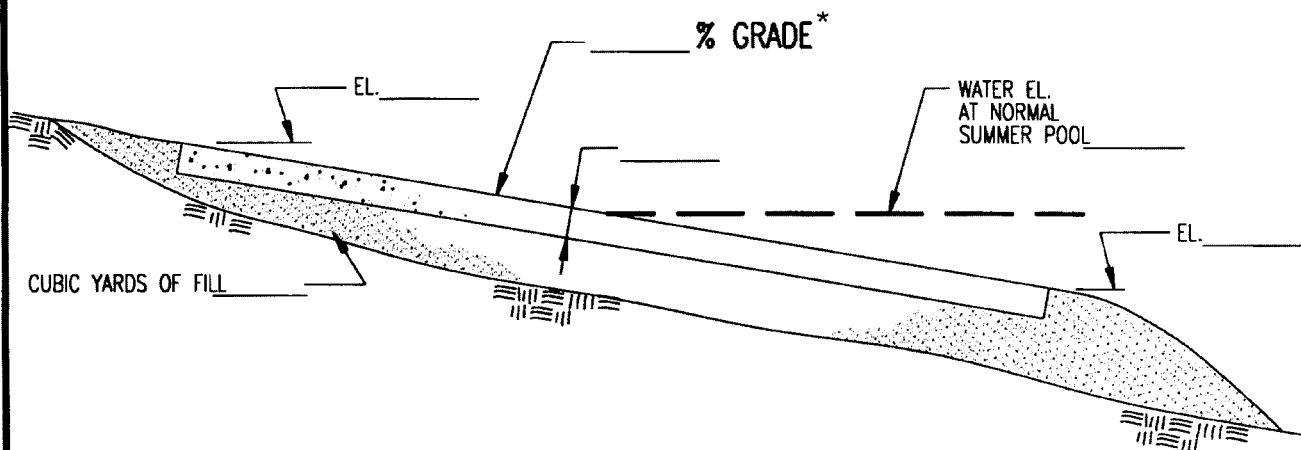


PLAN



SECTION THRU CONCRETE RAMP

THE NORMAL SUMMER WATER LEVEL IS:

NOTE:

INCLUDE ALL DIMENSIONS AND ELEVATIONS
WHERE INDICATED.

* IN ACCORDANCE WITH INDUSTRY
STANDARDS, A SLOPE BETWEEN
12% AND 15% IS RECOMMENDED

 TYPICAL CONCRETE RAMP DETAIL	
PROJECT LOCATION INFORMATION:	
STREAM NAME _____	SUBDIVISION NAME _____
RESERVOIR NAME _____	LOT NUMBER _____
MILE MARKER _____	MAP NO. _____
(APPLICANT'S NAME)	

BOAT RAMP CONSTRUCTION GUIDELINES

Site Selection: The ramp and associated parking area should be located considering slopes, water depths, soil characteristics, traffic circulation, environment, etc.

Subbase: The subbase should be graded and compacted at a 12-15% slope at least 5 feet wider than the proposed ramp. If subgrade material is suitable, it should be removed and replaced with 3 to 10 inches of stone at the proper slope. The underwater portion of the subbase should be constructed of 6 to 10 inches of rock and shaped/compacted with suitable equipment to a line 3.5 to 4 feet below the low water line.

Base: The subbase should be covered with a 3 to 6-inch layer of crushed stone 2 to 3 feet wider than the proposed ramp. The crushed stone should be compacted with a smooth roller to form an even planar surface.

Concrete Ramp (Lower Section): The area where the lower section of ramp is to be poured should be covered with a continuous sheet of 6-mil plastic. The section should be of sufficient length to extend below the low water level by at least 42 inches. Forms should be placed and the ramp section poured on top of the plastic. The slab thickness should be 6 inches and reinforcement should be Number 4 rebars at 12' feet on center each way. Alternate bars should extend through the upper form at least 18 inches to tie to the next pour. Concrete strength should be 5000 psi and should cure at least 10-14 days before pushing into place. The finish can vary, but should be sufficiently rough to provide good traction under all conditions.

Concrete Ramp (Upper Section): After the lower section has been pushed into position and horizontally aligned, the forms for the remainder of the ramp (sections or entire ramp) can be placed on the rolled base at the proper slope. We use 3000-3500 psi concrete with fiber for the upper section, but welded wire fabric or bars may be substituted. The surface is finished to match the lower section. It is a good practice to break or roll the top 20 to 30 feet to blend with the parking lot slope to prevent cars or boat trailers from hanging up on the ramp.

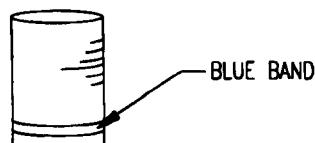
Riprap: Riprap (generally 6 to 10 inches) should be placed along the sides of the ramp and on any disturbed slopes to prevent erosion and undercutting.

General Notes: Check with USACE to see if 404 permit is required.

Check with TDEC to see if ARAP permit is required.

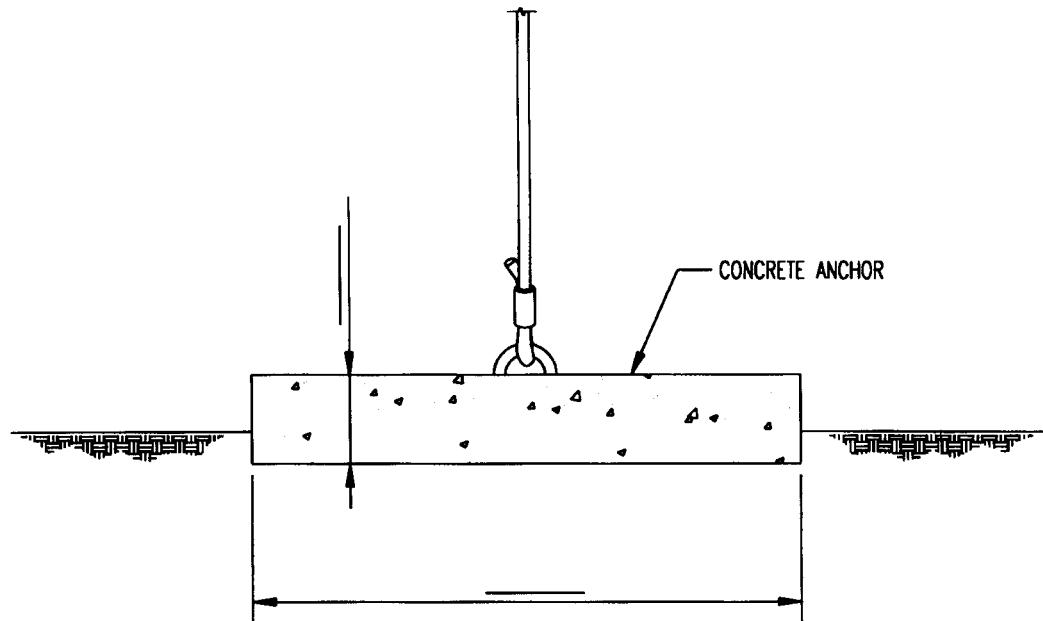
Generally, 15-foot width is considered one launch lane with one lane needed per 30 cars.

