CIMARRON

Planned Residential Community

Prepared For

Bighorn Development II, Ltd.

Prepared By

Roy H. Hibdon
Civil Engineering Consultants, Ltd.
1479 S, Wells Ave. Suite 15
Reno, Nevada 89502
(702) 323-4801
Fax (702) 323-4968

January 21, 1994

Job No. 93030

ROY H. HIBDON
Civil Engineering Consultants, Ltd.
702/323-4801
1479 So. Wells Ave., Suite 15
Reno, Nevada 89502
FAX 702/323-4968
Roy H. Hibdon, P.E.

January 21, 1994
Job No. 93030

Mr. Greg Evangelatos, City Planner
City of Sparks
431 Prater Way
Sparks, Nevada 89431

RE: CIMARRON PLANNED COMMUNITY, SPANISH SPRINGS, NEVADA

Dear Mr. Evangelatos:

Submitted herewith is the application for the Cimarron Planned Residential Community in Spanish Springs, within the City of Sparks Sphere of Influence.

The project consists of 404.78 acres with 811 single-family dwelling units, with a gross density of two dwelling units per acre. The project contains 83.2 acres of open space and trail network throughout, and two neighborhood parks.

The submittal includes a development standards handbook and CC&Rs to guide the project construction to a well-planned, integrated residential community which will be an asset to the City. The project conforms to the recently-adopted "Plan for Northern Sparks Sphere of Influence Area" in the Spanish Springs Area.

The applications included are:

1. Annexation
2. Master Plan Amendment, to include the property within the Sparks Seven year Annexation Plan.
3. Rezoning to R1-7.
4. Special Use Permit; density subdivision with smaller lots and open space.
5. Tentative Subdivision Map.

We anticipate the project will have to be processed by the Truckee Meadows Regional Planning Agency; therefore, we have submitted a copy of this document to Mr. Kris Schenk, Executive Director.

If you have any questions or need additional information, please contact me.

Sincerely,

ROY H. HIBDON,
CIVIL ENGINEERING CONSULTANTS, LTD.

Roy H. Hibdon

Roy H. Hibdon, P.E.
President

ORDER NO. 33872-CKA

FOUNDERS TITLE COMPANY
OF NEVADA

EXHIBIT "A"

All that certain real property situate in the County of Washoe, State of Nevada, described as follows:

Township 20 North, Range 20 East, M.D.B.&M.,

SECTION 1: Lots 1, 2, 3 and 4;

EXCEPTING THEREFROM that portion of Lot 4 lying West of the boundary established in Boundary Deed, recorded October 14, 1975, in Book 923, Page 812, as Document No. 381620, Official Records; reference is further made to Record of Survey, recorded October 14, 1975, as Document No. 381618, Official Records, Survey Map No. 910, which delineates the aforesaid boundary.

South 1/2 of the North 1/2;

EXCEPTING THEREFROM that portion thereof lying West of the boundary established in Boundary Deed, recorded October 14, 1975, in Book 923, Page 812, as Document No. 381620, Official Records; reference is further made to Record of Survey, recorded October 14, 1975, as Document No. 381618, Official Records, Survey Map No. 910, which delineates the aforesaid boundary.

North 1/2 of the Southeast 1/4;

EXCEPTING THEREFROM all that portion thereof lying West of the boundary established in Boundary Deed, recorded October 14, 1975, in Book 923, Page 812, as Document No. 381620, Official Records; reference is further made to Record of Survey, recorded October 14, 1975, as Document No. 381618, Official Records, Survey Map No. 910, which delineates the aforesaid boundary.

Southeast 1/4 of the Southeast 1/4.

APN: 083-021-15

JAN 10 1994
OFFICIAL RECORDS
WASHOE COUNTY, NEV.
RECORD REQUESTED BY
FOUNDERS TITLE COMPANY OF NEVADA

JOE MELCHER
COUNTY RECORDER
FEE ____ DEP ____

DEVELOPMENT APPLICATION

ACTION REQUESTED:

X Annexation
__ Planned Unit Development
X Rezoning
X Special Use Permit
X Tentative Subdivision Map
X Master Plan Amendment
__ Site Plan Review

City of Sparks

CASE NUMBER: _____

FEE:
$ _____
$ _____
$ _____
$ _____
$ _____

TOTAL FEE $ _____

Rec'd by: _____ Date: _____
(For Planning Department Use)

DATE: 11/3/93

PROJECT NAME: CIMARRON

PROJECT DESCRIPTION: SINGLE FAMILY RESIDENTIAL

LEGAL DESCRIPTION OF PROPERTY: Lot _____ Block _____ Subdivision _____ (If property is not in a recorded subdivision, attach legal description and map)

☐PROPERTY OWNER/APPLICANT:

Name BIGHORN DEVELOPMENT II, LTD

Address P. O. BOX 12217

RENO, NV 89510

Phone (702) 828-3618

☐DEVELOPER /LESSEE

Name Same as above

Address _____

_____

Phone _____

☒PERSON/FIRM PREPARING PLANS:

Name ROY H. HIBDON, CIVIL ENGINEERING CONSULTANTS, LTD.

Address 1479 South Wells AV, Suite 15

Reno, Nevada 89502

Phone (702) 323-4801

(Mark one box to indicate responsible party and mailing address.)

PROJECT ADDRESS:

_____

PARCEL NO. (APN): 83-021-15

PROPERTY SIZE: 404.78 AC

EXISTING ZONING: A-5 & A-7 (Washoe County)

PROPOSED ZONING: R1-7 minimum (Density Subdivision)

MASTER PLANNED USE: Residential

EXISTING USE: UNIMPROVED ACREAGE

_____

SURROUNDING USES:

North SINGLE FAMILY

East SINGLE FAMILY

South AGRICULTURAL

West AGRICULTURAL & RESIDENTIAL

NOTE: Affidavits on reverse side must be signed and notarized before the application is submitted.

I, H.J. KEITH,

give permission for site visitation by the Planning Commission, the City Council and City staff.

I, H.J. KEITH,

declare under penalty of perjury that I am the owner of the subject property and that the information provided in this application is true and complete to the best of my knowledge and belief.

SIGNATURE H. J. KEITH

MANAGER
TITLE

Subscribed and sworn before me this 20th day of January, 1994

in the state of Nevada, County of Washoe.

ELIZABETH A. LAWRENCE
Notary Public-State of Nevada
Appointment Recorded in Washoe County
MY APPOINTMENT EXPIRES OCT. 17, 1994

NOTARY PUBLIC

I,

give permission for site visitation by the Planning Commission, City Council and City Staff.

SIGNATURE LESSEE OF RECORD

City of Sparks Planning Department
RESIDENTIAL PROJECT DATA SHEET

Date 1/17/94

CASE NUMBERS
(By Planning Dept)

Project Name CIMARRON

A. NUMBER OF DWELLING UNITS

Single Family Detached	811
Duplexes and Townhouses	
Apartments and Condos	
TOTAL	

B. SITE AREA BREAKDOWN

Lots or Buildings	255.58 AC	63.1%
Public Street R/W	AC	16.3%
Common Area	AC	20.6%
TOTAL	AC	100 %

C. GROSS DENSITY

811 / 404.87 = 2.0

Total Dwelling Units / Total Area (Acres) = Gross Density (DU/AC)

D. SCHOOLS

List schools serving project:
Elementary School Alyce Taylor
Middle School Traner
High School Sparks

E. WATER SUPPLY (Attach Calculations)

Estimated water demand:
Domestic AFY
Irrigation AFY
TOTAL 529 AFY

Source of water supply:
WESTPAC UTILITIES
(If committment has been issued, attach SPPC "will-serve" letter)

Water rights appurtenant to property on which this project is proposed:
Amount NONE AFY Current Use

F. SEWER SERVICE (Attach Calculations)

Estimated sewage to be generated by this project 263,575 GPD

G. TRAFFIC (Attach Calculations)

Average Daily Traffic 7,765 TRIPS
Peak Hour Traffic 830 TRIPS
(SEE TRAFFIC REPORT ATTACHED)

H. AIRCRAFT NOISE

Is this project within the 65 Ldn noise impact area? YES ___ NO X

I. FLOOD HAZARD

Portion of site subject to inundation by 100 Yr. flood: 0 AC 0 %

J. SLOPE DATA

Portion of site with slopes from 0 to 10%	AC	100%
Portion of site with slopes from 10 to 15%	AC	%*
Portion of site with slopes exceeding 15%	AC	%*

*If slopes on 25% of the site exceed 10%, a special use permit is required.

(Abbreviations: AC=Acres, AFY=Acre Feet per Year, BR=Bedrooms, DU=Dwelling Units, FT=Feet, GPD=Gallons per Day, SF=Square Feet, SP=Parking Spaces)

(SEE REVERSE SIDE)

K. SINGLE FAMILY DWELLINGS
(Complete for portion of project consisting of Single Family Dwellings)

Lot sizes:

8,000 SF Min.(Corner)
7,000 SF Min.(Interior)
45,000 SF Maximum
15,000 SF Average

Unit sizes: N/A

_____SF Min. ____BR
_____SF Max. ____BR

Max. Bldg. Height: N/A

_____FT _____Stories

Minimum building setbacks:

15 FT Front Yard (To Dwelling)
20 FT Front Yard (To Garage)
20 or 15 FT Exterior Side Yard
5 & 10 FT Interior Side Yard (To Dwelling)
_____FT Interior Side Yard (To Garage)
20 FT Rear Yard

Parking provided: N/A

Garage ___SP/Unit
Carport ___SP/Unit
Open ___SP/Unit
TOTAL ___SP/Unit

Lot coverage:

Maximum 40 %

L. DUPLEXES AND TOWNHOUSES N/A
(Complete for portion of project consisting of Duplexes and Townhouses)

Lot sizes:

_____SF Min.(Corner)
_____SF Min.(Interior)
_____SF Maximum
_____SF Average

Unit sizes:

_____SF Min. ____BR
_____SF Max. ____BR

Max. Bldg. Height:

_____FT _____Stories

Minimum building setbacks:

_____FT Front Yard (To Dwelling)
_____FT Front Yard (To Garage)
_____FT Exterior Side Yard
_____FT Interior Side Yard (To Dwelling)
_____FT Interior Side Yard (To Garage)
_____FT Rear Yard

Parking provided:

Garage ___SP/Unit
Carport ___SP/Unit
Open ___SP/Unit
TOTAL ___SP/Unit

Lot coverage:

Maximum ___%

M. APARTMENTS AND CONDOMINIUMS N/A
(Complete for portion of project consisting of Apartments and Condos)

Site Area breakdown:

Building Coverage	___AC	___%
Private Streets and Parking	___AC	___%
Landscaping and Recreation	___AC	___%
TOTAL	___AC	100 %

Net density:

_____ / _____ = _____

Dwelling Units	Net Area* (Acres)	Net Density (DU/AC)

*Area excluding public streets

Minimum building setbacks:

_____FT From Public Street R/W
_____FT From Private Street
_____FT From Adjacent R1 Lots
_____FT From Other Project Boundaries

Required parking:

No. Studios	___ X 1.5 =	___	SP
No. 1BR	___ X 1.5 =	___	SP
No. 2BR	___ X 2.0 =	___	SP
No. 3BR	___ X 3.0 =	___	SP
	TOTAL =	___	SP

Parking provided: ___ SP

* * *

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DEVELOPMENT STANDARDS HANDBOOK

APPENDICIES

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INTRODUCTION

APPLICANT

THE DEVELOPER OF THE CIMARRON MASTER PLANNED COMMUNITY IS BIGHORN DEVELOPMENT II, LTD. MR. CLARENCE JONES AND MR. H. J. KEITH ARE CO-MANAGERS OF THE OVERALL PROJECT AND THEY OWN THE ENTIRE 404.78 AC. TO BE DEVELOPED.

PROJECT TEAM

THE FOLLOWING MEMBERS COMPRISE THE PROJECT TEAM FOR DEVELOPMENT OF CIMARRON:

ROY H. HIBDON, CIVIL ENGINEERING CONSULTANTS, LTD.
CIVIL ENGINEERING AND SURVEYING -
ROY H.HIBDON, CIVIL ENGINEERING CONSULTANTS, LTD. IS RESPONSIBLE FOR THE OVERALL MASTER PLANNING ,CIVIL ENGINEERING , SURVEYING AND CONSTRUCTION MANAGEMENT OF THE PROJECT. THEY ARE ALSO RESPONSIBLE FOR OVERALL COORDINATION WITH OTHER CONSULTANTS AND PRIVATE/PUBLIC ENTITIES WHICH WILL BE INVOLVED IN THE DEVELOPMENT PROCESS.

PEZONELLA ASSOCIATES, INC.
GEOTECHNICAL SERVICES -
PEZONELLA HAS PERFORMED A PRELIMINARY GEOTECHNICAL INVESTIGATION FOR THE PROPERTY, WHICH CONCLUDES THE PROPERTY IS SUITABLE FOR THE PROPOSED DEVELOPMENT. PEZONELLA WILL PROVIDE ALL GEOTECHNICAL AND MATERIALS TESTING FOR THE PROJECT DURING CONSTRUCTION.

PROJECT OVERVIEW

THE CIMARRON MASTER PLANNED COMMUNITY IS LOCATED WITHIN THE SPARKS SPHERE OF INFLUENCE ON A 404.78 AC. SITE THAT IS LOCATED WITHIN THE SPANISH SPRINGS VALLEY, IN SECTION 1, T20N, R20E, M.D.B.& M. AND IS ACCESSED BY LA POSADA DRIVE APPROXIMATELY ONE MILE EAST OF PYRAMID HIGHWAY. THE PROJECT IS DESIGNED TO ENHANCE THE CITY OF SPARKS WITH A SAFE, LIVEABLE AND ENJOYABLE PLANNED COMMUNITY FEATURING SINGLE FAMILY VILLAGES INTERLINKED WITH A TRAIL NETWORK AND TWO PARKS . THE PROJECT WILL INCLUDE A SIZEABLE AMOUNT OF OPEN SPACE FOR SCENIC VISTAS, SMALL LAKES ON ADJOINING PROPERTIES, AND THE PASTEL COLORED HILLS THAT ABUT THE SPANISH SPRINGS AREA. THE CURRENT REQUEST IS FOR APPROVAL OF THE CIMARRON MASTER PLAN AND DEVELOPMENT STANDARDS HANDBOOK AND A TENTATIVE MAP TO DIVIDE THE PROPERTY INTO ELEVEN VILLAGES CONTAINING 811 SINGLE FAMILY DWELLING UNITS WITH A GROSS DENSITY OF TWO UNITS PER ACRE. THE PURPOSE OF THIS DOCUMENT IS TO PROVIDE BACKGROUND INFORMATION ON THE PROJECT AND OUTLINE THE STANDARDS WHICH WILL GUIDE THE DEVELOPMENT OF THE CIMARRON MASTER PLANNED COMMUNITY. TECHNICAL INFORMATION AND APPLICATIONS RELATING TO THE TENTATIVE MAP AND PROJECT IN GENERAL ARE INCLUDED HEREIN.

BACKGROUND

THE PLANNING PROCESS FOR THE CIMARRON MASTER PLANNED COMMUNITY WAS INITIATED IN THE WINTER OF 1993 WHEN BIGHORN DEVELOPMENT II, LTD. RETAINED ROY H. HIBDON CIVIL ENGINEERING CONSULTANTS, LTD. TO PROVIDE THE PLANNING AND PRELIMINARY ENGINEERING/SURVEYING SERVICES FOR THE PROJECT. THE PROJECT SITE IS IN THE SOI (CITY OF SPARKS SPHERE OF INFLUENCE). . THE COUNTY LAND USE PLAN DESIGNATED THE SITE AS LOW DENSITY SUBURBAN, BUT THIS APPLICATION REQUESTS A ZONING CHANGE TO R-1-7, FROM A-5 AND A-7 WITH AN OVERALL DENSITY OF 2 UNITS PER ACRE.

WHILE THE REGIONAL PLAN WAS BEING FORMULATED, A NUMBER OF MAJOR PROPERTY OWNERS IN THE SPANISH SPRINGS AREA APPROACHED THE CITY OF SPARKS AND, WITH THEIR CONSENT, REQUESTED INCLUSION IN THE SOI. THE REGIONAL PLAN IDENTIFYING THE SOI WAS APPROVED BY THE REGIONAL PLANNING GOVERNING BOARD ON MARCH 21, 1991. THE MASTER PLANNING PROCESS, INITIATED IN OCTOBER 1990, RESULTED IN THE COMPLETION OF A FINAL PLAN, ENTITLED "PLAN FOR NORTHERN SPARKS SPHERE OF INFLUENCE AREA IN THE SPANISH SPRINGS VALLEY", (PNSSOI) IN OCTOBER 1991. THE PLAN WAS FUNDED BY A NUMBER OF THE MAJOR PROPERTY OWNERS IN THE VALLEY AND PREPARED JOINTLY BY THEIR CONSULTANTS WITH INPUT FROM THE CITY OF SPARKS, WASHOE COUNTY AND VARIOUS PUBLIC AND PRIVATE ENTITIES. THE PLAN WAS APPROVED BY WASHOE COUNTY AND SPARKS PLANNING COMMISSIONS AND THE REGIONAL PLANNING COMMISSION IN JANUARY AND FEBRUARY 1992. CONCERNS WERE RAISED REGARDING WHETHER OR NOT WESTPAC UTILITIES OR WASHOE COUNTY WOULD PROVIDE WATER SERVICE TO THE VALLEY SUBSEQUENT TO THE APPROVAL AT THE COMMISSION LEVEL. A COMPREHENSIVE WATER STUDY OF THE AREA WAS COMPLETED AND WATER SERVICE OPTIONS WERE ADOPTED ON MAY 18, 1992 BY THE REGIONAL GOVERNING BOARD.

FINAL ADOPTION OF THE PLAN SATISFIES THE REGIONAL PLAN REQUIREMENT FOR THE PREPARATION OF LAND USE PLANS FOR THE SPARKS SOI AND THE COUNTY AREA OF SPANISH SPRINGS OUTSIDE OF THE SOI.

ADDITIONAL MANDATES OF THE REGIONAL PLAN REQUIRE THE CITY OF SPARKS TO OBTAIN APPROVAL OF THE SPARKS MASTER PLAN BY THE REGIONAL PLANNING COMMISSION AND AN ANNEXATION PROGRAM TO IDENTIFY AREAS TO BE CONSIDERED FOR ANNEXATION WITHIN A SIX YEAR PERIOD. FINAL ADOPTION OF THE ANNEXATION PROGRAM AND THE SPARKS CITY MASTER PLAN OCCURRED ON APRIL 21, 1992.

CIMARRON HAS APPLIED FOR AN AMENDMENT TO THE PNSSOI TO BE INCLUDED IN THE SIX-YEAR ANNEXATION PROGRAM, AS WELL AS ANNEXATION INTO THE CITY OF SPARKS.

THE CITY OF SPARKS CAN THEN FORMALLY CONSIDER THE SUBJECT CIMARRON PROPERTY MASTER PLAN AND TENTATIVE MAP REQUESTS ONCE THE AMENDMENT TO THE PNSSOI AND THE ANNEXATION OF THE PROPERTY HAVE BEEN APPROVED. SINCE THE CIMARRON PROJECT IS CONSIDERED A "PROJECT OF REGIONAL SIGNIFICANCE", APPROVAL OF THE REQUESTS BY THE REGIONAL PLANNING COMMISSION WILL ALSO BE REQUIRED.

PROJECT POLICIES & GOALS

THE CIMARRON MASTER PLAN IS CONSISTENT WITH THE PLANS, POLICIES AND ACTION PROGRAMS IDENTIFIED IN THE PNSSOI. SPECIFICS ARE OUTLINED AS FOLLOWS:

OVERALL PROJECT GOAL

TO PROVIDE THE CITY OF SPARKS WITH A COMFORTABLE, PEACEFUL AND ENVIRONMENTALLY SENSITIVE PLANNED COMMUNITY FEATURING A MIX OF RESIDENTIAL, RECREATIONAL AND OPEN SPACE AREAS WITHIN THE BEAUTIFUL SPANISH SPRINGS VALLEY.

POLICIES

* TO MAINTAIN AN OVERALL PROJECT DENSITY OF TWO UNITS PER ACRE BY ENCOURAGING A MIX OF HOUSING DENSITIES, STYLES, SIZES, PRICES AND SETTINGS THROUGH THE ESTABLISHMENT OF UNIQUE AND INDIVIDUAL SINGLE FAMILY VILLAGES.

* REQUIRE THE DESIGN AND USE OF COORDINATED AND COMPATIBLE LIGHTING, SIGNAGE AND FENCING THROUGHOUT THE PROJECT.

* TO INSURE CONTINUITY IN THE DEVELOPMENT OF THE RESIDENTIAL ASPECTS OF THE PROJECT AND ENSURE COMPATIBILITY BETWEEN USES THROUGH THE ESTABLISHMENT OF AN ARCHITECTURAL REVIEW COMMITTEE, THE USE OF THE DEVELOPMENT STANDARDS HANDBOOK AND RECORDED DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR CIMARRON.

* DEVELOP AN OPEN SPACE NETWORK BY INTEGRATING ADDITIONAL PUBLIC AND PRIVATE OPEN SPACE , PARK AND RECREATIONAL AREAS INTO THE PROJECT.

* DESIGN AND BUILD A SAFE AND EFFICIENT ACCESS AND CIRCULATION NETWORK WHICH SHALL INCLUDE PATHWAYS AND ROADWAYS OF VARYING TYPES AND STYLES WITHIN THE PROJECT.

* PROVIDE "PARK AND RIDE" SPACES IN PARK AREAS TO ENCOURAGE BIKING, WALKING AND CARPOOLING THROUGH DEVELOPMENT OF AN EXTENSIVE PATHWAY SYSTEM THROUGHOUT THE PROJECT.

* FURNISH THE NECESSARY INFRASTRUCTURE IN THE INITIAL PHASES TO ALLOW FOR DEVELOPMENT OF ANY RESIDENTIAL ASPECT OF THE PROJECT IN ACCORDANCE WITH MARKET DEMAND.

* DESIGN AND PROMOTE COST EFFECTIVE AND PRACTICAL ENERGY EFFICIENT DESIGNS AND ENCOURAGE BUILDER PARTICIPATION IN THE SIERRA PACIFIC POWER COMPANY "GOOD CENTS" PROGRAM.

* PROMOTE AND PROVIDE FOR EFFICIENT RESOURCE LANDSCAPING AND WATER CONSERVING IRRIGATION SYSTEMS THROUGHOUT THE COMMON AREAS AND PRIVATE PARCELS WITHIN THE PROJECT IN ACCORDANCE WITH THE CITY OF SPARKS LANDSCAPING ORDINANCE.

* ORIENT RESIDENTIAL LOTS AND STRUCTURES TO TAKE ADVANTAGE OF THE OPEN SPACE, PARKS AND VALLEY VIEWS.

* MAKE SURE THAT THE STORM WATER SWALES AND STRUCTURES ARE BLENDED INTO THE OPEN SPACE AREAS AND PARKS WHICH CAN REDUCE THE NEED FOR STERILE GEOMETRIC STRUCTURES.

PROJECT DESCRIPTION

THE PROJECT OVERVIEW, AS DISCUSSED BELOW, SUMMARIZES THE PHYSICAL ASPECTS OF THE PROPERTY AND PROVIDES THE FOUNDATION FOR THE DEVELOPMENT OF THE CIMARRON MASTER PLAN. PROJECT OPPORTUNITIES AND CONSTRAINTS WERE CAREFULLY CONSIDERED AND BALANCED WITH THE OVERALL DESIRED DEVELOPMENT CONCEPT AND GOALS. THE PROJECT TEAM, WHILE INVOLVED IN THE MANY FACETS OF THE REGIONAL PLANNING PROCESS, HAS CONCURRENTLY DEVELOPED THE SPECIFIC CONCEPTS AND MASTER PLAN FOR THE CIMARRON MASTER PLANNED COMMUNITY.

SITE OVERVIEW

EXISTING OWNERSHIP, ACCESSES AND USES

THE 404.78 ACRE SITE INCLUDES THE PROPERTY OWNED BY BIGHORN DEVELOPMENT II, LTD. AND WAS FORMERLY OWNED BY THE GASPARI FAMILY. THE PROPERTY HAS NEVER BEFORE BEEN USED FOR ANY PURPOSE OTHER THAN NATURAL OPEN GRAZING AND IS BASICALLY VIRGIN TERRITORY. PRESENT ACCESS IS EITHER FROM THE NORTH VIA LA POSADA DRIVE OR FROM THE SOUTHWEST VIA THE UNPAVED SPANISH SPRINGS ROAD.

TOPOGRAPHY

THE CIMARRON PROPERTY IS GENTLY SLOPING TO THE SOUTHWEST AT A GRADIENT BETWEEN 1% AND 2% WITH SCENIC VIEWS OF NEIGHBORING PROPERTIES AND THE SPANISH SPRINGS VALLEY.

WATER RESOURCES

SINCE THIS PROPERTY HAS NEVER BEEN IRRIGATED, WATER RIGHTS FROM OTHER SOURCES ARE BEING PROCURED. A PORTION OF THE WATER RIGHTS NECESSARY TO SERVE THE

DEVELOPMENT HAVE BEEN ACQUIRED FROM SIERRA PACIFIC RESOURCES. APPLICATIONS HAVE BEEN FILED WITH THE PUBLIC SERVICE COMMISSION BY WESTPAC UTILITIES TO INCREASE THEIR SERVICE AREA TO INCLUDE PORTIONS OF THE PNSSOI AND THAT UTILITY IS ANTICIPATED TO BE THE PURVEYOR OF WATER TO THE CIMARRON DEVELOPMENT.

FLOODING

GENERAL MAPPING BY THE U.S. ARMY CORPS OF ENGINEERS, U.S. FISH AND WILDLIFE DEPARTMENT AND FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION (FEMA) HAVE INDICATED NO POTENTIAL EXISTANCE OF WETLANDS OR FLOOD HAZARD ON THE CIMARRON PROPERTY.

THE ORR DITCH RUNS WITHIN TWENTY FEET OF THE SOUTHWEST PROPERTY BOUNDARY BUT WILL NOT BE UTILIZED FOR ANY FACETS OF THE PROJECT.

DRAINAGE INTO THE PROJECT SITE IS CONTRIBUTED BY APPROXIMATELY 1,047 ACRES OF HILLS AND ALLUVIAL FANS OF THE PAH RAH RANGE AND SPANISH SPRINGS CANYON DRAINAGE BASIN. THE 100 YEAR RECURRENT STORM FLOW FROM THESE AREAS HAS BEEN DETERMINED BY PREVIOUS REPORTS TO BE APPROXIMATELY 777 CFS.

TWO PARTIALLY DEFINED CHANNELS CONVEY RUNOFF ORIGINATING IN THE PAH RAH RANGE TO THE EAST INTO AND THROUGH THE SITE. THE TWO CHANNELS ENTER THE SITE ALONG THE EASTERN BORDER NEAR THE 1/3 SECTION LINES AND LOSE THEIR DEFINITION THEREBY ALLOWING THE RUNOFF TO SPREAD AND BECOME SHEET FLOW. THIS AREA WAS DESIGNATED AS A NON FLOOD AREA ON APRIL 16, 1990, BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY(FEMA) FLOOD INSURANCE RATE MAP (FEMA MAP PANEL NUMBER 320019-1355 C). THIS MEANS THE SITE HAS LESS THAN ONE FOOT OF FLOOD WATER AT ANY TIME.

THE HYDROLOGY REPORT IS INCLUDED IN THE TECHNICAL SUPPLEMENT TO THIS DOCUMENT. THE STUDY INVESTIGATES FLOODING POTENTIAL AND PROPOSES MITIGATION MEASURES FOR BUILDING PROTECTION AND STORMWATER CONVEYANCE.

VEGETATION

VEGETATION ON THE CIMARRON SITE CONSISTS OF TYPICAL HIGH DESERT PLANTS SUCH AS SAGEBRUSH, RABBIT BRUSH, CREOSOTE BUSHES AND THE LIKE.

GEOLOGIC CONDITIONS

A PRELIMINARY GEOTECHNICAL STUDY OF THE PROPERTY WAS PERFORMED BY PEZONELLA & ASSOCIATES, INC., AND IS INCLUDED IN THE TECHNICAL SUPPLEMENT TO THIS DOCUMENT. THE STUDY INDICATED THE PROPERTY HAS NO SEVERE SOIL OR GROUNDWATER CONSTRAINTS THAT WOULD PREVENT DEVELOPMENT OF THE SITE. THERE ARE ALSO NO INDICATIONS OF ACTIVE FAULTS ON THE PROPERTY.

ARCHEOLOGICAL RESOURCES

THERE ARE NO KNOWN ARCHEOLOGICAL RESOURCES ON THE PROPERTY. AN APPROPRIATE ARCHEOLOGICAL INVESTIGATION WILL BE COMPLETED IF REQUESTED.

AIR QUALITY

THE PROPERTY IS LOCATED WITHIN AN AIR QUALITY ATTAINMENT AREA. WOOD STOVES AND FIREPLACES ARE PERMITTED IN THE AREA IN ACCORDANCE WITH WASHOE COUNTY DISTRICT HEALTH DEPARTMENT REGULATIONS. IN GENERAL, ONE STOVE OR FIREPLACE PER RESIDENCE IS PERMITTED WHERE DENSITIES ARE 4 DWELLING UNITS PER ACRE OR LESS.

- WITHIN NONATTAINMENT AREA
- NO WOODBURN
- PELLET STOVES OR GAS ONLY

INFRASTRUCTURE/PUBLIC SERVICES

ACCESS & CIRCULATION

OVERALL TRAFFIC IMPACTS FOR THE BUILDOUT OF THE SOI WERE ANALYZED BY THE REGIONAL TRANSPORTATION COMMISSION (RTC) DURING THE PREPARATION OF THE MASTER PLAN. RECOMMENDATIONS AND POLICIES REGARDING TRANSPORATION IN GENERAL ARE INCLUDED IN THE PNSSOI. SPECIFIC ROADWAY DEVELOPMENT AND TRANSPORTATION ALTERNATIVES RELATING TO CIMARRON WILL CONFORM TO THE PNSSOI. A TRAFFIC REPORT FOR THE PROJECT WHICH OUTLINES OVERALL TRIP GENERATION AND DISTRIBUTION, AND PROVIDES AN ANALYSIS OF OFF-SITE AND ON-SITE INFRASTRUCTURE REQUIREMENTS, IS INCLUDED IN THE TECHNICAL SUPPLEMENT TO THIS DOCUMENT.

ACCESS TO THE SITE IS PRESENTLY PROVIDED BY LA POSADA DRIVE, A PAVED ROAD ADJACENT TO AND NORTH OF THE PROPERTY, AND BY AN UNPAVED ROAD FROM THE SOUTH, CURRENTLY REFERRED TO AS SPANISH SPRINGS ROAD, WHICH BISECTS THE PROPERTY IN A NORTH/SOUTH DIRECTION.

UPON DEVELOPMENT, SEVERAL TYPES OF STREETS AND PATHWAY SYSTEMS WILL PROVIDE ACCESS TO AND WITHIN THE CIMARRON PLANNED COMMUNITY. PEDESTRIAN AND BICYCLE PATHWAYS WILL BE INCLUDED WITHIN THE STREET RIGHT-OF-WAYS, AS WELL AS WITHIN INTERIOR OPEN SPACE PORTIONS OF THE PROJECTS. IT IS ANTICIPATED THAT IN THE FUTURE, BUS SERVICE WILL PROBABLY BE PROVIDED TO THE AREA. THE DEVELOPER WILL WORK WITH THE RTC AND THE WASHOE COUNTY SCHOOL DISTRICT TO IDENTIFY FUTURE BUS ROUTES AND STOPS. THE ACCESS AND CIRCULATION ASPECTS OF THE ROADWAY AND PATHWAY/TRAIL SYSTEMS ARE DISCUSSED BELOW.

ROADWAY SYSTEM

THE ROADWAY SYSTEM HIERARCHY INCLUDES ARTERIAL, PARKWAY, AND LOCAL STREETS.

ARTERIAL STREETS

THE PNSSOI SHOWS AN ALIGNMENT OF SPANISH SPRINGS ROAD TO THE SOUTHEASTERLY AND NORTHWESTERLY BOUNDARIES OF THE PROPERTY. ACCORDING TO THE RTC, THE ULTIMATE PLAN IS FOR THE CONSTRUCTION OF A SIX-LANE ARTERIAL ROADWAY FROM WHERE THE PAVEMENT CURRENTLY ENDS ON VISTA BOULEVARD, TO THE SOUTHWESTERLY CORNER OF THE WINGFIELD PROPERTY. ADJACENT TO THE WINGFIELD PROPERTY, THE ROAD IS PLANNED FOR FOUR LANES WITH A TRANSITION TO TWO LANES ANTICIPATED TO THE NORTH OF THE SITE. THE IMPROVED ROAD WILL BE RENAMED VISTA BOULEVARD.

CONCEPTUAL ROADWAY DESIGN SECTIONS ARE OUTLINED IN THE PNSSOI AND ARE PROVIDED IN THE DEVELOPMENT STANDARDS HANDBOOK SECTION OF THIS DOCUMENT. UTILITIES WILL BE ACCOMMODATED WITHIN THE RIGHT-OF-WAYS WHERE POSSIBLE. WHERE THIS IS NOT FEASIBLE, 5 FOOT PUBLIC UTILITY EASEMENTS SHALL BE INCLUDED ADJACENT TO THE RIGHT-OF-WAY ON EACH SIDE OF THE STREET.

THE PNSSOI REQUIRES PROPERTY OWNERS ADJACENT TO PLANNED ARTERIALS TO DEDICATE THE RIGHT-OF-WAY FOR THE ULTIMATE ROADWAY WIDTHS. DEVELOPMENT OF A PLAN TO DETERMINE THE MECHANISMS FOR FINANCING VARIOUS PUBLIC IMPROVEMENTS INCLUDING ARTERIAL ROADWAYS IN THE PNSSOI IS ALSO REQUIRED. THE DEVELOPER WILL COOPERATE IN THE DEVELOPMENT OF A FINANCIAL PLAN.

THE DEVELOPER WILL CONSTRUCT TWO TRAVEL LANES OF THE VISTA BOULEVARD EXTENSION FROM THE SOUTHEAST CORNER OF THE PROPERTY TO THE NORTHEAST CORNER OF THE PROPERTY. THE STREET SECTION DEPICTING THE PLANNED CONSTRUCTION IS PROVIDED WITHIN THE DEVELOPMENT STANDARDS HANDBOOK SECTION OF THIS DOCUMENT. FURTHER IMPROVEMENTS TO THIS SECTION OF VISTA BOULEVARD WILL BE MADE IN ACCORDANCE WITH THE TRAFFIC REPORT.

