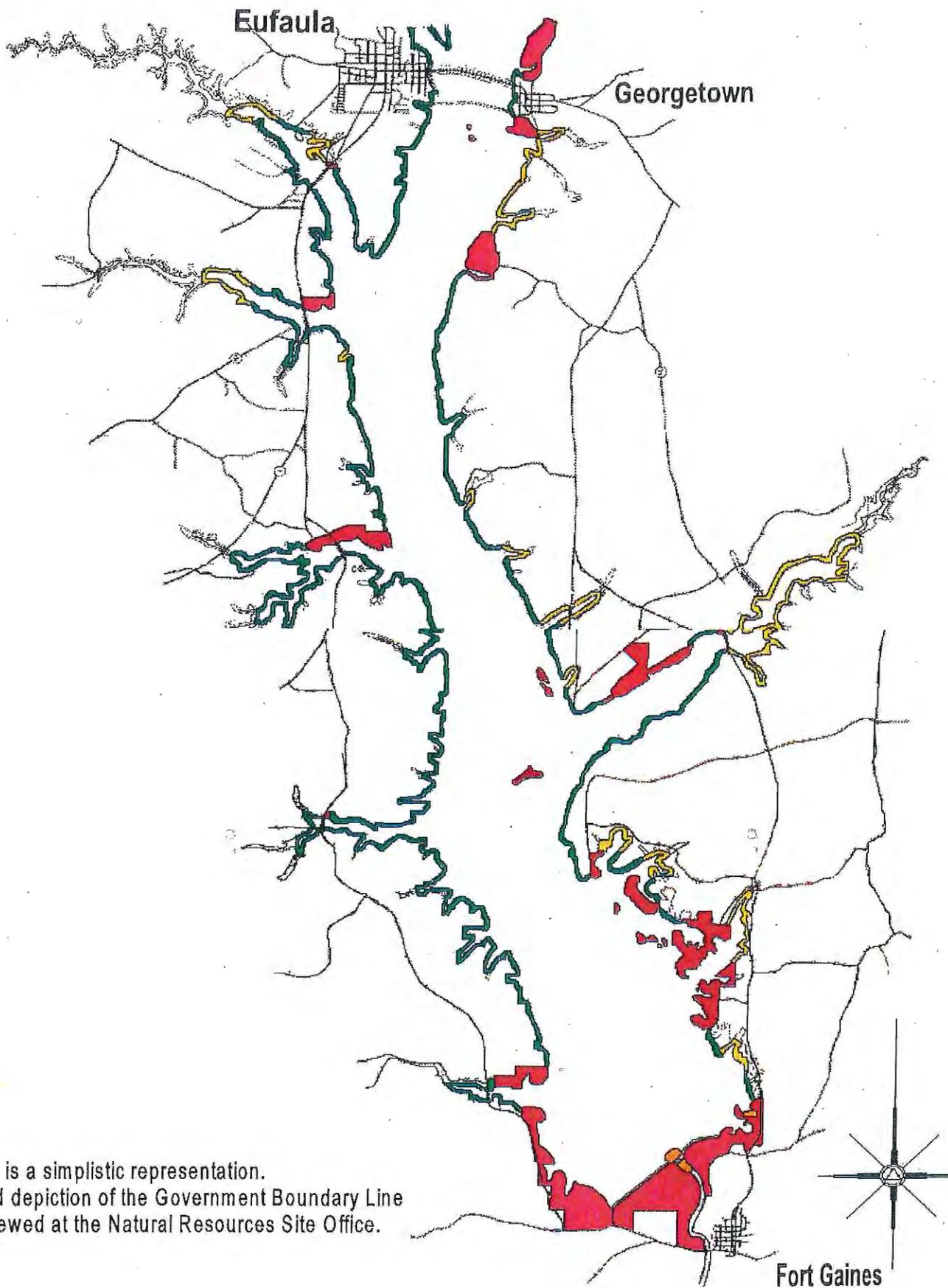


Exhibit I

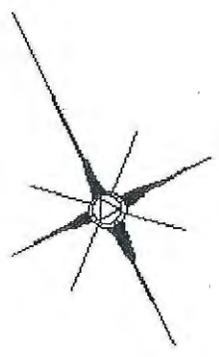
Shoreline Allocation Map



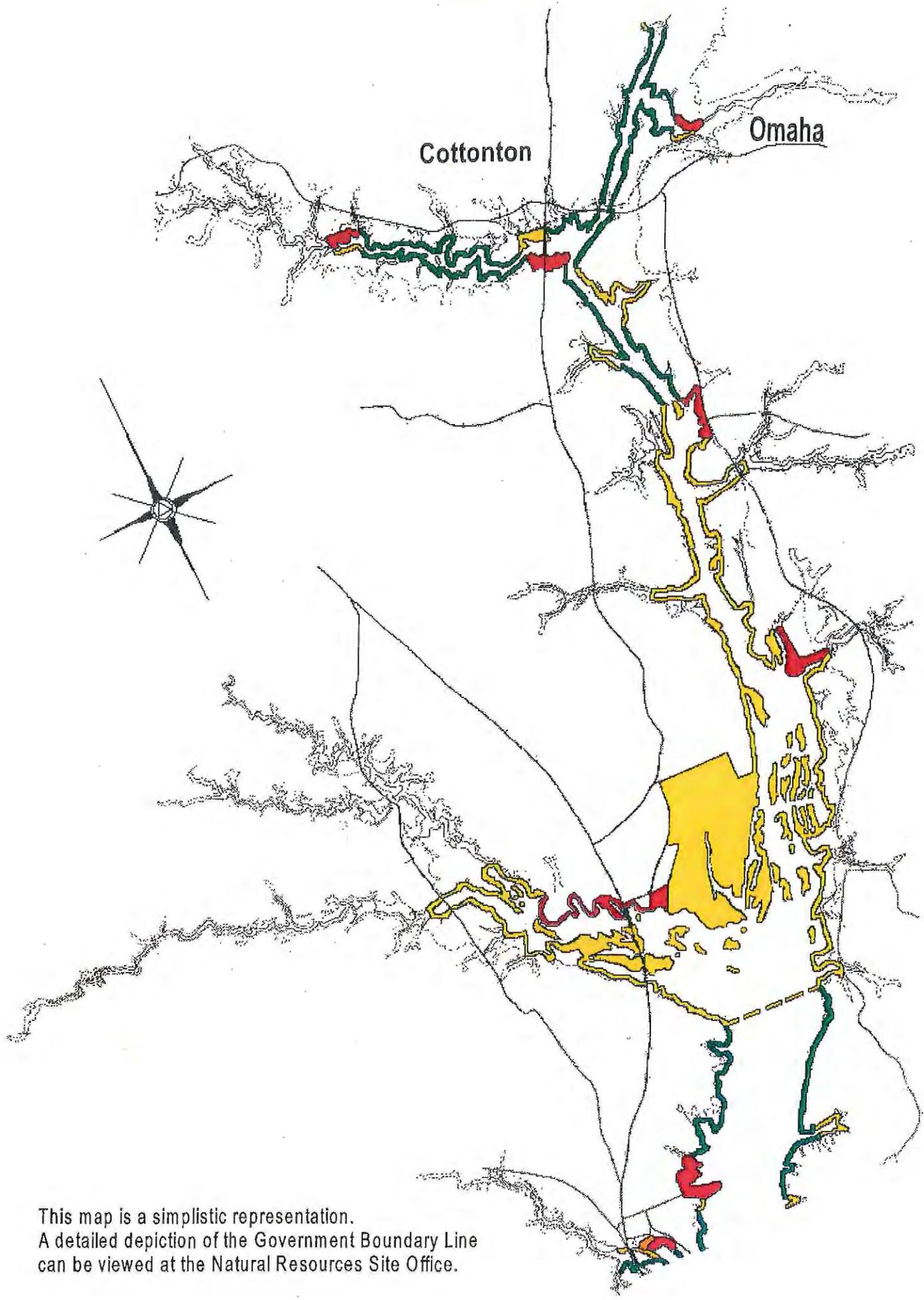
This map is a simplistic representation.
A detailed depiction of the Government Boundary Line
can be viewed at the Natural Resources Site Office.

