

July 16, 2007

OCOTILLO ESTATES UNIT FIVE

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A. SOILS REPORT

Site Conditions:

The project site is currently a vacant, undeveloped mountain area on the West side of the Franklin Mountains, east of Ocotillo Estates Unit Two. Ocotillo Estates Unit Five plan will incorporate eighteen single family residential lots within the subdivision 33.84 acres. The legal description being a portion of A. G. McMath Survey 298, City of El Paso, El Paso County, Texas.

1. Soil Conservation Map- Soils Profile:

The terrain is hilly to mountainous in nature, rocky with Shallow soil profiles. The El Paso County Texas "Soil Survey" by the United States Department of Agriculture classifies the soil in this area as "Delnorte-Canutio, hilly" association (see attached soil survey map).

Canutio soils are very gravelly sandy loam and are located in the arroyos and drainage ways. *Delnorte* soils are very gravelly loam and are located on the hills. The soils underlying the loam are considered to be limestone/bedrock and caliche.

¹The *Delnorte* soils are on the hills, the *Canutio* soils are in the arroyos and drainage-ways. According to the soil survey these soils are pinkish-gray to pale-brown gravelly loam about 6 inches thick. The underlying soil consists of layers of white or whitish, strongly cemented to indurate caliche. The combined thickness of these caliche layers is about 24 inches. These soil exhibit a relatively moderate to rapid permeability and a low shrink-swell potential.

The *Canutio* soils have a surface layer that is pale-brown and very gravelly, sandy loam. The surface layer is about 11 inches thick. The layer beneath it is alluvial deposition of more of the same.

A Geotechnical Report will be provided at the time of Subdivision Improvement Plans submittal.

2. Topographic Map

A topography is provide on the Drainage Plan –See Appendix.

¹"Soil Survey"- El Paso County, Texas, United Stated Department of Agriculture, Soil Conservation Service, in cooperation with Texas Agricultural Experiment Station, issued November 1971

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3. Site Development – Disturbance Calculations:

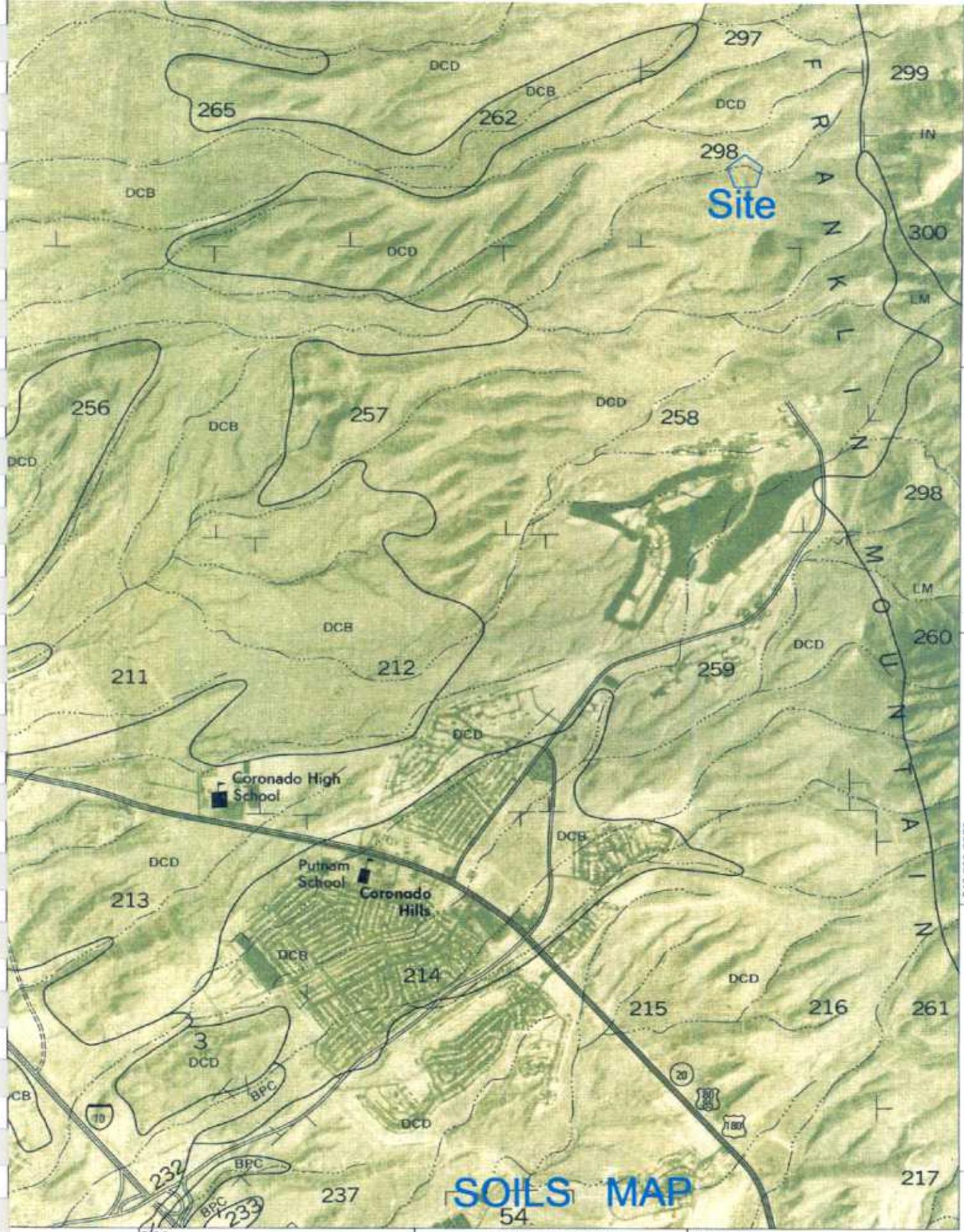
The total site consists of approximately 33.83 acres. The average slope of unit five is 19.24%. The amount of minimum common open space of the site that is required to remain in its natural state is 35%. The actual amount of common open space ___% provided. The maximum density per gross acre for this slope would be 4 units per acre or 135 lots. This subdivision is proposing only 17 lots.

