

**LIONSBACK RESORT
PRELIMINARY PLAN**

MOAB, UTAH

01/04/08

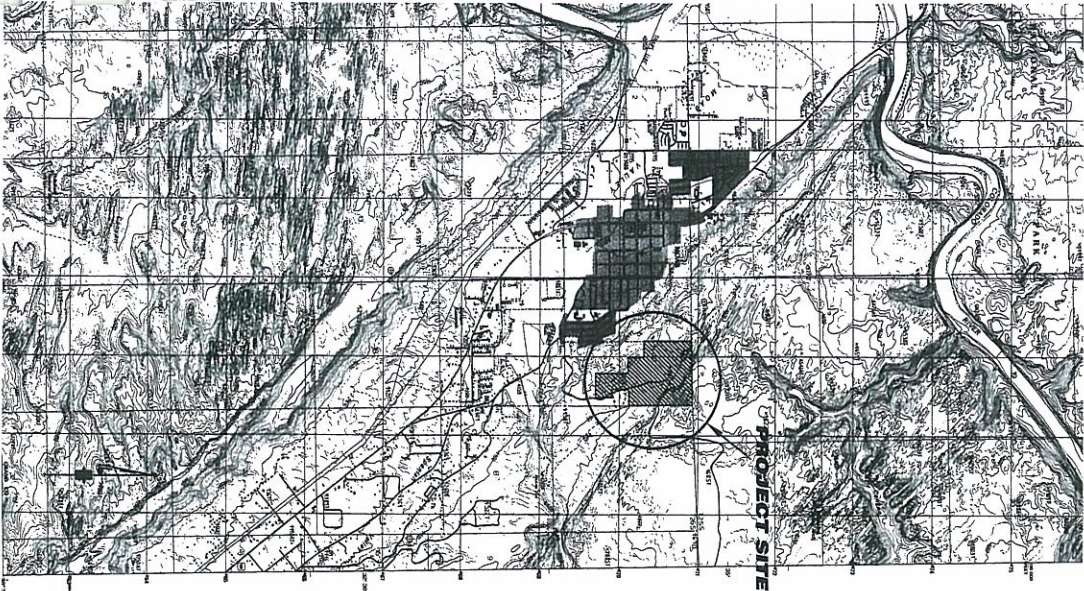
LionsBack Resort Preliminary Plan Submission Documents

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5.	LIONSBACK RESORT PRELIMINARY DESIGN GUIDELINES (01/28/08)

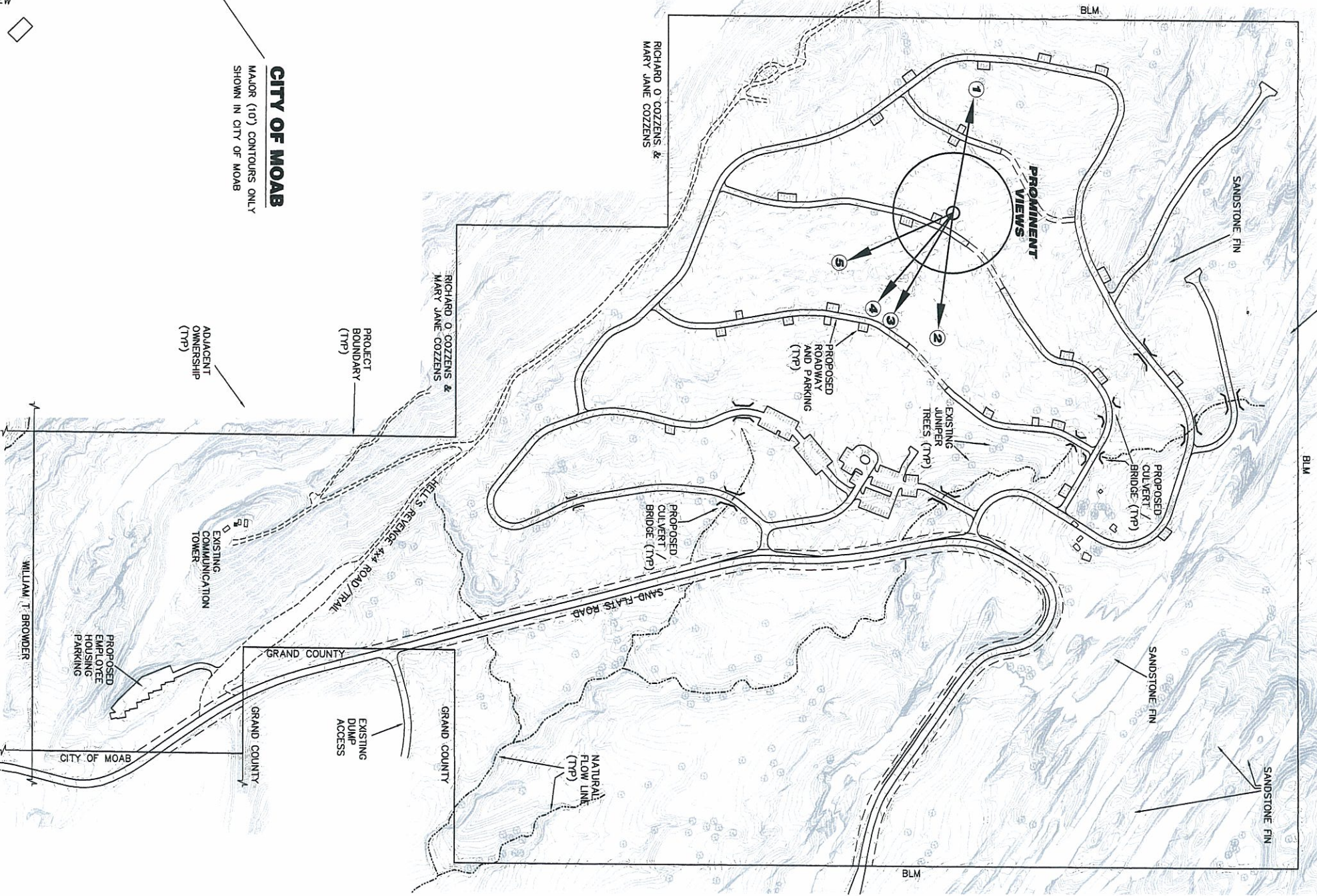
LIONSBACK RESORT SITE INVENTORY / VICINITY MAP

VICINITY MAP

NOT TO SCALE



SITE INVENTORY



CITY OF MOAB

MAJOR (10') CONTOURS ONLY
SHOWN IN CITY OF MOAB

NOTE
THIS IS A CONCEPTUAL PLAN AND IS NOT
TO BE USED OR CONSIDERED A FINAL
PLANNING OR CONSTRUCTION DOCUMENT

THIS PLAN HAS BEEN
REDUCED TO 1/4 X 1/7
HALF SCALE



PROMINENT VIEWS

1 COLORADO RIVER



2 LA SAL GROUP (NORTH)



3 LA SAL GROUP (MIDDLE)



4 LA SAL GROUP (SOUTH)



5 SPANISH VALLEY



FOLEY
ASSOCIATES, INC.
ENGINEERING - PLANNING - SURVEYING
PO Box 1385, P25 W. Pacific Ave. Suite B1
Telluride, Colorado, 81455
phone 970-728-6153 fax 970-728-6050

Client:
18 Moab Land LLC
Telluride, CO 81435

Lionsback Resort
PRELIMINARY SITE INVENTORY AND VICINITY MAP

Contact:
Michael Badger
970-728-5414 (phone)
970-728-8217 (fax)

NORTH 1/4 CORNER SECTION 6,
T. 26 S., R. 22 E., S. 44.
361.70'

SOUTH 1/4 CORNER SECTION 31,
T. 25 S., R. 22 E., S. 44.
2282.28'

NE CORNER SECTION 8,
T. 26 S., R. 22 E., S. 44.



OPEN SPACE

77.4%	NATURAL OR NATURALIZED
21.7%	PASSIVE RECREATION
0.09%	ACTIVE RECREATION
100.0%	

DEVELOPED SPACE

DEVELOPED LOTS

TOTAL DEVELOPED AREA	2,032.975	46.67 ACRES
TOTAL LOT AREA	7,628.344	175.12 ACRES
PERCENTAGE OF OPEN SPACE	73.35%	

LIONSBACK RESORT PRELIMINARY SITE PLAN

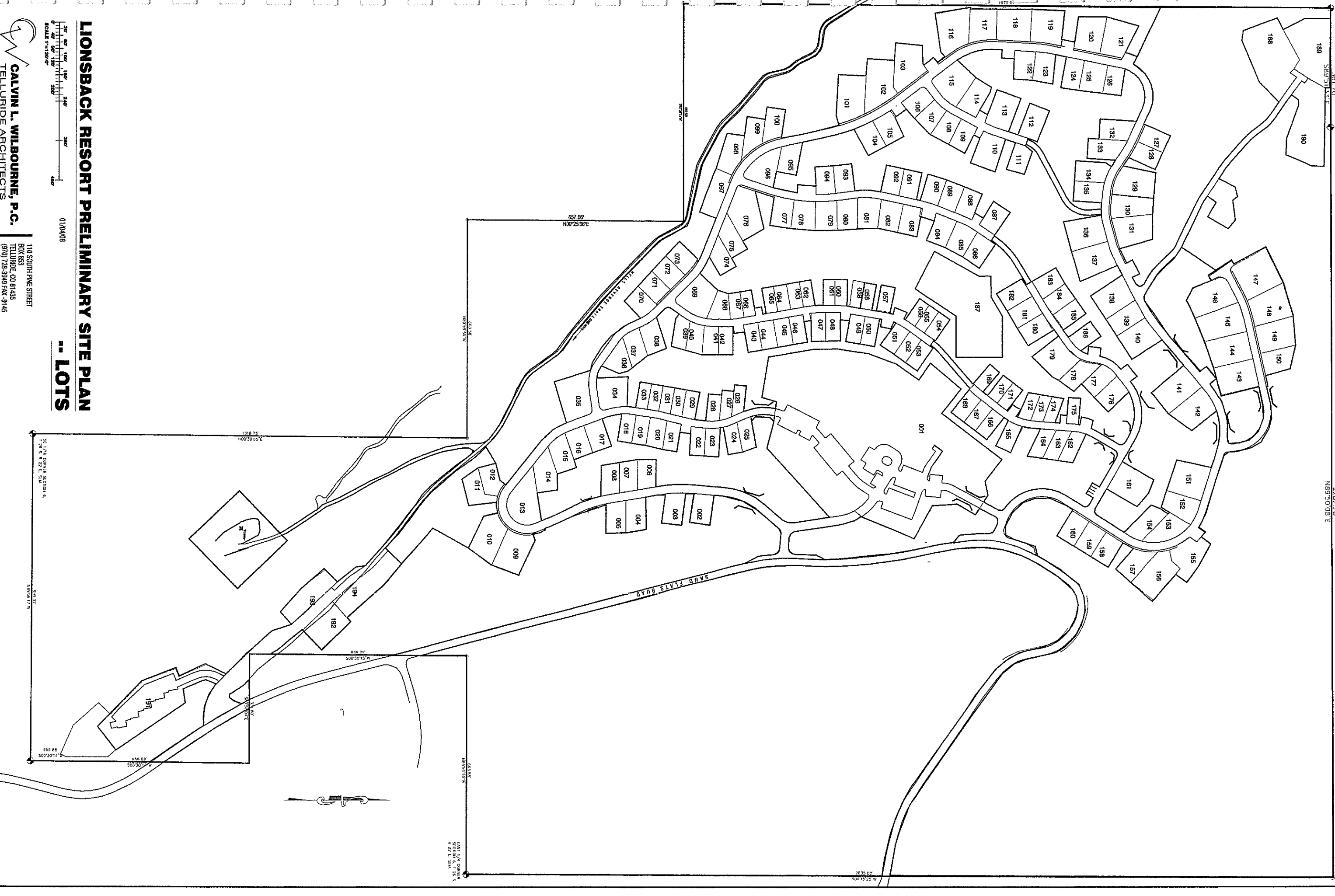


-OPEN SPACE

CALVIN L. WILBOURNE, P.C.
TELLURIDE ARCHITECTS

110 SOUTH PINE STREET
BOX 853
TELLURIDE, CO 81435
(970) 728-3949 FAX: 9145

NORTH 1/4 CORNER SECTION 6, 361.20' 1.26 S. R 22 E. SW 1.26 S. R 22 E. SW 2282.28' N89°50'08" E 14 CORNER SECTION 6, 1.26 S. R 22 E. SW



LIONSBACK RESORT PRELIMINARY SITE PLAN

SCALE 1"=100'-0"

01/04/08

.. LOTS

CALVIN L. WILBOURNE, P.C.
TELLURIDE ARCHITECTS

110 SOUTH PINE STREET
BOX 853
TELLURIDE, CO 81435
(970) 728-3949 FAX 9145

LIONSBACK RESORT - PRELIMINARY LOTS AND UNITS

1/4/2008

PHASE ONE			PHASE THREE		
LOT#	UNIT	LOT AREA # UNITS	LOT#	UNIT	LOT AREA # UNITS
TYPE	SqFt		TYPE	SqFt	

PHASE THREE

'HOTEL01'	'001'	'H0T'	277,483	50	'VILLAGE_CASITA_2R'	'036'	'VC2R'	5,399	1
'VILLAGE_CASITA_1L'	'002'	'VC1L'	5,474	1	'VILLAGE_CASITA_2L'	'037'	'VC2L'	5,354	1
'VILLAGE_CASITA_1R'	'003'	'VC1R'	5,470	1	'VILLAGE_CASITA_1R'	'038'	'VC1R'	5,702	1
'VILLAGE_CASITA_1R'	'004'	'VC1R'	5,997	1	'CLUB_CASITA_1R'	'039'	'CC1L'	4,170	1
'VILLAGE_CASITA_1R'	'005'	'VC1R'	5,702	1	'CLUB_CASITA_1L'	'040'	'CC1L'	4,173	1
'VILLAGE_CASITA_2L'	'006'	'VC2L'	4,913	1	'CLUB_CASITA_1R'	'041'	'CC1L'	4,089	1
'VILLAGE_CASITA_2R'	'007'	'VC2R'	5,182	1	'CLUB_CASITA_1L'	'042'	'CC1L'	3,778	1
'VILLAGE_CASITA_2L'	'008'	'VC2L'	5,193	1	'CLUB_CASITA_1R'	'043'	'CC1L'	3,753	1
'HILLSIDE_CASITA_1L'	'009'	'HC1L'	10,797	1	'CLUB_CASITA_1L'	'044'	'CC1L'	4,090	1
'HILLSIDE_CASITA_1R'	'010'	'HC1R'	10,789	1	'CLUB_CASITA_1R'	'045'	'CC1L'	4,087	1
'VILLAGE_CASITA_2L'	'011'	'VC2L'	6,386	1	'CLUB_CASITA_1L'	'046'	'CC1L'	3,739	1
'VILLAGE_CASITA_2L'	'012'	'VC2L'	5,311	1	'CLUB_CASITA_1R'	'047'	'CC1L'	3,797	1
'HILLSIDE_CASITA_1R'	'013'	'HC1R'	11,906	1	'CLUB_CASITA_1L'	'048'	'CC1L'	3,780	1
'VILLAGE_CASITA_1R'	'014'	'VC1R'	6,271	1	'CLUB_CASITA_1R'	'049'	'CC1L'	3,739	1
'VILLAGE_CASITA_1R'	'015'	'VC1R'	6,271	1	'CLUB_CASITA_1L'	'050'	'CC1L'	3,739	1
'VILLAGE_CASITA_1L'	'016'	'VC1L'	5,366	1	'CLUB_CASITA_1L'	'051'	'CC1L'	4,216	1
'VILLAGE_CASITA_1R'	'017'	'VC1R'	5,366	1	'CLUB_CASITA_1R'	'052'	'CC1L'	3,738	1
'CLUB_CASITA_1R'	'018'	'CC1L'	3,795	1	'CLUB_CASITA_1L'	'053'	'CC1L'	3,738	1
'CLUB_CASITA_1L'	'019'	'CC1L'	3,834	1	'CLUB_CASITA_2L'	'054'	'CC2L'	3,254	1
'CLUB_CASITA_1R'	'020'	'CC1L'	4,623	1	'CLUB_CASITA_2R'	'055'	'CC2R'	2,782	1
'CLUB_CASITA_1L'	'021'	'CC1L'	3,816	1	'CLUB_CASITA_2L'	'056'	'CC2L'	2,782	1
'CLUB_CASITA_1R'	'022'	'CC1L'	3,787	1	'CLUB_CASITA_2R'	'057'	'CC2R'	3,226	1
'CLUB_CASITA_1L'	'023'	'CC1L'	3,784	1	'CLUB_CASITA_2R'	'058'	'CC2R'	2,781	1
'CLUB_CASITA_1R'	'024'	'CC1L'	3,836	1	'CLUB_CASITA_2L'	'059'	'CC2L'	2,782	1
'CLUB_CASITA_1L'	'025'	'CC1L'	4,123	1	'CLUB_CASITA_2R'	'060'	'CC2R'	2,946	1
'CLUB_CASITA_2R'	'026'	'CC2R'	3,142	1	'CLUB_CASITA_2L'	'061'	'CC2L'	2,781	1
'CLUB_CASITA_2L'	'027'	'CC2L'	3,082	1	'CLUB_CASITA_2R'	'062'	'CC2R'	2,793	1
'CLUB_CASITA_2R'	'028'	'CC2R'	3,296	1	'CLUB_CASITA_2L'	'063'	'CC2L'	3,092	1
'CLUB_CASITA_2L'	'029'	'CC2L'	3,415	1	'CLUB_CASITA_2R'	'064'	'CC2R'	3,123	1
'CLUB_CASITA_2R'	'030'	'CC2R'	2,911	1	'CLUB_CASITA_2L'	'065'	'CC2L'	2,788	1
'CLUB_CASITA_2L'	'031'	'CC2L'	2,820	1	'CLUB_CASITA_2R'	'066'	'CC2R'	2,782	1
'CLUB_CASITA_2R'	'032'	'CC2R'	2,792	1	'CLUB_CASITA_2L'	'067'	'CC2L'	3,055	1
'CLUB_CASITA_2L'	'033'	'CC2L'	2,811	1	'CLUB_CASITA_2L'	'068'	'CC2L'	4,420	1
'HILLSIDE_CASITA_2L'	'034'	'HC2L'	8,558	1	'HILLSIDE_CASITA_2L'	'069'	'HC2L'	10,022	1
'HILLSIDE_CASITA_2L'	'035'	'HC2L'	10,902	1	'VILLAGE_CASITA_2L'	'070'	'VC2L'	4,984	1
'RECREATION_FACILITY'	'187'	'RF1L'	47,835	0	'VILLAGE_CASITA_2L'	'071'	'VC2L'	4,827	1

PHASE TWO

[illegible]

'HILLSIDE_CASITA_2R'	'148'	'HC2L'	11,393	1
'HILLSIDE_CASITA_2L'	'149'	'HC2L'	10,012	1
'VILLAGE_CASITA_1R'	'150'	'VC1R'	6,391	1
'HILLSIDE_CASITA_1L'	'151'	'HC1L'	10,863	1
'VILLAGE_CASITA_1L'	'152'	'VC1L'	7,066	1
'VILLAGE_CASITA_2R'	'153'	'VC2R'	6,706	1
'VILLAGE_CASITA_2L'	'154'	'VC2L'	6,873	1
'HILLSIDE_CASITA_2L'	'155'	'HC2L'	9,228	1
'HILLSIDE_CASITA_1L'	'156'	'HC1L'	11,189	1
'VILLAGE_CASITA_1R'	'157'	'VC1R'	6,039	1
'VILLAGE_CASITA_1L'	'158'	'VC1L'	5,368	1
'VILLAGE_CASITA_1R'	'159'	'VC1R'	5,368	1
'VILLAGE_CASITA_1R'	'160'	'VC1R'	5,368	1
'HILLSIDE_CASITA_1L'	'161'	'HC1L'	10,816	1
'HILLSIDE_CASITA_1R'	'188'	'HC1R'	26,753	1
'HILLSIDE_CASITA_1R'	'189'	'HC1R'	21,288	1
'HILLSIDE_CASITA_1R'	'190'	'HC1R'	24,208	1
			309,675.0	29
	ACRES		7.1	

LOT# UNIT LOT AREA # UNITS				LOT# UNIT LOT AREA # UNITS			
TYPE		SqFt		TYPE		SqFt	
PHASE FOUR				PHASE FIVE			
'VILLAGE_CASITA_2R'	'074' 'VC2R'	4,960	1	'VILLAGE_CASITA_1R'	'095' 'VC1R'	5,460	1
'VILLAGE_CASITA_2L'	'075' 'VC2L'	5,830	1	'VILLAGE_CASITA_1R'	'096' 'VC1R'	8,125	1
'HILLSIDE_CASITA_1R'	'076' 'HC1R'	12,304	1	'VILLAGE_CASITA_2L'	'098' 'VC2L'	7,234	1
'VILLAGE_CASITA_1R'	'077' 'VC1R'	5,566	1	'VILLAGE_CASITA_2L'	'099' 'VC2L'	6,115	1
'VILLAGE_CASITA_1L'	'078' 'VC1L'	6,112	1	'VILLAGE_CASITA_2L'	'100' 'VC2L'	5,394	1
'VILLAGE_CASITA_1R'	'079' 'VC1R'	5,877	1	'HILLSIDE_CASITA_2L'	'101' 'HC2L'	11,141	1
'VILLAGE_CASITA_1L'	'080' 'VC1L'	5,710	1	'HILLSIDE_CASITA_2R'	'102' 'HC2R'	11,937	1
'VILLAGE_CASITA_1L'	'081' 'VC1L'	6,159	1	'HILLSIDE_CASITA_2L'	'103' 'HC2L'	11,242	1
'VILLAGE_CASITA_1L'	'082' 'VC1L'	5,704	1	'VILLAGE_CASITA_1R'	'104' 'VC1R'	5,361	1
'VILLAGE_CASITA_1R'	'083' 'VC1R'	5,368	1	'VILLAGE_CASITA_1L'	'105' 'VC1L'	5,459	1
'VILLAGE_CASITA_1L'	'084' 'VC1L'	5,584	1	'VILLAGE_CASITA_2R'	'106' 'VC2R'	5,032	1
'VILLAGE_CASITA_1R'	'085' 'VC1R'	5,902	1	'VILLAGE_CASITA_2L'	'107' 'VC2L'	5,104	1
'VILLAGE_CASITA_1L'	'086' 'VC1L'	5,610	1	'VILLAGE_CASITA_2L'	'108' 'VC2L'	5,034	1
'VILLAGE_CASITA_2R'	'087' 'VC2R'	4,827	1	'VILLAGE_CASITA_2R'	'109' 'VC2R'	4,902	1
'VILLAGE_CASITA_2L'	'088' 'VC2L'	4,850	1	'HILLSIDE_CASITA_2L'	'110' 'HC2L'	7,895	1
'VILLAGE_CASITA_2R'	'089' 'VC2R'	4,785	1	'VILLAGE_CASITA_2L'	'111' 'VC2L'	4,661	1
'VILLAGE_CASITA_2L'	'090' 'VC2L'	4,755	1	'VILLAGE_CASITA_1R'	'112' 'VC1R'	6,378	1
'VILLAGE_CASITA_2R'	'091' 'VC2R'	4,648	1	'HILLSIDE_CASITA_1L'	'113' 'HC1L'	8,205	1
'VILLAGE_CASITA_2L'	'092' 'VC2L'	4,648	1	'VILLAGE_CASITA_1R'	'114' 'VC1R'	6,705	1
'VILLAGE_CASITA_2L'	'093' 'VC2L'	4,779	1	'HILLSIDE_CASITA_1R'	'115' 'HC1R'	10,470	1
'VILLAGE_CASITA_2L'	'094' 'VC2L'	4,828	1	'HILLSIDE_CASITA_1L'	'116' 'HC1L'	11,512	1
'VILLAGE_CASITA_2L'	'097' 'VC2L'	7,827	1	'HILLSIDE_CASITA_1L'	'117' 'HC1L'	8,472	1
'VILLAGE_CASITA_1R'	'176' 'VC1R'	5,628	1	'HILLSIDE_CASITA_1L'	'118' 'HC1L'	10,400	1
'VILLAGE_CASITA_2L'	'177' 'VC2L'	5,337	1	'HILLSIDE_CASITA_1R'	'119' 'HC1R'	10,351	1
'VILLAGE_CASITA_2L'	'178' 'VC2L'	5,680	1	'HILLSIDE_CASITA_1L'	'120' 'HC1L'	8,916	1
'HILLSIDE_CASITA_1L'	'179' 'HC1L'	9,949	1	'HILLSIDE_CASITA_1R'	'121' 'HC1R'	9,530	1
'VILLAGE_CASITA_1R'	'180' 'VC1R'	5,412	1	'VILLAGE_CASITA_2R'	'122' 'VC2R'	5,254	1
'VILLAGE_CASITA_1L'	'181' 'VC1L'	5,404	1	'VILLAGE_CASITA_2L'	'123' 'VC2L'	5,470	1
'VILLAGE_CASITA_1R'	'182' 'VC1R'	5,387	1	'VILLAGE_CASITA_2R'	'124' 'VC2R'	5,253	1
'VILLAGE_CASITA_2R'	'183' 'VC2R'	4,938	1	'HILLSIDE_CASITA_2R'	'125' 'HC2R'	6,582	1
'VILLAGE_CASITA_2R'	'184' 'VC2R'	4,637	1	'VILLAGE_CASITA_2L'	'126' 'VC2L'	4,648	1
'VILLAGE_CASITA_2L'	'185' 'VC2L'	4,648	1	'VILLAGE_CASITA_2L'	'127' 'VC2L'	4,627	1
'VILLAGE_CASITA_2R'	'186' 'VC2R'	4,648	1	'VILLAGE_CASITA_2R'	'128' 'VC2R'	4,696	1
'SERVICE_FACILITY_1'	'192' 'SF1L'	11,907	0	'HILLSIDE_CASITA_2R'	'129' 'HC2R'	10,113	1
'STORAGE_FACILITY_1L'	'193' 'ST1L'	10,772	0	'VILLAGE_CASITA_2L'	'130' 'VC2L'	7,938	1
'STORAGE_FACILITY_1R'	'194' 'ST1R'	14,450	0	'HILLSIDE_CASITA_2L'	'131' 'HC2L'	9,787	1
		225,430	33	'VILLAGE_CASITA_1R'	'132' 'VC1R'	6,070	1
		5.18		'VILLAGE_CASITA_1L'	'133' 'VC1L'	6,418	1
				'VILLAGE_CASITA_1R'	'134' 'VC1R'	6,112	1
				'VILLAGE_CASITA_1L'	'135' 'VC1L'	5,454	1