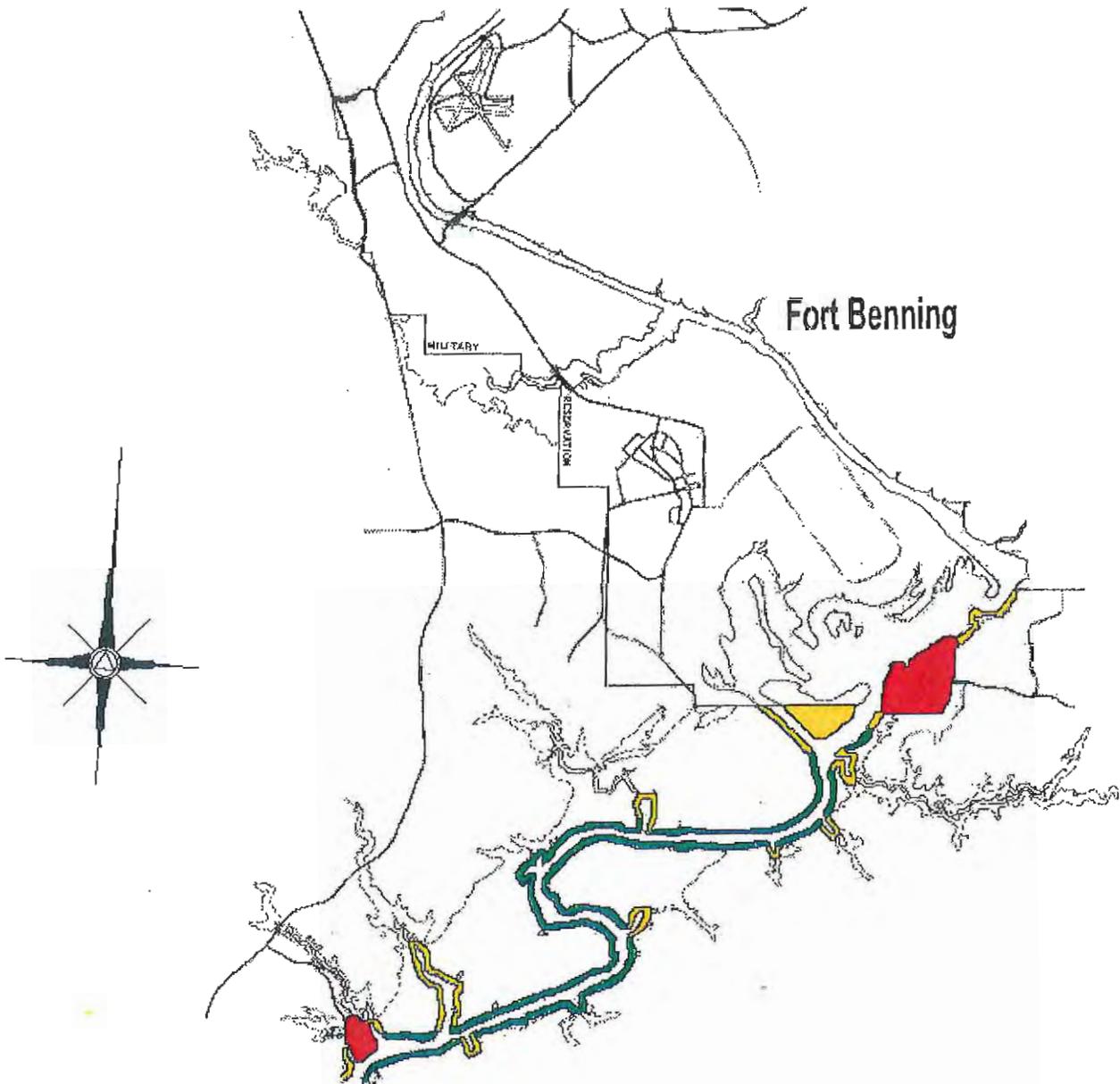
Cottonton

Omaha



This map is a simplistic representation.
A detailed depiction of the Government Boundary Line
can be viewed at the Natural Resources Site Office.





This map is a simplistic representation.
A detailed depiction of the Government Boundary Line
can be viewed at the Natural Resources Site Office.

Exhibit II

Application and Permit/License for Lakeshore Use

SAM Form 6/99



US Army Corps
of Engineers
Mobile District

Application and Permit/License for Shoreline Use

For use of this application, see ER 1130-2-406 and SADVR 1130-2-14

Print or type the information requested below. Submit two signed copies with two complete sets of plans and specifications to the **Operations Manager**. (READ PRIVACY ACT STATEMENT AND PERMIT CONDITIONS PRIOR TO COMPLETING THIS APPLICATION.)

Name of Applicant: _____ Home Telephone: _____

Mailing Address: _____ Work Telephone: _____

City: _____ State: _____ Zip Code: _____

Describe facility, activity, or use requested and include location. List boat registration number(s), length and color of boat(s) if this request is for a boat mooring facility.

The following person will be available on short-notice call and will be responsible for providing any needed surveillance of the structure in my absence (PERSON NOT A MEMBER OF IMMEDIATE HOUSEHOLD).

Name: _____ Telephone: _____

Mailing Address: _____ Work Telephone: _____

City: _____ State: _____ Zip Code: _____

I hereby apply for a permit/license to perform the above described use of public property or that which is authorized by the Corps of Engineers and agree to abide by all regulations, policies, and conditions that govern such privileges. I also agree that NO WORK will begin until I receive WRITTEN APPROVAL to proceed. I have read and understand the Privacy Act Notice and all Thirty-Three Permit Conditions and hereby accept this instrument with all conditions thereof.

Date

Signature of Applicant

DO NOT WRITE BELOW THIS LINE

Shoreline Use Permit/License

Permit/License Number: _____ Date Issued: _____ Expiration Date: _____

Special Permit/License Conditions: YES: NO:

This permit is hereby granted by delegation of the Secretary of the Army under authority conferred on him by the Act of Congress approved 31 August 1951 (USC 140). The applicant is hereby authorized to perform that which is described by the attached Exhibits A/B, C and D of this permit.

Operations Manager or Designee

PERMIT CONDITIONS

i. Permits may be revoked by the District Commander when it is determined that the public interest requires such revocation or when the permittee fails to comply with terms and conditions of the permit, the Shoreline Management Plan, or of this regulation. (Appendix A to § 327.30, paragraph 3. Permit Revocation)

1. This permit is granted solely to the applicant for the purpose described on the attached permit.
2. The permittee agrees to and does hereby release and agree to save and hold the Government harmless from any and all causes of action, suits at law or equity, or claims or demands or from any liability of any nature whatsoever for or on account of any damages to persons or property, including a permitted facility, growing out of the ownership, construction, operation or maintenance by the permittee of the permitted facilities and/or activities.
3. Ownership, construction, operation, use and maintenance of a permitted facility are subject to the Government's navigation servitude.
4. No attempt shall be made by the permittee to forbid the full and free use by the public of all public waters and/or lands at or adjacent to the permitted facility or to unreasonably interfere with any authorized project purposes, including navigation in connection with the ownership, construction, operation or maintenance of a permitted facility and/or activity.
5. The permittee agrees that if subsequent operations by the Government require an alteration in the location of a permitted facility and/or activity or if in the opinion of the district commander a permitted facility and/or activity shall cause unreasonable obstruction to navigation or that the public interest so requires, the permittee shall be required, upon written notice from the district commander to remove, alter, or relocate the permitted facility, without expense to the Government.
6. The Government shall in no case be liable for any damage or injury to a permitted facility which may be caused by or result from subsequent operations undertaken by the Government for the improvement of navigation or for other lawful purposes, and no claims or right to compensation shall accrue from any such damage. This includes any damage that may occur to private property if a facility is removed for noncompliance with the conditions of the permit.
7. Ownership, construction, operation, use and maintenance of a permitted facility and/or activity are subject to all applicable Federal, state and local laws and regulations. Failure to abide by these applicable laws and regulations may be cause for revocation of the permit.
8. This permit does not convey any property rights either in real estate or material; and does not authorize any injury to private property or invasion of private rights or any infringement of Federal, state or local laws or regulations, nor does it obviate the necessity of obtaining state or local assent required by law for the construction, operation, use or maintenance of a permitted facility and/or activity.
9. The permittee agrees to construct the facility within the time limit agreed to on the permit issuance date. The permit shall become null and void if construction is not completed within that period. Further, the permittee agrees to operate and maintain any permitted facility and/or activity in a manner so as to provide safety, minimize any adverse impact on fish and wildlife habitat, natural, environmental, or cultural resources values and in a manner so as to minimize the degradation of water quality.
10. The permittee shall remove a permitted facility within 30 days, at his/her expense, and restore the waterway and lands to a condition accepted by the resource manager upon termination or revocation of this permit or if the permittee ceases to use, operate or maintain a permitted facility and/or activity. If the permittee fails to comply to the satisfaction of the resource manager, the district commander may remove the facility by contract or otherwise and the permittee agrees to pay all costs incurred thereof.
11. The use of a permitted boat dock facility shall be limited to the mooring of the permittee's vessel or watercraft and the storage, in enclosed locker facilities, of his/her gear essential to the operation of such vessel or watercraft.
12. Neither a permitted facility nor any houseboat, cabin cruiser, or other vessel moored thereto shall be used as a place of habitation or as a full or part-time residence or in any manner which gives the appearance of converting the public property, on which the facility is located, to private use.
13. Facilities granted under this permit will not be leased, rented, sub-let or provided to others by any means of engaging in commercial activity(s) by the permittee or his/her agent for monetary gain. This does not preclude the permittee from selling total ownership to the facility.
14. Floats and the flotation material for all docks and boat mooring buoys shall be fabricated of materials manufactured for marine use. The float and its flotation material shall be 100% warranted for a minimum of 8 years against sinking, becoming waterlogged, cracking, peeling, fragmenting, or losing beads. All floats shall resist puncture and penetration and shall not be subject to damage by animals under normal conditions for the area. All floats and the flotation material used in them shall be fire resistant. Any float which is within 40 feet of a line carrying fuel shall be 100% impervious to water and fuel. The use of new or recycled plastic or metal drums or non-compartmentalized air containers for encasement or floats is prohibited. Existing floats are authorized until it or its flotation material is no longer serviceable, at which time it shall be replaced with a float that meets the conditions listed above. For any floats installed after the effective date of this specification, repair or replacement shall be required when it or its flotation material no longer performs its designated function or it fails to meet the specifications for which it was originally warranted.
15. Permitted facilities and activities are subject to periodic inspection by authorized Corps representatives. The resource manager will notify the permittee of any deficiencies and together establish a schedule for their correction. No deviation or changes from approved plans will be allowed without prior written approval of the resource manager.
16. Floating facilities shall be securely attached to the shore in accordance with the approved plans by means of moorings which do not obstruct general public use of the shoreline or adversely affect the natural terrain or vegetation. Anchoring to vegetation is prohibited.
17. The permit display tag shall be posted on the permitted facility and/or on the land areas covered by the permit so that it can be visually checked with ease in accordance with instructions provided by the resource manager.
18. No vegetation other than that prescribed in the permit will be damaged, destroyed or removed. No vegetation of any kind will be planted, other than that specifically prescribed in the permit.

PRIVACY ACT NOTICE

AUTHORITY

Section 4, 1944 Flood Control Act as amended, PL 87-874.

PURPOSES

These applications are used in considering the issuance of permits for floating facilities and landscaping by private landowners adjacent to Corps Lakes. This information is collected and maintained at project offices and is used as a basis for issuing permits. Needed for description of facility to assure conditions of permit requirement are met. To provide auditing information for programs with financial involvement. To provide information for contact of responsible party available on short notice in case of emergency.

ROUTINE USES

This information may be disclosed to Department of Justice or other federal, state, or local law enforcement agencies charged with the responsibility of investigating or prosecuting violations or potential violations of law or enforcing or implementing statutes, rules, regulations, or orders issued pursuant thereto; or to a Congressional office in response to an inquiry made at the applicant's request. The applicant's name and address are considered public information and may be disclosed in response to a Freedom of Information Act request.