NORMAL SUMMER
WATER EL.



THE NORMAL SUMMER WATER LEVEL IS:

CONCRETE ANCHOR



ELEVATION

NOT TO SCALE

NOTES:

1. INCLUDE ALL DIMENSIONS AND ELEVATIONS WHERE INDICATED.
2. ANCHOR CABLE WILL BE OF SUFFICIENT LENGTH TO EXTEND TO ELEV. _____
3. BUOY WILL BE PAINTED WHITE IN COLOR WITH BLUE BAND.
4. INDICATE LOCATION ON MAP.



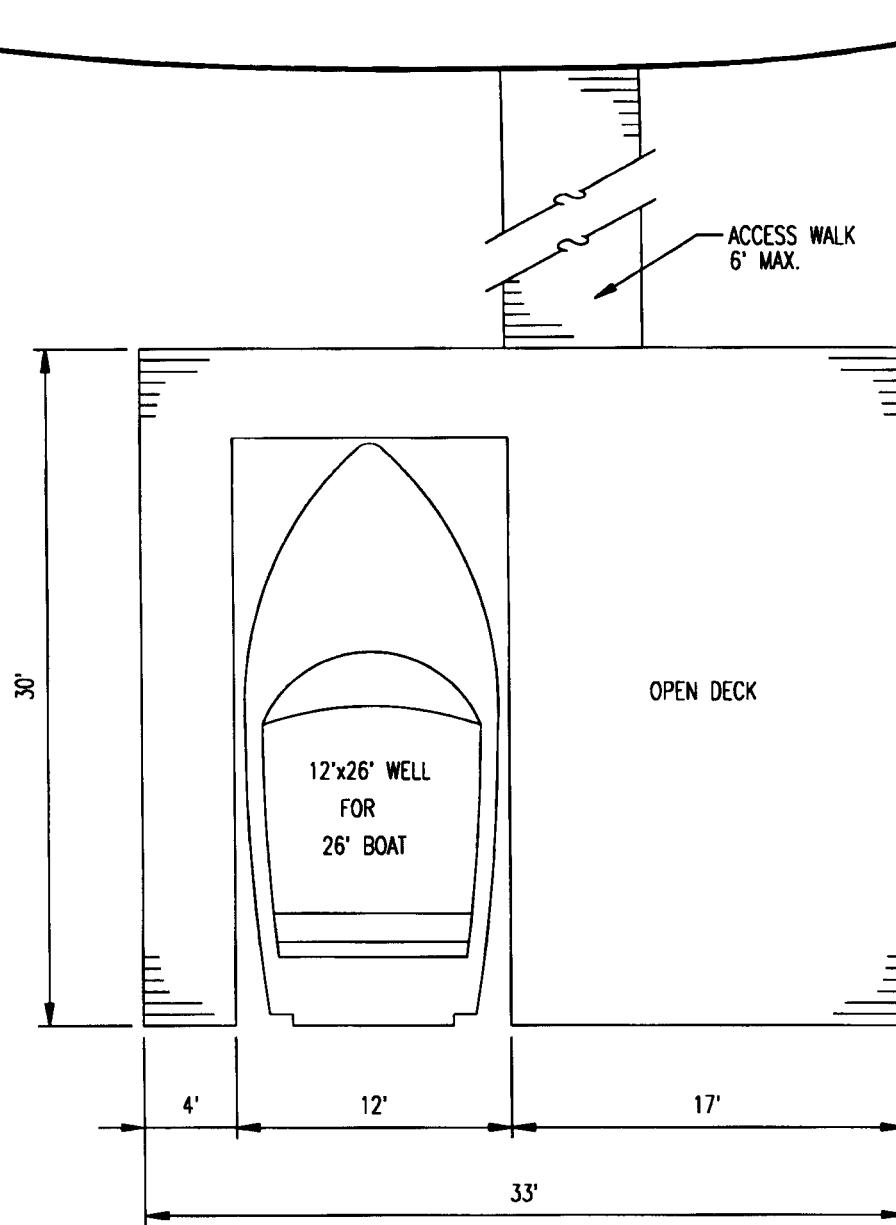
EXAMPLE OF PROPOSED MOORING BUOY

PROJECT LOCATION INFORMATION:

STREAM NAME _____ RESERVOIR NAME _____

MILE MARKER _____ MAP NO. _____

(APPLICANT'S NAME)



PLAN

- 990 SQ. FT.
- FLOATING OR FIXED

THE NORMAL SUMMER WATER LEVEL IS:



TYPICAL OPEN SLIP w/ LARGE DECK AREA

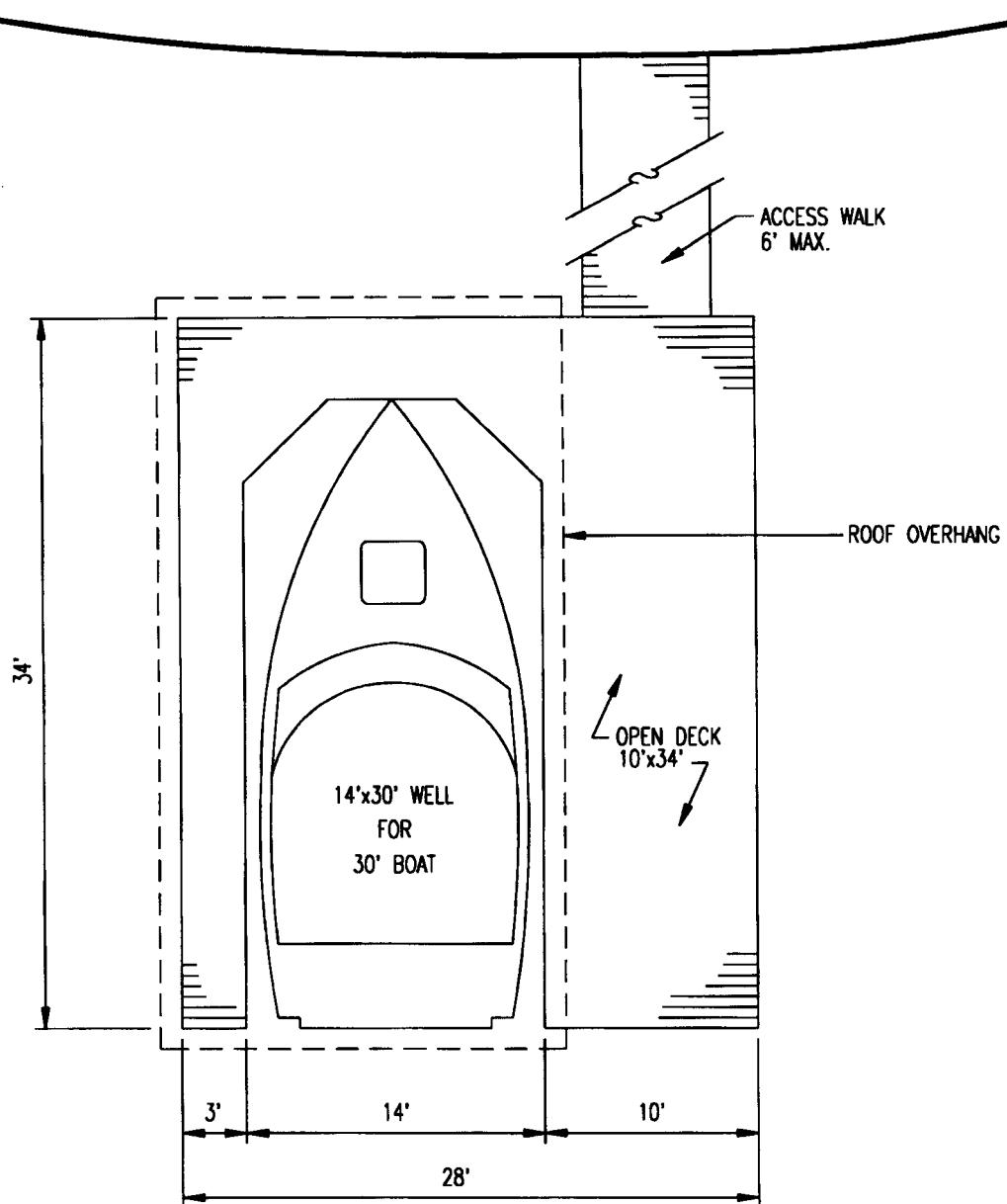
PROJECT LOCATION INFORMATION:

STREAM NAME _____ SUBDIVISION NAME _____

RESERVOIR NAME _____ LOT NUMBER _____

MILE MARKER _____ MAP NO. _____

(APPLICANT'S NAME)

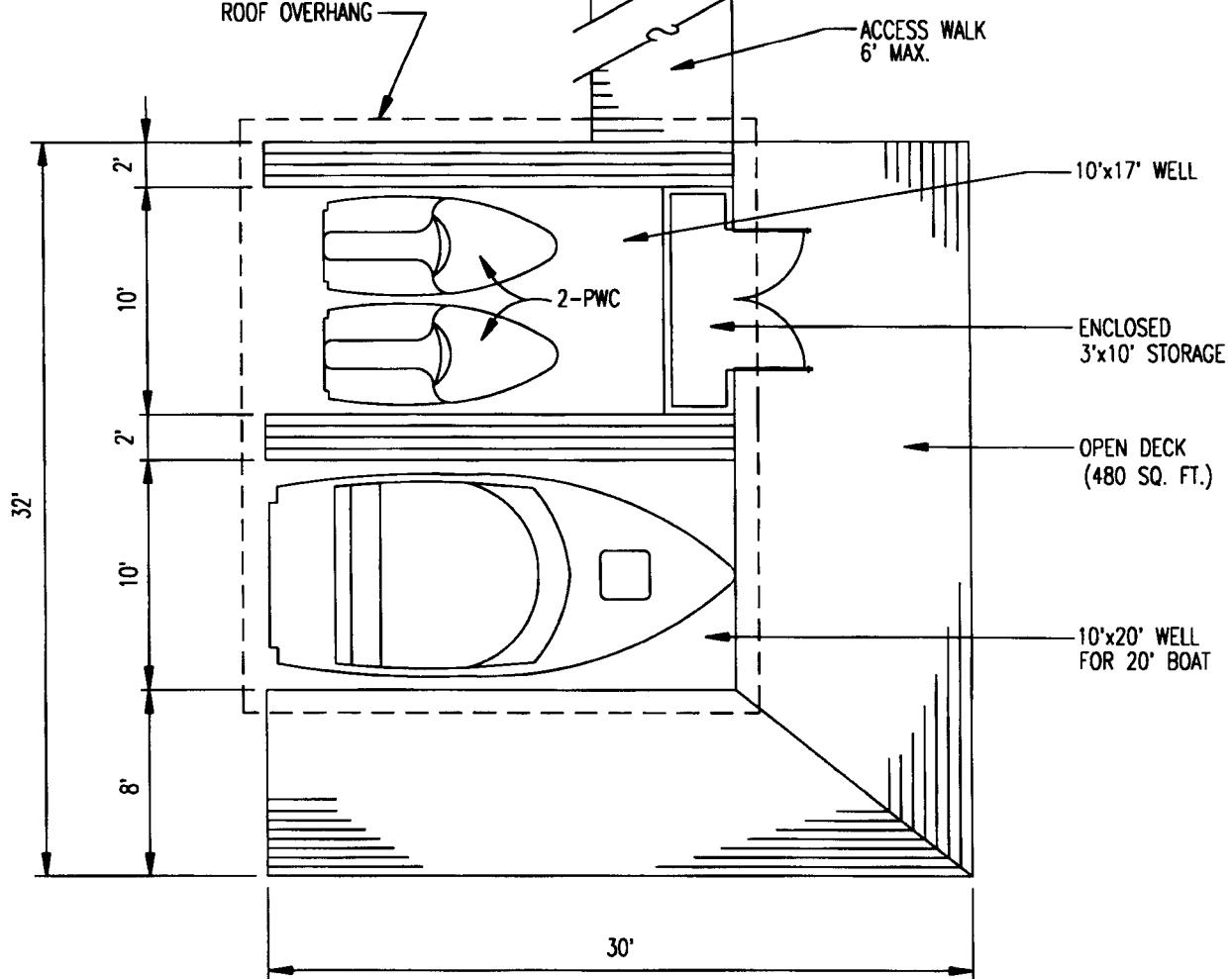


PLAN (952 SQ. FT.)

- 1' ROOF OVERHANG
- FLOATING OR FIXED

THE NORMAL SUMMER WATER LEVEL IS:

 TYPICAL LARGE BOAT AND DECK COMBINATION	
PROJECT LOCATION INFORMATION:	
STREAM NAME _____	SUBDIVISION NAME _____
RESERVOIR NAME _____	LOT NUMBER _____
MILE MARKER _____	MAP NO. _____
(APPLICANT'S NAME) _____	



PLAN (960 SQ. FT.)

