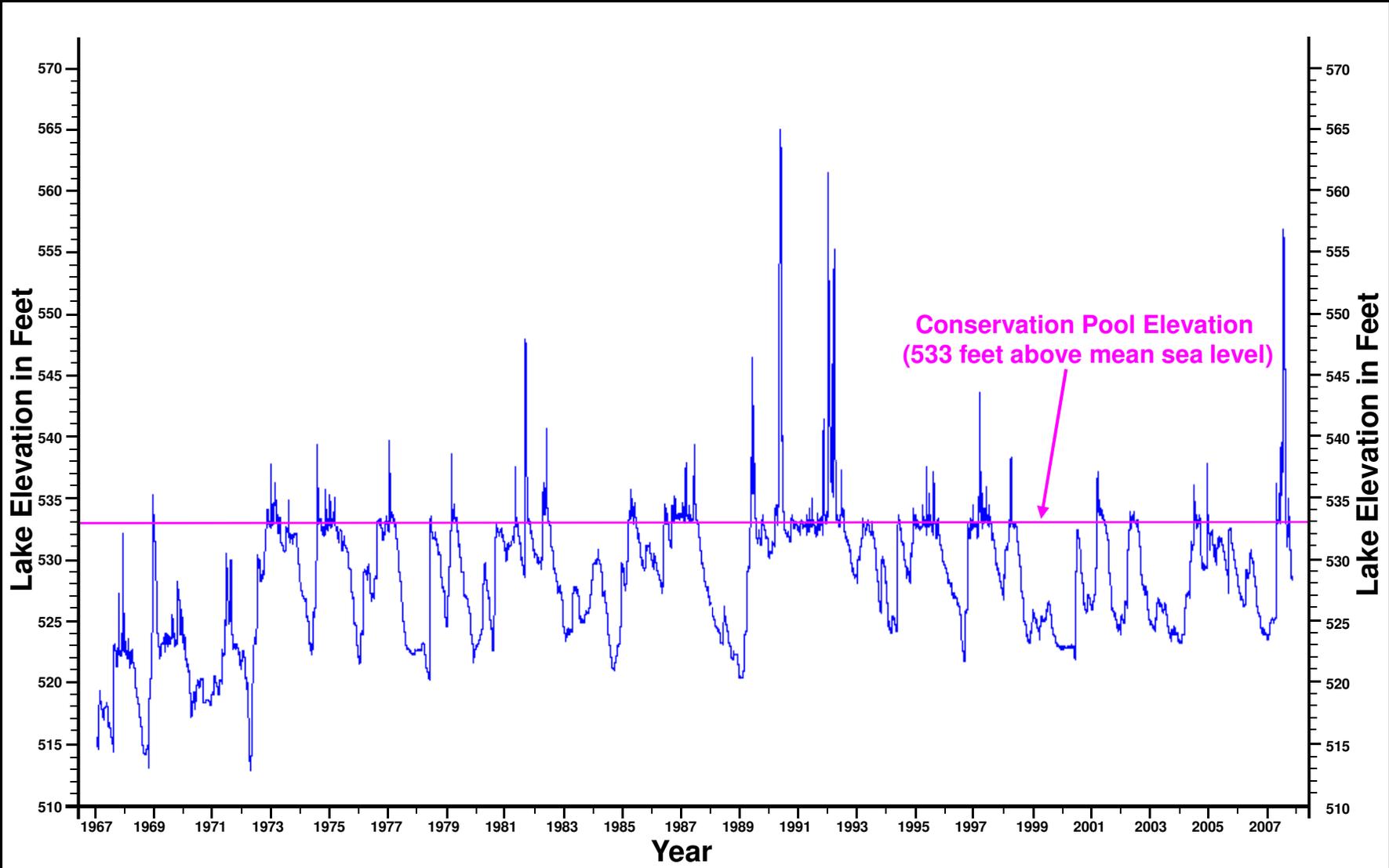


**APPENDIX C**  
**LAKE AND ADJACENT LAND CHARACTERISTICS**

**Contents**

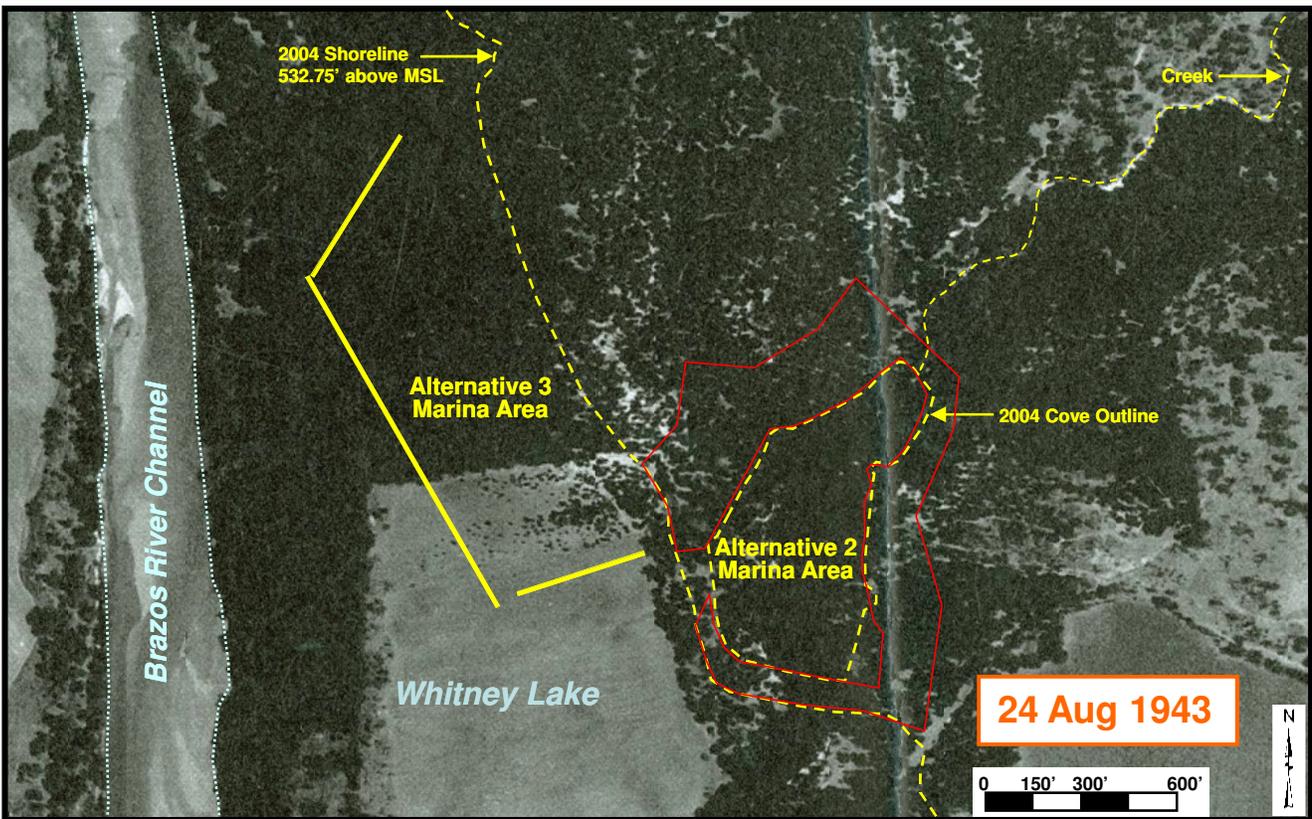
<b>Appendix</b>	<b>Description</b>	<b>Number of Pages</b>
C-1	Whitney Lake Elevation from 1967 to October 2007	1
C-2	Historical Aerial Photographs of Project Area	3
C-3	Whitney Lake Depth Ranges	1
C-4	Whitney Lake Bathymetric Map (5' Contours)	1
C-5	Whitney Lake Cross Section below White Bluff	1
C-6	Bathymetric Map of White Bluff Area (1' Contours)	1
C-7	Preliminary Lake Hydraulic Analysis of Three Lake Elevations	3
C-8	Preliminary Lake Hydraulic Analysis of Lake Currents at Two Levels of Flood Stage	2
C-9	Ground Photographs within Project Area	3
C-10	Locations of Ground Photograph Points in Appendix C-9	1
C-11	Whitney Lake Cross Section at White Bluff Cove	1





