



June 15, 2015

David Soule, PE
Rio Grande Engineering
PO Box 93924
Albuquerque, NM 87199

**RE: HLP Endodontics, 10429 Lagrima Del Oro NE
Grading and Drainage Plan
Engineer's Stamp Dated 6-03-15 (File: F21-D063)**

Dear Mr. Soule:

Based upon the information provided in your submittal received 6-03-15, the above referenced plan is approved for DRB Action on the Site Development Plan for Building Permit. However, it cannot be approved for Building Permit and for SO-19 until the following comments are addressed:

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

- 1) The swale along the west property line is listed as 1 foot deep with a 6-inch check dam. The middle elevation shown only has a difference in elevation of 0.5 feet between berm and flowline. The invert elevations for the sidewalk culverts also appear to be 30 feet too low from what the elevations are intended to be. Revise as needed, and provide slope of swale as applicable. On cross-section A-A, it would be helpful to show the one foot depth and the 6-inch check dams that are installed every 30 feet. If the check dams are 30 feet apart, label them as such. Also provide the flowline elevations at each of the curb cuts along the west edge of the parking lot. Show the relationship between the curb cut elevation and depth of swale to ensure drainage to swale. Provide riprap for the short distance from the curb cut to the rock swale.
- 2) Reference COA Standard Drawing 2236 for the construction of the sidewalk culvert.
- 3) Approximately 10% of the site drains to the first flush ponds on the east side as indicated by the roof drainage boundary. An insufficient percentage of the first flush volume is provided along the west side even though this is where the vast majority of the site drains. Is there opportunity to provide first flush volumes within the landscaped areas at the northwest and southwest corners of the site?
- 4) Where it says "Volume – 24 cf per dam", add language indicating that this is for the "first flush", and provide the total volume for the first flush within this area.

- 5) On cross-section A-A along the west property boundary, the slope to the west of the berm be called out as 3:1 since it is right along the property boundary without protection.

6) Call out depth of 4-6" cobble within the bioswale.

7) The referenced detail sheet in the letter also needs to be provided.

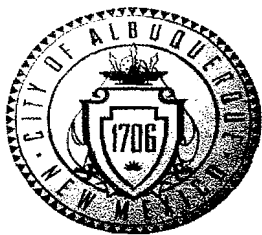
If you have any questions, you can contact me at 924-3924.

Sincerely,



Jeanne Wolfenbarger, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf Addressee via Email



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: hLP ENDODONTICS Building Permit #: _____ City Drainage #: F21D063

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: LOT 1A LANDS OF BRYANT AND WITAKER

City Address: 10429 LAGRIMA DEL ORO NE

Engineering Firm: RIO GRANDE ENGINEERING Contact: DAVID SOULE

Address: PO BOX 93924, ALBUQUERQUE, NM 87199

Phone#: 505.321.9099 Fax#: 505.872.0999 E-mail: DAVID@RIOGRANDEENGINEERING.COM

Owner: SELIGMAN RVT AND SCHAEFER Contact: _____

Address: 12124 HICKORY CT NE 87111

Phone#: _____ Fax#: _____ E-mail: _____

Architect: JOE SLAGEL Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: CONSTRUCTION SURVEY INCORPORATED Contact: JOHN GALLEGOS

Address: _____

Phone#: 917.8921 Fax#: _____ E-mail: _____

Contractor: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL
- ☒ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN
- ☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
- ☐ ENGINEER'S CERT (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEER'S CERT (TCL)
- ☐ ENGINEER'S CERT (DRB SITE PLAN)
- ☐ ENGINEER'S CERT (ESC)
- ☐ SO-19
- ☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ SIA/FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D APPROVAL
- ☐ S. DEV. FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ CERTIFICATE OF OCCUPANCY (TCL TEMP)
- ☐ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☒ GRADING PERMIT APPROVAL ☐ SO-19 APPROVAL
- ☐ PAVING PERMIT APPROVAL ☐ ESC PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL ☐ ESC CERT. ACCEPTANCE
- ☐ GRADING CERTIFICATION ☐ OTHER (SPECIFY) _____

WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes ☒ No _____ Copy Provided

DATE SUBMITTED: 4/30/15 By: _____

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than are part of a larger common plan of development

June 3, 2015

Ms. Jeanne Wolfenbarger
Hydrology Department
Public Works Department
City of Albuquerque

**RE: Revised Grading Plan (F-21D063)
HLP Endodontics
Albuquerque, New Mexico**

Dear Ms. Wolfenbarger:

The purpose of this letter is to accompany the enclosed revised grading plan for the referenced project. The grading plan for this site has been revised to address your written comments dated 5/28/15. The following is a summary of your comment and the narrative as to how we addressed

1. Surrounding sites do not free discharge
This site has had two approved grading plans (F21D063) allowing free discharge. In addition the adjacent sites to the east and west (F21D078, F21D079) which were initially within the same subdivision are allowed free discharge, based upon these factors we feel free discharge is appropriate.
2. Show all basin
We have created a basin map and spread sheet showing the flow rates. As shown from the existing grades the lot to the north does not drain south, we have added curb cuts to allow our landscape flow to enter our driveway and drain south
3. Show comparison of existing and proposed flows
We have added the existing and total proposed to the enclosed spreadsheet
4. Adjust so roof water gets into east harvest pond
We have clarified the roof drainage basins, as shown the roof generate enough flow to fill the ponds.
5. Provide spot elevations and slopes for bio swales, label on the plan.
We have added spot and the detail has the side slopes, we had labeled on the plan.
6. Show capacities of onsite infrastructure
We have shown the flow to each culvert and demonstrated the capacity of the swale, harvest check dam and culverts
7. Provide cross section and prove the western swale capacity to prove flow stays on property
We have added to the typical cross section, spots and capacity calculations
8. Label first flush capacity
We have added the total capacity to the swale call out

9. Provide length of culverts, prove capacity

**We have labeled the culvert length at lagrima del oro, the capacity of the culverts are enclosed
own the placement of all systems. We have included detail sheet for ease of
construction. The details address the inlets, clean out/inspection port and depth of
system. The minimum rock treatments and filter fabrics are shown on the detail sheet.**

Should you have any questions regarding this matter, please do not hesitate to call me.

Sincerely,

David Soule, PE
RIO GRANDE ENGINEERING
PO Box 93924
ALBUQUERQUE, NM 87199
321-9099

Enclosures



May 28, 2015

David Soule, PE
Rio Grande Engineering
PO Box 93924
Albuquerque, NM 87199

RE: HLP Endodontics, 10429 Lagrima Del Oro NE
Grading and Drainage Plan
Engineer's Stamp Dated 4-30-15 (File: F21-D063)

Dear Mr. Soule:

Based upon the information provided in your submittal received 4-30-15, the above referenced plan cannot be approved for Building Permit and for SO-19 until the following comments are addressed:

PO Box 1293

Albuquerque

New Mexico 87103

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- 1) In the research I have done, the drainage files for the surrounding sites along Lagrima de Oro are showing detention of flows as opposed to free discharge. If there are sites that have free discharge as shown in the narrative, reference those files and demonstrate downstream capacity. Otherwise, the site will be required to detain flow.
- 2) Show all off-site basins, and include discussion of off-site flow acceptance from lot to the east in the Drainage Narrative. Also discuss any impact to the lot to the north, and allow drainage along the north side of the site to be able to discharge to the parking lot via a curb cut as necessary.
- 3) Provide existing basin 100-year storm event calculations for comparison to proposed conditions.
- 4) The majority of the first flush pond volume is not capturing runoff from the new building. Either the roof drainage will need to be redirected, or the first flush ponds will need to be relocated. Also, show the contouring for the first flush ponds.
- 5) For all bioswales shown on the plan, provide spot elevations and proposed slope for the bioswales. If it was meant to show roof drains discharging out to the bioswales on the east side of the building, show the roof drains. Label all bioswale locations on the plan.

