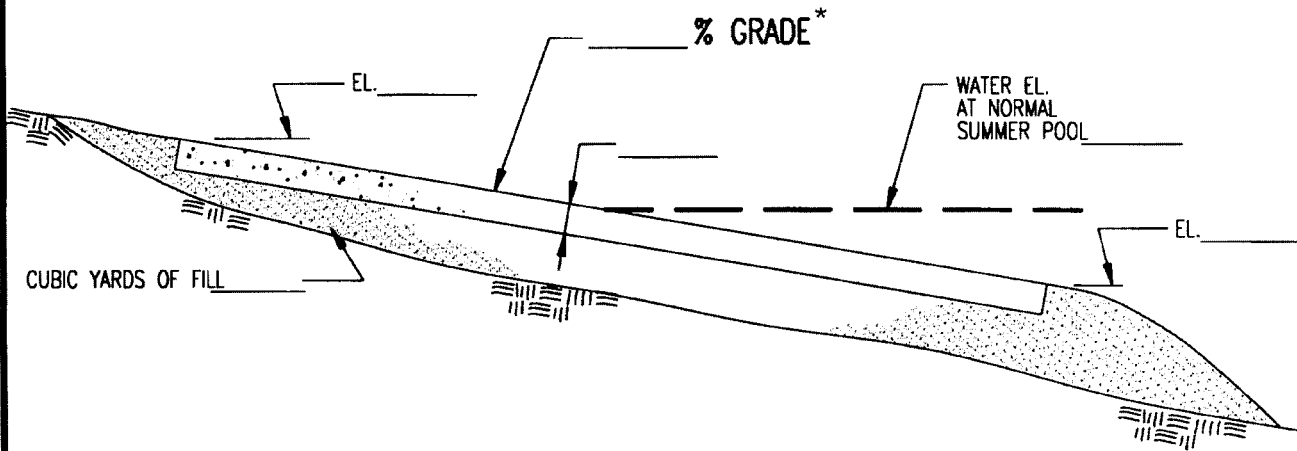


PLAN



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

TVA	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 rebar 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.

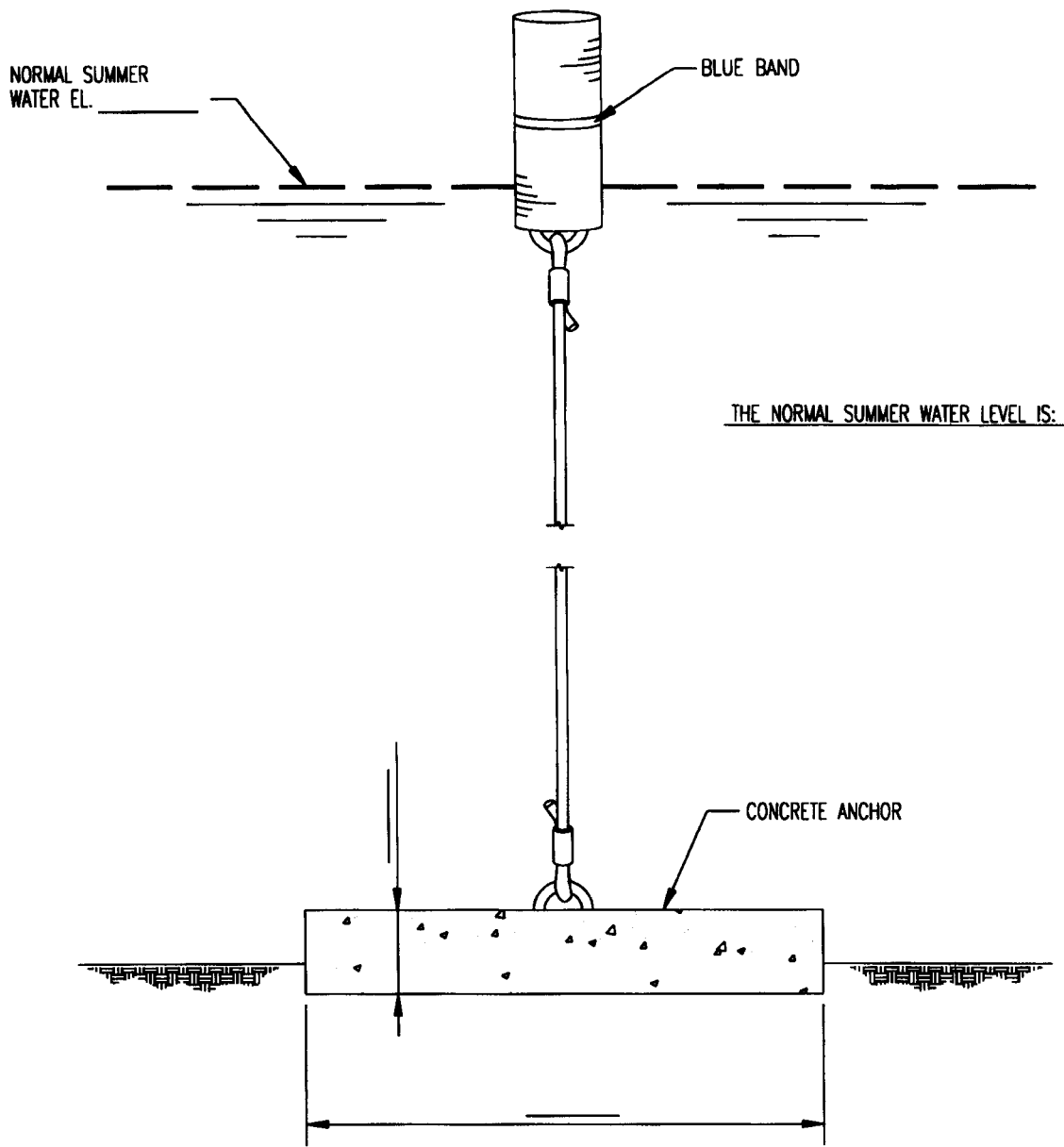
Concrete Ramp (Upper Section): After the lower section has been pushed into position and horizontally aligned, the forms for the remainder of the ramp (sections or entire ramp) can be placed on the rolled base at the proper slope. We use 3000-3500 psi concrete with fiber for the upper section, but welded 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.



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.