DISTURBANCE CALCULATION

$$\text{Average Slope} = \frac{0.0023 \times I \times L}{A}$$

I = contour interval
L = contour length
A = total area of subdivision

$$\text{Average Slope Ocotillo 5} = \frac{0.0023 \times 5 \times 56607.3}{33.84} = 19.24\%$$



SOILS MAP

54
(Joins sheet 46)

180 000 FEET

180 000 FEET

180 000 FEET

180 000 FEET

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B. GRADING, DRAINAGE AND EROSION PLAN

1. Grading Plan

A grading plan is enclosed and located in the Appendix portion of this report.

2. Flood Analysis & Calculations

A. Purpose

The purpose of this report is to quantify and qualify the current and proposed Drainage Parameters for Ocotillo Estates Subdivision Unit Five.

B. Location

Ocotillo Estates Subdivision Unit Five is a proposed development in Northwest El Paso, Texas. The area is bounded to the West by Residential Subdivisions and undeveloped land, to the East by the Franklin Mountains, to the south by residential subdivision and undeveloped land and to the north by undeveloped land. This subdivision is on the western foothill slopes of the Franklin Mountains. The subdivision is in the PMD zoned area and therefore required to comply with the "Mountain Development Area Standards" (see the Location Map in appendix).

The legal description of the parcel is as follows: Being a portion of A. G. McMath Survey No. 298, City of El Paso, El Paso County, Texas containing 33.93 acres of land more or less.

I. BASIN CHARACTERISTICS:

A. General Watershed Characteristics

The general area is composed of steep slopes on the western side of the Franklin Mountains. The slopes range from 10% in the arroyo to 40% on the mountainside. The Watershed areas that are draining onto the property emanate from areas upstream of the subdivision and terminate at the eastern boundary of the subdivision.

B. Offsite Undeveloped Watersheds

The watershed areas upstream of the development were calculated from the U. S. G. S. "Smelertown" and "El Paso, TX." quadrangle maps from the year 1994. The site itself is also shown on the U. S. G. S. Map. The Ocotillo Master Drainage Plan is located in the appendix section.

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C. Development Onsite Watershed

The developed storm water flows from the lots will convey their runoff flow patterns as per natural topography to either the street, other lots or existing arroyos. The lots will be required to accept natural drainage from the undisturbed areas of the adjacent lot and the runoff from the street. Runoff from these areas shall not obstruct the conveyance of runoff from the front yard and street. No obstructions shall be placed in natural flowpaths.