ACRES	6.65	40
GRAND TOTALS	1,583,182	256
ACRES	36.34	

LIONSBACK RESORT - PRELIMINARY SITE ANALYSIS

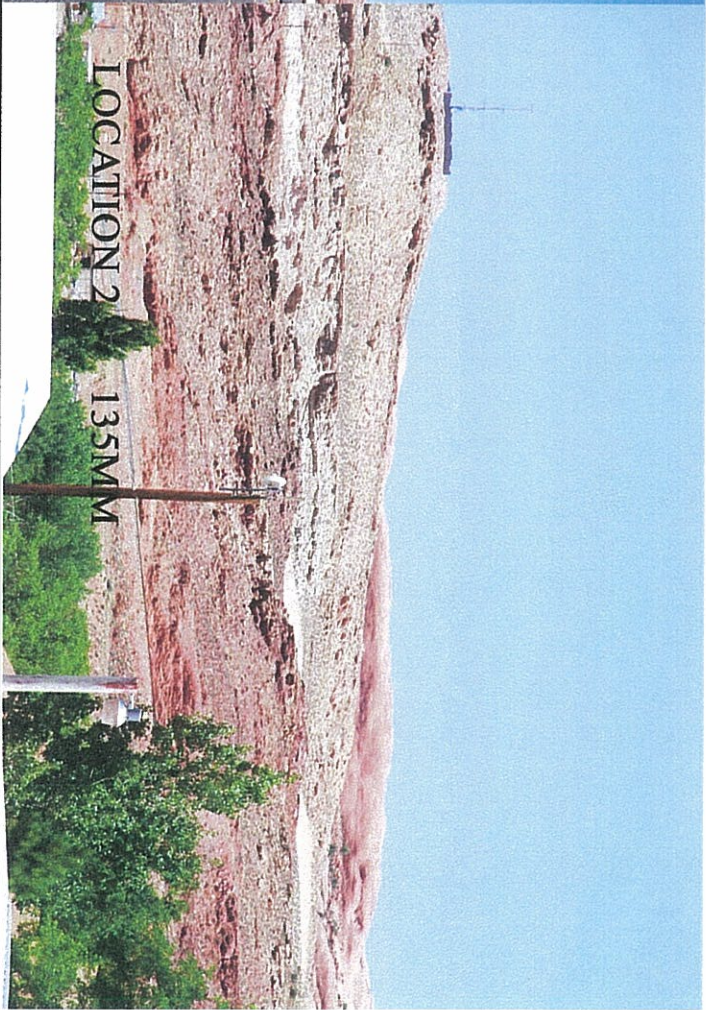
1/4/2008

	UNITS/ ROOMS	FOOTPRINT (SQFT)	LOT AREA (SQFT)	TOTAL LOT (SQFT)
HOTEL	0	7,000	122,000	277,483
CONDO SUITES	25	725	0	0
CONDO ROOMS	25	300	0	0
CONVENTION CENTER	0	5,000	0	0
INDOOR LAP POOL	0	3,500	0	0
CLUB CASITA 1	30	1,800	3,740	118,946
CLUB CASITA 2	30	1,100	2,784	90,370
VILLAGE CASITA 1	40	2,150	5,368	234,599
VILLAGE CASITA 2	45	1,504	4,648	239,141
HILLSIDE CASITA 1	29	3,014	9,095	342,688
HILLSIDE CASITA 2	14	2,275	8,175	143,173
EMPLOYEE HOUSING	18	6,800		51,891
UNITS/ROOMS	256			
STORAGE UNITS	22	231		25,223
SERVICE FACILITY		5,082		11,907
WATER TANK		1,800		9,022
RECREATION FACILITY(OPEN SPACE)				
PARKING, DRIVES, ROADS(SQFT)	306,659		TOT LOT	1,544,443
SANDS FLAT ROAD(SQFT)	76,887			
HELLS REVENGE TRAIL(SQFT)	52,398			
CELL TOWER AND ACCESS ROAD	52,588	488,532		
LOT AREA	7,628,344			
DEVELOPED LAND	2,032,975			
DEVELOPED LAND ACRES	46.67			
TOTAL LOT ACRES	175.12			
ROAD, PARKING ACRES	11.22	6.40%		
LOTS ACRES	35.46	20.25%		
PERCENTAGE OPEN SPACE	73.35%			
OPEN SPACE (SQFT)	5,595,369			
NATURAL OR NATURALIZED(SQFT)	4,342,308	77.6%		
PASSIVE RECREATION (SQFT)	1,205,226	21.5%		
ACTIVE RECREATION (SQFT)	47,835	0.9%		
Roads (LIN_FT)	12,672	100.00%		
APPROXIMATE FOOT PRINT				
Commercial	22,382			
Residential	366,736			
Total Footprint	389,118			
Percentage of Lot	6.954%			

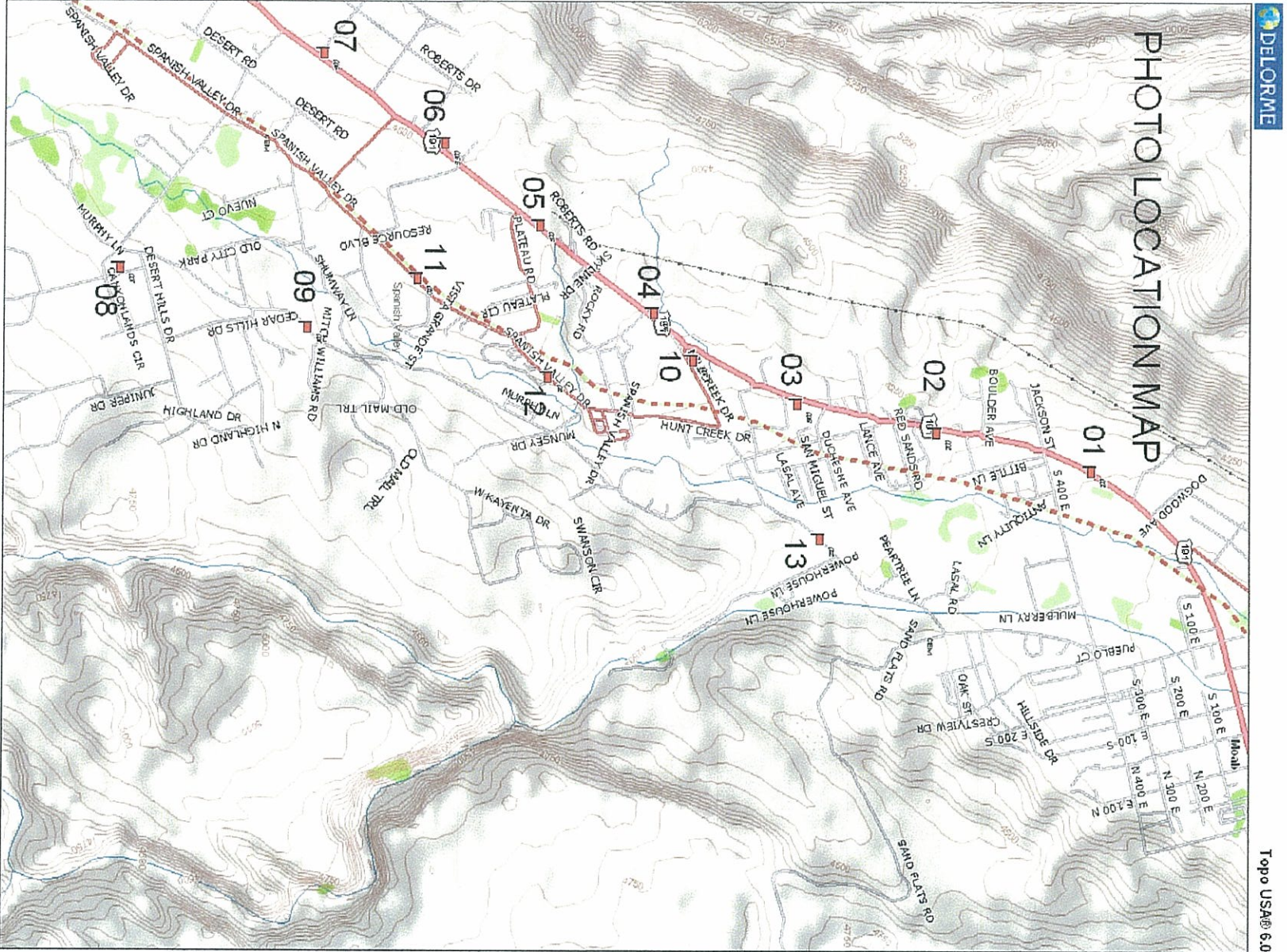
DIGITAL LENS



LOCATION 1 - 18MM welcome to Moab sign



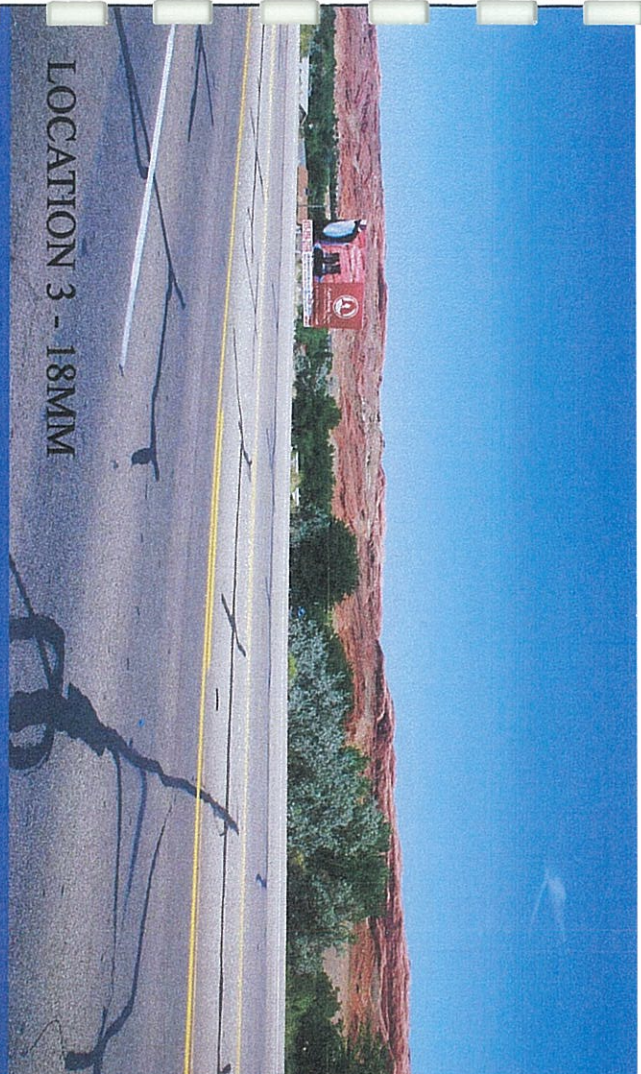
LOCATION 2 - 18MM



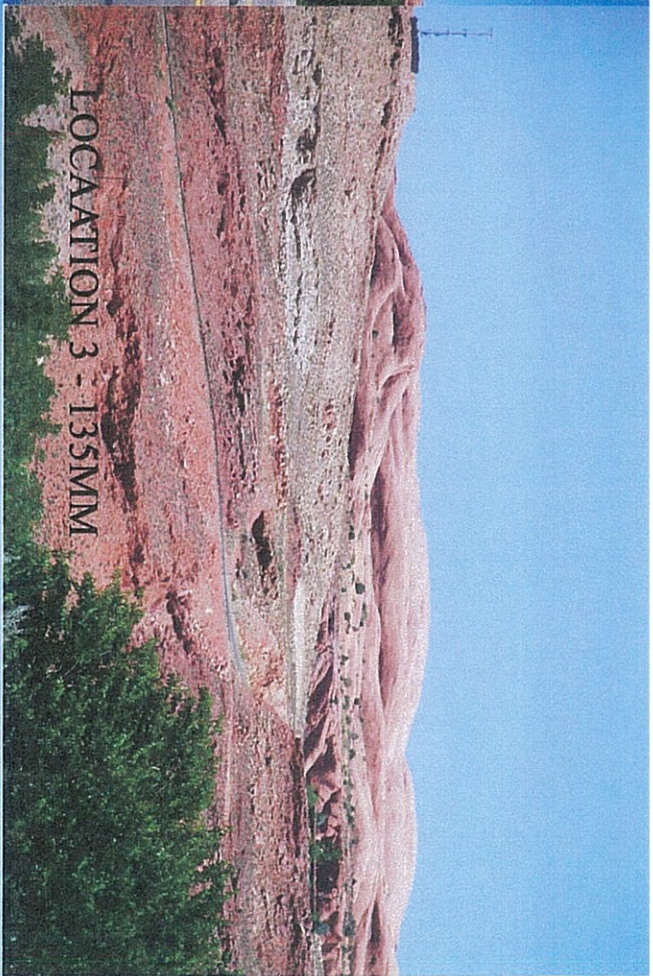
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MN (11.3° E)

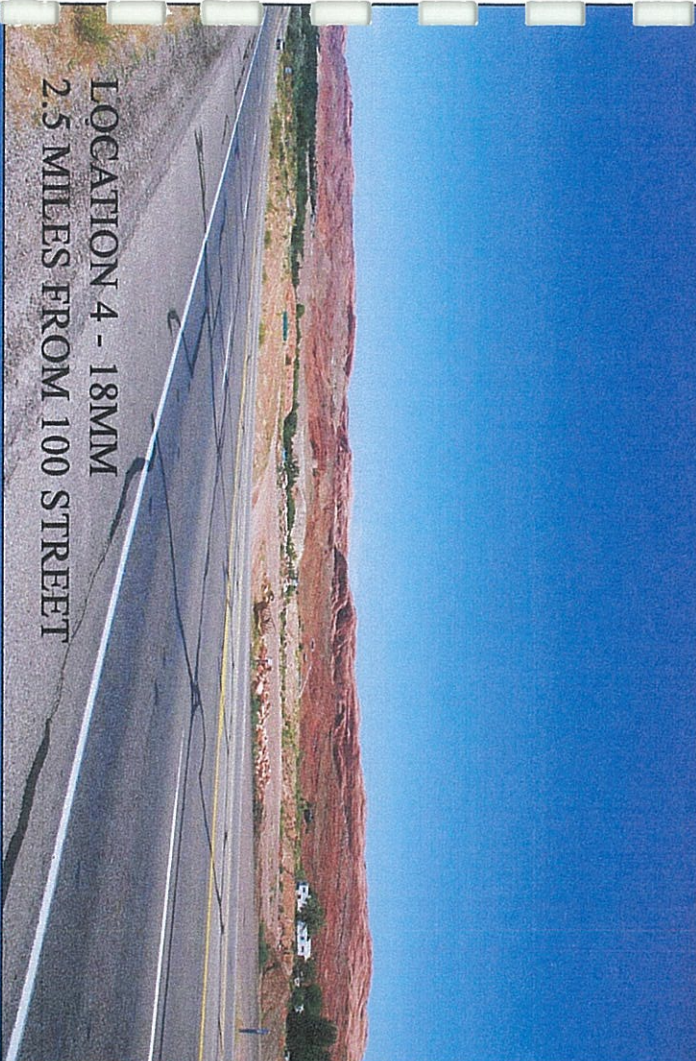
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Data Zoom 12-7



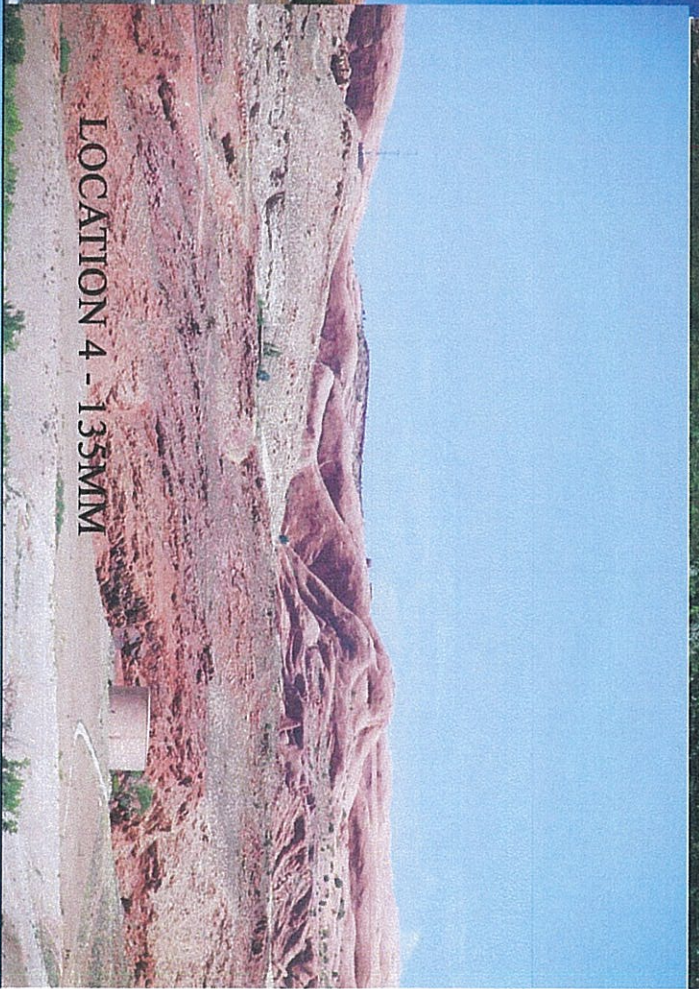
LOCATION 3 - 18MM



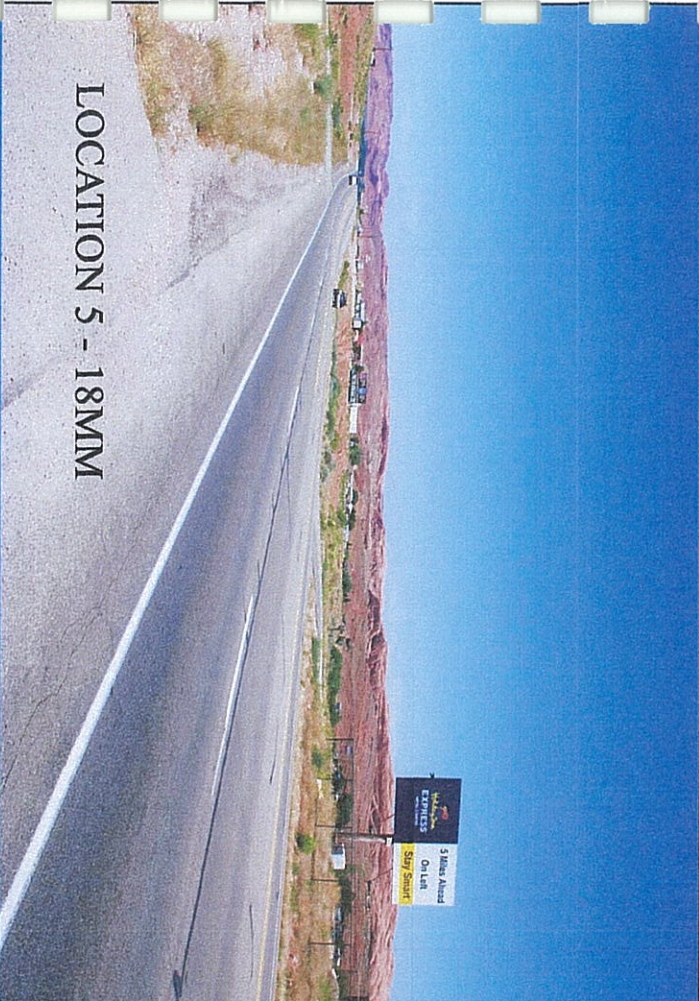
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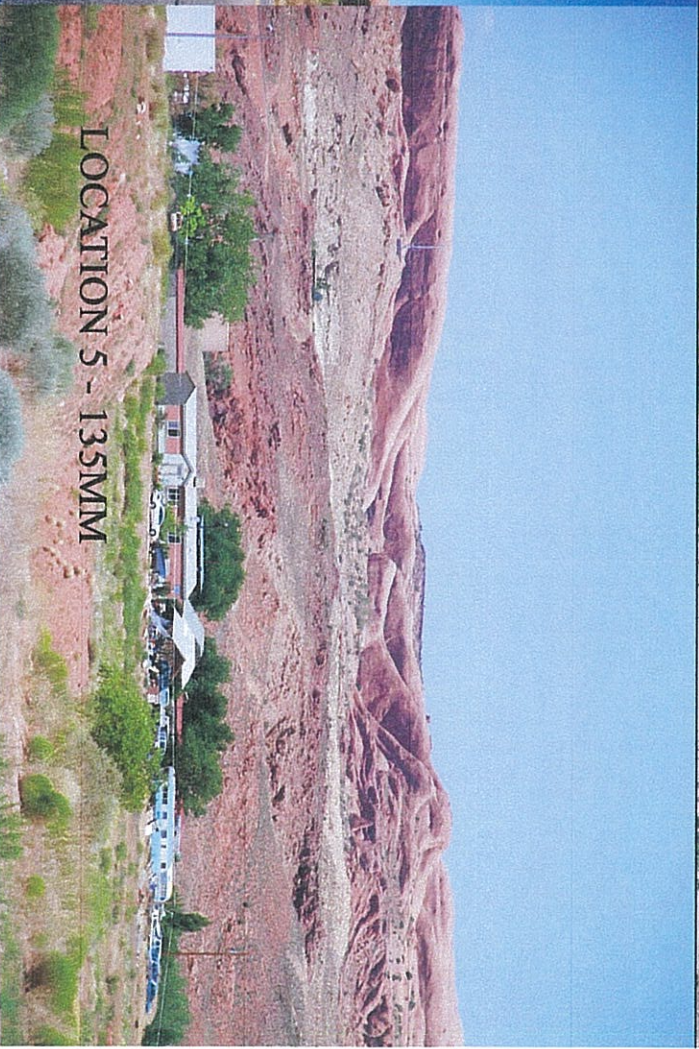
LOCATION 4 - 18MM
2.5 MILES FROM 100 STREET