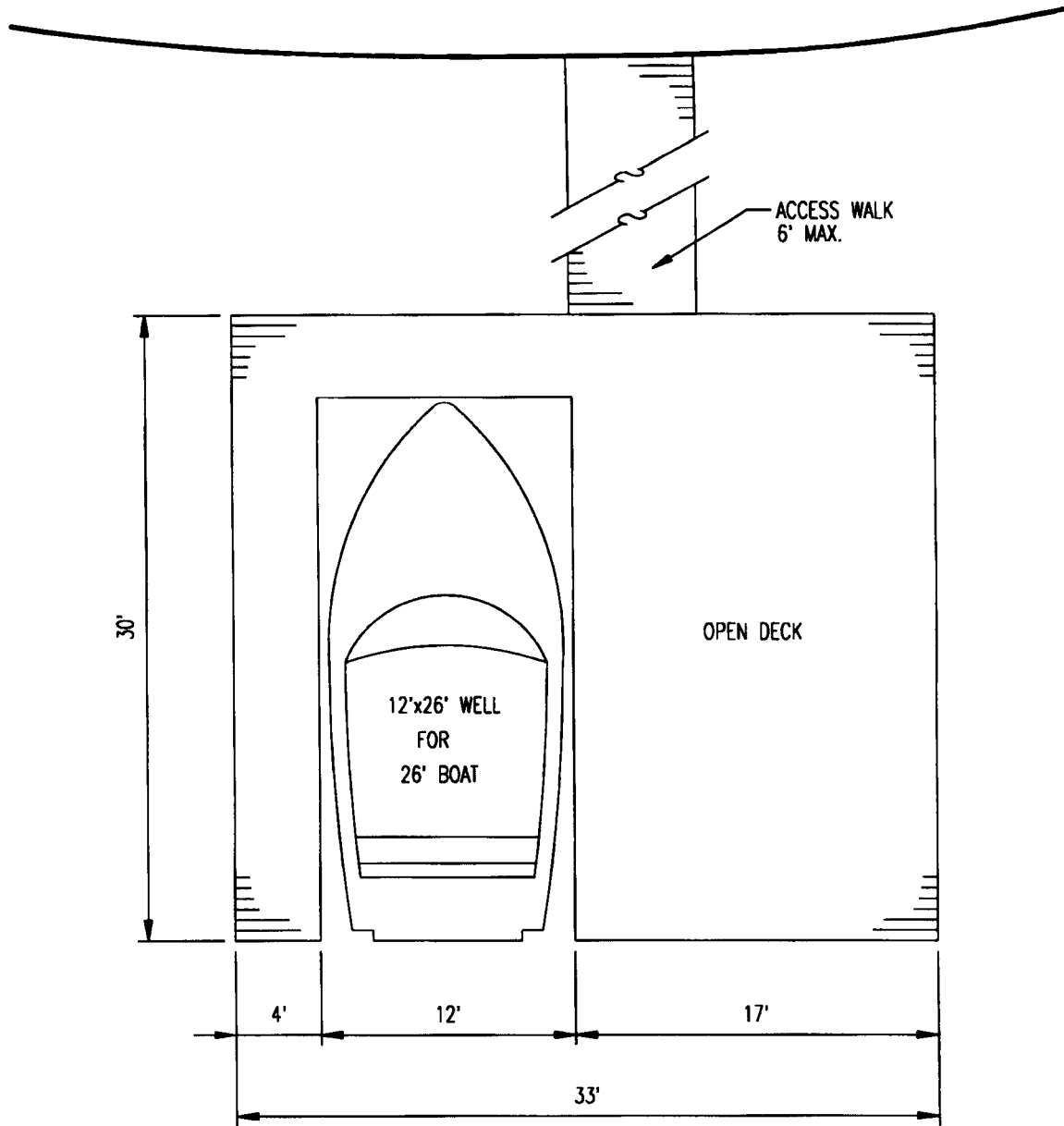
EXAMPLE OF PROPOSED MOORING BUOY

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

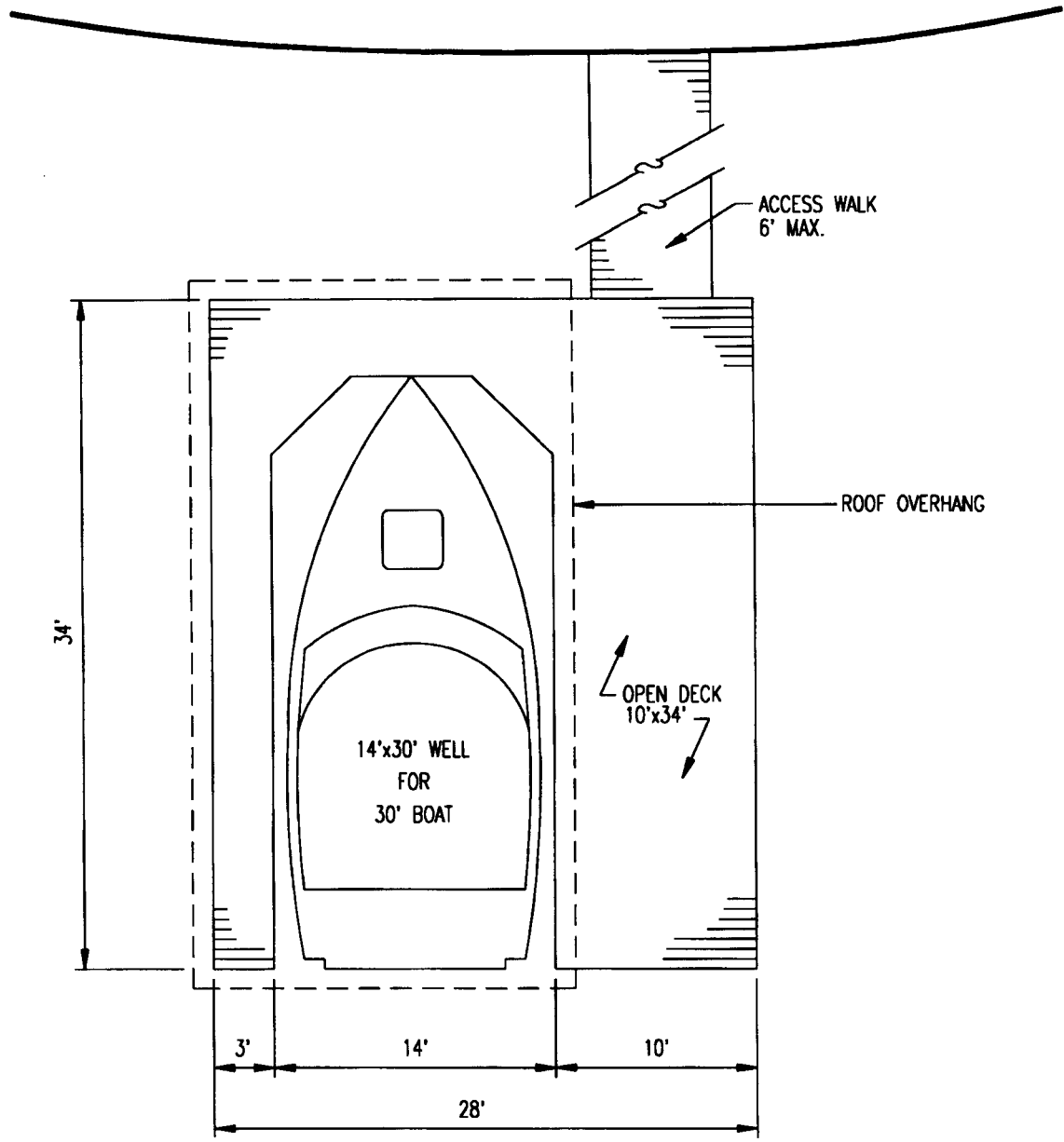
PROJECT LOCATION INFORMATION:

STREAM NAME _____ SUBDIVISION NAME _____

RESERVOIR NAME _____ LOT NUMBER _____

MILE MARKER _____ MAP NO. _____

(APPLICANT'S NAME)

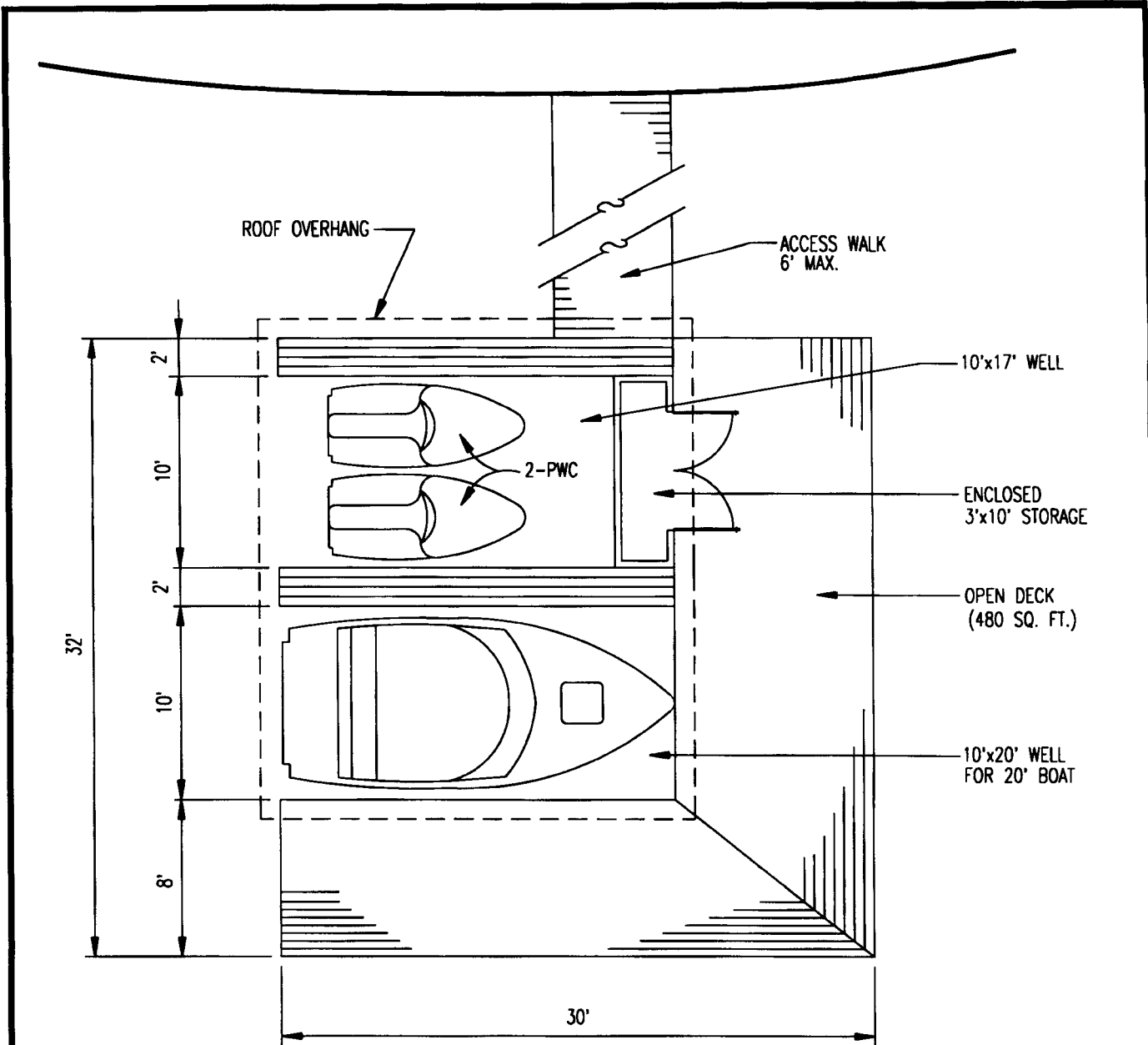


PLAN (952 SQ. FT.)

- 1' ROOF OVERHANG
- FLOATING OR FIXED

THE NORMAL SUMMER WATER LEVEL IS:

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

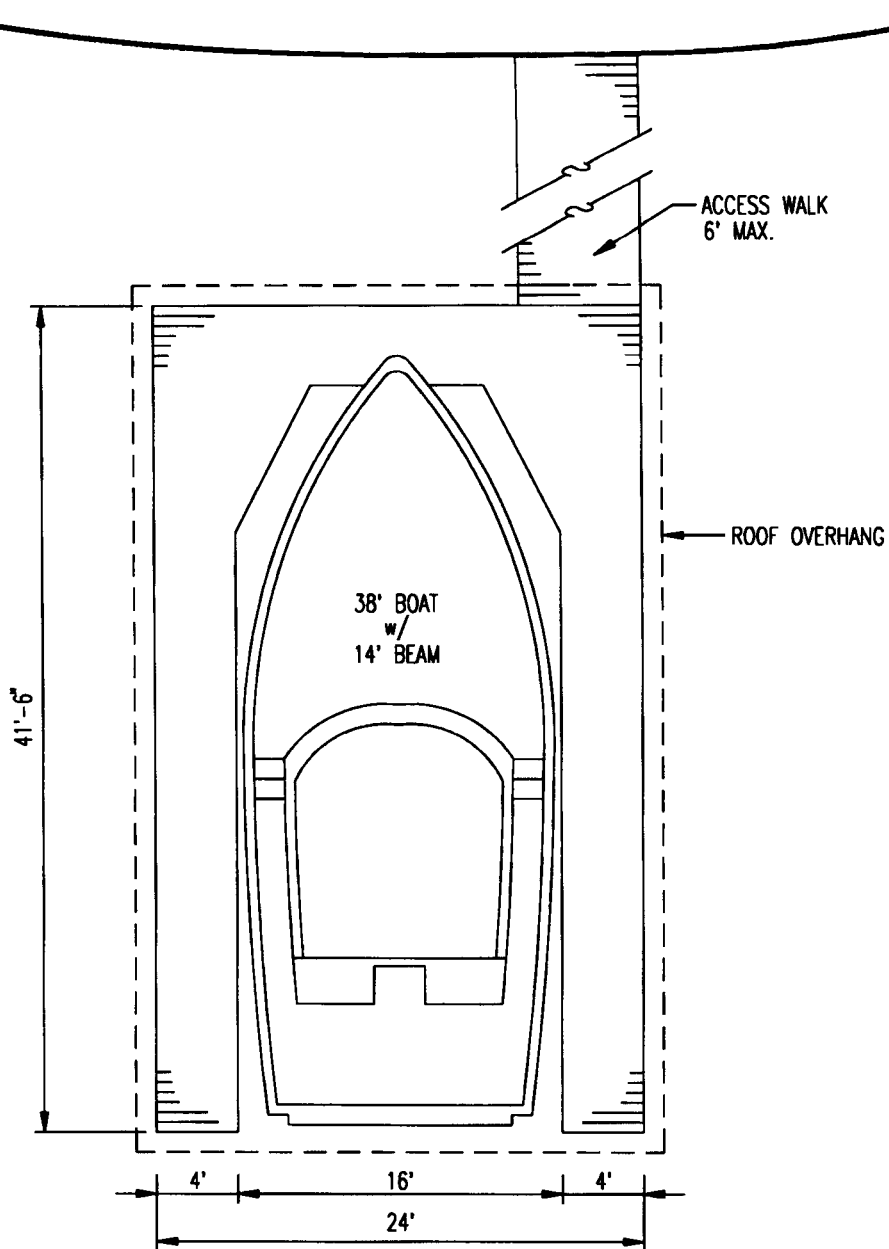


PLAN (960 SQ. FT.)

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

THE NORMAL SUMMER WATER LEVEL IS:

TVA		TYPICAL TO MAXIMIZE OPEN DECK	
PROJECT LOCATION INFORMATION:			
STREAM NAME _____	SUBDIVISION NAME _____		
RESERVOIR NAME _____	LOT NUMBER _____		
MILE MARKER _____	MAP NO. _____		
(APPLICANT'S NAME)			

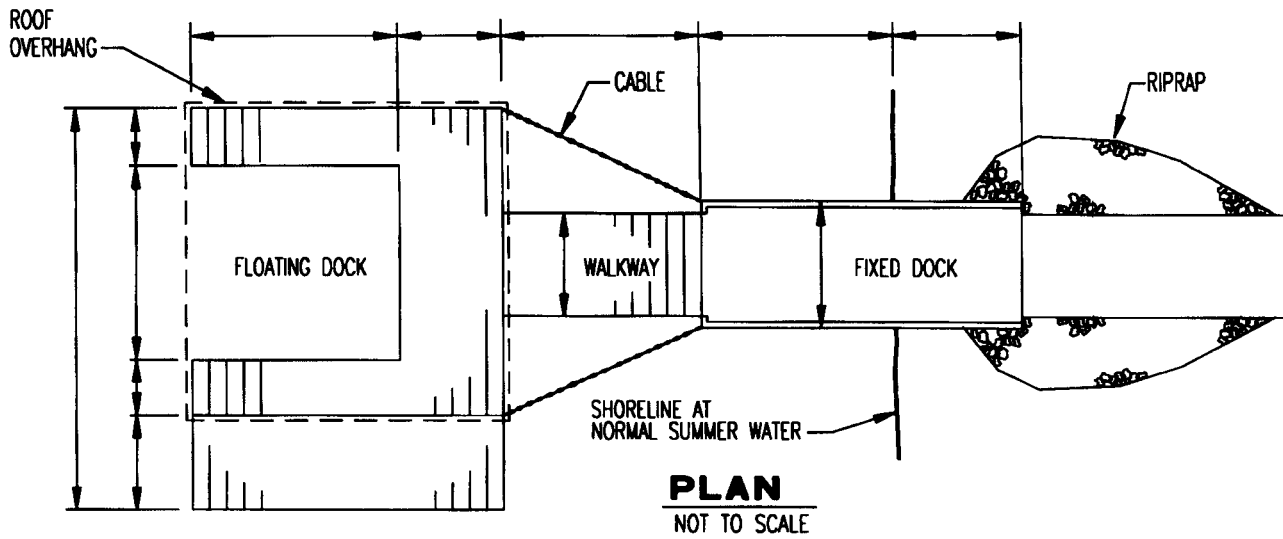


PLAN (996 SQ. FT.
w/ BOAT BOW OVERHANGING WALKWAY)