IN ACCORDANCE WITH THE COST SHARING FORMULA DEVELOPED WITH THE ULTIMATE FINANCING PLAN FOR THE AREA, THE DEVELOPER WILL EITHER OWE ADDITIONAL FEES OR WILL BE REIMBURSED FOR ANY EXPENDITURES OVER AND ABOVE THE DETERMINED RESPONSIBILITY.

LOCAL VILLAGE STREETS

DUE TO THE LOCATION AND AMENITIES ASSOCIATED WITH THE CIMARRON PLANNED COMMUNITY, THE VILLAGES ARE INTENDED TO PORTRAY A NON-TRADITIONAL IMAGE RATHER THAN THE STANDARD URBAN SUBDIVISION APPEARANCE. THE IMAGE WILL BE CREATED IN PART BY THE HOUSING DESIGNS, LOT SIZES, FENCING, AND SETBACKS.

TRAIL SYSTEM

THE TRAIL SYSTEM INCLUDES BICYCLE AND PEDESTRIAN PATHWAYS WITHIN STREET RIGHT-OF-WAYS AS WELL AS INTERIOR PATHWAYS. THE OVERALL SYSTEM IS DEPICTED ON THE TENTATIVE MAP.

PEDESTRIAN/BICYCLE PATHWAYS

MEANDERING, SEPARATED PATHWAYS WILL BE PROVIDED WITHIN THE STREET RIGHT-OF-WAYS AND THROUGHOUT THE INTERIOR OPEN SPACE PORTIONS OF THE PROJECT TO PROVIDE LINKS BETWEEN THE RESIDENTIAL VILLAGES, THE OPEN SPACE AREAS, AND THE PARK SITES. THE PROVISION OF A LINKED PATHWAY SYSTEM WILL PROVIDE AN ALTERNATIVE TO AUTOMOBILE TRAVEL, AS WELL AS RECREATIONAL ENJOYMENT.

CONNECTIONS TO THE OVERALL OPEN SPACE NETWORK IDENTIFIED IN THE PNSSOI WILL ALSO BE PROVIDED. IT IS ANTICIPATED THAT PATHWAYS WITHIN THE STREET RIGHT-OF-WAYS WILL BE DEDICATED TO THE CITY OF SPARKS WHILE THE INTERIOR PATHWAYS WILL BE DEDICATED TO THE HOMEOWNERS ASSOCIATION FOR OPERATION AND MAINTENANCE.

WATER SERVICE

EXISTING SUPPLY & DEMAND

THERE ARE PRESENTLY NO WATER RIGHTS APPURTENANT TO THE SUBJECT PROPERTY. PROJECT WATER DEMAND HAS BEEN CALCULATED BASED UPON FORMATS ESTABLISHED BY WESTPAC UTILITIES.

INITIALLY, SIERRA PACIFIC RESOURCES HAS BEEN IDENTIFIED AS THE SOURCE OF SURFACE WATER RIGHTS FOR THE FIRST PHASE (VILLAGE #1-A) OF 70 LOTS, AND THE WORKSHEET FOR THAT PHASE IS ATTACHED AS A SUPPLEMENT.

THE REMAINDER OF THE DEVELOPMENT'S WATER REQUIREMENTS WILL COME FROM SURFACE WATER OR UNDERGROUND SOURCES (WHICHEVER IS MOST ECONOMICAL), AND WILL BE PURCHASED AND DEEDED TO THE CITY OF SPARKS ON AN AS-NEEDED BASIS AS FUTURE PHASES PROGRESS.

WATER CONSERVATION WILL BE ACCOMPLISHED BY THE USE OF WATER METERS WITHIN THE DEVELOPMENT, AND BY ENCOURAGEMENT OF THE USE OF XERISCAPE LANDSCAPING DESIGNS, AS WELL AS WATER-SAVING IRRIGATION SYSTEMS AND PLUMBING FIXTURES.

CIMARRON

DEMAND WORKSHEET

SUBDIVISION OR SINGLE-FAMILY HOMES

PHASE 1-A

TYPE OF UNIT

SINGLE-FAMILY RESIDENTIAL LOT,
MORE THAN 7,000 SQ. FT., BUT
LESS THAN 16,000 SQ. FT.

$$\frac{\text{LOT SIZE - 7,000}}{143.47} \times .01 + 0.50 = 38.50 \text{ ACRE FEET*}$$

* (SEE CHART BELOW)

WATER RIGHTS REQUIRED TO SUPPLY PROJECT: $= \frac{83.50}{.58} = 66.38$ ACRE FEET

REMARKS: SURFACE WATER RIGHTS - CIMARRON
WATER RIGHTS FOR PHASE 1-A TO BE PURCHASED BY SIERRA PACIFIC RESOURCES.

PROJECT NAME: CIMARRON

DATE: 12/08/93

CALCULATIONS BY H.J. KEITH

SUBMITTED BY: H.J. KEITH

PHONE NO.: (702) 323-4801

RANGE (LOT SIZE) SQ.FT.	ACRE FEET OF DEMAND	NO. OF LOTS	TOTAL AC. FT.
7,647-7,789	.055	135	74.25

CIMARRON

DEMAND WORKSHEET

SUBDIVISION OR SINGLE-FAMILY HOMES

PHASES 1-B - XI

TYPE OF UNIT

SINGLE-FAMILY RESIDENTIAL LOT, MORE THAN 7,000 SQ. FT., BUT LESS THAN 16,000 SQ. FT.	LOT SIZE - 7,000 / 143.47	x .01 + 0.50	= 470.0 ACRE FEET
COMMON AREA:	43,560 SQUARE FEET x 3.41		= 3.41 ACRE FEET
	PROJECT DEMAND		= 473.41 ACRE FEET

WATER RIGHTS REQUIRED TO SUPPLY PROJECT: = N/A - GROUNDWATER / 58%

REMARKS: GROUNDWATER RIGHTS - CIMARRON

PROJECT NAME: CIMARRON DATE: 12/08/93

CALCULATIONS BY H.J. KEITH

SUBMITTED BY: H.J. KEITH PHONE NO.: (702) 323-4801

WATER SERVICE

WATER SERVICE IS ANTICIPATED TO BE PROVIDED BY WESTPAC UTILITIES, WHO IS IN THE PROCESS OF SUBMITTING AN APPLICATION TO THE PUBLIC SERVICE COMMISSION FOR EXPANSION OF THEIR SERVICE AREA INTO THE NORTHERN SPARKS SPHERE OF INFLUENCE IN THE SPANISH SPRINGS VALLEY.

SERVICE TO THIS DEVELOPMENT WOULD REQUIRE DEDICATION OF WATER RIGHTS TO THE CITY OF SPARKS, PLUS EXTENSION OF THE EXISTING MAIN WATER LINE OF APPROXIMATELY 3.5 MILES TO THE SOUTHERN BOUNDARY OF THE PROJECT PROPERTY. PLANNING AND DESIGN OF THE MAIN EXTENSION AND RELATED INFRASTRUCTURE IS THE RESPONSIBILITY OF WESTPAC UTILITIES, AND IS PRESENTLY THE SUBJECT OF CONTINUING DISCUSSIONS BETWEEN WESTPAC AND DEVELOPERS WITH PENDING PROJECTS WITHIN THE SPHERE OF INFLUENCE. A PLAN FOR FINANCING IMPROVEMENTS IS BEING FORMULATED BY THE SERVICE PROVIDER AND THE DEVELOPERS.

SANITARY SEWER SERVICE

IT IS ANTICIPATED THAT SANITARY SEWER SERVICE WILL BE PROVIDED BY EXTENDING AN INTERCEPTOR FROM THE SOUTHERN PORTION OF SPANISH SPRINGS TO THE PROJECT BY THE CITY OF SPARKS. EFFLUENT WILL BE TRANSPORTED TO WATER POLLUTION CONTROL FACILITIES AT VISTA. AN AGREEMENT IS CURRENTLY BEING NEGOTIATED WITH THE CITY OF SPARKS FOR THE FINANCING AND CONSTRUCTION OF THEIR INTERCEPTOR.

STORM DRAINAGE

A HYDROLOGY REPORT WHICH ADDRESSES STORM DRAINAGE IS INCLUDED IN THE TECHNICAL SUPPLEMENT TO THIS DOCUMENT. RUNOFF WHICH IS GENERATED ON-SITE WILL BE TRANSPORTED VIA A SERIES OF CATCH BASINS AND UNDERGROUND STORM DRAINAGE SYSTEMS TO DETENTION BASINS THROUGHOUT THE PROJECT. THE DETENTION AREAS WILL BE LINKED BY A SERIES OF MEANDERING SWALES TO CONVEY THE MAJOR STORMWATER FLOWS THROUGH THE SITE. THE DETENTION BASINS AND SWALES WILL SERVE TO DELAY THE ARRIVAL TIME OF THE FLOOD FLOWS, THEREBY ELIMINATING ANY NEGATIVE IMPACT TO DOWNSTREAM LANDOWNERS.

THE ROUTING OF THE 100-YEAR STORM EVENT GENERATED OFF-SITE, IS TENTATIVELY PROPOSED TO BE ACCOMPLISHED BY THE CONSTRUCTION OF INTERCEPTOR SWALES ALONG THE EASTERN PROPERTY LINE. THESE SWALES WILL CAPTURE THE OFF-SITE FLOWS AS THEY ENTER THE PROPERTY, PROVIDING CONVEYANCE TO THE POND SYSTEMS WITHIN THE PROJECT.

IN CONJUNCTION WITH STORMWATER INTERCEPTION AND ROUTING PLANS, SITE GRADING WILL ALSO BE USED TO PROTECT FUTURE PROPERTY RESIDENTS FROM FLOODING.

NATURAL GAS

NATURAL GAS WITHIN THE SOI WILL BE PROVIDED BY WESTPAC UTILITIES. A SCHEMATIC DISTRIBUTION SYSTEM HAS BEEN PREPARED BY WESTPAC UTILITIES TO PROVIDE THE SERVICE. SERVICE TO THE CIMARRON PLANNED COMMUNITY WILL BE ACCOMMODATED THROUGH THE EXTENSION OF THE EXISTING LINE WITHIN THE LA POSADA RIGHT-OF-WAY WESTWARD TO THE PROJECT ENTRANCE. THE ULTIMATE NATURAL GAS DISTRIBUTION SYSTEM WILL BE DESIGNED BY WESTPAC UTILITIES.

ELECTRICAL SERVICE

ELECTRICAL SERVICE FOR THE SOI WILL BE PROVIDED BY SIERRA PACIFIC POWER COMPANY (SPPCO) AND IS DISCUSSED IN THE PNSSOI. IT IS ANTICIPATED THAT THE SOI WILL BE SURROUNDED WITH BACKBONE OVERHEAD ELECTRICAL LINES. UNDERGROUND DISTRIBUTION FEEDERS WILL THEN BE INSTALLED WITHIN EACH INDIVIDUAL PROJECT.

A SCHEMATIC DISTRIBUTION SYSTEM HAS BEEN PREPARED BY SPPCO TO PROVIDE THE SERVICE. THE ULTIMATE ELECTRICAL DISTRIBUTION SYSTEM WILL BE DESIGNED BY SPPCO.

FIRE PROTECTION

THE TRUCKEE MEADOWS FIRE PROTECTION DISTRICT CURRENTLY PROVIDES FIRE PROTECTION TO THE SPANISH SPRINGS VALLEY FROM STATION NUMBER 7, LOCATED AT THE INTERSECTION OF THE PYRAMID LAKE HIGHWAY AND LA POSADA DRIVE. AS PROPERTY IN THE SOI IS ANNEXED TO THE CITY OF SPARKS, AND ADEQUATE TRANSPORTATION NETWORKS ARE CONSTRUCTED, THE CITY WILL BECOME RESPONSIBLE FOR FIRE PROTECTION. MUTUAL AID AGREEMENTS BETWEEN THE CITY OF SPARKS AND THE TRUCKEE MEADOWS FIRE PROTECTION DISTRICT, HOWEVER, WILL ENSURE ADEQUATE PROTECTION FOR THE AREA.

CURRENTLY, THE CLOSEST STATION TO THE CIMARRON PLANNED COMMUNITY IS SPARKS STATION NUMBER 2, LOCATED AT THE CORNER OF BARING BOULEVARD AND NORTH TRUCKEE LANE. A FUTURE SPARKS STATION NUMBER 4, HOWEVER, IS PLANNED AT THE INTERSECTION OF DISC DRIVE AND VISTA BOULEVARD. THIS STATION WILL INITIALLY SERVE THE SOI AREA. BUILT - OPEN NOV. 1997

ANOTHER FUTURE STATION WAS IDENTIFIED IN THE PNSSOI, WHICH IS ADJACENT TO THE VISTA BOULEVARD EXTENSION ON THE WINGFIELD PROJECT SITE. THE LOCATION OF THIS STATION WAS SELECTED BY THE CITY OF SPARKS FIRE DEPARTMENT.

POLICE PROTECTION

IN AS MUCH AS THE PROPERTY IS WITHIN THE CITY OF SPARKS, POLICE PROTECTION WILL ULTIMATELY BE PROVIDED BY THE SPARKS POLICE DEPARTMENT. MUTUAL AID AGREEMENTS BETWEEN THE CITY OF SPARKS AND WASHOE COUNTY SHERIFF'S DEPARTMENT SHOULD BE NEGOTIATED TO PROVIDE ADEQUATE PROTECTION FOR THE AREA.

SCHOOLS

A NUMBER OF FUTURE SCHOOL SITES HAVE BEEN IDENTIFIED IN THE PNSSOI. NO SITES WERE IDENTIFIED WITHIN THE CIMARRON PLANNED COMMUNITY. ELEMENTARY SCHOOL SITE NOW AT SOUTHERN BOUNDARY (PARTIALLY IN WINGFIELD)

STUDENTS RESIDING IN THE CIMARRON PLANNED COMMUNITY WILL INITIALLY ATTEND ALYCE TAYLOR ELEMENTARY SCHOOL, TRANER MIDDLE SCHOOL, AND SPARKS HIGH SCHOOL. AS DEVELOPMENT IN THE SOI PROGRESSES, ADDITIONAL SCHOOLS WILL MOST LIKELY BE CONSTRUCTED TO SUPPORT THE STUDENT POPULATION.

DEVELOPMENT STANDARDS HANDBOOK

DEVELOPMENT STANDARDS HANDBOOK

THIS DOCUMENT PROPOSES TO PRESENT THE DEVELOPMENT AND DESIGN STANDARDS FOR THE CIMARRON DEVELOPMENT IN SPANISH SPRINGS, WASHOE COUNTY, NEVADA. ALL PHASES WILL ADHERE TO THE STANDARDS AS SET FORTH IN THE FOLLOWING DOCUMENT.

ARCHITECTURE

THE CIMARRON COMMUNITY DEVELOPMENT IS TO BE DEVELOPED WITH ELEVEN VILLAGES. THERE WILL BE VARIETY IN EACH COMMUNITY VILLAGE WITH AN EMPHASIS PLACE ON THE QUALITY OF MATERIALS USED AND DIVERSITY OF DESIGN. COVENANTS, CONDITIONS AND RESTRICTIONS (CC&R's) WILL GUIDE PROJECT DEVELOPMENT. THERE WILL BE AN ARCHITECTURAL REVIEW COMMITTEE TO INSURE AN INTEGRATED AND ATTRACTIVE PROJECT. GUIDELINES FOR THE DEVELOPMENT ARE OUTLINED IN THE FOLLOWING PARAGRAPHS.

ARCHITECTURAL GUIDELINES:

1. BUILDING HEIGHT AND SCALE WILL BE ADJUSTED IN EACH VILLAGE DEPENDING ON LOT SIZE AND SPARKS CITY SETBACK REQUIREMENTS. ONE AND TWO STORY FLOORPLANS SHALL BE INTERMIXED THROUGHOUT THE VILLAGES TO ASSURE VARIETY. BUILDING SETBACKS FOR VARIABLE LOT SIZES SHOWN ON PAGE 19 IN ITEM 2, "LOT SIZES AND SETBACKS".

2. ALTERNATING OF LIKE HOUSEPLANS WILL BE REQUIRED TO MINIMIZE DUPLICATION OF DESIGN. NO ADJACENT SINGLE FAMILY DETACHED HOME SHALL HAVE THE SAME FLOOR PLAN, COLOR OR ELEVATION.

3. VARIATIONS IN ROOF PITCH ARE REQUIRED WITH FLAT OR ROCK COVERED ROOFS NOT ALLOWED. ASPHALT COMPOSITION, TILE AND CONCRETE TILE ROOFS SHALL BE UTILIZED.
25 YR - MAYBE 30 YR
4. ADDITIONAL OUTDOOR LIVING AREAS, (I.E.: PATIOS, DECKS, COURTYARDS AND OTHER SITE AMENITIES) ARE REQUIRED FOR ALL VILLAGES.

5. THE USE OF STONE, BRICK AND WOOD ON BUILDING EXTERIORS ALONG WITH LANDSCAPING AND FENCING SHALL BE USED THROUGHOUT THE PROJECT FOR ENHANCEMENT.

6. ADJACENT SINGLE FAMILY HOME WINDOW PLACEMENT SHALL BE SITUATED SO THAT THE PRIVACY OF EACH HOMEOWNER AND THEIR FAMILIES SHALL BE MAXIMIZED.

7. PARK AND COMMON OPEN AREAS ADJACENT TO HOMES SHALL MATCH THOSE HOMES WITH SIMILAR MATERIALS, WHICH ARE MENTIONED IN GUIDELINE FIVE ABOVE.

8. THE ARCHITECTURAL REVIEW COMMITTEE WILL REVIEW ALL VILLAGES TO ENSURE DEVELOPMENT IS COHESIVE IN DESIGN OOF STANDARDS.
R

SIGNAGE

THE GRAPHICS AND SIGNAGE WITHIN THE CIMARRON DEVELOPMENT BY BIGHORN DEVELOPMENT II, LTD. SHALL FOLLOW THE OVERALL ARCHITECTURAL THEME FOR ALL THE INDIVIDUAL VILLAGES. THE SIGNS SHALL PROVIDE IDENTIFICATION FOR EACH VILLAGE, AS WELL AS FOR RIDING/WALKING PATHS, PARK LOCATIONS, TRAFFIC CONTROL AND PUBLIC INFORMATION. IN ALL CASES, SIGNAGE SHALL BE KEPT SIMPLE AND NON-OBTRUSIVE.

ALL SIGNAGE THROUGHOUT THE PROJECT SHALL BE MADE BY THE BIGHORN DEVELOPERS AND HAVE THE CIMARRON LOGO. THE VILLAGE SIGNS SHALL HAVE THE LOGO TOO BUT SHALL VARY TO SET THEM APART FROM THE OTHER VILLAGES.

SIGNAGE AND GRAPHIC DEPICTION THROUGHOUT THE PROJECT SHALL BE COMPATIBLE AND CONSISTENT. STYLES, SIZES AND CONFIGURATIONS SHALL VARY DEPENDING UPON SPECIFIC ACTIVITY LEVEL, PURPOSE, AND BUILDING MATERIALS. GUIDELINES ARE SET FORTH BELOW.

SIGNAGE GUIDELINES:

1. **GENERAL**

   A. THE CIMARRON LOGO WILL BE USED THROUGHOUT THE PROJECT AND ALL THE SIGNS SHALL BE REVIEWED BY THE CIMARRON ARCHITECTURAL REVIEW COMMITTEE.

   B. PROHIBITED SIGNS WILL INCLUDE THOSE IDENTIFIED IN THE CITY OF SPARKS ORDINANCE, AS WELL AS THOSE OUTLINED IN THESE GUIDELINES AND THE CC&R'S.

   C. LANDSCAPING AND LIGHTING WILL REMAIN AS OPTIONS FOR ALL SIGNAGE PROPOSALS.

   D. SIGNS SHALL BE CONSTRUCTED OF CONCRETE, STUCCO, WOOD, BRICK AND OTHER NATURAL MATERIALS AND SHALL HAVE EITHER PAINTED OR RELIEF CUT LETTERS, REGARDLESS OF STYLE.

   E. EACH VILLAGE SHALL HAVE AN INDIVIDUAL NAME BUT THE STYLE OF EACH VILLAGE SIGN WILL BE SIMILAR IN MATERIALS AND APPEARANCE AS THE MAIN CIMARRON THEME SIGN.

   F. SPECIAL PURPOSE SIGNS SHALL EXCLUDE TRAFFIC CONTROL SIGNS. TRAFFIC CONTROL SIGNS SHALL CONFORM TO CITY OF SPARKS ORANGE BOOK STANDARDS.

2. **IDENTIFICATION SIGNAGE**

   IDENTIFICATION SIGNS SHALL BE CONSTRUCTED AT THE PROJECT ENTRANCES AS PART OF THE OVERALL ENTRY STATEMENT OF CIMARRON. EACH OF THE ELEVEN VILLAGES SHOULD HAVE THEIR OWN SIGNAGE AS MENTIONED ABOVE IN GENERAL GUIDELINE E.

   FREE STANDING MONUMENT SIGNS, PIERS OR MONOLITHIC WALLS/PYLONS WILL BE USED. PROJECT OR VILLAGE IDENTIFICATION SIGNS WILL NOT EXCEED 120 SQUARE FEET IN AREA OR 6 FEET IN HEIGHT AS DICTATED BY THE CITY OF SPARKS ORDINANCE AND CAN BE ERECTED ON EACH SIDE OF THE ENTRANCE STREET. ANY SIGNS THAT ARE LIGHTED WILL BE EQUIPPED WITH INDIRECT GROUND FLUSH MOUNT LIGHTS ONLY AND THEIR

LOCATIONS SHALL BE TO THE APPROVAL OF THE ARCHITECTURAL REVIEW COMITTEE AND SHALL BE LOCATED OUTSIDE ANY DEDICATED RIGHT OF WAY WITHOUT BLOCKING VISABILITY.

3. **SPECIAL PURPOSE SIGNS**

A. INFORMATIONAL, DIRECTIONAL AND REGULATORY SIGNS WILL NOT EXCEED 16 SQUARE FEET IN AREA OR 6 FEET IN HEIGHT AND SHALL BE COMPATIBLE AND CONSISTENT THROUGHOUT THE PROJECT.

B. ALL TEMPORARY SIGNS WILL BE IN COMPLIANCE WITH THE CITY OF SPARKS SIGN ORDINANCE.

FENCING

FENCING SHALL NOT ONLY BE USED FOR SCREENING BETWEEN LOTS AND VILLAGES BUT FOR ABATEMENT OF ROAD NOISE, TO COMPLEMENT VILLAGE THEMES, TO CONTROL PETS, TO PROTECT SWALE AREAS AND FOR SECURITY AND SAFETY REASONS.

FENCING GUIDELINES:

1. **VILLAGES**

A. EACH VILLAGE WILL HAVE A CONSISTENT FENCING THEME THROUGHOUT.

B. ACCORDING TO ACCEPTED ENGINEERING PRACTICES AND ROADWAY DESIGN SPEEDS, ADEQUATE SIGHT DISTANCE SHALL BE MAINTAINED ALONG ROADWAYS AND INTERSECTIONS.

C. FENCING SHALL NOT BE PERMITTED WITHIN THE SETBACK AREA OF INDIVIDUAL FRONT YARDS EXCEPT FOR SPLIT RAIL FENCING. HEDGES AND OTHER TYPES OF "LIVING WALLS" ARE PERMITTED AS LONG AS THEY DO NOT EXCEED THREE FEET IN HEIGHT.

D. THE USE OF VINYL COATED CHAIN LINK FENCES IS NOT PERMITTED EXCEPT IN PET ENCLOSURE AREAS, TENNIS COURTS AND SWIMMING POOL PERIMETERS.

E. ANY FENCES ABUTTING NON CIMARRON PROPERTY SHALL BE REVIEWED BY THE ADJACENT PROPERTY OWNERS.

F. SOLID FENCING, UP TO A MAXIMUM OF SIX FEET IN HEIGHT, IS NOT ALLOWED EXCEPT BETWEEN THE SIDE AND REAR PROPERTY LINES OF INDIVIDUAL LOTS FOR PRIVACY, SECURITY AND SAFETY REASONS.

G. IF FENCING IS DESIRED FOR LOTS ADJACENT TO THE OPEN SPACE AREAS AND PARKS, OPEN FENCING SUCH AS SPLIT RAIL OR WROUGHT IRON, WHICH DOES NOT EXCEED THREE FEET IN HEIGHT, MAY BE USED TO PRESERVE AN OPEN SPACE FEELING AND TO MAINTAIN VIEWS OF SURROUNDING AREAS. ALTERNATIVES TO THESE MAY INCLUDE BERMING, ADDITIONAL LANDSCAPING, OR FOR PET OWNERS, USE OF INVISIBLE FENCING.

TRAFFIC-ACCESS & CIRCULATION

1. ROADWAY SYSTEM PLAN

ROADWAY AND OTHER CIRCULATION ACCESSES WILL GENERALLY CONFORM TO THE PLAN IN THE TRAFFIC REPORT. THE PLAN LAYS OUT THE PROPOSED ROUTES OF TRAFFIC AND PEDESTRIAN TRAILS. THIS PLAN DOES NOT NECESSARILY DEPICT THE FINAL LAYOUT SINCE REVISIONS ARE A POSSIBILITY AND ARE SUBJECT TO APPROVAL BY THE CITY OF SPARKS.

ROADWAY GUIDELINES

A. ARTERIAL STREETS

* LA POSADA DRIVE AND VISTA BOULEVARD ARE THE TWO ARTERIAL STREETS THAT SERVE THE PROJECT AND THEY SHALL CONFORM TO THE "PLAN FOR NORTHERN SPARKS SPHERE OF INFLUENCE AREA IN THE SPANISH SPRINGS VALLEY" (PNSSOI).

* PUBLIC UTILITY EASEMENTS WILL BE INCLUDED ADJACENT TO THE RIGHT-OF-WAY ON ONE SIDE OF ALL STREETS, IN ACCORDANCE WITH THE CITY OF SPARKS STANDARDS.

* NO LOTS WILL BE ACCESSED BY VISTA BLVD. OR LA POSADA DR.

* FUNDING OF THE ARTERIAL ROADWAYS IN THE SPHERE OF INFLUENCE SHALL BE DETERMINED WHEN A FINANCIAL PLAN HAS BEEN DEVELOPED. ALSO, IT IS UNDERSTOOD THAT THE DEVELOPERS WILL RECEIVE CREDIT AGAINST ANY PAYMENTS REQUIRED BY THE FINANCING PLAN FOR ANY IMPROVEMENTS CONSTRUCTED.

* A TRAFFIC CONTROL PLAN WILL BE SUBMITTED TO THE CITY OF SPARKS, PRIOR TO CONSTRUCTION OF OFF-SITE ROADS , TO ENSURE THAT ACCESS TO EXISTING RESIDENTS OF THE AREA IS MAINTAINED.

* HALF THE RIGHT OF WAY ON THE WEST SIDE OF VISTA BLVD. WILL BE DEDICATED TO THE CITY OF SPARKS. A TWENTY FIVE FOOT LANDSCAPING BUFFER ZONE WILL BE DEDICATED ALSO, PER PNSSOI.

B. COLLECTOR STREETS

* INNER PROJECT COLLECTOR STREETS INCLUDE CALLE DE ORO DRIVE AND MARIPOSA DRIVE.

* THESE COLLECTORS ARE DESIGNED WITH NO DIRECT ACCESS FROM ANY SINGLE FAMILY LOTS AND PARKS.

* WHERE IT IS FEASIBLE, PUBLIC UTILITY CORRIDORS WILL BE PROVIDED WITHIN THE LANDSCAPED AREA OF THE RIGHT OF WAY ON EACH SIDE OF THE STREET. SEVEN AND A HALF FOOT PUBLIC UTILITY EASEMENTS WILL BE INCLUDED ADJACENT TO THE RIGHT-OF-WAY ON EACH SIDE OF THE STREET.

* COLLECTOR STREETS SHALL HAVE A RIGHT-OF-WAY OF SIXTY FEET WITH CURB AND GUTTER EACH SIDE; TWO TRAVEL LANES AND SIDEWALKS ON BOTH SIDES.

* LEFT TURN POCKETS WILL BE INCORPORATED INTO THE STREET DESIGNS WHERE THE PEAK HOUR VOLUMES EXCEED 25 IN ANY ONE PEAK HOUR ALONG WITH RIGHT TURN DECELERATION LANES AT ANY INTERSECTION WHERE THE PEAK HOUR VOLUMES EXCEED 50.

C. VILLAGE STREETS

* LOCAL VILLAGE STREETS SHALL HAVE A RIGHT-OF-WAY OF 55 FEET CONSISTING OF TWO TRAVEL LANES AND TWO TEMPORARY PARKING LANES WITH TWO SIDEWALKS AND A 7.5 FOOT PUBLIC UTILITY EASEMENT. ADJACENT TO EACH STREET RIGHT-OF-WAY.CUL-DE-SACS WILL BE THE SAME AS VILLAGE STREETS.

D. TRAIL AND PATH SYSTEMS

ALL PATHS WITHIN THE PROJECT BOUNDARY SHALL BE APPROVED BY THE CITY OF SPARKS WITH THE PROVISION THAT MODIFICATION MAY BE REQUIRED ON PATH AND TRAIL DESIGNS AS PROJECT DEVELOPS. THESE MODIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE CITY OF SPARKS TO ASSURE CONTINUITY AND TOTAL INTEGRITY OF THE TRAIL SYSTEM

GUIDELINES FOR PEDESTRIAN & BICYCLE PATHWAYS

* PATHS WITHIN THE STREET RIGHT-OF-WAYS AND THE INTERIOR PATHS WILL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. SIDEWALKS ARE THE RESPONSIBILITY OF THE INDIVIDUAL HOMEOWNER.

* WIDTHS OF PATHS SHALL BE 10 FEET.

* PATHS WILL BE PAVED WITH ASPHALT.

* SIDEWALKS AND PATHS WITHIN STREET RIGHT-OF-WAYS SHALL HAVE CONNECTION POINTS TO INTERIOR PATHS DESIGNED TO CONNECT VILLAGE PHASES. (SEE FIGURE 1, END OF THIS SECTION)

* ALL POTENTIAL PATH CROSSINGS, WHICH WILL BE DESIGNED TO BE AT MID-STREET AND INTERSECTION LOCATIONS, SHALL HAVE ALL CONFLICTING CROSSINGS MARKED TO ALERT ALL MOTORISTS, PEDESTRIANS AND BICYCLISTS TO ANY DANGER.

E. GUIDELINES FOR SIDEWALKS

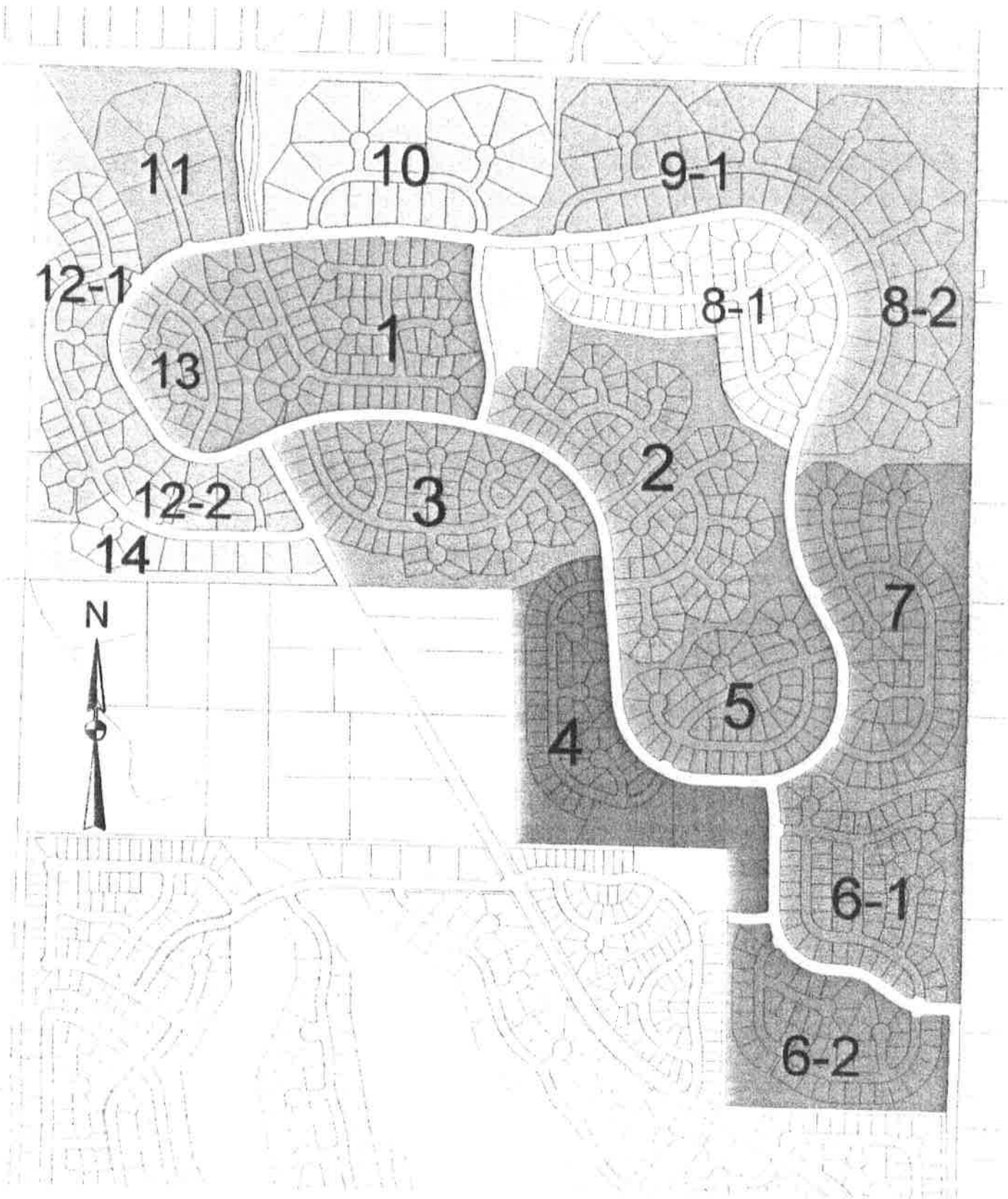
* SIDEWALKS WILL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION &/OR INDIVIDUAL HOMEOWNERS.

* SIDEWALKS SHALL BE FOUR FEET IN WIDTH, CONSTRUCTED OF CONCRETE AND SHALL CONFORM TO THE CITY OF SPARKS STANDARDS.

* SIDEWALKS SHALL BE ON BOTH SIDES OF THE STREET WITHIN THE RIGHT-OF-WAY.

* WHEREVER POSSIBLE, SIDEWALKS SHALL CONNECT TO INTERIOR AND STREET PATHS (SEE FIGURE 1, END OF THIS SECTION).