- 1' ROOF OVERHANG
- 2' WIDE WALKWAYS BETWEEN BOAT WELLS
- FIXED CONSTRUCTION (NOT FLOATING)

THE NORMAL SUMMER WATER LEVEL IS:



TYPICAL TO MAXIMIZE OPEN DECK

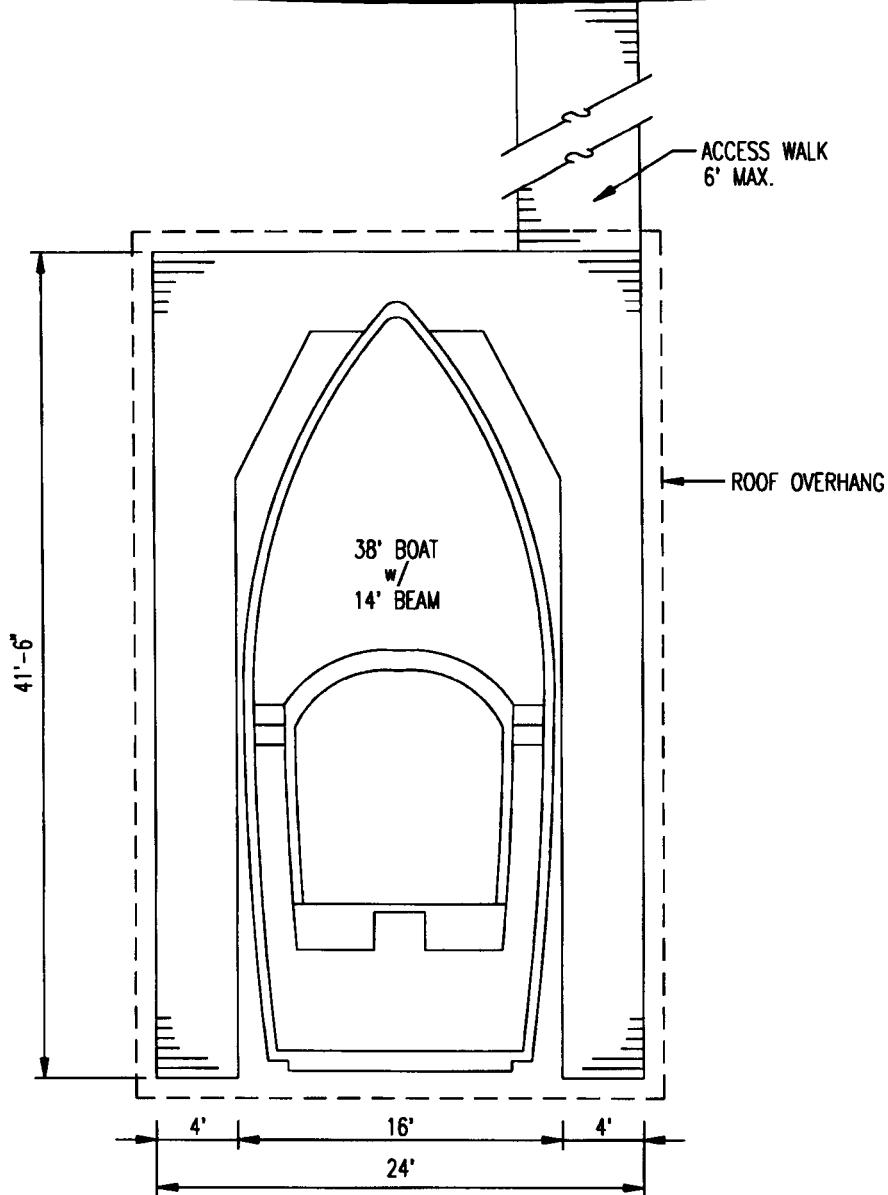
PROJECT LOCATION INFORMATION:

STREAM NAME _____ SUBDIVISION NAME _____

RESERVOIR NAME _____ LOT NUMBER _____

MILE MARKER _____ MAP NO. _____

(APPLICANT'S NAME)

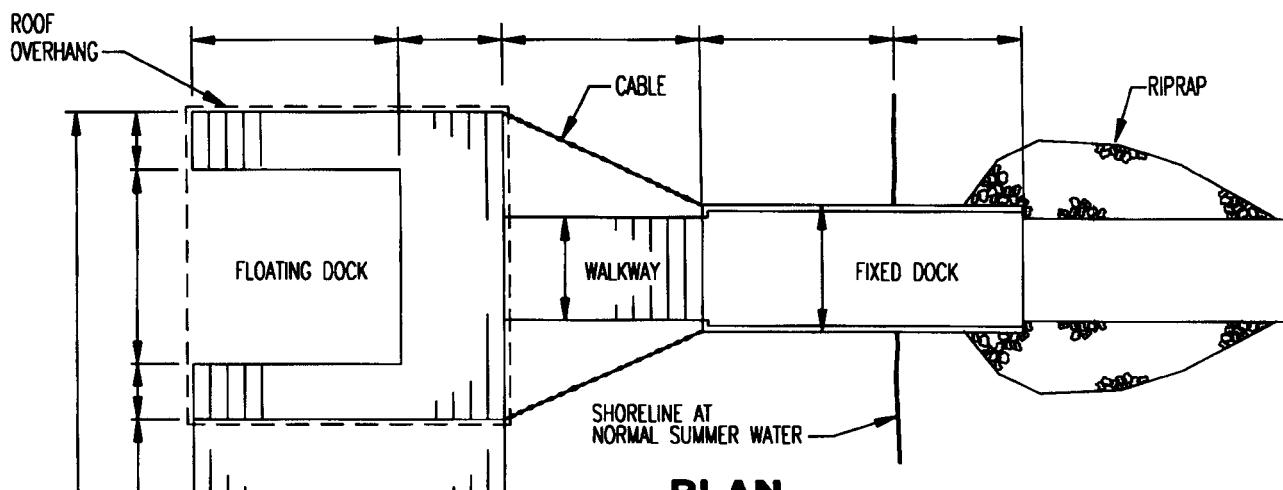


PLAN (996 SQ. FT.
w/ BOAT BOW OVERHANGING WALKWAY)