- 6) Show capacity calculations for all on-site infrastructure including the swales and curb cuts.
- 7) There is concern about a large amount of runoff being discharged to the swale along the west side due to limited capacity because of the check dams created for the first flush. Provide a cross-section detail showing top of the check dam relative to the top of the swale, and demonstrate sufficient capacity for the swale such that drainage from the parking lot will not discharge onto the property to the west.
- 8) Label the first flush volumes along the swale on the west side of the property.
- 9) Provide length of sidewalk culvert being installed. Provide capacity calculations and invert elevations.

If you have any questions, you can contact me at 924-3924.

Sincerely,



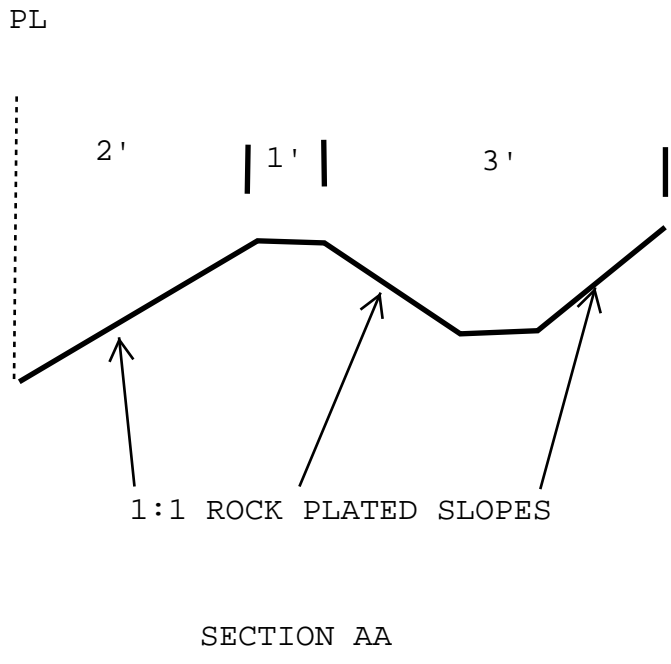
Jeanne Wolfenbarger, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf Addressee via Email

EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.

FIRST FLUSH REQUIREMENTS
15100 x .34 /12=427.83 CF
PROVIDED 515 CF



PRIVATE DRAINAGE IMPROVEMNET IN PUBLIC ROW
NOTICE TO CONTRACTORS

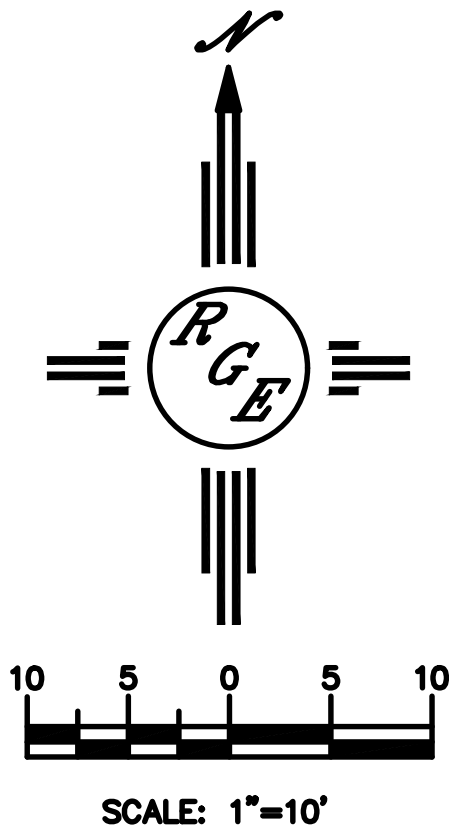
- Notice to Contractor
(Special Order 19 ~ "S0-19")
- An excavation permit will be required before beginning any work within City Right-Of-Way.
 - All work on this project shall be performed in accordance with applicable federal, state and local laws, rules and regulations concerning construction safety and health.
 - Two working days prior to any excavation, the contractor must contact New Mexico One Call, dial "811" [or (505) 260-1990] for the location of existing utilities.
 - Prior to construction, the contractor shall excavate and verify the locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
 - Backfill compaction shall be according to traffic/street use.
 - Maintenance of the facility shall be the responsibility of the owner of the property being served.
 - Work on arterial streets shall be performed on a 24-hour basis.
 - Prior to pouring concrete, contractor shall notify the storm drain inspector, 857-8074, to inspect reinforcement.

