order to minimize concentration of flows in the roadway systems.
- The majority of runoff water from impervious areas will be collected and infiltrated into the soil. However, in order to be conservative, no credit for flow reduction due to infiltration, will be considered in the analysis of downstream flowrates and crossing structures.
- Primarily, onsite collection and detention techniques will be employed to significantly reduce or eliminate developed discharge to the Bear Canyon Arroyo in accordance with the Bear Canyon Arroyo Corridor Plan.

Urban Residential Zone

This zone contains the higher density development areas ranging from 5 dwelling units per acre to 18 dwelling units per acre (residential). Apartment, commercial and institutional developments are also included. Overlot mass grading, with the exception of the major "dry" arroyos as described above, will be predominant.

- As described previously, collection of the main arroyo flows, and sediment, will occur in upstream sedimentation basins at the eastern edge of the zone.
- In-zone, developed stormwater will be primarily collected by streets, storm inlets and minor storm drain piping systems. These flows will be conveyed to the major storm drain trunk systems that extend from the sedimentation basins to the crossing structures beneath Tramway Blvd.

Developed Flows

Determinations of the arroyo flows under developed subdivision conditions were also performed. Design of the proposed drainage improvements described below must be based on these flows.

Although the majority of the structures under Tramway Boulevard are under capacity when analyzed using conventional highway crossing design techniques, remedies to this lack of capacity are available. These remedies include diversion of flows in certain upstream areas, distributing flows advantageously among the available crossing structures, and enhancing capacity within the crossing structures themselves through minor structural modifications. Possible methods for structure modification include improving the inlet conditions to the structures or running storm drainage pipes directly to and connecting with the culverts under Tramway.

Recommended Improvements

In order to comply with the drainage management guidelines established in this section, the following major drainage improvements are proposed for the development of this property:

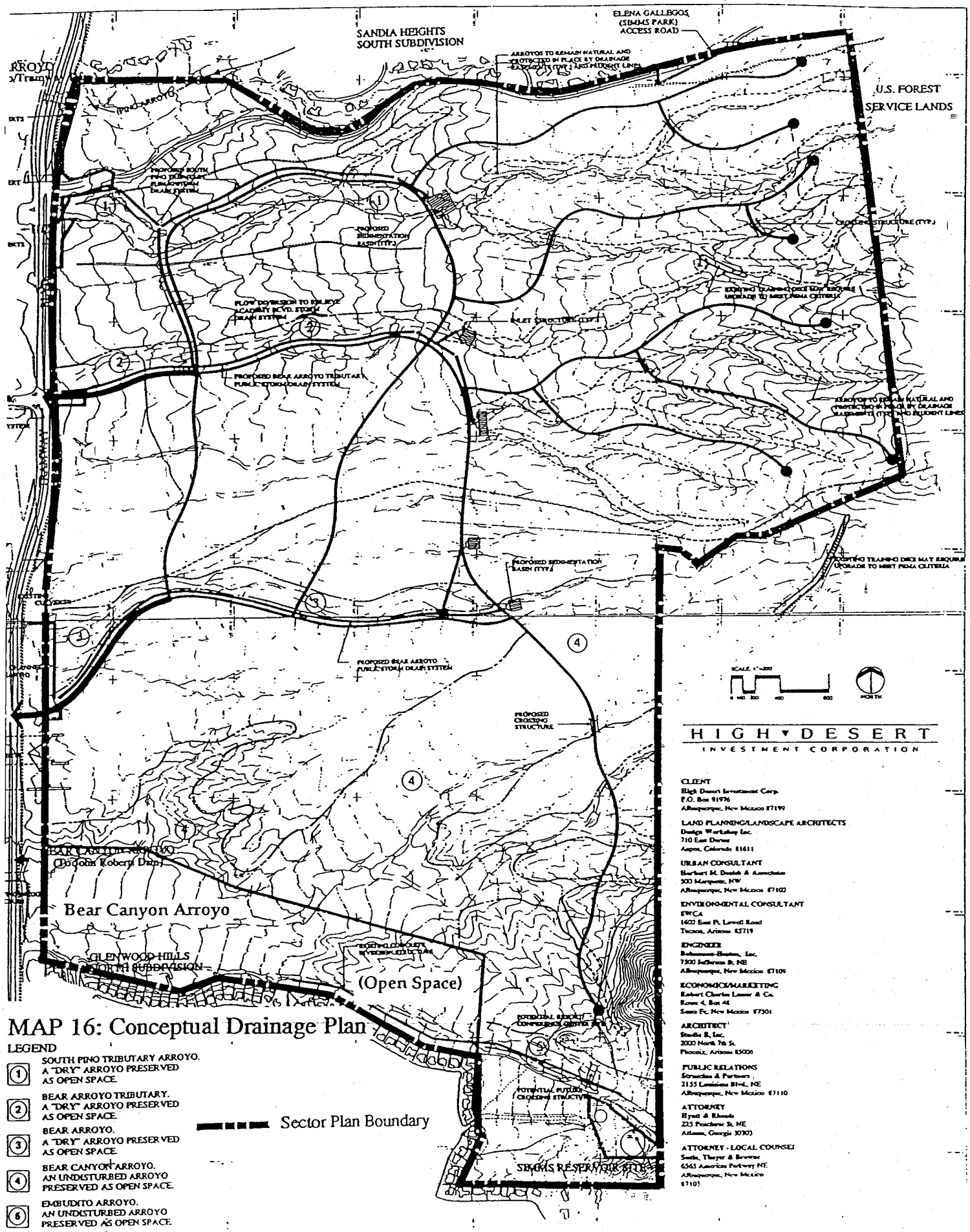
- Installation of the South Pino Tributary, Bear Arroyo Tributary and Bear Arroyo public storm drain systems, including sedimentation ponds, to remove large upstream flows from the arroyos flowing through the higher density developed areas.
- Upgrade the existing South Pino Tributary/Bear Arroyo Tributary, and Bear Canyon Arroyo training dikes to comply with new FEMA standards for freeboard and sedimentation analysis.

- Utilize stormwater retention/infiltration systems in low density development zones.
- Utilize water harvesting techniques in the "dry" arroyo systems in the high density development areas.

These improvements are anticipated to be installed in a phased fashion corresponding to buildout rates within the development.

Conclusions

High Desert's conceptual drainage management plan proposes an environmentally sensitive and technically sound master plan for the development of the High Desert property. Innovative techniques are proposed in this plan that may require subdivision design variances but are worthy of serious consideration and final approval. It is believed that the recommended drainage improvements provide satisfactory management of onsite and offsite stormwater flows impacting the site.



MAP 16: Conceptual Drainage Plan

LEGEND

1. SOUTH PINO TRIBUTARY ARROYO. A "DRY" ARROYO PRESERVED AS OPEN SPACE.
2. BEAR ARROYO TRIBUTARY. A "DRY" ARROYO PRESERVED AS OPEN SPACE.
3. BEAR ARROYO. A "DRY" ARROYO PRESERVED AS OPEN SPACE.
4. BEAR CANYON ARROYO. AN UNDISTURBED ARROYO PRESERVED AS OPEN SPACE.
6. EMBUDITO ARROYO. AN UNDISTURBED ARROYO PRESERVED AS OPEN SPACE.

Sector Plan Boundary

CLIENT
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ATTORNEY - LOCAL COUNSEL
Smith, Thayer & Browne
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Albuquerque, New Mexico
87103

UTILITIES

All utility extensions within the plan area will be underground facilities aligned within public street right-of-way or within granted utility easements. All utility companies indicated that reasonable time frames for provision of service upon request were possible. In the case of electricity and gas, refunds will be made based on first year revenues. Map 17 graphically depicts the location of major utility easements and lines.

Water

The City of Albuquerque currently provides water to developed properties west of Tramway Boulevard, in the vicinity of Academy and Spain Roads, and to the Glenwood Hills North Subdivision, south of the High Desert property. On the north, Sandia Heights South is served by Sandia Peak Utility Company, a Public Service Commission-regulated utility.

Water System Zones

The sector plan area is located within the City of Albuquerque water system pressure zones 9E, 10E, 11E and 12E. Existing water facilities that will serve the High Desert property include the recently constructed Simms Reservoir in the southeastern most extreme of the property and Zone 9E and 10E water lines at the northern edge of the Glenwood Hills Subdivision.