Where the roadways cross the existing arroyos culverts will be provided to convey the storm runoff safely beneath the roadway. Energy Dissipation Structures and erosion control measures such as baffle blocks, desilting basins, man-sized boulders, etc. will be utilized where necessary.

II. HYDROLOGY

A. DESIGN CRITERIA:

All run-off quantities and related computations have been based on City of El Paso Design Criteria. The Rational formula ($Q = C I A$) has been used with the usual notations and interpretations. Rainfall intensities are based on the time of concentration for a 100 year storm return period for the runoff quantities.

The Preliminary Runoff Quantities are subject to change. When the Subdivision Improvement plans are submitted the runoff quantities may be adjusted. All runoff computations are in conformance with the latest version of the City of El Paso Subdivision Design Standards.

This subdivision will also comply with Section 19.16.050 Storm Water Design and Section 19.20.030 Development Standards (MDA) of the City of El Paso Municipal Ordinance.

III. DATUM

The Datum for this subdivision is to City of El Paso Datum.

IV. FLOOD ZONE DESIGNATION

This site is located in Flood Zone C. as per FIRM Map Panel No. 480214-0022E dated January 3, 1997 and No. 480214-23C dated February 5, 1986.

V. ENVIRONMENTAL CONCERNS

A. An N.O.I. and SWPPP will be submitted with the Subdivision Improvement Plans.

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TABLE I

PRELIMINARY HYDROLOGIC ANALYSIS TABLE

<u>Watershed</u> <u>Location</u>	<u>Area</u> <u>Acres</u>	<u>To</u> <u>min.</u>	<u>Runoff</u> <u>Coeff.</u>	<u>Intensity</u> <u>In/hr.</u>	<u>RunoffQ</u> <u>cfs</u>
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Preliminary Site Runoff Calculations

I	8.5	18	0.80	4.22	28.70
II	25.34	24	0.75	3.58	68.04

3. Drainage Map

A Preliminary Drainage Plan is enclosed that depicts the current lot, street and common open space configuration. The Drainage Pan annotates the quantification depicted in Table I. This map is provided in the appendix section of this report. The appendix section also includes U.S. G.S. Topographic Quadrangle Maps of the undeveloped off-site drainage areas contributory to this property.

Also attached is a portion of the master drainage plan pertaining to the area for depicted of the overall watershed areas.

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4. Specific Erosion Control Measures

All final site grading will be performed with the Subdivision Improvement Plans. The site grading will comply with Section 19.20.030 Development Standards, Items A & D. Some of the lots are anticipated to be completely graded with benches, retaining wall, or rip-rap for grade differential absorption the larger lots will incorporate building envelopes.

- Grading will be performed to minimize disturbance.
- Exposed slope surfaces for excavation or fill will comply with the slope requirements recommended by the Geotechnical Soils Report.
- All streets shall comply with the street grade requirements of the subdivision standards for Mountain Development.
- Erosion control shall utilize live natural revegetation as established and approved in the Vegetation –revegetation plan.
- Temporary erosion control measures shall be utilized until such time that effective stabilization had taken place. These measures may include temporary berms, desilting basins, fencing or other approved methods.
- Typical erosion control measures anticipated include: benching, rock rip-rap, revegetation, berms erosion control mats or other approved methods.

A typical cut and fill section follows this section as well as different alternative examples for erosion control.

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C. VEGETATION PRESERVATION AND PROTECTION REPORT

General Description:

This site is typical of the western slopes of the Franklin Mountains. Shallow rocky soils are characteristic of this site. The lots on this plat will be developed as the “Buildable Areas” and the common open space noted will remain undisturbed.

As per the “Biotic Assessment” performed for this area it is classified as Chihuahua Desert Scrub and Arroyo Riparian Types. The vegetative cover is dominated by lechugilla, creosote, ocotillo, prickly pear, various types of cacti, black grama and other types of grasses. The vegetation cover is about 30%. All revegetation measures shall meet or exceed the amount of vegetation cover existing on site.