Cimarron Villages



SITE PLANNING- OVERVIEW

PARKS, OPEN SPACE AND VALLEY VIEWS SHALL BE USED TO ENHANCE THE OTHER AESTHETIC FEATURES OF THE PROJECT, AND CARE SHALL BE TAKEN TO PRESERVE ALL NATURAL FEATURES. LANDSCAPING WILL BE INCORPORATED INTO EACH PHASE TO BLEND WITH THE EXISTING LANDSCAPE.

GUIDELINES FOR SITE PLANNING:

1. **VILLAGE NAMES, SIZES AND NUMBERS** (S.F. = SQUARE FEET)

A. VILLAGE 1 - "GRANADA" - 7,000-8,500 S.F. - 135 LOTS
B. VILLAGE 2 - "SEVILLE" - 7,500 S.F. - 78 LOTS
C. VILLAGE 3 - "MALAGA" - 7,500 S.F. - 60 LOTS
D. VILLAGE 4 - "SOLANA" - 10,000 S.F. - 127 LOTS
E. VILLAGE 5 - "BALBOA" - 7,500 S.F. - 47 LOTS
F. VILLAGE 6 - "CORDOBA" - 7,000-8,500 S.F. - 103 LOTS
G. VILLAGE 7 - "VALVERDE" - 7,000-8,500 S.F. - 98 LOTS
H. VILLAGE 8 - "VALENCIA" - 3/4 - 1 ACRE - 23 LOTS
I. VILLAGE 9 - "CATALON" - 7,000-8,500 S.F. - 84 LOTS
J. VILLAGE 10 - "MARBELLA" - 1+ AC. - 24 LOTS
K. VILLAGE 11 - "CASTILLE" - 3/4 - 1 ACRE - 32 LOTS

TOTAL LOTS = 811 (OVERALL DENSITY SHALL NOT EXCEED 2 UNITS PER ACRE.)

2. **LOT SIZES & SETBACKS**

A. MINIMUM LOT SIZE IS 7,000 S.F. AND SHALL BE USED IN VILLAGES 1,6,7, & 9. LOTS RANGING FROM 7,500 - 8,000 S.F. SHALL BE IN VILLAGES 2,3, & 5. LOTS IN THE 10,000 S.F. RANGE SHALL BE INCORPORATED INTO VILLAGE 4 AND THE LARGEST LOTS (3/4 - 1+ ACRE) SHALL BE LOCATED IN VILLAGES 8,10 & 11. (SEE FIGURE 2, END OF THIS SECTION FOR VILLAGES AND LOT SIZES)

B. VILLAGES ADJACENT TO THE WINGFIELD PROPERTY TO THE SOUTH SHALL RANGE FROM 7,000 TO 10,000 S.F. REAR SETBACK=20', SIDES=5'/10' AND FRONT=15'(20' TO GARAGE).

C. VILLAGES BORDERING LA POSADA DRIVE TO THE NORTH WILL BE BUFFER LOTS AND SHALL EXCEED 3/4 AC. IN SIZE. REAR SETBACK=30', SIDES AT 10' AND FRONT=20'.

D. VILLAGES THAT BORDER ON THE EAST SIDE OF THE PROJECT SHALL EXCEED 10,000 S.F. AND RANGE UPWARD IN SIZE TO 1 ACRE. REAR SETBACK=40', SIDES AT 10' AND FRONT=20'.

E. BUILDING FRONT SETBACKS SHALL BE VARIED WITHIN ALL VILLAGES TO PROMOTE A SENSE OF NON-UNIFORMITY THROUGHOUT.

F. ALL FRONT, SIDE AND REAR HOUSE SETBACKS SHALL CONFORM TO THE CITY OF SPARKS ORDINANCES.

G. EACH PHASE SUBMITTED TO THE ARCHITECTURAL REVIEW COMMITTEE AND THE CITY FOR APPROVAL SHALL SHOW ALL BUILDING ENVELOPES AND SHALL BE CONSISTENT WITH THE DEVELOPMENT STANDARDS HANDBOOK.

3. **DRIVEWAYS**

A. IN ORDER TO FURTHER ENHANCE THE VARIATIONS ON STREETSCAPES, OTHER FORMS OF DRIVEWAYS ARE ENCOURAGED SUCH AS SIDE, CIRCULAR AND "HOLLYWOOD" DRIVEWAYS.

4. **PARKING**

A. THE CITY OF SPARKS ORDINANCES SHALL GOVERN THE NUMBER OF SPACES AND SIZES REQUIRED.

B. PROVISIONS FOR BICYCLE RACKS WILL BE ENCOURAGED IN PARK AREAS.

5. **OPEN SPACE**

A. INTERACTION BETWEEN ADJACENT LOTS AND VILLAGES WITH THE SHARING OF OPEN SPACE WILL BE A DESIGN FEATURE THAT WILL BE CONSISTENT THROUGHOUT THE PROJECT.

STORM DRAINAGE & FLOODING

THE FINAL HYDROLOGY STUDY SHALL DICTATE HOW THE STORM DRAIN PIPING AND SURFACE CHANNELING SHALL BE DESIGNED FOR THE PROJECT.

GUIDELINES FOR STORM DRAINAGE:

A. DRAINAGE CHANNELS THROUGHOUT THE SITE SHALL BE NATURAL LOOKING AND WILL NOT INCORPORATE THE USE OF CONCRETE. RIP-RAP MAY BE NEEDED IF THE CHANNEL FLOW IS GREAT ENOUGH OR CHANGES IN DIRECTION OF FLOW REQUIRE IT'S USE.

B. ALL CATCH BASINS SHALL HAVE DEPRESSED BOTTOMS TO ACT AS SAND AND OIL SEPARATORS FOR PETROLEUM PRODUCTS. UNLESS SPECIAL CONDITIONS EXIST, ALL CATCH BASINS SHALL BE TYPE 4R ACCORDING TO THE CITY OF SPARKS STANDARDS.

C. THE CITY OF SPARKS SHALL MAINTAIN THE STREETS AND CATCH BASINS ON A REGULAR SCHEDULE.

D ALL LOTS WITHIN THE PROJECT ARE OUTSIDE THE FEMA RATED FLOOD ZONES AND DO NOT NEED TO BE ELEVATED EXCEPT FOR NORMAL LOT DRAINAGE SWALES.(FEMA MAP PANEL NUMBER 320019-1355 C, DATED APRIL 16, 1990)

COMMUNITY SANITARY SEWER

THE CIMARRON PROJECT WILL BE SERVED BY SPANISH SPRINGS EAST TRUNK LINE WHICH WILL BE IN PLACE PRIOR TO THE COMMENCEMENT OF THE FIRST PHASE.THE EAST TRUNK LINE SHALL SERVE ALL THE SPHERE OF INFLUENCE (SOI) AS SHOWN IN THE PNSSOI.

GUIDELINES FOR SANITARY SEWER SERVICE:

A. THE SEWER DEMAND FOR THE PROJECT, IN CONJUNCTION WITH FUTURE SEWER DEMANDS OF SURROUNDING PROPERTIES , HAVE BEEN ANALYZED IN ORDER TO SIZE THE LINES TO BE CONSTRUCTED AND SHALL BE APPROVED BY INVOLVED PARTIES PRIOR TO ACCEPTANCE OF FIRST PHASE BY THE CITY OF SPARKS.

B. BIGHORN DEVELOPMENT II, LTD. SHALL PARTICIPATE IN THE FINANCING PLAN FOR THE SPHERE OF INFLUENCE AND THE EAST TRUNK SEWER LINE AND SHALL RECEIVE CREDIT OR REIMBURSEMENT FOR THE CONSTRUCTION OF ANY SEWER LINES WHICH ARE PART OF THE DESIGNATED REGIONAL FACILITIES PER THE PNSSOI SYSTEM, BUT ARE NOT TO BE UTILIZED IMMEDIATELY BY CONTIGUOUS LANDOWNERS. IF OVERSIZING IS REQUIRED TO ACCOMMODATE FUTURE USERS, DEVELOPERS OF CIMARRON WILL ALSO RECEIVE CREDITS OR REIMBURSEMENTS.

GRADING AND REVEGETATION

GRADING SHALL BE COORDINATED WITH THE STORM DRAINAGE DESIGN FOR THE PROPERTY. DRAINAGE SWALES, DETENTION BASINS AND PONDS WILL BE CONSTRUCTED TO DELAY FLOOD FLOWS BEFORE BEING RELEASED TO ADJACENT PROPERTIES DOWNSTREAM.

GUIDELINES FOR GRADING AND REVEGETATION:

A. GRASS AND WILDFLOWER SEEDING SHOULD BE COMPLETED AS SOON AS POSSIBLE AFTER FINISH GRADING BUT BEFORE THE TOPSOIL IS ERODED BY WIND.

B. STOCKPILING THAT RESULTS IN THE LOSS OF TOPSOIL AND OTHER FORMS OF EROSION SHALL BE MINIMIZED.

C. REVEGETATE AS SOON AS POSSIBLE AFTER FINISH GRADING. DUST CONTROL PLANS WILL BE SUBMITTED WITH EACH PHASE AND APPROVED BY WASHOE COUNTY DISTRICT HEALTH DEPT. BEFORE GRADING BEGINS, AND A WATER TRUCK SHALL BE ONSITE AT ALL TIMES DURING CONSTRUCTION.

D. STOCKPILED TOPSOIL SHALL BE MOVED TO A CENTRAL LOCATION ON THE CURRENT PHASE AND STABILIZED, WITH A PALATIVE SUCH AS DETERGENT, UNTIL IT IS NEEDED.

D. ALL GRADING SHALL CONFORM TO THE CITY OF SPARKS STANDARDS WITH RIP-RAP ON SLOPES OF 2:1 OR STEEPER WITH A HEIGHT GREATER THAN 4 FEET. SLOPES AT 3:1 OR LESS ARE PREFERRED, WITH FINISH GRADES BLENDING INTO THEIR SURROUNDINGS AS MUCH AS POSSIBLE.

E. DETENTION BASINS AND PONDS WILL BE CONSTRUCTED WITHIN EACH PHASE, IN ORDER TO MAINTAIN THE PROPER FLOWS REQUIRED BY THE HYDROLOGY REPORT.

WATER CONSERVATION

WATER METERS SHALL BE REQUIRED ON ALL LOTS WITHIN THE PROJECT.

GUIDELINES FOR WATER CONSERVATION:

A. ALL SUBCONTRACTORS, ENCOURAGED BY BIGHORN DEVELOPMENT II, LTD., SHALL BE REQUIRED TO PROVIDE STATE OF THE ART WATER CONSERVING FIXTURES AND APPLIANCES IN ALL RESIDENTIAL VILLAGES.

B. CITY OF SPARKS ORDINANCES REQUIRING RESOURCE EFFICIENT LANDSCAPING AND WATER CONSERVING IRRIGATION SYSTEMS THROUGHOUT THE PROJECT SHALL BE COMPLIED WITH.

ENERGY CONSERVATION

"GOOD CENTS" IS AN ENERGY-EFFICIENT PROGRAM ESTABLISHED BY SPPCO IN COOPERATION WITH THE BUILDERS ASSOCIATION OF NORTHERN NEVADA. IT IS ALSO A NATIONWIDE PROGRAM WHICH WAS INTRODUCED TO NORTHERN NEVADA IN 1989 TO IMPROVE THE ENERGY EFFICIENCY OF RESIDENCES IN OUR AREA. SPPCO'S CERTIFIED REPRESENTATIVES INSPECT HOMES TO ENSURE COMPLIANCE WITH THE PROGRAM'S GUIDELINES. IN ORDER TO CONFORM TO "GOOD CENTS" STANDARDS, EACH HOUSE SHOULD HAVE FLOOR, WALL AND ATTIC INSULATION, MOISTURE PENETRATION BARRIERS, ENERGY EFFICIENT DOUBLE PANE WINDOWS, HIGH EFFICIENCY COOLING AND HEATING SYSTEMS AND ENERGY SAVING HOT WATER HEATERS, AS REQUIRED BY THE PROGRAM.

GUIDELINES FOR ENERGY CONSERVATION:

A. WIND ORIENTATION AND PASSIVE/ACTIVE SOLAR APPLICATIONS WILL BE CONSIDERED IN THE DEVELOPMENT.

B. BIGHORN DEVELOPMENT II, LTD. SHALL ENCOURAGE ALL BUILDERS TO PARTICIPATE IN THE "GOOD CENTS" PROGRAM.

ELECTRIC SERVICE FRAMEWORK

GUIDELINES FOR ELECTRIC SERVICE:

A. IN ACCORDANCE WITH PNSSOI GUIDELINES, AS WELL AS SPPCO'S RECOMMENDATIONS, "BACKBONE" ELECTRICAL SERVICE WILL BE OVERHEAD ALONG VISTA BLVD. AND UNDERGROUND WITHIN THE CIMARRON DEVELOPMENT.

CIMARRON LANDSCAPE AND OPEN SPACE GOALS AND OBJECTIVES

SITE DESCRIPTION AND SOILS:

THE PROJECT SITE IS LOCATED ON THE LOWER PORTION OF A SOUTHWEST FACING ALLUVIAL FAN. SOILS ARE THICKER AND MORE PRODUCTIVE IN THE UPPER REACHES OF THE SITE. SAGEBRUSH IS THE DOMINANT SPECIES OVER THE ENTIRE SITE. HEIGHT RANGES FROM 4-5 FEET IN THE UPPER AREAS AND 2-3 FEET IN THE LOWER PORTIONS. SURFACE SOILS ARE SANDY.

VIEWS LOOKING SOUTH AND WEST INCLUDE MT. ROSE/SLIDE MOUNTAIN, THE WETLANDS AND PEAVINE TO THE WEST. THE VIEWS, SLOPE ASPECT AND SOILS COMBINE FOR IDEAL SOLAR HOUSING AND HORTICULTURE.

A NATURAL BANANA BELT EXISTS IN THIS SITUATION ABOVE THE VALLEY FLOOR AND BELOW THE STEEPER MOUNTAIN SIDES.

COMMUNITY OPEN SPACE GOALS AND OBJECTIVES

OPEN SPACE GOAL:

COMMON OPEN SPACES WILL BE DEVELOPED TO INCLUDE A WIDE RANGE OF OUTDOOR EXPERIENCES INCLUDING ACTIVE TURF RECREATION AREAS, BIKE AND WALKING PATHS, PASSIVE NATURE STUDY AREAS, COMMUNITY ORCHARD AND FORESTRY PRODUCTION AREAS. THAT WILL HELP DEFINE CIMARRON AND PROVIDE CHARACTER TO THE "VILLAGE CONCEPT."

OBJECTIVES:

1. PROVIDE A LANDSCAPED BUFFER BERM ALONG LA POSADA AND BALDWIN ESTATES THAT WILL PROVIDE INTERESTING TERRAIN FOR CONNECTING PATHWAYS, DIRECT DRAINAGE TO SMALL DETENTION AREAS WHILE SCREENING STREET AND EXISTING DEVELOPED AREAS FROM NEW HOMES. (SEE FIGURE 5.)

2. CREATE INTERACTIVE SPACES LINKED WITH PEDESTRIAN PATHWAYS, TWO PARK AREAS CONTAINING FROM 2-3 ACRES OF TURF, SEVERAL SMALLER PATHS OF TURF AND WILDFLOWER MEADOWS, DETENTION PONDS, WILDLIFE CORRIDORS, COMMUNITY ORCHARDS AND VINEYARDS. (SEE FIGURES 3 & 4.)

3. DEVELOP A PEDESTRIAN LINKAGE ALONG ONE SIDE OF THE MAIN COLLECTOR ROAD THAT

WEAVES IN AND OUT OF TREE GROUPINGS, CONNECTS ALL PEDESTRIAN AND BIKE PATHS ACROSS RAISED CROSSWALKS AND PROVIDE SPACES THAT ARE VARIED IN WIDTH. AREAS ON BOTH SIDES OF COLLECTOR TO BE LANDSCAPED IN ONE OF THE FOLLOWING FOUR THEMES: GREAT BASIN SHRUBS AND TREES; SIERRA MOUNTAIN EVERGREEN TREES AND FLOWERING TREES/SHRUBS; STREAMSIDE "OASIS" TREES, SHRUBS AND GROUND COVERS; AND WILDFLOWER MEADOW. (SEE FIGURE 6.)

LANDSCAPE DEVELOPMENT GOALS & OBJECTIVES

THE LANDSCAPE DEVELOPMENT GOAL IS TO CREATE A LONG RANGE, HEALTHY COMMUNITY FOREST THAT PROVIDES BEAUTY, WIND PROTECTION, SONGBIRD HABITAT, EROSION CONTROL AND WATER HARVEST AREAS WHILE REDUCING THE NEED FOR INTENSIVE LONG-TERM CARE AND PRECIOUS WATER SOURCES.

OBJECTIVES:

1. CHOOSE LANDSCAPE SOLUTIONS THAT ARE APPROPRIATE TO CIMARRON'S SEMI-ARID HIGH DESERT CONDITIONS.
2. SELECT PLANTS THAT WILL GROW, PRODUCE SHADE, FLOWER OR FRUIT AND THAT ARE MATCHED TO EXISTING SOILS AND GROWING CONDITIONS.
3. UTILIZE THE LATEST IRRIGATION TECHNOLOGY INCLUDING IN-LINE EMITTERS, MULTIPLE PROGRAM CONTROLLERS, ZONED VALVING MATCHED TO PLANT WATER NEEDS AND LOW PRECIPITATION RATE SPRINKLERS.
4. BUDGET IRRIGATION WATER ON THE FOLLOWING THEME:

% OPEN SPACE	TREATMENT THEME
50	GREAT BASIN - NONE TO 4.2" (.35 AC. FT./ AC./ SEASON)
25	SIERRA NEVADA - 4" TO 12" (UP TO 1.4 AC. FT./AC./SEASON)
15	STREAMSIDE - ONE TO 2.1 AC. FT./AC./SEASON)
10	MEADOW/TURF (SPRAY IRRIGATE) - 1 1/2 TO 3 AC. FT./AC./SEASON)

5. PROVIDE DEVELOPMENT GUIDELINES FOR THE ULTIMATE LANDSCAPE MANAGER, I.E., HOMEOWNERS ASSOCIATIONS OR LANDSCAPE IMPROVEMENT DISTRICT.

OPEN SPACE

PARKS AND OPEN SPACE AREAS WILL BE INTEGRATED INTO THE PROJECT AND WILL PROVIDE A VARIETY OF PASSIVE AND ACTIVE RECREATIONAL ACTIVITIES, EXPANSIVE VISTAS AND WILDLIFE HABITAT.

GUIDELINES FOR OPEN AREAS AND PARKS:

A. ALL OPEN AREAS AND PARKS SHALL BE DESIGNED IN ACCORDANCE WITH THE CITY OF SPARKS PARKS DEPARTMENT.

B. CONSTRUCTION PHASING OF PARKS SHALL BE AS FOLLOWS:
THE PARK TO BE LOCATED BETWEEN VILLAGE 3, 4 & 5 SHALL BE BUILT CONCURRENTLY WITH THE PULLING OF GRADING PERMIT FOR VILLAGE 3. THE SECOND PARK, WHICH IS SITUATED BETWEEN VILLAGE 6, 7 & 9 SHALL BE CONSTRUCTED CONCURRENTLY WITH THE PULLING OF GRADING PERMIT FOR VILLAGE 6.

C. UPON COMPLETION, PARKS AND OPEN SPACE AREAS SHALL BE OPERATED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.

D. PARK TAX REVENUES GENERATED FROM THE PROJECT SHALL BE AVAILABLE, EITHER IN THE FORM OF MONEY OR AS A CREDIT AGAINST THE PARK TAX, TO DEVELOP THE TWO IDENTIFIED PARKS.

E. IF POSSIBLE, COMPATIBLE OR "LIKE" FACILITIES, IN THE TWO PARKS, SUCH AS PLAYGROUNDS, KIDDIE AREAS AND PICNIC AREAS, SHALL BE GROUPED TOGETHER.

F. WHEN ORIENTING PARK FACILITIES, WIND AND SUN EXPOSURE FACTORS SHALL BE CONSIDERED IN PARK DESIGN.

G. DETENTION PONDS WILL BE MONITORED BY THE WASHOE COUNTY HEALTH DEPARTMENT, AS APPROPRIATE, FOR MOSQUITO ABATEMENT.

LANDSCAPING

LANDSCAPING WITHIN THE CIMARRON SUBDIVISION WILL INTEGRATE RESOURCE EFFICIENT DESIGN MEASURES AND ENVIRONMENTALLY COMPATIBLE PLANTS TO INSURE WATER CONSERVATION AND DROUGHT RESISTANT VEGETATION AS PART OF THE DESIGN. UNLESS OTHER REQUIREMENTS ARE IDENTIFIED IN THIS HANDBOOK, ALL LANDSCAPING WITHIN THE PROJECT SHALL BE PROVIDED IN ACCORDANCE WITH THE CITY OF SPARKS LANDSCAPING ORDINANCE.

GUIDELINES FOR LANDSCAPING:

A. THE CIMARRON PROJECT WILL STRIVE TO MAINTAIN PROPER TURF MANAGEMENT, WHICH WILL AID IN SOIL EROSION CONTROL, TEMPERATURE MODERATION, GROUNDWATER RECHARGE AND DUST STABILIZATION. THE TYPE AND SELECTION OF TURF AREAS SHOULD BE DESIGNED ALONG WITH ALL OTHER PLANTINGS. WHEN SODDING OR SEEDING A NEW LAWN, THE SOIL SHALL BE WORKED TO A DEPTH OF SIX INCHES WITH THE APPROPRIATE NUTRIENTS. WHEN HYDROMULCHING, THE GRASS SEED SHOULD BE MIXED INTO A SLURRY OF CELLULOSE AND WATER WHICH IS SPRAYED INTO THE SEED BED SO THAT MULCH, SEED AND FERTILIZER CAN BE APPLIED IN ONE STEP.

B. DEEP WATERING IS THE BEST WAY TO PROMOTE DEEP ROOTS AND DROUGHT RESISTANT, HEALTHY TURF. ALL GRASS WATERING SYSTEMS SHALL BE AUTOMATIC AND INSTALLED UNDERGROUND. DRIP IRRIGATION AND MOISTURE SENSORS SHALL BE ENCOURAGED TO

KEEP WATER CONSERVATION AT THE FOREFRONT OF ALL LANDSCAPING ENDEAVORS. IRRIGATION HEADS SHALL BE ADJUSTED TO MINIMIZE RUN-OFF POP-UP TYPE IRRIGATION HEADS SHALL BE USED ADJACENT TO CURBS AND PAVED AREAS.BACKFLOW DEVICES SHALL BE LOCATED TO MINIMIZE ADVERSE VISUAL IMPACTS AND WILL BE SCREENED BY SHRUBS.

C. PLANT MATERIALS SHALL BE EVALUATED IN TERMS OF HOW WELL THEY ENHANCE THE ARCHITECTURE.

D. HARD SURFACE AREAS SHOULD BE SHADED WITH TREES TO MINIMIZE REFLECTED SOLAR HEAT.

E. SEASONAL CLIMATE INFLUENCES SHALL BE CONSIDERED IN ORDER TO GET MAXIMUM GAIN OUT OF PLANT MATERIALS. TO DIFFUSE WINTER WINDS, USE OF EVERGREEN TREES ALONG THE NORTH AND WEST ARE ENCOURAGED. SOUTHERN HOUSE EXPOSURES SHOULD HAVE DECIDUOUS PLANTS TO ALLOW SUNLIGHT IN THE WINTER AND SHADE IN THE SUMMER.

F. DECIDUOUS TREES SHALL BE SELECTED BASED UPON THEIR FORM AND BRANCHING DENSITY IN AREAS WHERE SCREENING IS NEEDED. EVERGREENS WILL ALSO BE SELECTED BASED UPON THEIR FORM AND BRANCHING DENSITY.

G. THE ULTIMATE MATURE SIZE OF PLANTS SHALL BE EVALUATED BASED UPON ANTICIPATED LIFE SPAN, MAINTENANCE, AND FUNCTIONAL REQUIREMENTS.

H. EACH INDIVIDUAL VILLAGE SHOULD CREATE A UNIQUE AND CONSISTENT CHARACTER OF COLORS AND TEXTURES WITH THEIR PLANT MATERIALS. THE INTENT IS TO CREATE VARIETY IN THE INDIVIDUAL VILLAGES AND UNITY IN THE COMMON AREAS.

I. PLANT MATERIALS SELECTED SHALL BE ZONED/GROUPED ACCORDING TO WATER CONSUMPTION RATES AND SOIL REQUIREMENTS. PLANTINGS SHOULD BE CONFINED TO PLANTING BEDS WITH THE USE OF MULCHES AT APPROPRIATE DEPTHS TO AID IN WATER CONSERVATION.

J. TO REDUCE UNNECESSARY PRUNING, SPECIAL ATTENTION SHOULD BE GIVEN TO APPROPRIATE PLANT SPACING, AND PLANTS THAT REQUIRE LITTLE MAINTENANCE WILL BE FAVORED OVER THOSE WHICH REQUIRE CONSTANT SPRAY AND PRUNING.

K. IF A PROPER MIXTURE OF FAST, MEDIUM AND SLOW GROWTH RATE PLANTS IS USED, THE RESULTS SHOULD BE A LONG LIVING, DROUGHT TOLERANT AND DISEASE RESISTANT STAND OF VEGETATION.

L. FUTURE DEVELOPMENT SITES WHICH ARE DISTURBED ON THE PROJECT SHALL NOT BE REQUIRED TO BE IRRIGATED OR FULLY LANDSCAPED BUT WILL NEED TO BE SEEDED WITH A DROUGHT RESISTANT TURF MIX TO MINIMIZE WEED GROWTH AND EROSION. TEMPORARY IRRIGATION SYSTEMS, SUCH AS SPRINKLERS, WILL BE PERMITTED IN THESE AREAS.

AIR QUALITY

THE CIMARRON SUBDIVISION IS LOCATED WITHIN AN AIR QUALITY ATTAINMENT AREA. TRAFFIC REDUCTION IS ENCOURAGED WITHIN THE PROJECT THROUGH THE PROVISION OF AN EXTENSIVE PEDESTRIAN AND BICYCLE PATH SYSTEM.

GUIDELINES FOR AIR QUALITY:

A. THE DEVELOPER SHALL WORK WITH THE REGIONAL TRANSPORTATION COMMISION AND WASHOE COUNTY SCHOOL COMMISSION. TO DESIGN BUS STOP LOCATIONS FOR FUTURE BUS SERVICE TO THE PROJECT.

B. WASHOE COUNTY DISTRICT HEALTH DEPARTMENT STANDARDS SHALL DICTATE DUST CONTROL MITIGATION MEASURES AND EACH PHASE SHALL REQUIRE A SEPARATE DUST CONTROL PLAN.

C. ~~ONLY FIREPLACES AND WOODBURNING STOVES ON THE LOW EMITTING LIST OR~~ DECORATIVE GAS ARE ALLOWED AND ONLY INSTALLED IN ACCORDANCE WITH WASHOE COUNTY DISTRICT HEALTH DEPARTMENT STANDARDS.

GEOTECHNICAL

GEOTECHNICAL STUDIES HAVE BEEN COMPLETED FOR THE SITE AND A PRELIMINARY REPORT HAS BEEN PREPARED. ACCORDING TO THAT REPORT, THERE ARE NOT ANY RESTRICTIONS PREVENTING DEVELOPMENT OF THE SITE.

GUIDELINES FOR GEOTECHNICAL:

A. TESTING SHALL BE REQUIRED TO VERIFY COMPLIANCE WITH CONSTRUCTION PROCEDURES DICTATED BY THE FINAL GEOTECHNICAL REPORT.

ARCHEOLOGY

THERE ARE NO KNOWN ARCHEOLOGICAL RESOURCES ON THE PROPERTY.

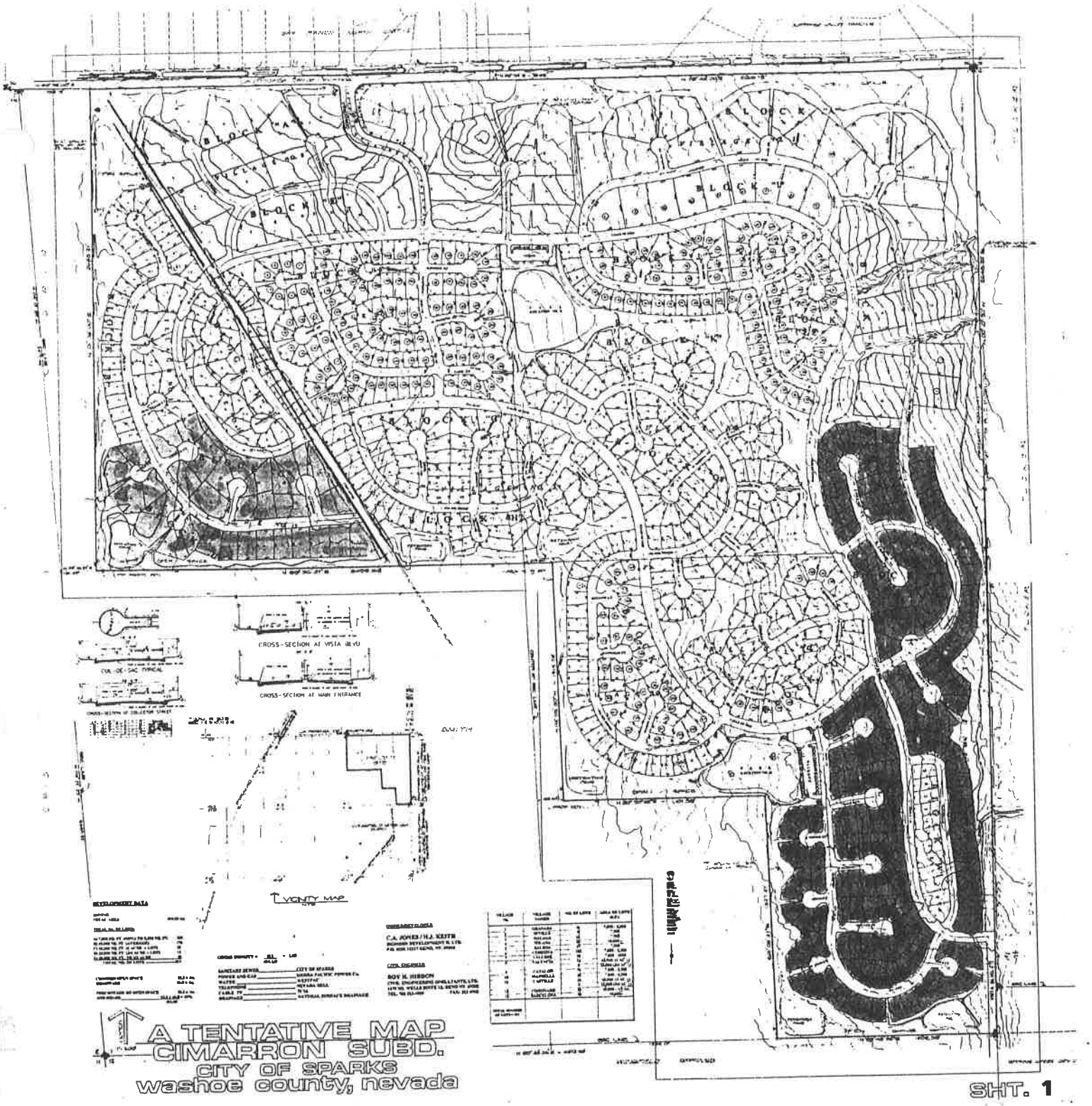
GUIDELINES FOR ARCHEOLOGICAL RESOURCES:

A. THE CITY OF SPARKS WILL BE CONTACTED PRIOR TO ANY DEVELOPMENT. AN APPROPRIATE INVESTIGATION WILL BE PREPARED BY AN APPROVED CONSULTANT, IF REQUESTED BY THE CITY OF SPARKS.

B. IF ANY PREHISTORIC OR HISTORIC SITES, ARTIFACTS OR REMAINS ARE FOUND ON THE SITE

DURING CONSTRUCTION, WORK SHALL BE TEMPORARILY STOPPED, STEPS TAKEN TO PROTECT THE FIND AND THE NEVADA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES NOTIFIED.