Required Improvements

Additions to the existing water system in order to provide permanent service to the sector plan area will include the extension of waterlines across the property for distribution of water to each of the pressure zones and, possibly, the construction of Canada Reservoir east of the sector plan area. The construction of the Cañada Reservoir will include the extension of a 16" transmission line from the Simms Reservoir. Easements for both the Cañada Reservoir and the transmission line from Simms Reservoir have been platted. The transmission line easement between Simms and Cañada Reservoir may be adjusted to follow proposed street patterns.

Extension of the existing 9E and 10E water lines at the Glenwood Hills Subdivision boundary will be made to provide service to these zones within the High Desert development.

Within the sector plan area, construction of the transmission lines and other master-planned water lines will be accomplished in accordance with line extension policies.

Temporary Provisions

Service to Zones 11E and 12E may be accomplished prior to the construction of Canada Reservoir by installing a temporary closed loop pumping system in the Simms Reservoir pump station structure and extending the transmission line between the reservoir sites as necessary. Provision for both domestic service and fire flow will be made; the provision of this temporary service will be financed by High Desert.

Resort and Conference Center

Should a resort be incorporated into the plan as provided for in the "recreation resort" zone, it will be constructed in Zone 11E close to the Simms Reservoir. The fire flow requirement for this facility is estimated to be 2500 gallons per minute for a maximum duration of 10 hours. Adherence to these values can be achieved by proper control of the size and construction type of structures.

The resort hotel envisioned in the Recreational Resort Zone is anticipated to include a principal structure of approximately 30,000 square feet containing a restaurant, lounge, and recreational facilities such as tennis, racquetball and exercise equipment. Guest rooms would be arranged in clusters or "casitas" generally as described in the "cluster townhouse" provisions of the Townhouse Zone. Each cluster would contain approximately eight units. The overall configuration of the resort hotel and conference center would conform to the fire flow capacities of Canada Reservoir as currently designed.

Caretakers Quarters

In addition to traditional dwelling units a maximum of 200 "caretaker quarters" will be constructed on the property . All these units have the potential to be constructed in Zones 11E and 12E. It is estimated that each of these accessory units will consume 150 gallons of domestic water per day.

Sanitary Sewer

Sanitary sewer service to the site will be made by extending new sanitary sewer lines from existing sewers at Academy Road and Spain Road. The existing lines at Academy Road and Spain Road have already been extended across Tramway Blvd. and the Academy Road sewer is available for immediate connection at that point. An approximate 2000' extension of new sewer in Spain Road must be made from the Spain Road and Lowell Street intersection in order to provide service to the western boundary of the development.

It is anticipated that the moderate to higher density zones of the sector plan will utilize gravity service from the proposed Spain and Academy Road sewer line extensions. However, in the eastern low density zones, construction of houses on the hillsides below the depth of sanitary sewer may require private ejection/grinder pump sanitary sewer systems for each house. These systems will eject sewage to a public main in the street.

Development south of the Bear Canyon Arroyo will extend a sewer line across the Bear Canyon Arroyo to the new Spain Road sewer line. Installation will conform to AMAFCA and City guidelines for utility crossings of major arroyos. This will be done prior to any dedication of open space so that it will not be necessary to seek approvals after the land is dedicated to the City, should dedication be the land management alternative selected.

Treated Effluent

As discussed in the water conservation measures of the plan, treated effluent may eventually be used to irrigate a golf course on the property should this land use be instituted as permitted within the recreational center zone of the plan. If the use of treated effluent should occur, sewage flows from High Desert would be intercepted on the east leg of the intersection of Spain and Tramway. This may require the installation of a sewer from this intersection to the Academy and Tramway intersection. Once the flow is intercepted at Spain it will be pumped by a lift station to a treatment and storage area within the golf course. The flows would then be treated and placed in a storage pond for use in irrigation. During the three coldest months the flows would be rediverted to the City system by means of the Spain Road sewer. This would result in the line between Tramway and Lowell Street receiving intermittent flows.

If sewage effluent is used for irrigation, the utility expansion charge would still be levied against all lots to provide for downstream treatment capacity during those times when sewage is being diverted into the City's system. The provision of the golf course and the decision to use treated effluent are both speculative at this time. If the decision to construct a golf course is made, the extensive planning, design, and governance work required to allow the use of treated effluent will occur at that time. At this time, City Staff can not approve using treated effluent for irrigation in the project as the concept is in conflict with the Albuquerque Areawide Wastewater Collection and Treatment Facilities Plan, October 1978. If the concept of using treated effluent for irrigation is pursued, the Facilities Plan will require revision.

If the golf course is constructed and treated effluent is not utilized for irrigation, two other sources of irrigation water will be evaluated: the use of potable water from the City system; and the use of water from a private or city well to be drilled on-site.

Private Utilities

The Public Service Company of New Mexico has existing facilities extending along the western boundary of the property for its full length. Two major systems exist, a steel pole high voltage transmission line and a distribution line (wood poles). Public Service Company has indicated that the distribution line would be adequate to serve the High Desert Development, subject to existing extension policies.

The Gas Company of New Mexico has indicated that several major lines in this area are available to serve this property. These include a 12" very high pressure gas main running immediately adjacent to the western boundary of the property. Service would be subject to their normal extension policies.

US West Communications has indicated that service is available to the property via extensions from existing facilities located near the San Rafael and Tramway Blvd. intersection. Service to the sector plan area would be made using underground fiber optic cable extensions.

Jones Intercable has stated that service would be readily available to the development upon request. Service would be subject to their normal extension policies.

High Desert Sector Development Plan

Appendix

- Indemnification Agreement
- Trails Agreement
- Letter from AMAFCA - Conceptual Drainage Management Plan
- Notice of Subdivision Conditions
- Parks Agreement

[REFERENCED DECLARATION RECORDED: MISC. BOOK. 93-36, PAGES 1-87]

INDEMNIFICATION AGREEMENT

THIS INDEMNIFICATION AGREEMENT ("Agreement") is made and entered into as of the 22nd day of December, 1993 by and between HIGH DESERT INVESTMENT CORPORATION, a New Mexico corporation (hereinafter referred to as "High Desert"), HIGH DESERT RESIDENTIAL OWNERS ASSOCIATION, INC., a New Mexico corporation (hereinafter referred to as the "Association"), and the CITY OF ALBUQUERQUE, NEW MEXICO, a municipal corporation formed under the laws of the State of New Mexico (hereinafter referred to as the "City").

BACKGROUND STATEMENT

A. High Desert is the developer of that certain residential development in Albuquerque, New Mexico, to be known as High Desert and has or will execute, as the "Declarant" thereunder, that certain Declaration of Covenants, Conditions, and Restrictions for High Desert Residential Properties ("Declaration"), which is to be recorded in the Office of the County Clerk of Bernalillo County, New Mexico. The Association is a community association which has been created and incorporated under the laws of the State of New Mexico to be and constitute the "Association" to which reference is made in the Declaration and the community association for the High Desert residential development.

B. Under the third paragraph of Section 4.4 of the Declaration, if the Association fails or refuses to act on its obligations regarding Common Area (as defined in the Declaration) and open space maintenance and water recapture as set forth in the Declaration, the City will have the right (but not the obligation) to perform such obligations of the Association as necessary to ensure compliance with the requirements of the Declaration concerning such obligations. Costs incurred by the City in performing such obligations of the Association are to be borne by High Desert and the Association in the manner set forth in the third paragraph of Section 4.4 of the Declaration.

C. Accordingly, the parties hereto desire to enter into this Agreement in order to memorialize and effectuate the provisions of the third paragraph of Section 4.4 of the Declaration.

NOW, THEREFORE, FOR AND IN CONSIDERATION OF THE ABOVE PREMISES, the mutual benefits to inure to each of the parties hereto, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound, do hereby warrant, represent, covenant, and agree as follows:

1. Indemnification by High Desert. From and after the Effective Date (as defined herein), High Desert, to the extent provided herein, shall indemnify and hold harmless the City against any and all maintenance and construction costs, including reasonable costs of investigation and administration, which may be incurred by the City in performing the Association's obligations regarding Common Area and open space maintenance and water recapture as necessary to ensure compliance with the requirements of the Declaration concerning such obligations pursuant to and under the circumstances described in the third paragraph of Section 4.4 of the Declaration. Except in an emergency situation which threatens or causes

injury to persons or damage to public or private property, before incurring any such costs, the City must give High Desert thirty (30) days prior written notice of its intent to act under the third paragraph of Section 4.4 of the Declaration, the reasons it intends to act under the third paragraph of Section 4.4 of the Declaration, and the obligations of the Association it intends to perform. However, within ten (10) days after acting in an emergency situation as described above, the City must give High Desert written notice containing the information described in the immediately preceding sentence.