Protection measures:

If in the course of construction by the choice of the resident a “non-buildable” area is disturbed, the contractor shall restore the disturbed areas through replanting of either previously salvaged vegetation or new native plants in order to minimize soil erosion on disturbed slopes. The existing vegetation noted above will be used to revegetate disturbed property. The common open area will remain undisturbed. The following steps shall be performed for development in this area.

- A formal revegetation plan shall be prepared at the time of Building Permit Application. This plan shall depict all cut and fill slopes, and the type of vegetation or slope stabilization method to be used on the slopes. The plants shall be of the type and number present on the site prior to grading and shall represent a minimum of 30% coverage.
- Prior to Clearing and Grubbing of the site, the existing vegetation that is to be salvaged shall be marked. This vegetation shall be removed and stored in a temporary nursery for future use on the site.
- Any large boulders shall be removed and stored on site in order to be utilized for the landscaped areas.
- Temporary Facilities either on or off-site shall be provided for storage of materials salvaged for revegetation.
- Where graded slope differential exceeds 20 vertical feet, terraced areas of planting shall be provided to break up slope face.

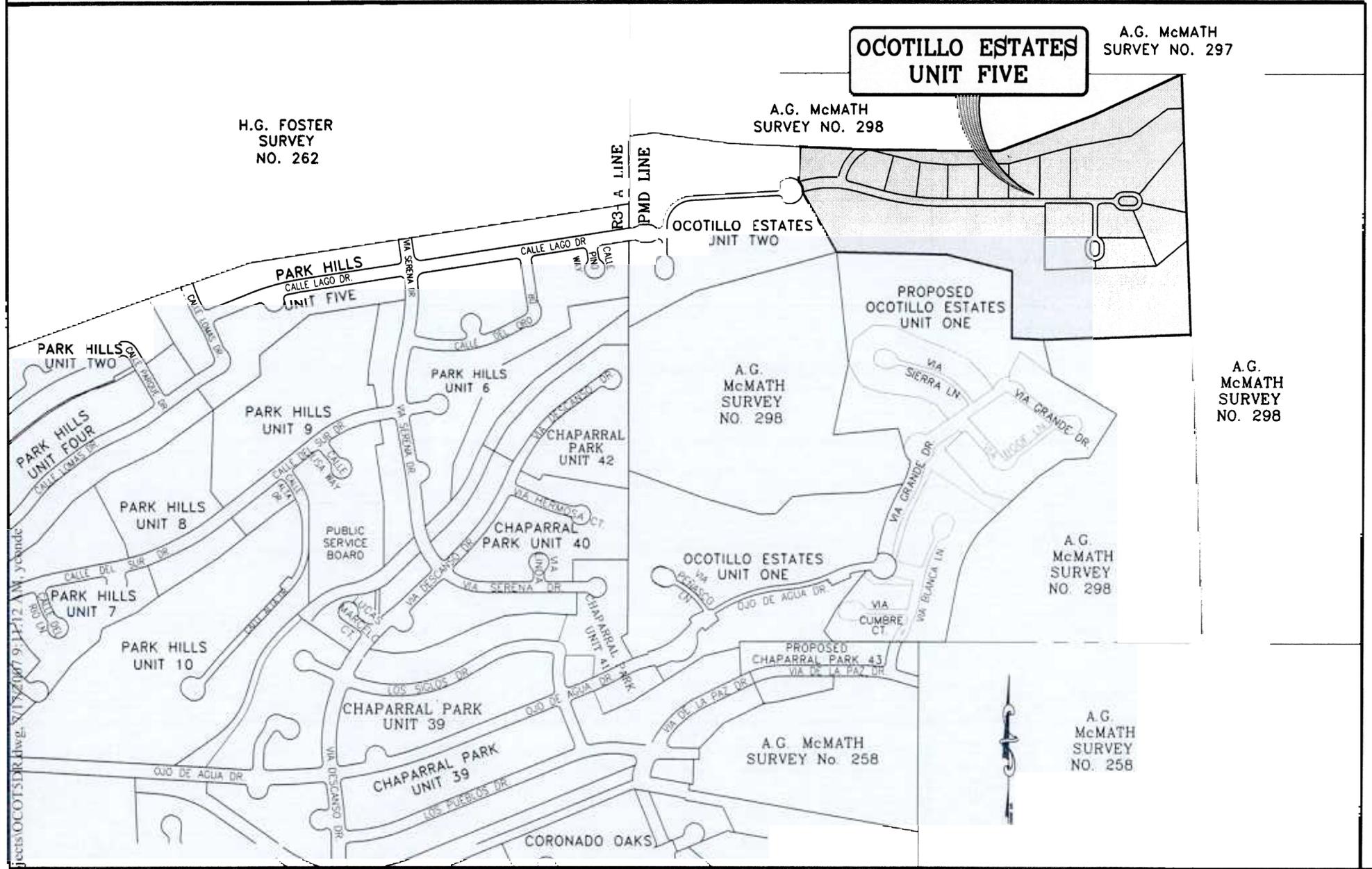
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- Any cut slopes in excess of 2 horizontal to 1 vertical will incorporate structural slope stabilization methods utilizing generally accepted engineering practices and will be approved at the time of Building Permit by the Engineering Department. The methods of slope stabilization may include revegetation, rock rip-rap, mortared rock rip-rap, terracing, benching berms, erosion control mats or other approved methods.