FIGURE 1 - TRAIL LOCATIONS



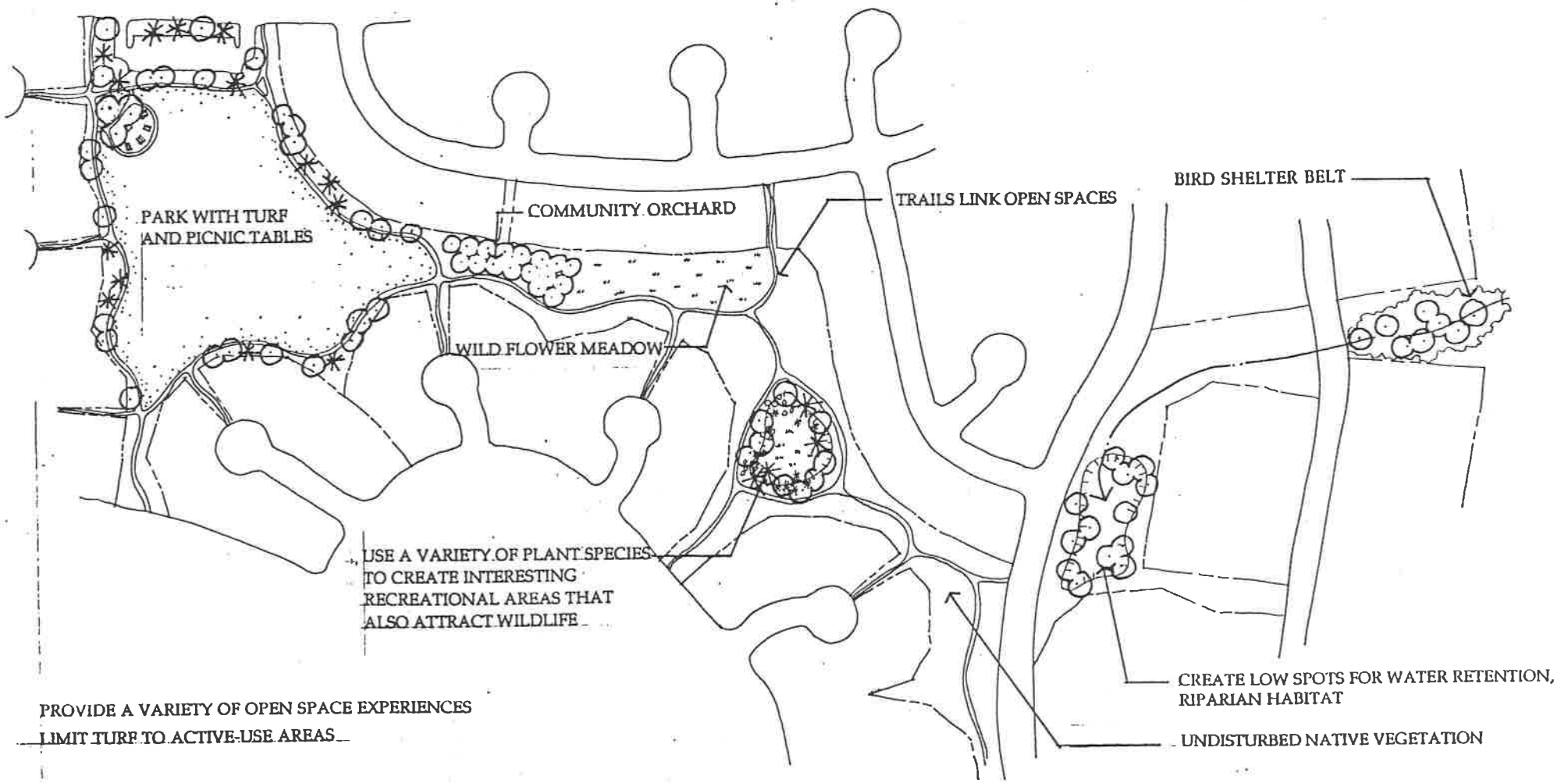
7,000 - 8,500 SQ. FT. LOTS

10,000 SQ. FT. LOTS

20,000 SQ. FT. - 1/2 AC. LOTS

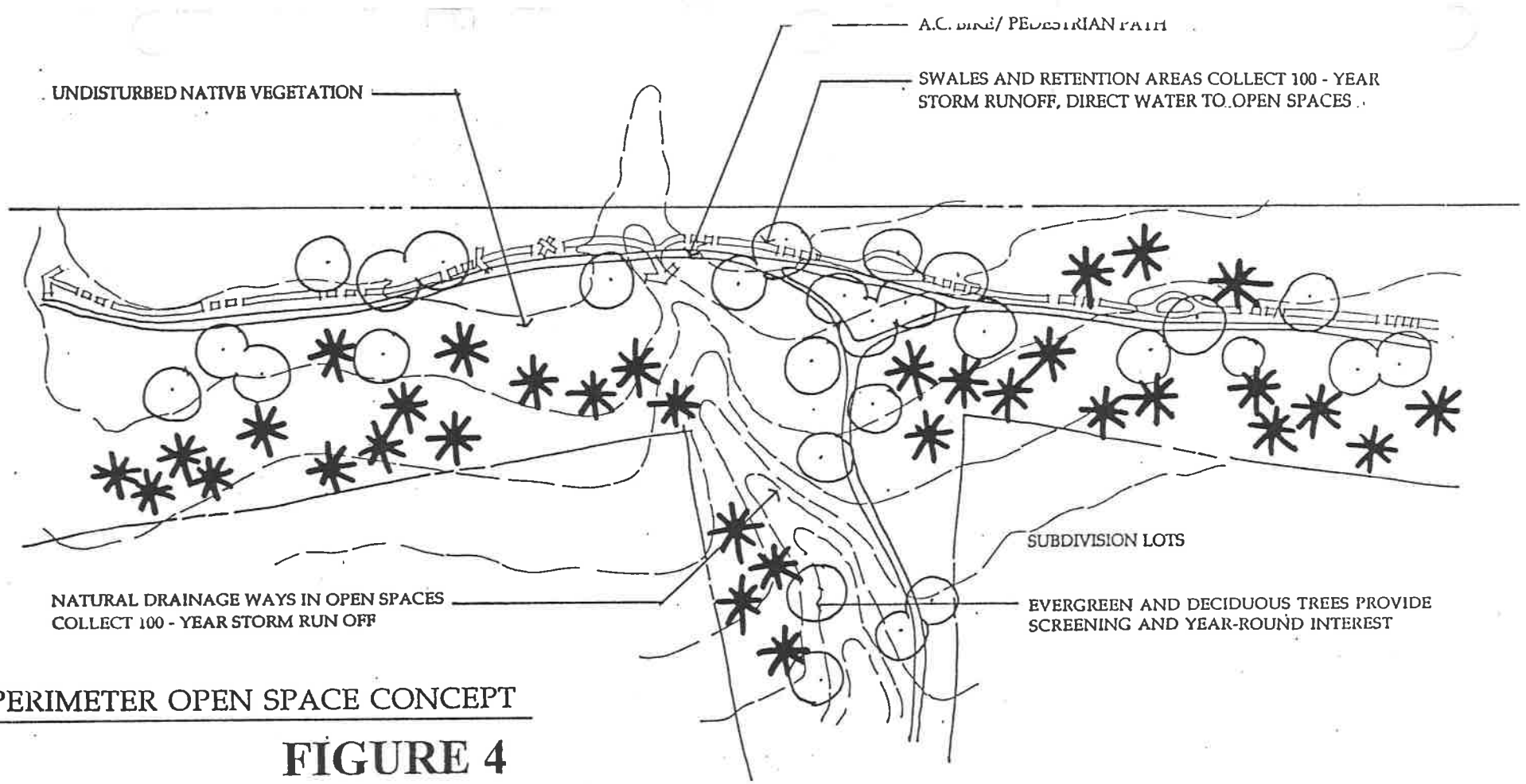
3/4 - 1 AC. LOTS

FIGURE 2 - LOT SIZES BY VILLAGES



INTERIOR OPEN SPACE CONCEPTS

FIGURE 3

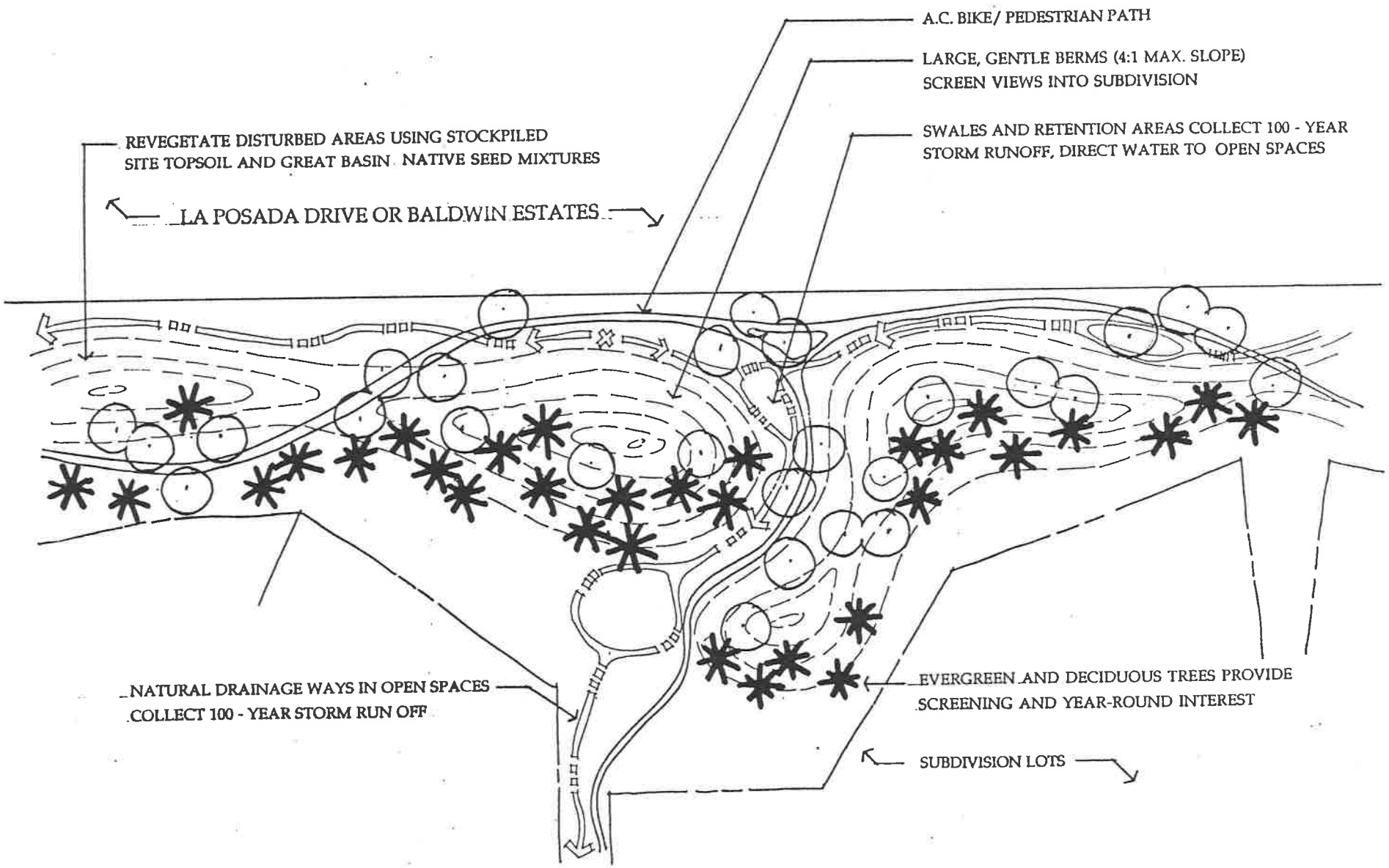


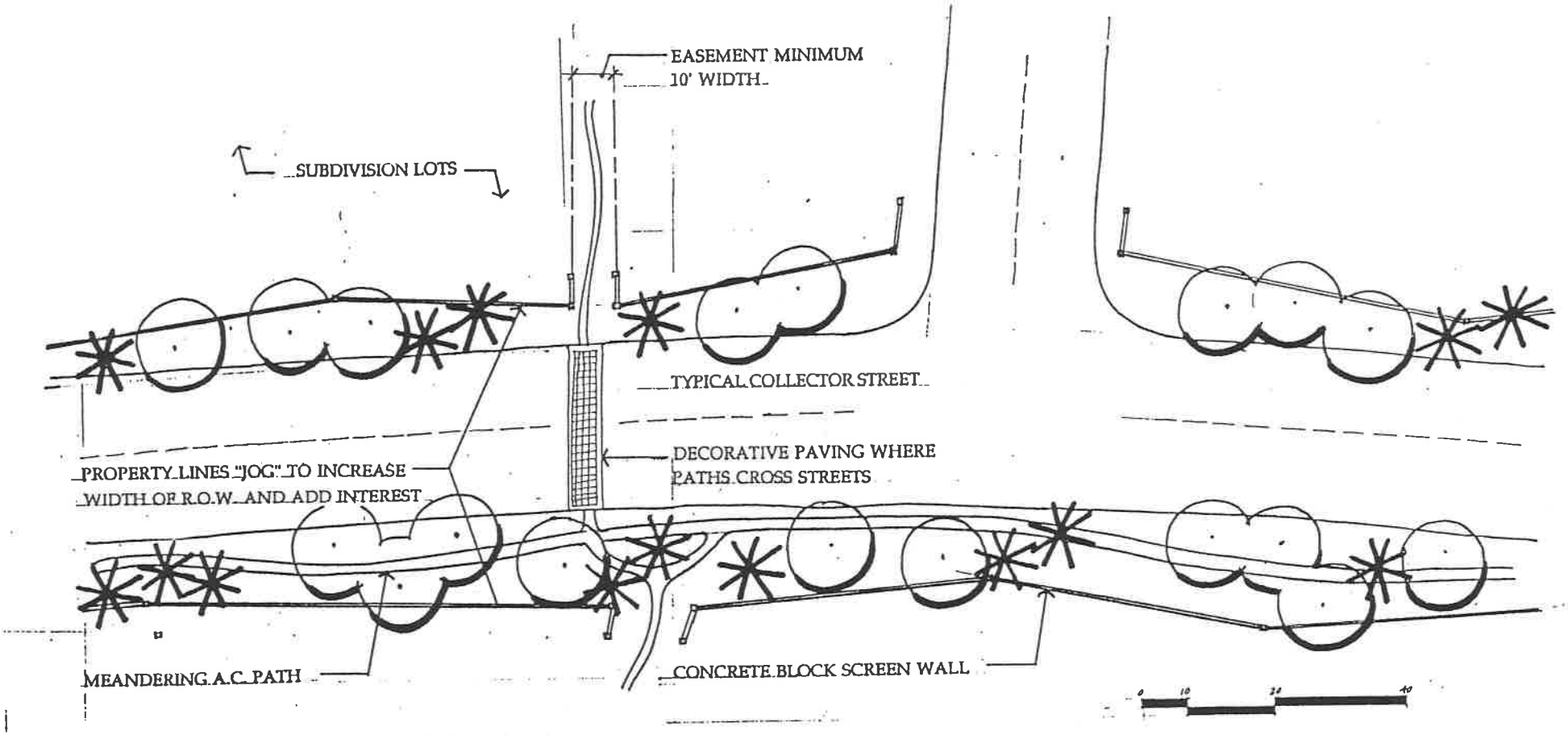
PERIMETER OPEN SPACE CONCEPT

FIGURE 4

LA POSADA DRIVE/ BALDWIN ESTATES FRONTAGE CONCEPT

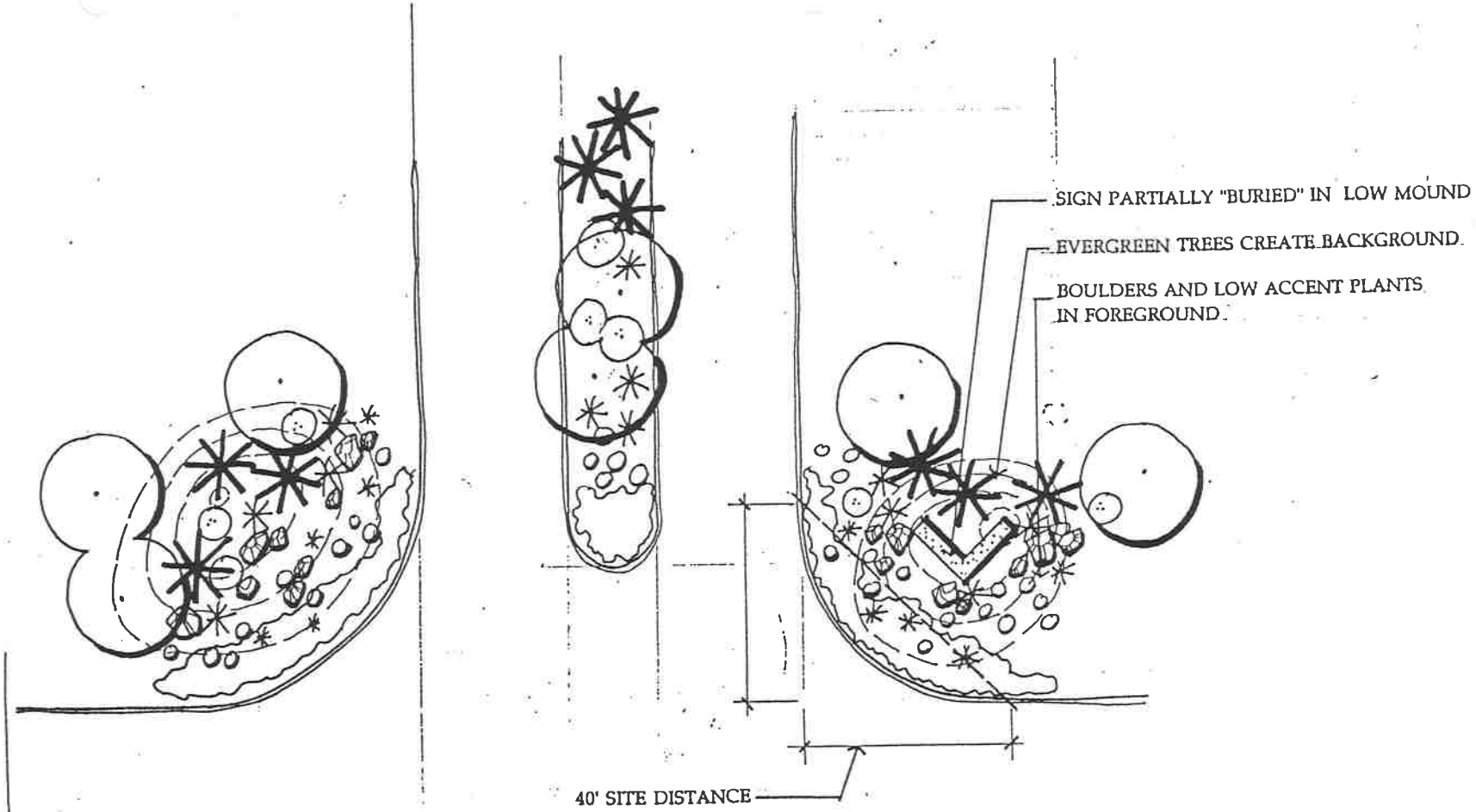
FIGURE 5





COLLECTOR STREETSCAPE CONCEPT

FIGURE 6



ENTRANCE CONCEPT – **FIGURE 7**

94 AC. OPEN SPACE

ASSUME 50% GREAT BASIN
47 AC. @ .21 AC.- FT. / FT. = 9.87 AC.-FT.

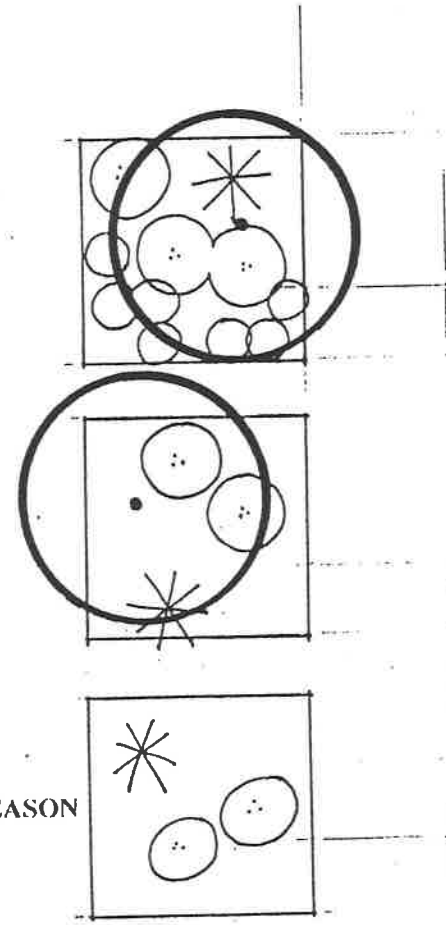
ASSUME 25% SIERRA NEVADA
23.5 AC. @ 1.4 AC.- FT. / AC. = 32.9 AC.-FT.

ASSUME 15% STREAM SIDE
14.1 AC. @ 2.0 AC.-FT. / AC. = 28.2 AC.-FT.

ASSUME 10% @ TURF/MEADOW
9.4 AC. @ 3.0 AC.- FT./ AC. = 28.2 AC.- FT.

STREET SCAPE
5.6 AC. @ 1.7 AC.-FT./ AC. = 9.5 AC.-FT.

TOTAL IRRIGATION ESTIMATE PER SEASON 108.67 AC.-FT./ SEASON



DENSE PLANTING REQUIRES 20 GALLONS PER HOUR

SIERRA NEVADA = 1.4 AC.-FT. per AC. per SEASON
(2 HR./ WEEK)

STREAM SIDE = 2.1 AC.-FT. per AC. per SEASON
(3 HR./ WEEK)

MODERATE PLANTING REQUIRES 10 GALLONS PER HOUR

GREAT BASIN = 0.35 AC.-FT. per AC. per SEASON
(1 HR./ WEEK)

SIERRA NEVADA = 0.7 AC.-FT. per AC. per SEASON
(2 HR./ WEEK)

LIGHT PLANTING REQUIRES 6 GALLONS PER HOUR

GREAT BASIN = 0.21 AC.-FT. per AC. per SEASON
(1 HR./ WEEK)

SIERRA NEVADA = 0.42 AC.-FT. per AC. per SEASON
(2 HR./ WEEK)

WATER REQUIREMENTS PER 100 SQUARE FEET

FIGURE 8

APPENDICES

APPENDIX A
TRAFFIC REPORT

MASTER PLAN

TRAFFIC REPORT FOR CIMARRON SUBDIVISION CITY OF SPARKS, NEVADA

INTRODUCTION

Background

This traffic report was developed for the following purposes:

1. To provide a basis for establishing the overall off-site infrastructure requirements that are needed at build out of the project.
2. To provide recommendations concerning the phasing of the off-site improvements.
3. To determine the timing and control of traffic at the intersections of Vista Blvd., Spanish Springs Road and the main project entrance-La Posada Drive.
4. To review and comment on the proposed project circulation and roadway cross-sections, and discuss possible air quality impacts.

The City of Sparks, Washoe County, and major land owners in the Spanish Springs area recently completed a master plan for the area. That master plan provides the basic road network that will operate at build out within the area at a minimum of Level of Service "D" - the adopted standard by the Truckee Meadows Regional Plan. The land uses within the Cimarron Subdivision project is consistent with the land use assumptions in the plan.

Project Description

The project, Cimarron Subdivision, is located in Spanish Springs as shown in *Figure 1* of Appendix A and has a total area of 404.78 Acres. This will be developed into an eleven-village subdivision with 811 single -family dwelling units, parks and trails. The project will be constructed in phases from the northwest to the southeast. The first phase will consist of the main entrance at La Posada Drive all of Village No. 1 and that part of the loop road adjacent to this village. Refer to *Figure 2* of Appendix A for location of the villages. The next phase will be Village No. 8 and its adjoining loop road, and so on. The phasing will be by village and therefore the project will have 11 phases.

Trip Generation

Table 1 contains the expected trip generation from the project. The information was obtained from the Institute of Transportation Engineers publication entitled " TRIP GENERATION 5th Edition ".

Table I

Per Unit Factors	A.M. Peak Hr. IN	A.M. Peak Hr. OUT	P.M. Peak Hr. IN	P.M. Peak Hr. OUT	Daily
Land Use Code (210) Single-Family Detached Housing	26%	74%	65%	35%	
A.M. Peak Hr. 0.76 / du P.M. Peak Hr. 1.02 / du Daily 9.55 / du					
Total Dwelling Units = 811	157	444	538	290	7,745

Distribution And Assignment

This project uses La Posada Drive intersections on the north for its primary access. It is assumed that 100% of the external project trips will utilize La Posada Drive for the following reason:

1. La Posada Drive is the easiest access to Pyramid Way from which Highway I-80 and 395 are then accessible.
2. Pyramid Way is under construction to a 4-lane Highway and will be the largest arterial between Sparks and Spanish Springs. Completion is expected prior to development of this project.
3. It is assumed that there will be a 0% passing through the unimproved road that adjoins the Wingfield Subdivision because traffic has to go through Wingfield's as yet unbuilt internal loop in order to access the unimproved Vista Blvd.
4. The two exits at the east side of the property will only be accessible toward La Posada when Vista Blvd. is constructed, because Cimarron will only construct that part of Vista Blvd. adjacent to its property. There will be no traffic southbound on this road because

construction southbound depends on the timing of development of the property that abuts this project.

Each of the villages and other uses within the confines of the project will access the internal loop road. The daily trips for each of the access points on the loop road are shown in *Figure 4* in Appendix A. No external trips are shown entering the project via Spanish Springs Road on the South project boundary because these trips are acquired from Wingfield Subdivision, which assumed in their Development Standard Handbook that 100% of their external trips will go south via Vista Blvd. to Sparks.

Street Standard

The following lane requirements were extracted from the Street and Highway Element of the Regional Transportation Plan prepared by the Regional Transportation Commission (RTC). The table contains the Average Daily Traffic (ADT) volumes at Level of Service "D" capacity - the adopted Level of Service standard for the area.

Table II

# of Facility Lanes	Level of Service D Av. Daily Traffic
Major Arterial	
2	13,600
4	27,210
6	40,810
Minor Arterial	
2	12,190
4	24,370
6	36,560
Collector	
2	10,780

The volumes shown in the preceding table establish the upper capacity limit for the three major facilities to be constructed with this project. The first is Vista Blvd. from Cimarron's southeast entrance to La Posada. The second is the connector road from Vista Blvd. and La Posada Drive to the internal loop road. Last is the internal loop road which will be constructed under the collector standard. The following section provides a narrative description of each facility, with a comparison of the traffic volumes from this project that would utilize each facility. This information will then provide a basis for determining when the facility should be expanded.

Construction Phasing

Connector Road

The connector road is to be constructed as an extension of the internal loop road to La Posada Drive. The existing Spanish Springs Rd. will be curved to La Posada making a "T" intersection and will be connected to the loop road. Spanish Springs Rd. will be reconnected to the loop road in the southern portion of the subdivision and will continue south to the point where in enters the Wingfield development. This road will be constructed to a two lane minor arterial standard, even though it will function as connector road with a rigth-of-way of 80' as shown in *Figure 3* of Appendix A entitled "Cross-Section at Main Entrance".

The other connector roads east of the property will be constructed as two-lane collector roads within a 60' right-of-way way as shown in *Figure 3A* of Appendix A. These roads will only carry 37% of the total volume of traffic.

Internal Loop Road

As discussed earlier, this roadway is to be constructed in phases as each of the villages is constructed. It is therefore anticipated that this road will be 100% completed at the time the project is complete. The road will be constructed to a two lane collector standard.

The road will be widened at entrances where the left-turn peak hour volumes exceeds 25 and the right-turn inbound volumes exceeds 50. Refer to *Figure 5* and *Figure 6* in Appendix A for the intersection volumes. This facility will function well as a two lane road with a 60-foot right-of-way as suggested in the RTC Street and Highway Element Regional Transportation Plan. Refer to *Figure 3A* of Appendix A entitled "Cross-Section at Collector Road".

Vista Blvd.

The part of Vista Blvd. that is adjacent to Cimarron Subdivision will be constructed with each adjacent phase of development of the subdivision. First construction phase for this road will be the length from the northeast entrance to La Posada Drive which will be timed in relation to the development of Village no. 11. The next phase will be from the southeast corner north to the previous construction. This will be constructed with development of Village no. 4. Bighorn will dedicate fifty feet of the right-of-way for Vista Blvd.

Vista Blvd. will be constructed according to the design specified in the "Plan for Northern Sparks Sphere of Influence (PNSSOI) and Wingfield Springs Development Standards Handbook. The street cross-section will provide two twelve foot travel lanes with a seven and one-half foot emergency parking lane on one side. This section would be constructed as either the west or the east lane of an ultimate 4-lane facility. When the facility is expanded, the next phase should match this cross-section, thereby providing the opposite direction pair of lanes.

Based upon the preceding, Vista Blvd. will be constructed to a two lane major arterial road with a maximum allowable of 13,600 ADT as shown in Table II. Therefore the projected ADT as shown in *Figure 2* will not be greater than the maximum allowed.

The existing Spanish Springs road that curves into the property will be rerouted adjacent to Cimarron Subdivision and connected in "T" intersection with La Posada Drive. In this manner, traffic that will be generated from both major arterial roads namely, Vista Blvd. and Sparks Blvd. will be evenly distributed along La Posada Drive toward Pyramid Way. As recommended in the PNSSOI and RTC's Street and Highway Element of the Regional Plan, major arterial intersections possible for future signalization must maintain separation of 1/4 mile minimum and more if possible. This results in more time and distance of travel, and better control of traffic flow entering Pyramid Way and lesser possibility of congestion at intersections.

La Posada

La Posada is an existing paved road constructed as a two lane minor arterial road and is designed to accommodate a total of 12,190 ADT. Cimarron Subdivision will be contributing 7,745 ADT which is 64% of the allowable. La Posada connects to Pyramid Way and that intersection was traffic counted by RTC between July 28 to August 3, 1993 and has an ADT of 1,555. Adding that to the maximum ADT that will be contributed from Cimarron Subdivision, the total ADT will be 9,320 and is only 76% of the allowable. Therefore, there will be no further improvement necessary for La Posada Drive.

Pyramid Way

Pyramid Way is being constructed as a four-lane Highway with a maximum allowable ADT of 77,500 at Level of Service "D". According to RTC's 1987 ADT count, it is presently servicing 7,455 and if projected to year 2007, it will be servicing 7,634 ADT which is approximately 10% of the maximum allowable ADT of 77,500. Cimarron Subdivision, contributing another 7,745 ADT, will only increase the traffic volume to 20% of the maximum allowable. Therefore Pyramid Way will require no further expansion.

Loop - Connector Intersection

This "T" intersection will be constructed with a median at the connector road and a three-way stop. Subdivision traffic both into and out of the subdivision will be adequately controlled in this manner.

Connector - La Posada Intersection

In order to control the impact of traffic at this intersection, there will be another stop sign at the connector road entering La Posada aside from the three-way "Stop" sign from the loop road of the subdivision. As shown in *Figure 5 and 6* of Appendix A, traffic flow at peak hours is not beyond the critical state, and can be controlled by "Stop" signs.

Connectors - Vista Intersection

There are two intersections at this road and, as estimated, each intersection will not carry more than 20% of the total ADT. This volume is controllable by "Stop" signs on both intersections.

Vista - La Posada Intersection

The volume of traffic that this intersection will carry are from both entrances at the Vista Blvd. which is assumed to be 37% of the total ADT. This volume will be controlled by providing "Stop" signs on both La Posada and Vista Blvd.

Cul-De-Sac - Loop Intersection

In order to control the gradual entry of traffic to the main loop of the project, "Stop" signs will be required at the exit from each of the cul-de-sacs.

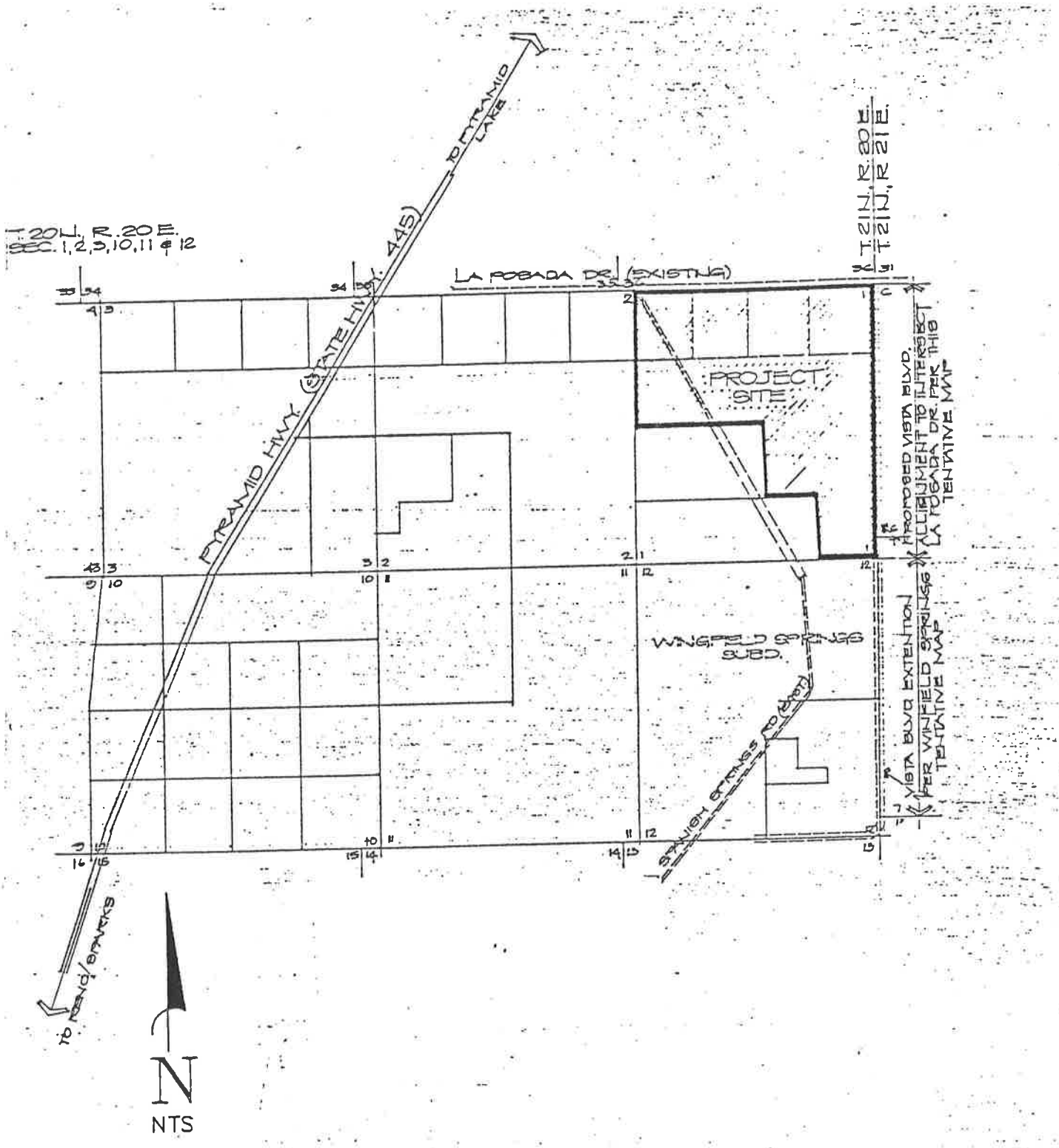
Air Quality Impacts

As per Washoe County Health Department, Air Quality Management and the PNSSOI, Spanish Springs is currently designated to be in "attainment" of Federal Health Standards for carbon monoxide (CO) and total suspended particles (TSP). It is recommended in the PNSSOI that in order to mitigate the increase in CO level, the best method is to maintain a Level of Service "D" or better, with which this project is in compliance.