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

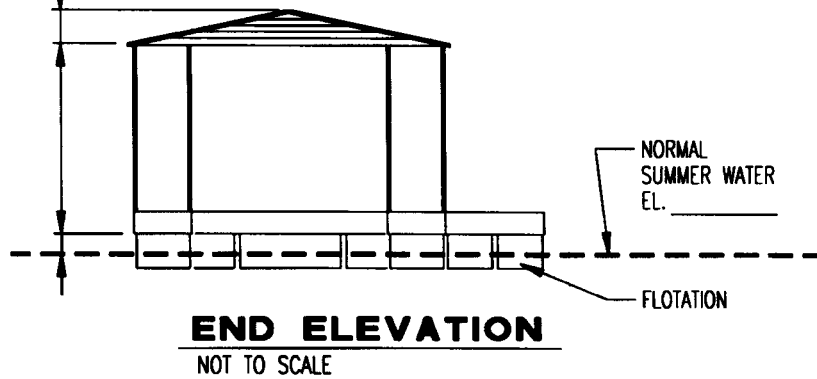
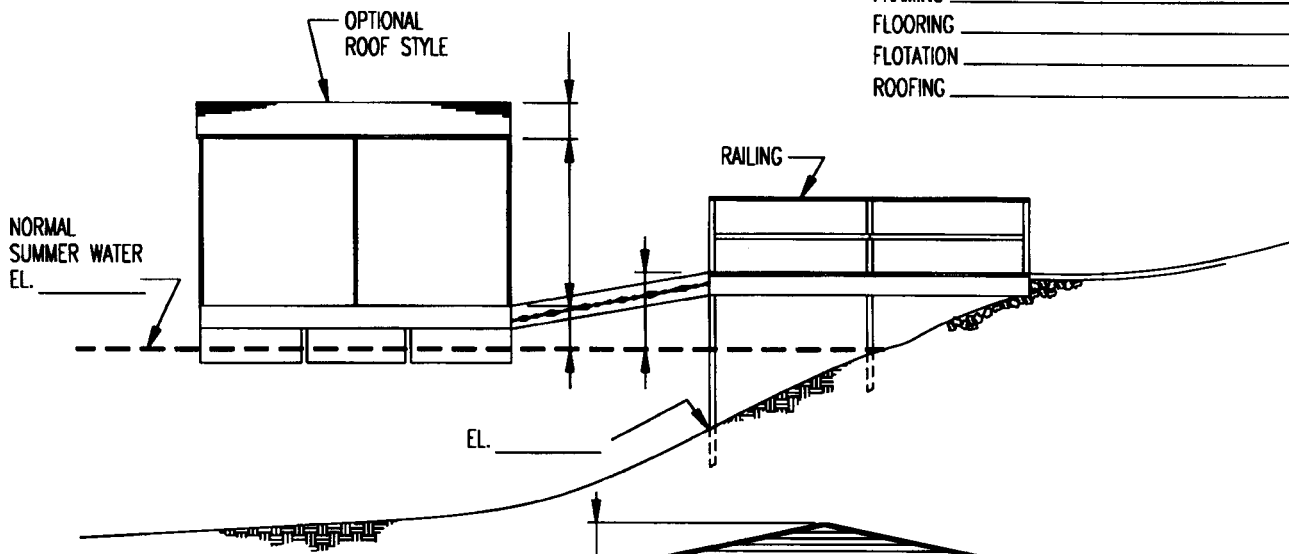
THE NORMAL SUMMER WATER LEVEL IS:

TVA	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)		



TYPE OF MATERIAL:

- FRAMING _____
- FLOORING _____
- FLOTATION _____
- ROOFING _____



THE NORMAL SUMMER WATER LEVEL IS: _____

NOTE:
INCLUDE ALL DIMENSIONS AND ELEVATIONS WHERE INDICATED.

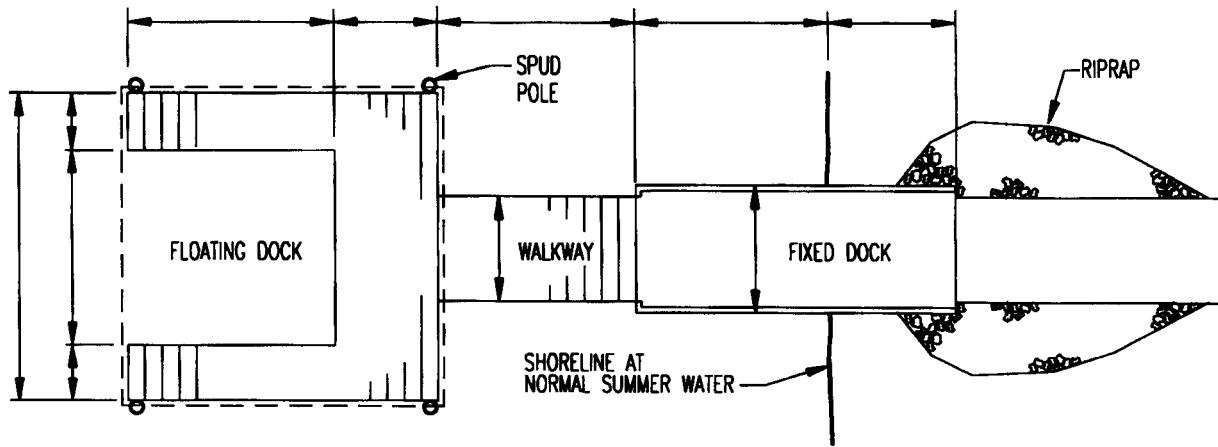


PROPOSED - FIXED AND FLOATING COVERED DOCK

PROJECT LOCATION INFORMATION:

STREAM NAME _____ SUBDIVISION NAME _____
 RESERVOIR NAME _____ LOT NUMBER _____
 MILE MARKER _____ MAP NO. _____

(APPLICANT'S NAME)

