

Testimony of Coleen Lund

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3 I hold the position of Project Manager within the Santa Barbara County Parks  
4 Department. I am a licensed Professional Engineer in Civil Engineering. I have worked for the  
5 County of Santa Barbara for 20 years and have been employed within the Parks Department  
6 since 1989. Major job duties within the County Park Department include the oversight of  
7 capital projects; management of outside professional, engineering and architectural consultant  
8 contracts for park related projects; grant writing; oversight of the parks capital outlay budget. I  
9 supervise a Civil Engineer Associate and Parks Planner within the department. I report directly  
10 to the Director of County Parks.

11 My testimony uses information from the December 2000, Flowers & Associates,  
12 Cachuma Lake Surge Analysis Preliminary Report (County's Exhibit 7, attached), and the Draft  
13 Environmental Impact Report ("DEIR"), dated August 2003, for Consideration of Modifications  
14 to the U.S. Bureau of Reclamation's Water Right Permits 11308 and 11310 to Protect Public  
15 Trust Values and Downstream Water Rights on the Santa Ynez River below Bradbury Dam  
16 (Cachuma Reservoir).

17 The DEIR analyzes two different surcharge levels (other than the 0.75' that can already  
18 be implemented) in order to provide down stream flows for the endangered steelhead trout. The  
19 first stage of surcharge is 1.8' feet above current lake level of 750 ft., surcharging to elevation  
20 751.8. The second and highest level of surcharge proposed is 3' feet above current lake level,  
21 surcharging to elevation 753.

22 Wave inundation, as described in the December 2000, Flowers & Associates, Cachuma  
23 Lake Surge Analysis Preliminary Report, and included in County's testimony as Exhibit 7, is a  
24 reality in the Lake Cachuma environment which I have personally observed. The erosive impact  
25 that waves cause must be considered in reviewing the facilities located within the wave impact  
26 zone. As stated in the Flower's & Associates report (Exhibit 7, p.4), Moffatt and Nichol  
27 Engineers recently prepared (*June 2000*) a design for proposed marina improvements at the lake  
28 that required development of a design storm for the proposed improvements. The design storm

1 criteria was used in conjunction with the Army Corps of Engineers' *Shore Protection Manual* to  
2 estimate the potential water surface and wave run up due to storm and waves. The result of the  
3 analysis follows:

4		
5	Estimate of wave set up	0.5'
6	Estimate of storm surge	0.1'
7	Estimate of wave run up	<u>2.3'</u>
8	Total	2.9'
9		

10 For purposes of evaluating impact to facilities and reviewing areas within the park for  
11 potential relocation, the County has used a surcharge elevation of 753' + 3' (2.9' rounded) for a  
12 total increase in elevation of 756'. This is consistent with the information presented within the  
13 DEIR. (See DEIR, p. 4-144.)

14 There are several facilities within the park that would be inundated by the proposed  
15 surcharge levels. They may be categorized as critical or essential as follows:

16  
17 Critical:

- 18 • The facility cannot be inundated without adverse public health and safety impacts, serious  
19 damage to the facility or loss of service to the County Park (water treatment plant and intake  
20 structure);
- 21 • The facility, at certain elevations, would no longer meet required set backs from the public  
22 water supply (ie; sewer lift stations) and

23 Essential:

- 24 • The facility is an essential operational recreation facility that could not be transferred during  
25 surcharge to another location and, therefore, would impact the public's recreational use (boat  
26 launching and marina facilities).

1                                    CRITICAL AND ESSENTIAL OPERATIONAL RECREATION FACILITIES

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3            I have prepared and provided attached topographic maps that accurately show the  
4 location of the following critical and essential operational recreation facilities. These  
5 topographic maps graphically enhance the elevations at 750', 751.8', 753' and 756'.

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7                                    Water Treatment Plant and Water Intake Structure

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9            The County Park provides its own treated water from Lake Cachuma. The water  
10 treatment plant is currently located at an elevation of 753'. In March 2001, storm conditions  
11 (high lake level and wind conditions) caused severe erosion along the lake embankment adjacent  
12 to the water treatment plant (the top of bank was eroded to approximately 6' from the edge of  
13 the treatment plant building). A gabion retaining structure, funded by State of California Office  
14 of Emergency Services, was recently installed to protect the lake embankment from further  
15 erosion. The current top of bank, at its narrowest, is now within 12' of the water treatment plant.