- 1' ROOF OVERHANG
- FIXED OR FLOATING
- 18' MIN. HT. TO ROOF PEAK FROM DECK

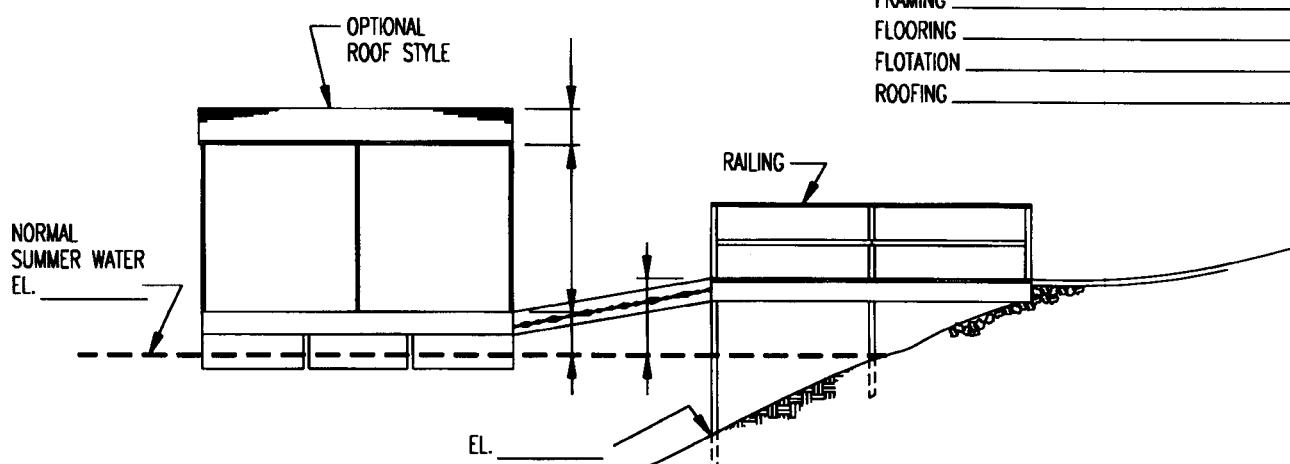
THE NORMAL SUMMER WATER LEVEL IS:

IV		TYPICAL MAXIMUM BOAT IN 1000 SF SLIP	
PROJECT LOCATION INFORMATION:			
STREAM NAME _____	SUBDIVISION NAME _____		
RESERVOIR NAME _____	LOT NUMBER _____		
MILE MARKER _____	MAP NO. _____		
(APPLICANT'S NAME)			



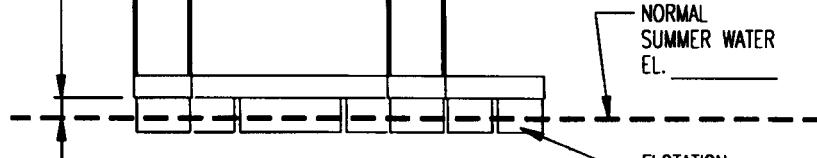
PLAN
NOT TO SCALE

TYPE OF MATERIAL:
 FRAMING _____
 FLOORING _____
 FLOTATION _____
 ROOFING _____



SIDE ELEVATION

NOT TO SCALE



END ELEVATION

NOT TO SCALE

THE NORMAL SUMMER WATER LEVEL IS:



**PROPOSED - FIXED AND FLOATING
COVERED DOCK**

PROJECT LOCATION INFORMATION:

STREAM NAME _____ SUBDIVISION NAME _____

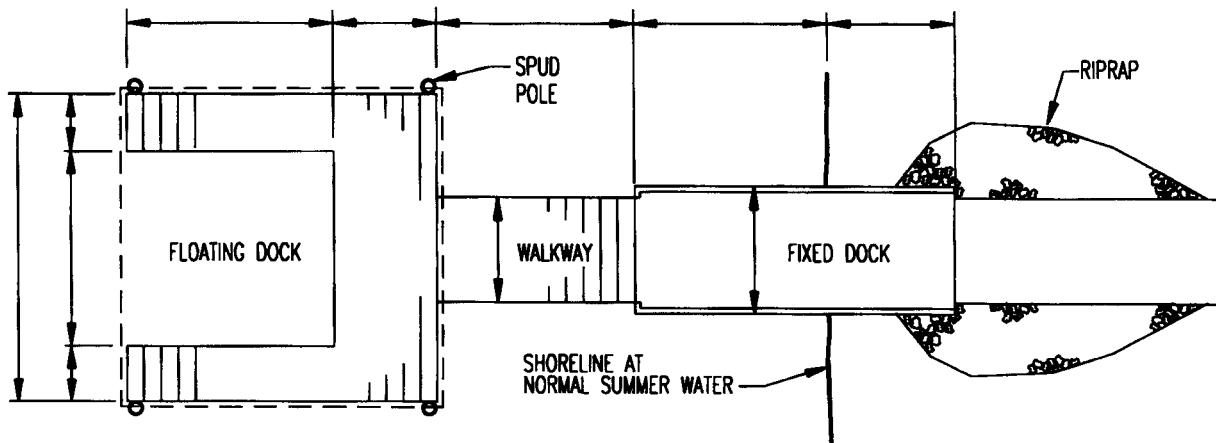
RESERVOIR NAME _____ LOT NUMBER _____

MILE MARKER _____ MAP NO. _____

(APPLICANT'S NAME)

NOTE:

INCLUDE ALL DIMENSIONS AND ELEVATIONS
WHERE INDICATED.



PLAN

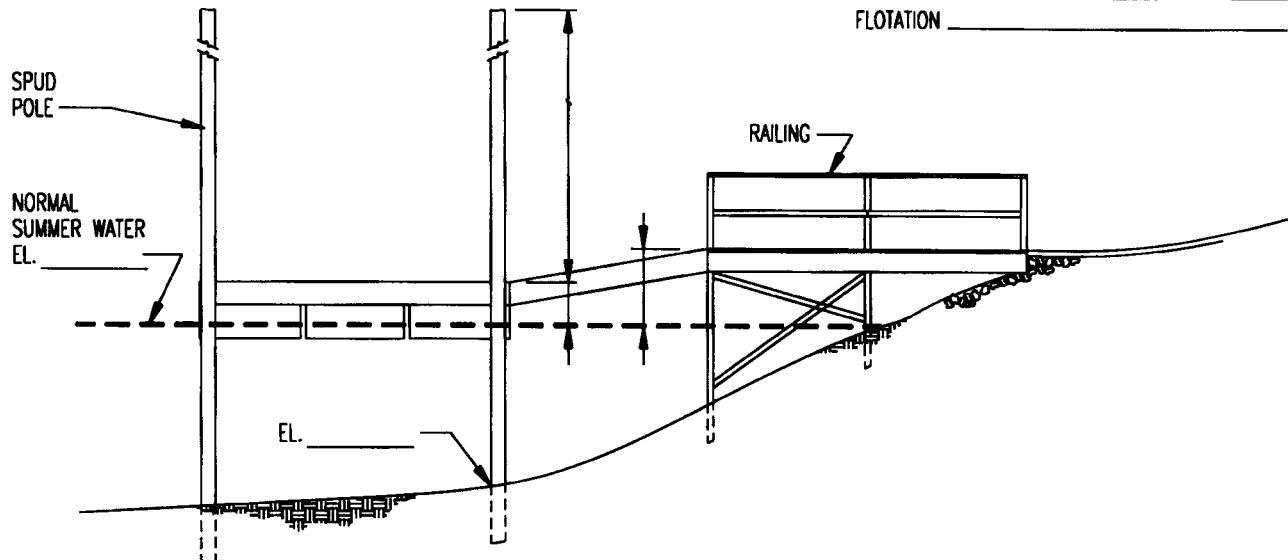
NOT TO SCALE

TYPE OF MATERIAL:

FRAMING _____

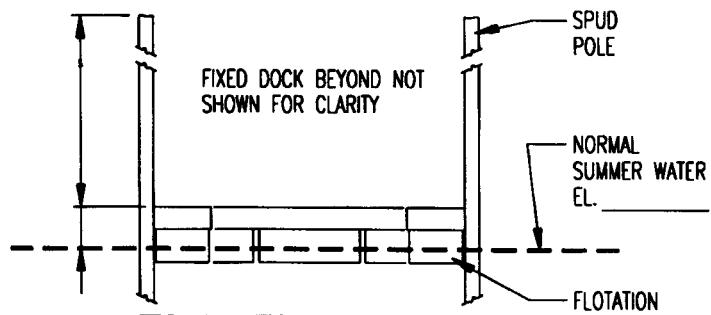
FLOORING _____

FLOTATION _____



SIDE ELEVATION

NOT TO SCALE



END ELEVATION

NOT TO SCALE

THE NORMAL SUMMER WATER LEVEL IS:



PROPOSED - FIXED AND FLOATING DOCK WITH SPUD POLES

PROJECT LOCATION INFORMATION:

STREAM NAME _____

SUBDIVISION NAME _____

RESERVOIR NAME _____

LOT NUMBER _____

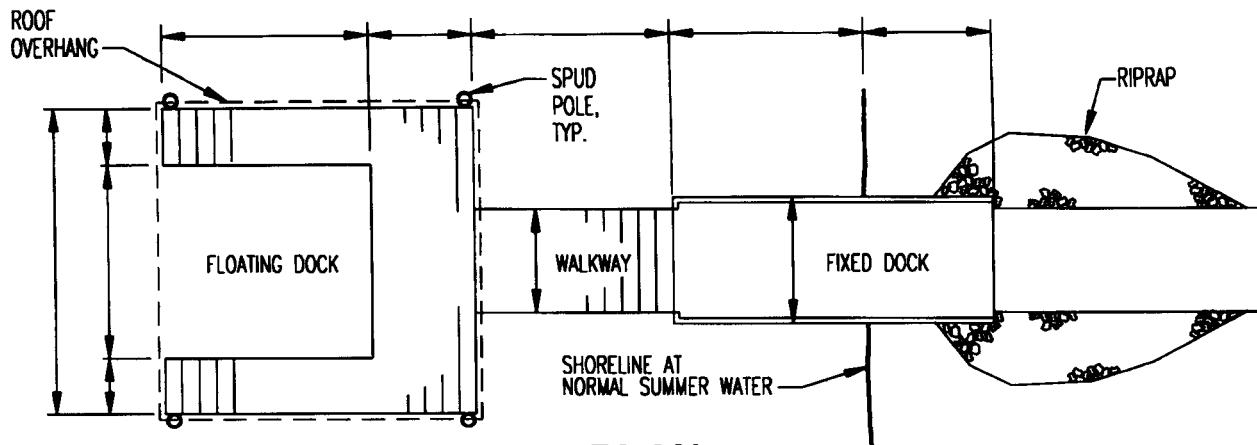
MILE MARKER _____

MAP NO. _____

(APPLICANT'S NAME)

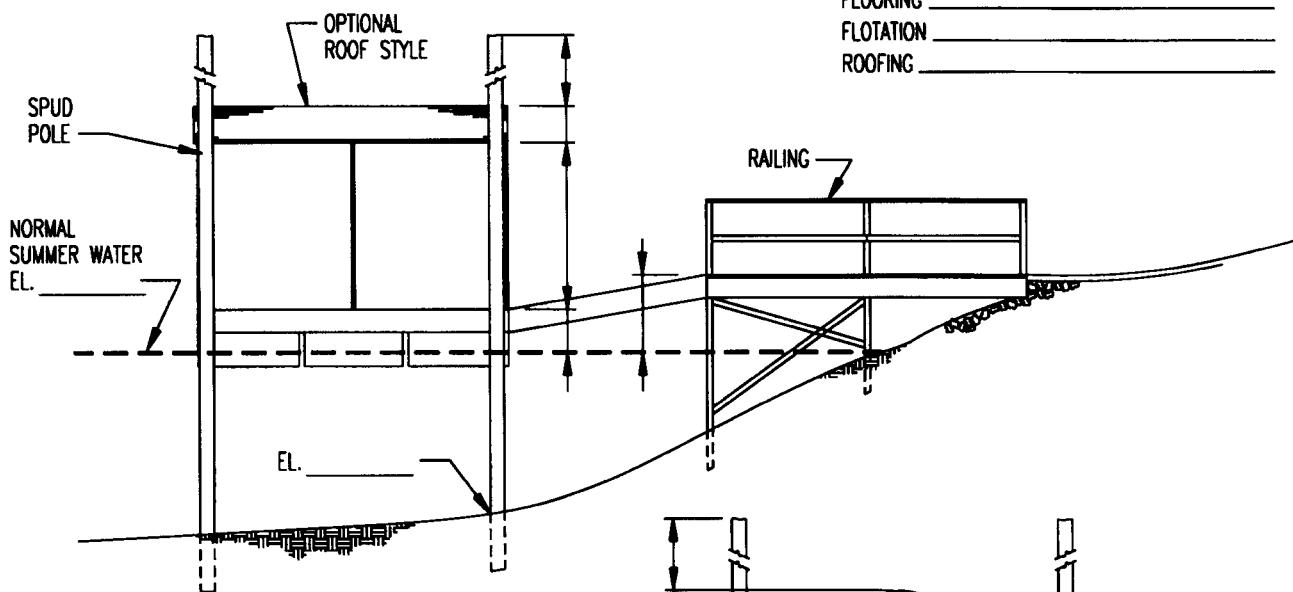
NOTE:

INCLUDE ALL DIMENSIONS AND ELEVATIONS WHERE INDICATED.