EFFECTS OF NONDISCLOSURE

Disclosure of information is voluntary. Failure to provide information will preclude issuance of a permit.

Exhibit III

“Guidelines for Permit Applicants”



**US Army Corps
of Engineers**
Mobile District

Applicant Interview for Shoreline Use Permit/License

Handouts Provided

<input type="checkbox"/> Guide to Applicants	<input type="checkbox"/> Title 36, CFR Section 327
<input type="checkbox"/> Application Forms	<input type="checkbox"/> Plant List
<input type="checkbox"/> Site Plan Example	<input type="checkbox"/> Engineering Specifications (Shoreline Stabilization)
<input type="checkbox"/> Dock Drawing Forms	<input type="checkbox"/> Fixed Steps Standards
<input type="checkbox"/> Walkway Installation Information	<input type="checkbox"/>
<input type="checkbox"/> Electrical Installation Certification Statement	<input type="checkbox"/>
<input type="checkbox"/> Boundary Line Brochure	<input type="checkbox"/>

Items Discussed

<input type="checkbox"/> Dock Location Identified	<input type="checkbox"/> Pump and Waterline Installation
<input type="checkbox"/> Construction and Location of Pathway	<input type="checkbox"/> Use of Pesticides and Herbicides
<input type="checkbox"/> Hazardous Trees	<input type="checkbox"/> Operation of Motorized Vehicles
<input type="checkbox"/> Unauthorized clearing of Trees and Vegetation	<input type="checkbox"/> Carpet on Boat Docks
<input type="checkbox"/> Annual Lake Level Fluctuation	<input type="checkbox"/> Easement Estate
<input type="checkbox"/> Planting of Non-native and Ornamental Vegetation	<input type="checkbox"/> Permit Expiration Date (if less that 5 years)
<input type="checkbox"/> Land Disturbing Activities (Grading, Leveling, or Digging)	<input type="checkbox"/> Boat Hoists/Personal Watercraft Moorage
<input type="checkbox"/> Encroachments	<input type="checkbox"/> Special Conditions
<input type="checkbox"/> Shoreline Stabilization Measures (Section 10/404)	<input type="checkbox"/> Permit Revocation, Non-reissuance
<input type="checkbox"/> Grandfathered Facilities/Activities	<input type="checkbox"/>

Meeting Notes

My use of/ownership in other permitted facilities or pending requests at this project is (are):

I HAVE BEEN PROVIDE THE ABOVE REFERENCE MATERIAL AND BEEN INFORMED OF THE GUIDELINES NOTED AND UNDERSTAND THAT ANY TYPE OF WORK OR INSTALLATION OF FACILITIES ON PUBLIC PROPERTY MUST BE APPROVED BY THE OPERATIONS MANAGER.

I ALSO UNDERSTAND AND AGREE THAT NO WORK WILL BEGIN UNTIL I RECEIVE WRITTEN APPROVAL TO PROCEED.

Date

Signature of Applicant

WALTER F. GEORGE LAKE GUIDELINES FOR PERMIT APPLICANTS

Facilities and Activities that may be Authorized on Walter F. George Lake at Five (5) year

- | | |
|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> Floating Facility (boat dock, mooring buoy) <input type="checkbox"/> Underground Powerline and Light Pole <input type="checkbox"/> Underground Waterline and Pump <input type="checkbox"/> Underground Telephone Line <input type="checkbox"/> Improved Steps and/or Walkway | <ul style="list-style-type: none"> <input type="checkbox"/> Handrails on Steep Terrain <input type="checkbox"/> Clearing of Underbrush <input type="checkbox"/> Rip-rap, Retaining Walls <input type="checkbox"/> Boat Hoist and/or PWC Lift <input type="checkbox"/> Mooring Post |
|---|---|

intervals:

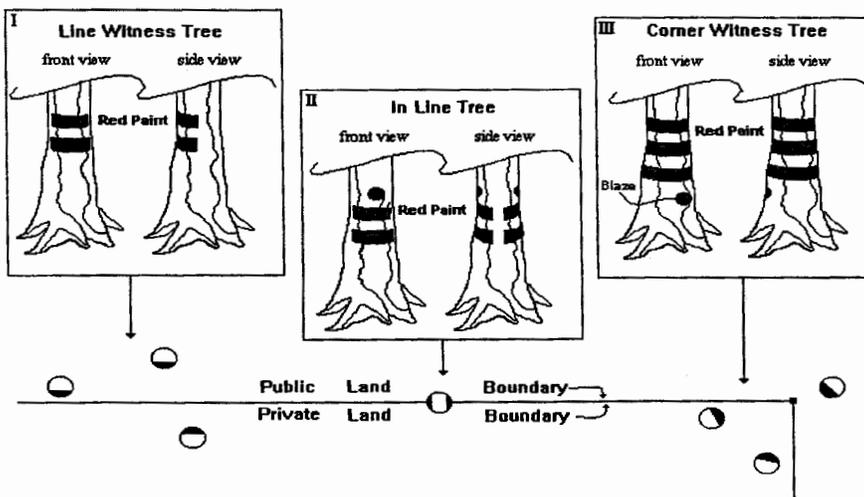
The following facilities are issued on a renewal basis only. No new structures of these types will be authorized:

- | | | |
|-----------------------|--------------------------------|--------------|
| ■ Boat Launching Ramp | ■ Improved Road and Turnaround | ■ Marine Way |
|-----------------------|--------------------------------|--------------|

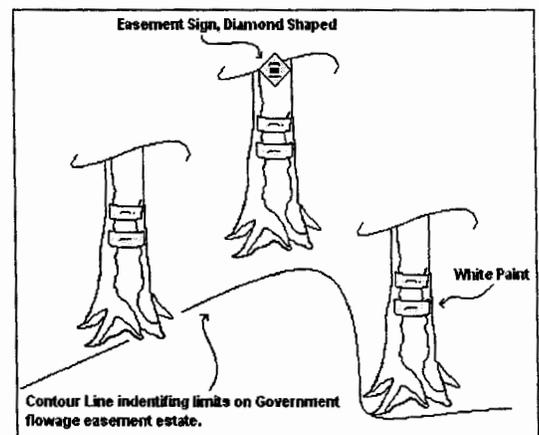
Facilities and Activities that are NOT AUTHORIZED:

- | | |
|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> Unauthorized clearing of trees and vegetation <input type="checkbox"/> Planting of non-native and ornamental vegetation <input type="checkbox"/> Grading, leveling, or digging on public or easement land <input type="checkbox"/> Placement of items such as swings, picnic tables, benches, storage sheds, boat trailers, etc. <input type="checkbox"/> Use of pesticides and herbicides on public lands or water without prior approval | <ul style="list-style-type: none"> <input type="checkbox"/> Carpet on boat docks and walkways/steps <input type="checkbox"/> Underground sprinkler systems <input type="checkbox"/> Violation of conditions or terms of the permit <input type="checkbox"/> Operation of motor vehicles on public land <input type="checkbox"/> Habitable Structures on Gov't Easement |
|---|---|

Government Boundary Line Markings



Government Easement Contour Markings



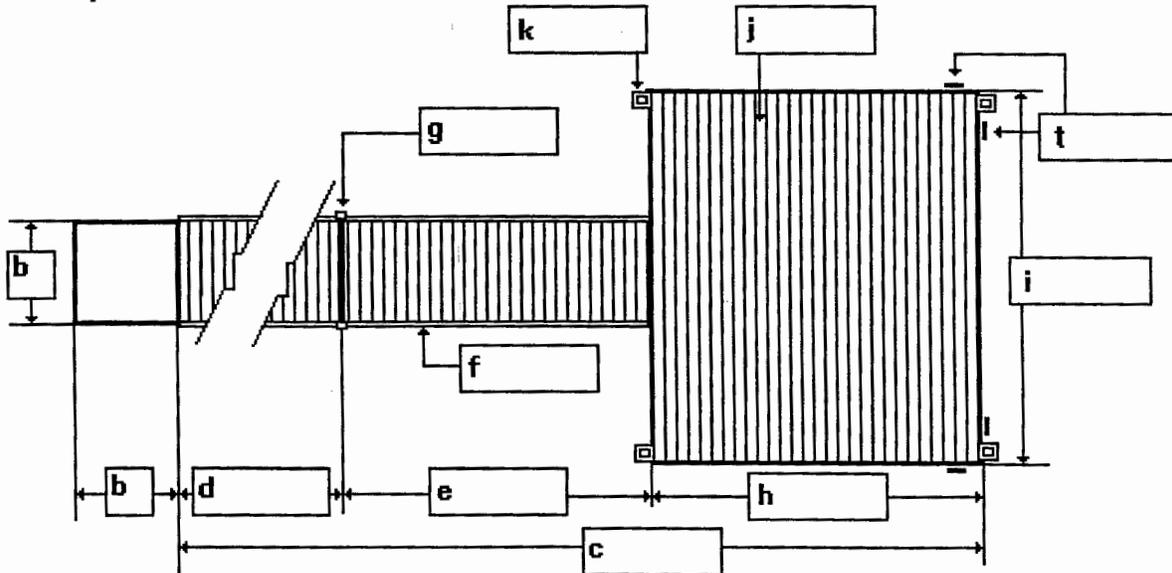
NOTE: Trees are painted to alert the observer that a property line is nearby. These trees are NOT the exact line.