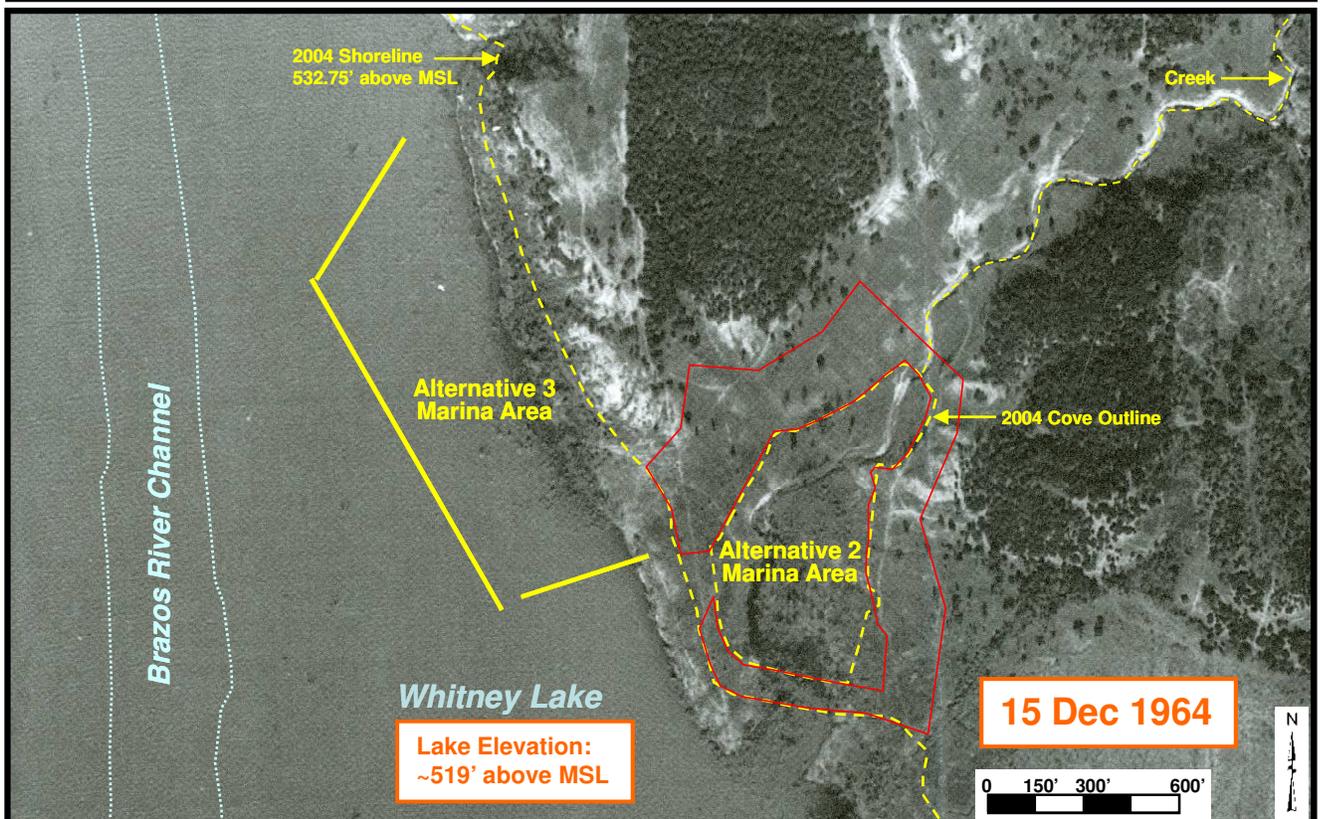
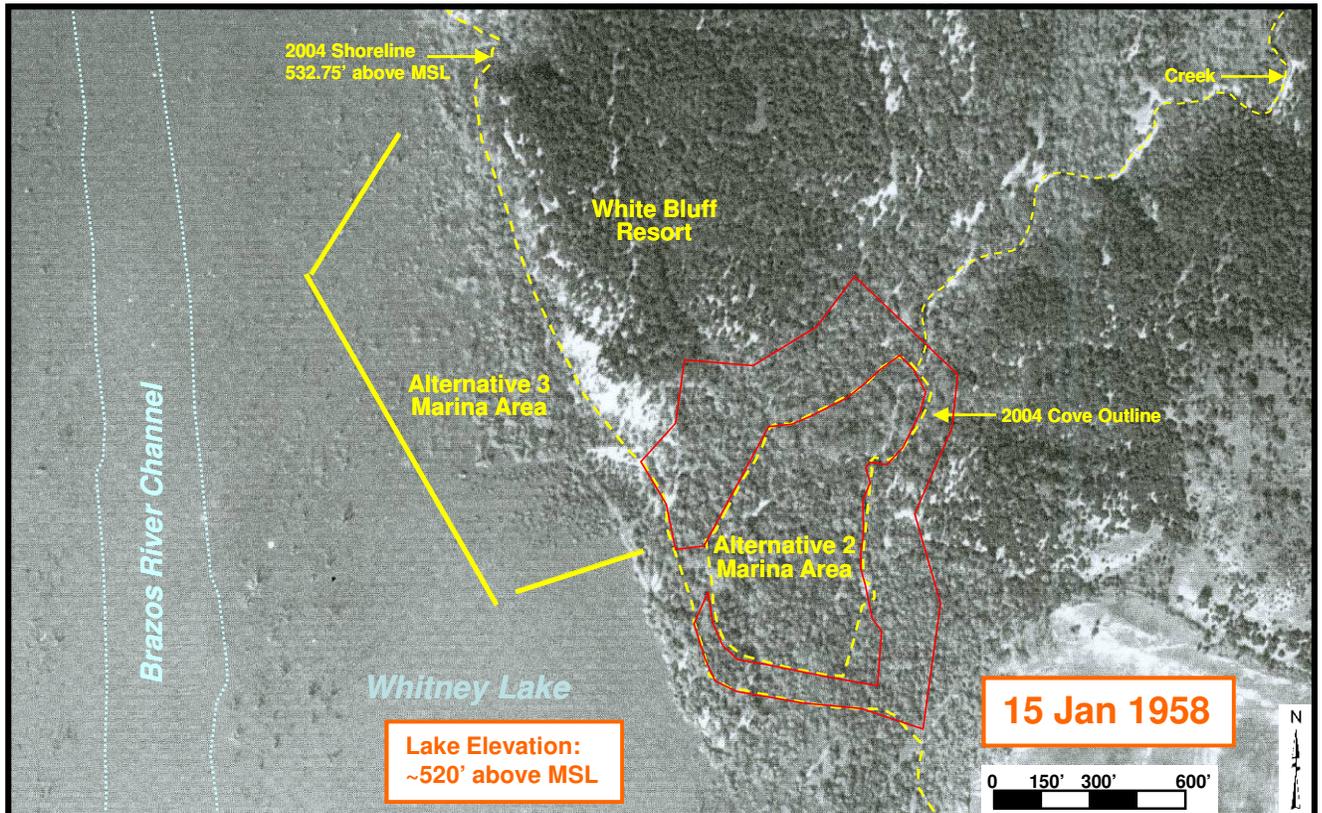
Source: USACE Whitney Lake Website (<http://www.swf-wc.usace.army.mil/cgi-bin/rcshtml.pl?page=Hydrologic>)

**Appendix C-1. Whitney Lake Elevation from 1967 to October 2007**



**Appendix C-2. Historical Aerial Photographs of Project Area**

**Notes:** Proposed marina design features from Figures 3-4 and 3-5, and shoreline, cove, and creek characteristics have been added to facilitate comparing the 2004 aerial photograph to those of earlier years. The Brazos River Channel from 1943 is shown as a historical reference. Sources: Aerial Photographs, GeoSearch; Lake Elevation Data, USACE.



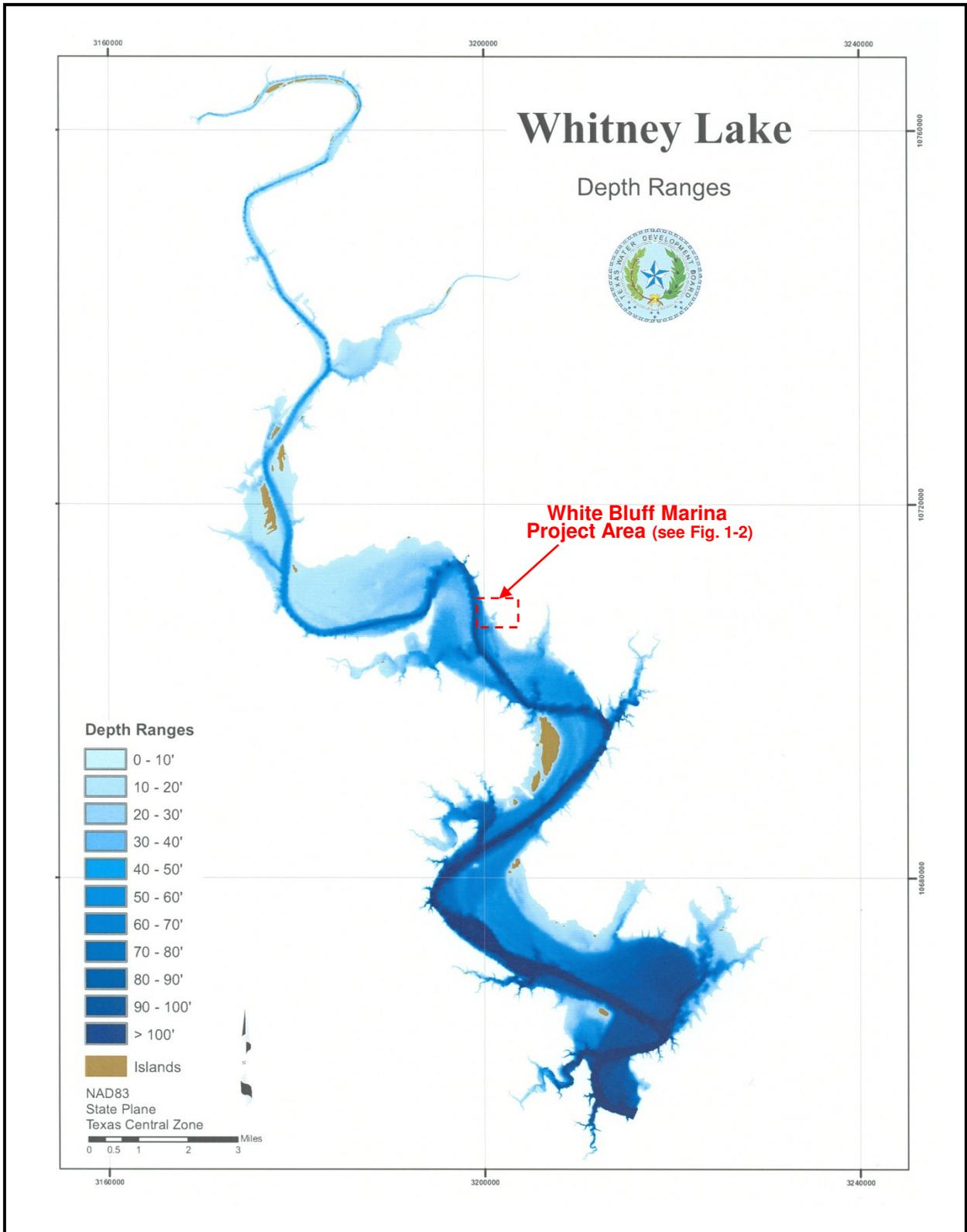
## Appendix C-2. Historical Aerial Photographs of Project Area

**Notes:** Proposed marina design features from Figures 3-4 and 3-5, and shoreline, cove, and creek characteristics have been added to facilitate comparing the 2004 aerial photograph to those of earlier years. The Brazos River Channel from 1943 is shown as a historical reference. Sources: Aerial Photographs, GeoSearch; Lake Elevation Data, USACE.