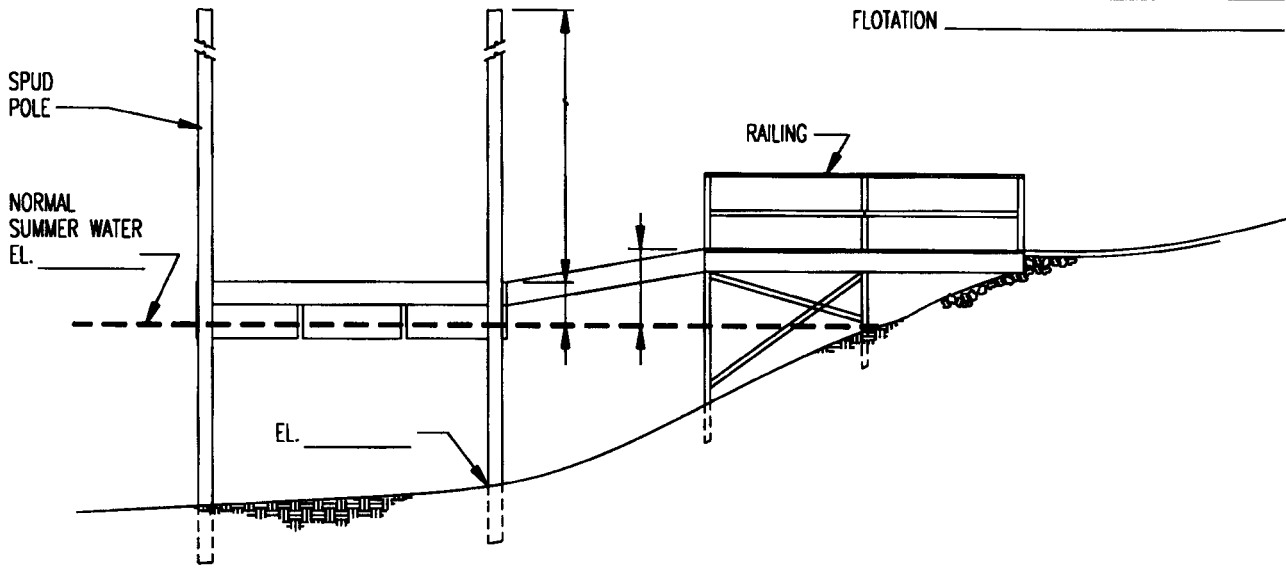


PLAN

NOT TO SCALE

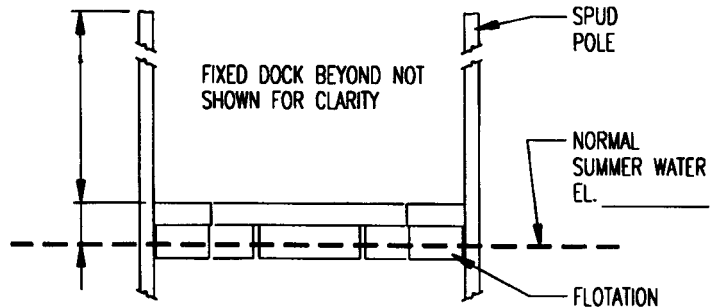
TYPE OF MATERIAL:

- FRAMING _____
- FLOORING _____
- FLOTATION _____



SIDE ELEVATION

NOT TO SCALE



END ELEVATION

NOT TO SCALE

THE NORMAL SUMMER WATER LEVEL IS:

NOTE:
INCLUDE ALL DIMENSIONS AND ELEVATIONS
WHERE INDICATED.

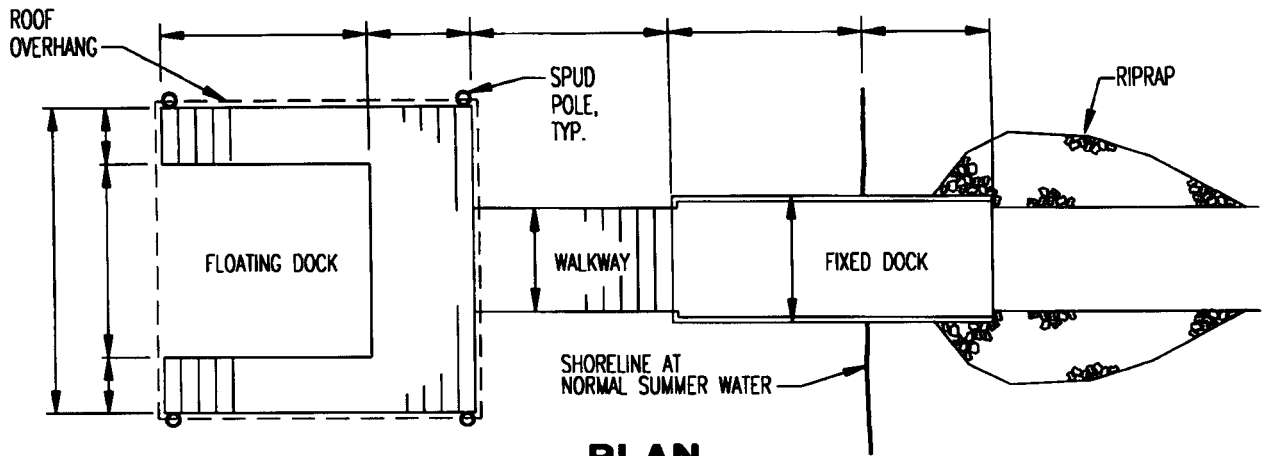


**PROPOSED - FIXED AND FLOATING DOCK
WITH SPUD POLES**

PROJECT LOCATION INFORMATION:

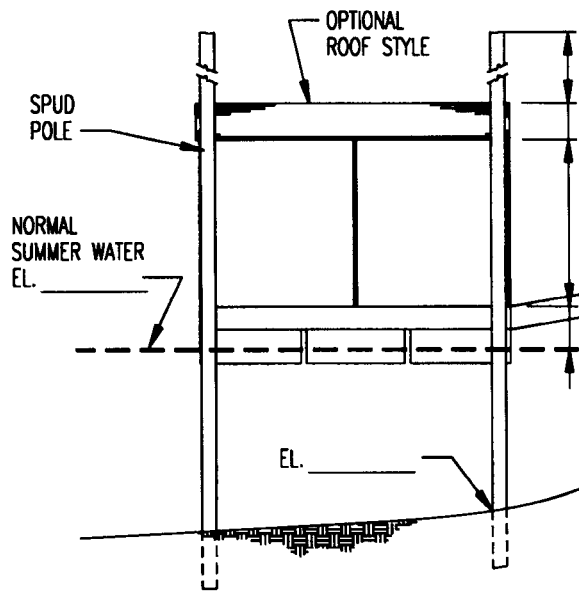
STREAM NAME _____ SUBDIVISION NAME _____
 RESERVOIR NAME _____ LOT NUMBER _____
 MILE MARKER _____ MAP NO. _____

(APPLICANT'S NAME)