Exhibit IV

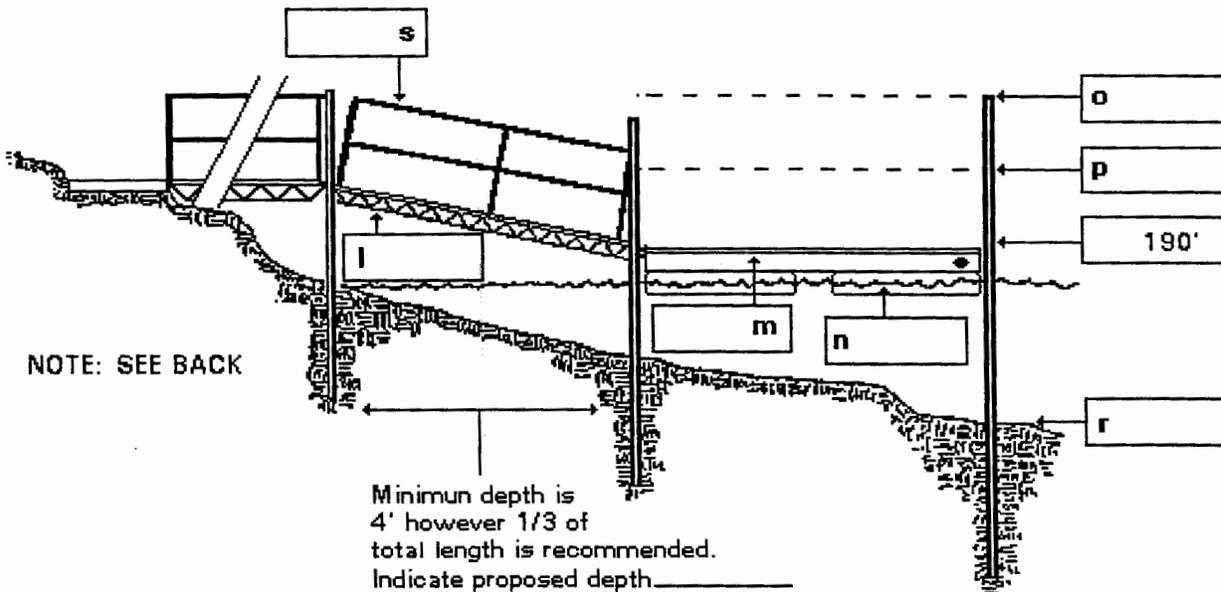
Standard Dock Plans and Requirements

"FLAT - T" BOAT DOCK PLAN
EXHIBIT "A-9"

Top View



Side View



NOTE: Personal Watercraft Lifts must be independently approved prior to installation. RESTRICTIONS APPLY.

NOTE: SEE BACK

NOTE: IS THE DOCKS FLOATING SECTION OFFSET TO ONE SIDE? (circle one) NO LEFT RIGHT

CONCEPTUALLY APPROVED
for
U.S. Army Corps of Engineers, Mobile District

BY: _____
DATE: _____

NOTICE: This approval stamp DOES NOT certify an engineering review. The builder should rely on professional engineering services to certify that the design is suitable for intended purposes and meets minimum standards including those related to the safety of the users.

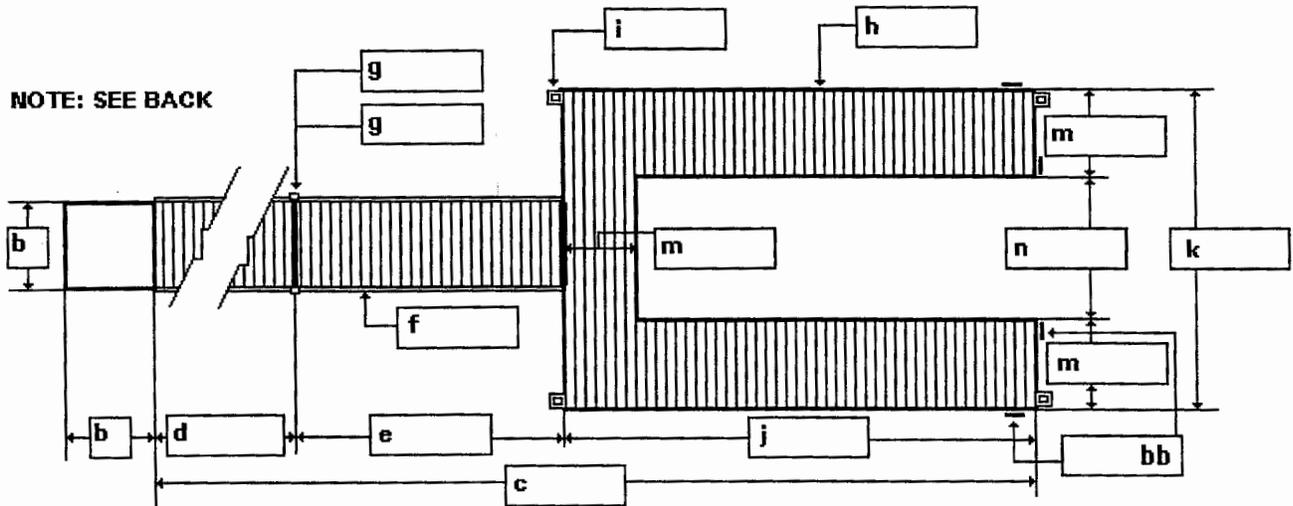
I will construct this facility according to this plan.

Name: _____
Subdivision: _____
Lot No.: _____

- a. WRITE "SAME" IN BOXES IF THE SUGGESTED MATERIALS, DIMENSIONS, ETC. WILL BE USED. GIVE DIMENSIONS WHERE REQUESTED. MAJOR DEVIATIONS MUST BE SHOWN ON AN ORIGINAL PLAN.
- b. FOUNDATION PADS FOR STEPS OR WALKWAYS MUST NOT EXCEED 6'X6'. GIVE YOUR DIMENSION IN BOX (b). IF YOU CHOOSE NOT TO HAVE A PAD, WRITE IN: N.A.
- c. MAXIMUM LENGTH OF THE TOTAL STRUCTURE FROM SHORE CAN BE 100' (INCLUDING DOCK PLATFORM) -- NOT TO EXCEED 1/3 OF THE TOTAL WIDTH IN TRIBUTARY AREAS. WRITE DESIRED LENGTH IN BOX (c).
- d. WRITE IN BOX (d) THE LENGTH FROM THE BEGINNING OF THE WALKWAY TO THE HINGED SECTION.
- e. MINIMUM LENGTH OF HINGED SECTION IS 14'. GIVE DESIRED LENGTH IN BOX (e). THIS WILL NOT APPLY TO FIXED FACILITIES.
- f. WALKWAY MINIMUM 4' WIDE UP TO A MAXIMUM OF 6' WIDE, WITH CENTER STRINGER.
- g. INDICATES 4" STEEL PILING. PILING TO BE DRIVEN TO A DEPTH OF 1/3 OF TOTAL LENGTH. SPECIFY MATERIAL AND NUMBER OF PILINGS TO BE USED WITH WALKWAY.
- h. FLOATING PORTION OF THE DOCK SHOULD NOT EXCEED 240 SQ. FT. WRITE DESIRED LENGTH IN BOX (h). INCREASES IN SQUARE FOOTAGE MAY BE ALLOWED UP TO 360 SQ. FT., IF A NEED CAN BE JUSTIFIED, AND ONLY IF THE SPACE ALONG THE SHORELINE PERMITS.
- i. WRITE DESIRED WIDTH OF DOCK IN BOX (i).
- j. INDICATES 2X6 PRESSURE TREATED DECKING OR 5 1/4" TREATED DECKING. GIVE YOUR DESIRED DIMENSION IN BOX (j). ANY DEVIATIONS MUST BE NOTED.
- k. INDICATES POLE GUIDE DEVICE AND 4" STEEL PILING. ANY DEVIATIONS MUST BE NOTED. FIXED DOCK POSTS SHOULD BE DRIVEN IN WITH AT LEAST A 500 POUND HAMMER. NO JETTING PILINGS INTO THE GROUND.
- l. INDICATES 12" STEEL BAR JOIST. ANY DEVIATIONS MUST BE NOTED.
- m. INDICATES 14 GAUGE STEEL FRAME WITH WELDED JOINTS. ANY DEVIATIONS MUST BE NOTED IN BOX (m).
- n. FLOTATION SHALL BE OF MATERIALS WHICH WILL NOT BECOME WATERLOGGED (NOT OVER 1/ ½ PERCENT BY VOLUME ASTM), IS RESISTANT TO DAMAGE BY ANIMALS, AND WILL NOT SINK OR CONTAMINATE THE WATER IF PUNCTURED. NO METAL COVERED OR INJECTED DRUM FLOTATION WILL BE ALLOWED. FOAM BEAD FLOTATION THAT IS NOT SUBJECT TO DETERIORATION THROUGH LOSS OF BEADS, MEETS THE ABOVE CRITERIA, AND HAS A MINIMUM DENSITY OF 1.2 LB/CU. FT. IS AUTHORIZED. FOAM BEAD FLOTATION WITH A DENSITY OF 1.0 LB/CU. FT. BUT DOES NOT OTHERWISE MEET THE ABOVE CRITERIA IS AUTHORIZED PROVIDED IT IS ENCASED IN AN APPROVED PROTECTIVE COATING WHICH ENABLES IT TO MEET THE SPECIFICATIONS ABOVE. AN APPROVED COATING IS DEFINED AS WARRANTED BY THE MANUFACTURER FOR A PERIOD OF AT LEAST (8) EIGHT YEARS AGAINST CRACKING, PEELING, SLOUGHING AND DETERIORATION FROM ULTRA VIOLET RAYS, WHILE RETAINING ITS RESILIENCY AGAINST ICE AND BUMPS BY WATERCRAFT. THIS WILL NOT APPLY TO FIXED FACILITIES.
- o. TOP OF THE GUIDE PILING TO BE AT LEAST 196' ABOVE SEA LEVEL. GIVE YOUR PROPOSED PILING HEIGHT IN BOX (o). THIS WILL NOT APPLY TO FIXED FACILITIES.
- p. TOP OF THE WALKWAY, OR DECK ON FIXED DOCKS, TO BE 192.0' OR 192.5' ABOVE SEA LEVEL. GIVE YOUR PROPOSED ELEVATION IN BOX (p).
- q. INDICATES THE UPPER POOL LEVEL AT 190' ABOVE SEA LEVEL.
- r. GIVE ELEVATION OF LAKE BOTTOM BENEATH END OF DOCK.
- s. HANDRAIL CONSTRUCTED FROM 1.5", 14 GAUGE SQUARE STEEL TUBING, ON BOTH SIDES OF WALK. HEIGHT 39" - 42", WITH AN INTERMEDIATE RAIL 19" - 22" HIGH. MAXIMUM DISTANCE BETWEEN SUPPORT POSTS ON HANDRAILS IS 8 FEET. VERTICAL POSTS CAN BE USED IN PLACE OF MID-RAILS IF THEY ARE 12 INCHES OR LESS APART.
- t. SAFETY REFLECTORS. OWNERS OF NEW, REASSIGNED OR REISSUED BOAT DOCK FACILITIES ARE REQUIRED TO SUPPLY, INSTALL AND MAINTAIN AT LEAST FOUR, THREE INCH DIAMETER ORANGE REFLECTORS. THESE REFLECTORS ARE TO BE PLACED ON EACH SIDE OF THE FRONT CORNERS OF THE DOCK, VISIBLE AT NIGHT TO VESSEL SPOTLIGHTS. REFLECTORS MUST BE REPLACED WHEN THEY BECOME MISSING OR DAMAGED BEYOND THEIR EFFECTIVENESS.