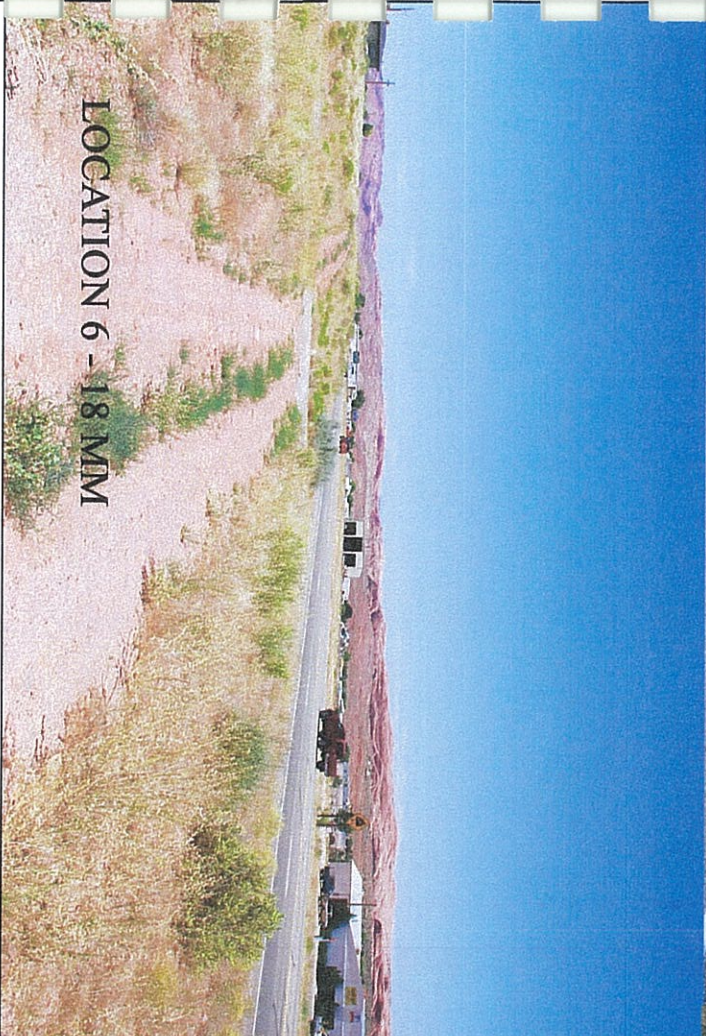
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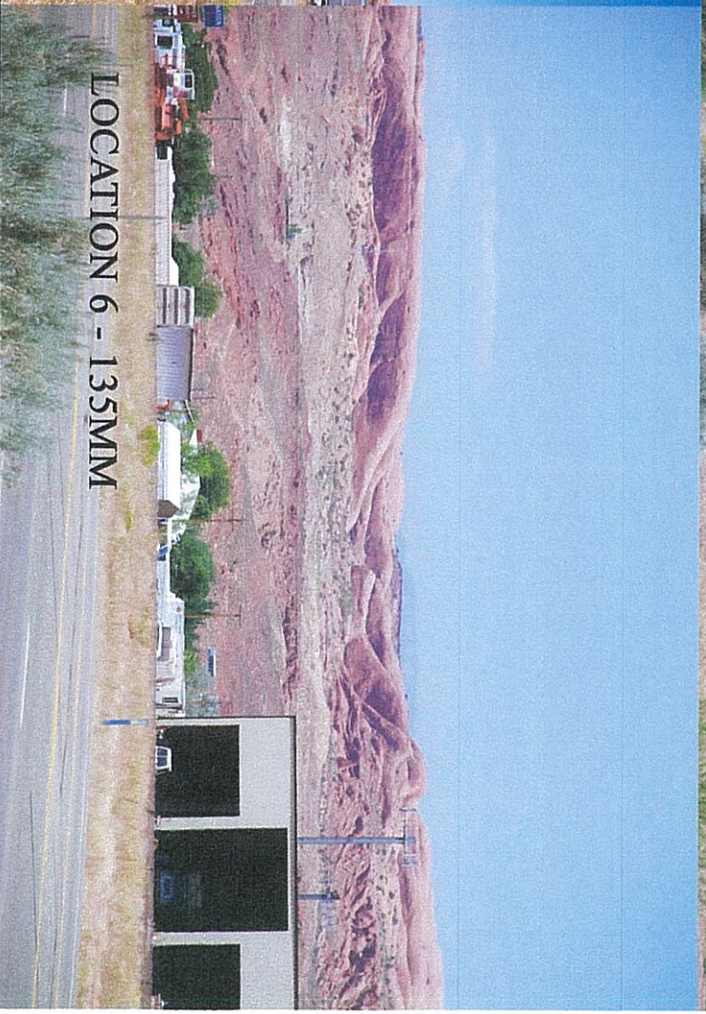
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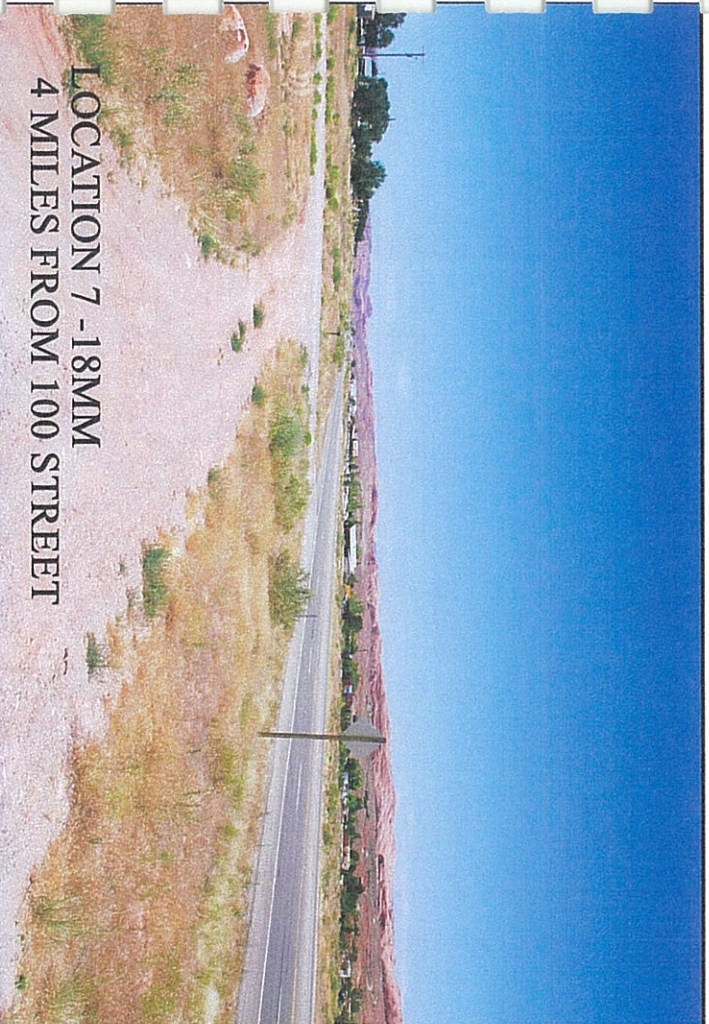
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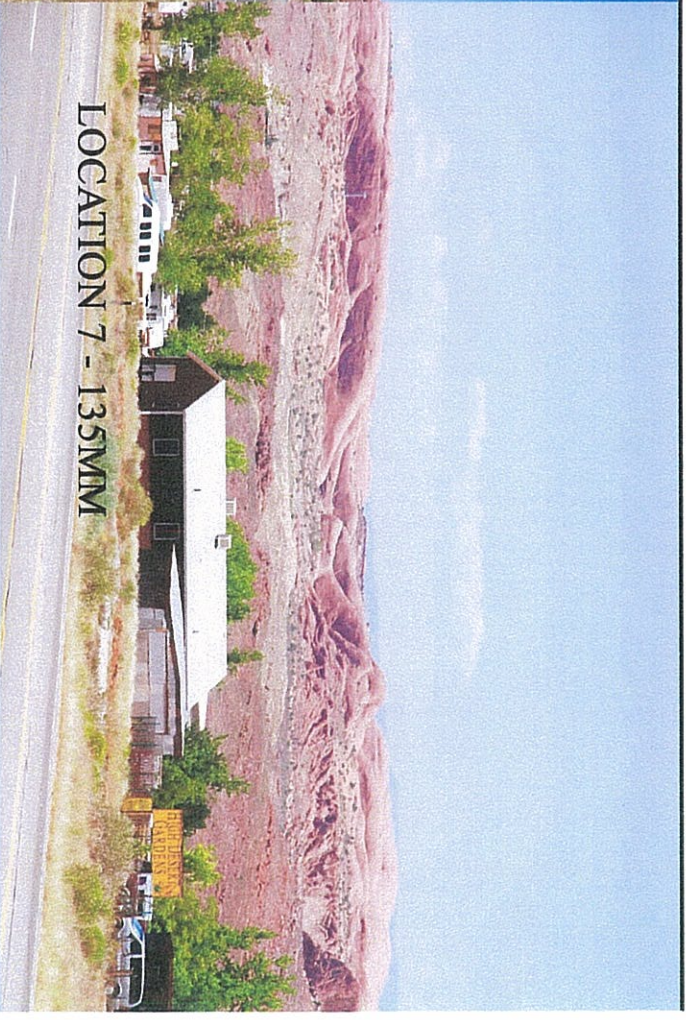
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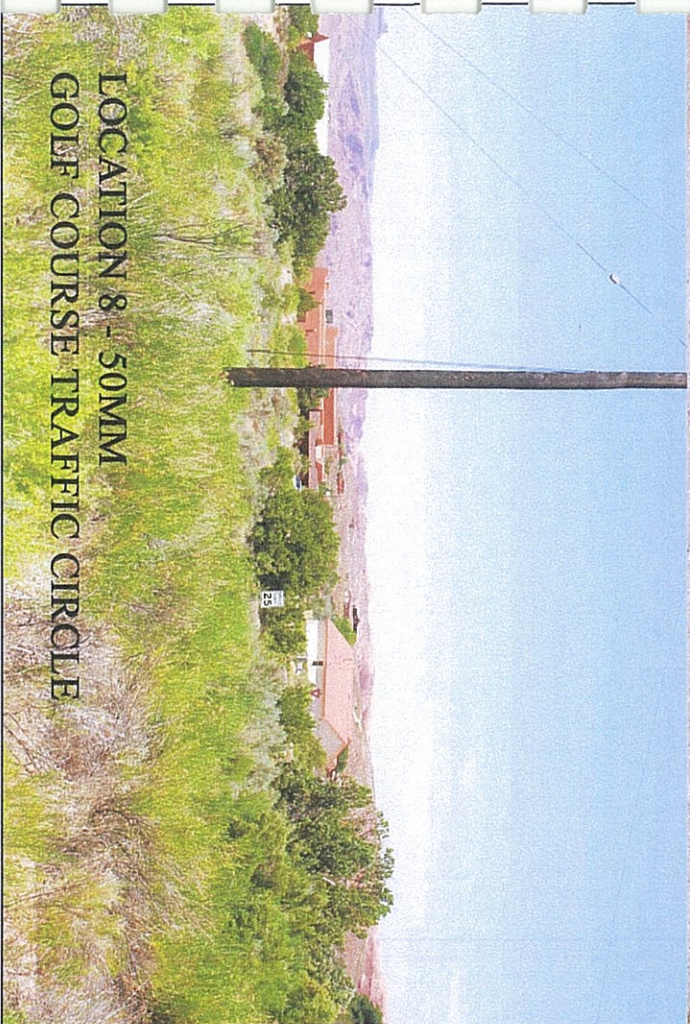
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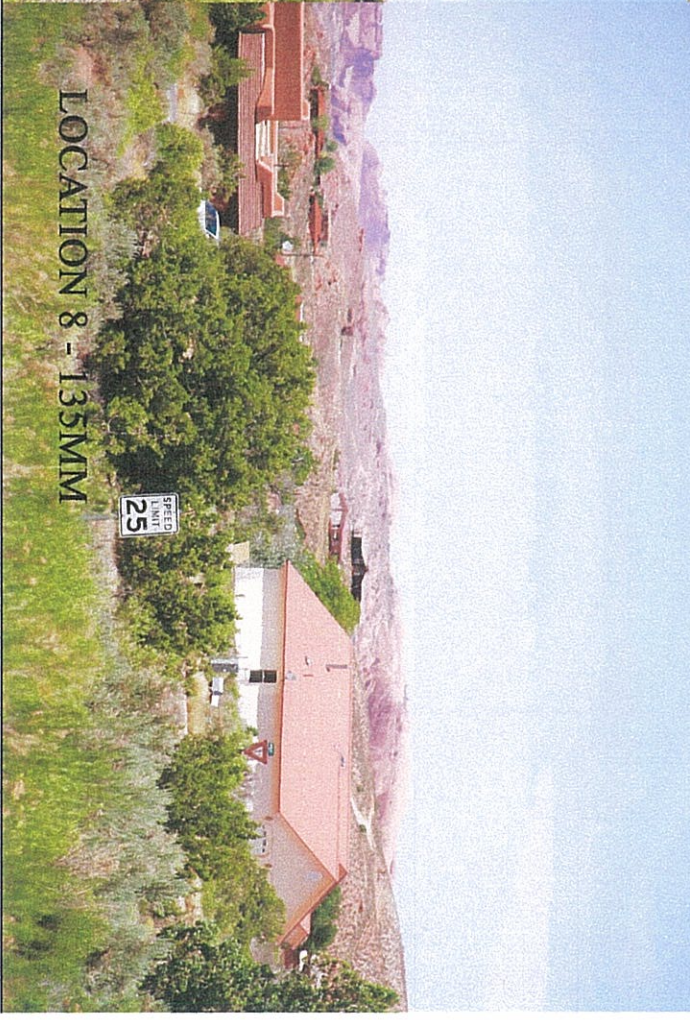
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4 MILES FROM 100 STREET



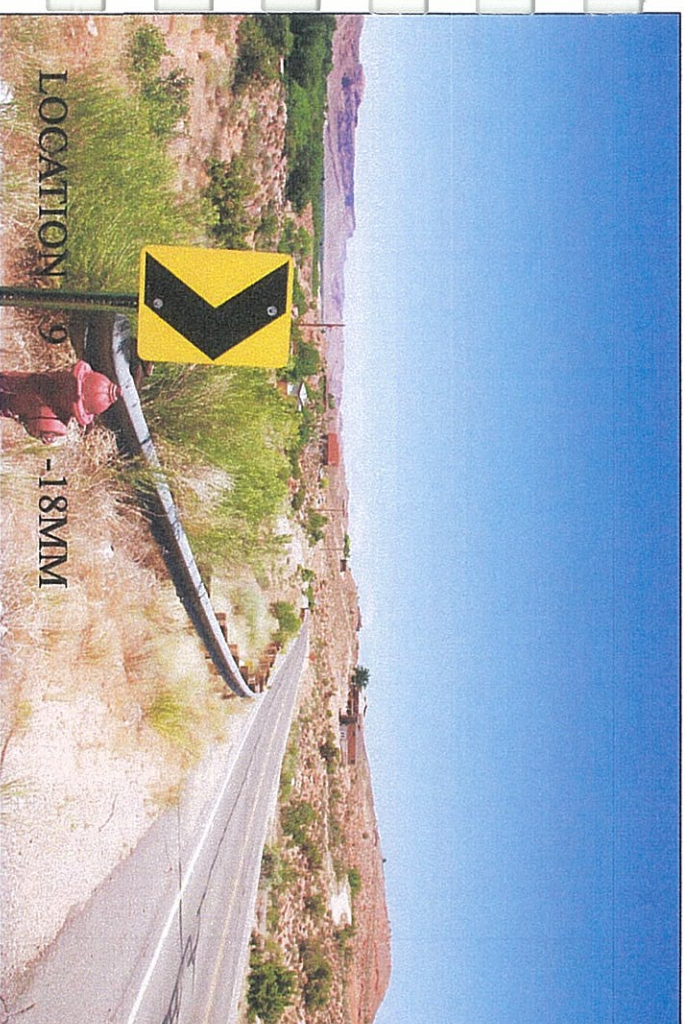
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LOCATION 8 - 50MM
GOLF COURSE TRAFFIC CIRCLE



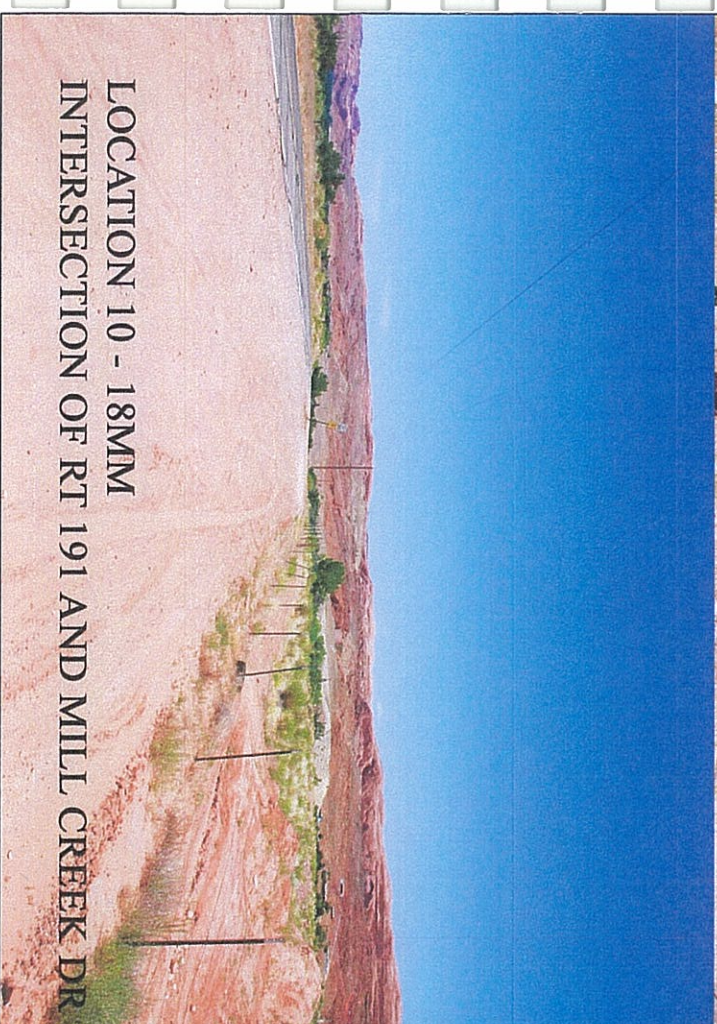
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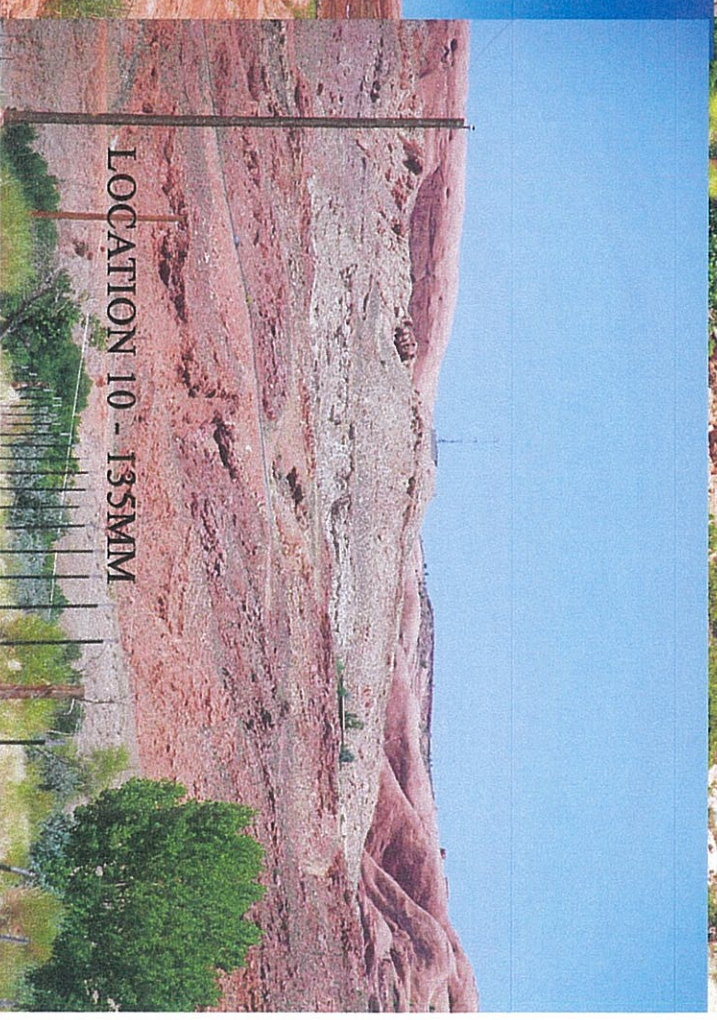
LOCATION 9
-18MM



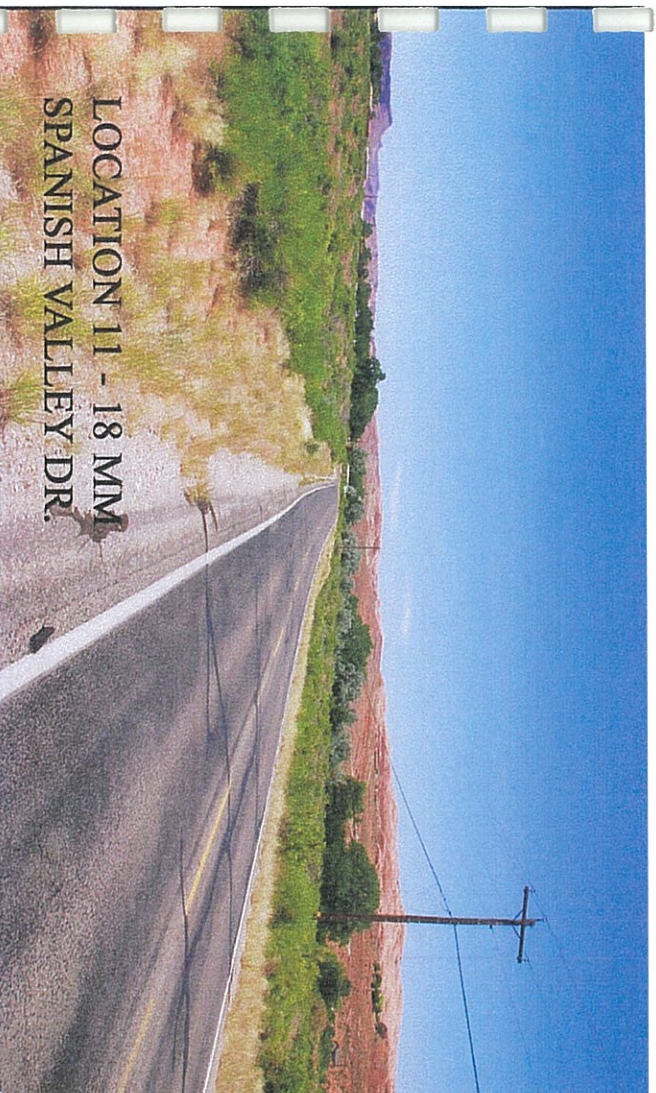
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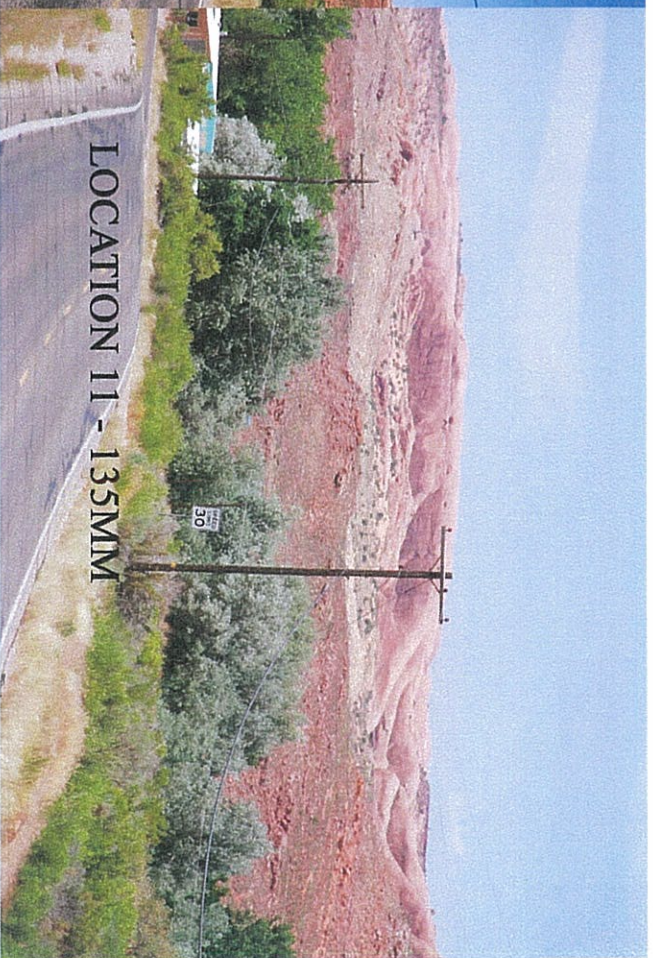
LOCATION 10 - 18MM
INTERSECTION OF RT 191 AND MILL CREEK DR



LOCATION 10 - 135MM



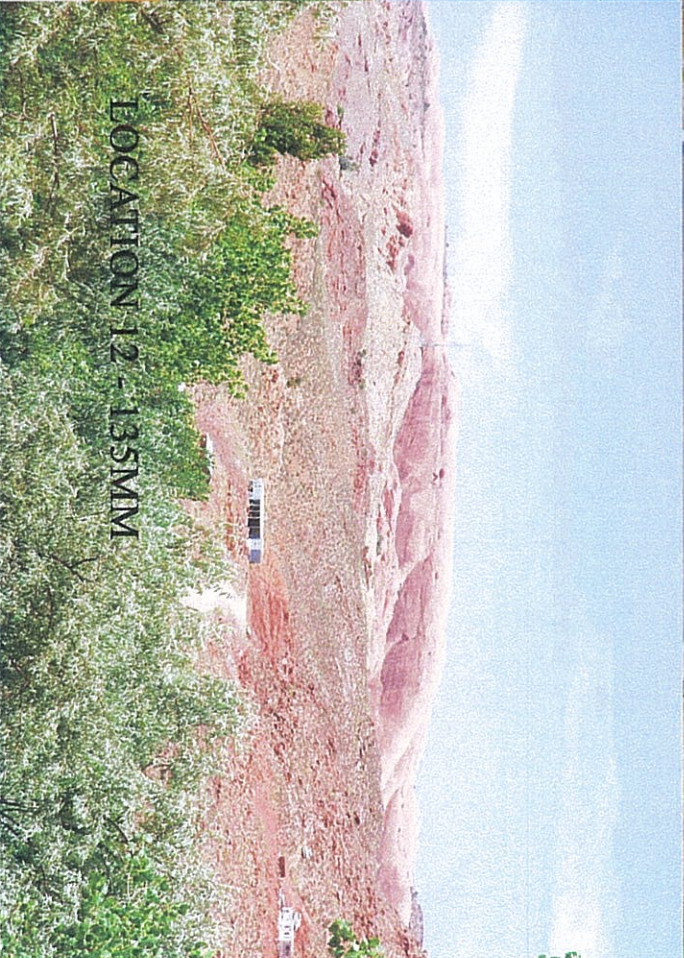
LOCATION 11 - 18 MM
SPANISH VALLEY DR.



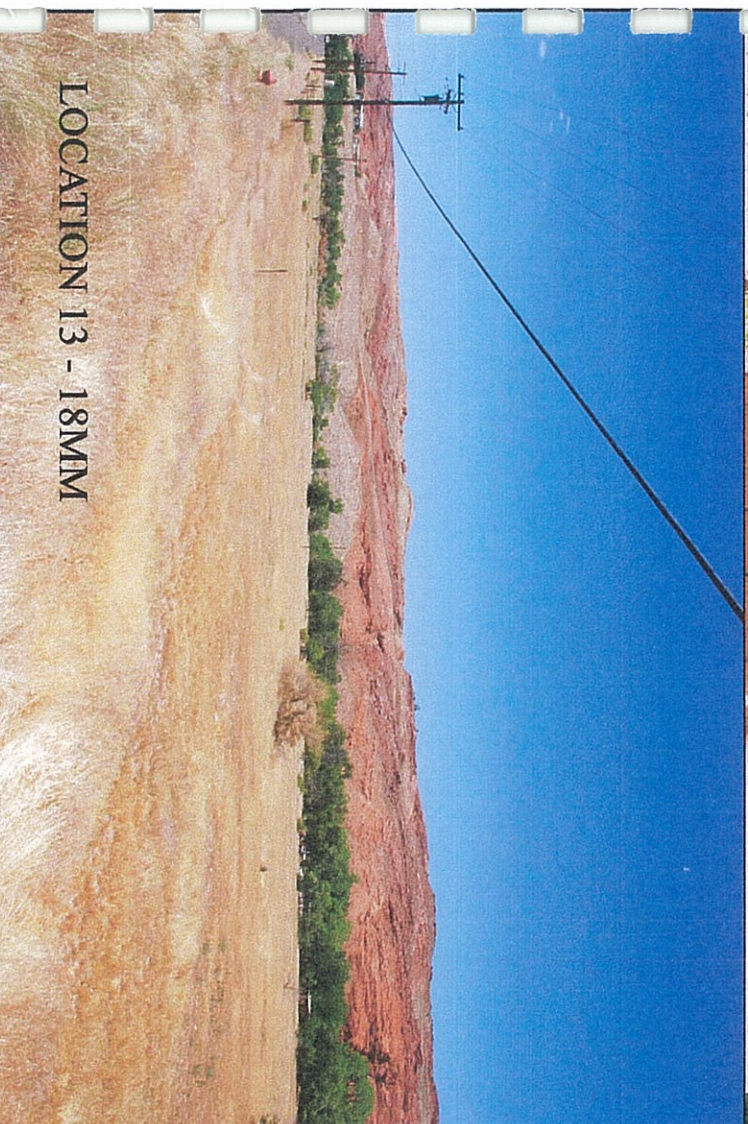
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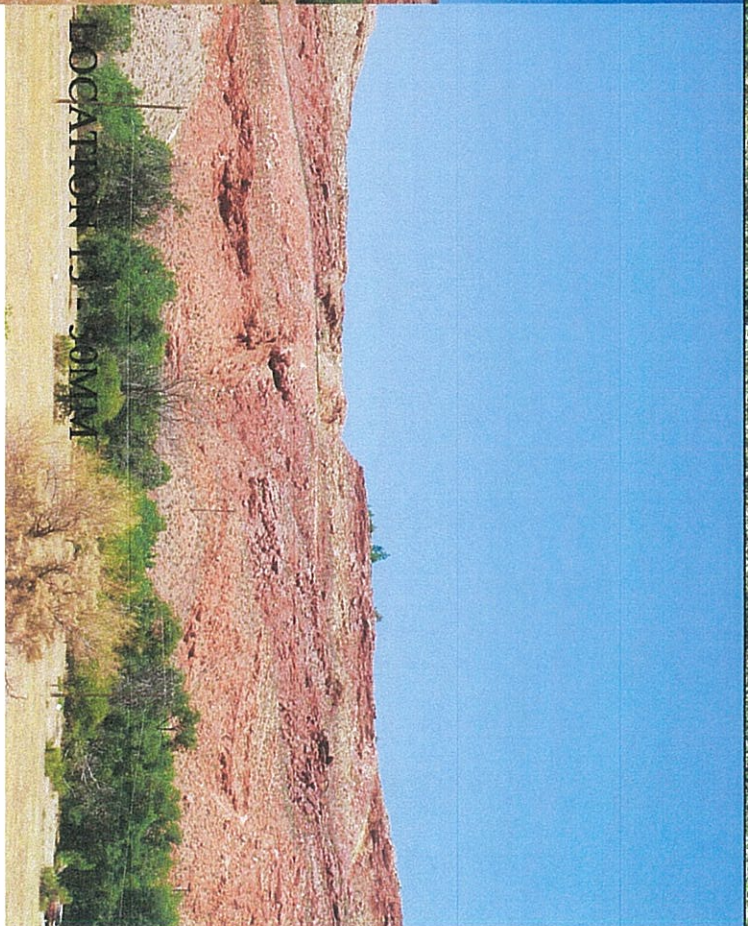
LOCATION 12 - 18MM