High Desert's obligations under the preceding paragraph shall terminate upon the termination of the Class "B" Control Period (as defined in the Declaration). Under Section 3.3 of the By-Laws of the Association (which are attached to and recorded with the Declaration as Exhibit "C" thereto), the Class "B" Control Period terminates upon the first to occur of the following:

(a) when 75% of the total number of Units (as defined in the Declaration) proposed by the Master Plan (as defined in the Declaration) for the property described on Exhibits "A" and "B" of the Declaration have certificates of occupancy issued thereon and have been conveyed to Persons (as defined in the Declaration) other than Builders (as defined in the Declaration);

(b) 30 years after the date on which the Declaration is recorded in the Office of the County Clerk of Bernalillo County, New Mexico; or

(c) when, in its discretion, the Class "B" Member (High Desert) so determines.

2. Indemnification by the Association. After termination of the Class "B" Control Period, the Association, to the extent provided herein, shall indemnify and hold harmless the City against any and all maintenance and construction costs, including reasonable costs of investigation and administration, which may be incurred by the City in performing the Association's obligations regarding Common Area and open space maintenance and water recapture as necessary to ensure compliance with the requirements of the Declaration concerning such obligations pursuant to and under the circumstances described in the third paragraph of Section 4.4 of the Declaration. Except in an emergency situation which threatens or causes injury to persons or damage to public or private property, before incurring any such costs, the City must give the Association thirty (30) days prior written notice of its intent to act under the third paragraph of Section 4.4 of the Declaration, the reasons it intends to act under the third paragraph of Section 4.4 of the Declaration, and the obligations of the Association it intends to perform. However, within ten (10) days after acting in an emergency situation as described above, the City must give the Association written notice containing the information described in the immediately preceding sentence.

3. Exception to Indemnification. Notwithstanding anything provided in this Agreement to the contrary, neither High Desert nor the Association shall be obligated to indemnify the City for any maintenance and construction costs, including reasonable costs of investigation and

administration, incurred by the City resulting from the gross negligence or willful misconduct of the City.

Further, neither High Desert nor the Association shall be obligated to indemnify the City for any liability, claims, damages, losses or expenses, including attorneys' fees, arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the City, or the agents or employees of the City, or arising out of the giving of or the failure to give directions or instructions by the City, or the agents or employees of the City, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or of damage to property.

4. Additional Assurances. High Desert and the Association agree to execute such additional affirmations and certificates and to provide such further assurances as the City may require from time to time to further evidence and effect the obligations of High Desert and the Association, respectively, hereunder.

5. Representations and Warranties. High Desert and the Association each represent and warrant to the City that the execution of this Agreement has been duly authorized by each such party by all necessary corporate or other action as required under all applicable laws and agreements to which High Desert and the Association, respectively, are subject. This Agreement constitutes a legal, valid, and binding obligation of both High Desert and the Association.

6. No Waiver. No delay on the City's part in exercising any right, power, or privilege hereunder or under the third paragraph of Section 4.4 of the Declaration shall operate as a waiver of any such privilege, power, or right.

7. Release. Any one or more of High Desert or the Association, or any other party liable upon or in respect of this Agreement, may be released without affecting the liability of any party not so released.

8. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original. Said counterparts shall constitute but one and the same instrument and shall be binding upon, and shall inure to the benefit of, each of the undersigned individually as fully and completely as if all had signed but one instrument. The liability of High Desert and the Association hereunder shall be unaffected by the failure of High Desert or the Association to execute any or all of said counterparts.

9. Notices. All notices hereunder shall be in writing and shall be deemed to have been sufficiently given or served to a party hereto for all purposes when sent by registered or certified mail, return receipt requested, to such party's address stated on the signature page(s) hereof, or at such other address of which such party shall have notified the party giving such notice in writing in accordance with the foregoing requirements.

10. Binding Effect and Assignment. Except as herein provided, this Agreement shall be binding upon and inure to the benefit of High

Desert, the Association, and the City and their respective heirs, personal representatives, successors and assigns. Notwithstanding the foregoing, High Desert and the Association, without the prior written consent of the City in each instance, may not assign, transfer or set over to another, in whole or in part, all or any part of its or their benefits, rights, duties and obligations hereunder, including, but not limited to, performance of and compliance with conditions hereof.

11. Governing Law. This Agreement and the rights and obligations of the parties hereunder shall in all respects be governed by, and construed and enforced in accordance with, the laws of the State of New Mexico (without giving effect to New Mexico's principles of conflicts of law).

12. Amendment. No provision of this Agreement may be changed, waived, or discharged orally, by telephone or by any other means except by an instrument in writing signed by the party against whom enforcement of the change, waiver, or discharge is sought.

13. Termination. The obligations of High Desert hereunder shall terminate upon termination of the Class "B" Control Period as set forth in Section 1 of this Agreement. Otherwise, this Agreement and the obligations set forth herein may be terminated only by an instrument in writing signed by the party against whom enforcement of such termination is sought.

14. Effective Date. The "Effective Date," as such term is used herein, shall be the later of (a) the date on which High Desert, the Association, and the City have each properly executed at least one counterpart to this Agreement or (b) the date on which the Declaration is recorded in the Office of the County Clerk of Bernalillo County, New Mexico: provided, however, so long as the Declaration remains unrecorded, this Agreement shall be null and void and of no effect whatsover, regardless of the fact that all of the parties hereto have properly executed at least one counterpart to this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first written above.

HIGH DESERT: HIGH DESERT INVESTMENT CORPORATION, a New Mexico corporation

By: _____
Title: PRESIDENT

Attest: _____
Title: Secretary

Address: 6400 Wyoming Boulevard, NE
Albuquerque, New Mexico 87109
Attn: DOUGLAS H. Collister

ASSOCIATION: HIGH DESERT RESIDENTIAL OWNERS ASSOCIATION, INC., a New Mexico corporation

By: Pamela G. Scanlon
Title: PRESIDENT

Attest: Laura Lee Moore
Title: Secretary

Address: 6400 Wyoming Boulevard, NE
Albuquerque, New Mexico 87109
Attn: Pamela G. Scanlon

CITY: CITY OF ALBUQUERQUE, NEW MEXICO, a municipal corporation formed under the laws of the State of New Mexico

By: _____
Title: Chief Administrative Officer

Attest: _____
Title: _____

Address: _____
Albuquerque, New Mexico ____
Attn: _____

CONT17 - 07/14/93

93145417

0001

DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS

FOR

HIGH DESERT RESIDENTIAL PROPERTIES

HYATT & RHOADS, P.C.

Attorneys

1200 Peachtree Center South Tower
225 Peachtree Street, N.E.
Atlanta, Georgia 30303
(404) 659-6600

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

1993 DEC 22 PM 3:46

93-36 P 1-87

BY DEPUTY
RECORDED

Letter of Agreement
for Dedication of Right-of-Way and Construction of Trail 9361035

This Agreement is dated 5-20-93 *between the Parks and General Services, City of Albuquerque (City) and High Desert Development Corporation (High Desert).*

Whereas, as part of Bernalillo County's project to construct Tramway Boulevard, the Albuquerque Academy agreed to provide right of way for a trail around the perimeter of the High Desert's property, and

Whereas, High Desert desired to locate the northern segment of the trail on the southern side slope of Simms Park Road between the right-of-way for Tramway Boulevard and the National Forest Boundary, rather than on top of the ridge to the south, and

Whereas, High Desert agreed to pay the cost difference in constructing the trail on said side slope, and

Whereas, the City, through its Planning Department and Open Space Division, Parks & General Services, has been working with High Desert to plan for a trail along Simms Park Road; and

Whereas, the Environmental Planning Commission approved the High Desert Sector Plan in case number SD-91-3/AX-92-8/Z-92-63 with certain conditions, including that an agreement between the parties be reached on the cost to be borne by High Desert for a trail along Simms Park Road, based upon certain design considerations, prior to annexation by the City Council;

Now, therefore, the parties have agreed as follows:

1. High Desert will pay the City one hundred and ninety-five thousand dollars ($195,000) upon preliminary plat approval of Phase II of the sector plan, or two years from the effective date of the annexation ordinance, whichever comes earlier, for the City to design and construct a trail along Simms Park Road.

2. The trail will accommodate equestrians, mountain cyclists, pedestrians and runners. The City will have broad latitude to design the trail to best accommodate these users. The design may be different than the design used as a cost basis for this agreement, but the maximum trail width shall be 8 feet. Every attempt will be made to use a building material for retaining walls which matches the color of the surrounding terrain. The design will be reviewed by High Desert and the Greater Albuquerque Recreational Trails Committee.