Recommendations:

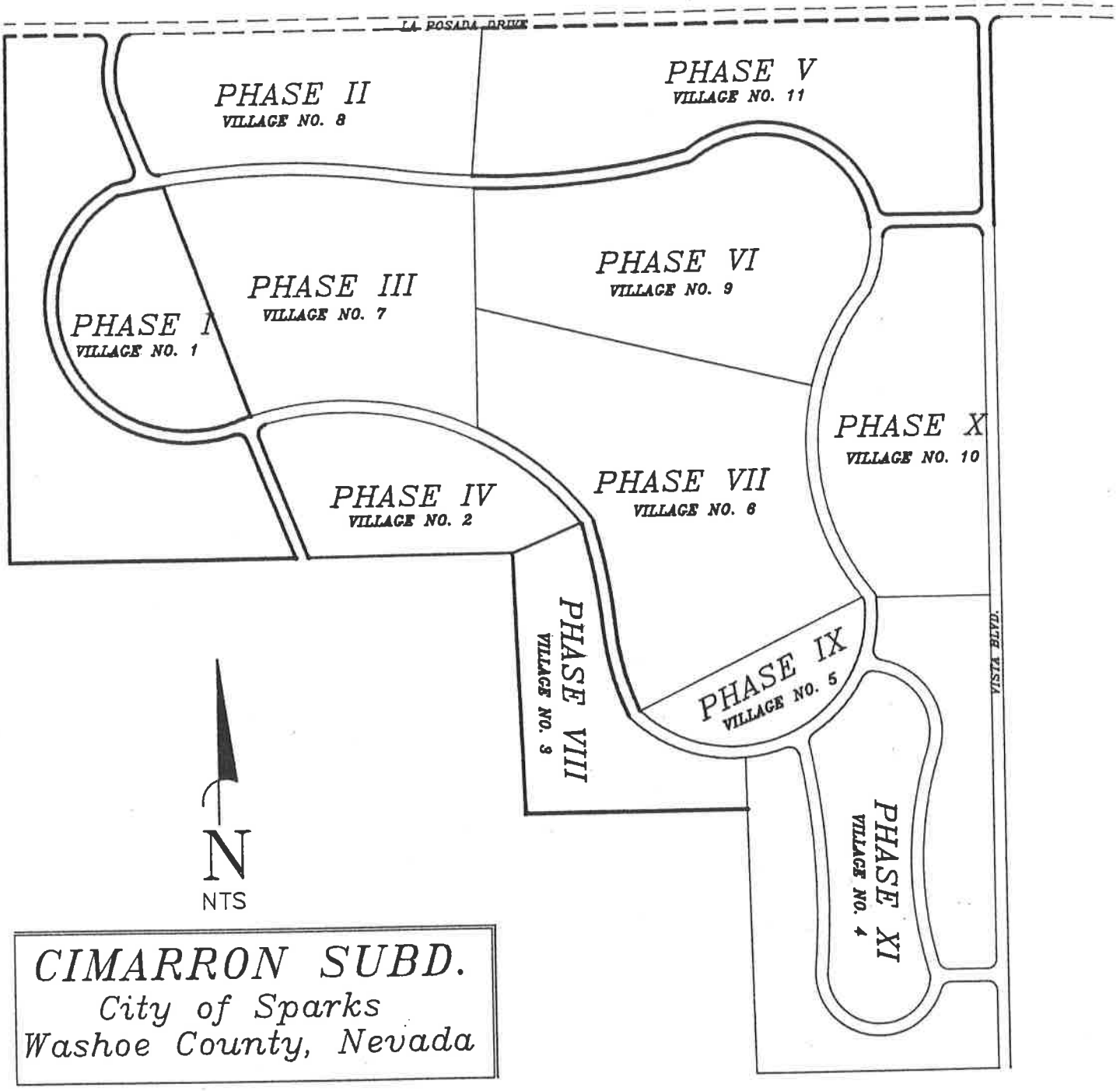
Since this project was considered in the recently completed master plan for this area, the street network has been designed to accommodate the projected levels of development, to the adopted street standards. However, there are issues concerning the phasing, timing, and funding of the facilities associated with the project that need to be incorporated into the approval process. The following are suggested as the basis for conditions that may be considered for the project.

1. Cimarron Subdivision should construct that part of Vista Blvd. adjacent to its property to a two lane major arterial standard as shown in *Figure 3* of Appendix A entitled *Cross-section at Vista Blvd.* The construction for this road will occur as the construction of the villages adjacent to this road occurs. First to be constructed will be the length from the northeast entrance to La Posada and next is the length from the southeast corner of the property north to the end of the previous construction. Bighorn will dedicate fifty feet of the right-of-way for Vista Blvd.
2. Cimarron Subdivision should construct the connector road as a two-lane facility in an 80' right-of-way to the standard of a minor arterial road shown in *Figure 3* of Appendix A, entitled *Cross-section at Main Street* and provide a stop sign on the intersection to La Posada Drive.
3. Cimarron Subdivision should construct the internal loop road within a 60' right-of-way to a two-lane collector standard as shown in *Figure 3A* of Appendix A entitled *Cross-section at Collector Street.* It should provide left-turn pockets at intersections where the peak hour volume exceeds 25 in any one peak hour and right-turn deceleration lanes at intersections where the peak hour volume in any one peak hour exceeds 50.



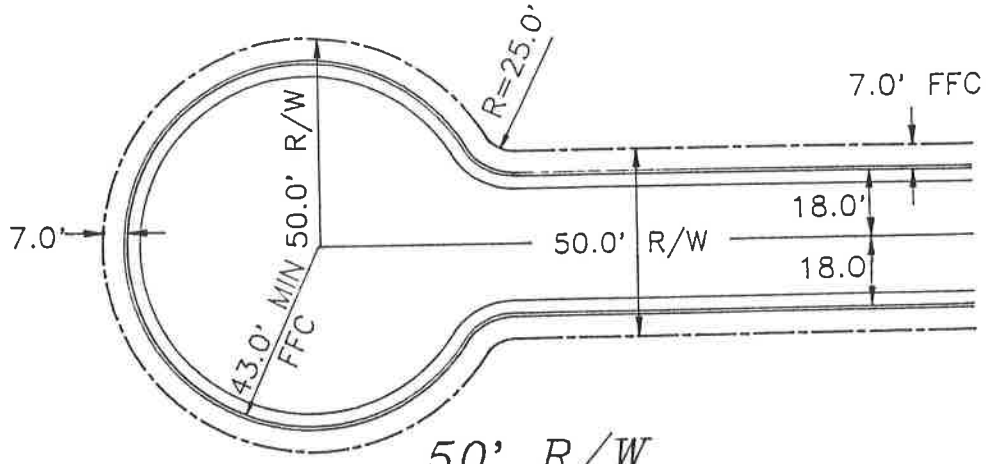
VICINITY MAP

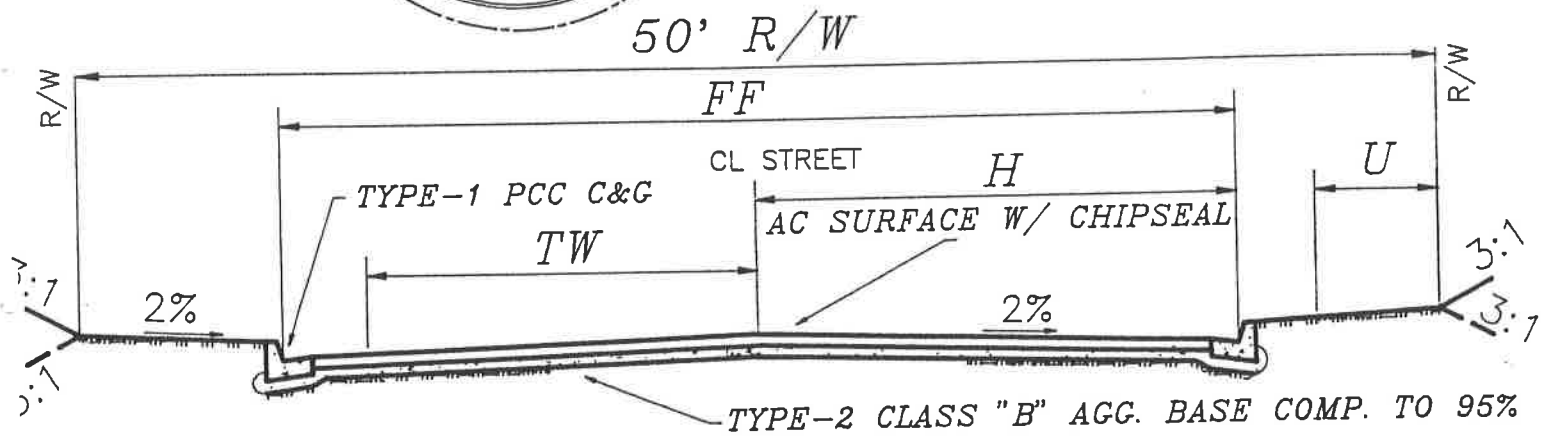
Figure 1



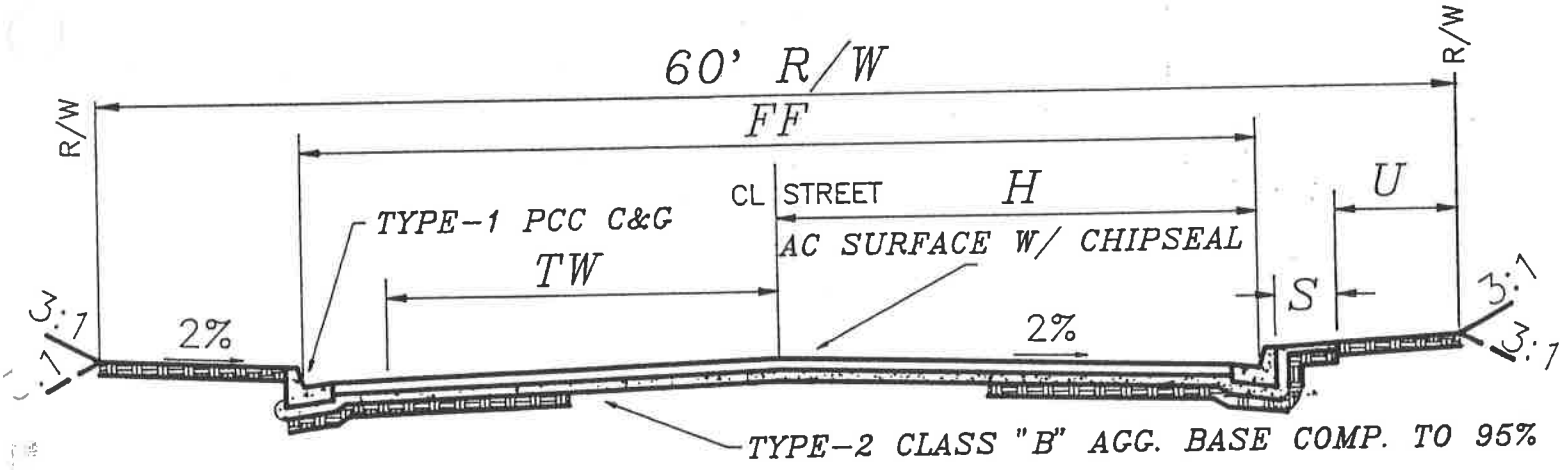
PHASING OF DEVELOMENT

Figure 2





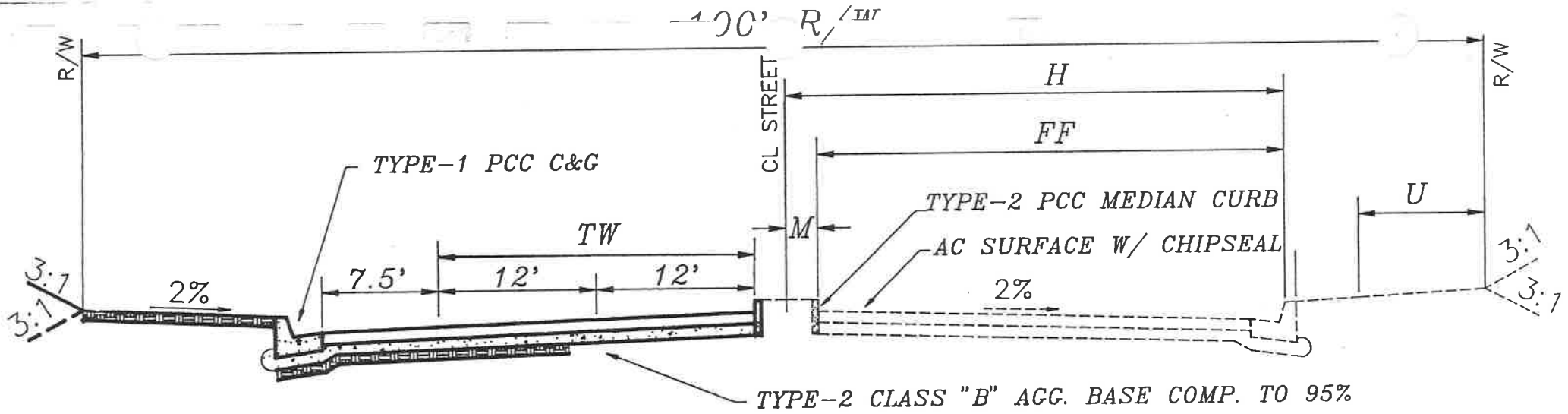
CUL-DE-SAC TYPICAL



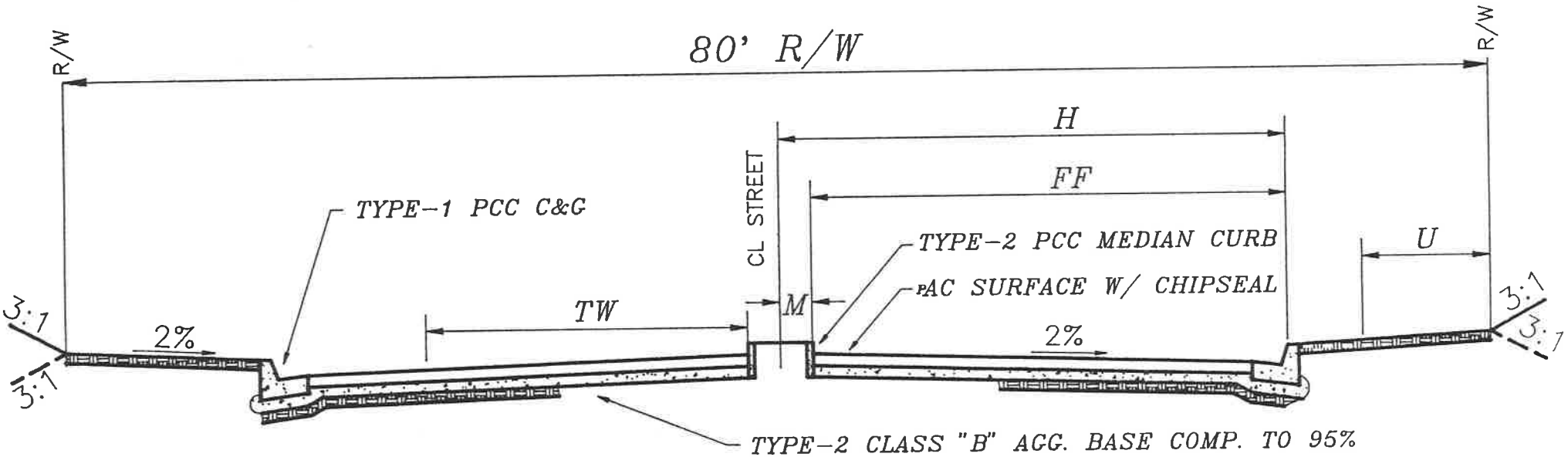
CROSS-SECTION AT COLLECTOR STREET

R/W	H	FF	M	U	S	TW	REMARKS
100'	43'	36'	7'	5'	–	24'	MAJOR ARTERIAL
80'	34'	27'	7'	4'	–	24'	MINOR ARTERIAL
60'	18.5'	37'	–	7'	4'	12'	COLLECTOR (LOOP)
50'	18'	–	–	5'	–	12'	LOCAL

Figure 3A



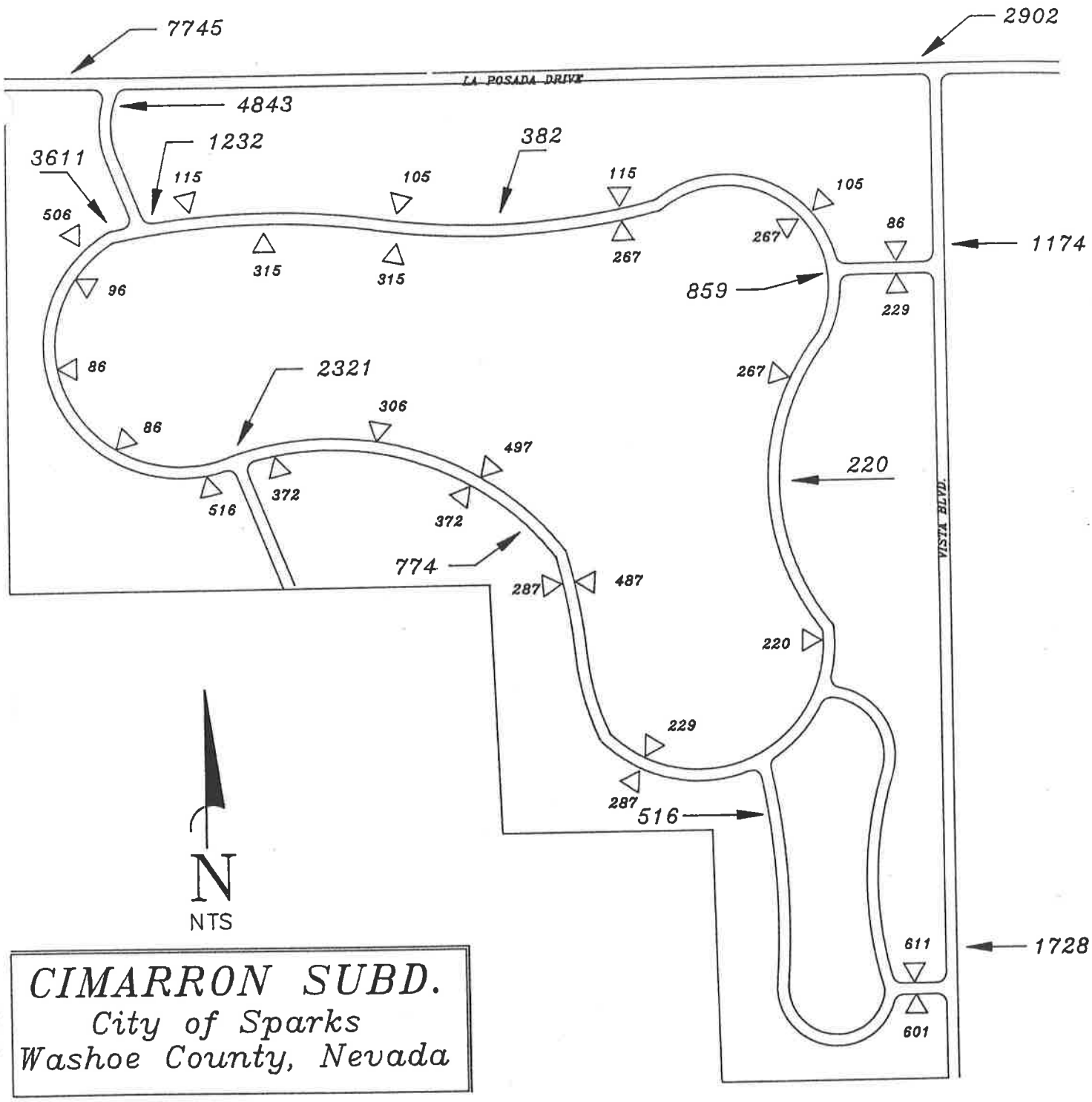
CROSS-SECTION AT VISTA BLVD.



CROSS-SECTION AT MAIN ENTRANCE

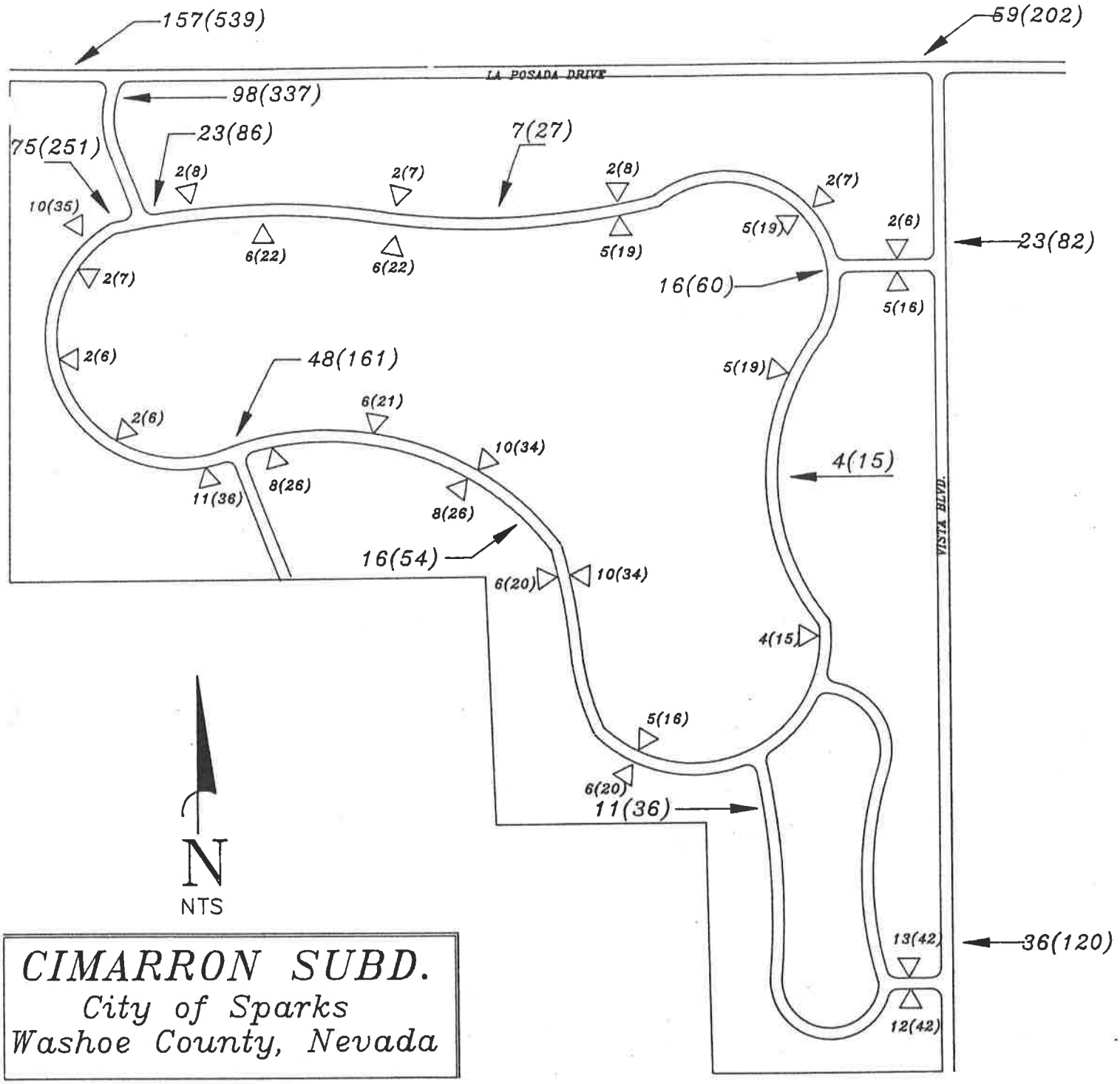
* PLS. REFER TO TABLE IN FIGURE 3A FOR DIMENSIONS

Figure 3



DAILY VOLUME

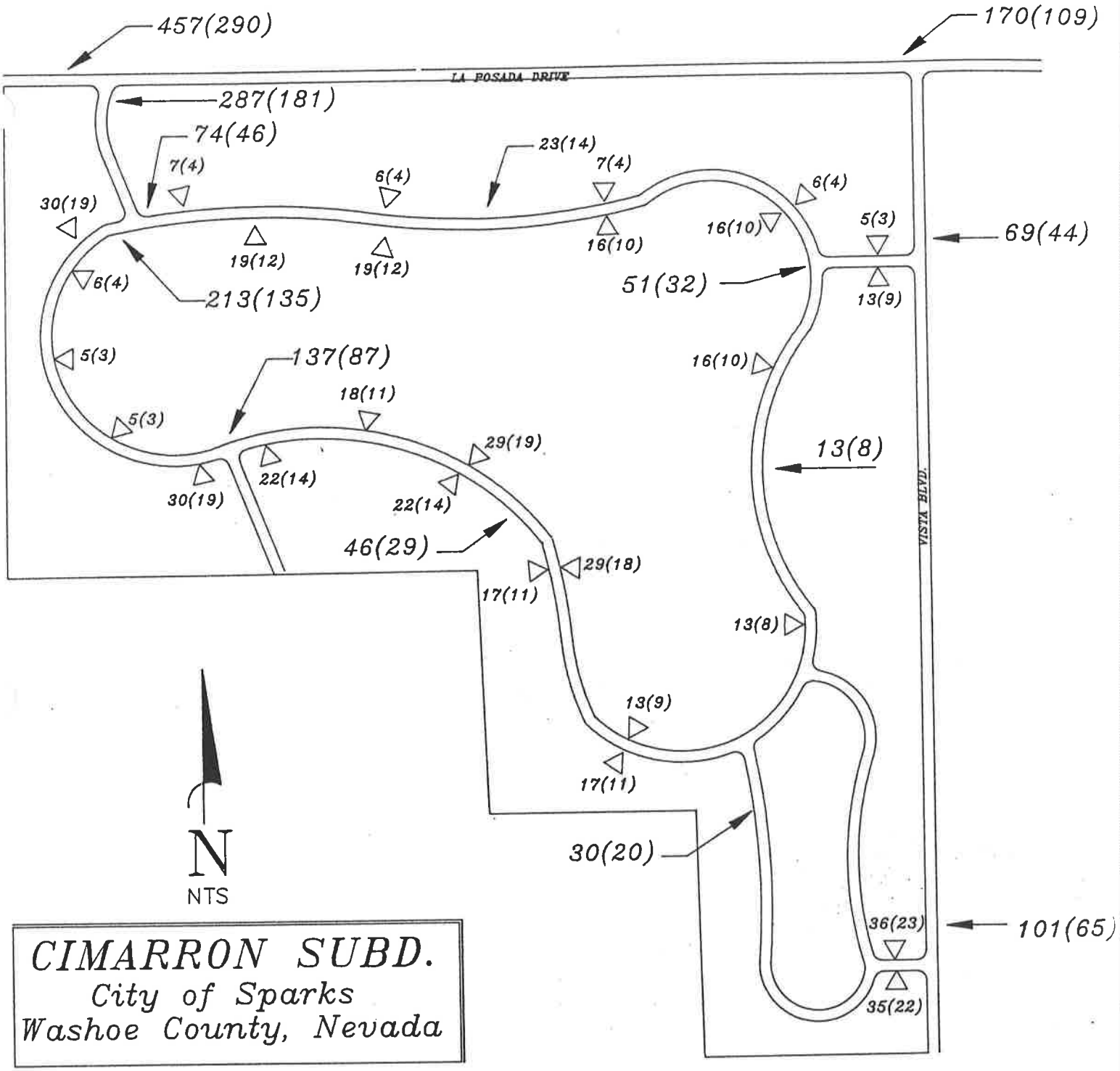
Figure 4



IN-BOUND TRIPS

AM(PM)

Figure 5



OUT-BOUND TRIPS

AM(PM)

Figure 6

APPENDIX B
GEOTECHNICAL REPORT

Pezonella Associates, Inc.
Geotechnical & Environmental Engineers & Geologists
520 EDISON WAY • RENO, NEVADA 89502 • (702) 856-5566
FAX • (702) 856-6042

December 16, 1993
2868.02-A

Bighorn Development II Ltd.
100 South Grove Street
Reno, Nevada 89502

Geotechnical Investigation
Proposed Cimarron
Washoe County, Nevada

Gentlemen:

The attached report presents the results of our geotechnical investigation and provides recommendations for the design and construction for the referenced project.

We appreciate having been selected to perform this investigation and trust that the results will fulfill project design requirements. If you, or any of your design consultants, have any questions, please contact us.

Yours very truly,

PEZONELLA ASSOCIATES, INC.

ORIGINAL ENGINEER-STATE OF NEVADA MICHELE C. DENNIS CIVIL No. 6315

Michele C. Dennis
Civil Engineer - 6315

MCD/prs

12-17-93

GEOTECHNICAL INVESTIGATION

PROPOSED CIMARRON

WASHOE COUNTY, NEVADA

Prepared For

Bighorn Development II Ltd.
100 South Grove Street
Reno, Nevada 89502

By

Chris D. Betts
Geologist

Michele C. Dennis
Civil Engineer - 6315

Pezonella Associates, Inc.
520 Edison Way
Reno, Nevada 89502
(702) 323-5566

Job No. 2868.02-A

December 16, 1993

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LIST OF ILLUSTRATIONS

I INTRODUCTION

This report presents the results of the geotechnical investigation we performed for the proposed Cimarron development to be located within the Spanish Springs Valley in Washoe County, Nevada. As shown on Plate 1, the 405 acre project is located in Section 1 of Township 20 North, Range 20 East. Currently, this area is in the unincorporated portion of Washoe County; however, it is located within the City of Sparks "sphere of influence" and annexation is proposed.

Plans are being finalized for the project which we understand will consist, ultimately, of the development of varying size lots for residential construction and the associated new service streets. We understand that the lots will support one or two-story, single family dwellings. The structures will utilize wood-frame construction with joist-supported floors. Foundation loading for the residences is expected to be normal for the type of construction proposed. The residences will be connected to community water and sewer services.

We have not received grading plans indicating the amount of cuts and fills; however, since the property matches adjacent developments we anticipate that grading will be moderate.

The overall scope of our investigation is to perform a subsurface exploration, laboratory testing, geological reconnaissance and geotechnical engineering analyses to provide conclusions and recommendations concerning:

1. Geological hazards evaluation review and mitigation;
2. Site preparation and grading;
3. Soil engineering design criteria for foundations with estimates of settlements;
4. Support of interior concrete slabs-on-grade and exterior flatwork;
5. Support and preliminary design of flexible pavement sections;

Subsequently, we were requested to provide soil engineering criteria for retention pond design.

Previously, J. H. Kleinfelder, Inc. prepared a report dated April 30, 1991 providing the results of their preliminary geotechnical investigation for the proposed Wingfield Ranch Development. To aid in our investigation we reviewed the results presented within this report as well as previous field investigation and laboratory testing on adjacent projects by our office.

We understand that the project financing may be insured by the Federal Housing Administration (FHA). FHA construction requirements have been considered during our investigation and in our recommendations.

II FIELD EXPLORATION AND LABORATORY TESTING

To explore the subsurface conditions across the site, we drilled 16 test borings with truck-mounted auger equipment to depths of 15 to 20 feet below the existing ground surface at the locations shown on Plate 1. The test boring locations were determined by pace and compass; no greater accuracy is inferred.

Our field engineer logged and visually classified the materials encountered and obtained representative samples for laboratory testing. Relatively undisturbed samples were collected in a split spoon sampler utilizing a 140 pound hammer with a 30 inch drop. The blows per foot required to advance the sampler were recorded and converted (Standard Penetration Test). The logs of the materials encountered in our test borings are presented on Plates 2 through 12. The soils are classified in accordance with the Unified Soil Classification System that is explained on Plate 13.

The soils were re-examined in our laboratory to confirm their field classifications and to select representative samples for testing. The results of moisture content, dry density, particle size analysis, Atterberg Limits and triaxial compression testing are presented on the logs and on Plates 14 through 18.

To evaluate the suitability of the subsurface materials in the retention pond areas, we performed infiltration tests at 3 to 4 feet below the existing ground surface at five test pit locations across the subject property (see Plate 1).

III SITE AND SOIL CONDITIONS

Generally, the site is undeveloped and covered with sparse grass and dense sagebrush. The surface slopes gently downward to the west and southwest. The property is bounded to the north by La Posada Drive and Spanish Springs Road, to the east and southwest by developed property and to the south and northwest by

undeveloped land. At the intersection of La Posada Drive and Spanish Springs Road, located at the northwest corner of the property, Spanish Springs Road transects the subject property in a northwest-southeast direction.

Our exploration indicates that, generally, the native soils across the site consist of a loose layer of silty sand at the surface underlain by alternating layers of medium dense to very dense silty and clayey sands to the depths explored. Our laboratory test results indicate that, generally, the clayey soils exhibit low to negligible expansion potential. Some moderately to highly expansive materials may be present, however. Discontinuous layers of medium dense clean (little or no binder) sands were encountered during our investigation. We anticipate that these clean materials are more widespread than our borings indicate.

At the time of our exploration (September and October, 1993) no free ground water was encountered in any of the test borings.

IV GEOLOGIC AND SEISMIC CONSIDERATIONS

To delineate possible faulting and to evaluate any other geological hazards on the site, our investigation included a review of published geological literature and an analysis of aerial photographs of the area.

A. Geology

The site is located in the central portion of Spanish Springs Valley, approximately five miles north of Sparks on the east side of State Highway 445. An unnamed ridge composed primarily of granitic rock bounds the valley to the west. To the east, the valley is bordered by the Pah Rah Range which is composed of granite and gabbro intrusions, ash flow tuffs, and andesitic and basaltic flows.

The valley is a structural depression (graben) covered by Quaternary (2 million years or younger) alluvium, consisting of stream and lacustrian deposits, talus, slope wash, alluvial fan and eolian (wind blown) deposits. The thickness of the alluvium is unknown but most likely exceeds 1000 feet.

The entire valley and accompanying ridges drain to the south. The southern 1/3 of the valley is poorly-drained and numerous small ponds have formed resulting, in part, from the termination of the Orr Ditch. The North Truckee Drain (exiting the valley to the southeast) partially drains the area, but is only moderately successful.

B. Faulting

A north-south striking fault borders the west edge of Spanish Springs Valley and can be traced for nearly 10 miles. At the north end of this fault a step-like pattern is visible which indicates that there has been at least three periods of movement. Total offset is difficult to determine, but is probably on the order of hundreds of feet. The fault is concealed by Quaternary

alluvium and offset Cretaceous Age (65 million years old or older) and Middle Tertiary Age (26 million years old or older) rocks. This evidence suggests that the last period of movement was probably at least two million years ago. Consequently, this fault is considered inactive. Other faults mapped in the vicinity (over 10 miles from the site) offset Holocene alluvial deposits. Most of these faults lie to the north, but Lemmon Valley to the east also shows fault movement within recent times.

c. Seismicity

The Spanish Springs Valley, as well as much of western Nevada, is considered seismically active (Uniform Building Code Zone 3). The Walker Lane Fault Zone, which trends northwest-southeast, borders the Spanish Springs area on the north. Anticipated earthquake magnitudes along the Walker Lane are on the order of 7.0 to 7.5 on the Richter Magnitude Scale.

Ryall and Douglas state that earthquake recurrence curves predict a return period of 70 to 80 years for an earthquake of Magnitude 7.0 or greater within 62 miles of the Reno area. They also calculate that, on the average, an earthquake of Magnitude 5.3 to 5.4 would be expected to occur within 20 miles of Reno approximately one in 30 years, would have a maximum bedrock acceleration of 0.12 to 0.19g, and would involve about 6 seconds of strong shaking. The expected return period of rock accelerations greater than 0.5g at an average site in western Nevada associated with an earthquake of magnitude greater than 7.0 is on the order of 2000 years.

D. Flooding

Based on Flood Hazard studies completed by the Federal Emergency Management Agency (FEMA), as delineated on Community Panel Number 320019 1375 (Revised April 16, 1993), the site is located within Flood Hazard Zone C (an area lying between the limits of the 100-year and 500-year flood, or an area subject to 100-year flooding with an average depth of less than one foot).