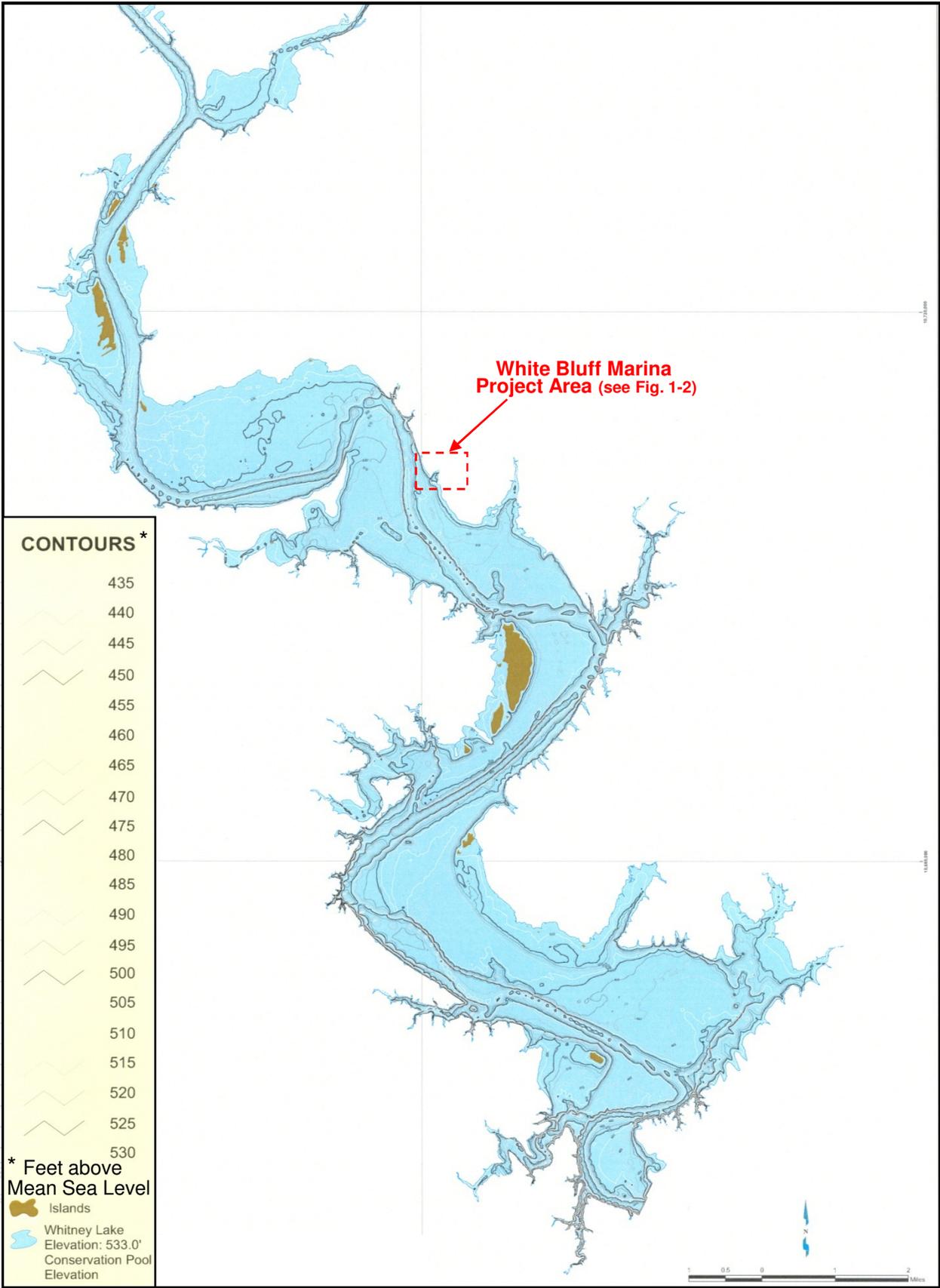
## Appendix B-2. Historical Aerial Photographs of Project Area

**Notes:** Proposed marina design features from Figures 3-4 and 3-5, and shoreline, cove, and creek characteristics have been added to facilitate comparing the 2004 aerial photograph to those of earlier years. The Brazos River Channel from 1943 is shown as a historical reference. Sources: Aerial Photographs, GeoSearch; Lake Elevation Data, USACE.



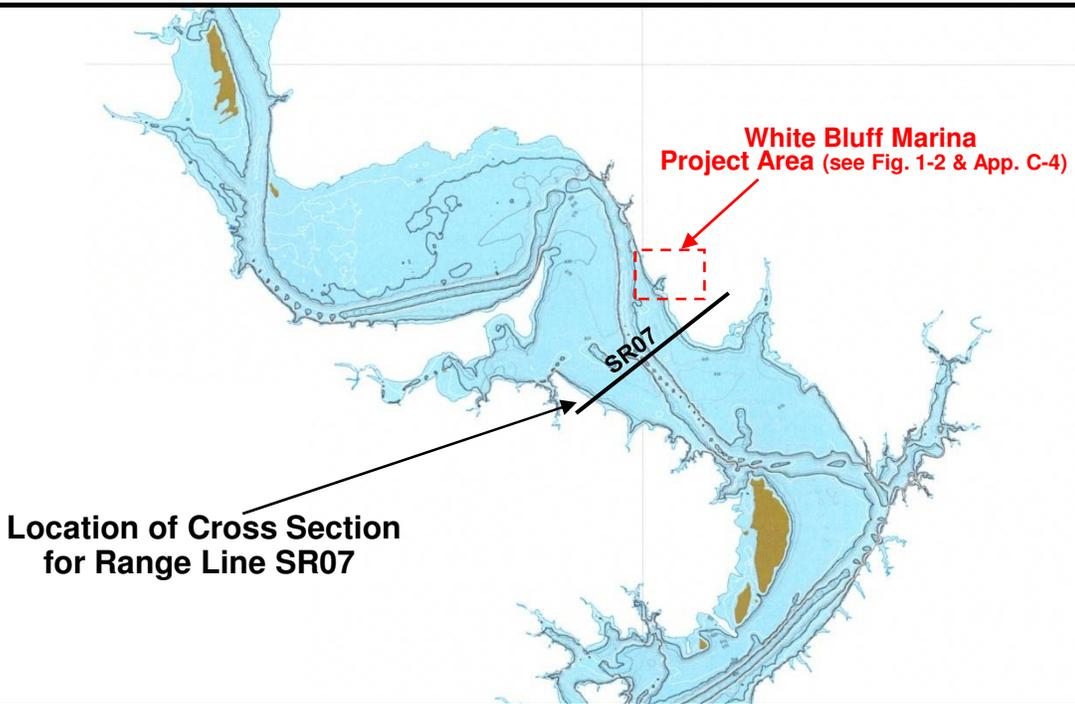
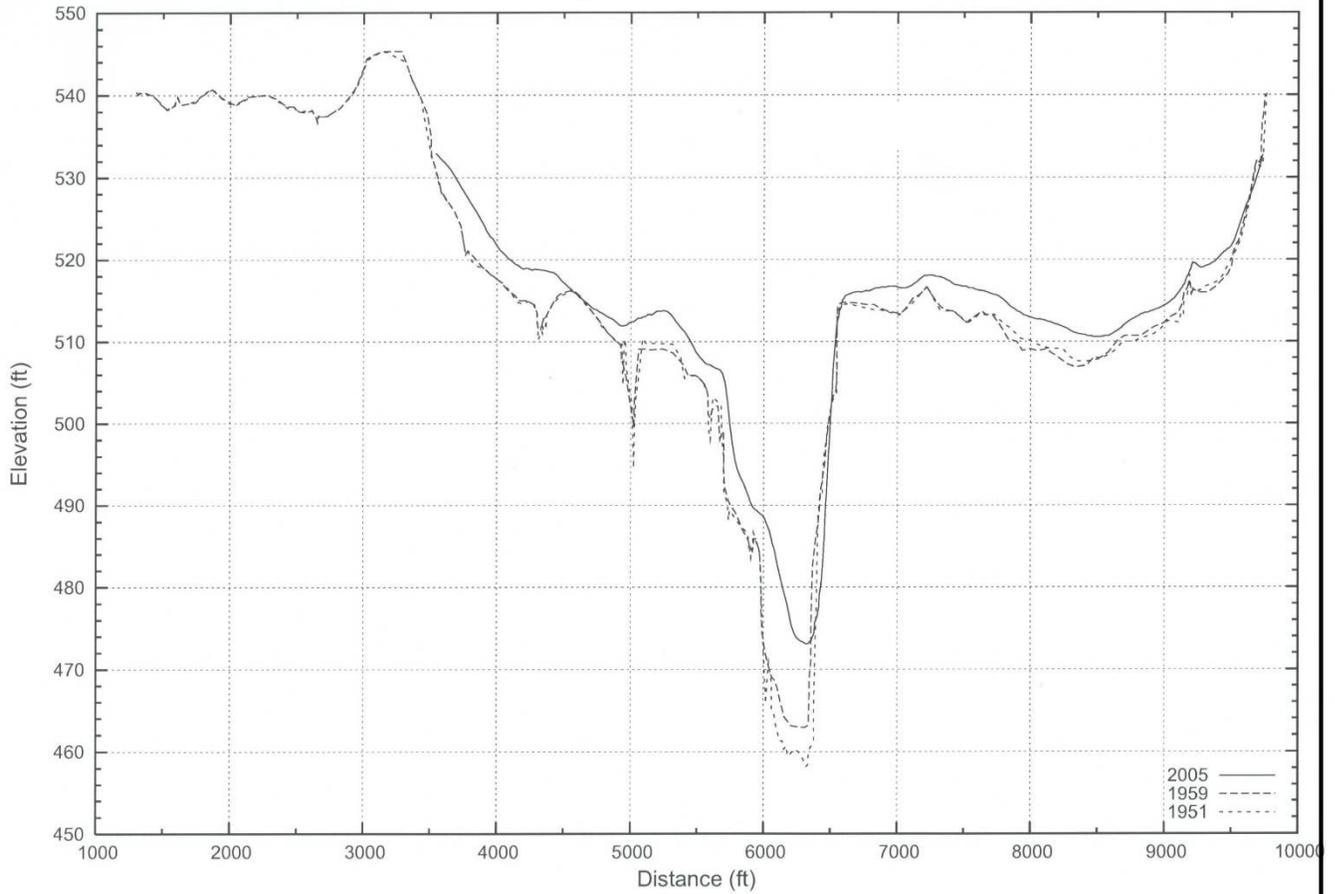
**Appendix C-3. Whitney Lake Depth Ranges**

Source: TWDB Volumetric Survey (2006)