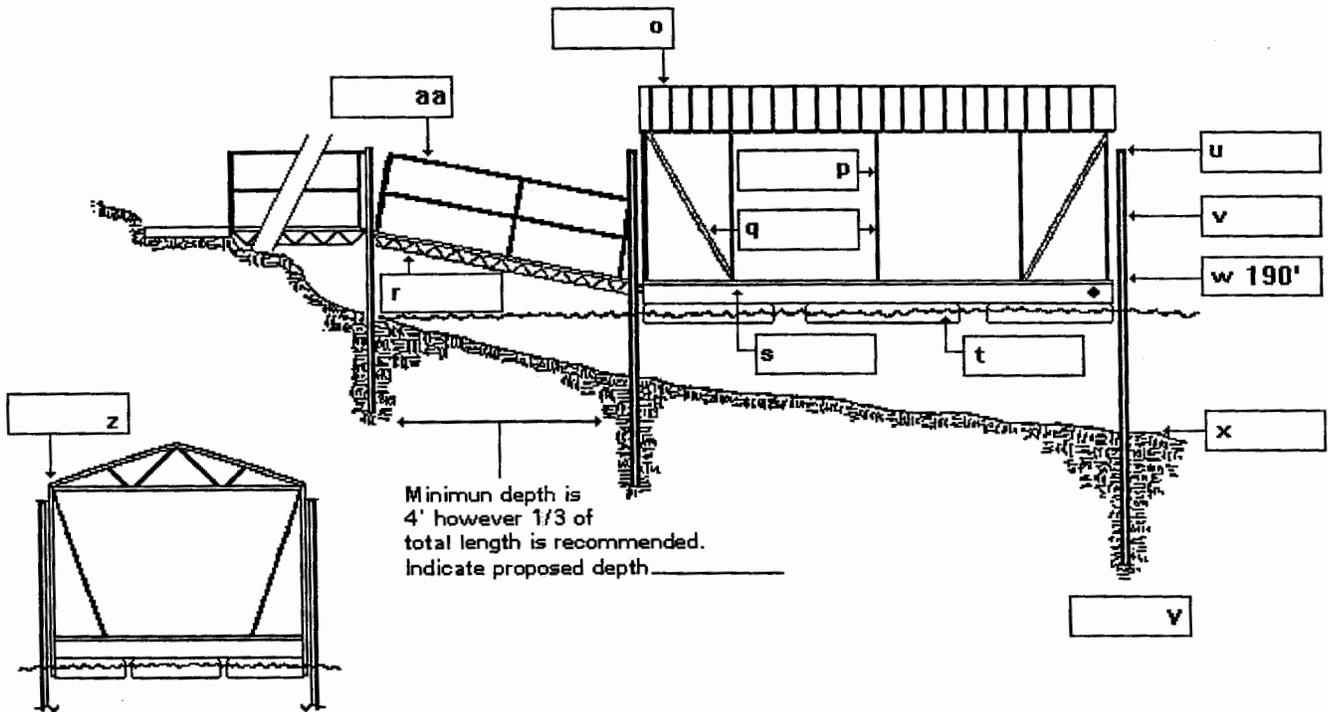
**BOAT DOCK W/SLIP PLAN
EXHIBIT "A-9"**

TOP VIEW



SIDE VIEW

NOTE: Boat Hoists or Personal Watercraft Lifts of any type must be independently approved prior to installation.



NOTE: IS THE BOAT HOUSE TURNED 90 DEGREES? (circle one) NO LEFT RIGHT

CONCEPTUALLY APPROVED
for
U.S. Army Corps of Engineers, Mobile District

BY: _____
DATE: _____

NOTICE: This approval stamp DOES NOT certify an engineering review. The builder should rely on professional engineering services to certify that the design is suitable for intended purposes and meets minimum standards including those related to the safety of the users.

I will construct this facility according to this plan.

Name: _____

Subdivision: _____

Lot No.: _____

- a. WRITE "SAME" IN BOXES IF THE SUGGESTED MATERIALS, DIMENSIONS, ETC. WILL BE USED. GIVE DIMENSIONS WHERE REQUESTED. MAJOR DEVIATIONS MUST BE SHOWN ON AN ORIGINAL PLAN. SLIPS MUST BE ACCOMPANIED WITH A COPY OF THE PERMITTEE'S BOAT REGISTRATION SHOWING SIZES OF BOAT.
- b. FOUNDATION PADS FOR STEPS OR WALKWAYS MUST NOT EXCEED 6'X 6'. GIVE YOUR DIMENSION IN BOX (b). IF YOU CHOOSE NOT TO HAVE A PAD, WRITE IN: N.A.
- c. MAXIMUM LENGTH OF THE TOTAL STRUCTURE FROM SHORE CAN BE 100' (INCLUDING BOATHOUSE PLATFORM) - NOT TO EXCEED 1/3 OF THE TOTAL WIDTH IN TRIBUTARY AREAS. WRITE DESIRED LENGTH IN BOX (c).
- d. WRITE IN BOX (d) THE LENGTH FROM THE BEGINNING OF THE WALKWAY TO THE HINGED SECTION.
- e. MINIMUM LENGTH OF HINGED SECTION IS 14'. GIVE DESIRED LENGTH IN BOX (e). THIS WILL NOT APPLY TO FIXED FACILITIES.
- f. WALKWAY MINIMUM 4' WIDE UP TO A MAXIMUM OF 6' WIDE, WITH CENTER STRINGER.
- g. INDICATES 4" STEEL PILING. SPECIFY MATERIAL AND NUMBER OF PILINGS TO BE USED WITH WALKWAY.
- h. INDICATES 2X6 PRESSURE TREATED DECKING OR 5 1/4" TREATED DECKING. GIVE YOUR DESIRED DIMENSION IN BOX (h).. ANY DEVIATIONS MUST BE NOTED.
- i. INDICATES POLE GUIDE DEVICE AND 4" STEEL PILING. ANY DEVIATIONS MUST BE NOTED. THIS WILL NOT APPLY TO FIXED FACILITIES.
- j. WRITE YOUR DESIRED LENGTH OF BOATHOUSE IN BOX (j).
- k. GIVE YOUR DESIRED WIDTH OF BOATHOUSE IN BOX (k).
- m. FINGER WALKWAY - MAXIMUM 6' FOR TWO SIDES AND 8' FOR THE REMAINING SIDE. GIVE DESIRED DIMENSIONS IN BOXES (m). MINIMUM WIDTH OF WALKWAYS IS 4'. TOTAL SQUARE FOOTAGE SHOULD NOT EXCEED 680 FEET. INCREASES IN SQUARE FOOTAGE MAY BE ALLOWED UP TO 900 SQ. FT., IF A NEED CAN BE JUSTIFIED, AND ONLY IF THE SPACE ALONG THE SHORELINE PERMITS.
- n. GIVE YOUR DESIRED WIDTH OF SLIP IN BOX (n).
- o. INDICATES CORRUGATED METAL SHEET ROOF. ANY DEVIATIONS MUST BE NOTED. UPPER LEVEL DECKS MUST BE APPROVED THRU THE CORPS AND CERTIFIED BY A LICENSED PROFESSIONAL WITHIN THE FIELD OF EXPERTISE. REGULATIONS DO APPLY.
- p. INDICATES 1 1/2"-14 GAUGE SQUARE STEEL TUBE FRAMING WITH WELDED JOINTS. ANY DEVIATIONS MUST BE NOTED IN BOX (p).
- q. SUPPORT POSTS ARE EVERY 8' OR LESS. ANY DEVIATIONS MUST BE NOTED IN BOX (q). SWAY BRACES INSTALLED ON ALL CORNERS. FENCE ENCLOSURES ARE PERMITTED; SOLID WALLS ARE NOT PERMITTED.
- r. INDICATES 12" STEEL BAR JOIST. ANY DEVIATIONS MUST BE NOTED IN BOX (r).
- s. INDICATES 14 GAUGE STEEL FRAME WITH WELDED JOINTS. ANY DEVIATIONS MUST BE NOTED IN BOX (s).
- t. FLOTATION SHALL BE OF MATERIALS WHICH WILL NOT BECOME WATERLOGGED (NOT OVER 1/2 PERCENT BY VOLUME ASTM), IS RESISTANT TO DAMAGE BY ANIMALS, AND WILL NOT SINK OR CONTAMINATE THE WATER IF PUNCTURED. NO METAL COVERED OR INJECTED DRUM FLOTATION WILL BE ALLOWED. FOAM BEAD FLOTATION THAT IS NOT SUBJECT TO DETERIORATION THROUGH LOSS OF BEADS, MEETS THE ABOVE CRITERIA, AND HAS A MINIMUM DENSITY OF 1.2 LB/CU. FT. IS AUTHORIZED. FOAM BEAD FLOTATION WITH A DENSITY OF 1.0 LB/CU. FT. BUT DOES NOT OTHERWISE MEET THE ABOVE CRITERIA IS AUTHORIZED PROVIDED IT IS ENCASED IN AN APPROVED PROTECTIVE COATING WHICH ENABLES IT TO MEET THE SPECIFICATIONS ABOVE. AN APPROVED COATING IS DEFINED AS WARRANTED BY THE MANUFACTURER FOR A PERIOD OF AT LEAST (8) EIGHT YEARS AGAINST CRACKING, PEELING, SLOUGHING AND DETERIORATION FROM ULTRA VIOLET RAYS, WHILE RETAINING ITS RESILIENCY AGAINST ICE AND BUMPS BY WATERCRAFT. THIS WILL NOT APPLY TO FIXED FACILITIES.
- u. TOP OF THE PILING TO BE AT LEAST 196' ABOVE SEA LEVEL. GIVE YOUR PROPOSED PILING HEIGHT IN BOX (u). THIS WILL NOT APPLY TO FIXED FACILITIES.
- v. TOP OF THE WALKWAY TO BE AT LEAST 192.0' OR 192.5' ABOVE SEA LEVEL. GIVE YOUR PROPOSED ELEVATION IN BOX (v).
- w. INDICATES THE UPPER POOL LEVEL AT 190' ABOVE SEA LEVEL.
- x. GIVE ELEVATION OF LAKE BOTTOM BENEATH END OF BOATHOUSE.
- y. PILING TO BE DRIVEN TO A DEPTH OF 1/3 OF TOTAL LENGTH. ANY DEVIATIONS MUST BE NOTED IN BOX (y). FIXED DOCK POSTS SHOULD BE DRIVEN IN WITH AT LEAST A 500 POUND HAMMER. NO JETTING PILINGS INTO THE GROUND.
- z. INDICATES PITCH OF ROOF AT 4/12. LOWER EDGE OF ROOF 7 TO 8 FEET HIGH. NOTE ANY DEVIATIONS IN BOX (z).
- aa. HANDRAIL CONSTRUCTED FROM 1.5", 14 GAUGE SQUARE STEEL TUBING, ON BOTH SIDES OF WALK. HEIGHT 39" - 42", WITH AN INTERMEDIATE RAIL 19" - 22" HIGH. MAXIMUM DISTANCE BETWEEN SUPPORT POSTS ON HANDRAILS IS 8 FEET. VERTICAL POSTS CAN BE USED IN PLACE OF MID-RAILS IF THEY ARE 12 INCHES OR LESS APART.
- bb. SAFETY REFLECTORS. OWNERS OF NEW, REASSIGNED OR REISSUED BOAT DOCK FACILITIES ARE REQUIRED TO SUPPLY, INSTALL AND MAINTAIN AT LEAST FOUR, THREE INCH DIAMETER ORANGE REFLECTORS. THESE REFLECTORS ARE TO BE PLACED ON EACH SIDE OF THE FRONT CORNERS OF THE DOCK, VISIBLE AT NIGHT TO VESSEL SPOTLIGHTS. REFLECTORS MUST BE REPLACED WHEN THEY BECOME MISSING OR DAMAGED BEYOND THEIR EFFECTIVENESS.