V CONCLUSIONS

Based on the results of our investigation, we conclude that, from a geotechnical engineering standpoint, the site can be developed essentially as planned. Residential structures can be supported on conventional, shallow spread foundations that bottom on firm, native soils with low to negligible expansion potential or approved, compacted fill.

Where referred to within the test of this report, soils with a Liquid Limit less than 35 are considered to have low to negligible expansion potential. Our test results indicate that the majority of the soils will exhibit a Liquid Limit less than 35. Soils with Liquid Limits ranging between 35 and 50 will require individual evaluation. If encountered, clay soils having a Liquid Limit greater than 50 and in excess of 12 percent passing the No. 200 sieve will require overexcavation.

Clayey soils were encountered near the existing ground surface in planned street areas. In addition to the expansion potential, they also exhibit lower Resistance Values than the

silty or clean sands. Flexible pavements can be supported on adequately moisture conditioned and compacted, native clayey soil subgrade; however, as an alternative, for possible economic considerations and to minimize future maintenance, portions of these soils should be removed and replaced with compacted fill.

If foundations are constructed as subsequently recommended, we judge that total post-construction settlement will be approximately 1/2 inch and total post-construction differential settlement will be less than 1/4 inch.

There are no apparent geologic hazards that would place unusual constraints on the project; however, the site is located in a seismically active area (Uniform Building Code [UBC] Zone 3) and ground shaking from earthquakes should be anticipated. Typically, wood-frame structures are well-suited to resist the forces induced by ground shaking.

VI RECOMMENDATIONS

A. Site Preparation and Grading

The areas to be graded should be cleared of all surface vegetation and any debris. These materials should be removed from the site. Subsequently, the upper two to four inches of soil containing root growth or other organic materials should be stripped. Deeper stripping may be required in some areas to remove localized concentrations of organic-laden soils. These strippings are not suitable for use as compacted fill, but may be suitable for use in landscape areas.

Generally, we anticipate that the materials exposed by site grading will exhibit low to negligible expansion potential. Where referred to within the test of this report, soils with a Liquid Limit less than 35 are considered to have low to negligible expansion potential. Properly prepared, these soils are suitable for support of conventional spread footings and interior concrete slabs and flatwork, however, may require removal (based on their Resistance Value) within the street sections. Soils with Liquid Limits ranging between 35 and 50 will require individual evaluation. If encountered, clay soils requiring removal are those having a Liquid Limit greater than 50 and in excess of 12 percent passing the No. 200 sieve.

Surfaces exposed by stripping or overexcavation should be scarified at least 6 inches deep, conditioned to a suitable moisture content for compaction, and compacted to achieve at least 90 percent relative compaction[1]. Where clayey soils are to remain they should be moisture conditioned at the exposed surface to slightly over optimum as directed by the Geotechnical Engineer in the field. This will preswell the clay and close any shrinkage cracks prior to compaction. The above optimum moisture content should be maintained until covered with fill. After moisture conditioning, the upper six inches of any remaining

---

[1]Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by the laboratory procedure outlined in the ASTM Test Designation: D 1557-91.

expansive soils should be compacted to 90 percent, plus or minus two percent, relative compaction.

Materials used as select fill should be free of organic matter, have low to negligible expansion potential and conform, in general, to the following requirements:

Sieve Size	Percent Passing (by dry weight)
6 inch	100
3/4 inch	70 - 100
No. 4	50 - 100
No. 200	10 - 35

Liquid Limit = 35 maximum
Plasticity Index = 15 maximum

We anticipate that the native soils generated by grading will be suitable for use as select fill. However, some of the soils may contain excessive clay and should be utilized outside the limits of select zones. On-site and any import materials should be tested and approved by the Geotechnical Engineer prior to use. All fill should be moisture conditioned and compacted to at least 90 percent (plus or minus 2 percent, if clayey) relative compaction. Lift thickness will be restricted to a maximum of 6 inches unless the contractor can demonstrate his ability to uniformly achieve the required compaction for the entire layer of material placed.

The recommendations for select fill are intended as a guideline and define a readily attainable, acceptable material. Adjustments to the specified limits to address the use of other potentially acceptable materials, such as those containing oversize rock or which deviate from the classification requirements, can be made provided: 1) the Contractor can demonstrate his ability to place and compact the material in substantial conformance with industry standards to achieve an equivalent finished product as that specified, 2) all parties understand that the Standard ASTM Compaction Test procedures may be invalid for certain material containing oversize aggregate. Compaction approval would be based on other criteria, such as a performance specification with full-time, on-site observation. Technician time could be increased substantially using the performance procedure which would, in turn, increase the cost of inspection services, and 3) only with the strict approval and observation by the Geotechnical Engineer.

Permanent cut and fill slopes should be constructed at a maximum inclination of two horizontal to one vertical (2:1). Upon completion of grading, all slopes should be planted with dense-rooted, rapid growing vegetation or otherwise protected from erosion.

We have prepared a complete set of earthwork and grading specifications. These specifications are included in Appendix A.

B. Site Drainage

The ground surface around all structures should be permanently sloped to drain away from the structures so that the water is not allowed to pond against perimeter stemwalls. Site drainage should be designed to protect pavement sections from surface water and restrict infiltration from entering the pavement sections.

C. Foundation Support and Lateral Resistance

Conventional spread foundations can be supported on firm, native soils with low to negligible expansion potential or approved compacted fill. To provide uniform support, all soils exposed at footing grade should be compacted to at least 90 percent relative compaction. For confinement and frost protection footings should bottom at least 24 inches below lowest adjacent exterior final grade.

Spread footings, supported as recommended, can be designed to impose total load bearing pressures of no greater than 2500 pounds per square foot can be used. Resistance to lateral loads can be obtained from passive earth pressures and soil friction. We recommend the following design criteria:

Passive Earth Resistance	- 250 pounds per cubic foot, equivalent fluid
Soil Friction Factor	- 0.25

D. Concrete Slab Support

Interior garage slabs and exterior concrete slabs, such as sidewalks and patios, can be supported on firm, native soils with low to negligible expansion potential or approved compacted select fill. If expansive, clayey soils are encountered they should be observed by the Geotechnical Engineer in the field to determine if overexcavation is necessary. To provide uniform slab section support, all subgrade surfaces (upper six inches) should be scarified, moisture conditioned, and compacted to at least 90 percent relative compaction. The resulting surface should be smooth, firm and non-yielding.

Garage floor slabs should be underlain by at least four inches of free draining crushed rock or gravel. Exterior flatwork should be underlain by at least 4 inches of aggregate base. All base material should be compacted to at least 95 percent relative compaction.

Concrete mix proportions and construction techniques, including the addition of water and improper curing, can adversely affect the finished quality of the concrete and result in cracking and spalling of the slabs. We recommend that all placement and curing be performed in accordance with procedures outlined by the American Concrete Institute. Special considerations should be given to concrete placed and cured during hot or cold weather conditions. Proper control joints and reinforcing mesh should be provided to minimize any damage resulting from shrinkage.

E. Trench Excavation and Backfilling

We anticipate that excavation can be accomplished with conventional earthmoving or trenching equipment. The Contractor must comply with the "Safety and Health Regulations for Construction" as directed by the Occupational Safety and Health Act (OSHA Standards, Volume III, Part 1926, Subpart P) while excavating and backfilling. The Contractor is responsible for providing a competent person, as defined by the OSHA standards, to ensure excavation safety.

On-site materials meeting the requirements for compacted fill may be used as trench backfill. Backfill materials should be moisture conditioned, placed in 8- to 10- inch, loose lifts, and compacted to at least 90 percent relative compaction.

F. Flexible Pavement

The flexible pavement sections can be supported on properly prepared, native soils with low to negligible expansion potential or approved, compacted fill materials. Test results on projects in vicinity of the site indicate that these soils will have a high supporting capability. We anticipate that the native clayey soils encountered near the surface and at depth will have a low Resistance (R) Value. To reduce the thickness of aggregate base materials and minimize future maintenance, we recommend that a portion of these soils be removed and replaced with compacted fill subbase.

We anticipate that some streets will experience substantial construction traffic and increasing volume as the property is developed; therefore; we evaluated higher volume collector streets as well as residential streets. As previously directed by the Washoe County Department of Public Works, Engineering Division, all flexible pavement sections are calculated in accordance with the AASHTO Interim Guidelines[2]. For use in our calculations, the Soil Support Number was estimated to be 5, based on a Resistance Value of 20. Based on the referenced criteria, we calculate the following pavement sections:

Recommended Flexible Pavement Sections

Equivalent 18-kip Single Axle Load Applications (EAL) x 10^3	30.00	7.00	3.65
Bituminous Course	4"	3"	3"
Type 2, Class B Aggregate Base[4] (minimum R-value = 70)	10"	8"	6"
Select Subbase[5] (minimum R-value = 30)	12"	6"	6"

[2]Based on the following design criteria:
Regional Factor - 2.5
Serviceability Index - 2.0
Structural Layer Coefficients:
Bituminous Course - 0.35
Aggregate Base, Type 2 - 0.11

[4]Section 200.02.03, Standard Specifications for Public Works Construction adopted by Washoe County and the City of Sparks, 1992.

[5]This depth is required to compensate for a low Resistance Value; where expansive soils are present, a minimum of 12 inches of select subbase is required.

These results are preliminary and the recommended pavement thicknesses should by reviewed once anticipated traffic loadings for specific streets are known. We can also evaluate the flexible pavement sections based on other design methods as directed by the governing agency.

Upon completion of rough grading, and a minimum of five working days prior to placement of the aggregate base, the exposed subgrade materials should be observed and tested by the Geotechnical Engineer to verify that they meet the design requirements.

Where clayey soils remain after overexcavation, the surface should be moisture conditioned (by scarification, if needed) to above optimum moisture content in order to close any shrinkage cracks. After moisture conditioning, the upper six inches should compacted to at least 90 percent, plus or minus two percent, relative compaction. The subgrade soils should be kept in a moist condition until covered by aggregate base and/or select subbase. Granular subgrade soils and select subbase should be moisture conditioned and compacted to at least 90 percent relative compaction. All subgrades (native and select) should be finished to provide firm, smooth, non-yielding surfaces prior to placement of fill or aggregate base. The aggregate base should be compacted to at least 95 percent relative compaction and rolled to provide a surface which is firm, smooth, non-yielding prior to placement of the bituminous course.

A mix design for the bituminous course should be submitted for approval prior to paving. During paving, bituminous concrete should be sampled and tested by the Geotechnical Engineer to ensure material quality and compaction.

Site drainage should be designed to restrict infiltration from entering the pavement section. Periodic crack sealing and surface sealing should be implemented to increase service life of the pavements.

G. Retention Ponds

Generally, the native soils across the site will adequately infiltrate storm water. Infiltration rates across the site were, generally, uniform with an average rate of 1.40 cubic inches per hour (in^3/hr). Upon completion of grading of any infiltration pond, all slopes should be protected from erosion by placing a 12 inch layer of riprap with a minimum specific gravity of 2.50 and a diameter ranging from 6 to 12 inches.

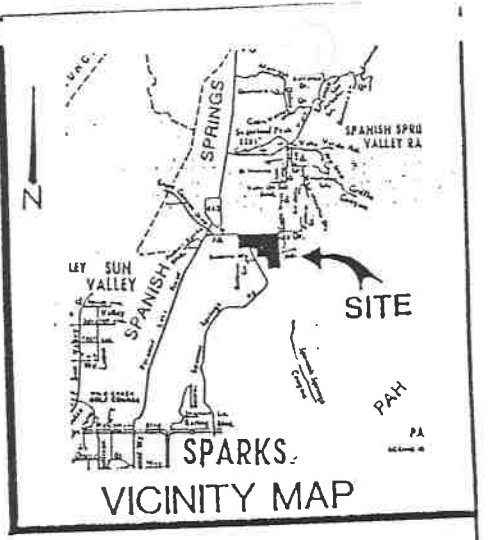
H. Additional Geotechnical Engineering Services

Our site reconnaissance and field exploration were geotechnical in nature and, as such, not intended to identify other site development constraints, such as potential environmental hazards due to previous site use or wetlands determination. We can assist in evaluating these considerations should further information be requested.

The recommendations presented in this report are based on the assumption that sufficient field inspection and construction review will be provided during all phases of construction. We should review the final plans and specifications for conformance with the intent of our recommendations. Prior to construction, a pre-job conference should be scheduled to include, but not be limited to, the Owner, Architect, Civil Engineer, the General Contractor, Earthwork and Materials Sub-Contractors, Building Official and Geotechnical Engineer. The conference will allow all parties to review the project plans and specifications and recommendations presented in this report and discuss applicable material quality requirements and mix design reports. All quality reports should be submitted to, and approved by, the Geotechnical Engineer.

During construction, we should provide on-site inspections, together with field and laboratory testing, of the site preparation and grading, overexcavation, fill placement, foundation installation and paving. These observations would allow us to verify that the soil conditions are as anticipated and that the Contractor's work is in conformance with the plans and specifications.

VII ILLUSTRATIONS



N

⊕ - TEST BORING

■ -TEST PIT

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SITE & EXPLORATION PLAN

Job No. 2868.02-A
Appr. CDG
Date 11/13/93

CIMARRON DEVELOPMENT
SPARKS, NEVADA

PLATE 1

LOG OF BORING 1

Equipment CME 55 Hollow Stem Auger

Elevation N/A Date 9/29/93

Laboratory Tests (and other information)	Driving Resistance Blows/FT	Moisture Content (%)	Dry Density (pcf)	Depth (ft) Sample	
	51			0	BROWN SILTY SAND (SM) dense, dry
					BROWN CLAYEY SAND (SC) very dense, dry
* Percent passing the No. 200 sieve = 27.5	51			*	BROWN SILTY SAND (SM) very dense, dry, cemented to 8.0 feet
	24/6"			5	
					Change to dense below 8.0 feet
	45			10	
	44			15	No Free Water Encountered

Elevation Reference: N/A

LOG OF BORING 2

Equipment CME 55 Hollow Stem Auger

Elevation N/A Date 10/8/93

	17			0	BROWN SILTY SAND (SM) medium dense, dry
					Becoming moist below 2.5 feet
	51			5	
	45				
	38			10	ORANGE BROWN CLAYEY SAND (SC) dense, moist
				15	No Free Water Encountered

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Date 11/11/93

LOGS OF BORINGS 1 & 2

CIMARRON DEVELOPMENT

Sparks, Nevada

PLATE 2

LOG OF BORING 3

Equipment: CME 55 Hollow Stem Auger
Elevation: N/A Date: 10/8/93

Laboratory Tests (and other information)	Driving Resistance Blows/FT	Moisture Content (%)	Dry Density (pcf)	Depth (ft)	Sample	
	23			0		BROWN SILTY SAND (SM) medium dense, dry
	49					Becoming dense below 3.0 feet
	27/6"					Cemented between 3.0 feet and 8.0 feet
				5		
	29/6"					
				10		Becoming moist below 11.0 feet
	46					
				15		No Free Water Encountered

Elevation Reference: N/A

LOG OF BORING 4

Equipment: CME 55 Hollow Stem Auger
Elevation: N/A Date: 10-21-93

	44			0		BROWN SILTY SAND (SM) loose, dry
						BROWN CLAYEY SAND (SC) with gravel, dense, moist
						BROWN SILTY SAND (SM) dense, dry
	40/6"			5		
	32/6"					
	39/6"			10		
						BROWN CLAYEY SAND (SC) dense, moist
	47			15		No Free Water Encountered

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LOGS OF BORINGS 3 & 4
CIMARRON DEVELOPMENT
Sparks, Nevada

PLATE 3

LOG OF BORING 5

Equipment: CME 55 Hollow Stem Auger

Elevation: N/A Date: 10/21/93

Laboratory Tests (and other information)	Driving Resistance Blows/FT	Moisture Content (%)	Dry Density (pcf)	Depth (ft) Sample	
	26			0	BROWN SILTY SAND (SM) loose, dry
	30/6"				BROWN CLAYEY SAND (SC) medium dense, moist
					BROWN SILTY SAND (SM) with gravel, dense, dry, cemented to 8.0 feet
				5	
	27/6"				
	38/6"	5.1	97		
				10	BROWN CLAYEY SAND (SC) dense, moist
	48				
				15	No Free Water Encountered

Elevation Reference: N/A

LOG OF BORING 6

Equipment: CME 55 Hollow Stem Auger

Elevation: N/A Date: 10/22/93

				0	BROWN SILTY SAND (SM) loose, dry
	30/6"				BROWN CLAYEY SAND (SC) dense, moist
					BROWN SAND (SP) medium dense, dry
	52				BROWN SILTY SAND (SM) very dense, dry
				5	
	49				BROWN CLAYEY SAND (SC) dense, moist
	49				BROWN SILTY SAND (SM) dense, moist
				10	Change to medium dense below 11.0 feet
	27	8.7	94		
				15	No Free Water Encountered

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Date 11/11/93

LOGS OF BORINGS 5 & 6
CIMARRON DEVELOPMENT
Sparks, Nevada

PLATE 4

LOG OF BORING 7

Equipment: CME 55 Hollow Stem Auger

Elevation: N/A Date: 10/22/93

Laboratory Tests (and other information)	Driving Resistance Blows/Ft	Moisture Content (%)	Dry Density (pcf)	Depth (ft) Sample	
					BROWN SILTY SAND (SM) loose, dry
* Sieve Analysis Plasticity Index (See Plate 15)	37			*	BROWN CLAYEY SAND (SC) dense, moist
** Percent passing the No. 200 sieve = 16.6	27/6"			**	BROWN SILTY SAND (SM) dense, dry
*** Sieve Analysis (See Plate 14) Atterberg Limits: Non-Plastic	48			***5	BROWN SAND (SP-SM) with silt, very dense, dry
	27/6"			10	
					BROWN SILTY SAND (SM) medium dense, dry
	28			15	No Free Water Encountered
				20	
				25	
				30	
				35	
				40	

Elevation Reference: N/A

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Date 11/11/93

LOG OF BORING 7
CIMARRON DEVELOPMENT
Sparks, Nevada

PLATE 5

LOG OF BORING 8

Equipment: CME 55 Hollow Stem Auger

Elevation: N/A Date: 10/25/93

Laboratory Tests (and other information)	Driving Resistance Blows/Ft	Moisture Content (%)	Dry Density (pcf)	Depth (ft) Sample
	13			
	17	9.9	99	
	36			5
	39/6"			10
	27/6"			15
	34/6"			20
				25
				30
				35
				40

BROWN SILTY SAND (SM) medium dense, moist

Becoming dense below 4.0 feet

BROWN CLAYEY SAND (SC) dense, moist

BROWN SILTY SAND (SM) very dense, dry

Sampler refusal at 14.0 feet

Sampler refusal at 19.0 feet

No Free Water Encountered

Elevation Reference: N/A

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Date 11/11/93

LOG OF BORING 8
CIMARRON DEVELOPMENT
Sparks, Nevada

PLATE 6

LOG OF BORING 9

Equipment: CME 55 Hollow Stem Auger
Elevation: N/A Date: 10/25/93

Laboratory Tests* (and other information)	Driving Resistance Blows/FT	Moisture Content (%)	Dry Density (pcf)	Depth (ft) Sample	
	18			0	BROWN SILTY SAND (SM) loose, dry Becoming medium dense below 1.0 feet
* Atterberg Limits (See Plate 17)	35			*	BROWN CLAYEY SAND (SC) dense, moist
	33			5	Becoming very dense below 5.0 feet
	54/6"				
				10	BROWN SILTY SAND (SM) medium dense, dry
	33				
				15	No Free Water Encountered

Elevation Reference: N/A

LOG OF BORING 10

Equipment: CME 55 Hollow Stem Auger
Elevation: N/A Date: 10/26/93

	24			0	BROWN SILTY SAND (SM) medium dense, dry
	34				Becoming dense below 3.5 feet
	27/6"			5	With gravel and becoming very dense below 5.0 feet
	32/6"			10	
	29/6"			15	No Free Water Encountered

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LOGS OF BORINGS 9 & 10
CIMARRON DEVELOPMENT
Sparks, Nevada

PLATE 7

LOG OF BORING 11

Equipment: CME 55 Hollow Stem Auger
Elevation: N/A Date: 10/27/93

Laboratory Tests (and other information)	Driving Resistance Blows/FT	Moisture Content (%)	Dry Density (pcf)	Depth (ft)	Sample	
				0		BROWN SILTY SAND (SM) loose, dry
* Sieve Analysis Plasticity Index (See Plate 16) Triaxial Compression UU 432 ← 760 →	19					BROWN SILTY CLAYEY SAND (SC-SM) medium dense, moist
	36 27/6"	7.1	106	*		
				5		BROWN SILTY SAND (SM) medium dense, dry
	30/6"					
				10		Becoming dense below 11.0 feet
	27/6"					
				15		No Free Water Encountered

LOG OF BORING 12

Elevation Reference: N/A

Equipment: CME 55 Hollow Stem Auger
Elevation: N/A Date: 10/27/93

Laboratory Tests (and other information)	Driving Resistance Blows/FT	Moisture Content (%)	Dry Density (pcf)	Depth (ft)	Sample	
				0		BROWN CLAYEY SAND (SC) dense, moist
	43					
	29/6"					BROWN SILTY SAND (SM) with gravel, dense, dry
Triaxial Compression UU 576 ← 2615 →	53	17.5	108	5		ORANGE BROWN CLAYEY SAND (SC) very dense, dry, cemented
						Becoming moist below 9.0 feet
	34/6"			10		
						Change in density to dense
	40			15		No Free Water Encountered

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LOGS OF BORINGS 11 & 12
CIMARRON DEVELOPMENT
Sparks, Nevada

PLATE 8

LOG OF BORING 13

Equipment: CME 55 Hollow Stem Auger
Elevation: N/A
Date: 10/27/93

Laboratory Tests (and other information)	Driving Resistance Blows/Ft	Moisture Content (%)	Dry Density (pcf)	Depth (ft) Sample	
	29/6"				BROWN SILTY SAND (SM) loose, dry
					BROWN CLAYEY SAND (SC) very dense, moist
					Cemented below 3.0 feet
* Atterberg Limits (See Plate 18)	29/6"			*	
	27/6"			5	
					BROWN SILTY SAND (SM) dense, dry
	27/6"			10	
					BROWN CLAYEY SAND (SC) medium dense, moist
	13			15	
					No Free Water Encountered
				20	
				25	
				30	
				35	
Elevation Reference: N/A				40	

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LOG OF BORING 13
CIMARRON DEVELOPMENT
Sparks, Nevada

PLATE 9

LOG OF BORING 14

Equipment: CME 55 Hollow Stem Auger

Elevation: N/A Date: 10/28/93

Laboratory Tests (and other information)	Driving Resistance Blows/Ft	Moisture Content (%)	Dry Density (pcf)	Depth (ft) Sample	
	32				BROWN CLAYEY SAND (SC) dense, moist, cemented
	51				BROWN SILTY SAND (SM) very dense, dry, cemented
	44			5	BROWN CLAYEY SAND (SC) dense, moist
	27/6"			10	BROWN SILTY SAND (SM) dense, moist
	43			15	
				20	No Free Water Encountered
				25	
				30	
				35	
				40	

Elevation Reference: N/A

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LOG OF BORING 14
CIMARRON DEVELOPMENT
Sparks, Nevada

PLATE 10

LOG OF BORING 15

Equipment: CME 55 Hollow Stem Auger

Elevation: N/A Date: 10/28/93

Laboratory Tests (and other information)	Driving Resistance Blows/Ft	Moisture Content (%)	Dry Density (pcf)	Depth (ft) Sample	
	31				BROWN SILTY SAND (SM) loose, dry
	35/6"				BROWN CLAYEY SAND (SC) dense, moist
					BROWN SILTY SAND (SM) medium dense, dry
	23			5	
	35/6"				BROWN CLAYEY SAND (SC) dense, moist
				10	
	34				BROWN SILTY SAND (SM) dense, moist
				15	
				20	No Free Water Encountered
				25	
				30	
				35	
				40	

Elevation Reference: N/A

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Date 11/11/93

LOG OF BORING 15
CIMARRON DEVELOPMENT
Sparks, Nevada

PLATE 11

LOG OF BORING 16

Equipment: CME 55 Hollow Stem Auger

Elevation: N/A Date: 10/28/93

Laboratory Tests (and other information)	Driving Resistance Blows/Ft	Moisture Content (%)	Dry Density (pcf)	Depth (ft)	Sample	
	22					BROWN SILTY SAND (SM) loose, dry
						BROWN CLAYEY SAND (SC) medium dense, mois
	18					BROWN SILTY SAND (SM) medium dense, dry
	16			5		
	22			10		
	27/6"					BROWN CLAYEY SAND (SC) dense, dry
				15		No Free Water Encountered
				20		
				25		
				30		
				35		
				40		

Elevation Reference: N/A

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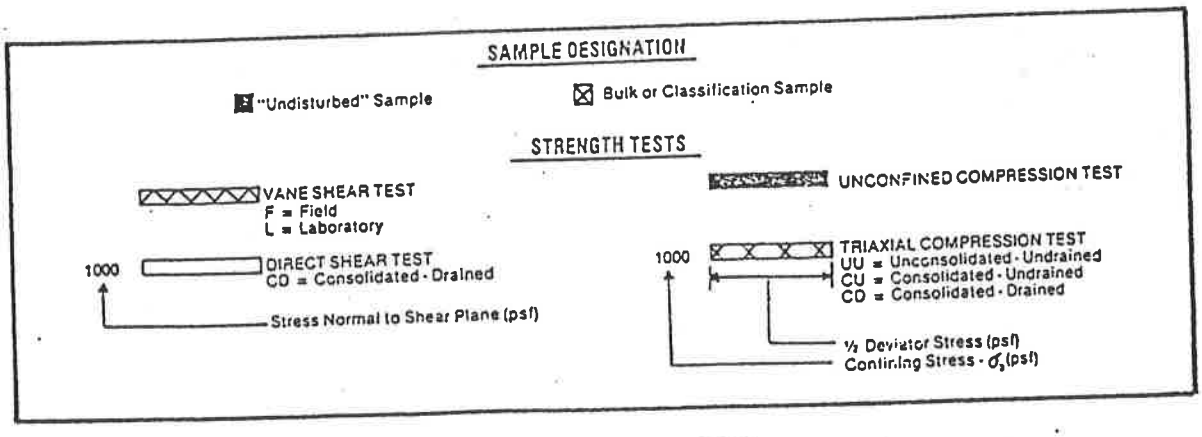
LOG OF BORING 16
CIMARRON DEVELOPMENT
Sparks, Nevada

PLATE 12

MAJOR DIVISIONS				TYPICAL NAMES
COARSE GRAINED SOILS (MORE THAN HALF IS LARGER THAN #200 SIEVE)	GRAVELS (MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE)	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES
			GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES
		GRAVELS WITH OVER 12% FINES	GM	SILTY GRAVELS, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, POORLY GRADED GRAVEL-SAND-CLAY MIXTURES
	SANDS (MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE)	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS
			SP	POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS, POORLY GRADED SAND SILT MIXTURES
			SC	CLAYEY SANDS, POORLY GRADED SAND-CLAY MIXTURES
FINE GRAINED SOILS (MORE THAN HALF IS SMALLER THAN #200 SIEVE)	SILTS AND CLAY (LIQUID LIMIT LESS THAN 50)		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (LIQUID LIMIT GREATER THAN 50)		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACIOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt	PEAT AND OTHER HIGHLY ORGANIC SOILS

UNIFIED SOIL CLASSIFICATION SYSTEM



KEY TO TEST DATA

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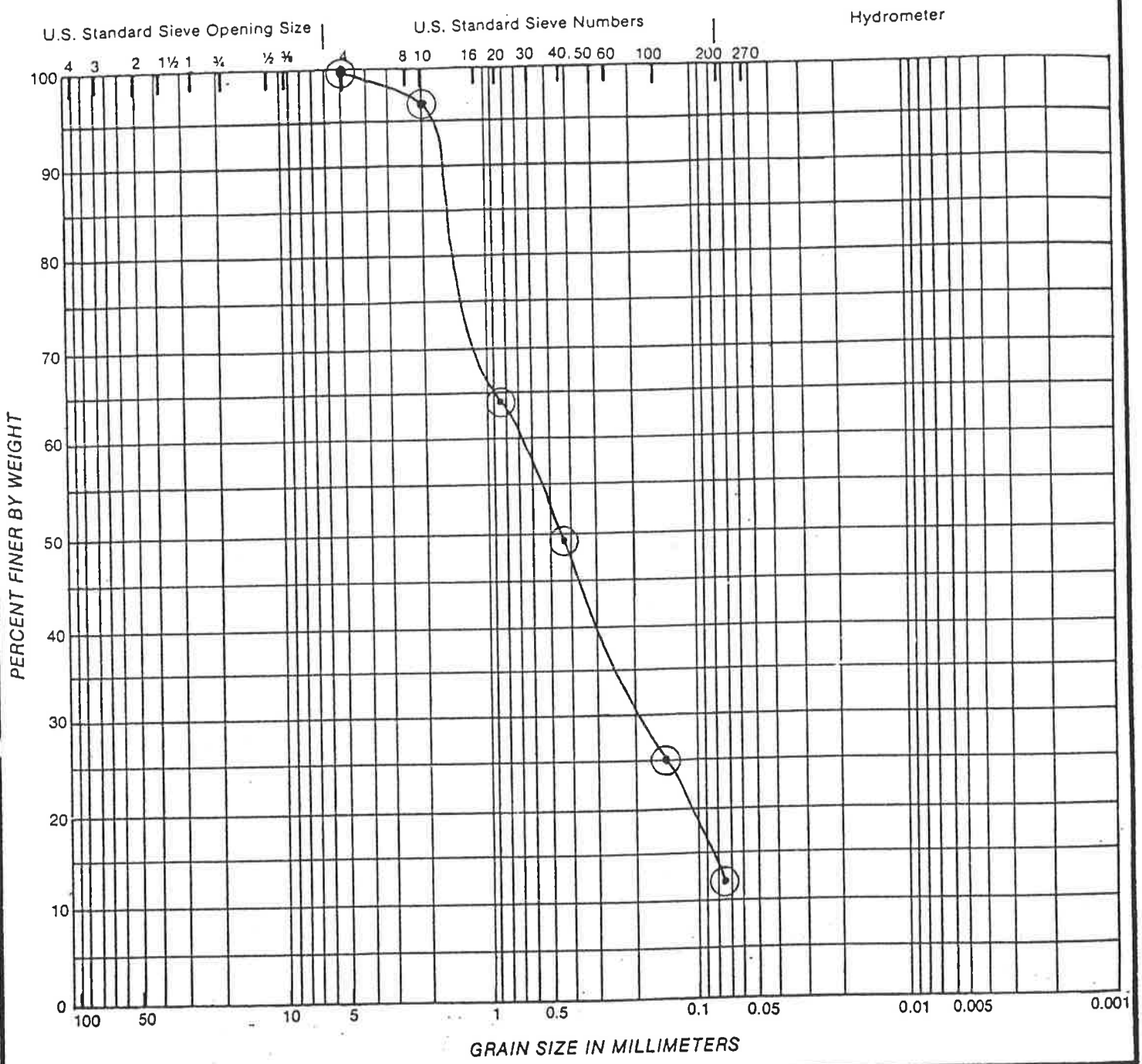
SOIL CLASSIFICATION CHART AND KEY TO TEST DATA
CIMARRON DEVELOPMENT
Sparks, Nevada

PLATE 13



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Sample Source	Classification
⊙	Boring 7 at 5.0 feet	BROWN SAND (SP-SM) with silt

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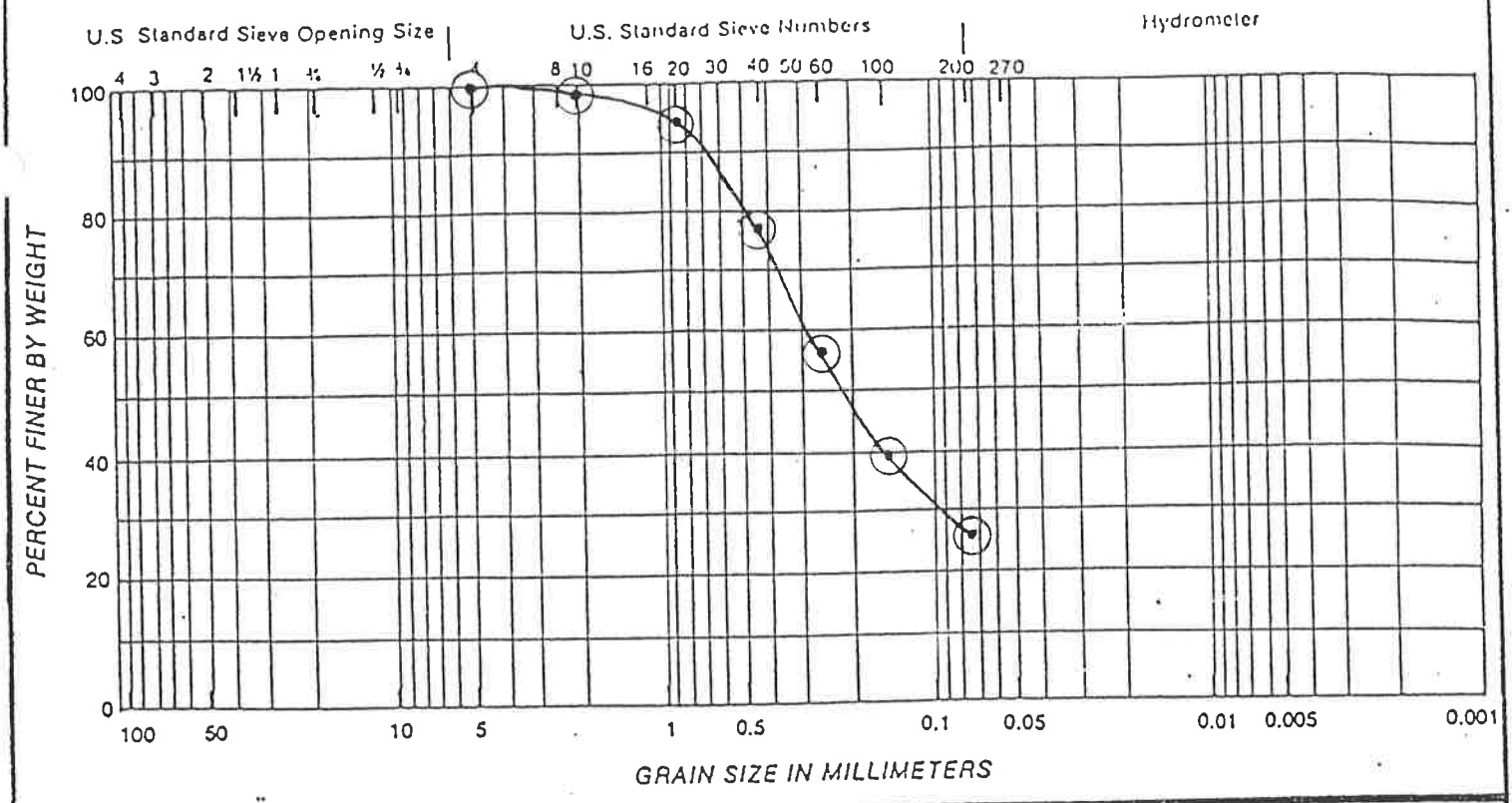
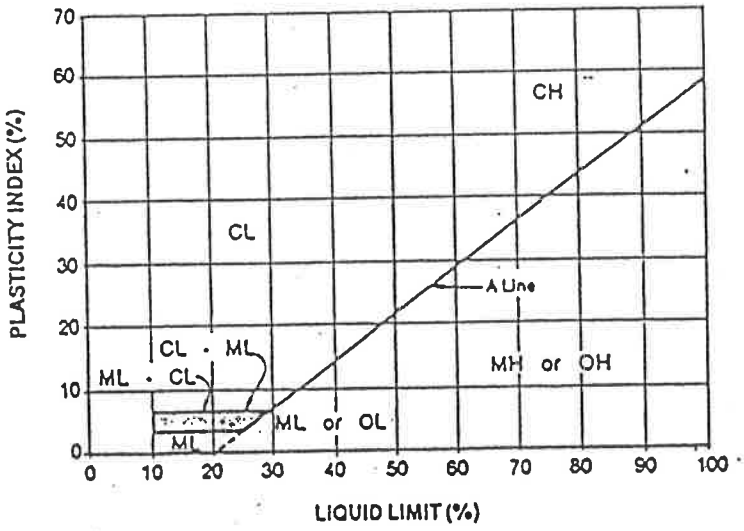
PARTICLE SIZE ANALYSIS