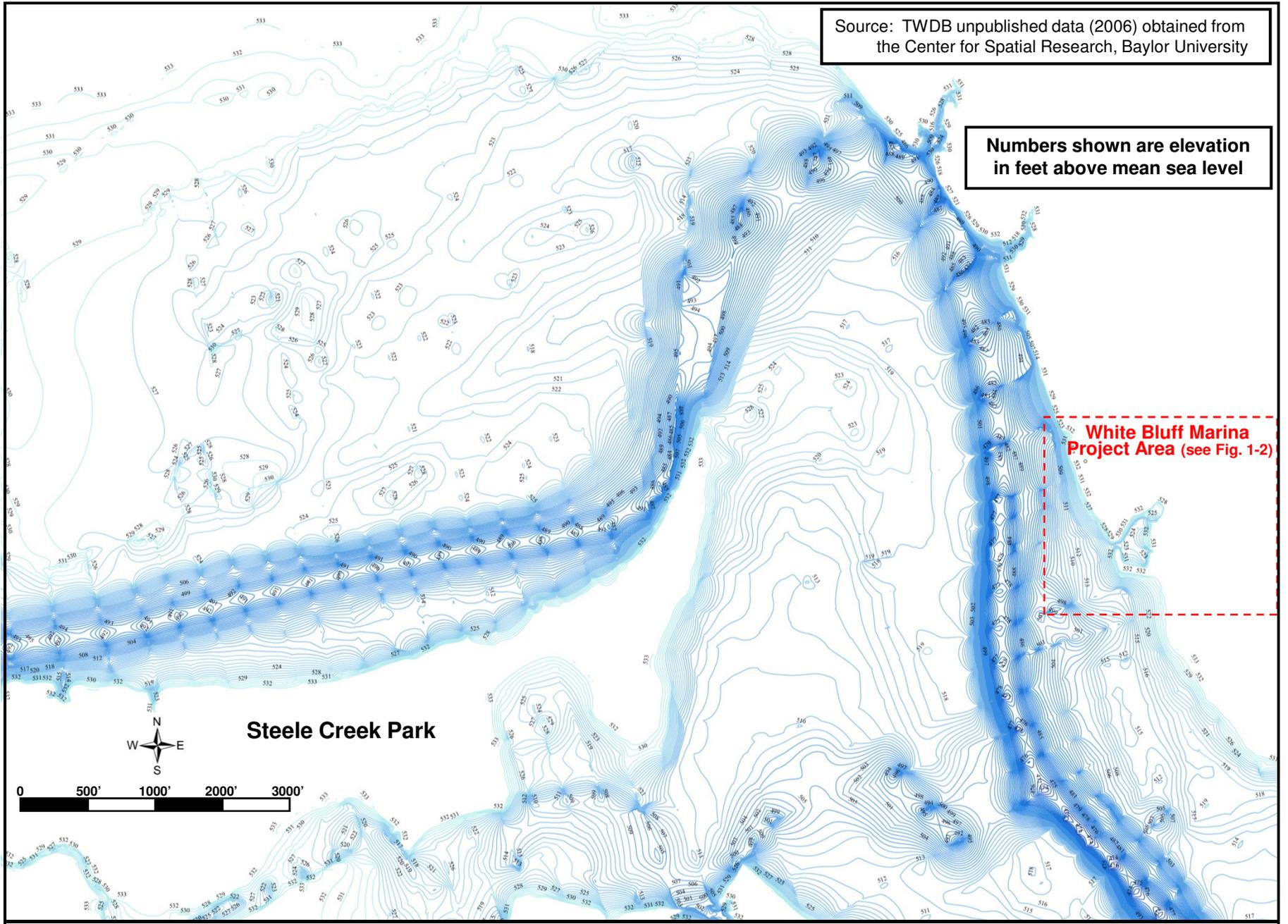


**Appendix C-4. Whitney Lake Bathymetric Map (5' Contours)**  
 Source: TWDB Volumetric Survey (2006)

### Whitney Lake Cross Section Range Line SR07



**Appendix C-5. Whitney Lake Cross Section below White Bluff**  
Source: TWDB Volumetric Survey (2006)



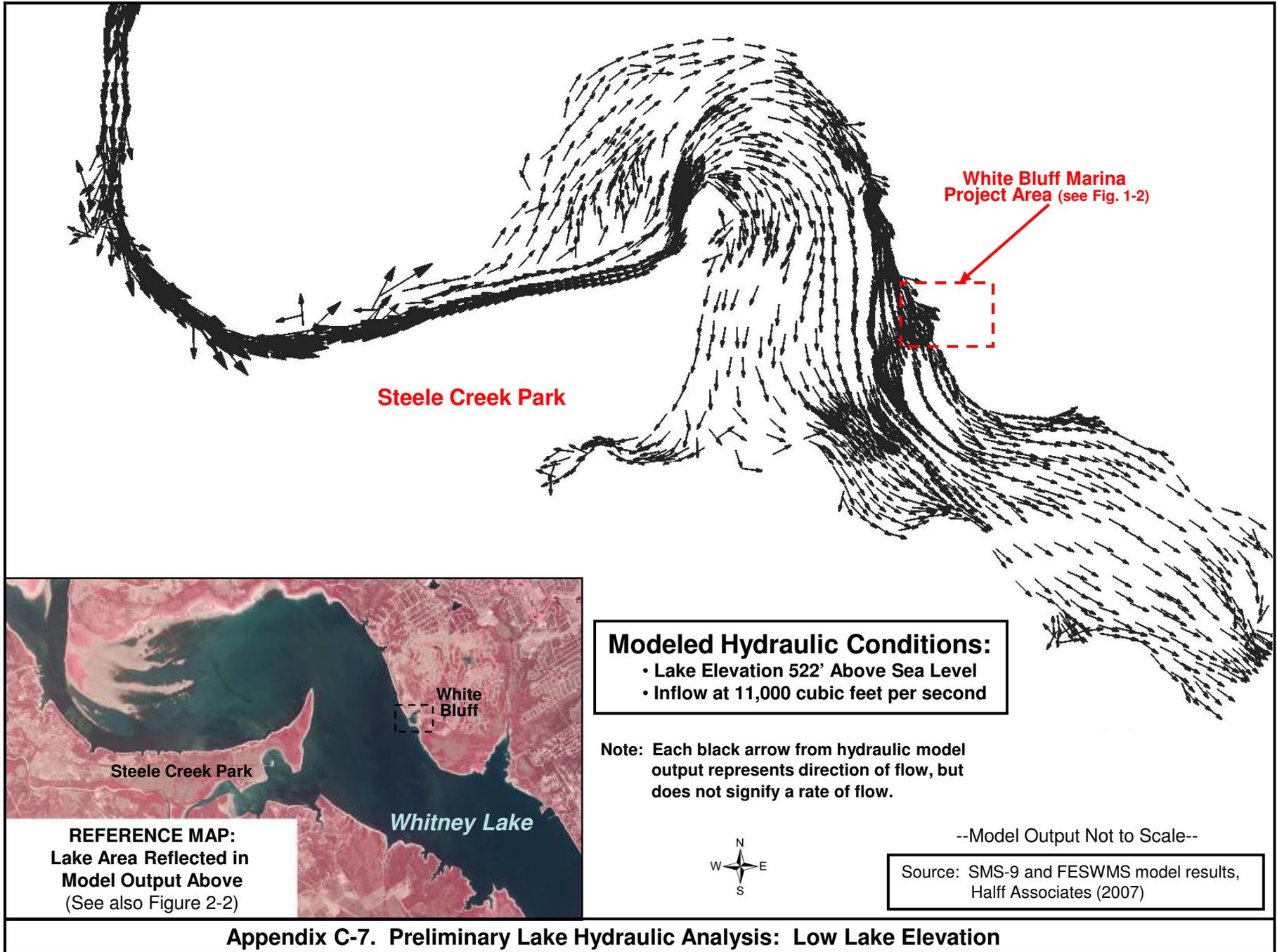
Source: TWDB unpublished data (2006) obtained from the Center for Spatial Research, Baylor University

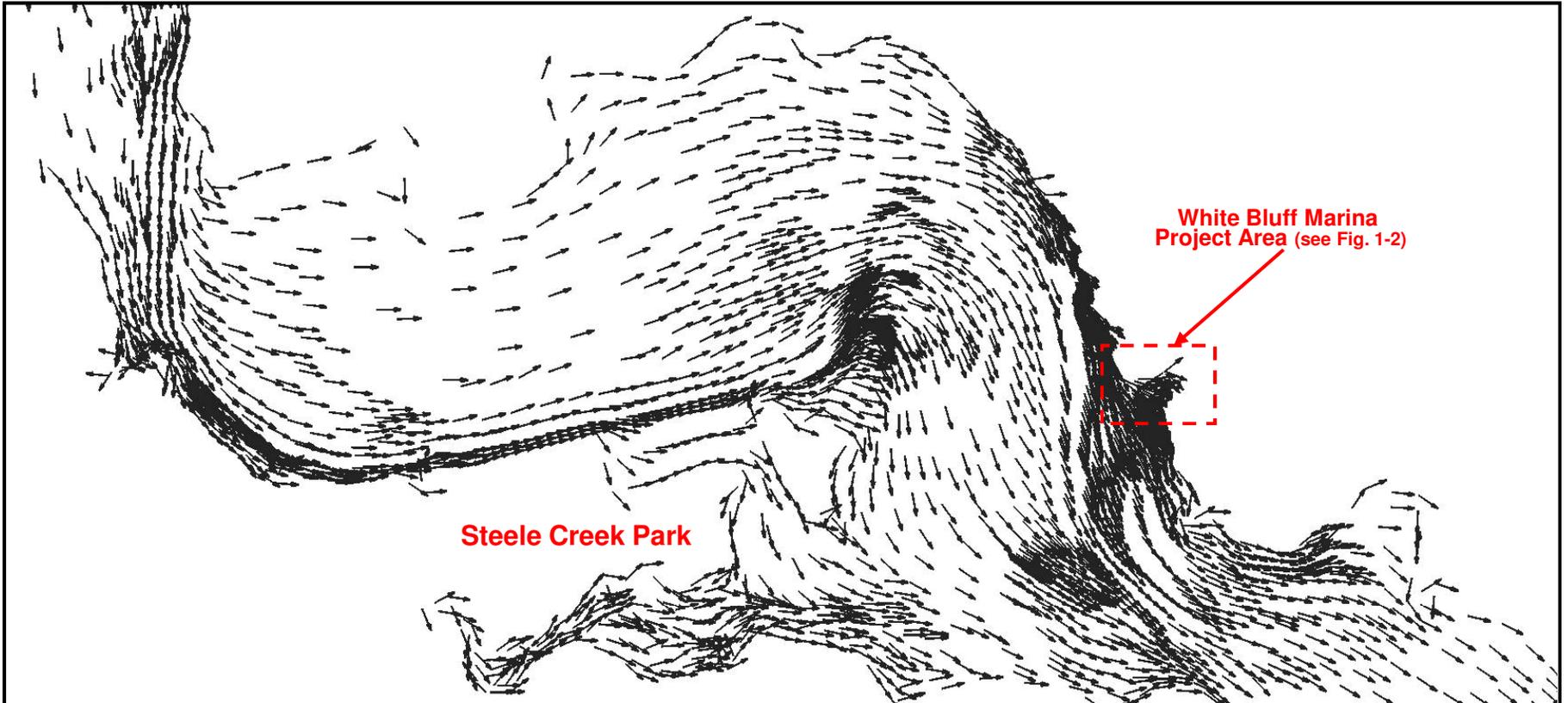
Numbers shown are elevation in feet above mean sea level

White Bluff Marina Project Area (see Fig. 1-2)

Steele Creek Park

Appendix C-6. Bathymetric Map of White Bluff Area (1' Contours)