LOCATION 12 - 135MM



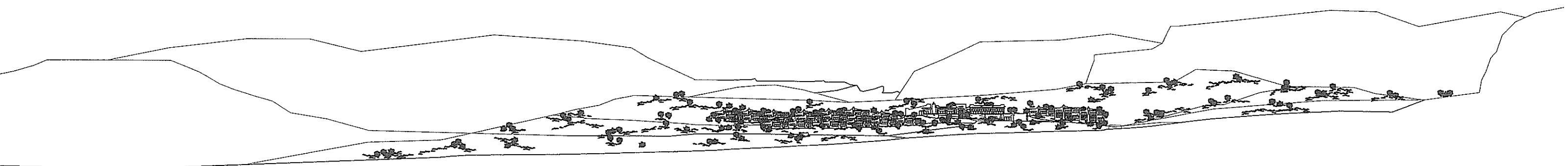
LOCATION 13 - 18MM



LOCATION 13 - 135MM



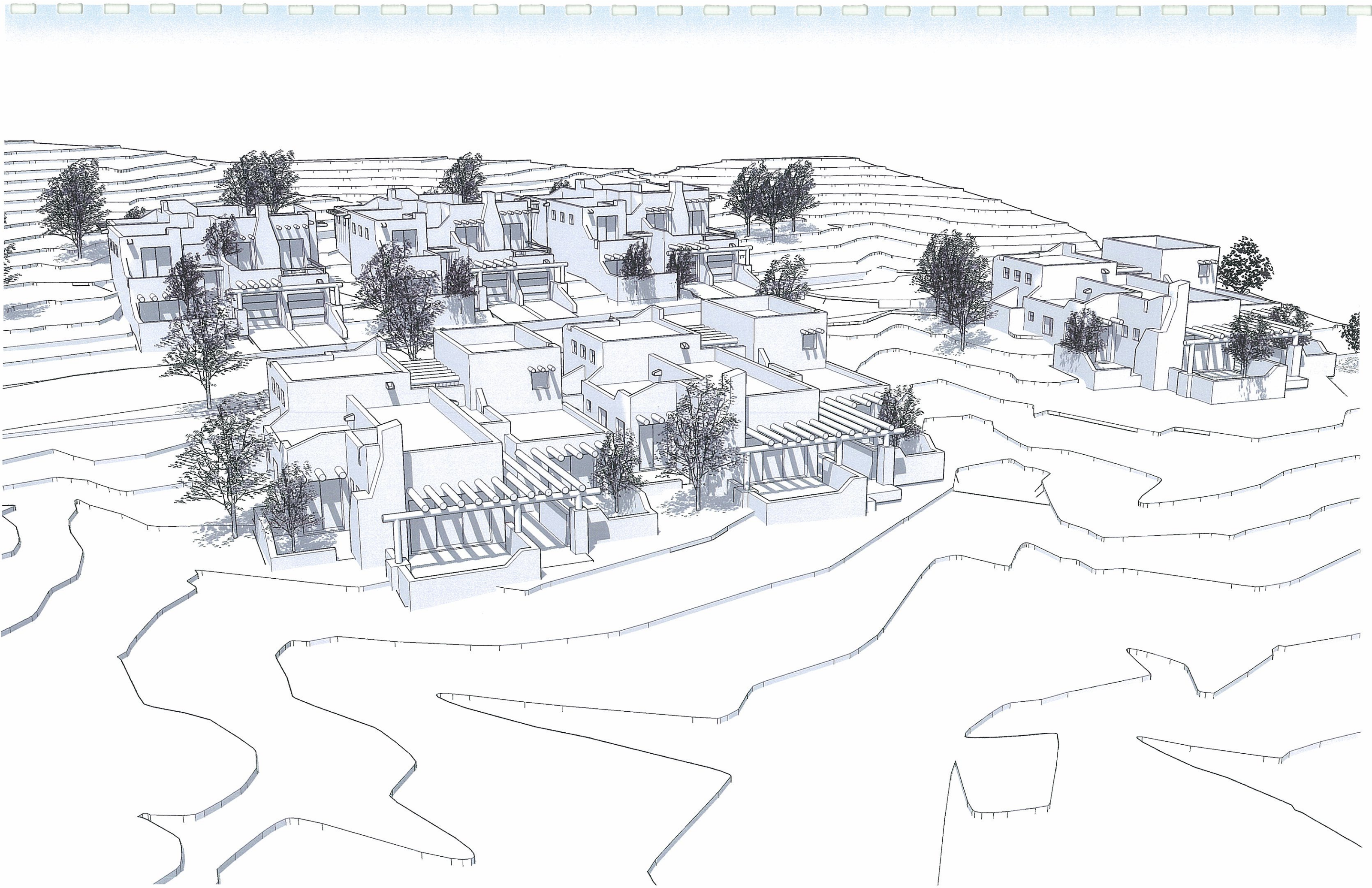
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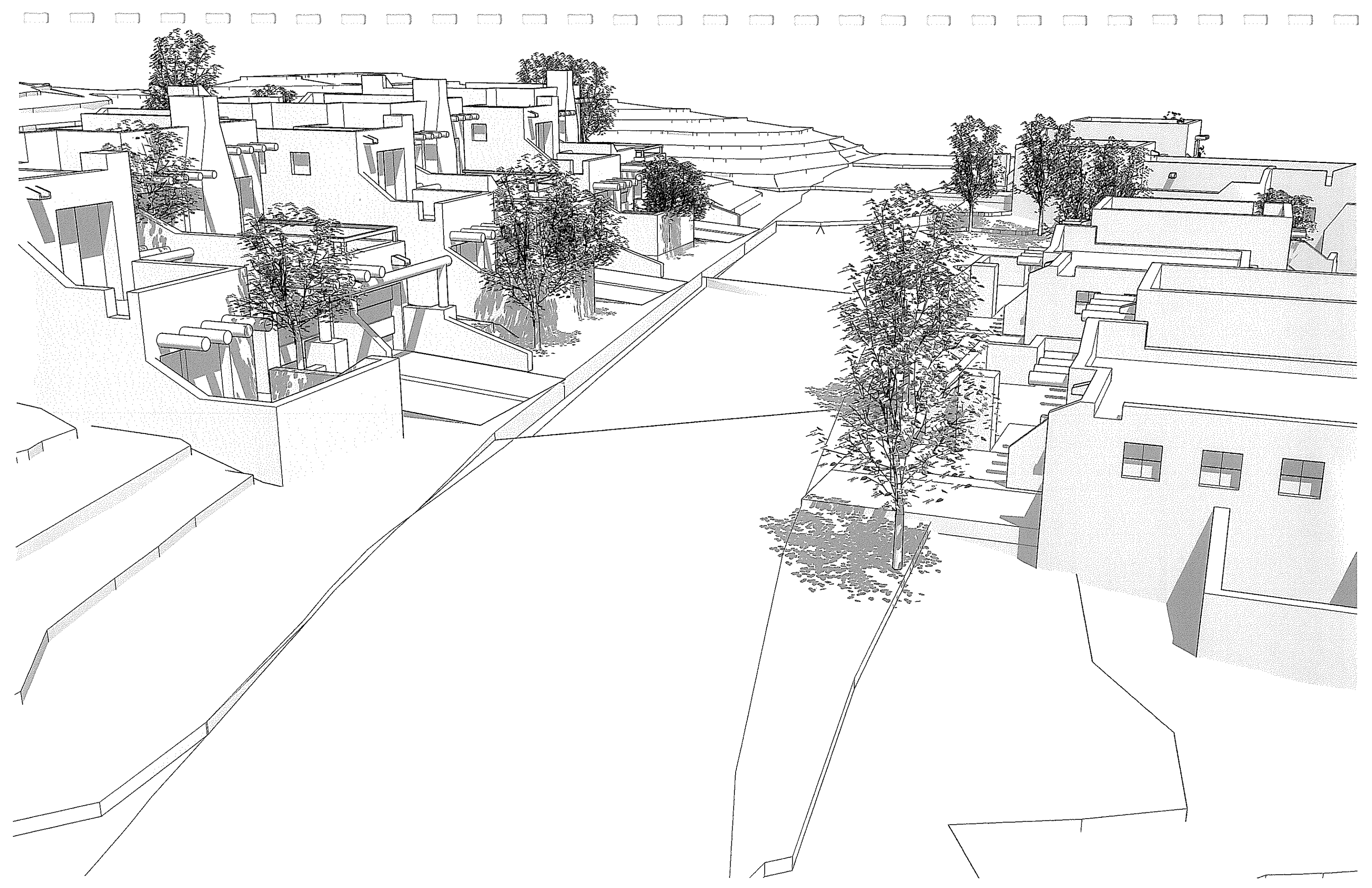


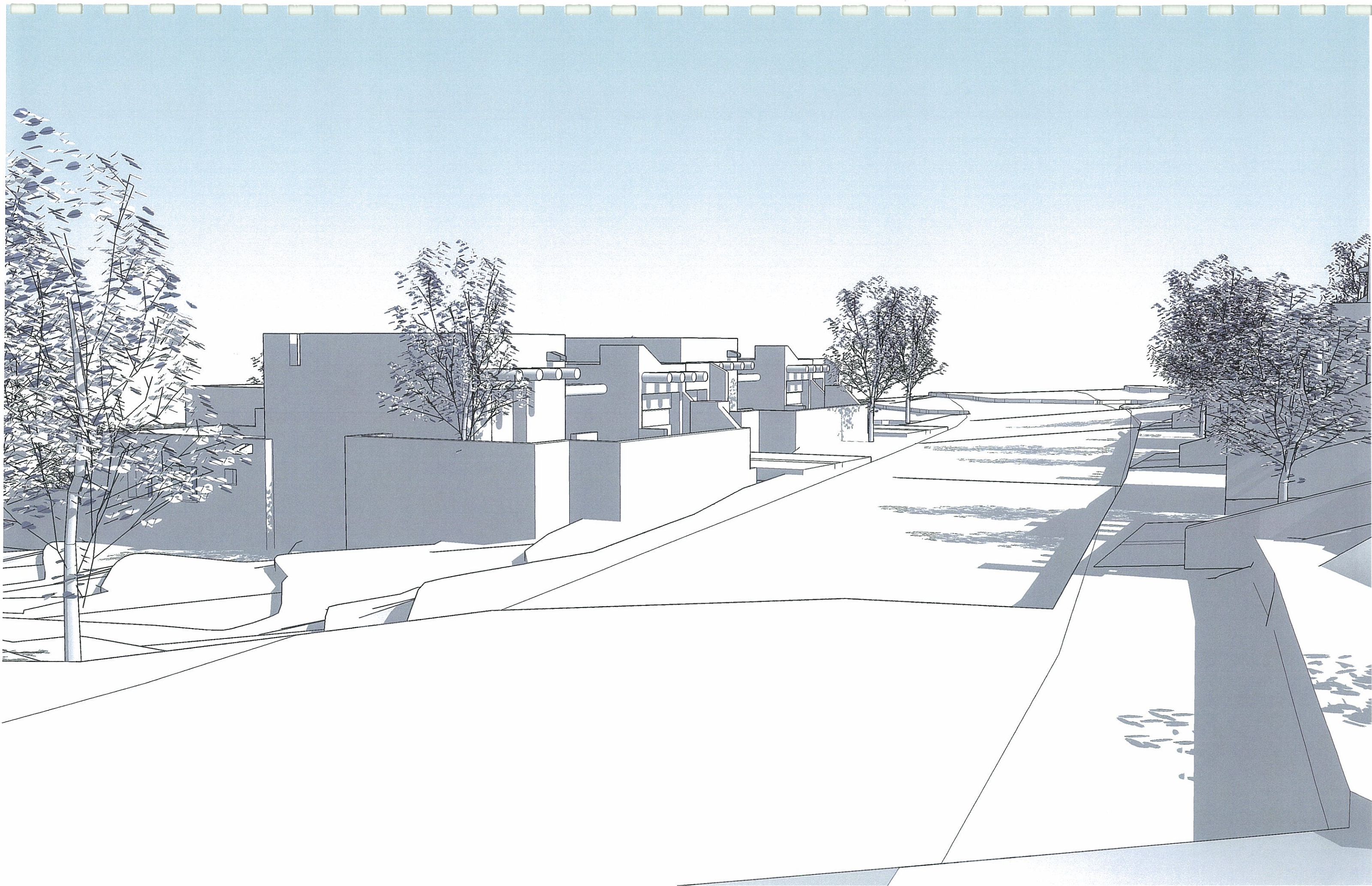

LIONSBACK RESORT
HOTEL WITHIN SITE 6/26/07

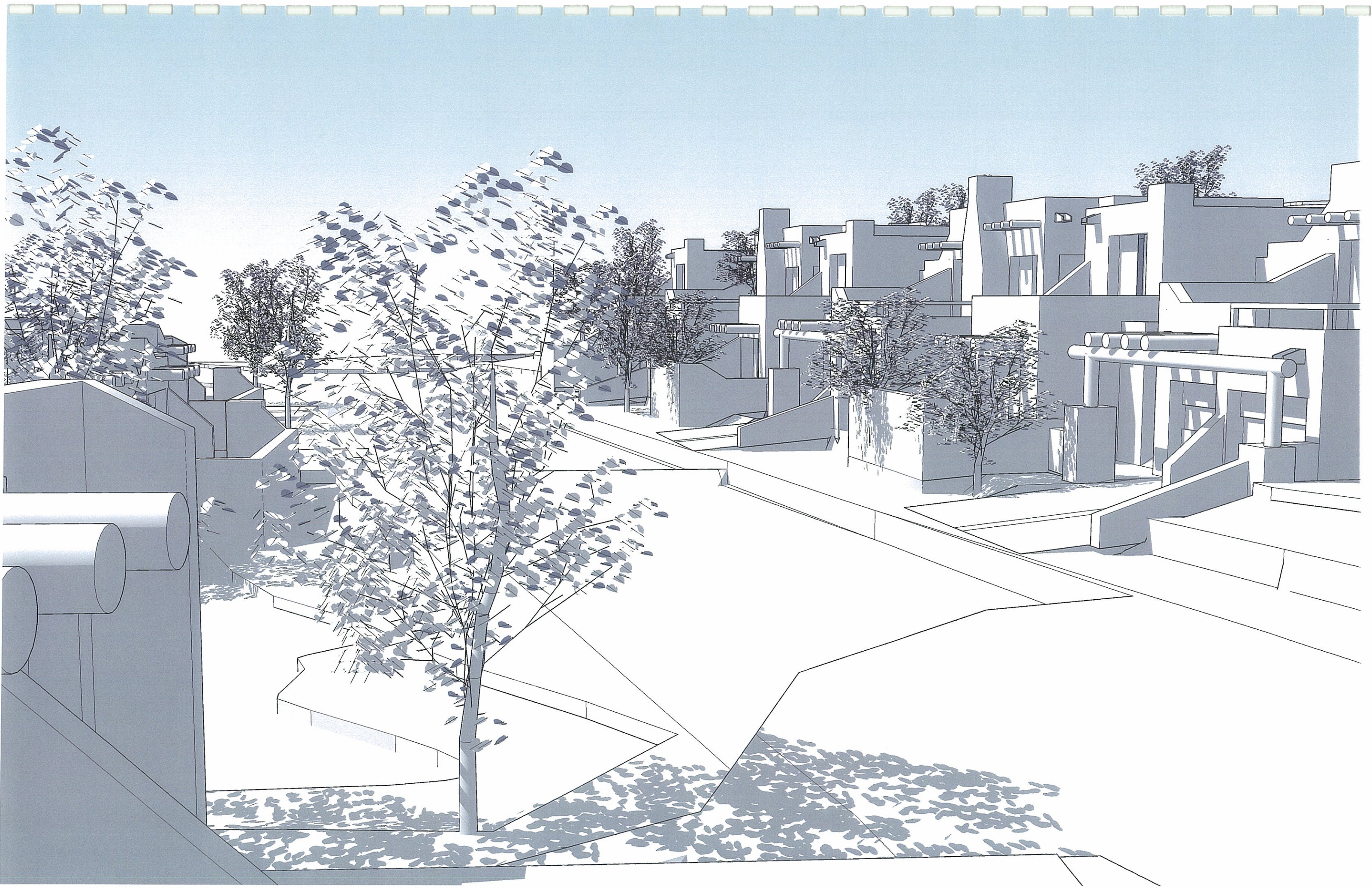
 **CALVIN L. WILBOURNE**
TELLURIDE ARCHITECTS | 110 SOUTH PINE STREET
BOX 853
TELLURIDE, CO 81435
(970) 728-3949 FAX -9145

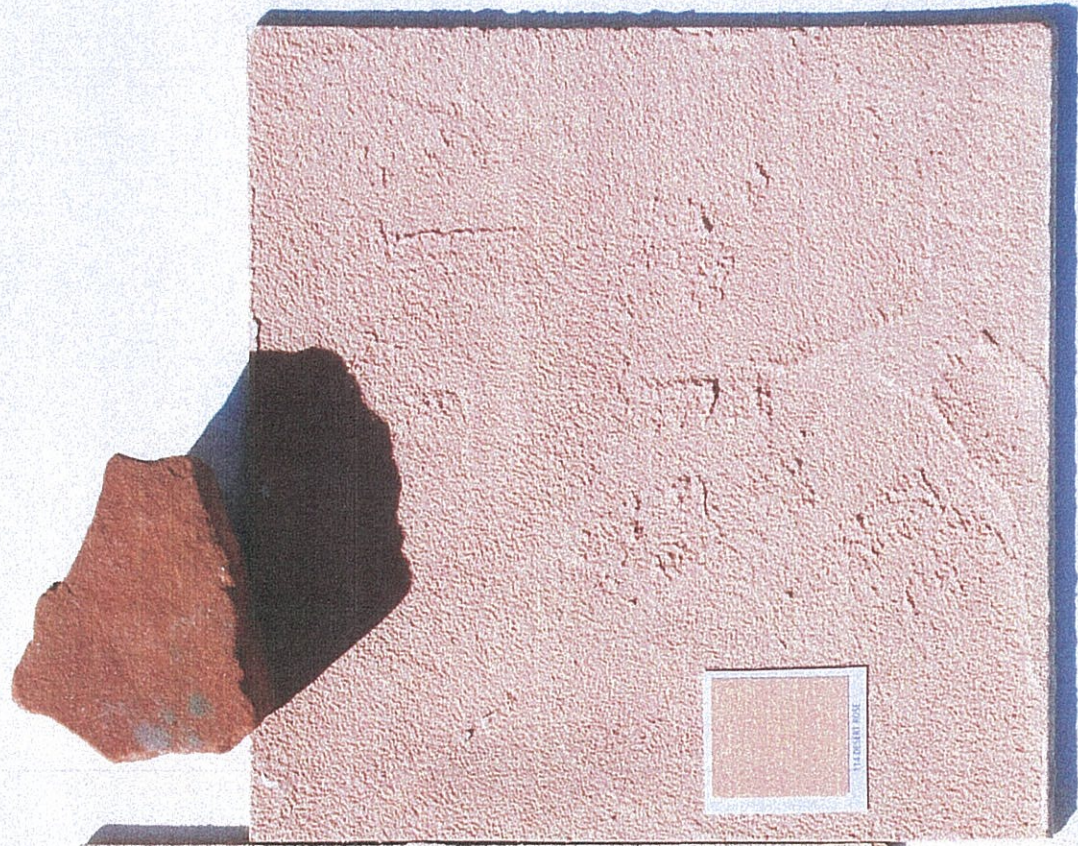


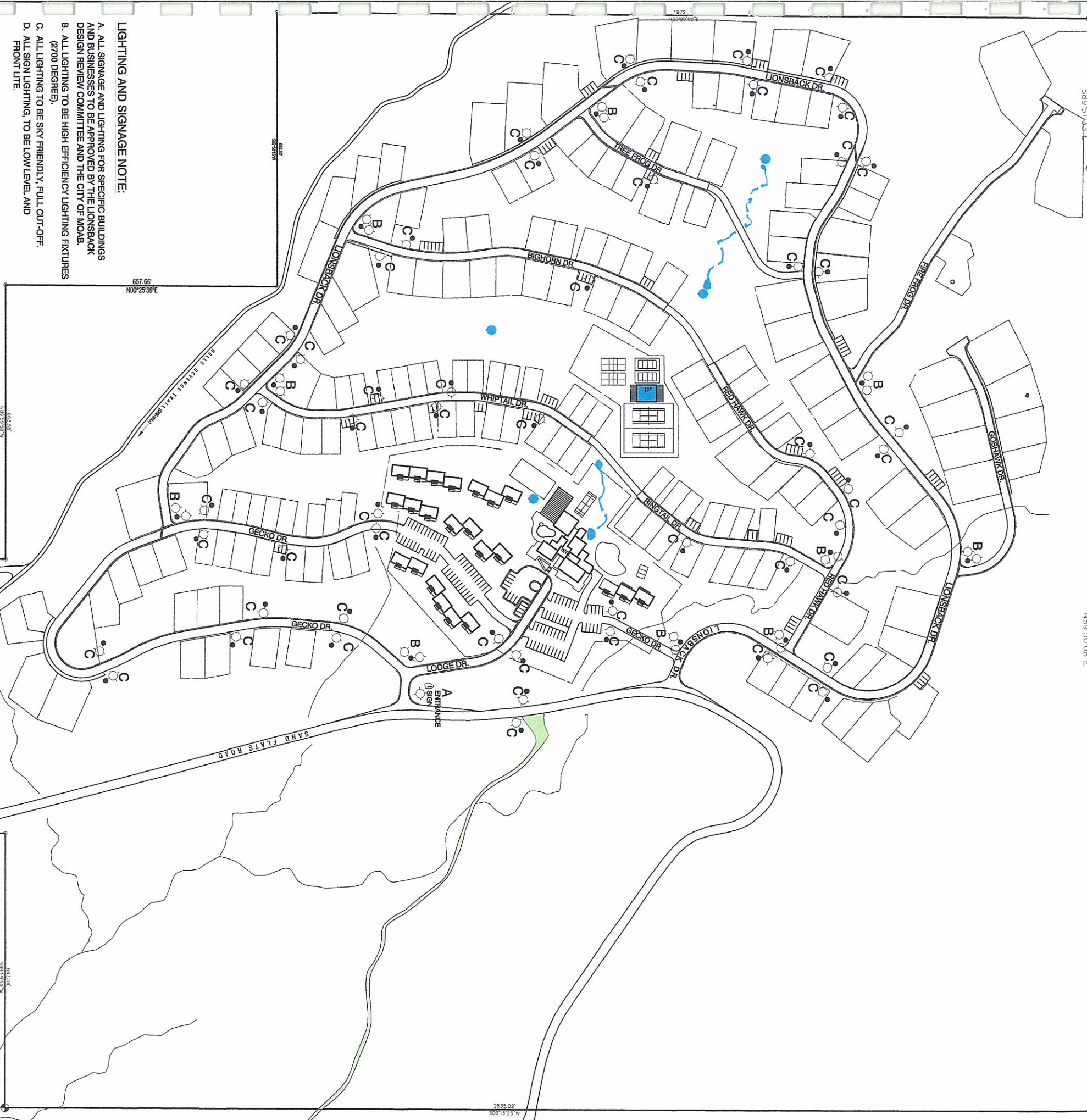






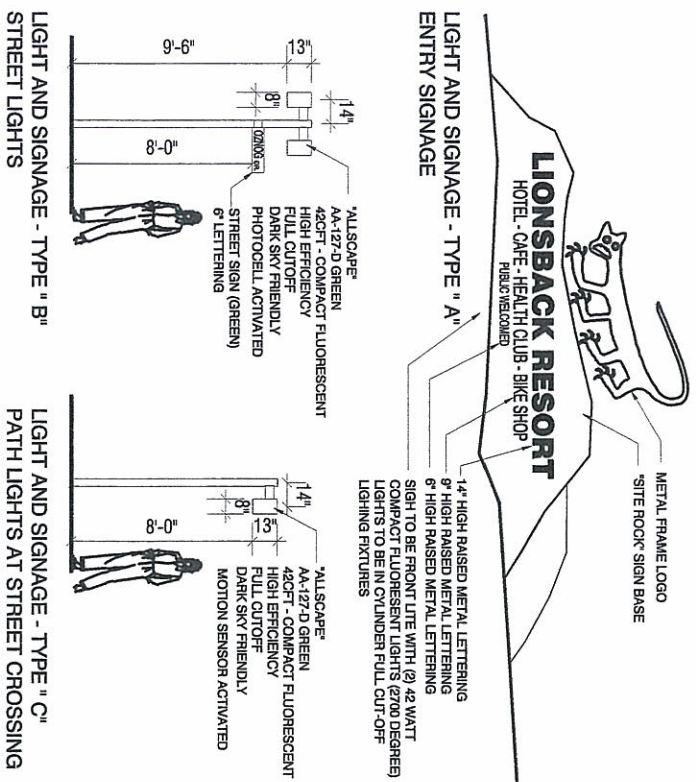






LIGHTING AND SIGNAGE NOTE:

- A. ALL SIGNAGE AND LIGHTING FOR SPECIFIC BUILDINGS AND BUSINESSES TO BE APPROVED BY THE LIONSACK DESIGN REVIEW COMMITTEE AND THE CITY OF MOAB.
- B. ALL LIGHTING TO BE HIGH EFFICIENCY LIGHTING FIXTURES (2700 DEGREE).
- C. ALL LIGHTING TO BE SKY FRIENDLY, FULL CUT-OFF.
- D. ALL SIGN LIGHTING, TO BE LOW LEVEL AND FRONT LITE.



**LIGHT AND SIGNAGE - TYPE "A"
ENTRY SIGNAGE**

- 14" HIGH RAISED METAL LETTERING
- 9" HIGH RAISED METAL LETTERING
- 6" HIGH RAISED METAL LETTERING
- SIGNS TO BE FRONT LITE WITH (2) 42 WATT COMPACT FLUORESCENT LIGHTS (2700 DEGREE) LIGHTS TO BE IN CYLINDER FULL CUT-OFF LIGHTING FIXTURES

**LIGHT AND SIGNAGE - TYPE "B"
STREET LIGHTS**

LIGHT AND SIGNAGE - TYPE "C"
PATH LIGHTS AT STREET CROSSING

LIONSBACK RESORT PRELIMINARY SITE PLAN SIGNAGE AND LIGHTING

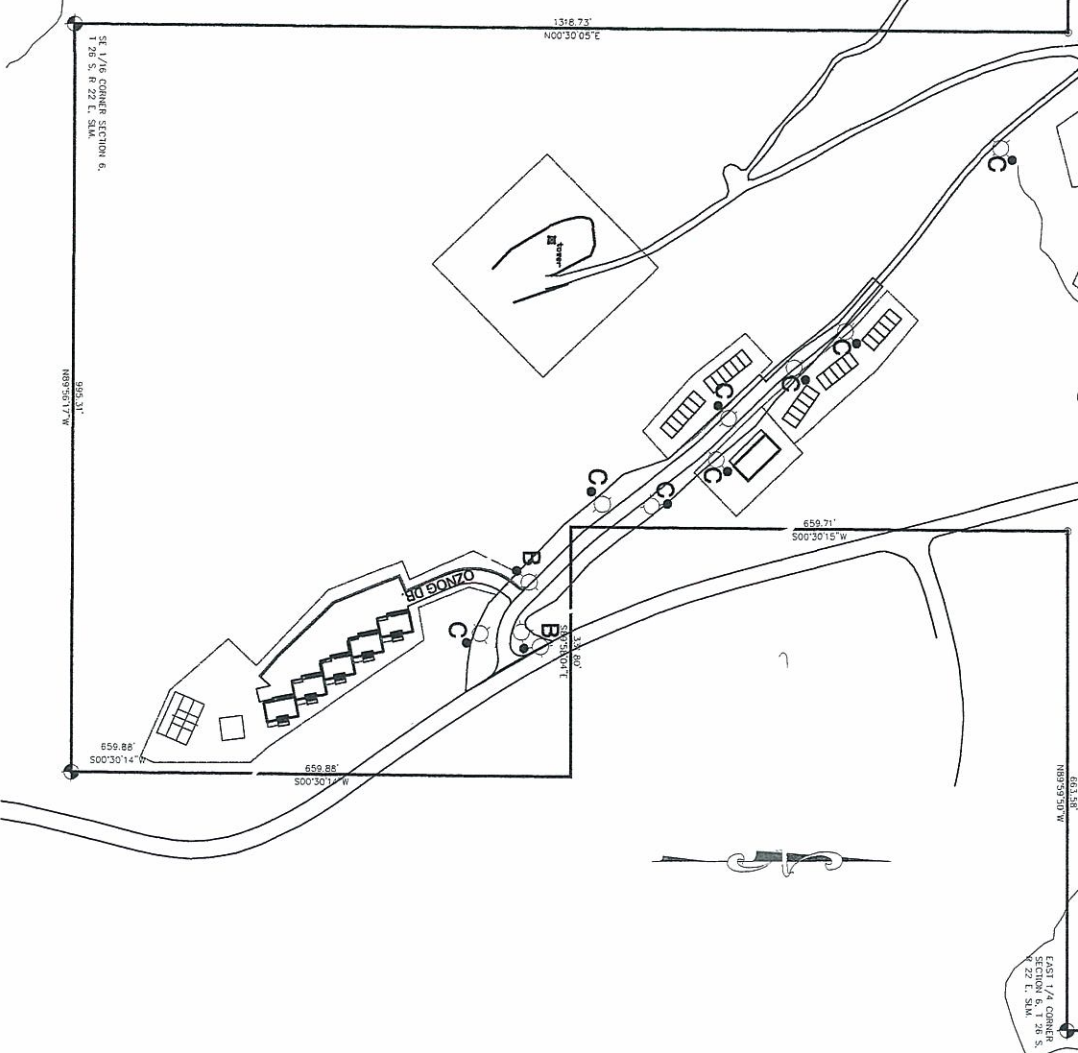
SCALE 1"=120'-0"

0 20' 40' 60' 80' 100' 120' 140' 160' 180' 200' 220' 240' 260' 280' 300' 320' 340' 360' 380' 400' 420' 440' 460' 480'

01/04/08

W CALVIN L. WILBOURNE, P.C.
TELLURIDE ARCHITECTS

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BOX 853
TELLURIDE, CO 81435
(970) 728-3949 FAX -9145



January 4, 2008

LIONSBACK RESORT Planting Plan, Water Zone and Lighting
Notes

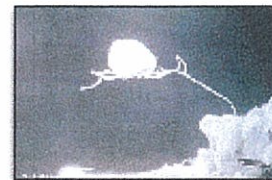
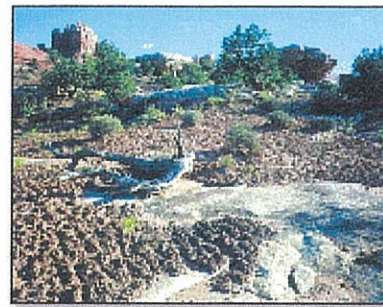
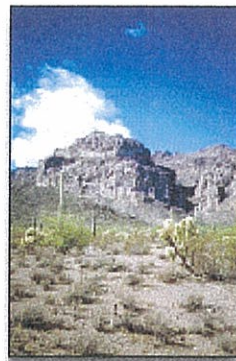
GENERAL LANDSCAPE GUIDELINES

The following notes are intended to be guidelines for design and installation of landscapes in the Lions Back Resort. These guidelines are intended to ensure the landscaped areas work together to create a healthy and functioning plant system built environment of the Resort.