APPROVAL	NAME	DATE
INSPECTOR		

CAUTION:

EXISTING UTILITIES ARE NOT SHOWN. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATION TO DETERMINE THE ACTUAL LOCATION OF UTILITIES & OTHER IMPROVEMENTS.

BIO SWALE DETAIL
NTS



VICINITY MAP:

F-21-Z



FIRM MAP:

FM35001C144G

LEGAL DESCRIPTION:

LOT #2, BLOCK 19, PRIMROSE POINTE UNIT 6
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

NOTES:

- ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
- PROVIDE TURN BLOCKS AT GRADE EVERY 20' ALONG EAST WALL

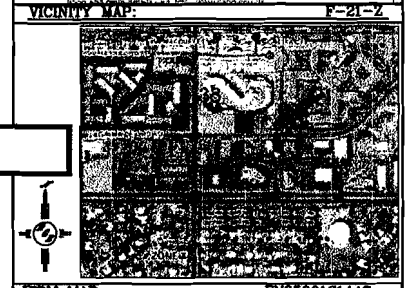
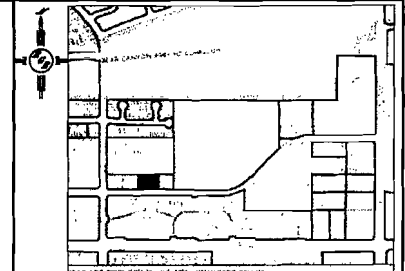
LEGEND

---	EXISTING CONTOUR
---	EXISTING INDEX CONTOUR
---	PROPOSED CONTOUR
---	PROPOSED INDEX CONTOUR
---	LOT LINE
---	CENTERLINE
---	RIGHT-OF-WAY
=====	EXTENDED STEM WALL SEE ARCH PLANS FOR DETAILS
---	PROPOSED ROCK FACE WALL
---	EXISTING CURB AND GUTTER
---	PROPOSED EDGE OF CONCRETE
---	PROPOSED FLOWLINE
---	EXISTING WALL

 6/3/15 DAVID SOULE P.E. #14522	10429 LAGRIMA DE ORO DENTAL OFFICE	DRAWN BY DEM
	GRADING AND DRAINAGE PLAN	DATE 4-14-15
	 1808 CENTRAL AVENUE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0088	SHEET # 1 of 2 JOB # XXXXX

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2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
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FIRM MAP: FMS0001C144G

LEGAL DESCRIPTION:

LOT #2, BLOCK 19, PRIMROSE POINTE UNIT G
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

NOTES:

1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
2. PROVIDE TURN BLOCKS AT GRADE EVERY 20' ALONG EAST WALL.