Exhibit V

Boat Hoist Certification

Personal Watercraft Lift Plan

Boat Hoist Certification

Walter F. George/George W. Andrews Lakes

I hereby certify that the dock structure illustrated in the permit application submitted by

_____ permit number _____,
name of permittee (if issued)

is designed to support the weight of a boat lifted by means of a hoist attached to the structure.

Maximum weight of the supported boat is not to exceed _____ pounds.

Signed,

_____ signature of certified engineer
name of certified engineer

_____ city - state - zip code

_____ area code and telephone number

_____ registration number state of issue

Date

_____ month - day - year

Boat Hoist Requirements

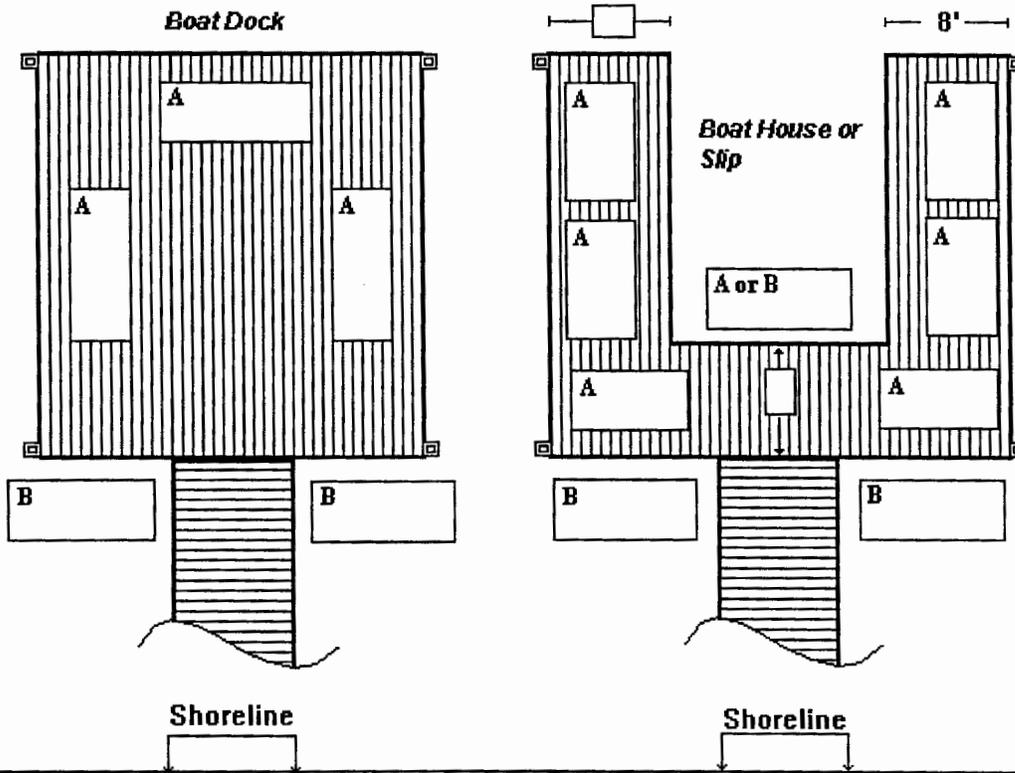
Regulatory guidance allows two options for permitting boat hoists. The first requires a hoist be able to lift its load independently without additional stress to the dock structure. The second allows a certified professional engineer to document that the dock structure and hoist mechanism are specifically designed to support the additional weight of the specific watercraft to be lifted. Since this guidance was not in effect before August 13, 1987, and certification by a professional engineer is not probable for many older structures on Walter F. George/George W. Andrews Lakes, hoists installed prior to that date have "grandfather" status. This status means that boat hoists permitted and installed before August 13, 1987 can remain as long as they are functional, are in good repair, and do not create a safety hazard. Hoists previously certified will not require re-certification for permit renewal unless the hoist mechanism or its supporting structure has been modified, has been replaced or is in need of major repair.

**PERSONAL WATERCRAFT LIFTS
EXHIBIT "A-4"**

NOTE: Letters A and B Correspond to the type of lift permitted within these areas.

"A" Facility Dependent Lifts "Pivoting"

"B" Independent Lift "Floating"



* Please read regulations below. Mark the location of the personal watercraft lift(s) with an "X" in one or two boxes above.
* All lift locations must be approved before installation begins.

Regulations

1. Only two lifts will be permitted per floating facility.
2. FACILITY DEPENDENT type lifts will be permitted, provided there is an increase in flotation and/or additional support with enough deck space for safe access around the lift(s). This type of lift is one that uses the dock for support to lift the personal watercraft out of the water and pivot it onto the dock facilities decking for dry storage.
3. Lifts that are dependent upon a facility's flotation/construction for support can be permitted on:
 - a. Boat dock facilities, provided it does not pose an access problem or safety hazard.
 - b. Finger walkways of slip docks, provided the finger walkway is a minimum of 8 feet in width.
 - c. Or within a boat slip, where it can be suspended over the water.
 - d. Certification must be provided by a licensed professional within that field of expertise that the structure of the facility has been specifically designed to support additional weight of the specific lift load.
4. **IMPORTANT:** The lift and personal watercraft will not be permitted to remain suspended over the water, unless it's within a boat slip.
5. INDEPENDENTLY FLOATING type Lift are connected to the floating facility but are not dependent upon the structures flotation, and does not pivot the personal watercraft onto the structure for dry storage. These are an extension of the dock facility. Restrictions are as followed:
 - a. permitted only on the shoreline side, were the hinged walkway connects to the dock facility, or within a boat slip.
6. No lift can be connected to the access walkway and must not interfere with the dock facility's original purpose.
7. Any personal watercraft lift that requires electrical power for operation must obtain a permit for the electric line and installed according to Exhibit "A-1".

CONCEPTUALLY APPROVED
for
U.S. Army Corps of Engineers, Mobile District

BY: _____
DATE: _____

NOTICE: This approval stamp DOES NOT certify an engineering review. The builder should rely on professional engineering services to certify that the design is suitable for intended purposes and meets minimum standards including those related to the safety of the users.

I will construct this facility according to this plan.