16            The water intake motor control structure is located at elevation 755'. There are electrical  
17 and mechanical components located within this structure that are required for the transport of  
18 water from the lake to the treatment plant. This facility would be in jeopardy under surcharge  
19 conditions with wave run up and must be relocated.

20            The Flowers and Associates report identified a new site location for the water treatment  
21 plant based on consideration of current regulations and facilitation of operations and  
22 maintenance. The new site location also moved the facility out of the lake view shed, which is a  
23 typical permitting requirement. The new location would be out of the surcharge elevations.

24            The motor control center for the intake facility will need to be raised and a booster pump  
25 station added to pump water to the proposed water treatment plant site. As much of the existing  
26 facility will be reused as possible.

1 Sewer Lift Stations Nos. 2 & 3

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3 The park facilities are served by its own sewer treatment plant. Waste water from the  
4 public restrooms, residences, food service area, Cachuma Store, the Nature Center and other  
5 park operation and maintenance facilities flows through a system that includes 3 sewer lift  
6 stations. The sewer treatment plant is located at the westerly end of the lake adjacent to the  
7 access road to Bradbury Dam.

8 Two of the park lift stations, while not directly impacted under surcharge conditions,  
9 would be within 50' of water's edge at elevation 756. These lift stations must be relocated  
10 outside of the 50' setback in order to meet public health and safety requirements for protection of  
11 potable water supplies. Sewer lift station 2 is location centrally within the park and is at  
12 elevation 759'. Sewer lift station 3 is located at the easterly end of the park and also services  
13 Camp Whittier, a year round youth camp located south of Highway 154 and is also at elevation  
14 759. Locations outside the surcharge elevations and addressing the 50' setback have been  
15 identified. The road to Sewer lift station 3 would have to be raised to ensure access. (See  
16 Mohawk Road discussion, below.)

17 Marina and Launch Ramp

18 The top of the existing launch ramp is at elevation 750.0, the existing maximum  
19 stillwater level. At either elevation proposed for surcharge, i.e., 751.8 or 753, the boat ramp will  
20 be inundated and boat launch facilities will be inaccessible for the amount of time surcharge is in  
21 place. The DEIR states that the percentage of time that lake surcharge elevations will meet or  
22 exceed elevation 750 is 11% at .75-foot, 14% at 1.8-foot, and 16% at 3-foot, with the duration of  
23 inundation to reach 4 to 5 months. (DEIR, p. 4-17, 18.) A proposed mitigation to address  
24 surcharge to either 751.8 or 753 would relocate and raise the ramp to allow boat launching at  
25 elevation 753.0, the proposed maximum stillwater level.

26 The lakeside business (Snack Shack and Boat Rental and Bait Shop) is currently at an  
27 elevation of 756'. These businesses need to remain in the same vicinity as the marina to be  
28 viable. It is likely that these facilities will be impacted during lake levels of 753' with wave run

1 up. The marina access walk and stairways, located at the approximate elevation of 753',  
2 provides access to the private dock areas. This area will be inundated during elevation  
3 conditions of 756'. These facilities need to be maintained and the walkway and marina steps  
4 need to be reconstructed or protected to accommodate the proposed lake level. The proposed  
5 mitigation would require the installation of a retaining wall along the lake embankment to  
6 protect the business locations and the private boat dock access walkway.

#### 7 Mohawk Road

8 The access road, known as Mohawk Road, provides access to Sewer Lift Station 3, the  
9 Mohawk Day Use Area, UCSB Crew facilities and park concessionaire residence could be  
10 inundated or eroded under extended lake elevation conditions of 756'. This road would need to  
11 be raised slightly to secure access to the site at all times.

#### 12 13 OTHER NON-CRITICAL FACILITIES

14  
15 Other facilities within the park will be impacted under surcharge conditions. These  
16 facilities are described in the DEIR at pp. 4-142-148 and the Flowers and Associates report.  
17 Inundation or flooding of these facilities would not necessarily be deemed a public health and  
18 safety hazard but would require monitoring and potential repair to address damage from  
19 prolonged inundation and / or erosion from wave action. Some facilities may require temporary  
20 relocation to avoid damage to equipment and/or material. No analysis has been completed that  
21 would determine what number of inundation episodes these facilities could withstand without  
22 complete reconstruction or relocation. An example of this facility type is the University of  
23 California Crew Building and Ramp. The elevation of this structure is located at 756'. Under  
24 surcharge conditions, the contents of the structure may require relocation. Erosion from wave  
25 run up may require reconstruction of the access to and around the facility as well as access to the  
26 ramp area. If UCSB deems access necessary during surcharge conditions, these facilities would  
27 need to be raised.