The overall intent of the landscaping in the Lions Back Resort is to revegetate damaged areas with plants native to the area, and accent the recreation and living spaces in a manner that blends into the Resort's surroundings.

CRYPTOBIOTIC CRUST PRESERVATION AND SEEDING

The unique crusts that cover undisturbed areas of the desert around Moab are not only beautiful, but serve the purpose of fixing nitrogen from the atmosphere making it available to plants. These microbiotic crusts also reduce both wind and water erosion with their extreme micro-topography and threadlike bacteria, fungus and lichens that knit the sand together. For these reasons these crusts will be protected at LionsBack Resort. Where it is impossible to maintain the crusts through the construction process will be harvested and re-seeded elsewhere.



biological
soil crusts

Images from the web page www.soilcrust.org. A good source of information about microbiotic crusts and their role in the desert.

Areas with microbiotic crusts present will be identified and mapped prior to construction of any kind. In areas that will be disturbed by construction activities the crusts will be scraped off the site prior to any site disturbance. The top 1 to 1.5 inches of soil may be removed when the soil is dry with equipment or by hand (depending on the size of the area). This soil will be stockpiled in an area identified by the owner, and kept covered and dry until it is needed.



within the

Prepared by:
Kara
Dohrenwend

PO BOX 672 MOAB, UTAH 84532
(435) 259 - 6670 (VOICE AND FAX)

WILDLAND SCAPES, LLC

The collected crust soils contain spores and seeds for the components in the crusts found in undisturbed areas of the desert. After final grading is complete, specified areas will be seeded with the crust inoculants to assist in regenerating crusts rapidly.

DUST CONTROL AND EROSION CONTROL MEASURES

Wind and water erosion will be an issue to address in the landscaping at Lions Back Resort until the landscape is established and construction disturbance ends. The following erosion control measures are recommended: mounding, wattles on contour or installed as check dams, gabion structures, and rock check dams.

Straw and coconut matting is not an approved method of erosion control or seed establishment.

MOUNDING



An effective method for controlling dust and wind erosion is to create mounds break the wind flow at the soil surface, preventing it from moving sand around. Plantings on and around these mounds further break the wind flow and eventually fully stabilize the soils in the area. Mounds should be arranged and shaped to mimic natural mounding in the desert, and may be sculpted to define spaces and protect specific areas from wind blown dusts. Utilities access to a home in Moab mounded prior to revegetation. Dust blowing into lower floor door and patio immediately reduced.

All landscaped areas without other wind blocking (such as walls and large rocks), or not slated for intensive groundcover treatments, will be sculpted with mounds prior to planting. Any lawn or intensively planted ground cover areas will be bordered by walls, large rocks, or mounds to prevent the groundcovers from being buried in sand.

There may be areas where mounding will not adequately arrest wind or water erosion. In these situations other erosion control methods including wattle installations in washes and severe cut slopes, gabions, or natural rock check dams may be appropriate. All erosion control measures will be chosen to minimize visual impacts of the installation, and will emphasize methods that encourage plant growth. Large areas of straw matting will not be used for erosion control or revegetation at LionsBack Resort.

WATTLES

Wattles may be used in the event a cut or fill slope cannot be otherwise graded to prevent wind and water erosion. Wattles are cigar shaped bundles of brush cuttings tied together and staked with ends overlapping into a shallow trench dug on contour of a slope. The brush to construct the wattles can be of any species – invasive trees such as tamarisk and olive make great wattles.

Wattles can be used to arrest both wind and water erosion on large open cut or fill slopes. They will rot over time, and therefore must be coupled with seeding and other methods to encourage plants to establish themselves on the slope. Straw and coconut fiber wattles may be purchased. However, making them from brush that would otherwise be burned or hauled to the dump is a more sustainable



method for constructing these wattles. The brush wattles also are more effective at creating check dams allowing water to flow down slopes without creating gullies. Moab teens installing wattles on a slope in Mill Creek Canyon to stabilize a slope destabilized by off road vehicle use.

Wattles initially are very visible, but instantly stabilize slopes from wind and water erosion. The wattle material will rot over time as the native vegetation establishes itself on the slope. Within three years the slope will be filled with

native vegetation and the wattle structure mostly invisible.

GABIONS

Gabions are appropriate to stabilize wash bottoms or sides where large boulders cannot be used. Gabions are large baskets made of wire (much like chainlink fence) that are filled with smaller rocks such as river cobble. Enclosing smaller rocks into a basket makes the entire basket act like a large rock. Gabions have the benefit of being permeable, which means that they can allow water to pass through them, dissipating some of the energy that might erode a wash bottom or side.

Gabion systems, while relatively easy to construct, are labor intensive and should be designed by an engineer. These are permanent stabilization structures, however they can be installed with shrubs and trees planted into them, and faced with cut or natural red rock to blend into their surroundings. Planted gabions faced with red rock will eventually blend into the landscape.

CHECK DAMS

Check dams can be small (less than 6 inches) or large (over 3 feet built with gabions or large boulders) structures built into washes or gullies to slow the water flow and prevent further erosion. Wattles may also be used to create check dams where the check dam is only needed temporarily. Smaller erosion control check dams can be built with small rocks (less than 200 pounds) in response to water erosion as it occurs. Larger structures should be designed by an engineer in waterways where it is essential for water flow to be contained.



Wattle and woven brush check dams with small rocks to stabilize active gullies in Mill Creek Canyon.

Hay and straw bales will not be used as check dams. Any temporary erosion control check dams or silt traps will be made with silt fencing. Hay and straw bales, unless composed of native grasses, will introduce weed species to the site.

OPEN SPACE GUIDELINES

The Open Space Guidelines apply the open spaces between buildings and roadways in the LionsBack Vegetation planted in the open be predominantly native species, not block views or create unneeded separations of space. Trees will be 25 feet or less in height, and will to provide maximum shade along intersections and in access

through revegetated landscape.

Taller shade trees may be grouped at some locations including gathering locations, major trail intersections, or other places in the open space. In general, however, most of the trees in the open space will be low growing and positioned to not interfere with views into and out of the area.

Open space areas and any disturbed landscapes will be at minimum revegetated with native plants. Revegetation may be done with or without supplemental irrigation, and may include planting, seeding, or both. Plants may be large pinyons and yuccas, or may be trans-planted from other areas of the LionsBack Resort where plants will be damaged by construction activities. Any revegetation requiring supplemental water will eventually have the irrigation system removed and will be sustainable with natural rainfall. Plants for revegetation are included in the open space approved plant list.



Revegetation of an old access road with larger pinyons, yuccas and cacti, and seeded with penstemons and grasses. Temporary irrigation was installed to allow larger plants to be used for an “instant” effect.

TRANSITIONAL SPACES

spaces are private landscaped areas from the common open spaces. These with the open spaces, but may have needs than the open spaces. Trees feet tall are not allowed in the areas.

FRONT YARDS



Transitional that are visible areas will blend higher water greater than 25 transitional



to all of and paths Resort. space will and will generally be located pathway roadways.

Pathway

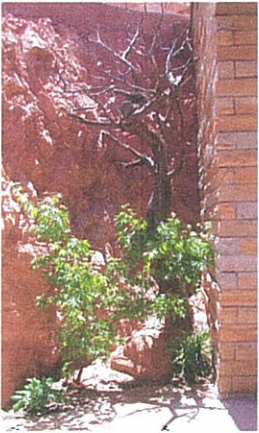
at some

Front yard spaces are those spaces that face the pathway system and open spaces. These private areas will be planted in a manner that blends with the open space areas. The approved plants for these areas are broader than the Open Space list, but the list is limited to regionally native grasses, forbs and shrubs, and low trees.

ALLEYS

The access roads to the homes in Lions Back Resort are considered to be alleys. This terminology refers to the function of the roadway as opposed to the appearance of the roadway. The streets will be narrow with the buildings located close to the roadway and the homes will not “face” them. These backyards will be landscaped with low trees (25 feet tall or less) and other shrubs, wildflowers and grasses. Landscapes facing alleys should be low maintenance and use little supplemental water.

PRIVATE LANDSCAPE GUIDELINES



Private landscape areas are those areas that are hidden from the open spaces by walls, boulders, landforms or other features. There are minimal limitations on plantings in these areas as long as they are not visible from the open spaces.

There will be no lawns or other high water using groundcover (e.g yarrow or thyme lawns, or large areas of vinca) areas greater than 400 sq feet in the private areas. All landscapes should be as low water as is possible. Trees that will reach a height greater than 20 feet are not allowed in the private landscape areas. Shade can be constructed, or created using smaller stature trees and large shrubs. Japanese maple with lirioppe, Oregon grape and a juniper snag in a courtyard space.

As in the open and transitional spaces, none of the plants on the prohibited list shall be used at plant list identifying non-native landscaping well in the Moab area with some extra care is these landscaping guidelines. This list is not definitive list. However, due to the extreme alkaline soils in the Moab area care should be choosing plants to minimize long term needs.



Courtyard space with water feature, Japanese maples, and patio space.

any time. A plants that do included in intended as a heat and taken in maintenance

Courtyard space with water



HOTEL AREA

The hotel area will be informally planted to

blend into the surrounding desert, but will also highlight and accent activity areas. This area is the only open space that may have non native plants dominating it. The area around the hotel will be planted to blend with the surroundings, but also accent the high use and recreational areas. This area will be treated more like private area landscapes.

An outdoor living space that blends into the desert environment much like the active landscape areas may at Lionsback Resort.

ACTIVE RECREATION AREAS

Active recreation areas throughout the Lions will be characterized by large shade trees, and as needed to accent and enhance the site. There common low water lawn area, and other planting beds associated with these active areas. Plant choices for these areas will help with the surrounding desert, and provide shade of activity areas. Pathways will lead between active recreation areas.



Back Resort other plantings will be a small cultivated recreation them blend and definition homes and

Pathway example

LIONS BACK RESORT ENTRANCE

The entrance off Sand Flats Road will be highlighted with some low water plantings similar to the plantings found near the hotel in lower water use areas. This entrance scape will be small and will blend in with the surrounding native plant community.

TREES and SHADE

Large trees (over 25 feet tall) will be planted minimally and only in gathering areas, parking areas, and active recreation areas. Most trees will be less than 25’ at full height, and will be planted in groups to minimize their impact on the landscape. Trees will be planted where they will generate the most useable shade for parking or pedestrian areas. This means trees will be mostly located to the south and/or west of large paved areas and walkways.

Trees for parking and larger gathering areas and active recreational areas:

- Common Hackberry
- Chinese Pistache
- Cottonwood - Male variety only

Trees for paths and localized shade

- Arizona Ash
- Netleaf Hackberry
- Gambel Oak

All tree plantings will be mixed for summer and fall foliage color complements. Other trees found on the approved plant lists may be used, however the trees listed above will be the primary trees used in the landscape.

A Few Words About Weeds

The simplest definition of a weed is "a plant out of place." In a vegetatble garden, weeds are easy to identify and their impact on the productivity of the garden is obvious. Weed species in the larger landscape have a similar impact and are equally difficult to remove. Familiar range weeds include

russian thistle, cheat grass, tamarisk, russian olive, purple loosestrife, dalmatian toadflax and knapweed. Some of these plants have beautiful flowers and are sold as landscaping plants in some areas.

In the larger landscape, these weeds are plants that people inadvertently (in the case of russian thistle), or intentionally (in the case of tamarisk or russian olive) brought to the Western United States. Some of these plants "escaped" from human-inhabited areas into surrounding areas. Cattle, horses, trains, boats, and wagons all served as initial carriers for these "invaders." Today, mountain bikes, camping equipment, and off-road vehicles are spreading these invasive exotic plants faster than ever.

Noxious weeds are those that are particularly tenacious and do not eventually stabilize within the native plant mosaic. Plants such as these have become so commonplace that many of us cannot recall living without them and accept them as "belonging." Oregon Bureau of Land Management (BLM) weed specialist Jerry Asher estimates that each day in the US noxious weeds are spreading over approximately 7 square miles of public lands (an area roughly twice the size of the incorporated parts of the City of Moab). That comes to 25,000 square miles in a year!

The ability of noxious weeds to out-compete native species is hardly a "natural" occurrence, or an example of "nature doing its thing." Most noxious weed species have been introduced by people for ornamental plantings, erosion control, food, or by accident.

The prohibited plant list identifies those plants that are known to be invasive in the desert and riparian areas around Moab. This list may change from time to time as plants are found to be invasive. It is the intent of the LionsBack Resort to ensure that no plantings at the Resort will escape into the surrounding desert and riparian areas.



Russian olive taking over the understory of cottonwoods in Mill Creek, and knapweed under cottonwoods at a nearby ranch.

INSTALLATION SUGGESTIONS

Suggestion at this time is to plant open space areas as they are developed and specify mass plantings of evergreen and flowering plants in these zones, interspersed with grasses and other plants. These areas should be design/build to allow the plants to be installed where they make the most sense, and minimize design time spent surveying plant locations. A quantity and species list will be provided on the final plan for each open space area to account for site variability in slope aspect and exposure, and to suggest groupings of plants that do well together (for instance, group cherry sage and desert sage with tufted evening primrose and mules ears).

If a design/build contract for installation was let, that could work well, or assign the plantings to be reviewed by the landscape designer at installation.



Single leaf ash, Mormon tea, fendlers sundrops, and junipers are all available for landscaping and revegetation work.

PLANT AVAILABILITY AND SOURCES

All the plants on the plant lists can be obtained locally in Moab. Some of these species, while available are not available in

large quantities. To ensure minimal substitutions, or large areas of planting it is recommended that contract grow orders are let before road or building construction begins. Wildland Scapes in Moab can grow most all of the species on these lists.

IRRIGATION GUIDELINES

The landscape at LionsBack Resort will be zoned to minimize water use, and ensure that plants receive the correct amount of water to thrive in our extreme environment. There may be subzones within these larger zones.

In no case will drip irrigation and overhead spraying irrigation be installed on the same valve. All lawn and ground cover areas will be watered separately from shrub and tree plantings. A drip irrigation grid will be considered for all lawn and dense ground cover areas.

ZONES

WETTEST zone

Only located around main hotel building area, active recreational areas, and a few outlying oasis spots. These areas will have a permanent drip irrigation system installed, and may be watered up to once every 3 days (deeply) at the hottest time of the year.

The common area lawn areas will be watered separately from all other plantings. It is advised that private areas with lawn or dense ground covers are also isolated from other plantings.

MEDUIM water use zone

Located along and near the Primary Paths and around and near the Hotel Casitas. These areas will have a permanent drip irrigation system installed, and may be watered up to once every 5 days at the hottest time of year.

LOW water use zone

Located along the secondary path system and in the open spaces between units. These areas will have a permanent drip irrigation system installed, and may be watered up to once every 10 days at the hottest time of the year.

LOWEST water use zone

Located in the open areas closest to the natural desert, and in the fringes of the Lions Back Resort. These areas will have no supplemental water. These areas may be temporarily watered to help establish larger trees and shrubs, but all areas will not be permanently on irrigation. There may be areas of this water use throughout the open spaces of the LionsBack Resort.

TREES

The trees will be watered separately from the landscaping or revegetation areas. This will allow for long deep and infrequent watering as is needed for these trees as they get older and larger. Trees will be watered on a drip system – and may be watered by subterranean irrigation to minimize evaporation and maximize percolation.

LIGHTING GUIDELINES

The night sky is one of the important features of the living environment at the LionsBack Resort. All efforts will be made to minimize light pollution within and out of the developed areas.

Path lights will be ground mounted, no taller than 6 inches from the ground and will be LED lights (tri clusters from THE LED LIGHT, or pods from plasmaled.com). Path lights should be spaced more closely (approximately 20’ on alternate sides of the path) on the primary paths, and farther apart (approximately 30 to 40’ on alternate sides of the path) on secondary and tertiary paths.

Lights should be slightly downward focused, onto the path, and fitted with silicon diffusers to minimize glare. There will be no uplighting of landscape features or buildings at LionsBack Resort.

These lighting fixtures can also be attached to rocks and snags – and at path junctions or meeting places could be installed at higher elevations.

The pathway lights are intended to mark the path, but not to illuminate the outdoor spaces. The paths will be safe to walk at night, but the outdoor environment and night sky are the essential components of the nighttime outdoor experience.

Lights on buildings and in private landscaping areas will be downward focused. Light will not spill from private area landscapes into the common open areas, or into the night sky. It is the intent of the LionsBack Resort to protect the night sky from light trespass. There are additional restrictions regarding lighting trespass elsewhere in these development guidelines.

APPENDIX A: REVEGETATION DEFINITIONS AND GUIDELINES

The location of the LionsBack Resort creates a unique opportunity to repair areas heavily impacted by prior human uses. Restoring vegetation, controlling noxious weeds, and stabilizing sandy soils will occur in the development of the LionsBack area.

There are four general restoration philosophies. Each dictates certain acceptable strategies for soil and vegetation disturbance, plant choice and source, and treatment of invasive exotics and weed species.

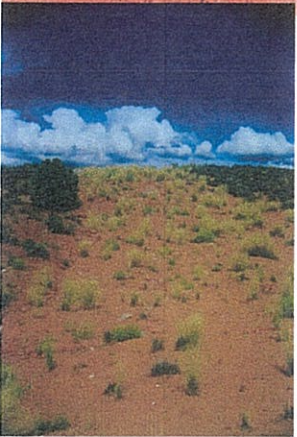
These philosophies are: restoration, natural regeneration, revegetation and wildland landscaping.

Restoration is appropriate in areas where the activity that damaged the land is no longer occurring. Restoration is not an effort to bring an area back to its condition. Rather, it seeks to regain natural functioning structure to stabilize damaged land, in the process healthy habitat. Restoration attempts to mimic natural abundance, and distribution of vegetation on a site. It does putting plants into the ground. Plants used maintain the local natural selections; i.e., all plants are taken from geographic areas and similar landscape types. Structural necessary to stabilize soils and slopes. Invasive exotic removed to the best of our ability. (This requires years of



original processes and rebuilding patterns, not mean simply genetic trace of adjacent work may be weeds are follow-up.)

Natural regeneration is appropriate in weed-infested areas activity that introduced and/or favored the weed is now regeneration works to favor native plants by removing non- and thus is particularly relevant when the primary problem plants. It is also the least invasive method of restoration. principles of natural regeneration are: 1) work outwards healthy native plant systems to damaged areas; 2) make disturbance to the environment, and 3) DO NOT OVER rate of native plant regeneration dictate the rate of weed Natural regeneration reminds us that most likely the land damaged overnight, and it will take at least as long to help



where the absent. Natural native plants, is invasive exotic The three basic from areas of minimal CLEAR – let the removal. did not become repair it.

Revegetation is appropriate in residential areas where the heavily used areas, and in backcountry situations. Revegetation projects are designed to replace plants or vegetative cover to repair damage caused by human activities. Revegetation may include weeding, direct seeding, vegetative reproduction, planting seedlings, and/or transplanting mature specimens. Revegetation mimics patterns, abundance, and distribution of plant species, but does not necessarily maintain the genetic trace of plants in the area. It may involve stabilization of slopes and soils, and does address invasive exotic species. As with restoration, the goal of revegetation is to recreate functioning habitat that cannot be easily distinguished from the healthy habitat surrounding it.

Wildland landscaping is most appropriate in residential areas, "front country" campgrounds, and other heavily used areas. It does not necessarily mimic patterns, abundance, or distribution of native plant species, but does replace native plants in denuded areas. Invasive exotic plant species are controlled, but some plants in the project may not be strictly locally collected native species. However, no invasive exotics will be introduced. A wildland landscaped area might even use an irrigation system to help establish vegetation.



Most of these strategies mimic natural patterns in the landscape. The ability to mimic "natural" areas depends on how well we have studied reference areas of relatively "pristine" native plant communities.

The Bradley Method of bush regeneration is the basis for the LionsBack Resort's preferred restoration strategy wherever it is possible to use it. The Bradley Method is a natural regeneration technique pioneered by Joan and Eileen Bradley, two elderly women in Sydney, Australia. They worked to restore native vegetation in urban parks and park land near urban areas and

relied on labor-intensive hand-weeding methods, followed by periods of waiting. The Bradley Method's goal is to shift the balance of the plant mosaic from favoring weeds to favoring native plants. In the large damaged areas around Moab, using this method alone limitations. There are several strategies to help the along. These include: re-establishing native plants by plants, pole plantings, planting seedlings, and seeding.

Back the Bush: the Bradley Method of Bush Regeneration is a highly recommended (and short) book more detailed explanation of this strategy.



can have process transplanting **Bringing**

providing a

The Bradley Method (paraphrased from **Bringing Back**

The Bradley Method of bush regeneration uses the inherent ability to heal itself to restore native vegetation to a site. The Bradley Method is most applicable when the primary problem is invasive exotic plants or weeds. This may be a part of the overall strategy for a larger revegetation project, or it may be the only strategy used.

The Bradley Method is most effective when there are healthy plant communities adjacent to a project site. It is a way of prioritizing your weeding efforts, and can make the most overwhelming project possible. Remember, these weeds didn't move in overnight; it will most likely take at least as long to remove them as it took them to become the site. Utilize the site 2 months later.

Bradley Method General Plan of Work

1. Prevent degradation of good areas
In "good" areas, weeds are generally scattered in healthy native plant communities. Remove these weeds. Whenever you visit the site, locate and remove any you missed.
2. Improve the next best areas
Begin additional weeding in areas close to healthy native vegetation. Never clear weeds beyond approximately three yards from healthy native plants.
3. Hold the advantage gained
DO NOT OVER CLEAR. Weeds will generally continue to germinate and thrive if the area has no native plants. Follow-up weeding around all the native plants will be necessary at least twice a year. When a new wave of weeds germinate, take the time to visit the site and weed around each native plant again to help favor its growth.
4. Cautiously move into the really bad areas
Keep working along the edge being regenerated, making new clearings smaller as weeds become thicker. Always look for the odd native plant in a stand of weeds and concentrate your weeding effort around these plants.

5. Cautiously move into the worst areas

Do not clear a block of solid weeds until healthy natives border it. It is tempting and satisfying to clear huge areas – but the weeds will simply return if they have no competition from native plants. Many weeds thrive in disturbed soils, so don't forget to minimize damage to the soil.

Because the Bradley Method basic principles and work plan dictate working from areas of healthy plants to infested areas, initially this method can appear very slow. Never weed a larger area than native growth can recolonize. In the worst areas, lots of follow-up weeding for seedlings is necessary to favor natives. An exception is when you are working in a large area completely infested with weeds. If you are helping this area along by planting, you may want to clear weeds first to make your initial work easier. In follow-up maintenance, however, return to the Bradley Method.

Strategies to Help the Bradley Method Along:

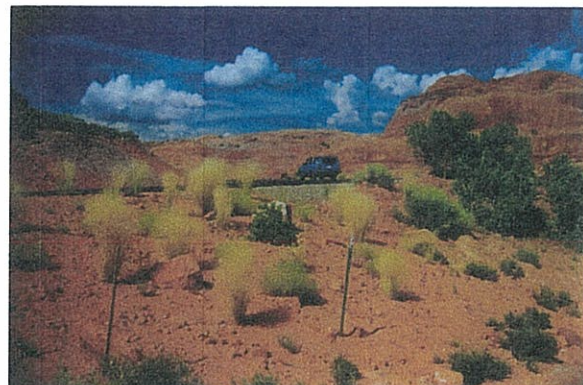
When areas have been severely damaged by motor vehicles, bicycles, foot traffic or grazing, it is sometimes necessary and acceptable to add seed, move plants in from adjacent areas, plant seedlings grown elsewhere, plant pole plantings or use other vegetative means for propagating plants on the site. On recently disturbed sites, adding plant materials and additional native seeds may help prevent the establishment of large stands of weeds.

Four intervention strategies that help the Bradley Method along are: re-establishing native plants by transplanting plants, planting poles, planting seedlings, and seeding.

- **Transplants**

Moving native plants from adjacent and/or similar sites can be an effective, often inexpensive way to replenish plants in a disturbed area. In order to achieve high success rates, however, it is critical that this work be done by an experienced restoration specialist. The first step is to locate a suitable area for plant removal. To ensure good survival rates, this area needs to be similar to the area being restored; soils, landscape type/location, and species need to be the same. Ideally this area is also going to be cleared for some other reason – to plant crops, build a house or road, etc.

The advantage to transplanting plants from similar and nearby locations into a disturbed site is that the plants will more likely be close to the genetic make-up of the plants that used to occupy the site. This is especially true when plants are taken from locations adjacent to the disturbed site. The disadvantage is the possibility for damaging the area where the plants are harvested. Damage can be minimized by adhering to minimal impact practices, taking time to locate a nearby site slated for clearing, and/or by only removing a small percentage of plants from the designated supply site.



A roadside with transplanted grasses, shrubs and forbs immediately after planting and 12 months later.