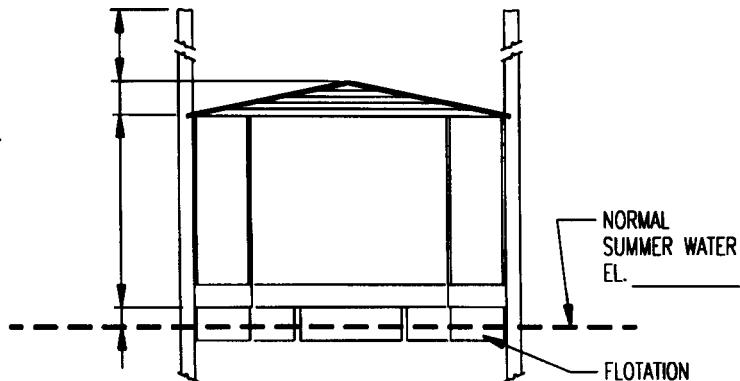


PLAN
NOT TO SCALE

TYPE OF MATERIAL:
FRAMING _____
FLOORING _____
FLOTATION _____
ROOFING _____



SIDE ELEVATION
NOT TO SCALE



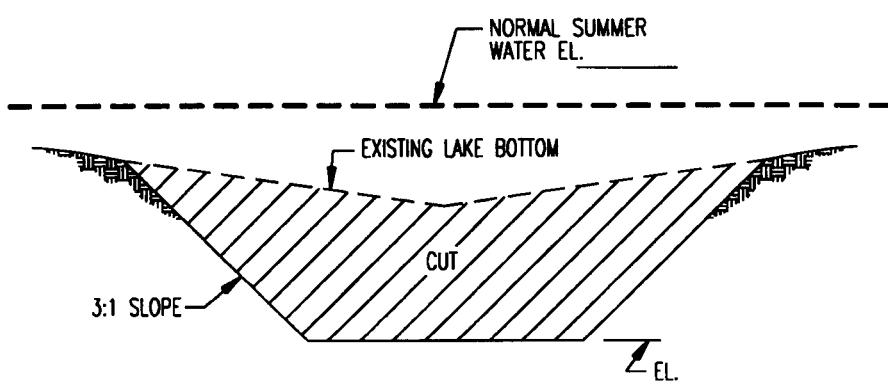
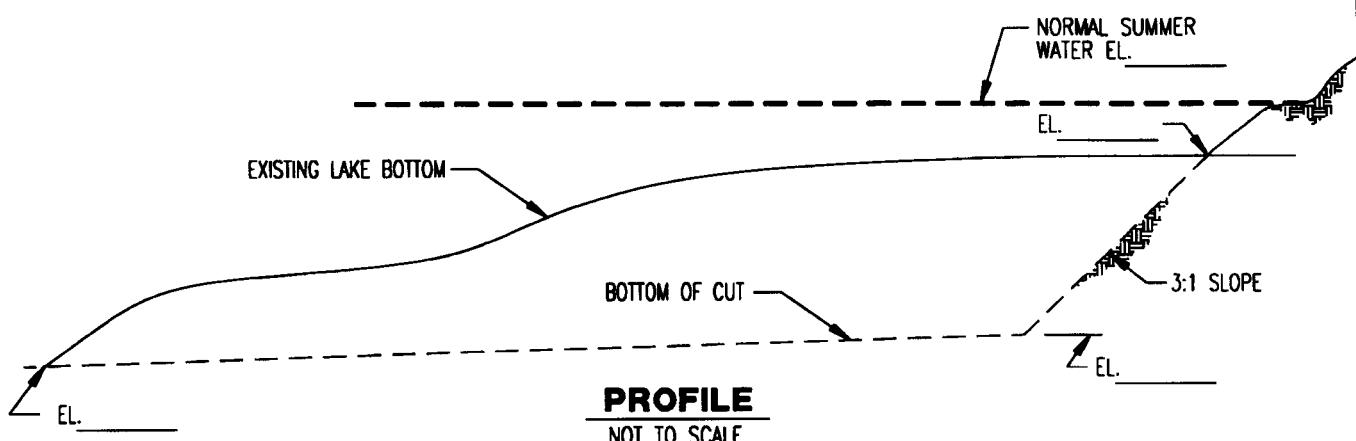
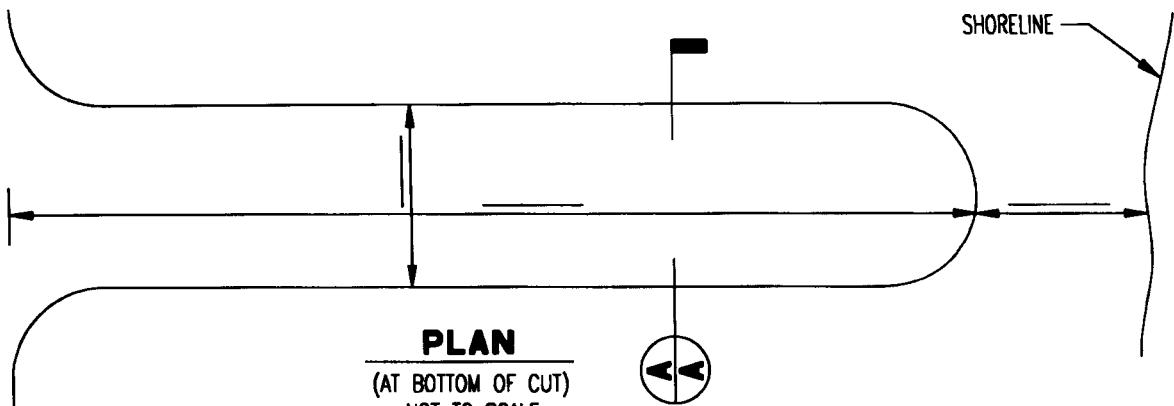
END ELEVATION
NOT TO SCALE

THE NORMAL SUMMER WATER LEVEL IS:

	PROPOSED - FIXED AND FLOATING COVERED DOCK WITH SPUD POLES	
	PROJECT LOCATION INFORMATION:	
STREAM NAME _____	SUBDIVISION NAME _____	
RESERVOIR NAME _____	LOT NUMBER _____	
MILE MARKER _____	MAP NO. _____	
(APPLICANT'S NAME)		

NOTE:

INCLUDE ALL DIMENSIONS AND ELEVATIONS
WHERE INDICATED.



ESTIMATED CU. YDS. OF SPOIL TO BE REMOVED: _____

THE NORMAL SUMMER WATER LEVEL IS:

NOTE:

INCLUDE ALL DIMENSIONS AND ELEVATIONS
WHERE INDICATED.