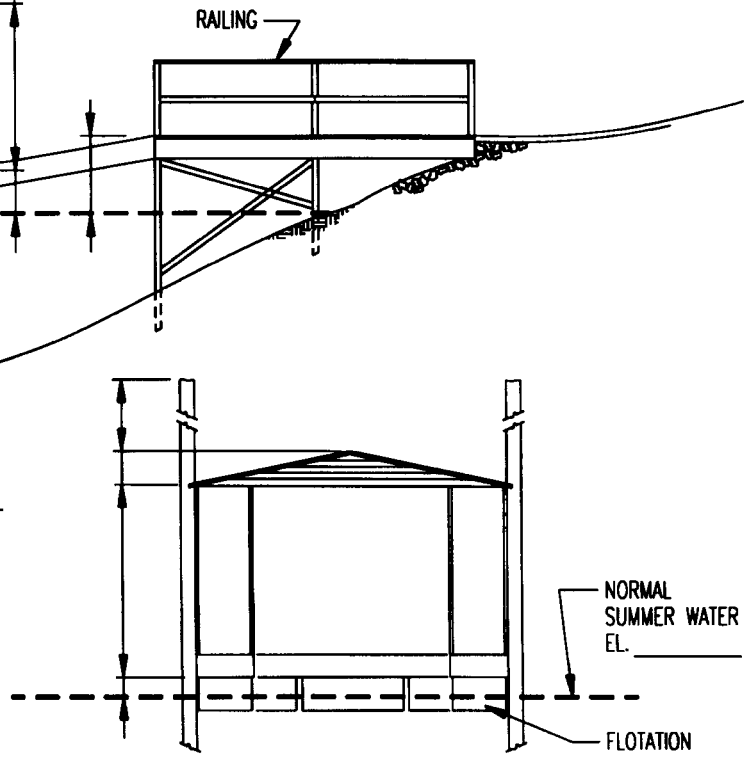


PLAN
NOT TO SCALE

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



SIDE ELEVATION
NOT TO SCALE

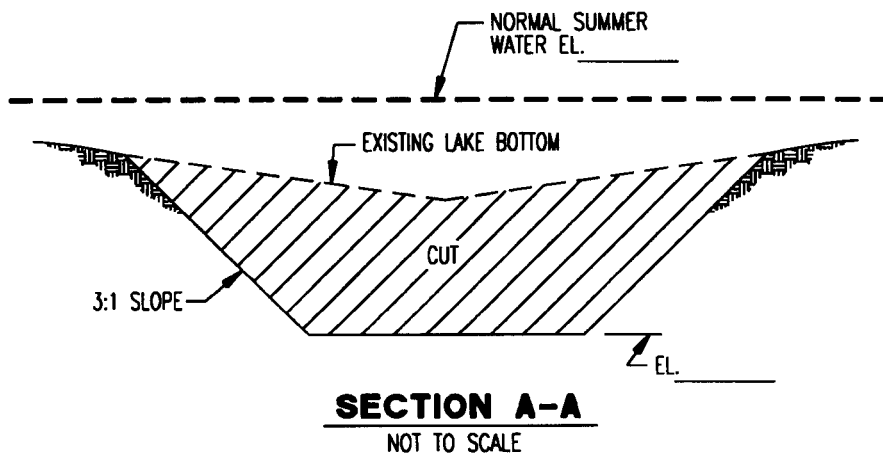
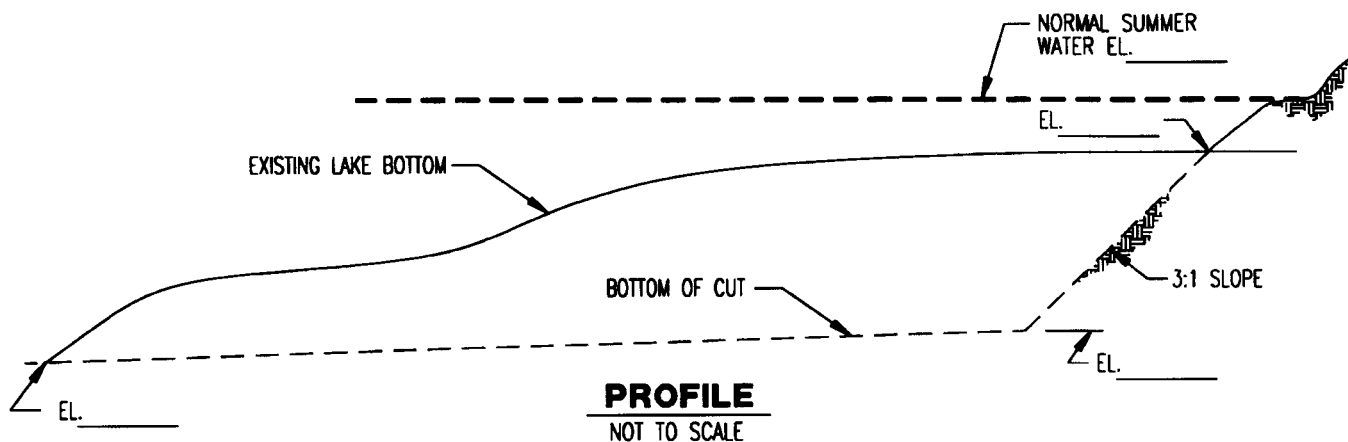
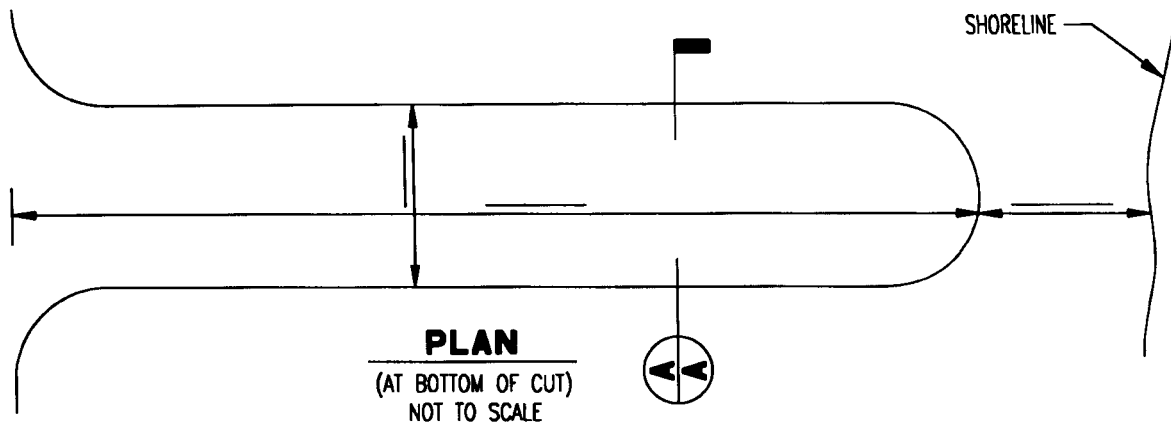


END ELEVATION
NOT TO SCALE

THE NORMAL SUMMER WATER LEVEL IS:

NOTE:
INCLUDE ALL DIMENSIONS AND ELEVATIONS WHERE INDICATED.