**Modeled Hydraulic Conditions:**

- Lake Elevation 535' Above Sea Level
- Inflow at 14,000 cubic feet per second

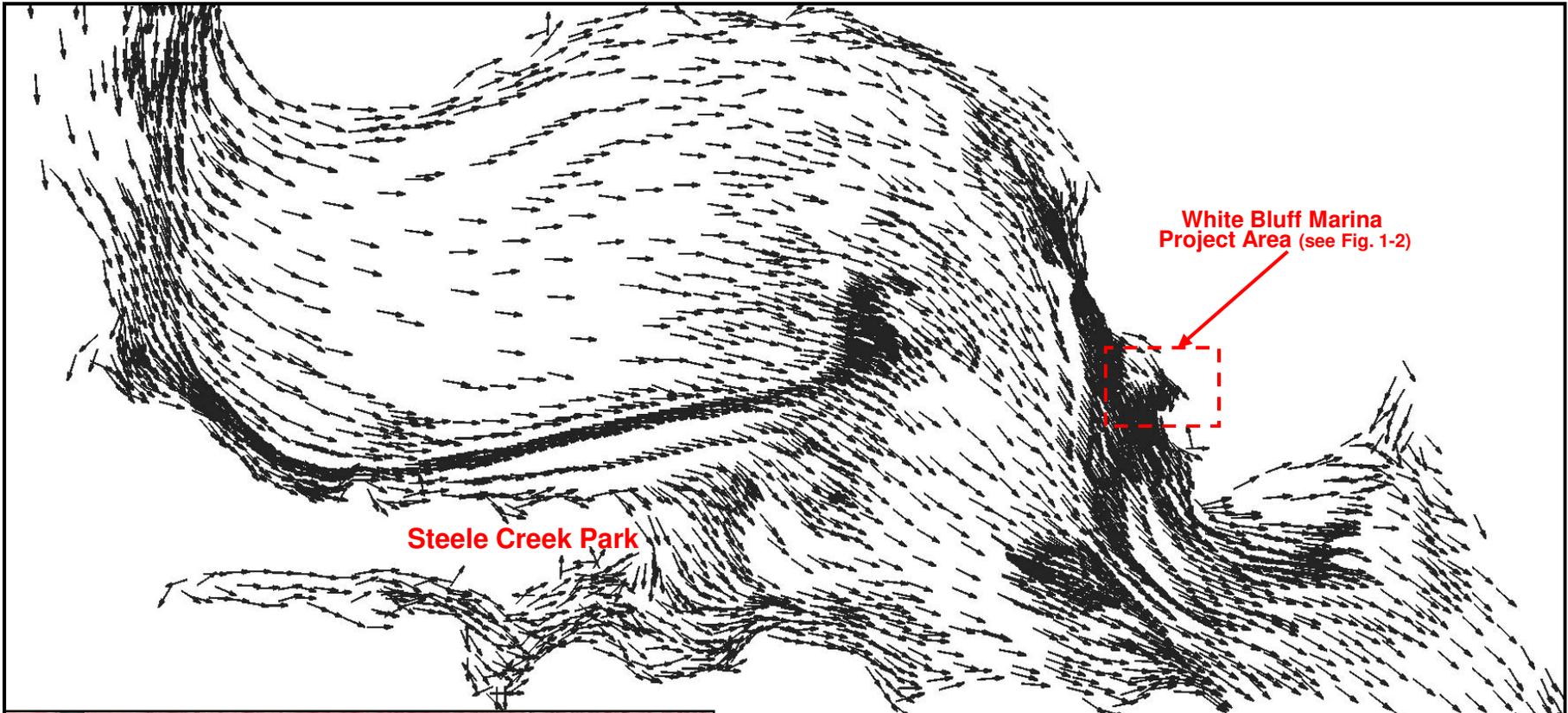
Note: Each black arrow from hydraulic model output represents direction of flow, but does not signify a rate of flow.



--Model Output Not to Scale--

Source: SMS-9 and FESWMS model results, Half Associates (2007)

**Appendix C-7. Preliminary Lake Hydraulic Analysis: Near-Conservation Pool Lake Elevation**



**REFERENCE MAP:**  
 Lake Area Reflected in  
 Model Output Above  
 (See also Figure 2-2)

**Modeled Hydraulic Conditions:**

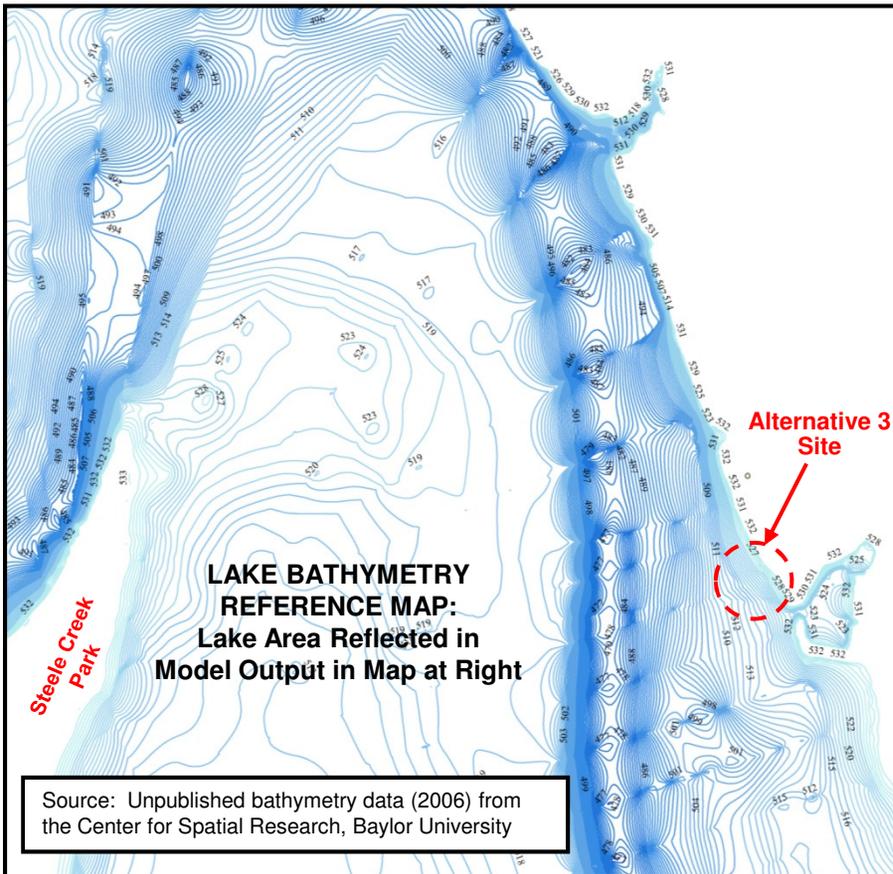
- Lake Elevation 555' Above Sea Level
- Inflow at 14,000 cubic feet per second

Note: Each black arrow from hydraulic model output represents direction of flow, but does not signify a rate of flow.

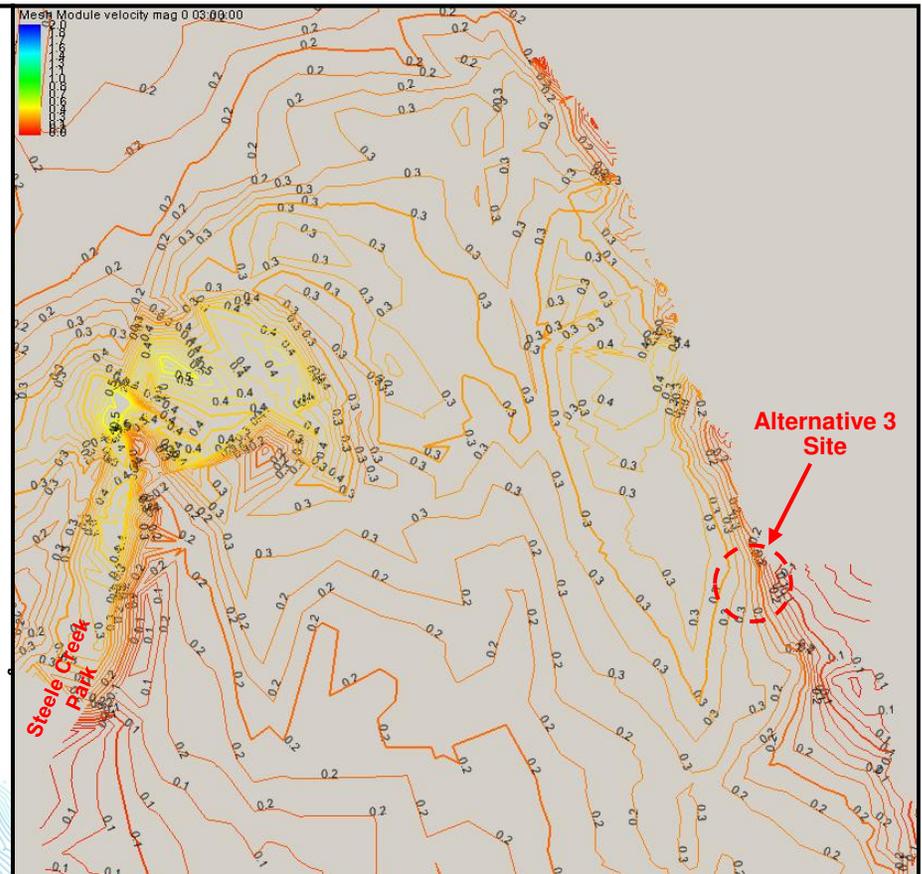


--Model Output Not to Scale--

Source: SMS-9 and FESWMS model results, Half Associates (2007)



Source: Unpublished bathymetry data (2006) from the Center for Spatial Research, Baylor University