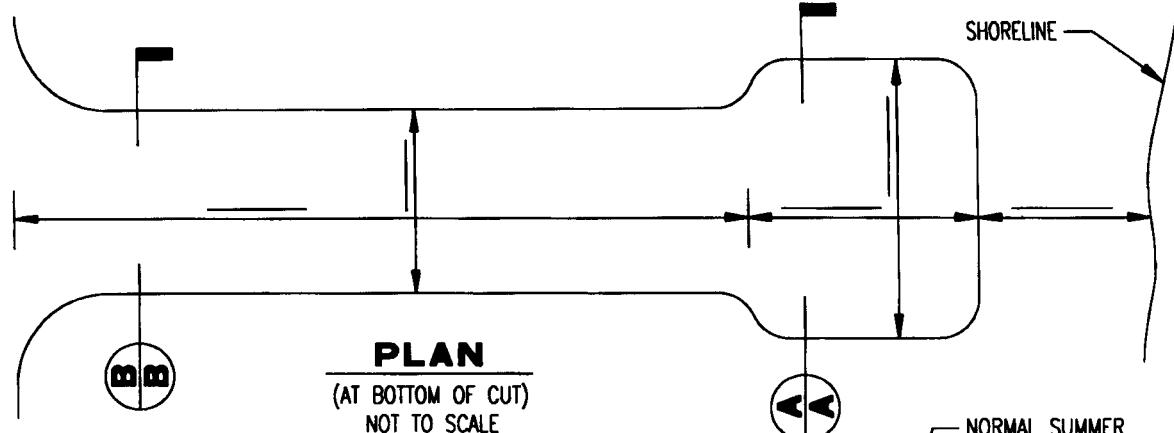
**EXAMPLE OF PROPOSED CHANNEL
DREDGE**

PROJECT LOCATION INFORMATION:

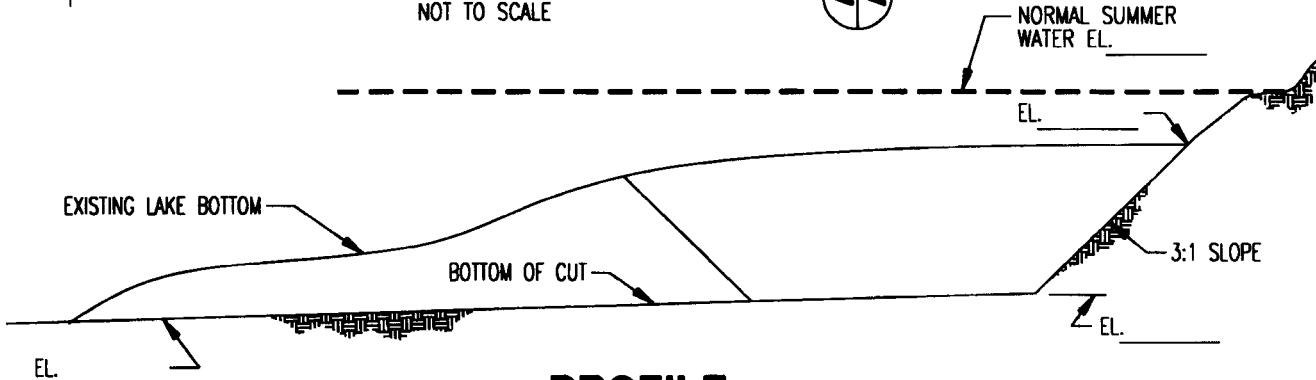
STREAM NAME _____ RESERVOIR NAME _____

MILE MARKER _____ MAP NO. _____

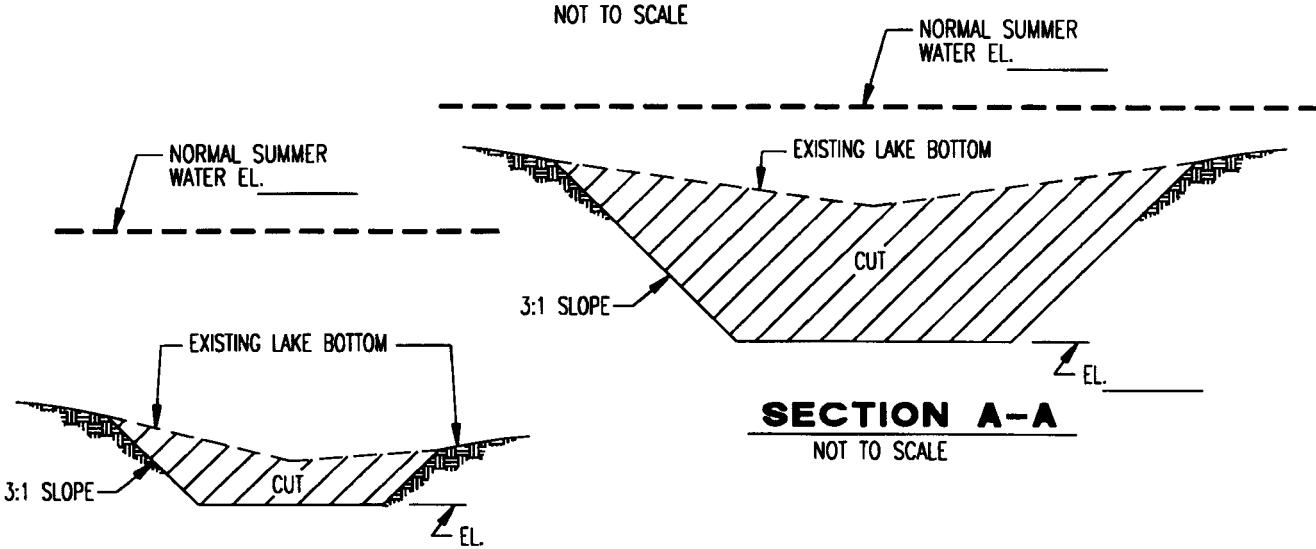
(APPLICANT'S NAME)



PLAN
(AT BOTTOM OF CUT)
NOT TO SCALE



PROFILE
NOT TO SCALE



SECTION A-A
NOT TO SCALE

SECTION B-B
NOT TO SCALE

ESTIMATED CU. YDS. OF SPOIL TO BE REMOVED: _____

THE NORMAL SUMMER WATER LEVEL IS: _____



EXAMPLE OF PROPOSED CHANNEL AND HARBOR DREDGE

PROJECT LOCATION INFORMATION:

STREAM NAME _____ RESERVOIR NAME _____

MILE MARKER _____ MAP NO. _____

(APPLICANT'S NAME)

NOTE:

INCLUDE ALL DIMENSIONS AND ELEVATIONS WHERE INDICATED.