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CONSTRUCTION TIMELINE

An estimated timeline to relocate each of the critical facilities based on similar construction components and in consultation with Mr. Eric Flavell of Flowers & Associates has been developed. These estimated timelines are dependant upon pre-conditions or milestones that are not under the complete control of the County. Each of the timelines shown below list these required milestones, but do not include an associated fixed time line. The total amount of time to complete relocation of a facility begins at such a time these pre-conditions have been met. The County, with the cooperation of the Bureau, will work diligently to address these pre-conditions.

Water Treatment Plant and Intake Structure

The following schedule is conditioned upon completion of the following milestones:

Receipt of funding to complete the project.

Certification of Bureau / COMB EIR-EIS.

<u>Task</u>	<u>Estimated Timeline</u>
Design (Preliminary Engineering has started) -	8 months
Environmental Review (anticipated to be a tiered document from above referenced EIR/S) -	2 months
Permits – County Environmental Health - Regional Water Quality Control Board	3-6 months
Construction bid, contract award, construction –	<u>12 months</u>
Total Estimated Timeline	25 –31 months

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Sewer Lift Stations

The following schedule is conditioned upon completion of the following milestones:

Receipt of funding to complete the project

Certification of Bureau / COMB EIR -EIS

Task

Estimated Timeline

Design (currently 90% complete) –	2 months to reach 100%
Environmental Review (anticipated to be a Tiered document from above reference EIR) –	2 months
Permits – Regional Water Quality Control Board	3 –6 months
Construction bid, contract award, construction –	<u>8 months</u>
Total Estimated Timeline	15 –18 months

Boat Launch & Marina

Santa Barbara County Parks currently has a grant from California State Department of Boating and Waterways (DBAW) for the installation of two boat launch facilities at Lake Cachuma. The plans and specifications have been completed for the two ramps. However, at the time of design, anticipated high lake levels were 750'. The first ramp, identified by County Parks as the Special Use Ramp, would be located within the Mohawk Day Use area. The second ramp design is for the Main Launch Ramp and eliminates the three current high, mid and low water level ramps and combines the launch facility into a single 5-lane boat ramp to accommodate the high lake level elevation of 750'. In mid-October 2003, County Parks received an executed grant agreement from the Bureau of Reclamation in the amount of \$90,000, to begin the engineering required to redesign the new main launch facility to

1 accommodate launching at lake elevation 753'. Until this redesign is complete and a new  
2 engineer's estimate is developed, it is unknown if the existing DBAW grant funds will be  
3 sufficient to complete both boat ramp projects. In addition, a majority of the DBAW grant funds  
4 have a current expiration for expenditure of May 2004. The County has been working with  
5 DBAW staff to facilitate an extension. The recently awarded Bureau grant has an expiration of  
6 December 2004.

7 The Special Use ramp in the Mohawk area must be completed prior to construction of  
8 the Main Ramp in order to provide continuous boat launch opportunities at the lake. Based on  
9 this, the following construction timeline has been developed. The timeline for construction  
10 requires the lake to be at a sufficiently low level to construct these facilities. The timeline is also  
11 conditioned upon the completion of the following milestones: Receipt of funding to complete  
12 the project and certification of the Bureau / COMB EIR-EIS.

13 New special use boat ramp in the Mohawk area (construction period = approx. 1 year as  
14 follows:

15		
16	Prepare final design package –	2 months
17	Environmental -	2 months
18	Permits -	3-9 months
19	Construction bid, contract award, construction –	<u>7 months</u>
20	Total construction timeline for the Mohawk	
21	area ramp	14-20 months
22		

23 Redesign, environmental and permits to relocate the Main Launch facilities could occur  
24 while the Mohawk area boat ramp is being completed. Once the new boat ramp is complete, the  
25 main ramp improvement schedule would be as follows:

26	Construction of Main Ramp –	4 months
27		

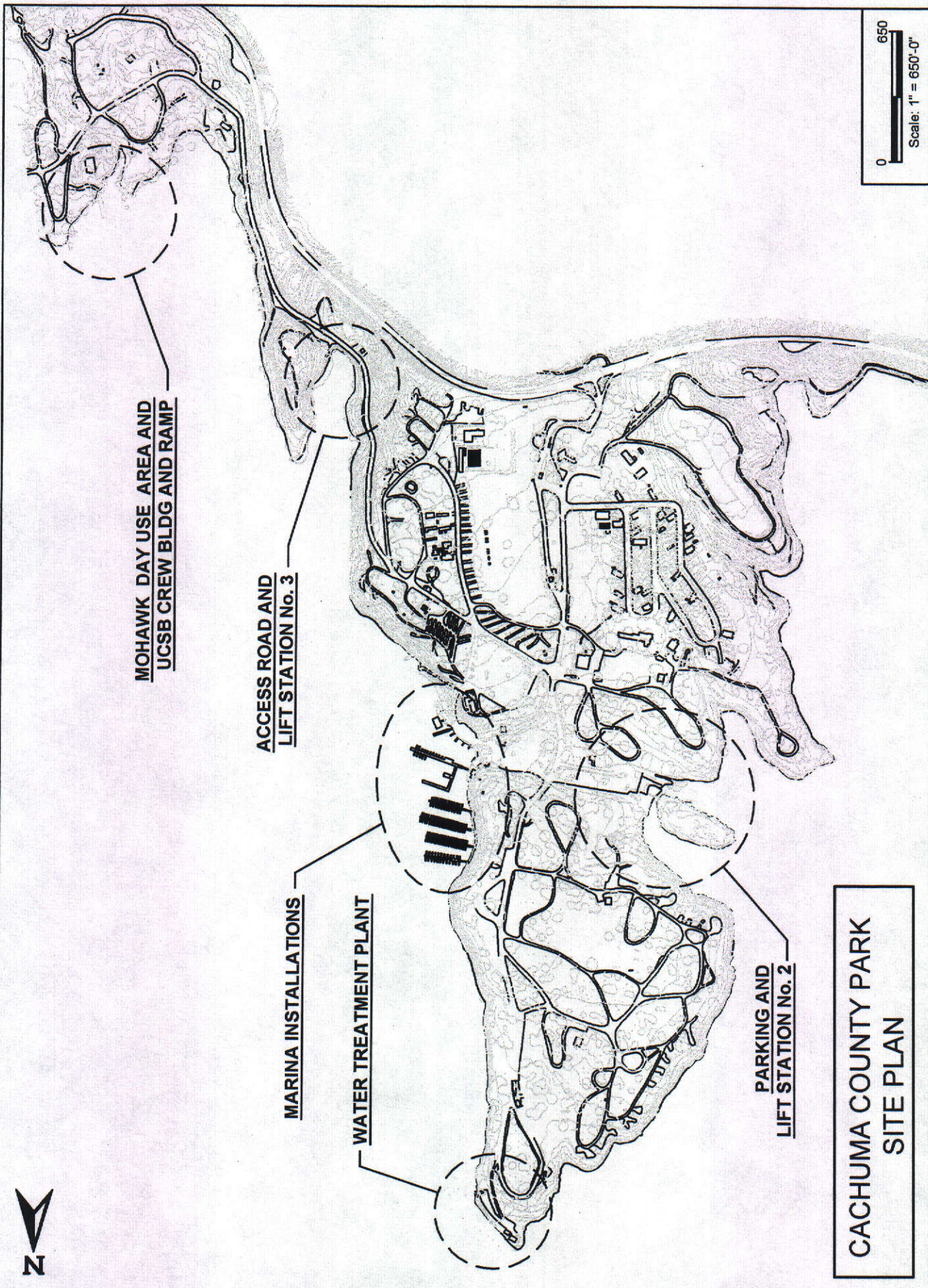


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Thus, the total estimated construction timeline to complete both boat launch ramps would be 24 months. It is possible that the "Mohawk" ramp could accommodate boat launching at 1.8' surcharge. An analysis by Moffatt & Nichol Engineers, the design firm who completed the plans and specifications, has not been completed.