Name: _____

Subdivision: _____

Lot No.: _____

Exhibit VI

Electrical Service Plans and Requirements

ELECTRICAL PLAN

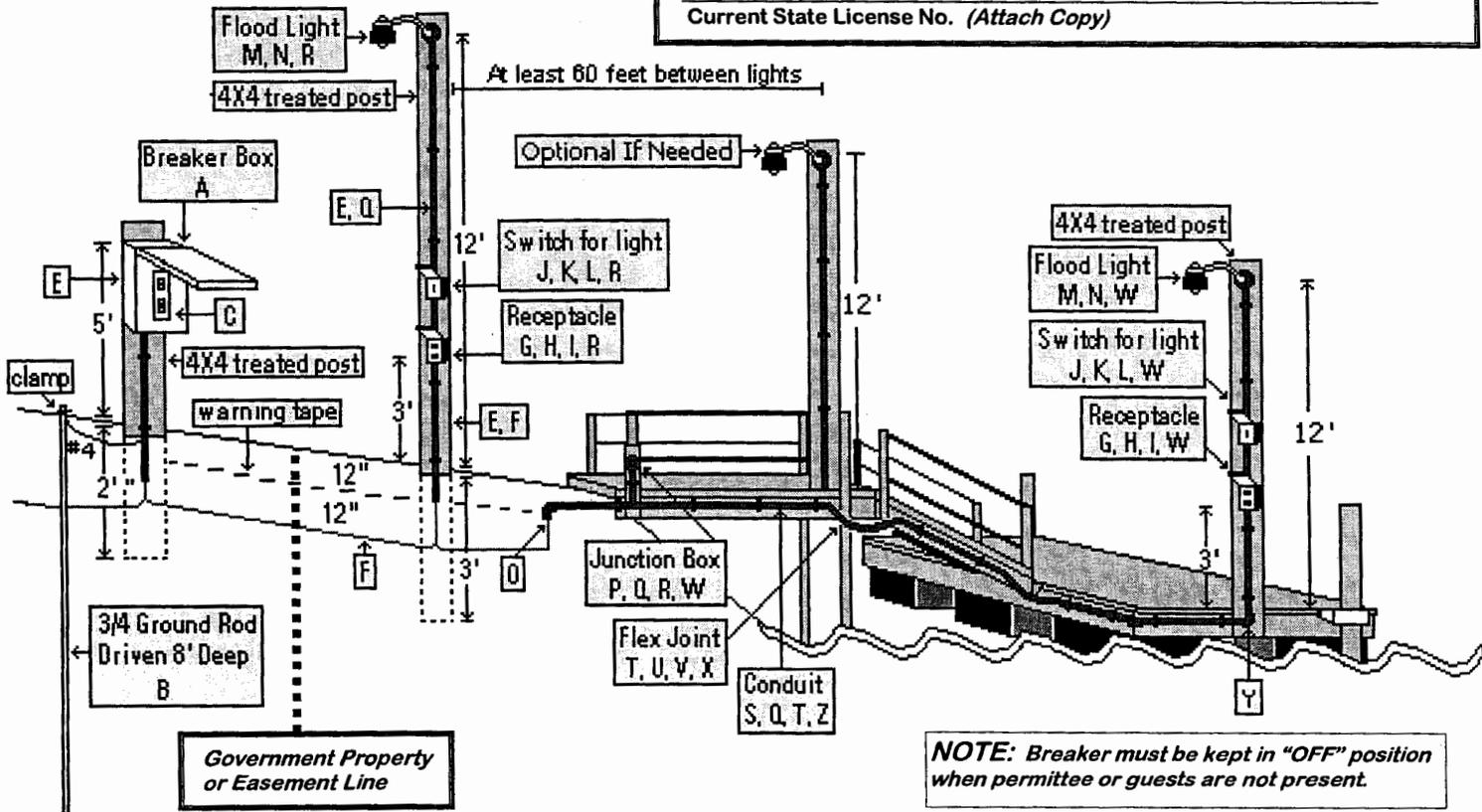
Exhibit A-1

I CERTIFY THAT THIS ELECTRIC SYSTEM AS INSTALLED COMPLIES WITH SPECIFIED CORPS OF ENGINEERS REQUIREMENTS AND THE N.E.C. FOR WET LOCATIONS, MARINAS AND BOAT YARDS REQUIREMENTS.

X _____
 Electrician's Signature

 Printed Name

 Current State License No. (Attach Copy)



All Material Must Comply With National Electric Code For Wet Locations

Item	Quantify	Item	Quantify		
A	1	Breaker Box	O	1	LB, 3/4" PVC 90 degree, Sch. 40 Conduit
B	1	8' Galvanized pipe, 3/4"	P	1	Junction Box w/Cover, Wet Location
C	1	Ground Fault Breaker, 20 amp	Q	10	Strap 3/4" 2-hole PVC (every 2')
E		3/4" PVC Sch. 40 Electrical Conduit	R	7	3/4" PVC Adapter
F		UF or USE Underground wire, 12/2 WG or larger	S		Elec. Conduit PVC Sch. 40
G	2	Receptacle	T		Wire, Stranded THW, Black, 12 AWG or Larger
H	2	Receptacle Box, Wet Location	U		Wire, Stranded THW, Black, 12 AWG or Larger
I	2	Receptacle Box Cover, Wet Location	V		Wire, Stranded THW, Black, 12 AWG or Larger
J	2	Switch	W	6	Adapters, PVC (use with flex)
K	1	Receptacle Box, Wet Location	X	4	Female adapters, PVC (use with flex)
L	2	Switch Cover, Wet Location	Y	2	LB 90 degree PVC Sch. 40
M	2	Lamp w/Holder, Wet Location	Z	6	Compiling, PVC Sch. 40
N	2	Junction Box w/Cover, Wet Location			

PVC Cement, 1 pint PVC Cleaner

CONCEPTUALLY APPROVED
 for
U.S. Army Corps of Engineers, Mobile District

BY: _____
 DATE: _____

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DISTANCES 120 VOLTS AT 20 AMPS CAN BE PUSHED THROUGH WIRE BEFORE THE VOLTAGE DROPS 3 PERCENT.

12 AWG COPPER IS CAPABLE OF 110. FEET
 10 AWG COPPER IS CAPABLE OF 175. FEET
 8 AWG COPPER IS CAPABLE OF 280. FEET

NOTICE: For NEW Lines, attach a detailed Site Plan with a Layout Diagram of your Electric Line on Public

Requirements for electrical facilities on government fee and easement lands and/or waters:

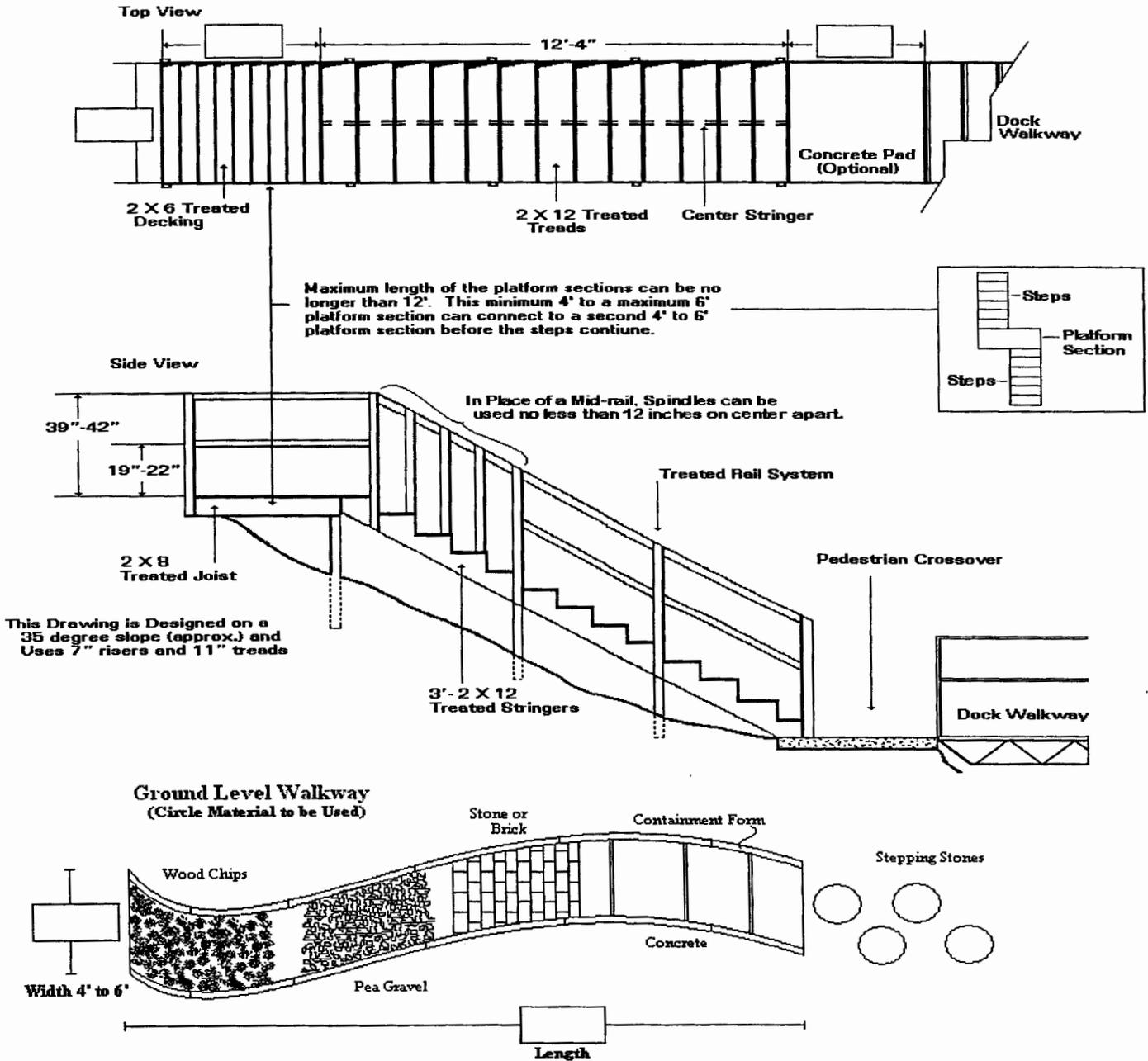
1. All installations and materials must comply with the National Electric Code, (N.E.C.), and/or Marinas and Boatyards and Wet Locations. Our requirements may exceed the N.E.C.
2. A weatherproof breaker box must be located on private property, as near to the Corps fee or easement line as practical. The breaker box must be identified as weatherproof and must be mounted on a pressure treated post not less than five (5) feet high and anchored in the ground 24 inches. The box must contain a ground fault breaker which will protect the entire electrical system on project land or waters and must be properly grounded using an eight (8) foot (minimum) ground rod driven into the ground two (2) feet from the post. Wiring entering and leaving the box must be in conduit.
3. Wiring leaving the box and installed underground must be direct burial type wire. UF type wire with a bare ground will be approved from the breaker box to the junction box on the permanent walkway. The distance of the run and load will determine the wire size. This wiring must be buried a minimum of two (2) feet below the surface with warning tape buried one (1) foot below the surface. UF and USE type wire are approved for direct burial without conduit. THW or equal stranded wire may be used for the entire installation provided that it is color coded black for hot, white for neutral, and green for ground and installed underground in electrical conduit. Aluminum wire is not approved.
4. All above-ground wiring must be in approved water tight electrical conduit with proper connections. Non-metallic rigid electrical conduit or metallic rigid threaded type conduit may be used. Conduit which leads to receptacles or switches must be supported by pressure treated wood posts with sufficient clamps installed to prevent movement. Flexible conduit must be used at all moveable joints. PVC waterpipe is not allowed to be used in lieu of electrical conduit.
5. All excess openings in receptacle boxes, junction boxes, lighting fixture boxes or any other fixture must be plugged with a threaded plug and sealed with a waterproof sealant to insure that they are watertight. The number of lights approaching a floating facility will be determined by the minimum number necessary to access the facility safely.
6. All switches must be installed in waterproof boxes and be mounted at least three (3) feet above the land or normal water surface. Switch covers must be rated for "Wet locations when cover is closed."
7. Receptacle covers which are rated as approved for "Wet locations when cover closed" may be used if properly installed and if used only for temporary hookup. They will not be allowed for hookups which are left unattended or that could be rained upon. Receptacle covers which are subjected to rain or will be left unattended must be approved for "Wet locations when cover is open and outlet is in use." All receptacles must be mounted at least three (3) feet above the land or normal water surface.
8. When the UF wire reaches the walkway to the boathouse or boat dock, a junction box must be installed and THW stranded wiring spliced to the UF conductors with wire nuts. The THW wire must be color coded black (hot), white (neutral), and green (ground). The UF cable must be- in conduit prior to entering the junction box. The TIN wire must be in conduit with flexible conduit being installed at each hinged or moveable joint in the walkway.
9. The THW wire must be properly wired with polarity checked. The green (ground) wire must be connected to the ground terminal of all receptacles and also to the ground LUG inside the receptacle box and/or lighting fixture box. In addition, when metal poles are grandfathered for lighting fixtures, the pole must be grounded using the same green wire. The metal light pole should not be directly connected to the water. When metal framing is used on the dock superstructure, the framing must also be grounded. This will insure continuity of the ground. The ground wire must run continuous back to the breaker box which protects the entire system.
10. Only treated wood poles, for light fixtures, will be allowed for new installations. Lights on wood poles over land must be at least twelve (12) feet above the ground . Lights on wood poles mounted on docks, or dock walkways, must be twelve (12) feet above the facilities deck. All lights must be a minimum of 60 feet apart. Installing a light under a boat house roof is permitted. Mercury vapor another approved type outside lights may be used provided all wiring is protected by conduit and the facility approved prior to installation.
11. The electrical system must be certified by a State Licensed and Corps approved electrician upon initial installation, change of ownership, or at which time an existing system as been modified, tampered with, or damaged in any way.