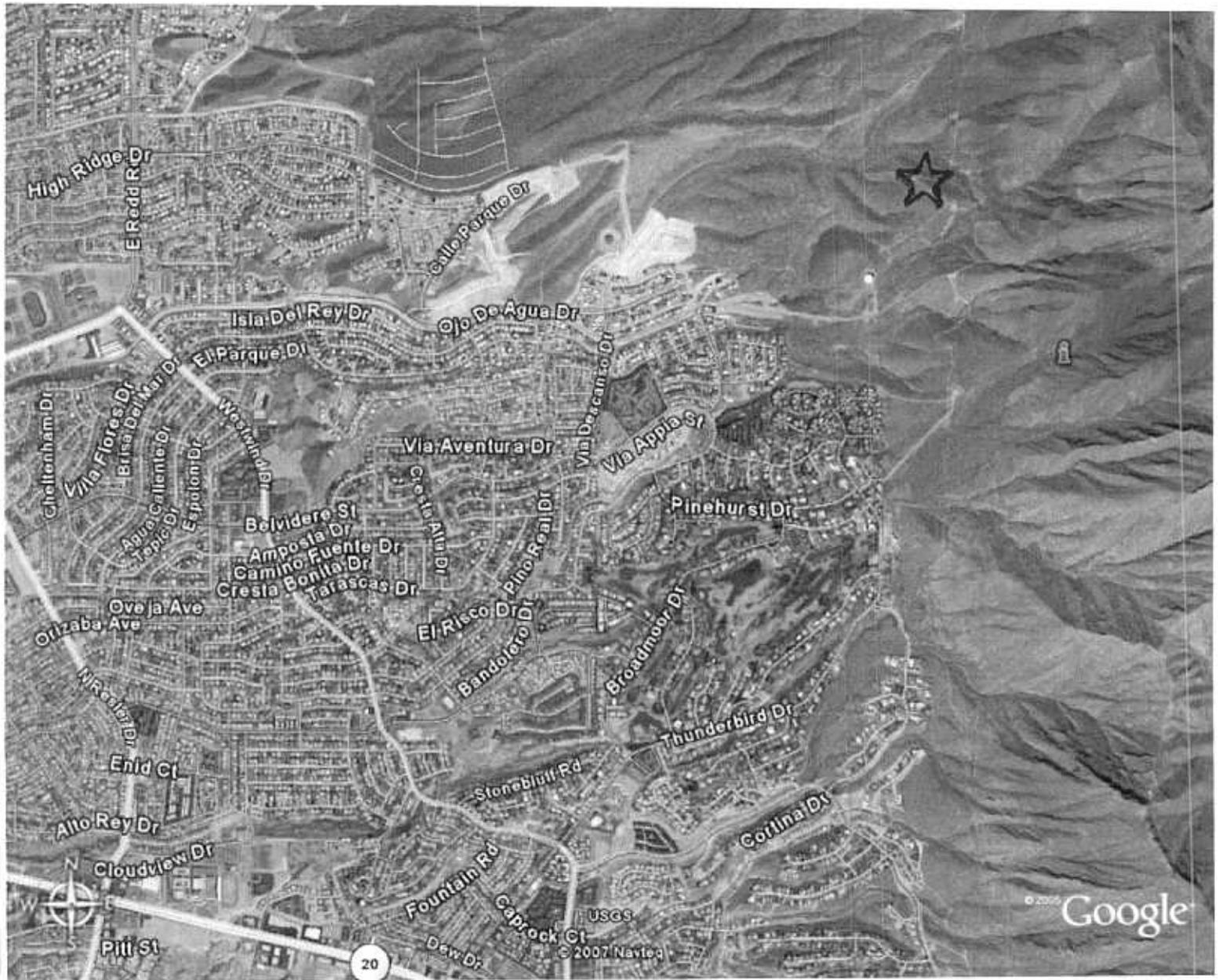
All vegetation-revegetation areas, slope stabilization methods and buildable limit area shall be reviewed and approved by the deputy director for Engineering prior to implementation.