It is also important to only move plants that have a reasonable expectation of survival. These include: perennial grasses, snakeweed, sages, saltbush, rabbitbrush, prickly pear cactus, yuccas, and small junipers and pinyon pines. Plants that have a very poor survival rate include: oaks, very large pinyon pines and junipers (especially those growing in rock). In general, with respect to woody species, the smaller the specimen moved, the more likely it is to survive. Survival of 50-70% is considered good, 70-80% very good, and 80-90% or higher excellent. Please note that it is necessary to thoroughly water transplants in at the time of planting. If possible, water the plants in several times during the first year after transplanting. (This can improve survival, but is not absolutely required.)

- **Pole plantings**

In riparian areas, or areas with heavy irrigation possible for a time, it is possible to cut poles (i.e. branches) from standing trees such as willows and cottonwoods, then auger (bore) a hole to the water table, plant the pole in the hole, and it will root. If the hole is augered several feet down, most flash floods will not move the pole planting. This is a particularly useful strategy along stream banks where flash floods will easily remove transplants or potted plants.

- **Planting seedlings/potted plants/nursery stock**

Another way to add plants to a damaged or de-vegetated site is to plant seedlings or nursery-grown plants. There are two slightly different strategies available. The first is to collect seed from the project site or a nearby area, collect cuttings or whole plants, and propagate these in pots. Genetic traces of plants from a specific location can be effectively maintained with this method. This is a particularly useful method when there is time before the project begins to propagate plants. This is also a useful method when a project site is going to be cleared for construction, as plants can be removed and later replaced. (The need for lead time is also a limitation of this method.)

The second strategy involves purchasing commercially grown nursery plants. This is often a very quick and easy way to replace plants. However, there are some limitations. Some native plants, such as greasewood, are not available in nurseries because there is no commercial demand for them. Also, the seeds or cuttings used to propagate plants that are purchased are most likely from more than 100 miles away and have a very different genetic trace from plants found on the project site. Finally, nursery grown plants (unless from a revegetation nursery) are grown in very fertile soil and are often over-watered and -fertilized to enhance the plant size. Most of the soils around Moab are far from fertile, and water is erratic at best, so such plants are at a major disadvantage when planted here.

- **Replenish seed stock by seeding**

In a vegetated area, the soil is full of seeds waiting for the proper conditions to germinate. Often when the soil is disturbed and subsequently eroded the seed stock is also depleted. Replenishing seed stock in the soil is an easy, inexpensive way to help favor native plants in a given area. Seed can be collected from nearby sites, or purchased from seed companies. As with nursery-grown plants, purchased seed is a less complete genetic match than seed collected locally. However, either seed source can be very helpful in favoring native plant growth.

Please note that different seed species need to be sown at slightly different depths for maximum germination. It is also important to ensure the site has been stabilized; any erosion of the soil will also remove the seed.

Seeding is a long-term approach to re-establishing native plants. Seed may sit in the ground for many years before conditions are conducive to germination. Don't expect thousands of seedlings the first year. Seeding proves most successful when accompanied by a weeding schedule in subsequent years.

Rules for Working in the Field

Most of these rules have been adapted from the book **Bringing Back the Bush: The Bradley Method of Bush Regeneration**, and most of them are common sense and can be expanded to larger crews and projects than just revegetation projects. However, they can be very easy to forget once you get out into the field, and therefore we recommend reviewing them on a regular basis.

1. Watch your feet!

Careless trampling can cause damage that lasts for years and can be avoided. It can take a while before it is second nature to watch your feet. It is important to not step on native plants (or any plant that you cannot identify). Remember our objective is to help native plants grow. In the Colorado Plateau, it is also important to look out for *cryptogamic (or microbiotic) crusts*. This incredible microtopography is easily damaged. It is the beginning of the nitrogen-fixing cycle which makes the soil fertile for native plants. Chances are, there will rarely be any "cryptos" where you are working, but there may be some nearby, hence we recommend taking extreme caution at all times.



First of all, never hurry. Literally watch where you put each foot – and wear soft shoes! Avoid heavy hiking boots, as they do not allow you to feel what you are stepping on.

In addition, be careful on steep slopes. They are very easy to damage and hard to repair.

When weeding off-trail or in a denuded area, spread out, looking for isolated patches of weeds. Also move about no more than necessary. If you're going to wrestle with a weed for a while, make yourself comfortable and stay put.

2. Disturb the soil as little as possible.

When weeding, seeding, planting seedlings, or moving plants, disturb the soil as little as you can. Russian thistle and other opportunistic weeds favor recently disturbed soils. If you can leave the thin crust, you are starting the process of favoring native over non-native plants. This concept is closely linked to the natural regeneration principle "do not over clear".

If you have to use a tool, don't use a heavy tool if you can use a light one, and don't use heavy equipment if you can use hand labor. This is the beauty of some of our projects. Even relatively large *scarifying* projects, or projects where it seems that hand labor is woefully slow, can be accomplished in a surprisingly small amount of time by a large group of enthusiastic workers. We aren't simply "making work" by hiring a large number of people for a few days, this is the preferred method of restoration.

*"There is a splendid air of speed and efficiency about machinery and heavy tools but they damage more than weeds. They cut the roots of nearby natives, kill small native seedlings, and destroy the natural structure of the soil. In the long run they cost more in working and waiting time."*Joan and Eileen Bradley, from [Bringing Back the Bush](#)

3. When weeding mature plants, do not pile weeds in heaps.

It is preferable to weed when seedlings are small. This is particularly easy with annuals like russian thistle that generally germinate all at once, or in waves. You can simply leave weeds where you pull them. They will dry up and decompose.

One exception to this is if mature plants are being pulled and the method of coping with the vegetative matter is burning. In this case, do pile the weeds in heaps.

4. Remove all species of exotics from areas weeded, but do not over clear.

Pre-site analysis should have identified all the invasive exotics and weeds on the project site. Know each of these plants and weed them all. Favoring one species over others will simply give the ones you left behind a clearer place to grow. Exceptions to this might include cheat grass. Again – do not over clear.

5. Work with the weather.

It is ill-advised to work when it is raining hard. Luckily most soils here dry out quickly, but know your soil types and remember that working during or after a heavy rain may cause more harm than good.

6. Do not remove any plant you cannot identify.

If you don't know what a plant is – don't pull it up. It's better to be safe than sorry.

This is also applicable when you are transplanting native plants. Only move the plant if you know what it is – and if you know (or suspect) it has a good chance of survival. If you move a weed – you'll spread it. If you aren't sure if a native will transplant well, take note of where you've planted it and how you moved it so that you can return at a later time and check your success rates. Although there is value to a dead plant where there were previously no plants, a live one is better.

7. Weed before the plants go to seed, or remove plants with seeds from the site.

When weeding, this is perhaps the most important rule to follow, and it is crucial in the project-planning phase. It makes the most sense to get a weeding crew out before the plants have gone to seed. If you weed when the plants have already gone to seed, you end up having to remove the plants and seedheads from the site. Weeding is much harder because you have to watch that you do not scatter more seed. (Whenever you are weeding, please take extreme care to remove all seeds from your clothing, shoes, and vehicle if relevant, before leaving the site in order to minimize your chances of spreading weeds to other locations.) When weeding before the plant has gone to seed, you can leave the upturned plant where you pulled it.

8. When using on-site materials, collect them with great care.

In the best situations, when working in the field we only need to bring in hand tools and a few materials that cannot be gathered on-site, such as stakes or fencing supplies. It is fruitless to repair one area while destroying another. Take time to find a wash or existing denuded area to access plants and other materials.

LIONSBACK RESORT

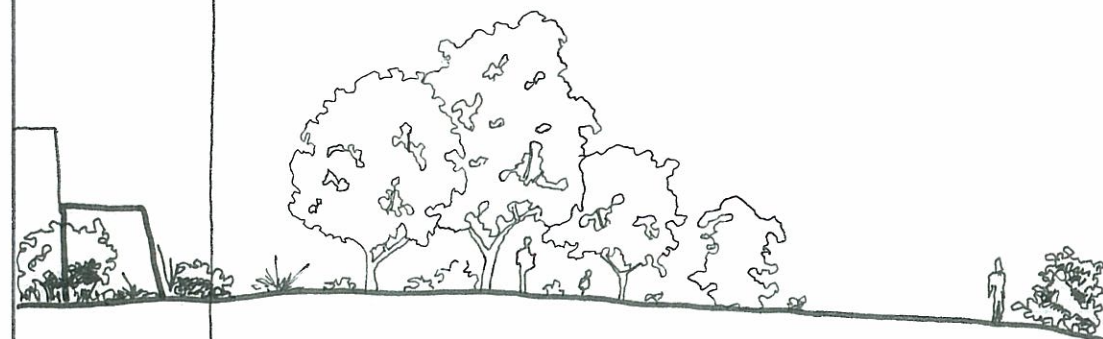
LANDSCAPE ZONE DIAGRAM

01/04/2008

PREPARED BY: KARA DOHRENWEND
WILDLAND SCAPES LLC
MOAB UTAH 84532

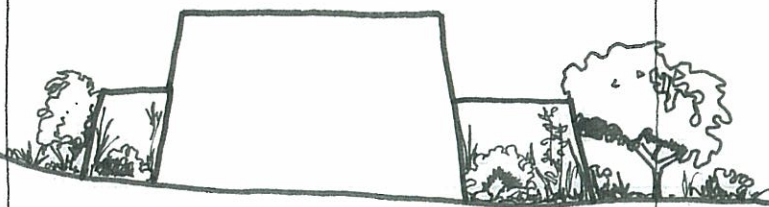


COMMON OPEN SPACE



PEDESTRIAN PATHS, SHADE TREES GROUPED AT PATH JUNCTIONS AND GATHERING AREAS
NATURAL LANDSCAPE AND REVEGETATION
PLANT LIST RESTRICTED TO MOSTLY NATIVE SPECIES

PRIVATE SPACES



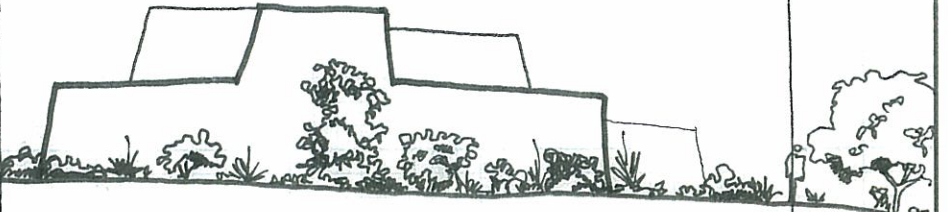
PRIVATE AREAS NOT VISIBLE FROM COMMON SPACE AND ALLEYS
LANDSCAPE HAS FEW RESTRICTIONS
LAWN AREAS UNDER 400 SQ FT
AREAS SCREENED WITH WALLS

ALLEY SPACE



ROADWAY, CURB AND GUTTER, AND DRAINAGE
LANDSCAPE IS SIMILAR TO TRANSITIONAL SPACE

TRANSITIONAL SPACE



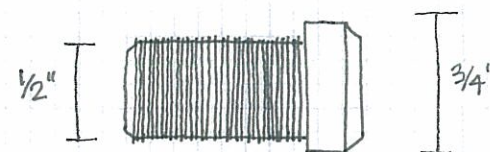
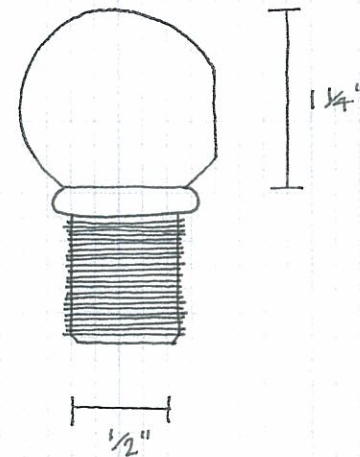
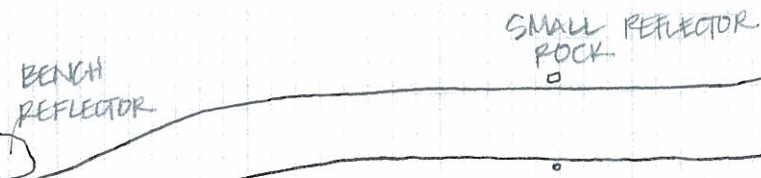
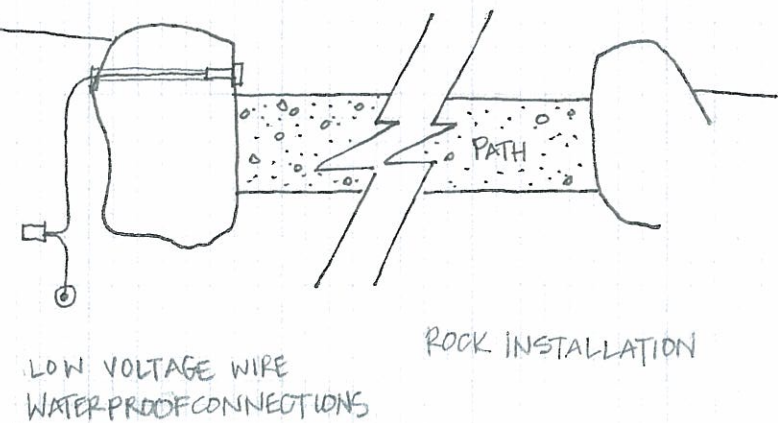
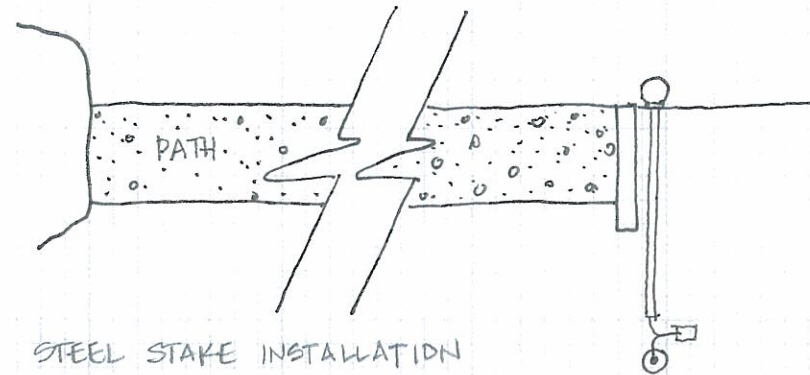
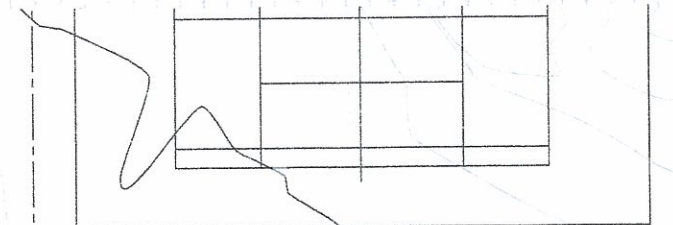
PRIVATE AREAS VISIBLE FROM COMMON SPACES AND ALLEYS
LANDSCAPE MORE DENSE THAN COMMON AREAS
PLANT PALLET BROADER THAN COMMON AREAS

LIONSBACK RESORT

PATH LIGHTING DIAGRAM

01/04/2008

PREPARED BY: KARA DOHRENNWEND
WILDLAND SCAPES LLC
MOAB UTAH 84532



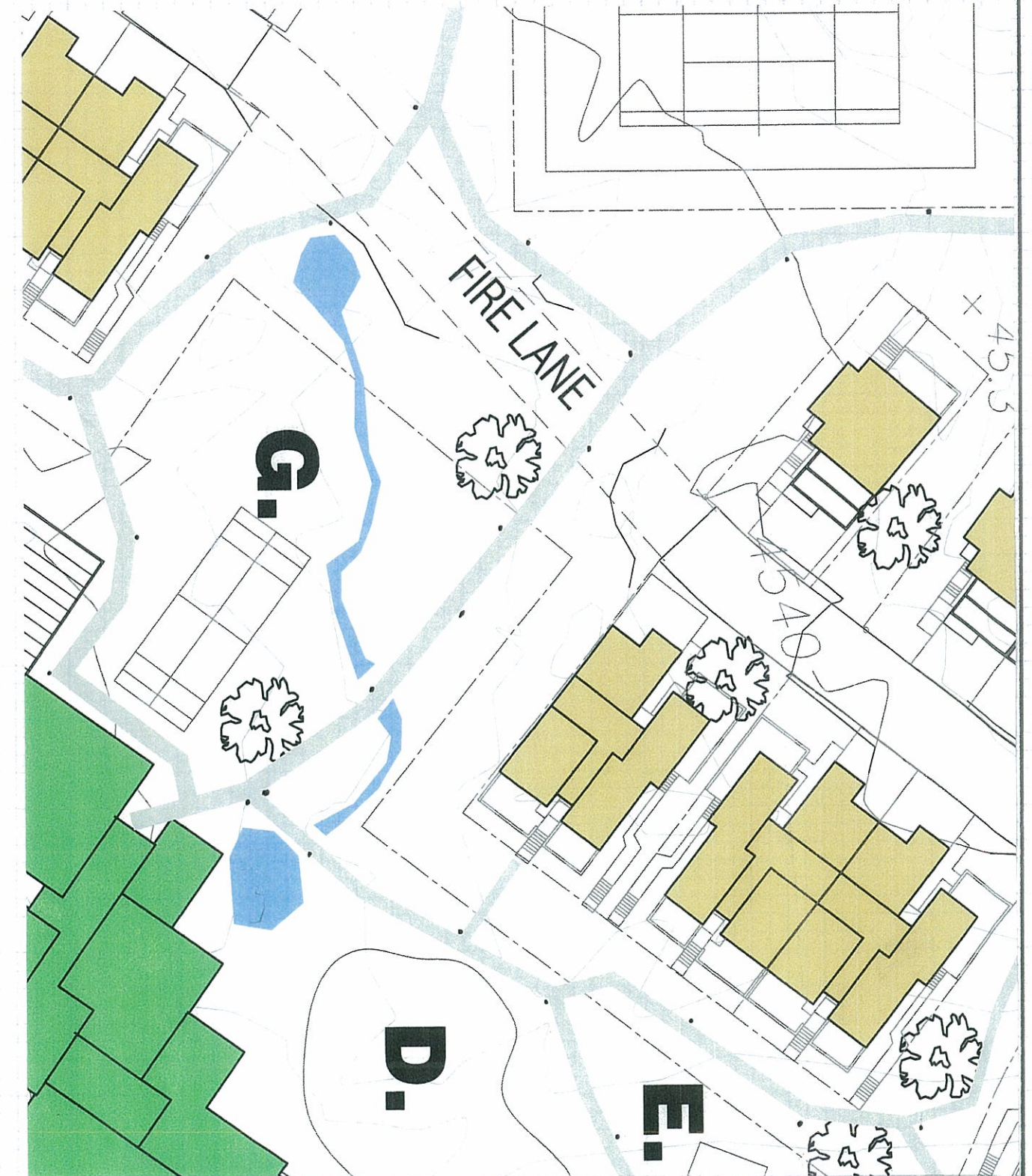
TRI CLUSTER LED LIGHTS
MANUFACTURED BY THE LED LIGHT

TRI CLUSTER LED LIGHTS IN A
WATERPROOF BRASS HOUSING
INSTALL ON STEEL STAKES, PATH
FURNITURE OR DRILLED INTO ROCKS

LIGHTS TO BE INSTALLED AT PATH
INTERSECTIONS AND EVERY 30-40'
ON OPPOSITE SIDES OF PATH

LIGHTS INTENDED TO MARK THE PATH
NOT TO ILLUMINATE OPEN SPACE

ROCK 'BENCH'
ACTS AS A
REFLECTOR AND
SCREEN TO
DIRECT LIGHT

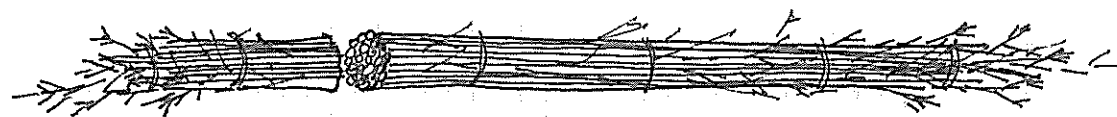


PLANTS INTERRUPT WIND FLOW



FINAL GRADE ROUGHENED TO REDUCE WIND AND WATER EROSION
BALANCED CUT AND FILL
MOUNDS ALLOW WATER TO POOL AND FLOW WITHOUT CREATING GULLIES

MOUNDS



CIGAR SHAPED BRUSH BUNDLE TIGHTLY
BOUND WITH BALING WIRE OR TWINE

SURVEY AND STAKE
CONTOURS PRIOR
TO INSTALLATION

TRENCH WATTLES INTO
SLOPE BEHIND STAKES
STAKE EACH WATTLE INTO
TRENCH EVERY 3-5'

70-80% OF EACH WATTLE IS BURIED WITH
SOIL AND TAMPED

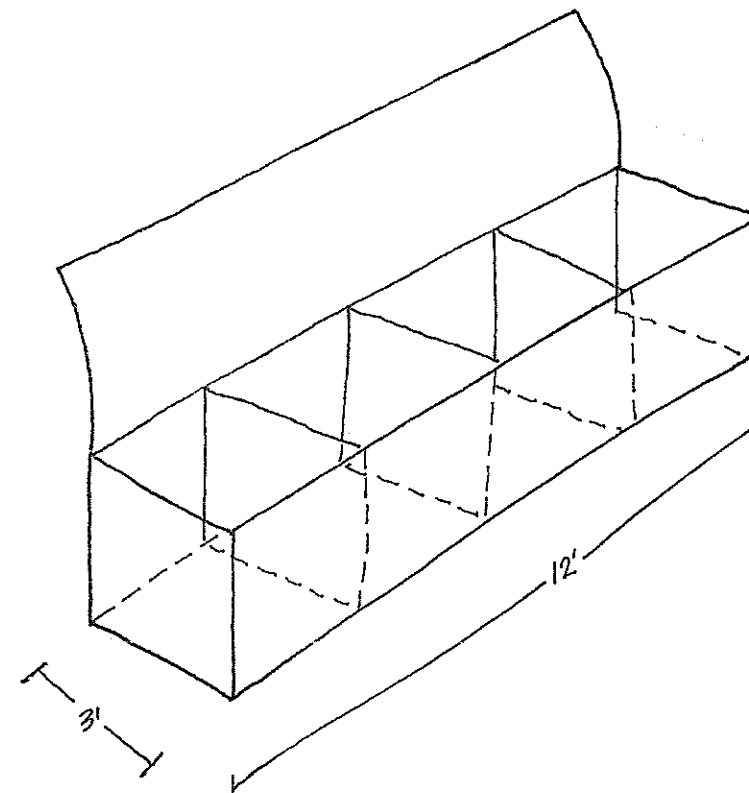
BRUSH WATTLES

LIONSBACK RESORT

EROSION CONTROL MEASURES

01/04/2008

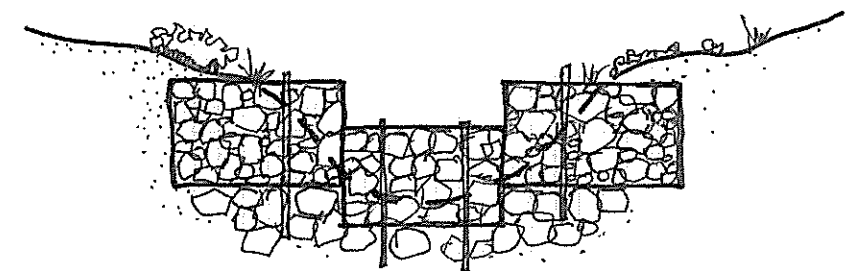
PREPARED BY: KARA DOHRENNEN
WILDLAND SCAPES LLC
MOAB UTAH 84032



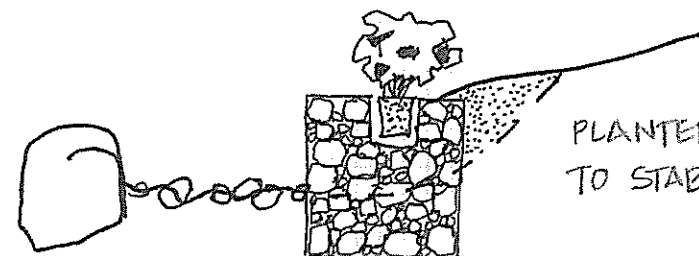
PREFABRICATED WIRE BASKET MEASURES 3' X 3' X 12'

OTHER SIZES MAY BE ORDERED

CUSTOM GABIONS MAY BE CONSTRUCTED ON SITE
WITH APPROPRIATE FIELD FENCING



GABIONS USED AS A CHECK DAM



PLANTED GABION
TO STABILIZE A WASH EDGE

GABIONS

- AA ARIZONA ASH
- AF AFRICOT
- CH COMMON HUCKLEBERRY
- CHT CHITARA
- CP CHINESE PISTACHE
- CN COTTONWOOD
- DM DESERT WILLOW
- BO GAMBEL OAK
- NH NORTHERN HUCKLEBERRY
- PA PAVANWOOD ASH
- RA WATER BIRCH
- WB

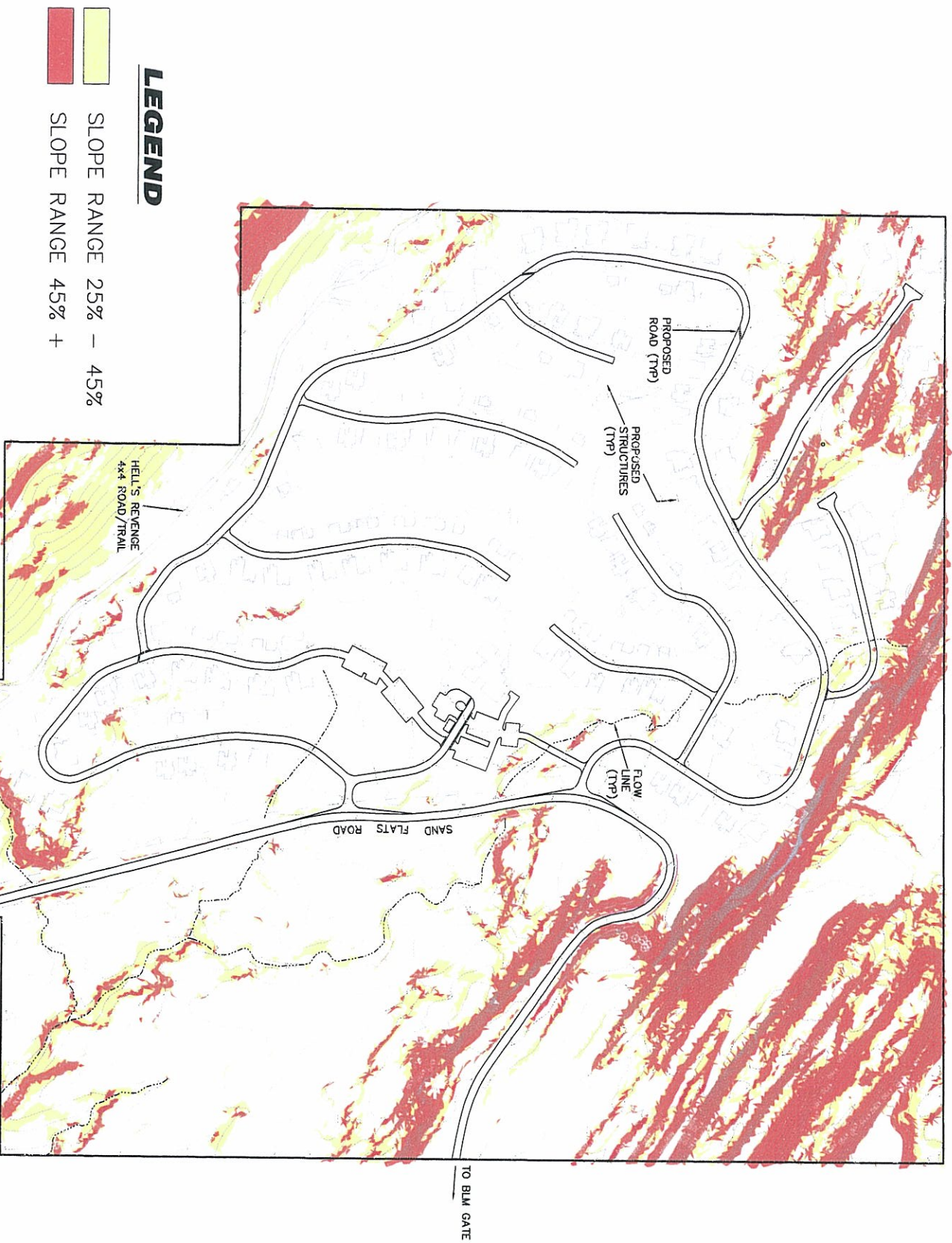
RA 1 L (ONE-WAY)

FIRE LANE

SAND FLATS ROAD



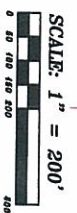
LIONSBACK RESORT SLOPE ANALYSIS



LEGEND

SLOPE RANGE 25% – 45%

SLOPE RANGE 45% +



CONTOUR INTERVAL = 2'

NOTES

THIS IS A CONCEPTUAL PLAN AND IS NOT TO BE USED OR CONSIDERED A FINAL PLANNING OR CONSTRUCTION DOCUMENT

Project Mgr:	GFA
Drawn by:	FO
Checked by:	
Start date:	1-4-08
Dwg path:	
Sheet No.	1
Project	009a

FOLEY
ASSOCIATES, INC.
ENGINEERING • PLANNING • SURVEYING

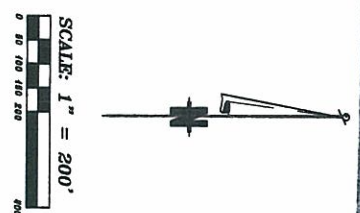
PO Box 1385 125 W. Pacific Ave. Suite B1
Telluride, Colorado, 81455
phone 970-728-6153 fax 970-728-6060

Client:
LB Moab Land LLC
101 Sunnyside Ranch Road
Telluride CO 81435

Lionsback Resort
SLOPE ANALYSIS

Contact:
Michael Badger
970-728-5474 (phone)
970-728-6217 (fax)

SITE PHOTO WITH DEVELOPMENT



SCALE: 1" = 200'



A horizontal scale bar with alternating black and white segments. Below the bar are numerical markings: 0, 50, 100, 150, 200, and 400.