Attachments:

County Park Site Plan and Topographic maps



MOHAWK DAY USE AREA AND  
UCSB CREW BLDG AND RAMP

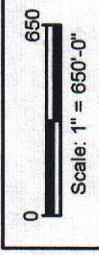
ACCESS ROAD AND  
LIFT STATION No. 3

MARINA INSTALLATIONS

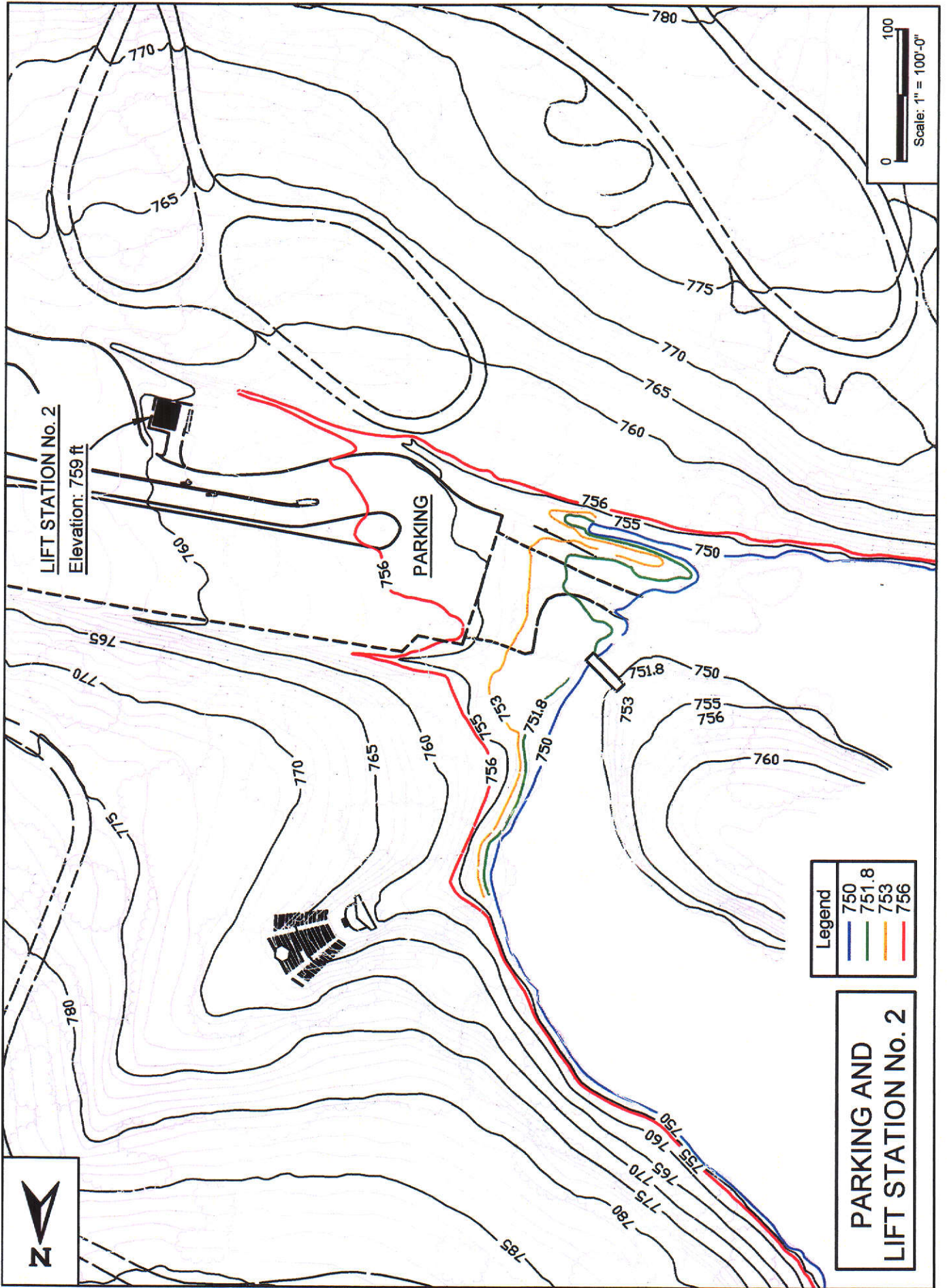
WATER TREATMENT PLANT

PARKING AND  
LIFT STATION No. 2

**CACHUMA COUNTY PARK  
SITE PLAN**







LIFT STATION No. 2  
Elevation: 759 ft