ALL NECESSARY EROSION CONTROL MEASURES SHALL BE ADOPTED WHERE NECESSARY AT THE FINAL DESIGN STAGE OF THE PLANS.

LOCATION MAP



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High Ridge Dr

E Redd Dr

Callo Parque Dr

Isla Del Rey Dr

Ojo De Agua Dr

El Parque Dr

Cheltenham Dr

Villa Flores Dr

Brisa del Mar Dr

Agua Caliente Dr

Tepe Dr

Espolon Dr

Westwind Dr

Via Aventura Dr

Via Baccamo Dr

Via Appia St

Belvidere St

Amposta Dr

Camino Fuente Dr

Cresta Bonita Dr

Tarasca Dr

Cresta Alta Dr

Pinehurst Dr

Oveja Ave

Oitza Ave

El Risco Dr

Pino Real Dr

Bandolero Dr

Broadmoor Dr

Thunderbird Dr

Windsor Dr

Enid Ct

Stonebluff Rd

Alto Rey Dr

Cloudview Dr

Fountain Rd

Caprock Ct

Corilna Dr

W

N

E

S

Pili St

20

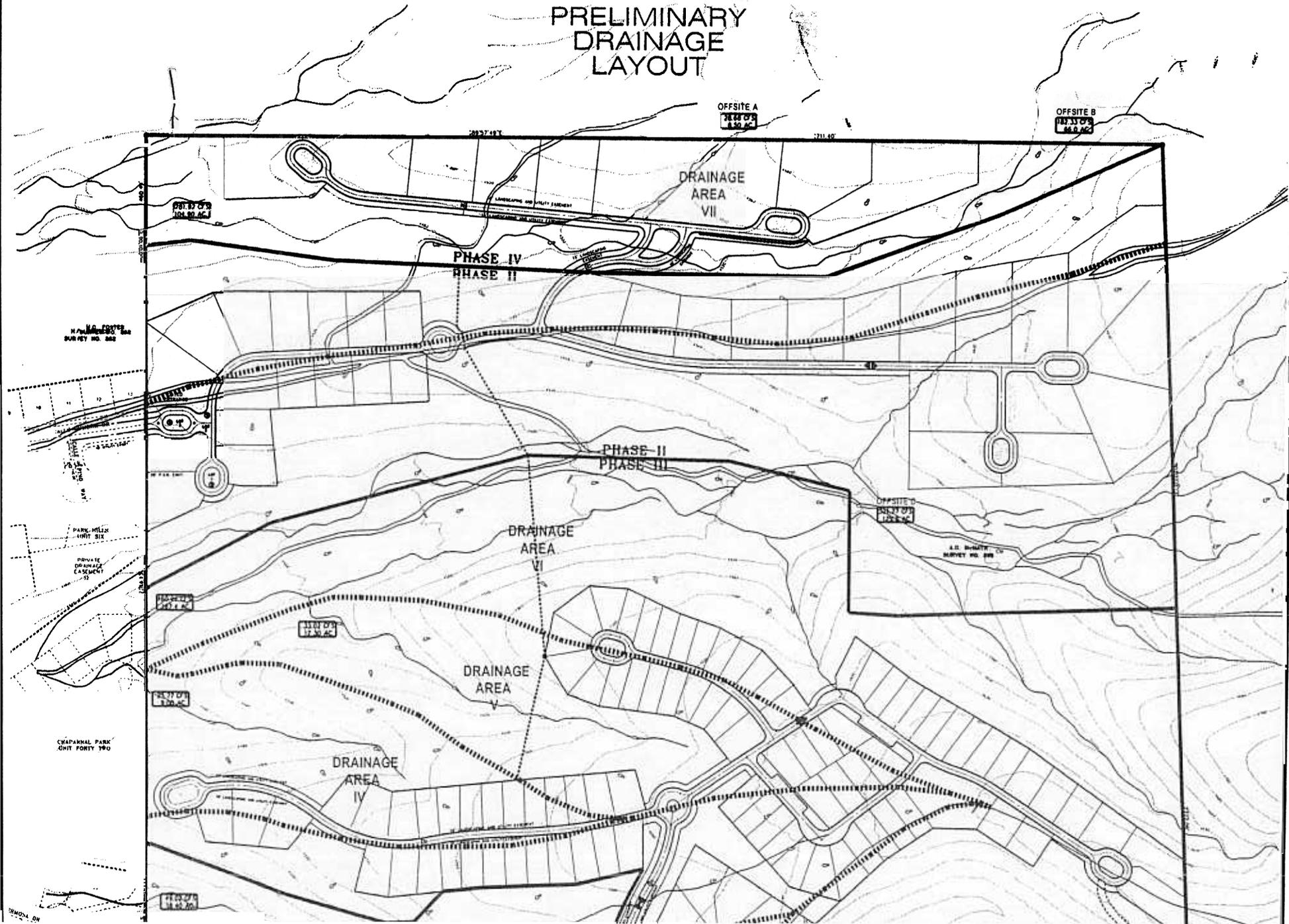
USGS
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OCOTILLO ESTATES CONCEPT PLAN