3. At the time of filing the annexation plat, High Desert will dedicate right-of-way for the trail along the south side of Simms Park Road as shown on the attached sheet, except that instead of a 12 foot minimum right-of-way, 16 feet shall be dedicated and the right-of-way shall extend from the National Forest Boundary to the Tramway Boulevard right-of-way. At the time the property adjacent to the trail is further subdivided, minor revisions to the dedicated trail right-of-way may be considered by the Development Review Board in order to accommodate the actual trail design.

4. A temporary construction easement shall be granted by High Desert at the time of construction of the trail, for the area 30 feet beyond the dedicated trail right-of-way.

5. The City shall have eighteen months from the date of payment by High Desert to commence construction of the trail.

6. This letter of agreement shall be referenced in the resolution approving the Sector Plan for case number SD-91-3/AX-92-8/Z-92-63.

7. This letter of agreement may be incorporated into the Memorandum of Understanding between the Albuquerque Academy, Bernalillo County, the City of Albuquerque and the Cibola National Forest in order to define the agreement between the parties pertaining to the trail along Simms Park Road.

8. All successors and assigns of the parties in interest are bound by the terms of this agreement.

HIGH DESERT INVESTMENT CORPORATION
High Desert Investment Corporation
By Richard G. Elkins
Its Treasurer

The foregoing instrument was acknowledged before me this 6 day of April, 1993, by Richard Elkins of High Desert Development Corporation.

Janet Sanchez
Notary Public
My Commission Expires: Nov. 25, 1996

J. Hunt

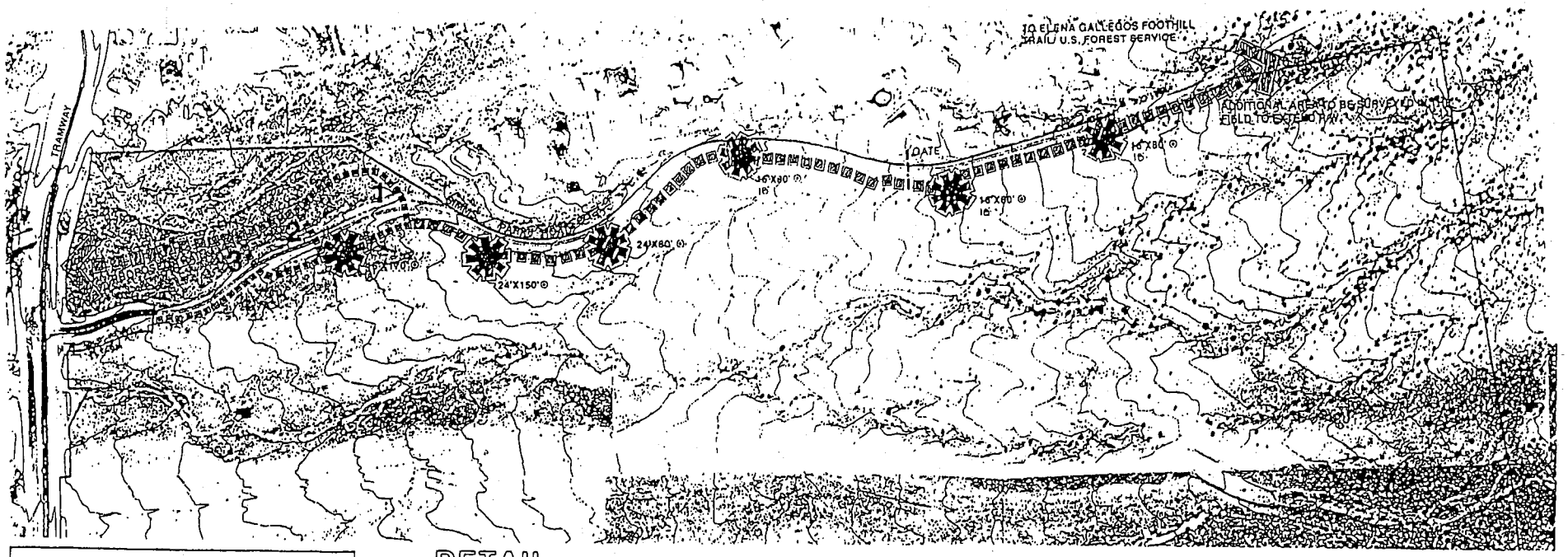
City of Albuquerque, Parks & General Services Department
By Jay Czar, Department Director

The foregoing instrument was acknowledged before me this 30th day of April, 1993, by JAY J. CZAR of the City of Albuquerque.

Margaret Ann Kalyta
Notary Public
My Commission Expires: October 23, 1995

for

City of Albuquerque
By Arthur A. Blumenfeld, CAO



NOTES:

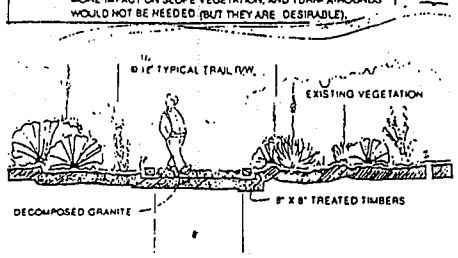
WATER HARVESTING AREA
WILDLIFE ENHANCEMENT AREA
PRESERVATION OF NATIVE VEGETATION
SEPARATION OF AUTO AND PEDESTRIAN TRAFFIC
POSSIBLE TURN-A-ROUND AREA
REST AREA
ⓐ ADDITIONAL WIDTH AND LENGTH SHOWN ON AERIAL VIEW

ALTERNATE CROSSING OPTIONS/ SITE DISTANCES

	EAST	WEST
1	+300'	+800'
2	+440'	+340'
3	+740'	+1000'

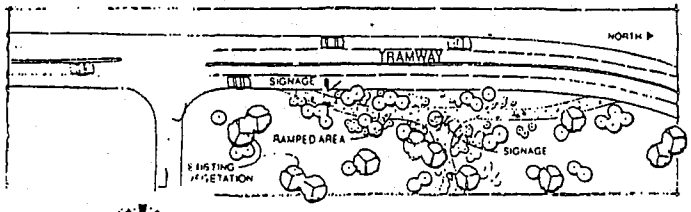
ALTERNATE TRAIL WIDTH OPTIONS 2:1 SLOPES

- 5' TRAIL OPTION WOULD LESSEN DISTURBANCE OF NATIVE VEGETATION, DELETE THE NEED FOR UPSLOPE TIMBER WALLS CREATE A NEED FOR TURN A ROUNDS AND LESSEN COST
- 8' TRAIL OPTION WOULD [illegible] TRAIL WIDTH MORE COMFORTABLE WHEN HORSES OR HIKERS PASS EACH OTHER MORE IMPACT ON SLOPE VEGETATION, AND TURN-A-ROUNDS WOULD NOT BE NEEDED (BUT THEY ARE DESIRABLE).

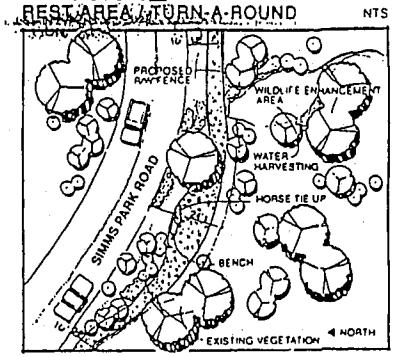


SECTION
FLAT AREAS
SCALE 1/4"=1'-0"