FOLEY
ASSOCIATES, INC.
ENGINEERING • PLANNING • SURVEYING

PO Box 1385 125 W. Pacific Ave. Suite B1
Telluride, Colorado, 81455
phone 970-728-6153 fax 970-728-6050

Client:
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101 Sunnyside Ranch Road
Telluride CO 81435

Contact:
Michael Badger
970-728-5474 (phone)
970-728-6217 (fax)

EXISTING
LANDFILL
ACCESS

PROPOSED 66'
RIGHT OF WAY

PROPOSED PAVEMENT ALONG
HELLS REVENGE ROAD (ASPHALT OR
CONCRETE TO EMPLOYEE HOUSING AREA;
GRAVEL OR OTHER DRIVEABLE SURFACE
TO LAST STORAGE BUILDING)

MAINTENANCE BUILDING /
NON COMMERCIAL WORKSHOP

✓ GARAGES AND/OR STORAGE (TYP.)

HELL'S REVENGE
4X4 TRAIL/ROAD

~~EXISTING TOWER~~

PROJECT BOUNDARY (TYP.)

ALL OFFSITE IMPROVEMENTS ALONG
SAND FLATS ROAD TO BE INCLUDED
WITH PHASE 1

PROPOSED 8' SHOULDER

PROPOSED 66'
RIGHT OF WAY

EXISTING PROPERTY LINE (TYP.)

PROPOSED 2' SHOULDER-

EXISTING EDGE OF PAVEMENT—

PROPOSED SIGN
"STEEP CURVE"

PROPOSED CURB
AND GUTTER ALONG
INSIDE OF CURVE

EXISTING PAVEMENT
TO BE REMOVED
BEHIND PROPOSED

PROPOSED
BREAKAWAY
DELINEATORS
(TYP)

PROPOSED SIGN
"STEEP CURVE
AHEAD"

EXISTING
GUARDRAIL TO REMAIN

NOTES

1. THIS PRELIMINARY PLAN IS NOT TO BE USED OR CONSIDERED A FINAL PLANNING OR CONSTRUCTION DOCUMENT.

2. ALL ROADS WITHIN RESORT TO BE PRIVATE UNLESS OTHERWISE NOTED.

SAND FLATS ROAD TO BE STRIPED AS FOLLOWS:

1. DOUBLE YELLOW CENTER STRIPE

2. SINGLE WHITE 12' LANE STRIPE

Lionsback Resort
PRELIMINARY STREET PLAN

Contact:
Michael H. Bodger
PH: 970-728-5474
Fax: 970-728-6217

Client:
LB Moab Land LLC
101 Sunnyside Ranch Rd.
Telluride, CO 81435

FOLEY
ASSOCIATES, INC.



ENGINEERING • PLANNING • SURVEYING

PO Box 1385 125 W. Pacific Ave. Suite B1
Telluride, Colorado, 81435
phone 970-728-6153 fax 970-728-6050

TURN AROUND (TYPICAL)

N. T. S.

SCALE: 1"=20'

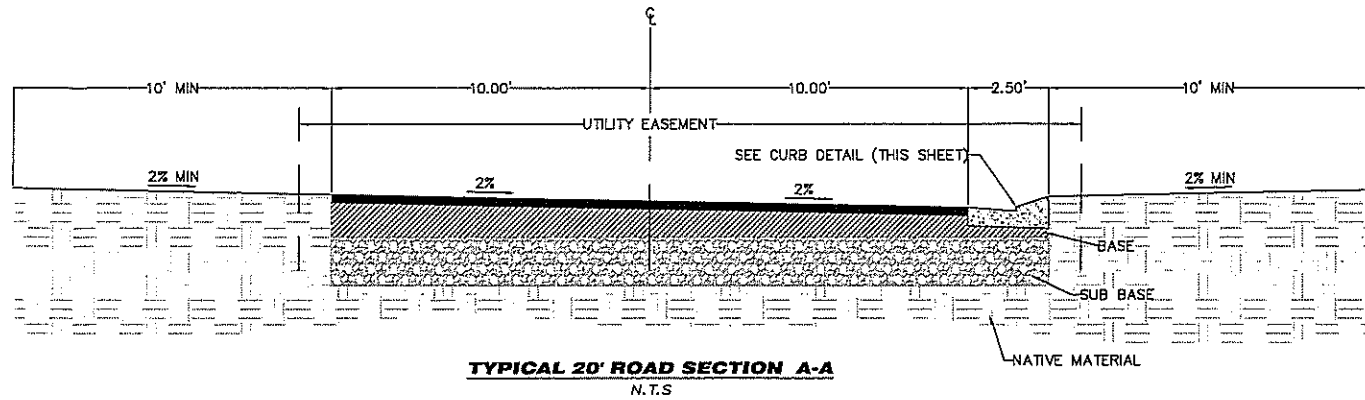
THIS PLAN HAS BEEN
REDUCED TO 11 X 17
NOT TO SCALE

THESE PRELIMINARY PLANS FOR LIONSBACK RESORT WERE PREPARED BY ME AND UNDER MY DIRECT SUPERVISION, FOR ALL CIVIL ENGINEERING ASPECTS ONLY AND DO NOT INCLUDE ANY FINAL STRUCTURAL OR GEOTECHNICAL ENGINEERING DESIGN.

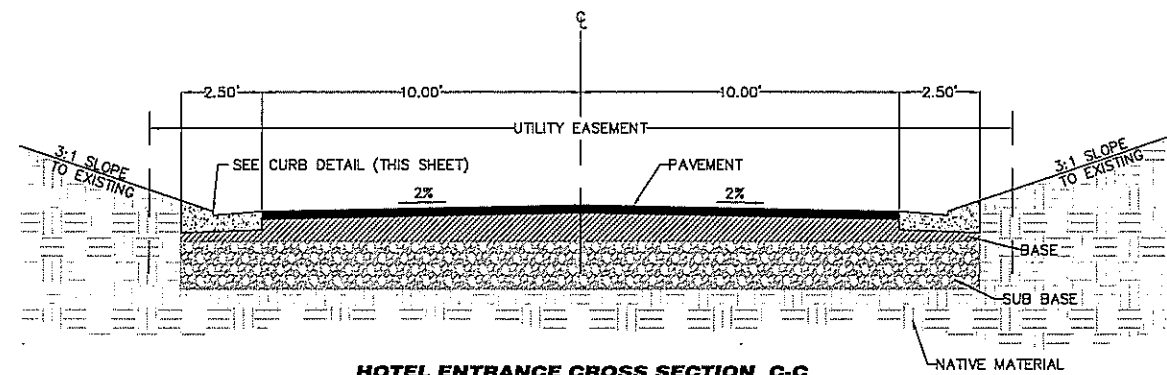
THESE PLANS ARE
FOR REVIEW ONLY
AND NOT FOR
CONSTRUCTION

GREGORY E. ANDERSON
REGISTERED PROFESSIONAL ENGINEER
UTAH REFERENCE NO. 6437791-2202

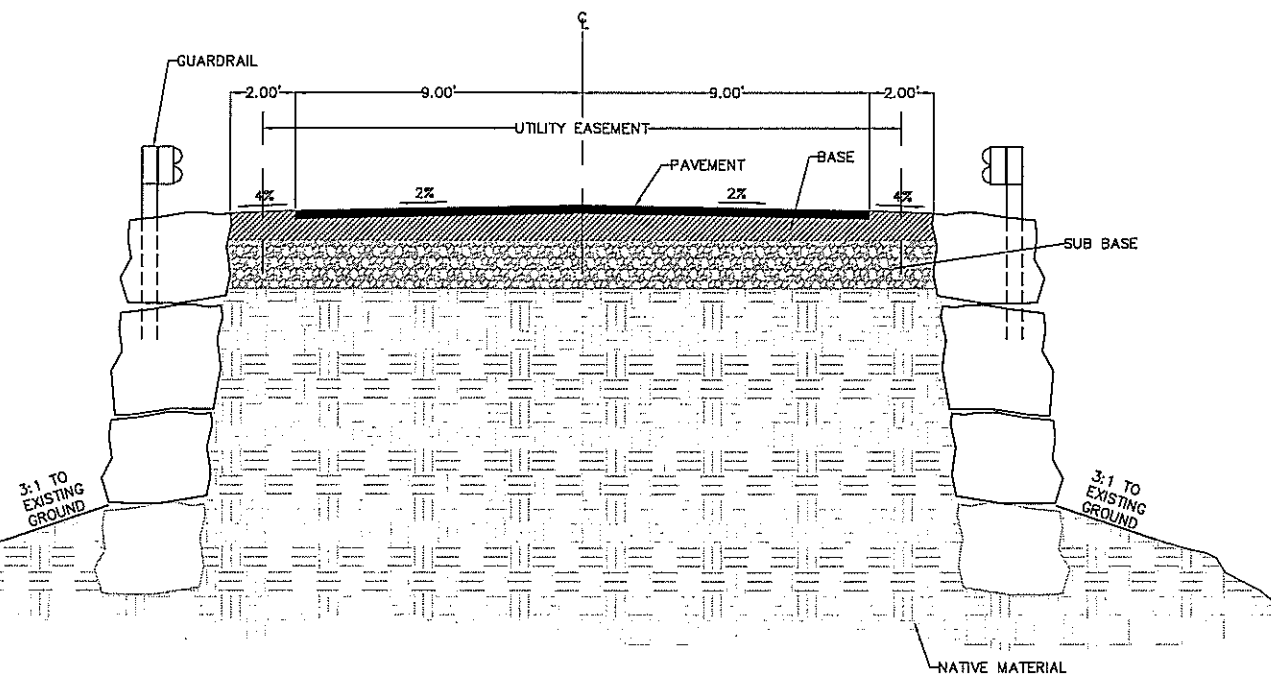
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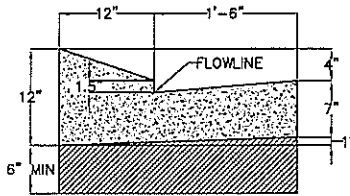
TYPICAL 20' ROAD SECTION A-A
N.T.S



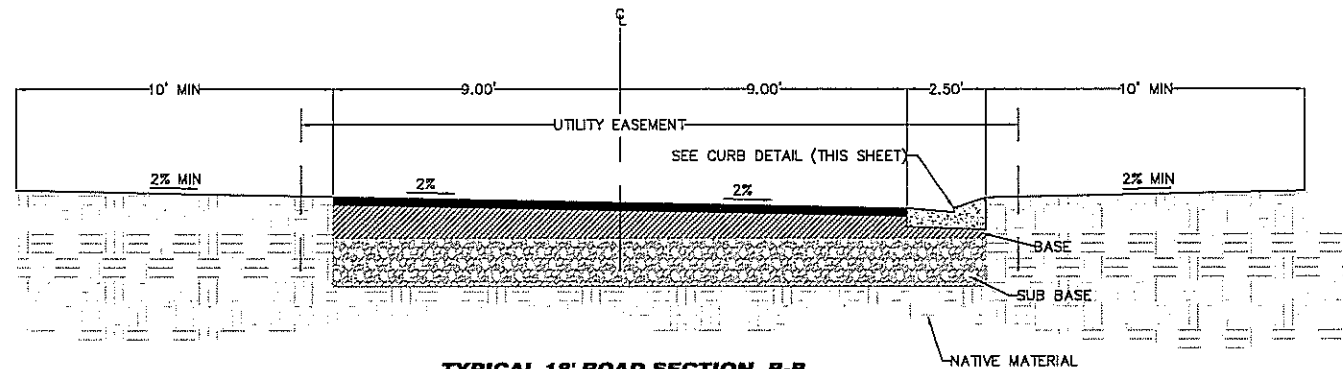
HOTEL ENTRANCE CROSS SECTION C-C
N.T.S



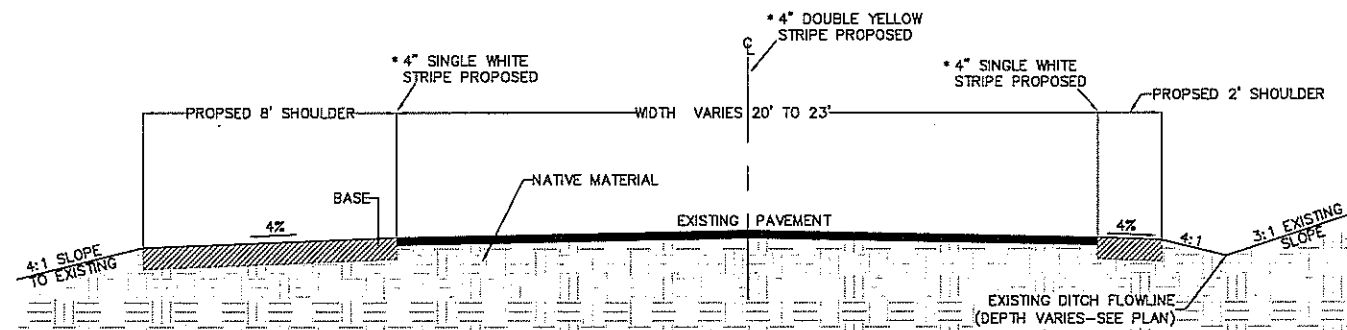
ELEVATED ROAD SECTION F-F
N.T.S



TYPICAL CURB AND GUTTER SECTION
N.T.S

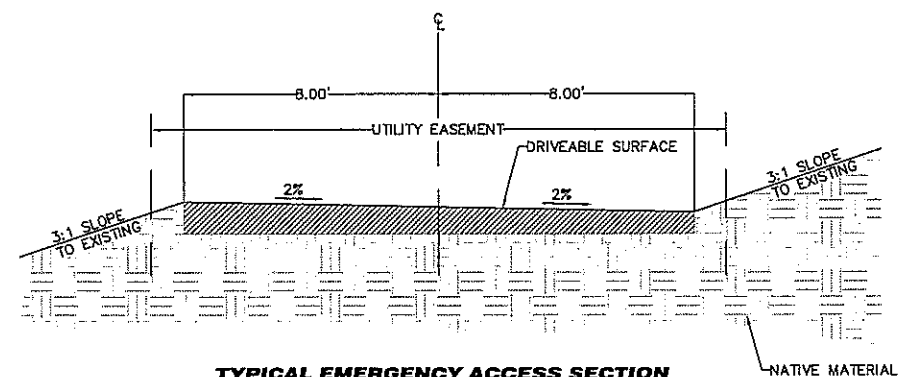


TYPICAL 18' ROAD SECTION B-B
N.T.S



SAND FLATS ROAD SECTION D-D
N.T.S

* EXACT STRIPING AND LANE WIDTHS TO BE COORDINATED WITH CITY OF MOAB ENGINEER AS PART OF CONSTRUCTION DOCUMENTS



TYPICAL EMERGENCY ACCESS SECTION
E-E
N.T.S

THESE PRELIMINARY PLANS FOR LIONSBACK RESORT WERE PREPARED BY ME AND UNDER MY DIRECT SUPERVISION, FOR ALL CIVIL ENGINEERING ASPECTS ONLY AND DO NOT INCLUDE ANY FINAL STRUCTURAL OR GEOTECHNICAL ENGINEERING DESIGN.

TO : SAC, NEW YORK
FROM : SAC, NEW YORK
SUBJECT: [REDACTED]
[REDACTED]

GREGORY E. ANDERSON
REGISTERED PROFESSIONAL ENGINEER
UTAH REFERENCE NO. 6437791-2202

Lionsback Resort
PRELIMINARY STREET SECTIONS

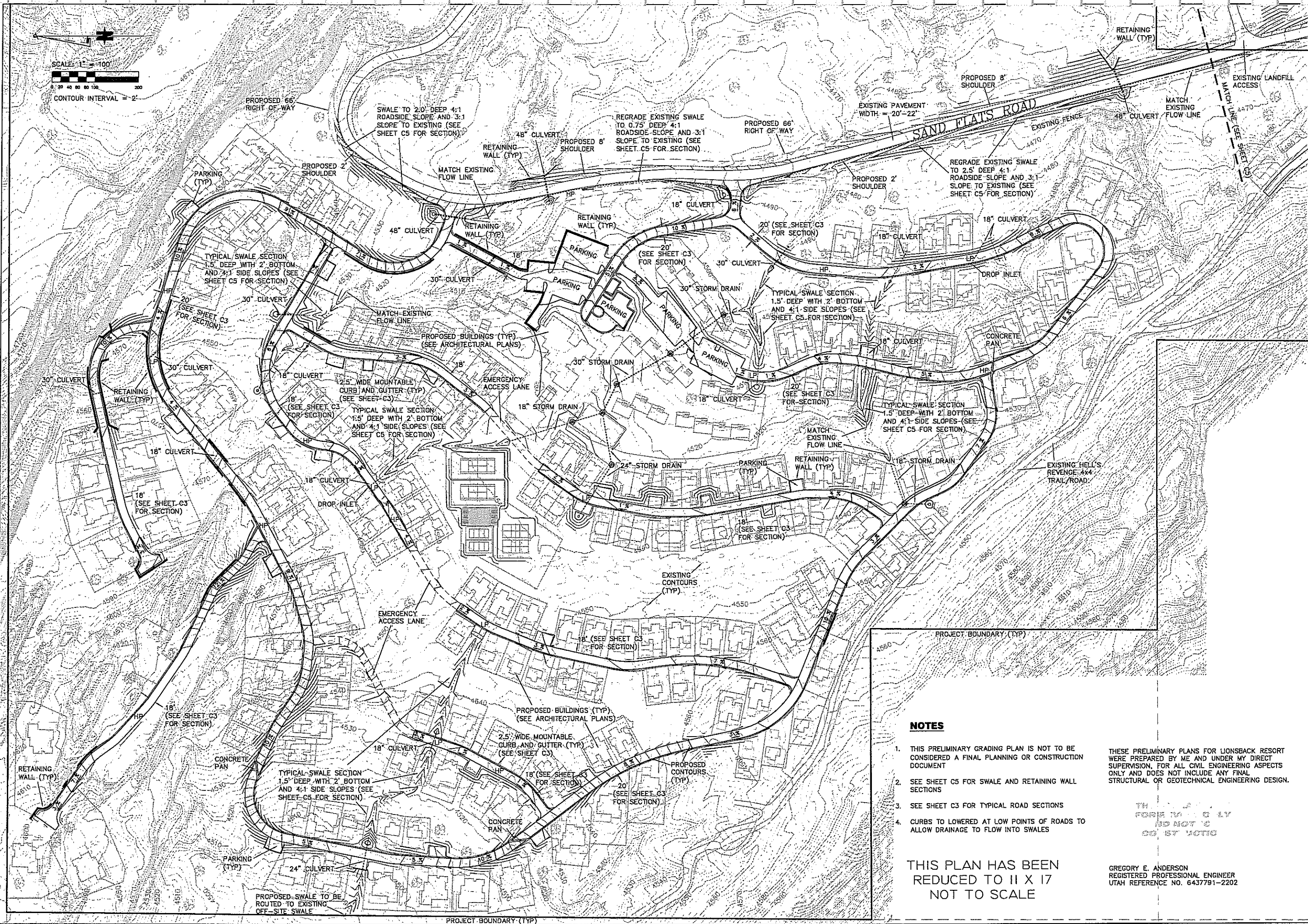
Contact:
Michael H. Bodger
PH: 970-728-5474
Fax: 970-728-6217

Client:
LB Meab Land LLC
101 Sunnyside Ranch Rd.
Telluride, CO 81435

FOLEY
ASSOCIATES, INC.

ENGINEERING • PLANNING • SURVEYING
PO Box 1385 125 W. Pacific Ave. Suite B1
Telluride, Colorado, 81435
phone 970-728-6153 fax 970-728-6050

Rev.	Description	Date	By
	Project Mgr: GA		
	Drawn by: FO		
	Checked by: CA		
	Start date: 1-4-08		
	Dwg path:		
	Sheet No. C 3		
	Project #: 07009e		



1. THIS PRELIMINARY GRADING PLAN IS NOT TO BE CONSIDERED A FINAL PLANNING OR CONSTRUCTION DOCUMENT
2. SEE SHEET C5 FOR SWALE AND RETAINING WALL SECTIONS
3. SEE SHEET C3 FOR TYPICAL ROAD SECTIONS
4. CURBS TO LOWERED AT LOW POINTS OF ROADS TO ALLOW DRAINAGE TO FLOW INTO SWALES

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WERE PREPARED BY ME AND UNDER MY DIRECT
SUPERVISION, FOR ALL CIVIL ENGINEERING ASPECTS
ONLY AND DOES NOT INCLUDE ANY FINAL
STRUCTURAL OR GEOTECHNICAL ENGINEERING DESIGN.

TH 2 4
FOR 10 0 17
DO NOT 2
GOS 157 10710

THIS PLAN HAS BEEN
REDUCED TO 11 X 17
NOT TO SCALE

GREGORY E. ANDERSON
REGISTERED PROFESSIONAL ENGINEER
UTAH REFERENCE NO. 6437791-2202

Lionsback Resort
PRELIMINARY GRADING PLAN

Contact:
Michael H. Badger
PH: 970-728-5474
Fax: 970-728-6217

Client:
LB Moab Land LLC
101 Sunnyside Ranch Rd.
Telluride, CO 81435

FOLEY
ASSOCIATES, INC.

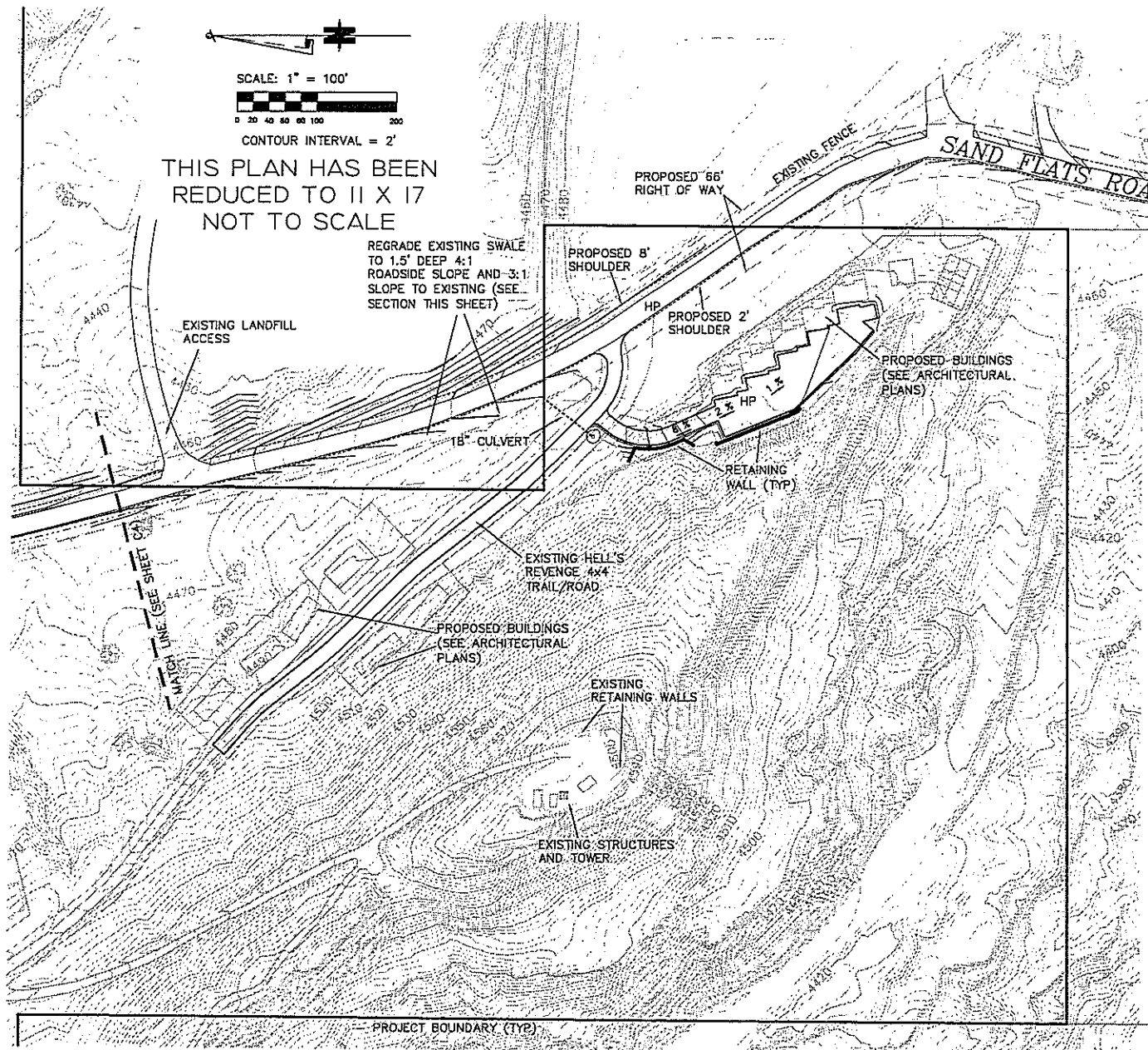
PO Box 1385 125 W. Pacific Ave. Suite B1
Telluride, Colorado, 81435
phone 970-728-6153 fax 970-728-6050

[illegible]

Project Mgr:	CA
Drawn by:	DD
Checked by:	CA
Start date:	1-4-08
Dwg path:	
Sheet No.	