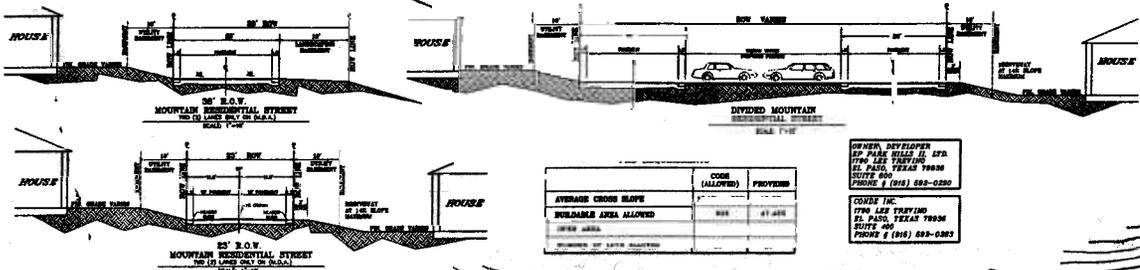
BEING A PORTION OF A. G. McMATH, SURVEY No. 298,
CITY OF EL PASO, EL PASO COUNTY, TEXAS,
CONTAINING: 133.748± ACRES

PRELIMINARY DRAINAGE LAYOUT



OCOTILLO ESTATES UNIT FIVE

BEING A PORTION OF A. G. McMATH SURVEY No. 298
CITY OF EL PASO, EL PASO COUNTY, TEXAS
CONTAINING: 33.837 ACRES
PRELIMINARY DRAINAGE PLAN



AVERAGE CROSS SLOPE	CODE (ALLOWED)	PROVIDED
PERMISSIBLE AREA ALLOWED	100	87.40%
PERCENT OF AREA ALLOWED		

OWNER, DEVELOPER
SP. PACE BILLS II, LTD.
1700 LEE TRYING
EL PASO, TEXAS 79906
SUITE 400
PHONE # (915) 822-0220

CONDE INC.
1700 LEE TRYING
EL PASO, TEXAS 79906
SUITE 400
PHONE # (915) 822-0220

E.G. POTTER
SURVEY NO. 282
A.G. McMATH SURVEY NO. 298

LOCATION MAP

1" = 500'

DRAINAGE AREA	AREA (acres)	$\frac{1}{2}$ mile	$\frac{1}{4}$ mile	$\frac{1}{8}$ mile	$\frac{1}{16}$ mile
I	0.06	25	0.20	0.25	05.70
II	00.51	24	0.79	0.50	05.81

SCALE 1"=100'