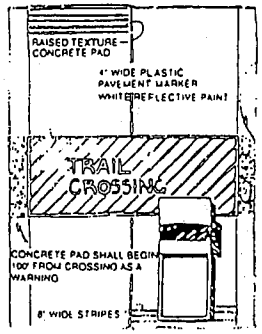
DETAIL
TRAIL HEAD RAMPS AT TRAMWAY
NTS



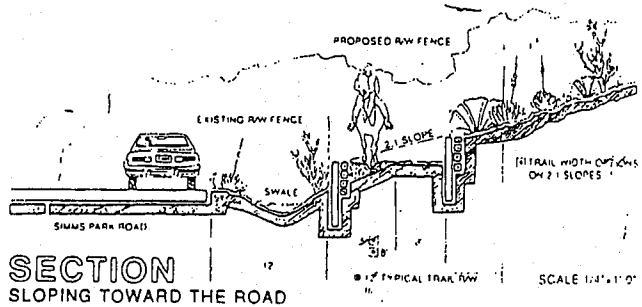
PLAN
REST AREA / TURN-A-ROUND
NTS



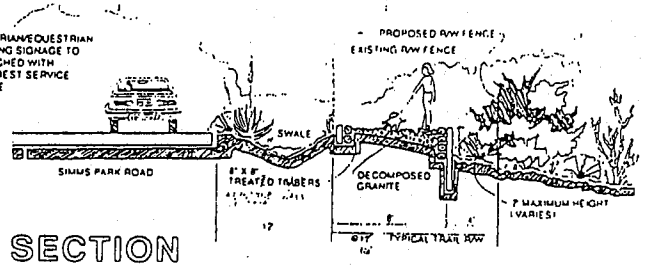
DETAIL
TRAIL CROSSING SIGNAGE
NTS



PEDESTRIAN/EQUESTRIAN CROSSING SIGNAGE TO BE MATCHED WITH U.S FOREST SERVICE SIGNAGE



SECTION
SLOPING TOWARD THE ROAD



SECTION
SLOPING AWAY FROM THE ROAD

SIMMS PARK ROAD TRAIL OPTIONS

5 12 92

ELENA GALLEGOS FOOTHILL TRAIL NORTH AND SOUTH LEG

* SEE SPECIFIC DIMENSIONS FOR PROPOSED WIDENING OF TRAIL AT EACH TURN A

RECEIVED BHI
MAY 4 - 1992

R. WARD HUNNICUTT, CHAIRMAN
PAT D. HIGDON, VICE-CHAIRMAN
NIEL W. COOK, SECRETARY-TREASURER
GENEIVA MEEKER, DIRECTOR
RONALD D. BROWN, DIRECTOR

LARRY A. BLAIR
EXECUTIVE ENGINEER

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority

2600 PROSPECT N.E. - ALBUQUERQUE, N.M. 87107
TELEPHONE (505) 884-2215

May 1, 1992

James R. Topmiller, P.E.
Bohannan-Huston
Journal Center Courtyard I
7500 Jefferson Street N.E.
Albuquerque, NM 87109

RE: High Desert Conceptual Drainage Management Plan, February, 1992

Dear Mr. Topmiller:

AMAFCA has the following comments regarding your recent submittal:

1. We have no objection to the overall concepts outlined in the plan. It is a departure from usual drainage solutions, but in view of the location of High Desert, it presents an opportunity to display an intelligent transition from an urban to a natural environment.

2. We note some special conditions applicable to the area, including the following:

   a. Relatively steep slopes on the eastern portion, flattening near Tramway. This will present some challenges in dealing with flows and sediment. In regard to sediment, the preliminary estimates of sediment yield and bulking factor appear reasonable for the area for use in the conceptual plan phase. The watershed characteristic values from the PSIAC analysis should be documented in the report. The sediment bulking factor used appears to be based on average values over the duration of a storm. Such values are applicable for design of ponds, but conveyance structures, for which the critical design condition is the peak flow rate, are likely to require higher bulking factors. When a more detailed analysis is performed during evaluation of existing or proposed structures, determination of erosion setbacks, and design of subdivision elements, the transportation of sediment is likely to be a critical design element. For instance, culverts designed with a bulking factor will be of little use if upstream headwater creates lowered channel velocities and causes a significant amount of sediment to drop at the culvert entrance. If channel aggradation causes loss of capacity, additional freeboard and periodic maintenance may be required.

b. The "Geologic Map of the Albuquerque Area" (Kelley, 1977) indicates that a portion of the High Desert property is in an alluvial fan area (Geologic area Qfa). Aerial photos do not indicate the kind of active alluvial fans that are apparent with the South Domingo Baca and La Cueva Arroyos except for areas controlled by training dikes. It will take further investigation to determine if alluvial fans will affect the drainage at this site for a 100-year storm. Current FEMA maps were completed at a time when alluvial fan procedures were not a part of a standard analysis. FEMA is currently doing floodplain re-mapping studies in the La Cueva and Camino Arroyo areas. Their decision to do re-mapping in the Pino and Bear Arroyo basins may depend upon the extent of flood map changes they find with that study.

c. The relatively high annual rainfall should be considered in your analysis. National Weather Service records (see attached release) indicate average annual rainfall in the area may be 14-16 inches. This presents both problems and opportunities. For example, frequent rain storms may exacerbate erosion, but should also promote more rapid plant growth. Conversely however, too much growth in arroyos may reduce hydraulic capacity, so vegetation control or management may become necessary.

3. Specific comments/recommendations follow:

a. Sediment ponds must be adequately sized and shaped to function properly. We have design guidelines available for your use. Disposal areas and/or sediment management plans may need to be developed. Pond facilities will need to be designed for the critical storm duration which may be longer than a 6-hour storm, per City, AMAFCA, and FEMA criteria.

b. Entrances from the sediment ponds to the storm sewers must be designed to minimize hydraulic losses, in order to take full advantage of pipe capacities. Trash and debris should be addressed: We have some ideas and designs available for review.

c. Because storm sewers are being used to convey the 100-year flows, the existing arroyos should be preserved and protected to (1) compensate for the lack of freeboard in the pipes, (2) to provide a relief for potential plugging of pipe entrances, and (3) to provide a floodway for storms in excess of 100-year events. In that regard, we recommend that the existing floodplain be preserved. This statement is based on the premise that, over an extended time period, the likelihood of a storm exceeding the 100-year event becomes

large. For example, the chance that a 100-year flood will be exceeded over a given time period is given by the following table:

Time Period	Chances of exceeding 100-year storm
10 years	9.6%
30 years	26.0%
50 years	39.5%

d. As indicated, the adequacy of the existing upstream training dikes should be re-examined, in light of AHYMO, sediment, and FEMA requirements.

e. It would be wise to seek FEMA approval of a master drainage plan, or phased drainage plan through the Conditional Letter of Map Revision process.

f. As more specific drainage plans are developed during the design process for each drainage zone, those plans will require AMAFCA review and approval.

g. The approximate estimate for a prudent line distance (6 feet beyond the limits of the 100-year flood zone, for each 100 cfs of arroyo flow) must be accompanied by a qualitative analysis of arroyo, and conditions may or may not be conservative. For major facilities essential to health and safety, a quantitative analysis is also recommended. Because the 100-year and smaller flows are being conveyed in pipes, erosion setbacks (over and above floodplain limits) can probably be less than if all flows were being conveyed. Where erosion setbacks are not possible or feasible, structural or other "floodproofing" measures may be appropriate or required.

h. The report does not document what watershed land treatments and time of concentration values were used in this analysis. The methodology used to obtain these values should be documented, including specific reference to basin slopes, and channel treatment assumptions. A separate listing of the hydrology input file would be useful. We strongly recommend that if you use hydrograph labels with alphabetic characters, you also include a single, unique numeric designation and that ID's not exceed 20 except when absolutely necessary. Where possible, the PRINT HYD command should use a code number other than 0 or 1. This will allow the data files to be run using both Bohannan-Huston's and AMAFCA's version of the HYMO program. This will be particularly important for submittals to FEMA. Current review practice requires that a data file diskette be submitted on all major projects.

In the future, agencies may require that such data be executable on a program available to them. FEMA already has this requirement.

i. It is anticipated that this project will proceed in phases and that bulk land platting will be required in the near future. This conceptual drainage management plan does not fully address the special interface and timing of facility construction that may be needed with development of individual bulk land parcels. Without further analysis, the establishment of easements and infrastructure requirements will need to be based on assumptions which may be speculative. Easements may need to accommodate short term developed flows even if the long term plan calls for no flow increases. Additional sediment trapping or flow detention areas may need to be specified to allow one phase to proceed independently from another. Perhaps a phasing sequence will need to be established. There may need to be extra construction of facilities and interim development restrictions to accommodate a particular phase.

j. AMAFCA owns, operates, and maintains downstream facilities which will accept flows from High Desert, subject to our review and approval. The City and Bernalillo County own, operate and maintain other facilities, including structures crossing Tramway Boulevard. Analysis and design must recognize the capacity of these facilities.

4. The following additional conditions must be considered as you proceed with this project:

a. AMAFCA will not maintain storm drains or sediment ponds in High Desert. If major new dams or diversion dikes are proposed, maintenance by AMAFCA will require approval by AMAFCA's Board of Directors. The acceptance of maintenance by AMAFCA may be conditioned on financial guarantees or compensation, should unconventional facilities or unusual conditions be identified which will result in specialized maintenance requirement or increased maintenance levels.

b. AMAFCA will not maintain the "natural" arroyos, nor does dedication of any floodplain as drainage easement to AMAFCA infer operation and maintenance by AMAFCA, unless specifically approved by AMAFCA's Board of Directors.

c. AMAFCA review of the overall drainage maintenance strategy will be required, to ensure that facilities will function as designated, that adequate maintenance is done at the appropriate time, that provision exists for rapid response, that responsibility and accountability are established, and that contingencies and emergencies are addressed.