PARKING

Legend	
Blue line	750
Green line	751.8
Yellow line	753
Red line	756

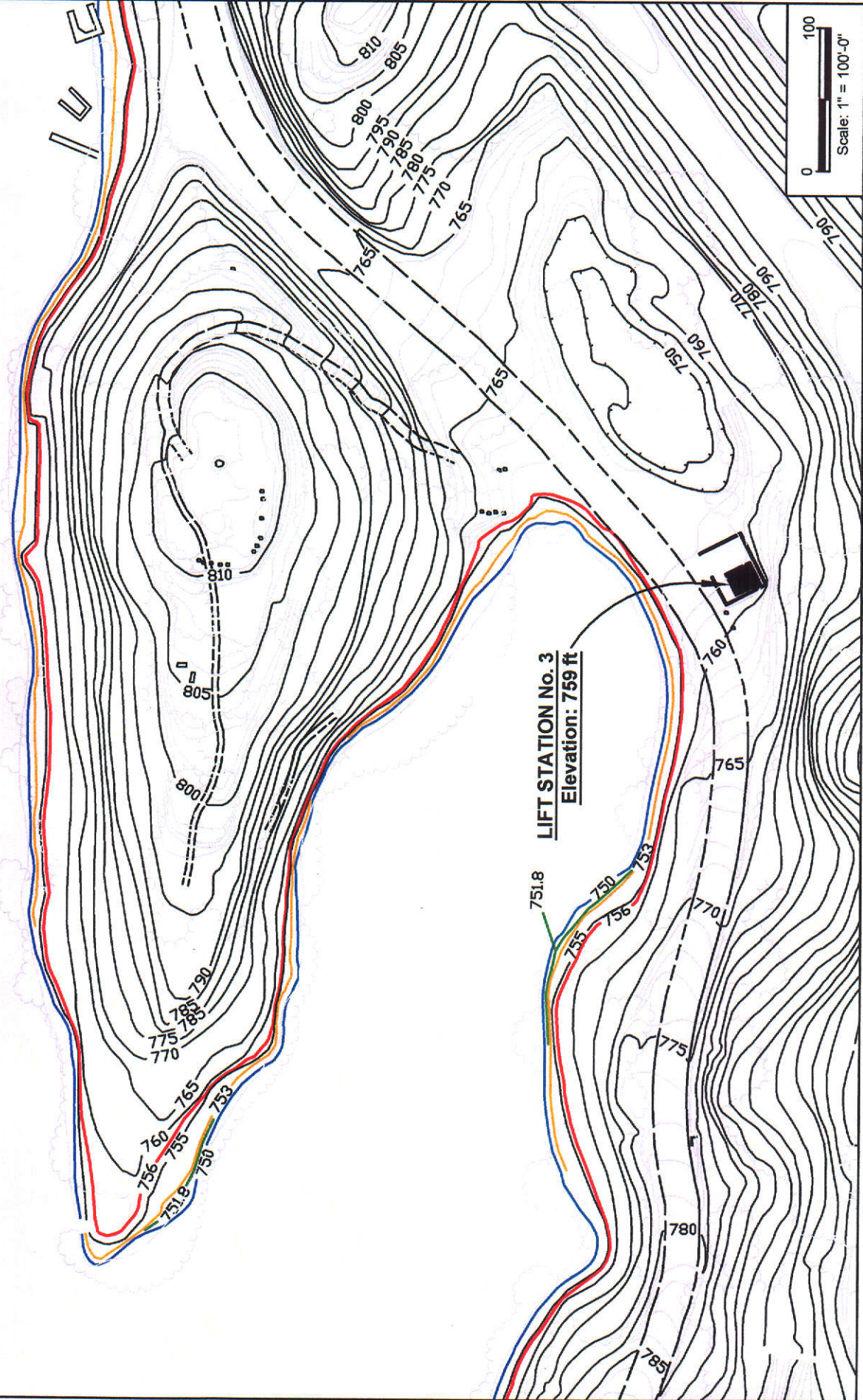
PARKING AND  
LIFT STATION No. 2





**ACCESS ROAD AND  
LIFT STATION No. 3**

Legend	
	750
	751.8
	753
	756



**LIFT STATION No. 3**  
Elevation: 759 ft





# MARINA INSTALLATIONS

Legend	
	750
	751.8
	753
	756

MARINA ACCESS WAY

BOAT LAUNCH FACILITIES