LEGEND

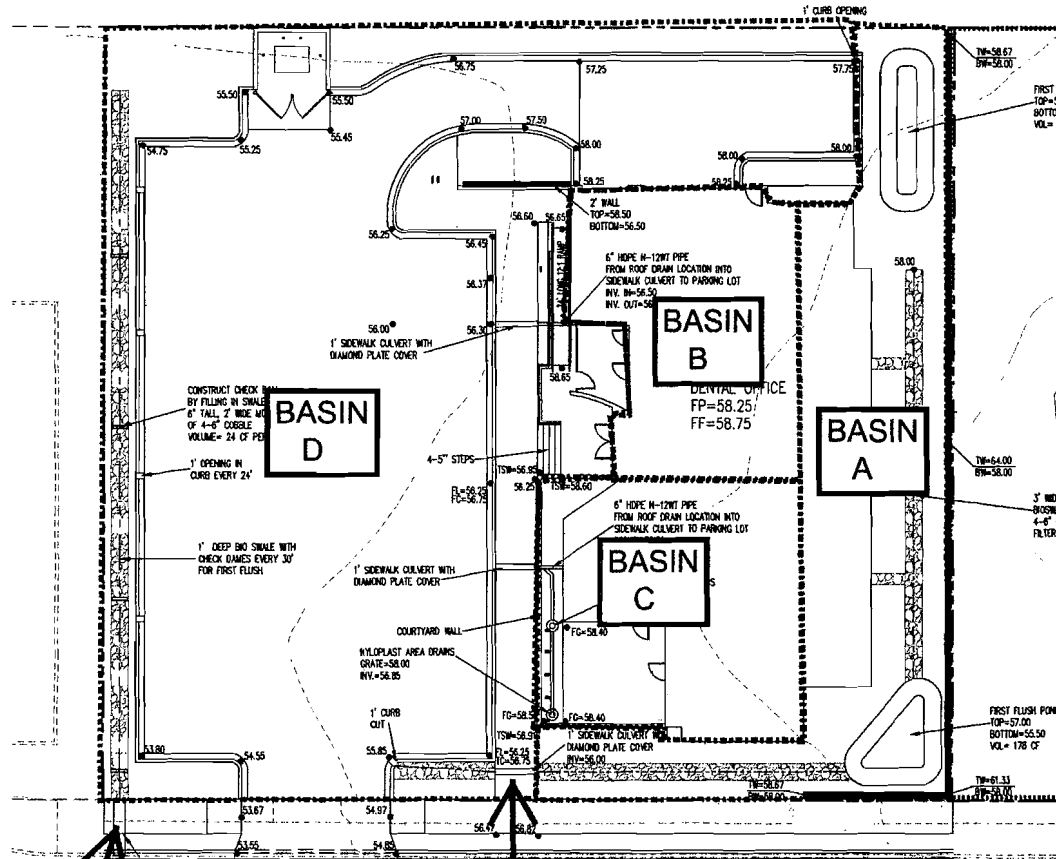
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- PROPOSED CONTOUR
- PROPOSED INDEX CONTOUR
- LOT LINE
- CENTERLINE
- RIGHT-OF-WAY
- EXTENDED STEM WALL SEE ARCH PLANS FOR DETAILS
- PROPOSED ROCK FACE WALL
- EXISTING CURB AND GUTTER
- PROPOSED EDGE OF CONCRETE
- PROPOSED FLOWLINE
- EXISTING WALL

PRIVATE DRAINAGE IMPROVEMENT IN PUBLIC ROW NOTICES TO CONTRACTORS

Notice to Contractor
(Special Order 19 - "S0-20")

1. An excavation permit will be required before beginning any work within City Right-Of-Way.
2. All work on this project shall be performed in accordance with applicable laws, rules and regulations concerning construction safety and health.
3. Two working days prior to any excavation, the contractor must contact New Mexico One Call, dial 811 or (505) 280-1900 for the location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to traffic/street use.
6. Maintenance of the facility shall be the responsibility of the owner of the property being served.
7. Work on arterial streets shall be performed on a 24-hour basis.
8. Prior to pouring concrete, contractor shall notify the storm drain inspector, 857-8074, to inspect reinforcement.

APPROVAL: _____ NAME: _____ DATE: _____
INSPECTOR

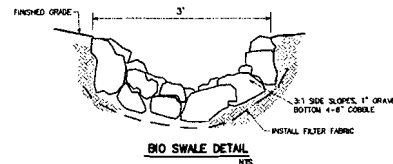


CULVERT B

CULVERT A

CAUTION:

EXISTING UTILITIES ARE NOT SHOWN. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATION TO DETERMINE THE ACTUAL LOCATION OF UTILITIES & OTHER IMPROVEMENTS.