In summary, we share your enthusiasm for this project and its pioneering concepts, and look forward to working with you on this project.

Sincerely,
AMAFCA

Larry A. Blair, P.E.
Executive Engineer

LAB:ij

>HHKA
C ABQPNSABQ
A00 KABQ 142210
IC INFORMATION STATEMENT
ONAL WEATHER SERVICE ALBUQUERQUE, NM
PM MDT TUE JAN 14 1992

JAN 16 1992

AMA[illegible]A

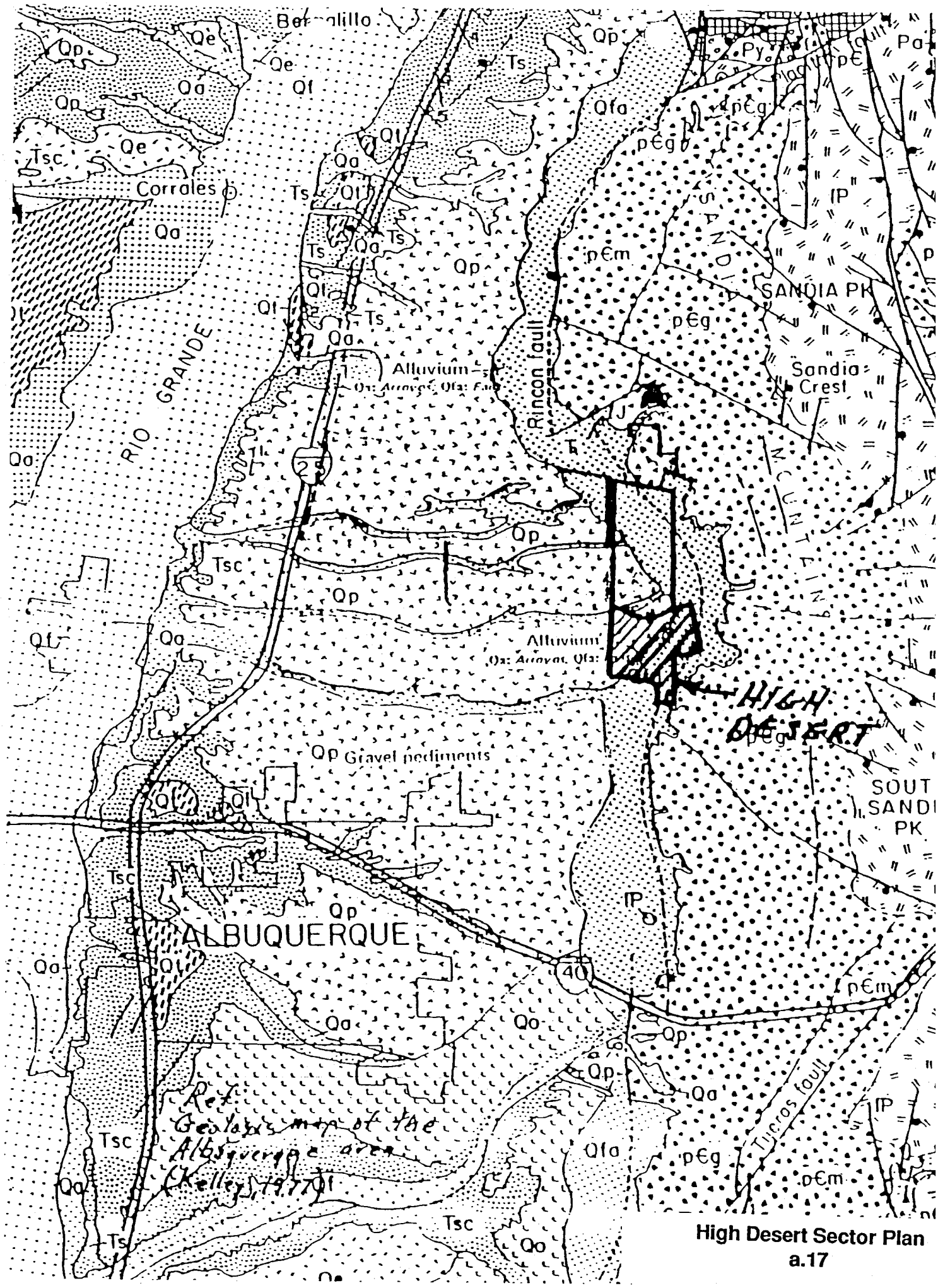
...ALBUQUERQUE METRO AREA TOTAL PRECIPITATION FOR 1991...

ALBUQUERQUE METROPOLITAN AREA HAS A LARGE NUMBER OF COOPERATIVE
HER OBSERVERS. SOME OF THE COOPERATIVE OBSERVERS KEEP COMPLETE
IRDS OF PRECIPITATION AND SEND THEIR REPORTS IN TO THE NATIONAL
HER SERVICE. NOW THAT THESE HAVE ALL BEEN SENT IN FOR 1991, WE
GET A GOOD IDEA OF THE PRECIPITATION DISTRIBUTION ACROSS THE
FOR 1991. FOLLOWING IS A LIST OF LOCATIONS, THE "NORMAL"
AL PRECIPITATION PROPORTIONED TO THE 30 YEAR NORMAL AT THE
ORT, AND THE 1991 AND 1990 TOTAL PRECIPITATION:

ATION	NORMAL PRECIPITATION	1991	1990
GRANDE BLVD/CANDELARIA	7.92	9.62	11.16
S/MONTANO	7.58	10.35	8.28
ONAL WEATHER SERVICE (AIRPT)	8.12	11.59	10.25
H VALLEY	8.58	11.76	10.77
O DEL NORTE/LOUISIANA	8.61	11.36	10.66
AN SCHOOL/CARLISLE	8.73	12.87	10.25
DISE HILLS	9.68	12.94	10.23
AN SCHOOL/WYOMING	10.36	12.53	12.21
EMY/WYOMING	10.49	12.04	11.18
UL/LOUISIANA	10.69	14.80	12.79
TABO/CqNDELARIA	11.26	15.73	14.71
AN SCHOOL/TRAMWAY	12.42	16.79	15.91
T END OF MONTGOMERY	14.10	19.82	16.01
T END OF COMANCHE	NOT YET ESTABLISHED	19.21	17.08
T FOUR HILLS	NOT YET ESTABLISHED	18.64	15.20
TH FOUR HILLS	NOT YET ESTABLISHED	20.20	12.06

ONE CAN SEE...EVEN THOUGH 1990 WAS A WET YEAR, 1991 WAS EVEN WETTER.
AL PRECIPITATION RANGED FROM 9.62 INCHES AT THE RIO GRANDE NATURE
TER TO 20.20 INCHES IN SOUTH FOUR HILLS. THIS RATIO IS SIMILAR
1990, WHEN THE RANGE ACROSS THE CITY WAS FROM 8.28 INCHES TO 17.08
HES. ONLY TWO LOCATION REPORTED LESS PRECIPITATION IN 1991 THAN
1990.

N THOUGH PRECIPITATION WAS UP IN 1991 LIKE THE STOCK MARKET,
WFALL WAS DOWN. THIS WAS DUE TO THE FACT THAT 1990 HAD A RATHER
OR STORMY PERIOD JUST BEFORE CHRISTMAS...WHILE 1991 HAD NO MAJOR
WSTORMS. SNOWFALL REPORTS FOR 1991 INCLUDED ONLY 1.0 INCHES AT
RIO GRANDE NATURE CENTER, AND 2.5 INCHES AT LOMAS AND SAN MATEO.
Y 3 INCHES FELL AT CARLISLE AND INDIAN SCHOOL, AND ALSO AT CENTRAL
WYOMING. ON THE OTHER END OF THE SPECTRUM, ALL LOCATIONS EAST
TRAMWAY REPORTED MORE THAN 12 INCHES OF SNOWFALL FOR THE YEAR.
HEST WAS 22 INCHES AT THE EAST END OF MONTGOMERY, WHILE A COUPLE
OTHER SPOTS EXCEEDED 15 INCHES. SOUTH FOUR HILLS MEASURED 13.5
HES. CONSEQUENTLY, THE RANGE ACROSS THE CITY WAS FROM 1 INCH
22 INCHES. THE RANGE IN 1990 WAS FROM 5 INCHES TO 42 INCHES.