CIMARRON
Sparks, Nevada

PLATE
14



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Symbol	Sample Source	Classification	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% Passing #200 Sieve
⊙	Boring 7 at 1.0 feet	BROWN CLAYEY SAND (SC)	34	13	21	26

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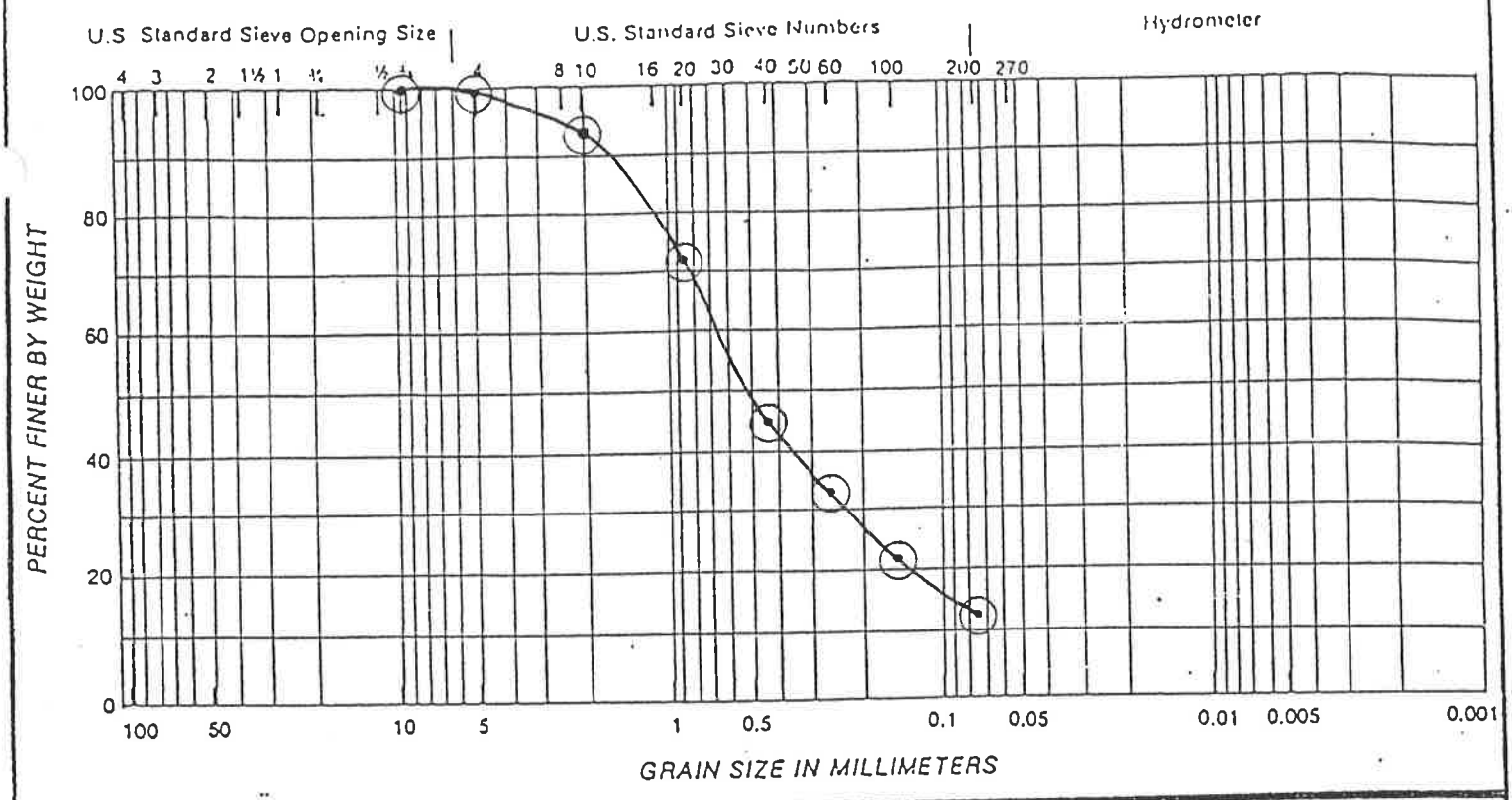
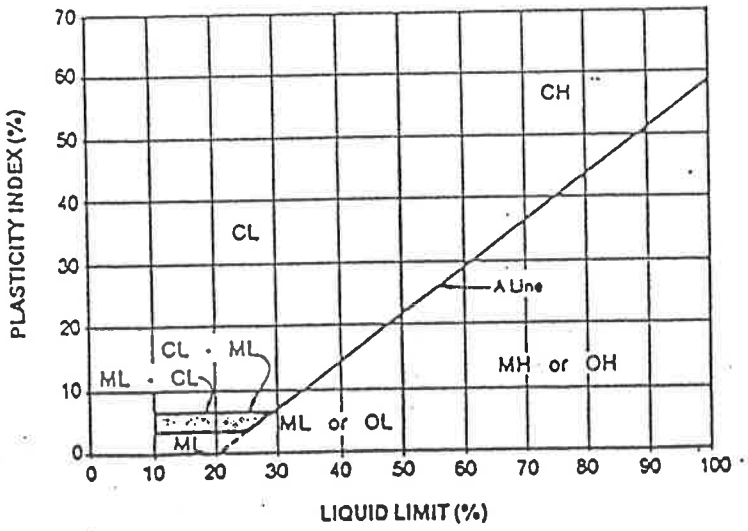
CLASSIFICATION TEST DATA

CIMARRON
Sparks, Nevada

PLATE
15



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	



Symbol	Sample Source	Classification	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% Passing #200 Sieve
⊙	Boring 11 at 3.0 feet	BROWN SILTY CLAYEY SAND (SC-SM)	23	18	5	12

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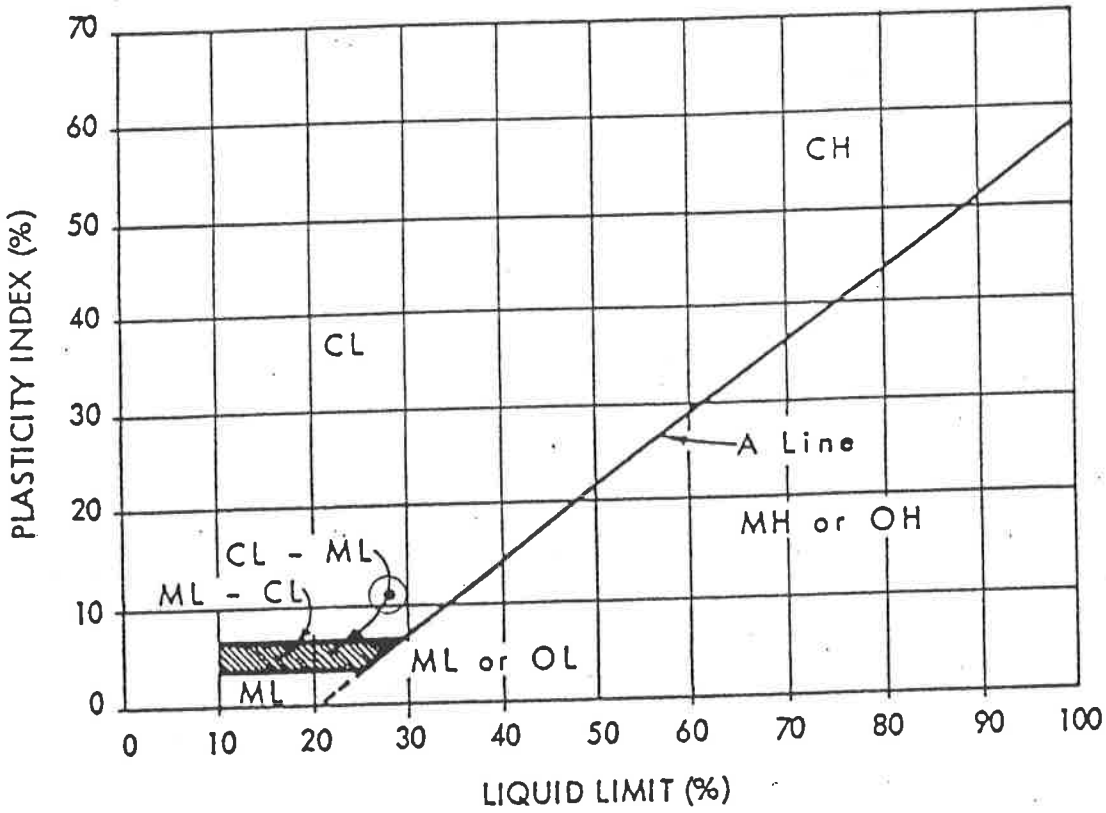
CLASSIFICATION TEST DATA

CIMARRON
Sparks, Nevada

PLATE
16



Symbol	Classification and Source	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% Passing #200 Sieve
⊙	BROWN CLAYEY SAND (SC) Boring 9 at 3.0 feet	28	17	11	18

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PLASTICITY CHART
CIMARRON
Sparks, Nevada

PLATE
17

VIII APPENDIX A

SPECIFICATIONS FOR

SITE PREPARATION AND EARTHWORK

CIMARRON

WASHOE COUNTY, NEVADA

SPECIFICATIONS FOR
SITE PREPARATION AND EARTHWORK
CIMARRON
WASHOE COUNTY, NEVADA

A. GENERAL

1.0 SPECIFICATIONS AND QUALITY ASSURANCE

1.1 Standard Specifications - Where referred to in these specifications, "Standard Specifications" shall mean the Standard Specifications for Public Works Construction adopted in 1992 (Orange Book). All work shall be carried out in conformance with the Standard Specifications unless otherwise specified herein.

1.2 Geotechnical Engineer - A Geotechnical Engineer, retained by the Owner shall provide continuous observations and testing during site grading operations and periodic inspection during all other construction to enable him to verify that all areas were constructed (except horizontal and vertical grade control) in accordance with the accepted project plans and specifications and the Standard Specifications. Sufficient soil density and quality tests shall be performed and submitted to the Engineer of Record to support the Geotechnical Engineer's verification of compliance.

The cost of reinspection and retesting, as a result of unsatisfactory work shall be deducted from the contract price.

B. SITE PREPARATION AND EARTHWORK

2.0 GENERAL

2.1 Scope - The work performed under these specifications shall include clearing, stripping, and removal of unsuitable materials, preparation of native soils, excavation, placement and compaction of on-site and imported fill material to grades shown on the approved grading plan.

2.2 Percent Compaction - As referred to in these specifications, percent compaction is the required in-place dry density of the material, expressed as a percentage of the maximum dry density of the same material determined by the laboratory procedure outlined in ASTM Test Designation: D 1557-91.

2.3 Optimum Moisture Content - As referred to in these specifications, optimum moisture content is the percent of moisture (by dry weight) corresponding to the maximum dry density of the same material as determined by the laboratory procedure outlined in ASTM Test Designation: D 1557-91.

2.4 Select Fill Zone - Where used in these specifications, select fill zone shall mean: 1) Within building areas, to a depth of at least 24 inches below footing grade and extending laterally at least 2 feet beyond exterior wall lines; 2) Within concrete slab areas (sidewalk) areas and under concrete curb and gutter, to a depth of at least 12

inches below subgrade and extending laterally at least 12 inches beyond their edges; 3) Within asphaltic concrete areas, to a depth of at least 12 inches below subgrade and extending laterally at least 2 feet beyond their edges.

2.5 Mass Fill Zone - Where used in these specifications, mass fill zones shall mean all fill areas outside of the select fill zones.

2.6 Soil Subgrade - Where used in these specifications, soil subgrade shall mean: within sidewalk, curb and gutter and asphaltic concrete paved areas, the surface on which aggregate base is placed.

3.0 MATERIALS

3.1 General - All fill material (except rock fill) shall be free or perishable material and rocks or lumps larger than six inches in greatest dimension. All fill material shall be approved the Geotechnical Engineer prior to its use.

3.2 Select Fill Material - Select fill material shall be used in select fill zones and shall be rock fill or import material conforming to the following requirements:

Sieve Size	Percent Passing (by dry weight)
6 Inch	100
3/4 Inch	70 - 100
No. 4	50 - 100
No. 200	10 - 35

Liquid Limit = 35 Maximum
Plasticity Index = 15 Maximum

3.3 Rock Fill - Rock fill is defined as any material with more that 30 percent retained on the 3/4-inch sieve.

3.4 Expansive Soil - Where referred to in these specifications, the term "expansive soil" shall mean soil having a liquid limit greater than 50 and in excess of 12 percent passing the No. 200 sieve.

3.5 Imported Materials - Imported material required for select fill or mass fill shall be approved by the Geotechnical Engineer prior to use. The Contractor shall give at least five days notice prior to using the imported material to enable the Geotechnical Engineer to sample and test the material.

4.0 SITE PREPARATION

4.1 Clearing - The areas to be graded shall be cleared of all grass, brush, roots, rubbish, loose fills and debris. These materials shall be removed from the site.

4.2 Stripping - Grass, roots and other minor vegetation shall be stripped to a depth of four inches and removed from the site.

4.3 Moisture Conditioning and Compaction In Fill Areas - Within fill areas, granular soils exposed by stripping and/or overexcavation shall be moisture conditioned to achieve a suitable moisture content for compaction. The soil shall be scarified to a depth of at least six inches, and worked as necessary to mix the material to achieve a nearly uniform moisture content. The soils then shall be compacted with a sheepsfoot, steel wheel roller or other approved compaction equipment to achieve at least 90 percent relative compaction. Expansive soil, remaining after over-excavation should be moisture conditioned to over optimum as directed by the Geotechnical Engineer in the field and compacted to 90 percent, plus or minus 2 percent, relative compaction. If the exposed soils are at a suitable and uniform moisture content, the scarifying requirements may be waived by the Geotechnical Engineer.

4.4 Approval - After stripping, overexcavation, moisture conditioning, and compacting, and before placing fill, the Contractor shall obtain the Geotechnical Engineer's approval of the site preparation in each area.

5.0 FILL MATERIAL

5.1 Placement and Compaction - All select fill material shall be placed in layers restricted to a maximum of 6 inches unless the contractor can demonstrate his ability to uniformly achieve the required compaction for the entire layer of material placed. All layers shall be compacted with approved equipment to achieve at least 90 percent relative compaction. Field density tests shall be performed by the Geotechnical Engineer to determine relative compaction of each layer of fill. These tests shall be performed in the compacted material below the disturbed surface.

5.2 Rock Fill - Rock fill shall be spread in uniform lifts not exceeding 24 inches in uncompacted thickness and placed in such a manner that no voids are present either between or around the rock after compacting the layer. The rock shall not be allowed to nest. Unless otherwise directed by the Geotechnical Engineer in the field during grading, the Grading Contractor shall make at least four passes (performance specification) with the 10-ton vibratory or sheepsfoot compactor for each lift of rock fill. The final lift thickness and number of compaction passes shall be determined by the Geotechnical Engineer in the field during grading when compaction characteristics of the on-site material in known. Prior to compacting, the lift surface shall be smoothed evenly with bladed equipment. Oversized rock (exceeding 12

inches in diameter) shall be removed from the lift surface prior to compacting. As an alternative, the surface may be rolled one pass with a 5 by 5 sheepsfoot roller in order to break down the oversized material.

5.3 Recompaction - Where the field moisture and density tests indicate that the required moisture content and/or compaction of any layer of fill or portion thereof has not been attained, the particular layer or portion shall be reconditioned to a suitable moisture content and recompacted to the required density prior to placing additional fill material. The Contractor shall be responsible for placing and compacting approved fill material in accordance with these specifications. Should the Contractor fail to meet the compaction requirement, he shall reduce the rate of haul, furnish additional spreading, watering, mixing, and/or compaction equipment, and make other adjustments necessary to produce a satisfactorily compacted fill.

5.4 Seasonal Limits - No fill material shall be placed, spread or rolled while it is frozen or thawing or during unfavorable weather conditions. When the work is interrupted by heavy rain or snow, fill operations shall not be resumed until the Geotechnical Engineer indicates that the moisture content and density of the previously placed fill are as specified.

5.5 Slopes - Where fill is to be placed on slopes of two horizontal to one vertical (2:1) or steeper or in areas where fill is placed on expansive clay, keying and benching shall be provided along the fill/soil interface. A level keyway, located at the base of the slope, shall be at least one foot in depth (measured from the down-slope side) and eight feet in width. Benches shall be at least two feet in width. A subdrain shall be installed in the keyway, if determined necessary in the field by the Geotechnical Engineer. The Contractor shall overfill and trim the face of all fill slopes or compact them to provide a surface in compacted material, free of loose soil that would be subject to erosion and sloughing.

5.7 Finish - The compacted fill shall be finished true to line and grade and present a smooth, compacted, and non-yielding surface that will readily drain. Any depression shall be filled and compacted and all loose material shall be removed.

6.0 Spillage, Dust and Erosion Control

6.1 Spillage - The contractor shall prevent spillage when hauling on, or adjacent to any public street or highway. In the event that such occurs, the contractor shall remove all spillage and sweep, wash or otherwise clean such streets or highways as required by local City and County Authorities and/or the State of Nevada.

6.2 · Dust and Erosion Control - The Contractor shall take all precautions needed to prevent a dust nuisance to adjacent public or private properties and to prevent erosion and transportation of soil to adjacent properties due to his work under this contract. Any damage so caused shall be corrected or repaired by the Contractor at no cost to the Owner.

IX DISTRIBUTION

3 Copies: Bighorn Development II Ltd.
100 South Grove Street
Reno, Nevada 89502

1 Copy: Roy H. Hibdon, Consulting Engineer
1479 South Wells Avenue
Reno, Nevada 89502

APPENDIX C
COVENENTS, CONDITIONS AND RESTRICTIONS (CC & R'S)

DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR CIMARRON

THIS DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS, to be effective this _____ day of _____, 1993, by BIGHORN DEVELOPMENT II, LTD., a Nevada Limited Liability Company, hereinafter referred to as "Declarant".

RECITALS

WHEREAS, Declarant is the owner of certain lots and parcels of real property situated in the County of Washoe, State of Nevada, more particularly described in Exhibit "A" attached hereto (the "Real Property");

WHEREAS, Declarant intends to develop the Real Property into a multi-phase residential subdivision to be known as "Cimarron" consisting of eight hundred fifty-three (853) separate parcels divided into several "Villages" as more particularly described by the tentative map to be approved by the appropriate governing authorities pursuant to Nevada Revised Statutes, Chapter 278;

WHEREAS, Declarant intends to sell the parcels comprising each "Village" to developers for development, construction and sales of separate residential units;

WHEREAS, Declarant intends that upon the sale of the parcels comprising a "Village" a final map for such Village will be recorded together with such covenants, conditions, easements, and restrictions as may be deemed necessary or appropriate by the respective developer of each Village;

WHEREAS, Declarant desires to refer to all lots and parcels comprising the Real Property as "Cimarron" and further desires to impose restrictive covenants, conditions, and restrictions upon the Real Property as hereinafter set forth in order to provide for the maintenance of common areas to preserve the highest quality and property values of all residences developed within Cimarron without otherwise limiting or restricting developers of the several "Villages" from imposing such additional covenants, conditions, easements and restrictions pertinent, and restricted, to such separate "Villages".

NOW, THEREFORE, Declarant declares that all of the parcels comprising the Real Property particularly described in Exhibit "A" attached hereto, and the whole of the development, as hereinafter defined, are held and shall be held, conveyed, hypothecated or

1.09 Maintenance Areas. "Maintenance Areas" means the areas and facilities which are to be maintained by the Association pursuant to this Declaration. "Maintenance Areas" include the Common Areas and shrubbery, trees, pavement, fencing, lights, signage and similar facilities thereon, and any other areas or facilities which, by means of supplementary declaration or amendment, may be designated from time to time as "Maintenance Areas".

1.10 Mechanic's Lien. "Mechanic's Liens" means any mechanic's or materialmen's lien for labor or material supplied to a Parcel pursuant to Chapter 108 of the Nevada Revised Statutes.

1.11 Member. "Member" means a member of the Association.

1.12 Mortgage. "Mortgage" means any encumbrance or deed of trust given in good faith for value to secure the performance of an obligation incurred by an Owner in connection with the construction or financing of any single family residence within the Development.

1.13 Owner. "Owner" means any person or persons who hold an ownership interest in one or more parcels of the real property. "Ownership" or "Ownership Interest" means ownership in fee, a leasehold interest under any lease or the interest of a contract vendee, but does not include any interest which is held solely as security for the performance of an obligation.

1.14 Parcel. "Parcel" means a separate lot or parcel of land (and any improvements thereon) which is shown on any plat or map filed in connection with the Development or any amendment or supplement thereto. "Parcel" also includes any portion of the Real Property which is conveyed by deed, ground lease, or other conveyance instrument. "Parcel" does not include any portion of the Real Property which has been dedicated to a local government or for public purposes or upon which a building may not be legally constructed under applicable building and zoning regulations.

1.15 Person. "Person" means one or more individuals, partnerships, firms, associations, corporations and any other entity.

1.16 Property. "Property" (see "Real Property").

1.17 Real Property. "Real Property" means the real property described in Exhibit "A" attached hereto and any additional real property which may be annexed to the Real Property.

1.18 Signage. "Signage" means those signs which shall be erected and placed at the front of each of the Villages described in the Tentative Map or any amendment or

encumbered, leased, rented, used, occupied and improved, subject to the provisions of this Declaration of Covenants, Conditions, and Restrictions, all of which are declared and agreed to be in furtherance of a plan for the development, improvement, and sale of said lots and parcels and are established and are agreed upon for the purpose of enhancing and protecting the value, desirability, and attractiveness thereof. The provisions of this Declaration are intended to create mutual, equitable servitudes upon each of said lots and parcels; to create reciprocal rights between the respective owners of all such lots and parcels; to create a privity of contract and estate between the grantees of such lots and parcels, their heirs, successors and assigns; and shall, as to the owner of each such lot or parcel, his heirs, successors, or assigns operate as covenants running with the land for the benefit of each and all other such lots and parcels in the development as hereinafter defined and the respective owners, present and future.

ARTICLE I - DEFINITIONS

1.01 Association. "Association" means the Owners Association established pursuant to this Declaration and its successors and assigns.

1.02 Board. "Board" means the Board of Directors of the Association established pursuant to this Declaration.

1.03 Cimarron. "Cimarron" is the name of the Development.

1.04 Common Areas. "Common Areas" means those parcels or other areas including Spanish Springs Road, or any successor name thereto, set aside for the common use and benefit of the Owners including common landscaped areas and other areas as are designated and described in the Tentative Map recorded in connection with the Development and any subsequent map or plat which is recorded in connection with the Development.

1.05 Declarant. "Declarant" means Bighorn Development II, Ltd., a Nevada Limited Liability Company, and any successor or assign thereof which are specifically granted the rights and powers and burdened with the duties of Declarant hereunder by a recorded instrument of conveyance.

1.06 Declaration. "Declaration" means this instrument as it may be supplemented or amended from time to time.

1.07 Development. "Development" means the single-family residential subdivision as approved by the governing authorities and as set forth in a Tentative Map pursuant to Chapter 278 of the Nevada Revised Statutes and recorded in the Official Records of the County Recorder of Washoe County, Nevada.

1.08 Lot. "Lot" (see "Parcel").

supplement thereto as well as the sign or signs to be erected and placed at the main entrance to the Development.

1.19 Tentative Map. "Tentative Map" means a plat or map approved by the governing authorities and duly recorded in the office of the County Recorder of Washoe County, Nevada, describing the Development.

1.20 Trails. "Trails" mean the trail network running through and connecting the Villages within the Development as more particularly set forth in the Tentative Map.

1.21 Villages. "Villages" mean the separate cluster of Parcels described in the Tentative Map.

ARTICLE II - PERMITTED USES

2.01 Land Use. No Lot or Parcel shall be used except for residential purposes. No buildings shall be erected, altered, placed or permitted to remain on any Lot or Parcel other than one detached single-family dwelling and a private garage.

2.02 Quality and Size. All dwellings permitted on any Lot or Parcel shall be of a quality workmanship and materials substantially the same or better than that which can be produced on the date this Declaration is recorded with a ground floor area of the main structure, exclusive of one-story open porches and garages, of not less than _____ square feet for a one-story building, nor less than _____ square feet for a dwelling of more than one-story.

2.03 Building Location. No building shall be located on any Lot nearer to the front line nor nearer to the side street line than the minimum building set-back lines shown on the final map duly recorded for each Village in the County Recorder's Office of Washoe County, Nevada. For purposes of this covenant, eaves, steps, and open porches shall not be considered as a part of a building, provided; however, that this shall not be construed to permit any portion of a building on a Lot to encroach upon another Lot or Parcel.

2.04 Easements. Easements for installation and maintenance of utilities and drainage facilities are reserved as shown on the Tentative Map for the Development or any supplement plat thereto. Within these easements, no structure, planting, or other material shall be placed or permitted to remain which may damage or interfere with the installation and maintenance of utilities, or which may change the direction or flow of drainage channels in the easements, or which may obstruct or retard the flow of water through drainage channels in the easements. The easement area of each Lot or Parcel and all improvements in it shall be

maintained continuously by the Owner of the Lot or Parcel, except for those improvements for which a public authority or utility company is responsible.

2.05 Nuisances. No noxious or offensive activity shall be carried on or upon any Lot, nor shall anything be done thereon which may be or may become an annoyance or nuisance to the Development.

2.06 Temporary Structures. No structure of a temporary character, trailer, basement, tent, shack, garage, barn, or other outbuilding shall be used on any Lot or Parcel at any time as a residence either temporarily or permanently.

2.07 Trail Network. No Owner shall construct any structure of any kind upon any Trail designated on the Tentative Map or any final map of the Development or upon any Trail constructed within the Development whether or not shown on any such Tentative Map or Final Map and no Owner shall have the right to claim any easement or interest in such Trail exclusive of the rights of any other Owner within the Development. No developer of any Village within the Development or Owner shall cut off, restrict or modify the access or availability to a Trail established within the Development.

2.08 Commercial Use of Property. No business or commercial enterprise shall be performed or conducted upon any Lot or Parcel within any building or outbuilding within the Development. The only exceptions hereunder shall be the permissibility of construction offices, storage structures, fences, night watchmen's quarters, and sales office facilities during the development of Cimarron and the construction of any of the residences within a Village.

2.09 Recreational Vehicles. No boat, camper, trailer, truck-camper or caravan top which is separate from a vehicle shall be stored or parked for other than loading or unloading purposes on any driveway, street, or front part of any Lot or Parcel. Trucks with campers, motor camper homes, or similar recreational vehicles shall not be stored in any driveway, street, or front part of any Lot or Parcel. If any such vehicles are stored on any such driveway, street or front part of any Lot for more than four (4) successive days, a violation of this Declaration shall have been deemed to have occurred and the Owner of the respective Lot or Parcel shall be liable for the cost of towing and storing such vehicle and all other costs incident thereto.

2.10 Pets and Livestock. No livestock, fowl, or other animals, other than dogs, cats or other common and ordinary household pets, may be kept on individual Lots or Parcels unless such Lot or Parcel shall be one (1) acre or more in size and approved or appropriate under regulations or ordinances of the appropriate governing authority.

2.11 Adverse Affect on Adjoining Property. No use of any Lot or structure within the Development shall adversely affect the use, value, occupation and enjoyment of any adjoining property or the general neighborhood.

2.12 Excavations. No excavation for mineral, stone, gravel or earth, shall be made upon any Lot other than excavations for necessary construction purposes relating to main dwelling units, outbuildings and pools, and for the purpose of contouring, shaping, fencing, and generally improving any Lot or Parcel.

2.13 Certificate of Occupancy. A certificate of occupancy must be issued by the governing authority prior to the occupancy of any dwelling unit.

2.14 Garbage. All Owners and/or tenants of all Lots or Parcels shall have garbage picked up each week, and no refuge, unsightly or abandoned vehicles, debris, noxious material, discarded personal effects, constructions materials not for immediate use, and similar matter shall be permitted on any Lot or Parcel. Yards of all dwelling units shall be maintained in a neat, attractive, and orderly manner. All woodpiles shall be screened from streets by fences.

2.15 Clotheslines. No clotheslines shall be constructed or erected which would be visible from any front or side street.

2.16 Utilities. All utility connections and service lines to each individual Lot or Parcel and dwelling unit will be installed underground, including electric service, water service, gas service, and telephone cable, in accordance with accepted construction and utility standards.

2.17 Signs. Except as otherwise provided by the Declarant for purposes of identifying the Development and each Village therein, no sign shall be erected on any Lot, Parcel, or portion thereof, except signs advertising residences or Lots for sale; provided, however, such signs shall not exceed signs customarily used by real estate brokerage firms within the Reno/Sparks Metropolitan Area.

2.18 Separation of Surface and Subsurface Rights. There shall be no deed, conveyance, agreement or other document executed which would effect or cause a separation into different ownerships of the surface and subsurface rights of any Lot, Parcel, or portion thereof.

2.19 Development of Villages. Each developer of a Village may establish architectural control, including the establishment of an Architectural Control Committee, for the development of any residences or dwelling units within the separate Villages set forth in the Tentative Map or any supplement map thereto. Any such developer shall have the right to record a declaration of covenants, conditions and restrictions pertinent, and

restricted, to the individual Village developed by such developer; provided, however, no such declaration of covenants, conditions and restrictions may limit, restrict, constrain or contradict this Declaration or may violate or be construed differently than the provisions of this Declaration and, in the event of any ambiguity, the terms and provisions of this Declaration shall be controlling and be binding upon all Owners.

ARTICLE III - OWNERS' ASSOCIATION

3.01 Formation of Owners' Association. Declarant shall cause an Owners' Association to be formed as a non-profit corporation under the laws of the State of Nevada under the name Cimarron Association (or similar name if such name is not available).

3.02 Association Purposes. The Owners' Association shall have as its purposes the performance of the duties and obligations imposed upon, and the exercise of the rights granted to the Owners' Association by this Declaration, which shall include and be limited to the collection of regular maintenance charges necessary for the maintenance and reasonable upkeep of the Signage and Common Areas (the "Maintenance Areas").

3.03 Association Membership. Each holder of an Ownership Interest in any and all Lots or Parcels located within the Development shall, upon and by virtue of holding such an Ownership Interest, automatically become a Member of the Owners' Association and shall remain a Member thereof until such Ownership ceases for any reason, at which time such Owner's membership in the Owners' Association shall automatically cease. Each Owners' membership in the Owners' Association shall be appurtenant to and shall automatically follow the Ownership Interest in a Parcel and may not be separated from such Ownership. The City of Sparks, Washoe County, Nevada, shall be entitled to be a Member by designation of a representative to act on behalf of the City of Sparks.

3.04 Association Board. The affairs of the Owners' Association shall be managed by the Board, which shall consist of a number equal to the number of Villages established by the Tentative Map or any supplement map thereto. One director shall be selected from each of the Villages by a vote of the Owners of Lots or Parcels located within each individual Village. The responsibility of the Board shall be limited to the assessment and collection of sums necessary to maintain the Maintenance Areas.

3.05 Voting. Each individual Lot or Parcel within a Village shall be allocated one (1) vote. In the event a Lot or Parcel is owned by more than one individual or entity, each individual or entity having such an Ownership Interest shall be allocated that percentage of one (1) vote which represents the percentage Ownership Interest of that individual or entity in that Lot or Parcel.

3.06 Assessments. The Board shall meet not less than once per calendar year. The purpose of said meeting shall be to determine the annual monetary amounts necessary for the maintenance and upkeep of the Signage and Common Areas provided for herein (the "Annual Maintenance Charge"). Each individual Lot or Parcel located within the Development shall be assessed a pro rata share of the Annual Maintenance Charge so determined by the Board to be necessary for the maintenance and upkeep of the Signage and Common Areas. In the event a Lot or Parcel is owned by more than one individual or entity, each individual or entity having such an Ownership Interest shall be assessed that percentage of the Annual Maintenance Charge for that Lot or Parcel which represents the percentage Ownership Interest of that individual or entity in that Lot or Parcel.

The Annual Maintenance Charge shall be payable in such installments and on such dates as shall be fixed by the Board, which may provide that the maintenance charge for any calendar year be paid in equal monthly, quarterly, or semi-annual installments over such year; provided, however, that upon the purchase of any Lot or Parcel, the Owner so acquiring such Parcel shall be obligated to pay to the Association that pro rata part of the full Annual Maintenance Charge that could have been assessed on such Parcel which bears the same ratio of said full Annual Maintenance Charge as the number of full calendar months remaining in the calendar year of purchase bears to twelve (12) and which shall be payable in full upon such acquisition or in equal monthly, quarterly, or semi-annual installments over the balance of the calendar year of purchase or lease, as the Board may determine.