C 4

Project #: 07009a



NOTES

1. THIS PRELIMINARY GRADING PLAN IS NOT TO BE CONSIDERED A FINAL PLANNING OR CONSTRUCTION DOCUMENT
2. SEE SHEET C3 FOR TYPICAL ROAD SECTIONS

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OR GEOTECHNICAL ENGINEERING DESIGN.

GREGORY E. ANDERSON
REGISTERED PROFESSIONAL ENGINEER
UTAH REFERENCE NO. 6437791-2202

Lionsback Resort
PRELIMINARY GRADING PLAN

Contact:
Michael H. Badger
PH: 970-728-5474
Fax: 970-728-6217

Client:
LB Meab Land LLC
101 Sunnyside Ranch Rd.
Telluride, CO 81435

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Telluride, Colorado, 81435
phone 970-728-6153 fax 970-728-6050

**CITY OF
MOAB** | **GRAND
COUNTY**

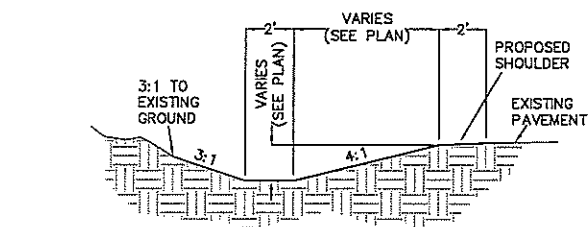
PROPOSED CENTER
LINE STRIPING AND
SIDE STRIPING FROM
START OF SAND
FLATS ROAD TO
BLM GATE

Mill Creek Drive

MATCH LINE (SEE INSET THIS PAGE)

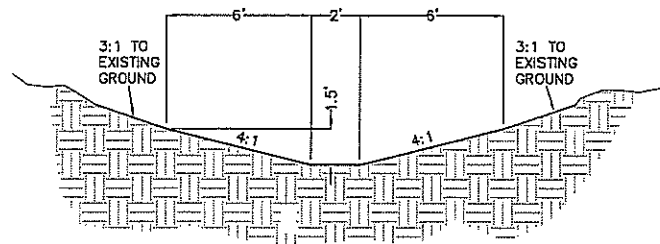
TYPICAL SAND FLATS SWALE SECTION

NOT TO SCALE



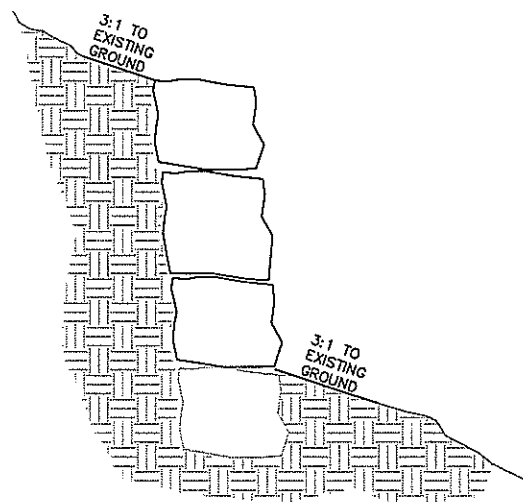
TYPICAL 1.5' DEEP SWALE SECTION

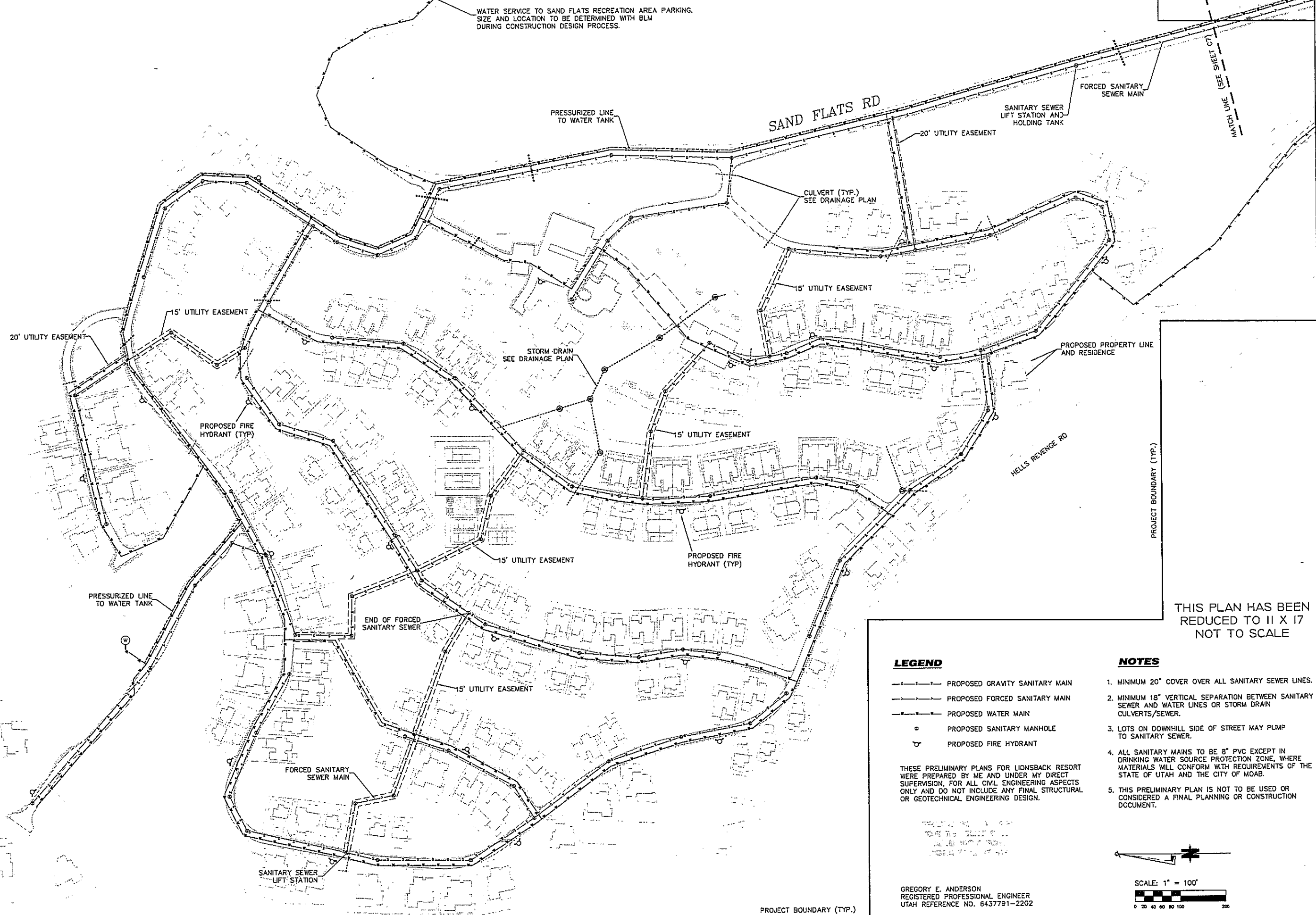
NOT TO SCALE



TYPICAL ROCK RETAINING WALL SECTION

NOT TO SCALE

[illegible]




Lionsback Resort
PRELIMINARY WATER AND SANITARY SEWER

Contact:
Michael H. Badger
PH: 970-728-5474
Fax: 970-728-0217

Client:
LB Moob Land LLC
101 Sunnyside Ranch Rd.
Telluride, CO 81435

FOLEY
ASSOCIATES, INC.






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Telluride, Colorado 81435

THIS PLAN HAS BEEN
REDUCED TO 11 X 17
NOT TO SCALE

LEGEND

- PROPOSED GRAVITY SANITARY MAIN
 PROPOSED FORCED SANITARY MAIN
 PROPOSED WATER MAIN
 PROPOSED SANITARY MANHOLE
 PROPOSED FIRE HYDRANT

THESE PRELIMINARY PLANS FOR LIONSBACK RESORT WERE PREPARED BY ME AND UNDER MY DIRECT SUPERVISION, FOR ALL CIVIL ENGINEERING ASPECTS ONLY AND DO NOT INCLUDE ANY FINAL STRUCTURAL OR GEOTECHNICAL ENGINEERING DESIGN.

GREGORY E. ANDERSON
REGISTERED PROFESSIONAL ENGINEER
UTAH REFERENCE NO. 6437791-2202

NOTES

1. MINIMUM 20" COVER OVER ALL SANITARY SEWER LINES.
2. MINIMUM 18" VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATER LINES OR STORM DRAIN CULVERTS/SEWER.
3. LOTS ON DOWNHILL SIDE OF STREET MAY PUMP TO SANITARY SEWER.
4. ALL SANITARY MAINS TO BE 8" PVC EXCEPT IN DRINKING WATER SOURCE PROTECTION ZONE, WHERE MATERIALS WILL CONFORM WITH REQUIREMENTS OF THE STATE OF UTAH AND THE CITY OF MOAB.
5. THIS PRELIMINARY PLAN IS NOT TO BE USED OR CONSIDERED A FINAL PLANNING OR CONSTRUCTION DOCUMENT.



SCALE: 1" = 100'



Project Mgr: GA

Drawn by: FO

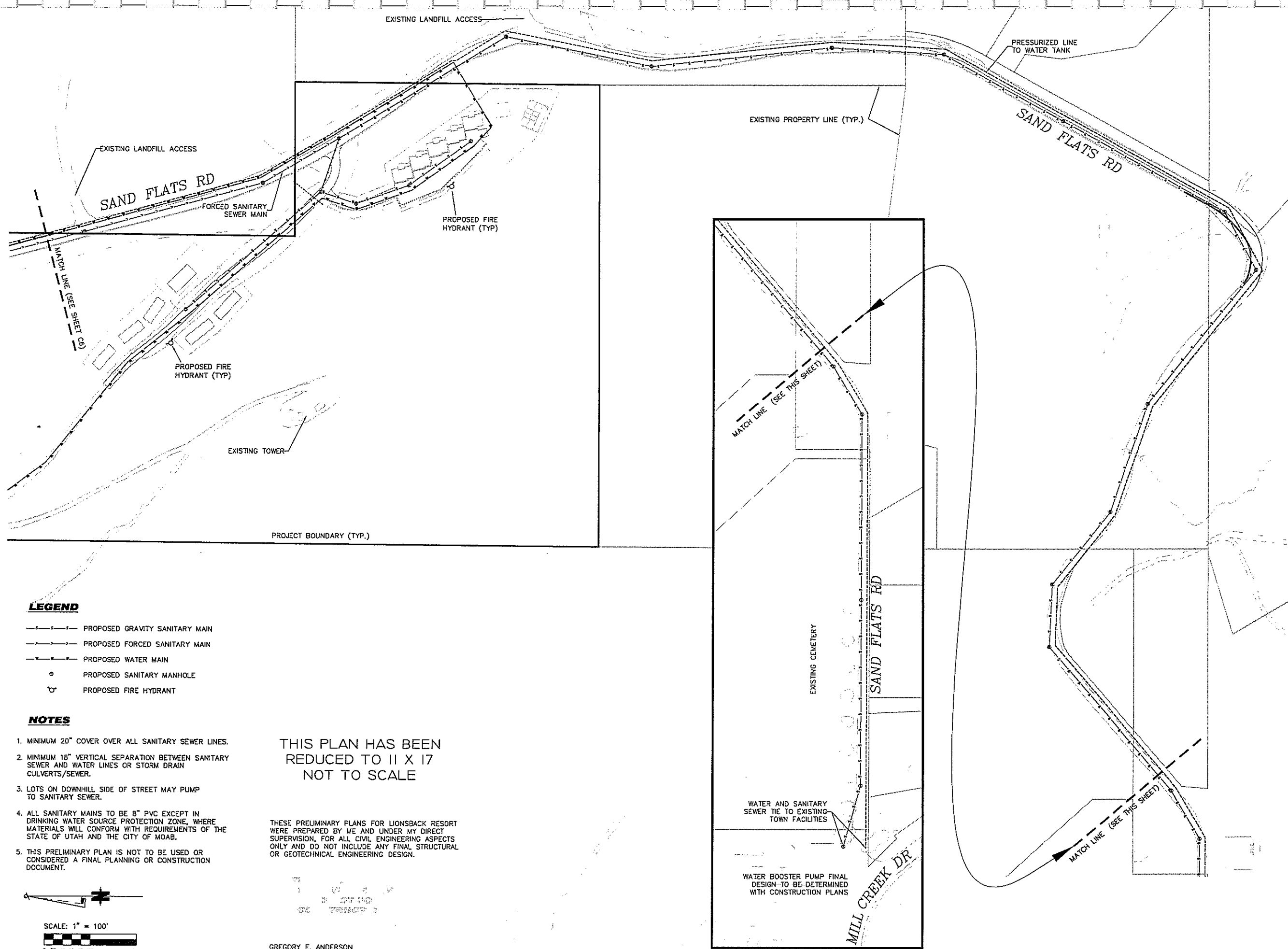
Checked by: GA

Start date: 3-4-08






Dwg path:

C 6

Project #: 07009e

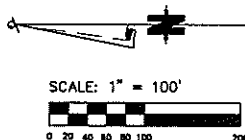


LEGEND

-  PROPOSED GRAVITY SANITARY MAIN
 PROPOSED FORCED SANITARY MAIN
 PROPOSED WATER MAIN
 PROPOSED SANITARY MANHOLE
 PROPOSED FIRE HYDRANT

NOTES

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4. ALL SANITARY MAINS TO BE 8" PVC EXCEPT IN DRINKING WATER SOURCE PROTECTION ZONE, WHERE MATERIALS WILL CONFORM WITH REQUIREMENTS OF THE STATE OF UTAH AND THE CITY OF MOAB.
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UTAH REFERENCE NO. 6437791-2202

FOLEY
ASSOCIATES, INC.

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Tulhatchie, Colorado, 81435
phone 970-728-6151 fax 970-728-6050

Lionsback Resort
PRELIMINARY WATER AND SANITARY SEWER

Contact:
Michael H. Bodger
PH: 970-728-5474
Fax: 970-728-6217

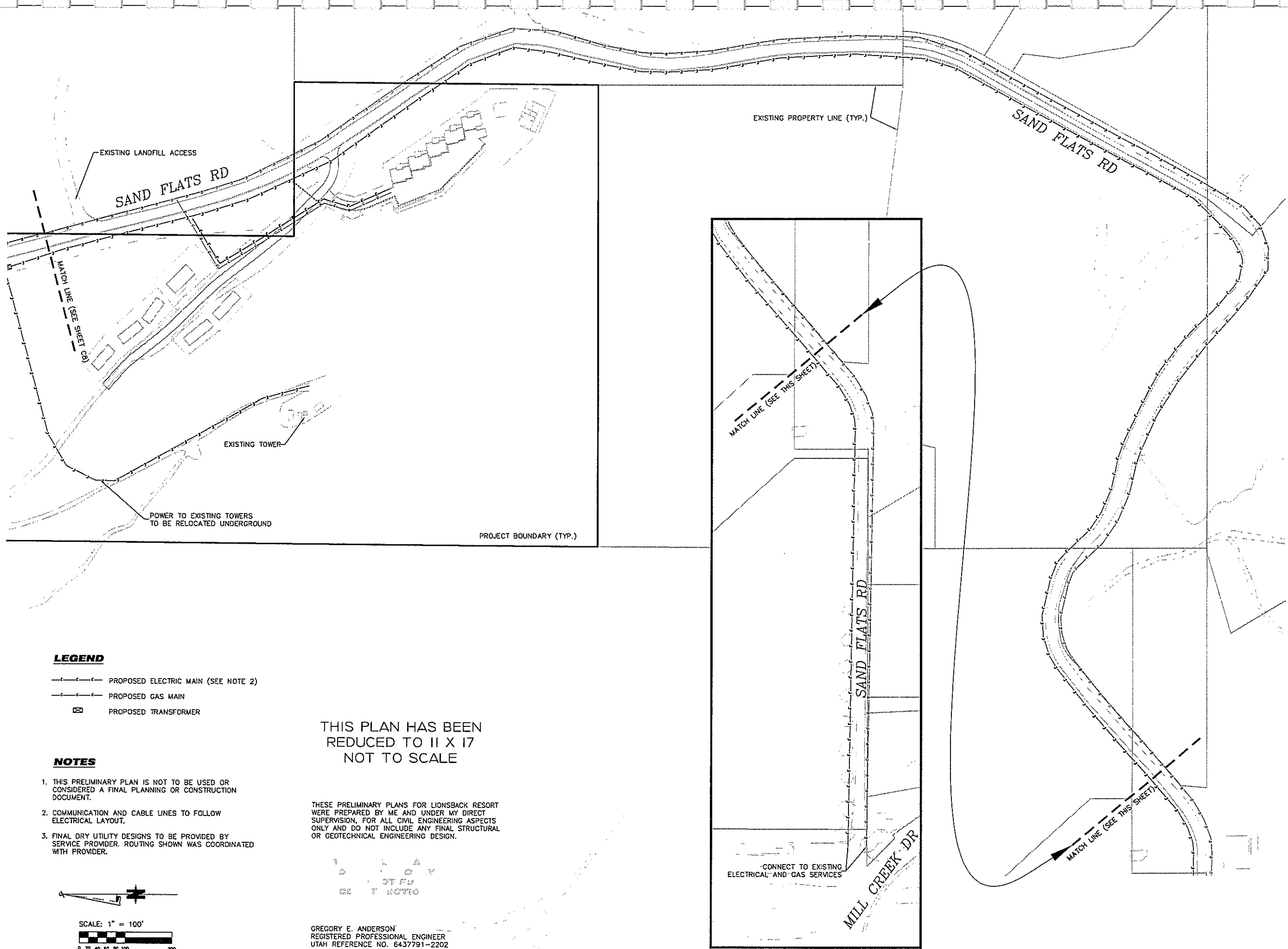
Client:
LB Moob Land LLC
101 Sunnyside Ranch Rd.
Telluride, CO 81435

[illegible]


PROJECT BOUNDARY (TYP)

GREGORY E. ANDERSON
REGISTERED PROFESSIONAL ENGINEER
UTAH REFERENCE NO. 6437791-2202

[illegible]



LEGEND

- t—t—t— PROPOSED ELECTRIC MAIN (SEE NOTE 2)
—c—c—c— PROPOSED GAS MAIN
 PROPOSED TRANSFORMER

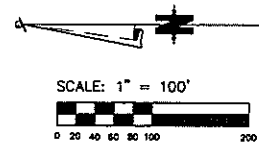
NOTES

1. THIS PRELIMINARY PLAN IS NOT TO BE USED OR CONSIDERED A FINAL PLANNING OR CONSTRUCTION DOCUMENT.
2. COMMUNICATION AND CABLE LINES TO FOLLOW ELECTRICAL LAYOUT.
3. FINAL DRY UTILITY DESIGNS TO BE PROVIDED BY SERVICE PROVIDER. ROUTING SHOWN WAS COORDINATED WITH PROVIDER.

THIS PLAN HAS BEEN
REDUCED TO 11 X 17
NOT TO SCALE

THESE PRELIMINARY PLANS FOR LIONSBACK RESORT WERE PREPARED BY ME AND UNDER MY DIRECT SUPERVISION, FOR ALL CIVIL ENGINEERING ASPECTS ONLY AND DO NOT INCLUDE ANY FINAL STRUCTURAL OR GEOTECHNICAL ENGINEERING DESIGN.

GREGORY E. ANDERSON
REGISTERED PROFESSIONAL ENGINEER
UTAH REFERENCE NO. 6437791-2202



Lionsback Resort
PRELIMINARY DRY UTILITIES


Contact:
Michael H. Badger
PH: 970-728-5474
Fax: 970-728-5217

Client:
LB Moob Land LLC
101 Sunnyside Ranch Rd.
Telluride, CO 81435



FOLEY
ASSOCIATES, INC.

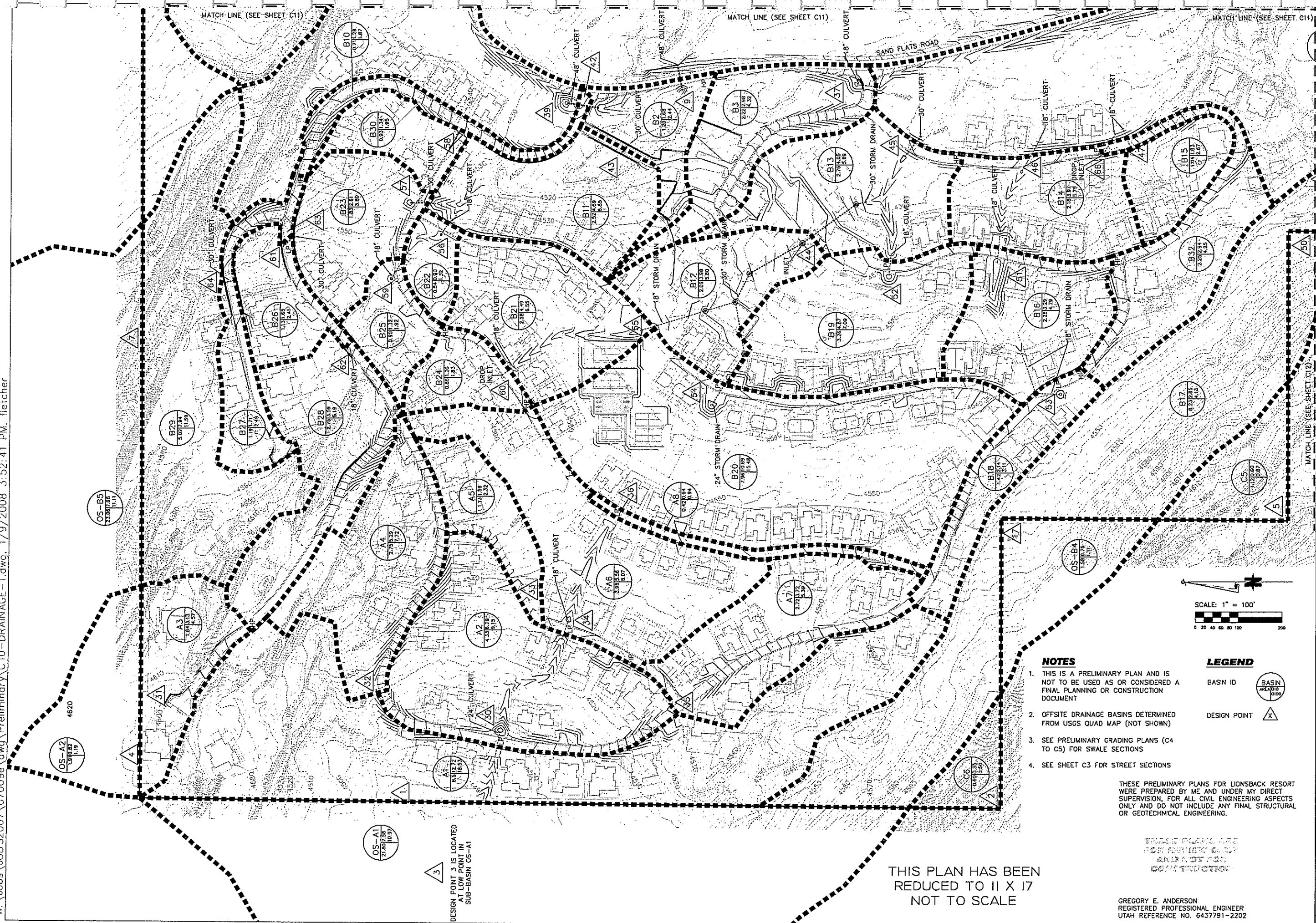
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Telluride, Colorado 81435
phone 970-728-6153 fax 970-728-6050

[illegible]

W: \Jobs\JOB S2007\07009e\dwg\Preliminary\C10-DRAINAGE-1.dwg, 1/9/2008 3:52:41 PM, fletcher



THIS PLAN HAS BEEN
REDUCED TO 11 X 17
NOT TO SCALE


GREGORY E. ANDERSON
REGISTERED PROFESSIONAL ENGINEER
UTAH REFERENCE NO. 6437791-2202


NOTES

1. THIS IS A PRELIMINARY PLAN AND IS NOT TO BE USED AS OR CONSIDERED A FINAL PLANNING OR CONSTRUCTION DOCUMENT
2. OFFSITE DRAINAGE BASINS DETERMINED FROM USGS QUAD MAP (NOT SHOWN)
3. SEE PRELIMINARY GRADING PLANS (C4 TO C5) FOR SWALE SECTIONS
4. SEE SHEET C3 FOR STREET SECTIONS

THESE PRELIMINARY PLANS FOR LIONSBACK RESORT
WERE PREPARED BY ME AND UNDER MY DIRECT
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OR GEOTECHNICAL ENGINEERING.

LEGEND

BASIN ID 

DESIGN POINT 

Lionsback Resort
PRELIMINARY DRAINAGE BASINS

FOLEY
ASSOCIATES, INC.
ENGINEERING • PLANNING • SURVEYING

Contact:
Michael H. Badger
PH: 970-728-5474
Fax: 970-728-6217

Client:
 LG Moot Land LLC
 101 Sunnyside Ranch Rd.
 Telluride, CO 81435

Project Mgr: CA

Drawn by: F0

Checked by: GA

Start date: 1-4-

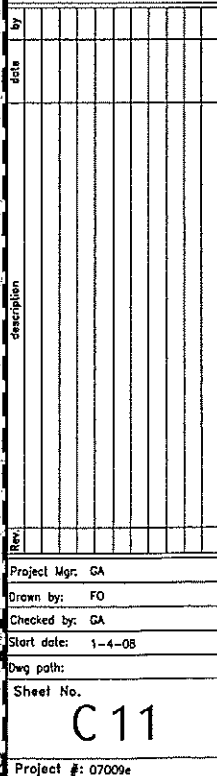
Dwa polki:

Sheet No. _____

Sheet No. 01

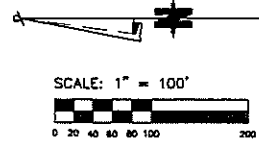
No. C 10

Project #: 07009e




SCALE: 1" = 100'

0 20 40 60 80 100 200



SCALE: 1" = 100'




0 20 40 60 80 100 200


MATCH LINE (SEE SHEET C11)

MATCH LINE (SEE SHEET C10)

57

1. THIS IS A PRELIMINARY PLAN AND IS NOT TO BE USED AS OR CONSIDERED A FINAL PLANNING OR CONSTRUCTION DOCUMENT
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3. SEE PRELIMINARY GRADING PLANS (C4 TO C5) FOR SWALE SECTIONS
4. SEE SHEET C3 FOR STREET SECTIONS

BASIN ID 

DESIGN POINT 

THESE PLANS ARE
NOT REVIEWED
AND NOT FOR
CONSTRUCTION

GREGORY E. ANDERSON
REGISTERED PROFESSIONAL ENGINEER
UTAH REFERENCE NO. 6437791-2202

Contact:
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Fax: 970-728-6217

Client:
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Telluride, CO 81435

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Telluride, Colorado, 81435
phone 970-728-6153 fax 970-728-6050

	Rev.	Description	Date	By
Project Mgr: GA				
Drawn by: FO				
Checked by: GA				
Start date: 1-4-08				
Dwg path:				
Sheet No. C 12				
Project #: 07009e				