High Desert Sector Plan
a.17

Pursuant to Section 7 of the City of Albuquerque, New Mexico subdivision ordinance, a variance or waiver from certain subdivision requirements has been granted by the City and the Albuquerque Metropolitan Arroyo Flood Control Authority in connection with this plat.

Future subdivision of lands within this plat, zoning site development plan approvals and development permits may be conditioned upon dedication of rights-of-way and easements and/or upon infrastructure improvements by the owner for water, sanitary sewer, streets, drainage, grading and parks in accordance with current resolutions, ordinances and policies in effect at the time for any specific proposal.

The City (and AMAFCA with reference to drainage) may require and/or permit easements to be added, modified or removed when future plats and/or site development plans are approved.

By its approval, the City makes no representation or warranties as to availability of utilities, or final approval of all requirements including (but not limited to) the following items:

1. Water and sanitary sewer availability
2. Future street dedications and/or improvements
3. Park and open space requirements
4. Drainage requirements and/or improvements
5. Excavation, filling or grading requirements.

Any person intending development of lands within this subdivision is cautioned to investigate the status of these items.

At such time as all such conditions have been satisfactorily met, the City Engineer shall approve a recordable document, removing such conditions from all or from a portion of the area within the subject subdivision.

A Letter of Understanding between High Desert, AMAFCA and the City will be prepared and will identify drainage issues to be addressed for all phases (tracts) of the development. This letter must be prepared and approved before any tract can be developed.

Acknowledged:

Robert L. Bovinette, President
The Albuquerque Academy
Owner of Tracts 1,2,3,4,5,7,8, 9,11,13,14,15,16,17,18, OS-1, OS-2, OS-3, OS-4, OS-5 and OS-6

STATE OF NEW MEXICO)
SS
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on November 10, 1993 by ROBERT L. BOVINETTE.

My Commission Expires: 4/17/94

Sandra J. Taylor
Notary Public

Acknowledged:

Arthur A. Blumenfeld, Chief Administrative Officer
City of Albuquerque
Owner of Tracts G-1, H-1, I-1, Simms Park Road, Open Space & Floodway & Open Space & Drainage Easement

STATE OF NEW MEXICO)
SS
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on November 22, 1993 by Arthur A. Blumenfeld

My Commission Expires:

Elsie Davis
Notary Public

OFFICIAL SEAL
ELSIE DAVIS
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 4-2-94

Approved:

Albuquerque Metropolitan Arroyo Flood Control Authority

Clifford E. Anderson 11/19/93

STATE OF NEW MEXICO)
SS
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on November 19, 1993 by Clifford E. Anderson.

My Commission Expires: 10-25-95

Notary Public

Approved:

Development Review Board

for Richard D. Meer
Jack Cloud, Chairman

STATE OF NEW MEXICO)
SS
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on November 23, 1993 by Richard D. Meer for Jack Cloud

My Commission Expires:

Claire Koopman
Notary Public

OFFICIAL SEAL
CLAIRE KOOPMAN
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 7-30-96

AGREEMENT
(Neighborhood Park)

The CITY OF ALBUQUERQUE, a municipal corporation ("City") and HIGH DESERT INVESTMENT CORPORATION, a New Mexico corporation ("High Desert"), agree:

1. Recitals.

A. High Desert is the developer of a mixed use development located in the City of Albuquerque, Bernalillo County, referred to as the High Desert Community (the "Development").

B. Under Article XVIII of Chapter 7 of the Revised Ordinances of Albuquerque, New Mexico, 1974 (1980 Edition), as amended (the "Revised Ordinances") (the "Park Dedication and Development Ordinance"), and pursuant to the sector development plan for the Development approved by City Council on May 3, 1993 (the "Sector Plan"), High Desert is required to dedicate land within the Development for use as a park and to pay the Park Development Fee (as that term is defined in § 7-18-3(A) of the Park Dedication and Development Ordinance). Under the Sector Plan, the maximum build out for the Development is 2,300 single family houses and townhouses, and 430 apartments.

C. High Desert desires to comply with its park dedication and development obligations under the Park Dedication and Development Ordinance and the Sector Plan and to dedicate a park and develop a portion of the park with some adjoining land remaining as undeveloped park contemporaneously with the approval of the subdivision plat of the first phase of the Development and

the completion of the first phase of the Development by Hi... Desert, respectively.

D. City and High Desert mutually agree that it is in the best interest of City and the public, for High Desert to dedicate land and develop a neighborhood park as that term is defined in the Park Dedication and Development Ordinance (a "Neighborhood Park") at the Development under the terms of this Agreement.

E. City has funds appropriated at the time of this Agreement in the amount of $83,000 for the development of a neighborhood park at the Development.

2. Dedication of Land. High Desert will dedicate the ten contiguous acres located in the Development as identified on the Sector Development Plan and being within Tract 8 as shown a. designated on the Plat of High Desert, June, 1993, to City to be developed by High Desert on behalf of the City as a Neighborhood Park pursuant to the terms of this Agreement (the "Dedicated Land"). The parties will mutually agree to the location and configuration of the Dedicated Land within the Development. This dedication will be effected by the execution and delivery by High Desert of a warranty deed with reservations and restrictions in the form attached as Exhibit A, at which time City will accept the Dedicated Land. The dedication will occur concurrently with the approval of the subdivision plat for the first phase of the Development, which phase will not include Tract I-1 of the Plat of Tracts G-1, H-1, I-1, I-2 and L of Elena Gallegos Grant, as the

same is shown and designated on the plat filed in the office of the County Clerk of Bernalillo County, New Mexico, on April 2, 1990 in Map Book 90C, Folio 96. Upon the execution and delivery of the warranty deed, this dedication will fulfill the obligations of High Desert as a developer under § 7-18-3 of the Park Dedication and Development Ordinance relating to dedication of land in connection with the Development subject, however to the provisions of Section 7.D. of this Agreement.

3. Development and Improvement of Dedicated Land. High Desert will improve a three to five acre portion of the Dedicated Land into a Neighborhood Park (the "Park"). The exact dimensions of the Park will be determined by a survey paid for by High Desert, subject to approval by City. High Desert will be fully responsible for the master plan of the Dedicated Land and the design, construction and development of the three to five acre Park on behalf of City under the terms of this Agreement in accordance with the Park Development and Maintenance Process Manual, Draft, August, 1993, as it may be amended from time to time (the "Manual"). The remaining portion of the Dedicated Land will be undeveloped park (the "Undeveloped Park"). That portion of the Undeveloped Park that is disturbed by High Desert in connection with the development of the Park will be over-seeded by High Desert with a seeding mix approved by City. City will place and keep the Undeveloped Park on City's list of undeveloped parks with a priority for development of the Undeveloped Park with respect to all other undeveloped parks on such list determined as of the date of the warranty deed

provided for in this Agreement. City covenants that tl Undeveloped Park will never be used or improved for any purpose other than as a Neighborhood Park. The Park and Undeveloped Park will meet all City standards for a Neighborhood Park set forth in the Manual and other applicable regulations and ordinances. City covenants that the Dedicated Land will be used only as a Neighborhood Park within the meaning of Chapter 7, Article XVIII and the Comprehensive City Zoning Code, Chapter 7, Article XIV of the Revised Ordinances, and the Manual, as such meaning may be modified or supplemented by any applicable rules, regulations and plans of City relating to Neighborhood Parks as amended or replaced and as indicated in the deed restrictions attached as Schedule 1 to Exhibit A.

4. Stormwater; Utility Easements.

Surface stormwater flows, underground storm drainage conduit and sanitary sewer easement issues will be addressed as part of the site development plan and subdivision plat approval process and of the master drainage plan covering the tract that includes the Dedicated Land. The master drainage plan will be subject to the approval of the Director of the City Department for parks, or his/her designee, insofar as the master drainage plan applies to the Dedicated Land. If City approves a drainage plan for the tract that includes the Dedicated Land that includes or requires subsurface and/or surface stormwater flows, City will grant, without any further compensation, easements as necessary for such subsurface and/or surface stormwater flows.

5. Project Manager; Approval of Plan for Development of Dedicated Land. City will designate a project manager who will be a City employee to supervise the development of the Dedicated Land (the "Project Manager"). City will communicate to High Desert the designation of the Project Manager as soon as possible after the date of this Agreement. At a mutually acceptable time, High Desert will propose in writing to the Project Manager the master plan for the Dedicated Land and the specific plans for improvements to the Park (collectively, the "Development Plan"). The Project Manager, in consultation with City's Park Management staff and Park construction supervisor, and High Desert will mutually agree on the Development Plan including all landscape concepts, designs, plant selection and other issues, in accordance with the provisions and processes set forth in the Manual and City's Development Process Manual and Standard Specifications for Public Works Construction (collectively, the "City Standards"). The Development Plan will also be subject to the approval of City's Design Review Committee and to the approval of City Code Administration if the Development Plan include elements subject to City Code Administration approval.