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



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

THE NORMAL SUMMER WATER LEVEL IS: _____

NOTE:

INCLUDE ALL DIMENSIONS AND ELEVATIONS WHERE INDICATED.



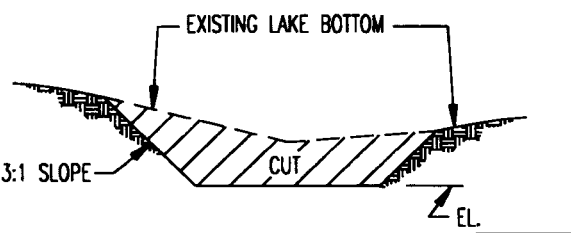
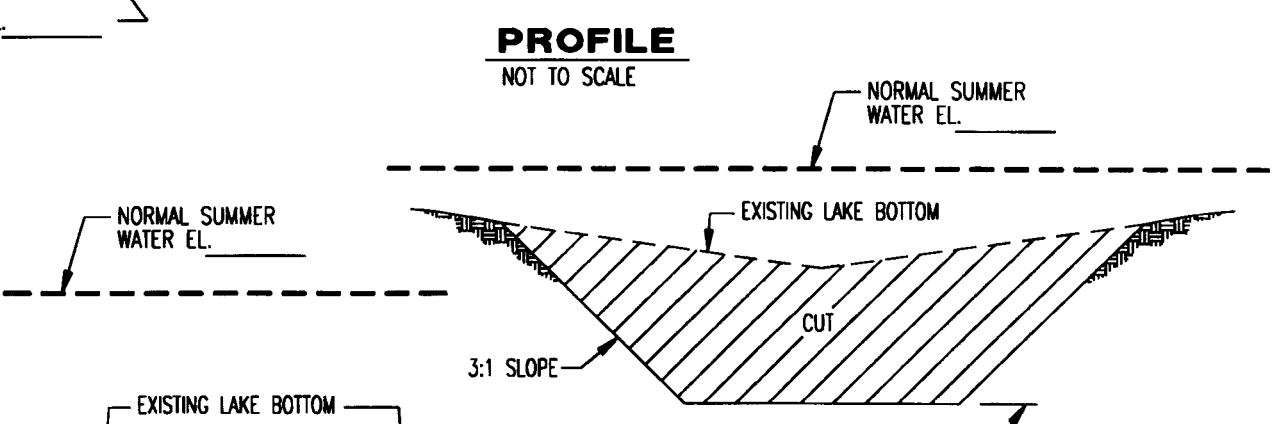
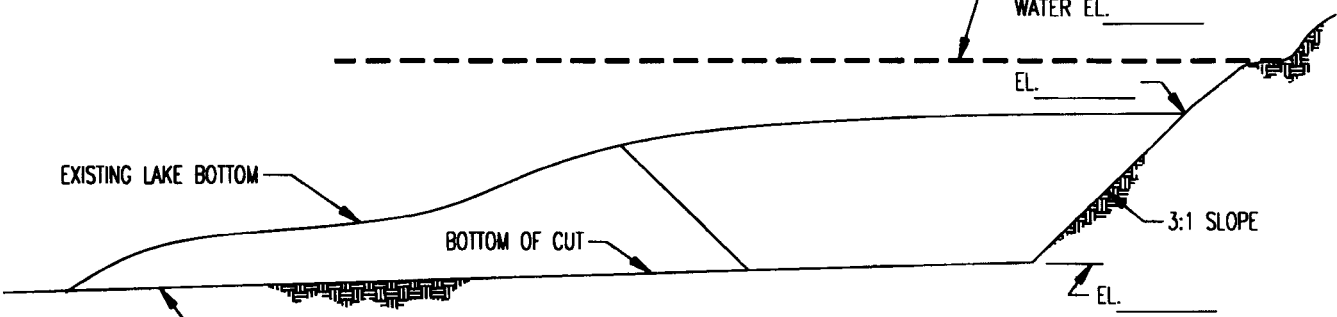
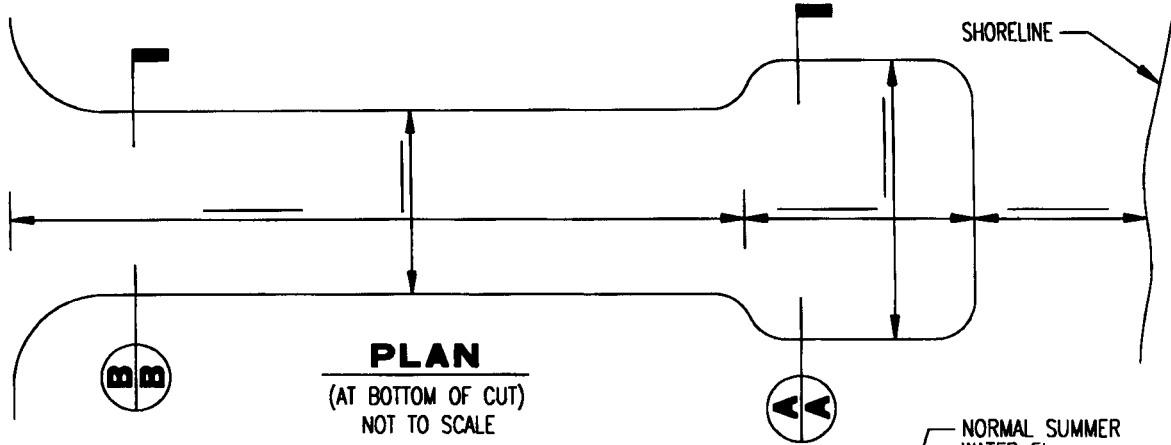
EXAMPLE OF PROPOSED CHANNEL DREDGE

PROJECT LOCATION INFORMATION:

STREAM NAME _____ RESERVOIR NAME _____

MILE MARKER _____ MAP NO. _____

(APPLICANT'S NAME)



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

THE NORMAL SUMMER WATER LEVEL IS: _____

NOTE:
INCLUDE ALL DIMENSIONS AND ELEVATIONS
WHERE INDICATED.

TVA	EXAMPLE OF PROPOSED CHANNEL AND HARBOR DREDGE	
	PROJECT LOCATION INFORMATION:	
STREAM NAME _____	RESERVOIR NAME _____	
MILE MARKER _____	MAP NO. _____	
(APPLICANT'S NAME)		