**Whitney Lake Velocity Contour Map:**  
Figures above indicate rate of flow in feet per second

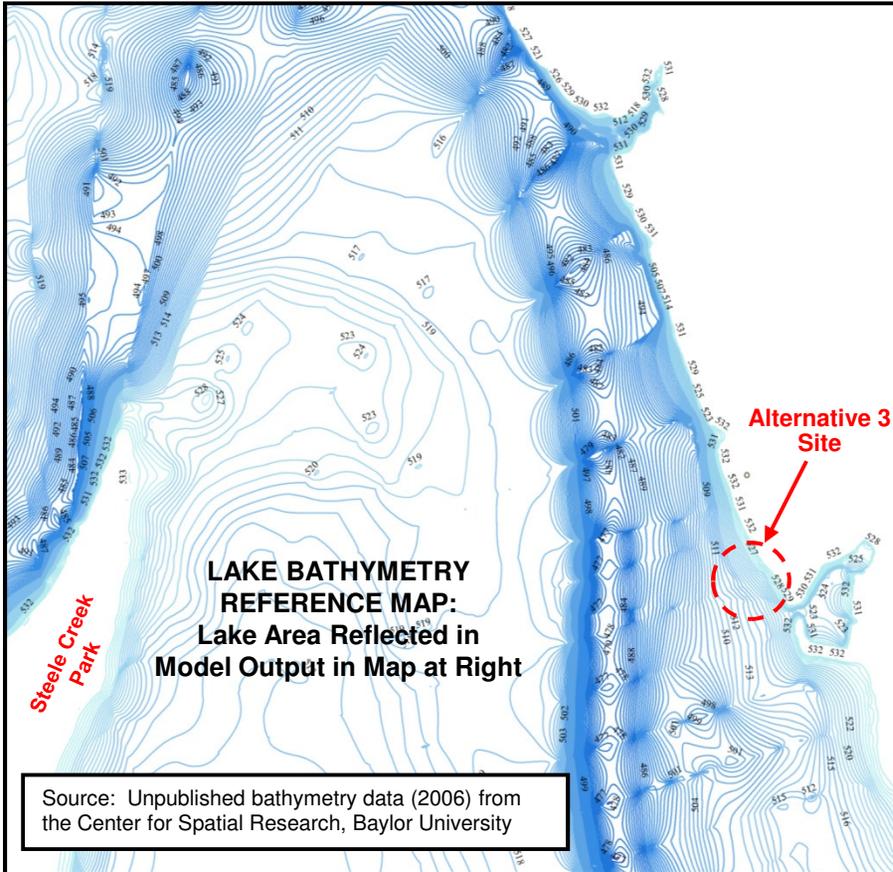
**Modeled Hydraulic Conditions:**

- Lake Elevation 535' Above Sea Level
- Inflow at 35,500 cubic feet per second

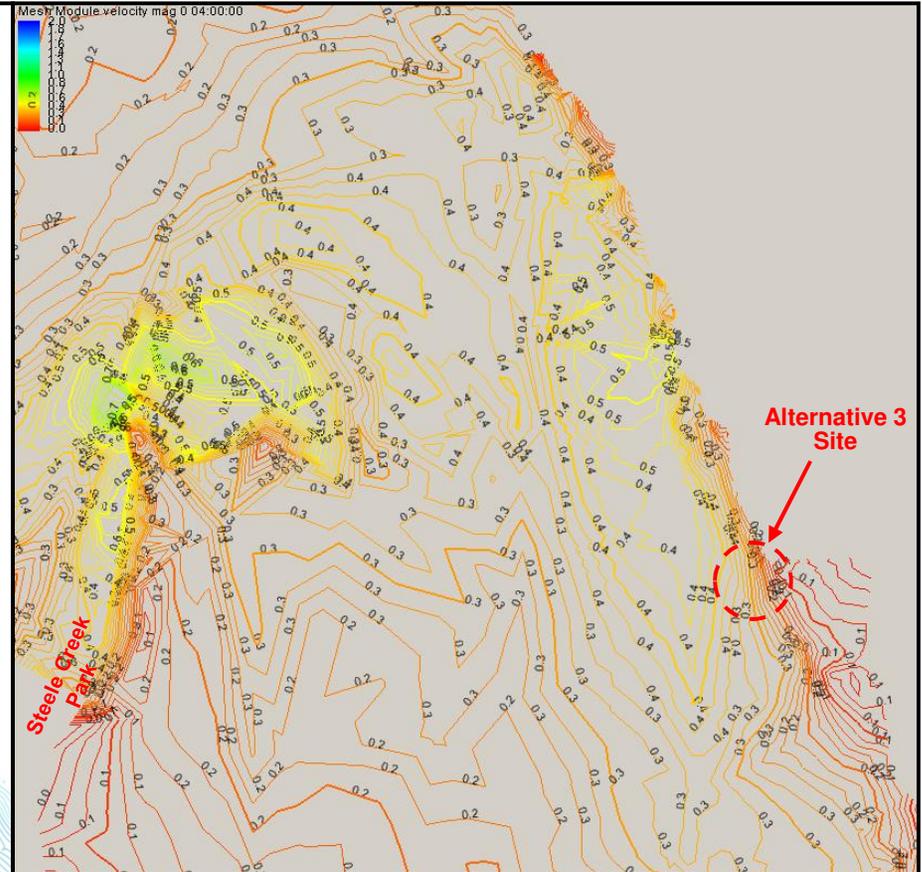
--Model Output Not to Scale--

Source: SMS-9 and FESWMS model results, Half Associates (2007)

**Appendix C-8. Preliminary Lake Hydraulic Analysis: Lake Currents in Whitney Lake at Flood Stage**



Source: Unpublished bathymetry data (2006) from the Center for Spatial Research, Baylor University



**Whitney Lake Velocity Contour Map:**  
Figures above indicate rate of flow in feet per second

**Modeled Hydraulic Conditions:**

- Lake Elevation 535' Above Sea Level
- Inflow at 43,000 cubic feet per second

--Model Output Not to Scale--

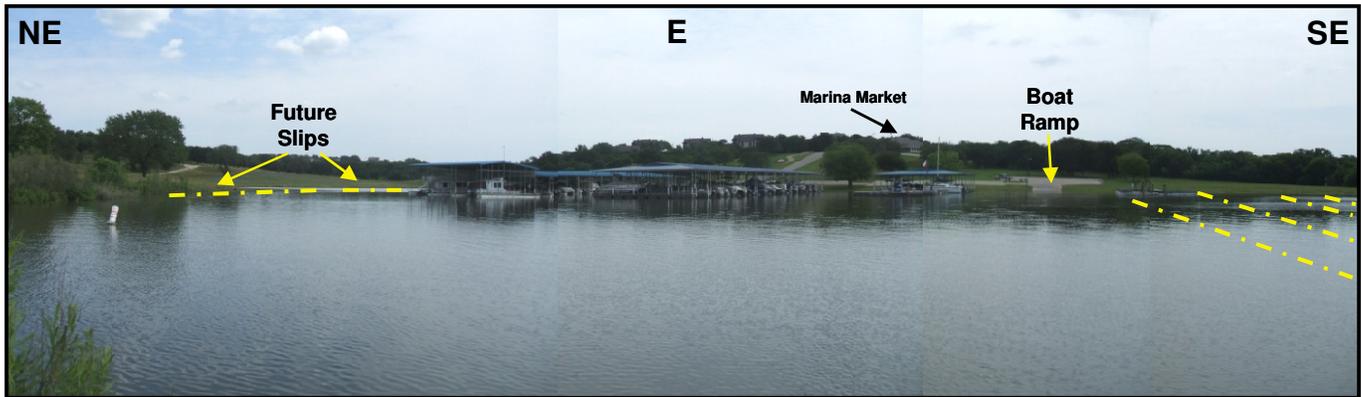
Source: SMS-9 and FESWMS model results, Half Associates (2007)



**REFERENCE MAP:**  
Yellow outline shows lake area  
reflected in both maps above



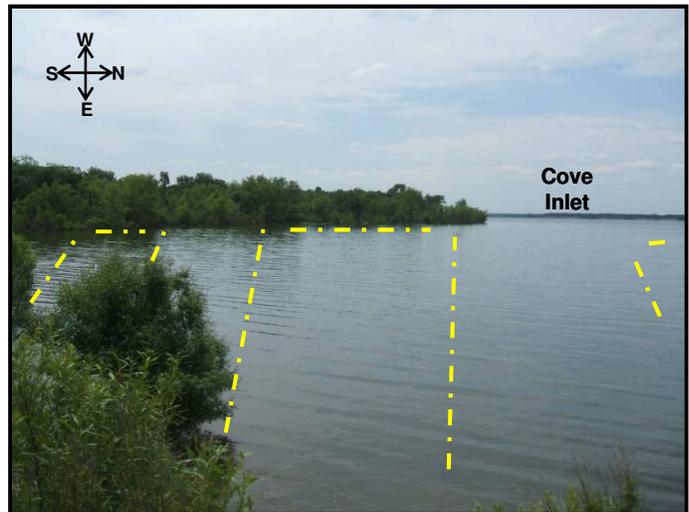
**Appendix C-8. Preliminary Lake Hydraulic Analysis: Lake Currents in Whitney Lake at Flood Stage**



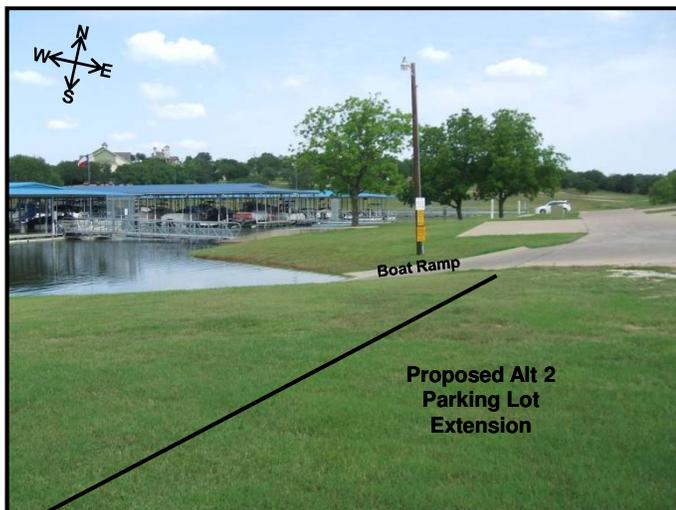
Photograph 1. Northeast to southeast panorama of the White Bluff Marina cove with cardinal directions shown above the horizon. The existing marina is shown along with markers indicating Alternative 2 expansion areas.



Photograph 2. View of White Bluff cove with markers representing proposed Alternative 2 slips.



Photograph 3. View across White Bluff cove toward inlet. Markers indicate where proposed Alternative 2 slips would be.