6. Landscape Architect. In connection with the Plan, High Desert will select a landscape architectural firm (the "Landscape Architect") that will be familiar with the Manual and City park development process and procedures, and that will be required to follow all design guidelines and processes in the City Standards. City will approve or disapprove the Landscape Architect

within 10 days after notification of the selection by High Desert.

7. Payment for Development of Park and Undeveloped Park.

A. Park Development Fee. Desert will be responsible to pay for the Development Plan, construction documents and construction of the Park and seeding of the Undeveloped Park. The first $196,170 of the costs paid by High Desert will represent the payment in full by High Desert of the Park Development Fee as required under § 7-18-3 of the Revised Ordinances when High Desert has expended $196,170 in connection with the Park, High Desert will notify the City in writing and provide the City copies of the invoices evidencing the expenditures. Upon receipt of invoices indicating expenditures made by High Desert in connection with the Park totaling $196,170, the City will, in writing, confirm that High Desert has fulfilled all of its obligations as a developer under § 7-18-3 of the Revised Ordinances relating to Park Development Fees in connection with the development.

B. Amounts Beyond Park Development Fee. In conjunction with expenditures made by High Desert in connection with the Park and Undeveloped Park in excess of $196,170, City will, after November 30, 1993, coordinate purchase of materials and goods, including without limitation, seed, fertilizer, playground equipment and irrigation equipment for use in the development of the Park and seeding of the Undeveloped Park for amounts up to, but not to exceed, $83,000, which amount represents

a portion of the Foothills Area Development Fees that has been appropriated by City for use in connection with the development of the Park and Undeveloped Park. City will purchase materials and goods mutually agreed upon by City and High Desert directly from the vendors thereof pursuant to the City's purchasing ordinances and regulations.

C. Amounts Beyond Park Development Fee and City Amount. Any amounts expended by High Desert beyond the $196,170 Park Development Fee and $83,000 City expenditures will be the responsibility of High Desert. However, High Desert will provide notice to City of any such additional amounts, together with evidence of each expenditure.

D. Additional Development. If the Neighborhood Center (as defined in the Sector Plan) is ever developed as townhouses or apartments, High Desert represents to and covenants with City that the maximum build out for the Development, including the development of the Neighborhood Center as apartments or townhouses, will not exceed a total build out of 2,300 single family houses and townhouses and 430 apartments. Additional land dedication and development fees will be required pursuant to the Park Dedication and Development Ordinance, as it may be amended from time to time if the Development exceeds 2,300 single family houses and townhouses and 430 apartments.

8. Maintenance. High Desert will maintain the Park and Undeveloped Park for a period of three years from the date of completion of the Park or until completion of 60% of the total

Development, whichever is earlier. Maintenance will be performed in accordance with the Manual. If City, through its Park Management Division, is required to maintain the Park and Undeveloped Park during the time High Desert is responsible to do so, High Desert will pay to City a fee not to exceed $7,000 per acre, per year. The exact amount of such fee will be based on City's determination of the costs associated with maintaining the Park and the Undeveloped Park. City will not be required to maintain the Park under this Agreement during the time High Desert is responsible to do so unless High Desert gives City written demand by November 1 that City maintain the Park and Undeveloped Park beginning July 1 of the following calendar year and until the maintenance funds have been programmed by City.

9. Representations and Warranties of the City. City represents and warrants that:

A. The undersigned is fully authorized to execute this Agreement on behalf of City; and

B. Dedication of the Dedicated Land and improvement of the Park as set forth in this Agreement will satisfy in full Developer's obligations with respect to the Development under the Park Dedication and Development Ordinance for a development of 2,300 single family houses and townhouses and 430 apartments.

10. Representations and Warranties of High Desert. High Desert represents and warrants that:

A. High Desert is validly existing under the law of the State of New Mexico; and

B. High Desert has all the requisite power and authority to enter into this Agreement and bind High Desert under the terms of this Agreement.

C. The undersigned is fully authorized to execute this Agreement on behalf of High Desert.

11. Notice. Any notice to be given under this Agreement will in writing and will be deemed to have been given when deposited in the United States Mail postage prepaid, addressed:

If to City:

Director
Parks and General Services Department
P. O. Box 1293
City of Albuquerque
Albuquerque, New Mexico 87103

If to High Desert:

Douglas H. Collister
President
High Desert Investment Corporation
P. O. Box 91976
Albuquerque, New Mexico 87199

12. Manual. In the event of any conflict or inconsistency between the terms of the Manual and the provisions of this Agreement, the provisions of this Agreement will govern and prevail.

13. Miscellaneous. This Agreement will be governed by and interpreted in accordance with the laws of the State of New Mexico. The headings used in this Agreement are for convenience only and shall be disregarded in interpreting the substantive

provisions of this Agreement. This Agreement binds and benefits City and High Desert and their successors, assigns, transferees, heirs, devisees and personal representatives. Time is of the essence of each term of this Agreement. If any provision of this Agreement is determined by a court of competent jurisdiction to be void, invalid, illegal or unenforceable, that portion will be severed from this Agreement and the remaining parts will remain in full force as though the invalid, illegal, or unenforceable portion had never been a part of this Agreement. The provisions of this Agreement will survive the conveyance of the Dedicated Land.

14. Integration; Interpretation. This Agreement contains or expressly incorporates by reference the entire agreement of the parties with respect to the matters contemplated by this Agreement and supersedes all prior negotiations. This

Agreement may only be modified in writing executed by all parties.

Dated: _____, 1993.

HIGH DESERT INVESTMENT CORPORATION, a New Mexico Corporation

By _____
Its PRESIDENT

CITY OF ALBUQUERQUE, a Municipal Corporation

By _____
Its CAO

RECOMMENDED:

_____
Director, Parks and General Services Department

75023

[Form of Warranty Deed]

WARRANTY DEED
(WITH DEED RESTRICTIONS)

HIGH DESERT INVESTMENT CORPORATION, a New Mexico corporation ("Grantor"), for consideration paid, grants to the CITY OF ALBUQUERQUE, a municipal corporation ("Grantee"), the following described real estate in the City of Albuquerque, Bernalillo County, New Mexico:

[Legal Description of Dedicated Land (which includes the Park and the Undeveloped Park)] (the "Park")

with warranty covenants.

SUBJECT TO: taxes for the current and subsequent years, exceptions, reservations and easements of record.

ALSO SUBJECT TO THE DEED RESTRICTIONS (the "Restrictions") described on the attached Schedule 1.

Dated: _____, 1993.

HIGH DESERT INVESTMENT
CORPORATION

By_____
Its_____

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me on _____, 19__, by _____, _____ of High Desert Investment Corporation, on behalf of the corporation.

_____
Notary Public

My commission expires:
_____

SCHEDULE 1

RESTRICTIONS

1. Binding Effect. These Restrictions run with the Park, and bind all persons holding an interest in the Park, and all occupiers of the Park, specifically including, but not limited to, all owners, contract purchasers, lien holders, lessees, licensees and their assignees.

2. Duration of Restrictions. These Restrictions will continue in effect for a period of 100 years and will be automatically renewed thereafter for periods of 50 years so long as the surrounding properties are used primarily for residential purposes.

3. Use as a Park. The Park will be used only as a Neighborhood Park within the meaning of Chapter 7, Article XVIII and the Comprehensive City Zoning Code, Chapter 7, Article XIV of the Revised Ordinances of Albuquerque, New Mexico, 1974 (1980 Edition), as such meaning may be modified or supplemented by any applicable rules, regulations, manuals and plans of the City of Albuquerque, New Mexico (the "City") relating to Neighborhood Parks, as such ordinances, rules, regulations, manuals and plans may be revised from time to time.

4. Violation of Restrictions by the City of Albuquerque. If the City violates these restrictions, High Desert Residential Owners Association, Inc., its successors and assigns, may give the City written notice of such violation and the City will have 30 days to correct the violation.

5. Enforcement. These restrictions may be enforced High Desert Residential Owners Association, Inc., its successors and assigns. If these restrictions are violated by the City and the violation is not corrected after notice as set forth in Section 4 of these restrictions, High Desert Residential Owners Association, Inc. will have the right to injunctive relief.