The Board may decrease or increase the amount of the Annual Maintenance Charge provided for herein at any time (but not more than twice in any calendar year) by the adoption of a resolution for such purpose, but no resolution increasing the Annual Maintenance Charge shall become effective prior to the expiration of ninety (90) days from the date of its adoption, and each Owner subject to such assessment shall, within thirty (30) days from such effective date, pay to the Association the proportionate part of such increase for the balance of the year in which such resolution is adopted. No increase or decrease in the Annual Maintenance Charge shall take effect retroactively.

Any developer purchasing a Village shall be deemed the Owner and shall be assessed the Annual Maintenance Charge based upon the number of Parcels within such Village until such developer shall sell individual Lots or Parcels within the respective Village at which time the purchaser thereof shall become, and be deemed, the owner and responsible for payment of the Annual Maintenance Charge subject to proration as above described.

3.07 Notice and Quorum. Written notice of any meeting of the Board of Directors shall be sent to all Owners not less than thirty (30) days or more than sixty (60) days in advance of the meeting. At each such meeting called, the presence of members (in person or by proxy) entitled to cast ten percent (10%) of all of the votes of the Association membership shall constitute a quorum.

3.08 Fixing of Amounts and Dates. The Board shall fix for each calendar year the date(s) upon which Annual Maintenance Charges (or installments thereof) are to be paid and the amount of the assessment against the Parcel for such year, at least thirty (30) days in advance of such date(s) and shall, at that time, prepare a roster of the properties and assessments applicable thereto which shall be kept by the Secretary of the Association and shall be open to inspection by the Declarant and/or any Owner. Written notice of the assessment shall thereupon be sent to every Owner subject thereto. The Association shall, at any time, within ten (10) days following demand therefor, furnish to any Owner subject to assessment a certificate in writing signed by an officer of the Association, setting forth whether the assessments required hereunder to be paid by such Owner have been paid.

3.09 Liens to Secure Assessments. The Annual Maintenance Charge shall constitute and be secured by a separately valid and subsisting lien, hereby created and fixed, which shall exist upon and against each Parcel and all improvements thereon, for the benefit of the Association and all Members. Subject to the condition that the Association be made a party to any legal proceeding to enforce any lien hereinafter provided to be superior thereof, the lien hereby created shall be subordinate and inferior to:

A. All liens for taxes or special assessments levied by any applicable city, county or state governments, or any political subdivision or special district thereof; and,

B. All liens securing amounts due or to become due under any Mortgage or Mechanic's Lien recorded with the County Recorder of Washoe County, Nevada, prior to the date payment of any such charges or assessments became due and payable, and any foreclosure of any such superior lien (or exercise of any power of sale contained in any mortgage or other security instrument), or through other legal proceedings in which the Association has been made a party, shall cut off and extinguish the liens securing Annual Maintenance Charges which became due and payable prior to the date upon which such foreclosure or sale has been completed or final judgment shall have been entered in such other legal proceedings (and all rights of appeal therefrom shall have expired), but no such foreclosure shall free any Parcel from the lien securing assessments thereafter becoming due and payable, nor shall the liability of any Member personally obligated to pay any such Annual Maintenance Charge which became due and payable prior to the date upon which such foreclosure or sale has been completed or final judgment shall have been entered in such other legal proceeds (and all rights of appeal therefrom shall have expired), be extinguished by any such foreclosure.

3.10 Effect of Non-Payment: Collection and Enforcement. If any Annual Maintenance Charge is not paid within thirty (30) days following the due date thereof, the same shall bear interest from the due date until paid at a rate equal to twelve percent (12%) per annum and if any such charges or assessments are placed in the hands of an attorney for collection or if suit is brought thereon or if collected through probate or other judicial proceedings, there shall be paid to the Owners' Association an additional reasonable amount for attorney's fees and costs of collection. The Owners' Association, as a common expense to all Members, may institute

and maintain an action at law or in equity against any defaulting Member to enforce collection of any and all such amounts and/or for foreclosure of such liens. All such actions may be instituted and brought in the name of the Owners' Association. The procedures for establishing and enforcing liens shall be as follows:

A. The Association shall cause to be recorded in the Office of the County Recorder's Office of Washoe County, Nevada (the "Recorder"), a claim of lien.

B. The claim of lien shall include the following information:

(1) The name of the claimant;

(2) A statement concerning the basis of the claim of lien;

(3) The last known name and address of the Owner or reputed Owner of the Parcel against which the lien is claimed;

(4) A description of the Parcel against which the lien is claimed;

(5) A statement itemizing the amount of the lien claimed; and

(6) A statement that the lien is claimed pursuant to the provisions of this Declaration reciting the date, book and page of the recordation thereof.

C. The claim of lien shall be duly verified, acknowledged and contain a certificate that a copy thereof has been served upon the party against whom the lien is claimed, either by personal service or by mailing (first class, certified mail with return receipt requested) to the defaulting Owner at such Owner's last known address.

D. The lien so claimed shall attach from the date of recordation and may be enforced in any manner allowed by law for the foreclosure of liens.

Each Member, by his assertion of title or claim of Ownership or by his acceptance of a deed to any Parcel, whether or not so provided in such deed, shall be conclusively deemed to have expressly vested in the Association, and in its officers and agents, the right, power and authority to take all action which the Association shall deem proper for the collection of assessments and/or the enforcement and foreclosure of the liens securing the same.

ARTICLE IV - GENERAL PROVISIONS

4.01 Term. The provisions of this Declaration shall run with and bind the Real Property, and shall inure to the benefit of and be enforceable by Declarant, the Association, or the Owner or Owners of any land subject to this Declaration, and their respective legal representatives, heirs, successors and assigns, for an initial term commencing on the date this Declaration is recorded with the Recorder and ending January 1, 2044. Except as otherwise provided in this Declaration, during such initial term this Declaration may be amended or terminated only by an instrument (a) signed by the then Owners of not less than seventy percent (70%) of the total Parcels within the Development, and (b) recorded with the Recorder. Upon the expiration of its initial term, this Declaration (as amended, if amended) and all of the provisions hereof, shall be automatically extended for successive periods of ten (10) years each. Except as otherwise provided in this Declaration, during such ten (10) year extension periods, this Declaration may be amended or terminated only by an instrument (a) signed by the then Owners of not less than seventy percent (70%) of the Parcels within the Development, and (b) recorded with the Recorder.

4.02 Enforcement. Declarant, the Association, and/or any Owner shall have the right to enforce, by proceedings at law or in equity, all restrictions, covenants, conditions, reservations, liens, charges, assessments and all other provisions set forth in this Declaration (or any supplement or amendment thereto), provided, however, that the failure or refusal of any such person to take any action to enforce any provisions hereof shall not render such person liable in any manner for such failure or refusal. Failure or refusal of any Person entitled to enforce the provisions hereof to take any action upon any breach or default of or in respect to any of the foregoing shall not be deemed a waiver of such Person's (or any other Person's) right to take enforcement action upon any subsequent breach or default.

4.03 Amendments by Declarant. Declarant shall have the right at any time and from time to time, without the joinder or consent of any other party, to amend this Declaration by an instrument in writing duly signed, acknowledged and recorded with the Recorder for the purpose of correcting any typographical or grammatical error, ambiguity or inconsistency appearing herein, provided that any such amendment shall be consistent with and in furtherance of the general plan of Development and shall not impair or affect the vested property or other rights of any Owner or any Owner's Mortgagees.

4.04 Additional Restrictions. Declarant may impose additional restrictions upon any Parcel by appropriate provision in the deed or ground lease conveying or leasing such Parcel to an Owner (or, so long as Declarant owns the Parcel in question, by recording with the Recorder an instrument containing such additional restrictions), without otherwise modifying the Development and any such other restrictions shall inure to the benefit of and be binding upon the parties to such deed or ground lease (or the Owner(s) thereafter acquiring an interest in such Parcel) in the same manner as if set forth at length herein.

4.05 Interpretation. If this Declaration or any word, clause, sentence, paragraph, or other part thereof shall be susceptible to differing or conflicting interpretation, that which is most nearly in accordance with the general purposes and objectives of this Declaration shall govern.

4.06 Omissions. If any punctuation, word, clause, sentence, or provision necessary to give meaning, validity or effect to any other word, clause, sentence, or provision appearing in this Declaration shall be omitted herefrom, then it is hereby declared that such omission was unintentional and that the omitted punctuation, word, clause, sentence, or provision shall be supplied by inference.

4.07 Notices. Any notice required to be sent to any Owner or Declarant or any ground lessee under the provisions of this Declaration shall be deemed to have been properly given when delivered personally or mailed postage prepaid to the last address of such Person on file with the Association at the time of such mailing.

4.08 General and Grammar. The singular, wherever used herein, shall be construed to mean the plural, when applicable, and the necessary grammatical changes required to make the provisions hereof apply either to corporations or individuals, males or females, shall in all cases be assumed as though in each case fully expressed.

4.09 Severability. Invalidation of any one or more of the covenants, restrictions, conditions, or provisions contained in this Declaration, or any part thereof, shall in no manner affect any of the other covenants, restrictions, conditions or provisions hereof, which shall remain in full force and effect.

4.10 Construction. This Declaration shall be construed in accordance with the laws of the State of Nevada.

IN WITNESS WHEREOF, the parties have executed this Declaration effective as of the day and year first above set forth.

BIGHORN DEVELOPMENT II, LTD.,
a Nevada Limited Liability Company

By_____
CLARENCE A. JONES

By_____
HUGH J. KEITH

STATE OF WASHOE)
) ss.
COUNTY OF WASHOE)

On _____, 1993, personally appeared before me, a Notary Public, CLARENCE A. JONES and HUGH J. KEITH known to me to be the Managers of BIGHORN DEVELOPMENT II, LTD., a Nevada Limited Liability Company, and known (or proved) to me to be the person whose name is subscribed to the foregoing instrument and who acknowledged to me that he executed the same on behalf of said Corporation.

_____
Notary Public

C:wp51\BIGHORN\CC&RS
November 9, 1993

APPENDIX D
PRELIMINARY HYDROLOGY REPORT

PRELIMINARY HYDROLOGY
FOR
CIMARRON

INTRODUCTION

This report is the result of our preliminary hydrologic analysis for the proposed Bighorn Development, Cimarron. There are several existing published hydrologic analyses which have incorporated the HEC-1 methodology to determine the 100-year storm events for the Spanish Springs Valley.The currently accepted analysis for the Spanish Springs Valley is the "Spanish Springs Flood Control Alternatives" report, prepared for Washoe County Public Works in cooperation with the City of Sparks, authored by Nimbus Engineers, dated December 1990. This report will focus on the increased runoff generated by the development of Cimarron. Detention and conveyance within the development, in addition to addressing mitigating measures for conveyance of the 100-year storm event, will also be investigated to eliminate any increase in peak flood flows discharging from Cimarron.

PROJECT DESCRIPTION

The Bighorn Development, Cimarron, consists of 404.7 +/- acres located in Section 1,Township 20 North, Range 20 East, M.D.B.& M. Historically, this area was utilized for open grazing purposes. The proposed development is comprised of low density housing (1 house per 3/4-1 acre, 79 houses), medium density housing (1 house per 10,000 s.f., 127 houses) and medium-high density housing (1 house per 7,000-8,500 s.f., 605 houses). Total houses = 811 at a density of 36.8%.

EXISTING CONDITIONS

Contributing drainage areas to the project site consist of 1,555 acres of hills and alluvial fans of the Pah Rah Range and the Spanish Springs Canyon drainage basin. The 100-year recurrent storm flows from these areas have been determined by previous reports and our computations to be approximately 780 cfs. Two defined channels convey this runoff and it enters the proposed development at two points along the east boundary. (Plate 1). The project area has been designated as a "C" flood zone (Plate 2, F.E.M.A. Flood Insurance Rate Map for Washoe County, Community Panel numbers 320019-1355 C, dated April 16, 1990). A "C" flood zone is described by F.E.M.A. as an area of "minimal flooding". This flow of 780 cfs enters the site along these two channels along with some sheet flow. All onsite, as well as contributary offsite, runoff will end up flowing into onsite detention ponds via the onsite drainage/pipe system.

The design 5 year flood volumes from onsite, that exceed the existing 5 year flood volumes, would be retained onsite in the detention ponds. The 100 year flood volumes that exceed the detention pond capacities would flow offsite into existing natual drainage swales to the flood zones in the Spanish Springs Valley. The Orr Ditch passes by the site near the quarter section line, (midpoint of the west boundary of Section 1, see 1, Plate 33), but will not be utilized for any flow volumes that originate from the site or upstream of the site.

FUTURE CONDITIONS

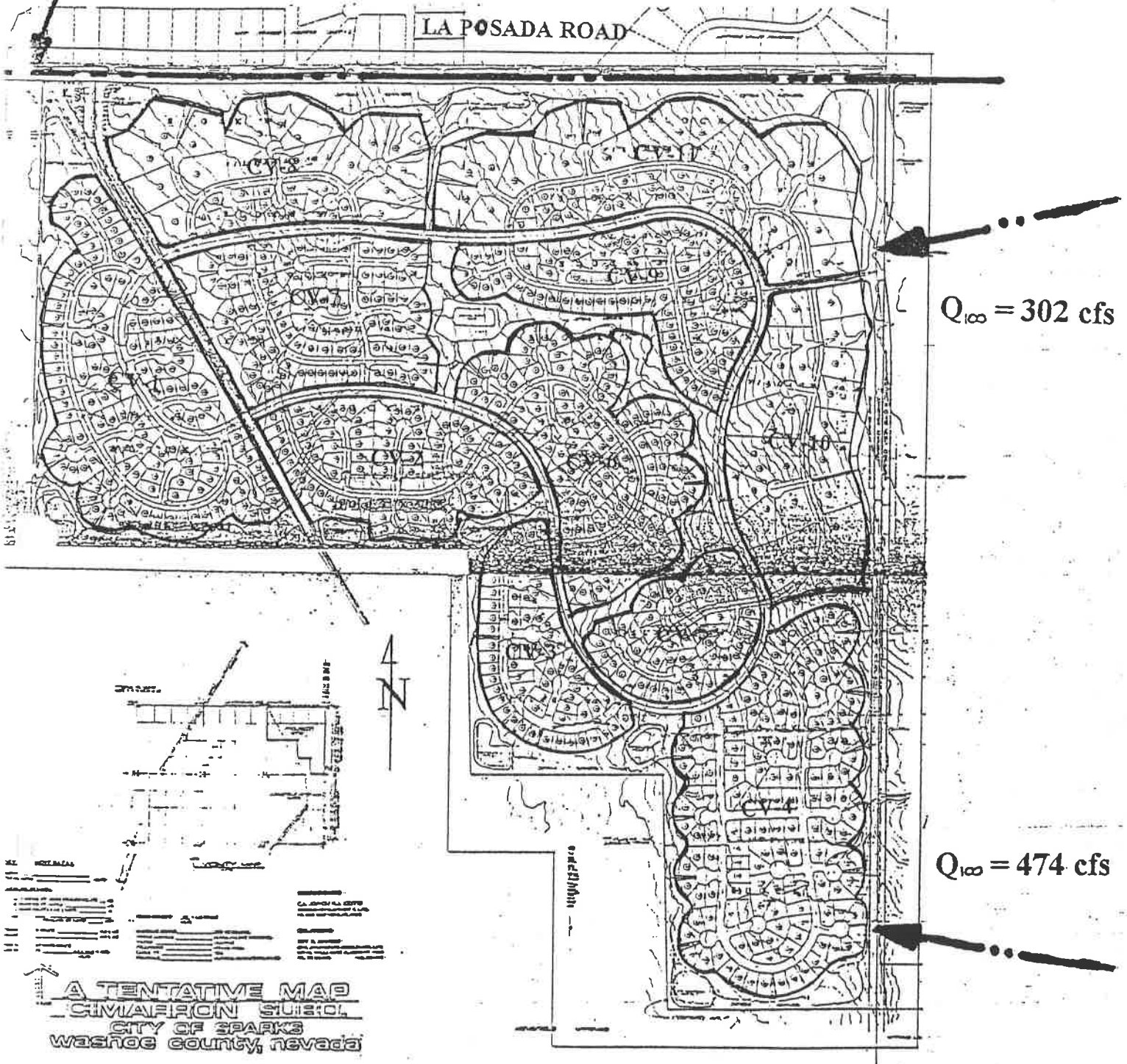
The detention basin areas will be designed as an integral part of the stormwater control plan for the entire Bighorn Development. All excess runoff which is generated onsite will be transported via a series of catch basins and underground storm drainage systems to these proposed detention basins.(Refer to folded sheet at the end of the report.)

These detention areas will be linked by a series of meandering swales to convey the major stormwater through the proposed project. The detention areas and swale system will serve to delay the arrival time of the flood flows thereby eliminating any negative impact to downstream landowners. The ponds will deter the offsite stormwater so that during major storm events the water flow through the site can be maintained at quantities equal to pre-improvement quantities. After the site is improved, the flows leaving the site shall not exceed existing flows.

HYDROLOGIC METHODOLOGY

The Rational Method (Q=ciA) has been employed to determine onsite runoff. The rainfall Intensity-Duration-Frequency curves for this area were generated from NOAA Atlas 2, "Precipitation - Frequency Atlas of the Western United States", Volume VII - Nevada, (ref. Figure 1). Storm water runoff has been determined for all areas based on both their existing conditions and their proposed development densities, (ref. Tentative Map for Bighorn Development, Plate 1). Tables 1 and 2 list each area as shown on the Tentative Map, the runoff generated by the site in its existing condition and the future "developed" runoff, respectively. The difference between the existing conditions and the proposed conditions for the 5 year storm event is approximately 214 cfs which, for a 10 minute storm, would equate to approximately 128,649 cf and would be distributed accordingly to the detention ponds onsite. These ponds would also handle part of the 100 year runoff from offsite which would be approximately 780 cfs.This runoff volume was derived from the Drainage Master Plan for the Spanish Springs Valley prepared for The Nevada Hereford Ranch, November 1991 by SEA Consulting Engineers, Inc.(See Plate 3). This Plate shows the upstream contributary areas (16, half of 17, 22 & half of area 23) which equate to approximately 780 cfs.

All flow north of this line is carried off by way of drainage channel along north side of La Posada Dr.



$Q_{100} = 302$ cfs

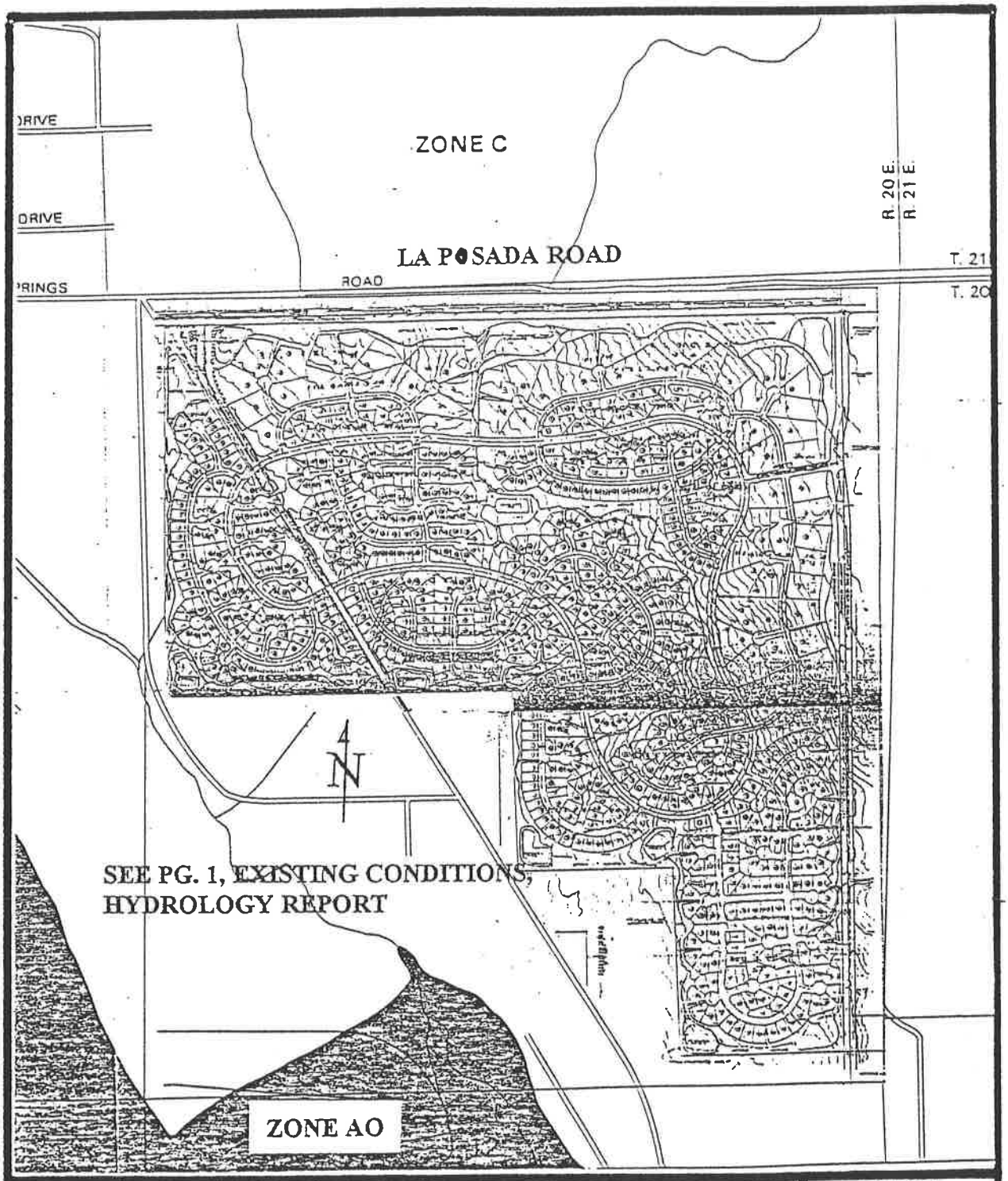
$Q_{100} = 474$ cfs

PLATE

1

100 YEAR RECURRENT STORM RUNOFF QUANTITIES

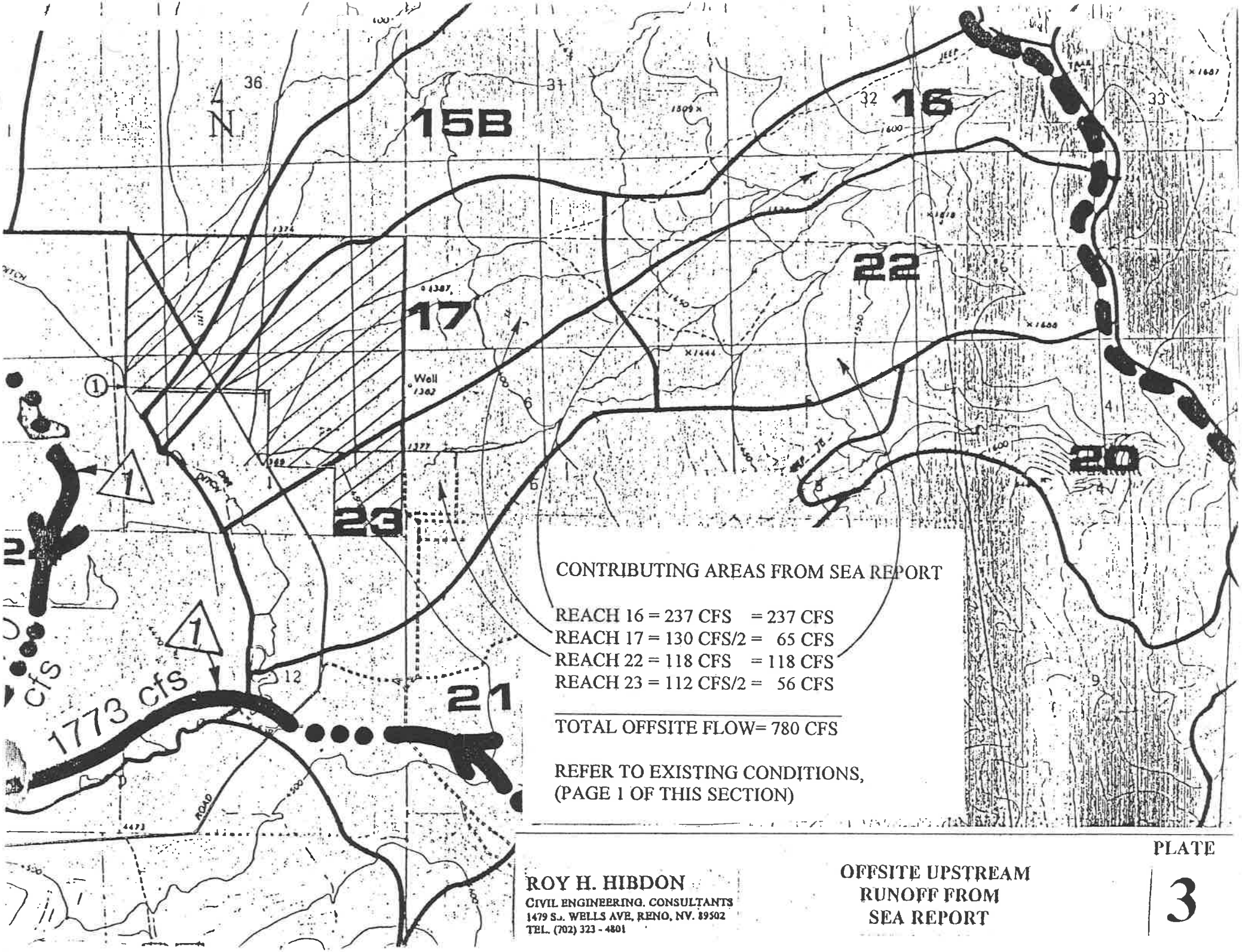
ROY H. HIBDON
CIVIL ENGINEERING CONSULTANTS
1479 So. WELLS AVE. RENO, NV. 89502
TEL. (702) 323 - 4801



ROY H. HIBDON
CIVIL ENGINEERING. CONSULTANTS
1479 So. WELLS AVE. RENO, NV. 89502
TEL. (702) 323 - 4801

F.E.M.A. FLOOD ZONE DESIGNATIONS

PLATE 2



CONTRIBUTING AREAS FROM SEA REPORT

REACH 16 = 237 CFS = 237 CFS
REACH 17 = 130 CFS/2 = 65 CFS
REACH 22 = 118 CFS = 118 CFS
REACH 23 = 112 CFS/2 = 56 CFS

TOTAL OFFSITE FLOW= 780 CFS

REFER TO EXISTING CONDITIONS,
(PAGE 1 OF THIS SECTION)

ROY H. HIBDON
CIVIL ENGINEERING. CONSULTANTS
1479 S.. WELLS AVE, RENO, NV. 89502
TEL. (702) 323 - 4801

OFFSITE UPSTREAM
RUNOFF FROM
SEA REPORT

PLATE
3

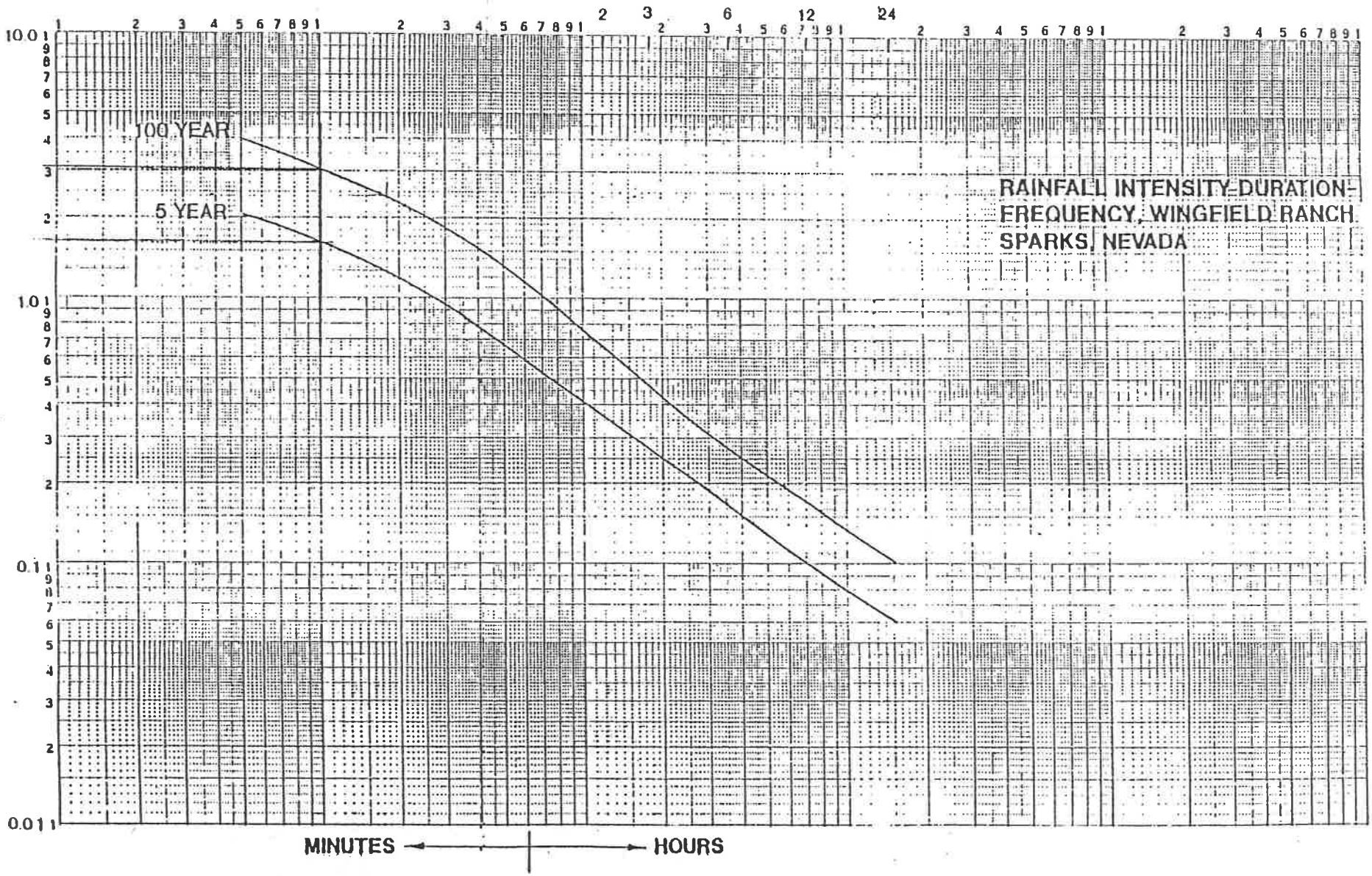

100 YEAR
5 YEAR
RAINFALL INTENSITY-DURATION-FREQUENCY, WINGFIELD RANCH, SPARKS, NEVADA
MINUTES
HOURS

FIGURE 1

TABLE 1
EXISTING RUNOFF CONDITIONS

SUBAREA	Tc (min.)	i_5 (in/hr.)	i_{100} (in/hr)	AREA (Ac.)	RUNOFF COEFF.	Q_5 (cfs)	Q_{100} (cfs)
CV-1	18	1.26	2.42	36.82	0.30	13.9	26.7
CV-2	18	1.26	2.42	21.37	0.30	8.1	15.5
CV-3	18	1.26	2.42	15.69	0.30	5.9	11.4
CV-4	18	1.26	2.42	44.70	0.30	16.9	32.5
CV-5	18	1.26	2.42	13.29	0.30	5.0	9.6
CV-6	18	1.26	2.42	27.82	0.30	10.5	20.2
CV-7	18	1.26	2.42	25.30	0.30	9.6	18.4
CV-8	18	1.26	2.42	28.03	0.30	10.6	20.3
CV-9	18	1.26	2.42	21.95	0.30	8.3	15.9
CV-10	18	1.26	2.42	28.85	0.30	10.9	20.9
CV-11	18	1.26	2.42	37.28	0.30	14.1	27.1
OA/DP	18	1.26	2.42	37.68	0.30	14.2	27.4
RW	18	1.26	2.42	66.00	0.30	24.9	47.9
TOTALS				404.78		153	294

TABLE 2
EXISTING RUNOFF CONDITIONS

SUBAREA	Tc (min.)	i_5 (in/hr.)	i_{100} (in/hr)	AREA (Ac.)	RUNOFF COEFF.	Q_5 (cfs)	Q_{100} (cfs)
CV-1	10	1.62	3.10	36.82	0.55	32.8	62.8
CV-2	10	1.62	3.10	21.37	0.55	19.0	36.4
CV-3	10	1.62	3.10	15.69	0.55	14.0	26.8
CV-4	10	1.62	3.10	44.70	0.55	39.8	76.2
CV-5	10	1.62	3.10	13.29	0.55	11.8	22.7
CV-6	10	1.62	3.10	27.82	0.55	24.8	47.4
CV-7	10	1.62	3.10	25.30	0.55	22.5	43.1
CV-8	10	1.62	3.10	28.03	0.45	20.4	39.1
CV-9	10	1.62	3.10	21.95	0.55	19.6	37.4
CV-10	10	1.62	3.10	28.85	0.45	21.0	40.2
CV-11	10	1.62	3.10	37.28	0.45	27.2	52.0
OA/DP	10	1.62	3.10	37.68	0.30	18.3	35.0
RW	10	1.62	3.10	66.00	0.90	96.2	184.1
TOTALS				404.78		367	703

TABLE 3
Difference between existing
conditions and proposed

SUBAREA	ΔQ_5 (cfs)	ΔQ_{100} (cfs)	V_5 (cf)	V_{100} (cf)
CV-1	18.9	36.1	11,340	21,660
CV-2	10.9	20.9	6,540	12,540
CV-3	8.1	15.4	4,860	9,240
CV-4	22.9	43.7	13,740	26,220
CV-5	6.8	13.1	4,080	7,860
CV-6	14.3	27.2	8,580	16,320
CV-7	12.9	24.7	7,740	14,820
CV-8	9.8	18.8	5,880	11,280
CV-9	11.3	21.5	6,780	12,900
CV-10	10.1	19.3	6,060	11,580
CV-11	13.1	24.9	19,440	14,940
OA/DP	4.1	7.6	2,460	4,560
RW	71.3	136.2	42,780	81,720
TOTALS	214.5	409.4	140,280	245,640

Note: Volumes calculated above are based on a ten minute duration storm.

CONCLUSIONS

The routing of the offsite 100 year storm event is tentatively proposed to be accomplished by the construction of temporary "interceptor" swales along the east property lines. These swales will capture the offsite flows as they enter the property and will convey them to the planned detention ponds through the proposed development to the southwest. The ponds will detain the 100 year offsite flows and the excess flows from the onsite 5-year storm events long enough to attenuate the flooding downstream into the flood Zone "AO". All other onsite runoff will flow into catch basins and be carried to detention ponds via pipe or swale. Some of these flows will percolate into the ground through the detention ponds to further attenuate downstream flooding.

MAP POCKETS