SCALE: 1"=10'

	10429 LAGRIMA DE ORO DENTAL OFFICE DRAINAGE PLAN	DRAWN BY: DEM	SHEET # 1 of 2
		DATE: 4-14-15	JOB # XXXXX

Weighted E Method

LAGRIMA DEL ORO

Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year, 6-hr.		10-day	
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Volume (ac-ft)
UPLAND	6480	0.149	60%	0.08926	20.0%	0.030	20.0%	0.02975	0%	0.000	0.988	0.012	0.39	0.012
OVERALL EXISING	20121	0.462	80%	0.36953	20.0%	0.092	0.0%	0	0%	0.000	0.856	0.033	1.08	0.033
BASIN A	3562	0.082	0%	0	40.0%	0.033	33.0%	0.02698	27%	0.022	1.627	0.011	0.31	0.014
BASIN B	1669	0.038	0%	0	0.0%	0.000	0.0%	0	100%	0.038	2.640	0.008	0.20	0.014
BASIN C	1918	0.044	0%	0	0.0%	0.000	5.0%	0.0022	95%	0.042	2.581	0.009	0.23	0.015
BASIN D	12972	0.298	0%	0	12.0%	0.036	18.0%	0.0536	80%	0.238	2.504	0.062	1.56	0.094
OVERALLPROSED	20121	0.462	0%	0	14.8%	0.068	17.9%	0.083	74%	0.340	2.368	0.091	2.30	0.137

Equations:

Weighted E = $E_a \cdot A_a + E_b \cdot A_b + E_c \cdot A_c + E_d \cdot A_d$ / (Total Area)

Volume = Weighted D * Total Area

Flow = $Q_a \cdot A_a + Q_b \cdot A_b + Q_c \cdot A_c + Q_d \cdot A_d$

Where for 100-year, 6-hour storm (zone 4)

Ea= 0.8	Qa= 2.2
Eb= 1.08	Qb= 2.92
Ec= 1.46	Qc= 3.73
Ed= 2.64	Qd= 5.25

CONTRIBUTING TO CULVERT

Pond volume required		A	0.71 CFS
FIRST FLUSH REQUIRED	420.20 cf	B	1.98 CFS
FIRST FLUSH PROVIDED	514.00 cf		
EXISTING ONSITE DISCHARGE	1.08 CFS		
PROPOSED ONSITE DISCHARGE	2.30 CFS		
UPLAND	0.39 CFS		

NARRATIVE

THIS SITE IS AN INFILL DEVELOPMENT NEAR THE BOTTOM OF THE BEAR CANYON WATER SHED. THIS SITE HAS BEEN APPROVED FOR FREE DISCHARGE ON TWO PRIOR SUBMITTALS. (F21D063). IN ADDITION THE BOTH ABUTTING PROPERTIES (F21D079,F21D078) WERE APPROVED FOR FREE DISCHARGE. WE PROPOSE FREE DISCHARGE WITH THE INCLUSION OF THE FIRST FLUSH PONDING VOLUME. THE PROPOSED SIDEWALK CULVERT WILL BE CONSTRUCTED WITH THE SO19 PERMIT PROCESS

CHECK DAM AND CULVERT CAPACITY

Weir Equation:

$$Q = CLH^{3/2}$$

Q =

C = 2.95

H = 0.67 ft

L = Length of weir

CHECK DAM

$$Q = 2.95 \times 2 \times 0.5^{1.5} = 2.08$$

1' CULVERT

$$Q = 2.95 \times 1.0 \times 0.5^{1.5} = 1.04$$

2' CULVERT

$$Q = 2.95 \times 2 \times 0.67^{1.5} = 3.23$$

SWALE CAPACITY

	Top Width	Bottom Width	Depth	Area	WP	R	Slope	Q Provided	Q Required	Velocity
	(ft)	(ft)	(ft)	(ft^2)	(ft)		(%)	(cfs)	(cfs)	(ft/s)
Beginning	3	1	1	2.00	3.83	0.5224077	0.5	4.56	2.00	1.00

Manning's Equation:

$$Q = 1.49/n * A * R^{(2/3)} * S^{(1/2)}$$

A = Area

R = D/4

S = Slope

n = 0.03