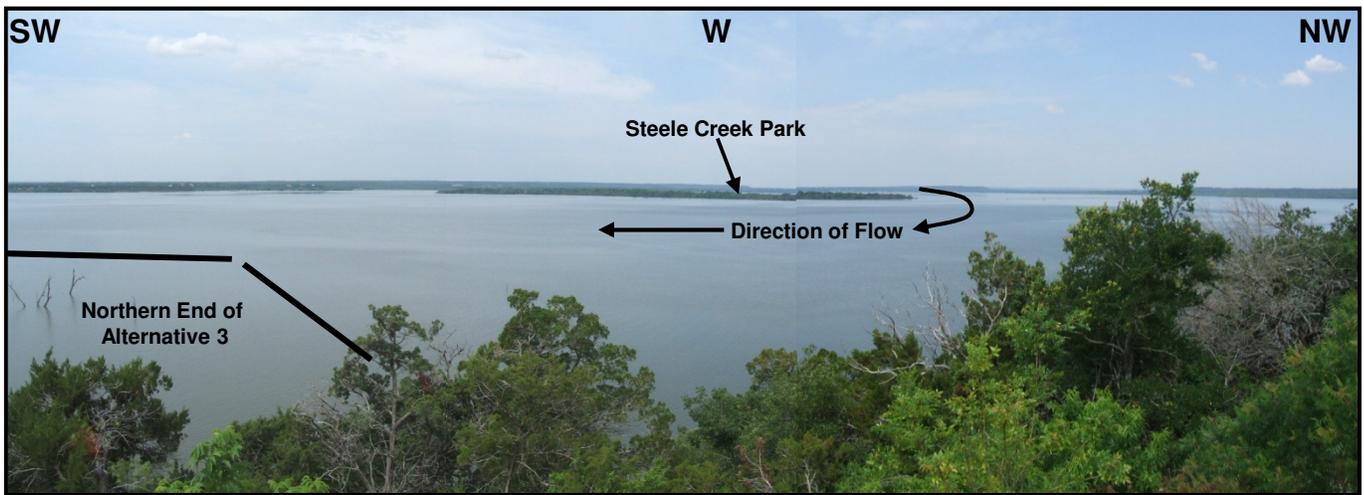


Photograph 4. View of existing parking lot with proposed Alternative 2 extension highlighted.



Photograph 5. View of existing White Bluff Marina boat ramp leading into the cove. This ramp would remain and service the new marina.

**Appendix C-9. Ground Photographs within Project Area**  
**Date of All Photographs: 05/17/2007**      **See App. C-10 for Photo Point Locations**



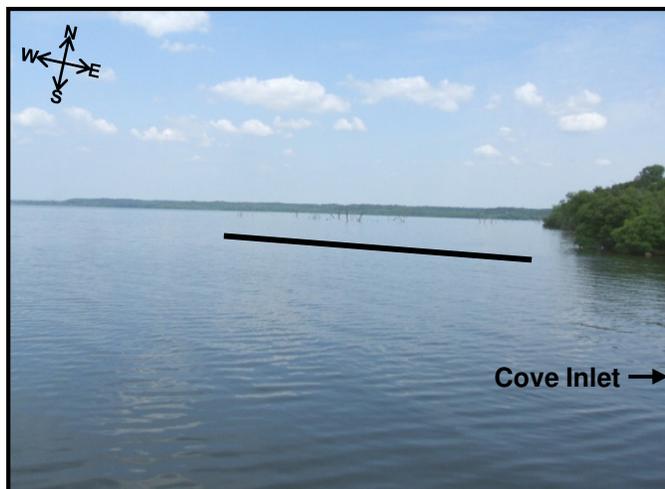
Photograph 6. Southwest to northwest panorama of Whitney Lake with cardinal directions shown above the horizon. The approximate location of the Alternative 3 is shown, indicating its extent with all phases constructed. Lake elevation on date of photograph: 534.8 feet above MSL.



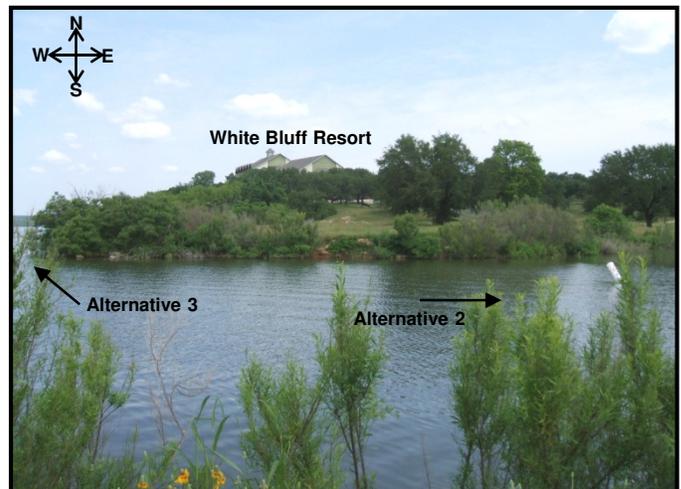
Photograph 7. Approximate location of Alternative 3, showing the southern and central portions of the marina area.



Photograph 8. Rocky shoreline adjacent to the Alternative 3 site, showing typical vegetation and sites for shore cable points to secure the marina.

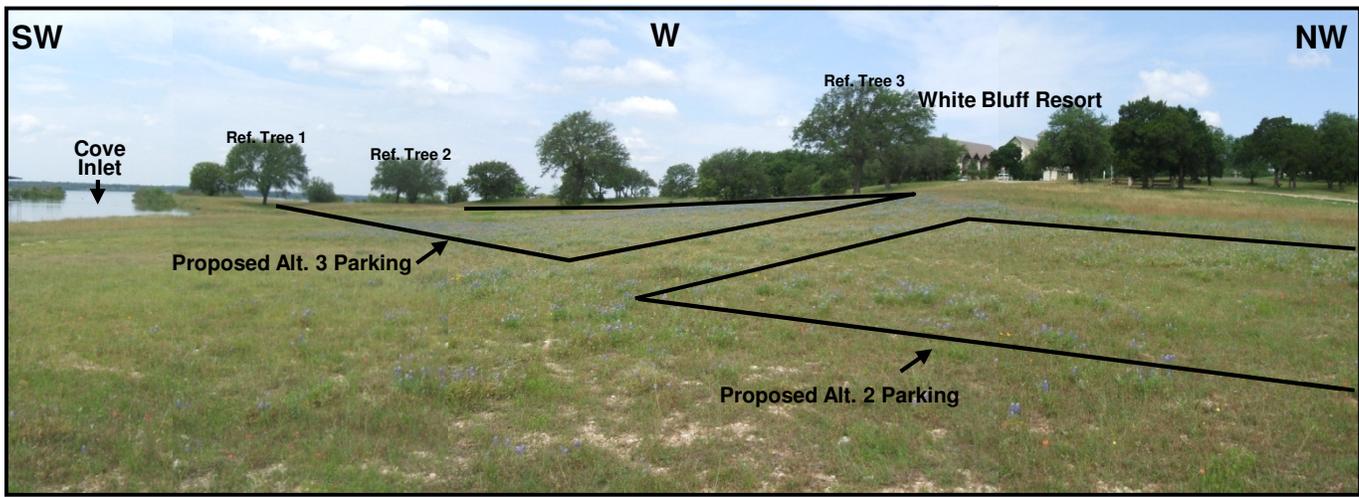


Photograph 9. View of the Alternative 3 site, showing approximate location of the south wave attenuator.

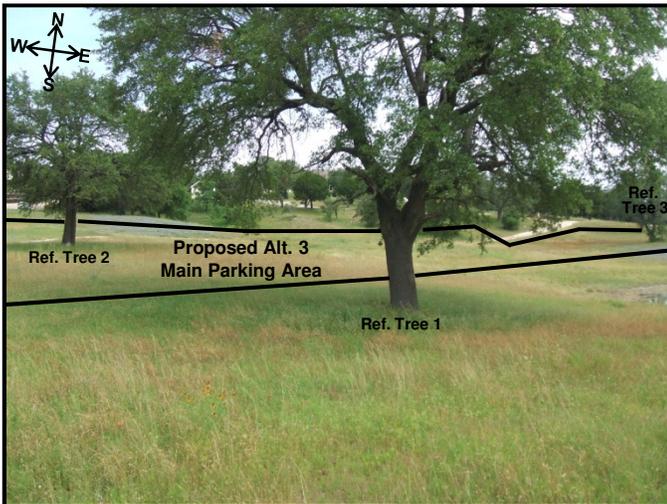


Photograph 10. Inlet from Whitney Lake to cove containing existing White Bluff Marina with view from the south.

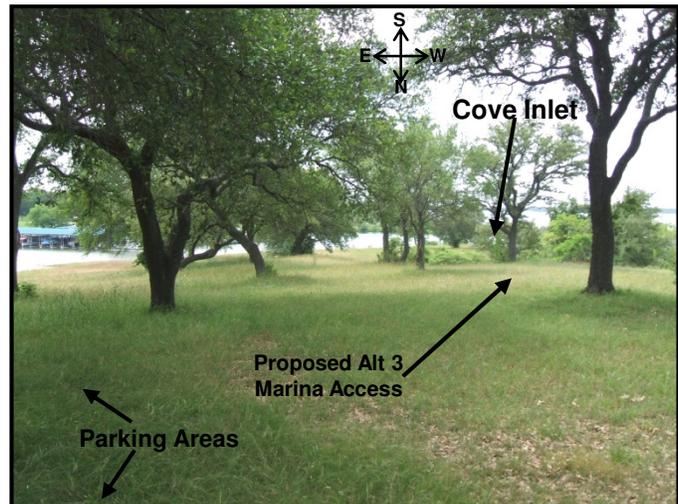
**Appendix C-9. Ground Photographs within Project Area**  
**Date of All Photographs: 05/17/2007**      **See App. C-10 for Photo Point Locations**



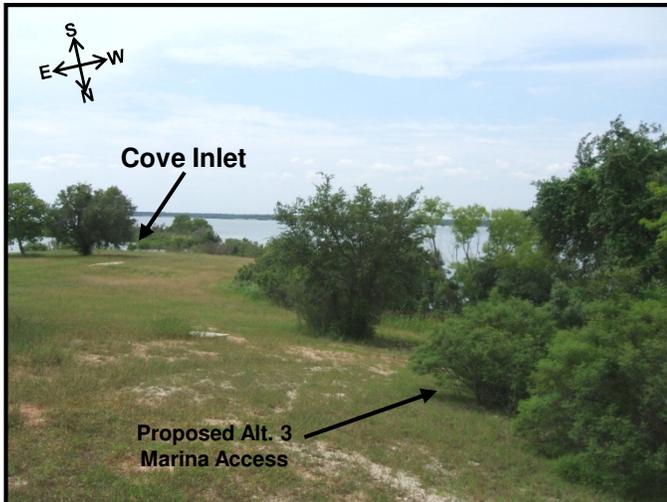
Photograph 11. Southwest to northwest panorama of northern portion of existing 11.9 acre USACE lease for the White Bluff Marina with cardinal directions shown above the horizon. The approximate location of the Alternative 2 and Alternative 3 parking facilities is shown. Reference trees are shown (see Photo 13).



Photograph 12. Approximate location of Alt. 3 main parking area. Mature trees within this area would be preserved and integrated within the parking lot design.



Photograph 13. Area to the west of proposed parking areas where access trails would lead to the Alt. 3 marina. Mature trees would remain among trails.



Photograph 14. Approximate location of access ramp to Alternative 3 marina site.

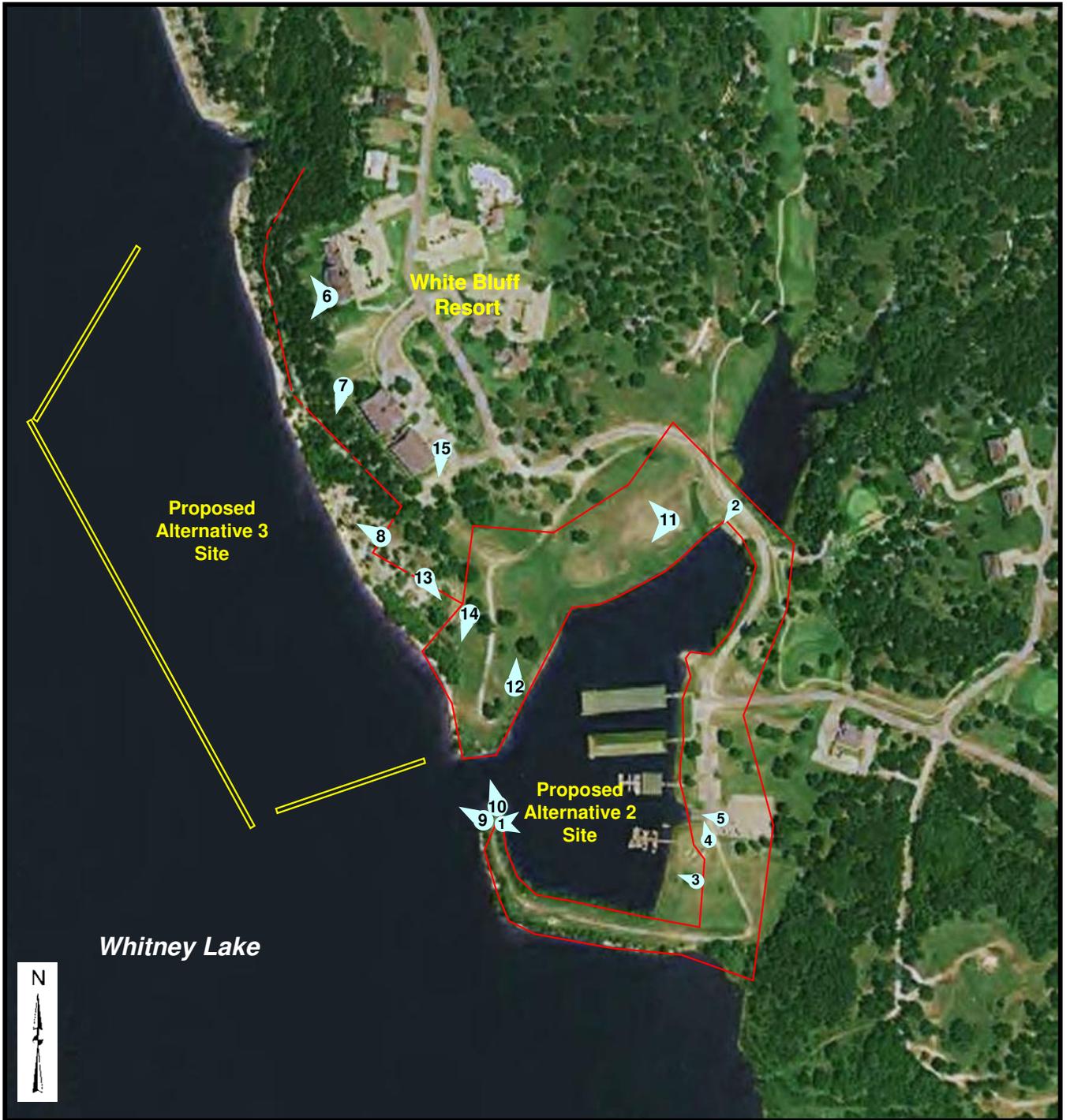


Photograph 15. Existing resort parking adjacent to hotels. Proposed auxiliary parking could be located among trees as needed for Alternatives 2 and 3.

## Appendix C-9. Ground Photographs within Project Area

Date of All Photographs: 05/17/2007

See App. C-10 for Photo Point Locations

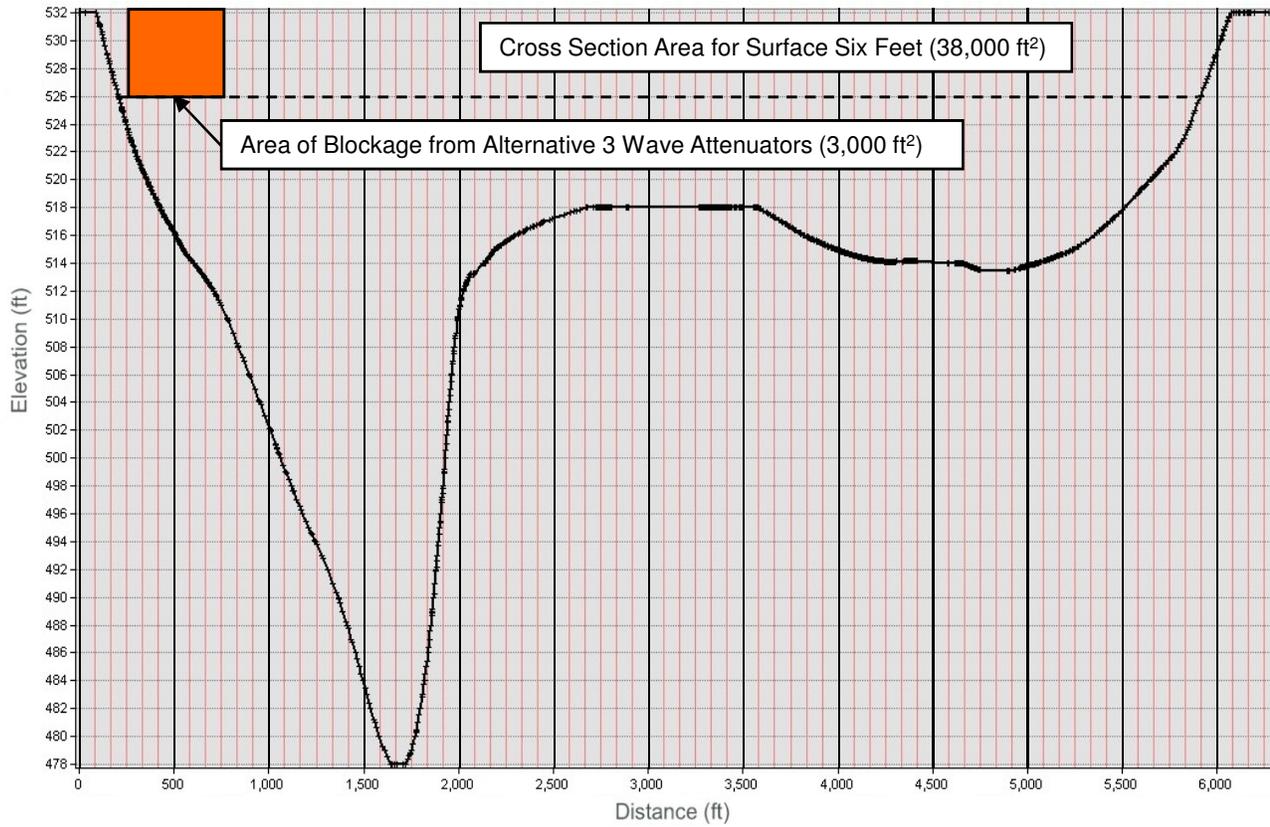


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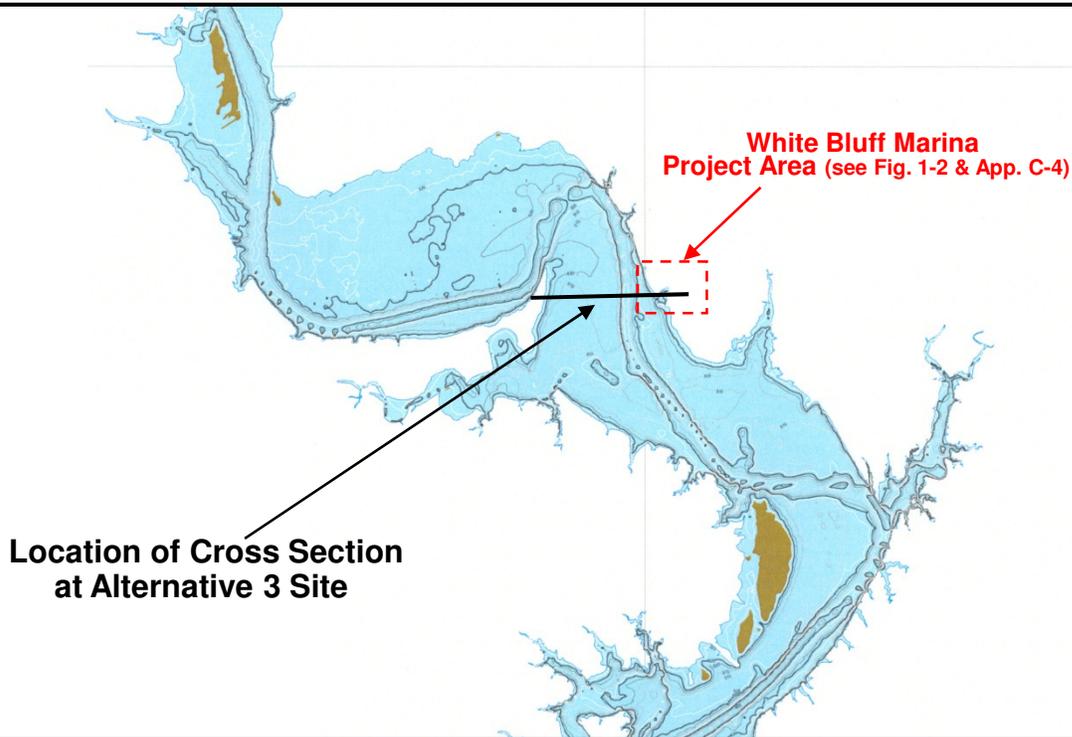
	Boundary of Existing USACE Lease for White Bluff Marina
	Boundary between USACE and Double Diamond Land
	Photo point location and orientation

**Appendix C-10. Locations of Ground Photograph Points in Appendix C-9**

# Whitney Lake Cross Section At Alternative 3 Site



Data Source: TWDB unpublished bathymetry (2006) obtained from the Center for Spatial Research, Baylor University



## Appendix C-11. Whitney Lake Cross Section at White Bluff Cove

Base Map Source: TWDB Volumetric Survey (2006)