Exhibit VII

Improved Walkway/Step Plans and Requirements

STEPS/WALKWAY/BRIDGE PLAN
EXHIBIT "A-5"

Elevated boardwalks and platform steps may be allowed for safety. Handrails are required for all steps one foot or more above the ground. All improved steps must be between 4 to 6 feet wide, *please note dimensions on form*. Maximum distance between support posts on handrails is 8 feet. Vertical posts can be used in place of mid-rails if they are 12 inches or less apart. All wooden construction shall be pressure treated or made decay resistant with preservatives approved by the Corps of Engineers. Creosote, arsenic, and "penta" treatment are *not* acceptable. Minimum dimension lumber size permitted is five-quarter (5/4) inches.
NOTE: Please attach a detailed diagram of your Step/Walkway configuration on Public Property to this form .



CONCEPTUALLY APPROVED
for
U.S. Army Corps of Engineers, Mobile District

BY: _____
DATE: _____

NOTICE: This approval stamp DOES NOT certify an engineering review. The builder should rely on professional engineering services to certify that the design is suitable for intended purposes and meets minimum standards including those related to the safety of the users.

I will construct this facility according to this plan.

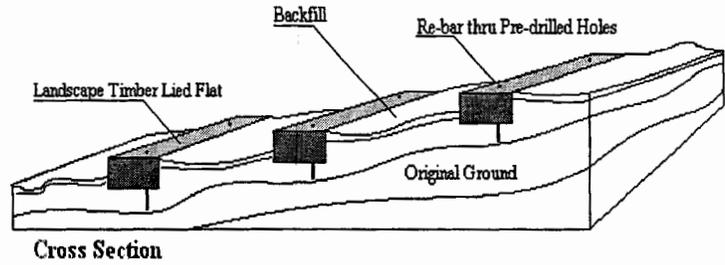
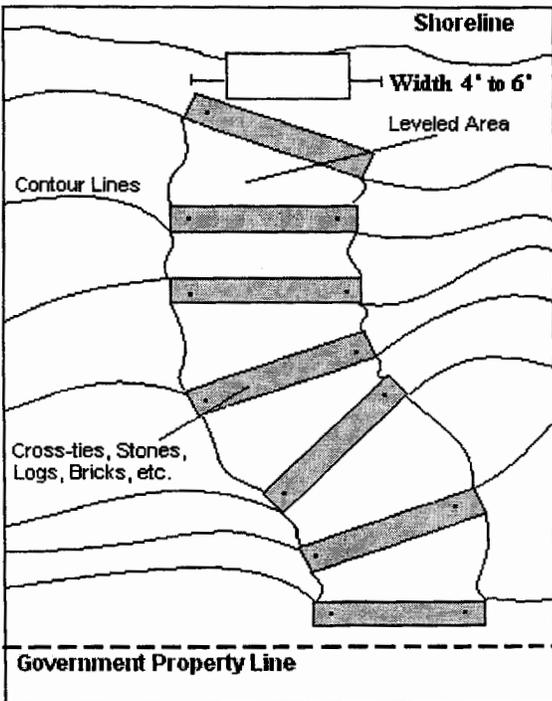
Name: _____

Subdivision: _____

Lot No.: _____

STEPS/WALKWAY/BRIDGE PLAN (Con't)
EXHIBIT "A-5"

Natural Steps



NOTE: Handrails Minimum 2 X 4" Wood or 1 1/2" Square Tubing or other Rigid Material (NO ROPES)

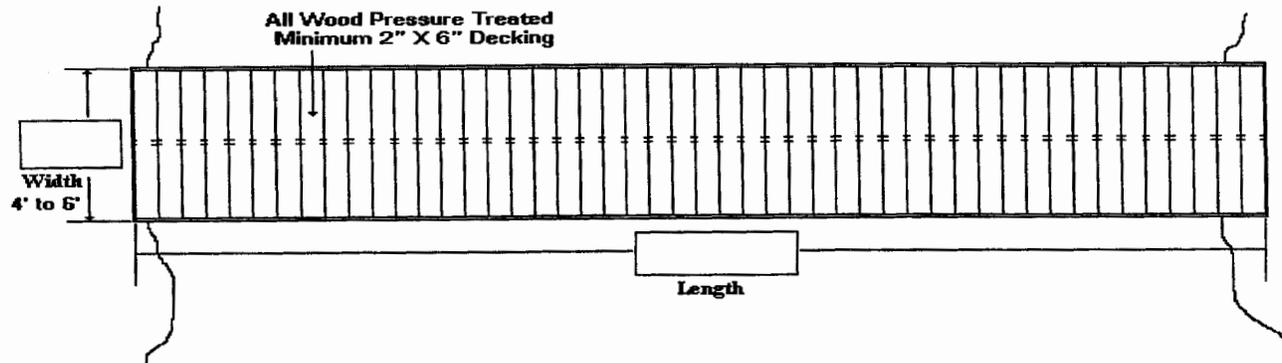
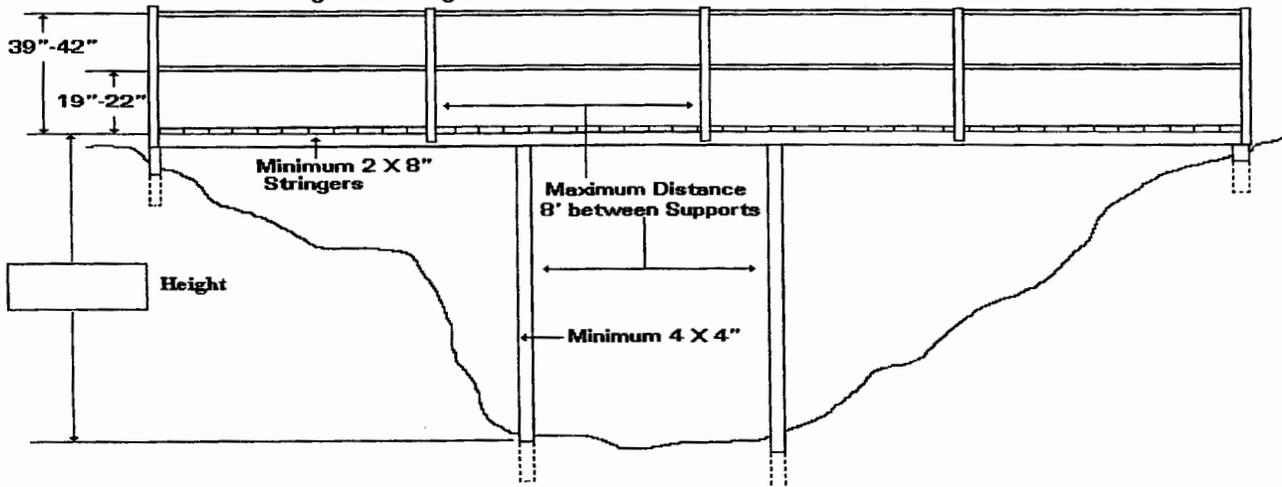
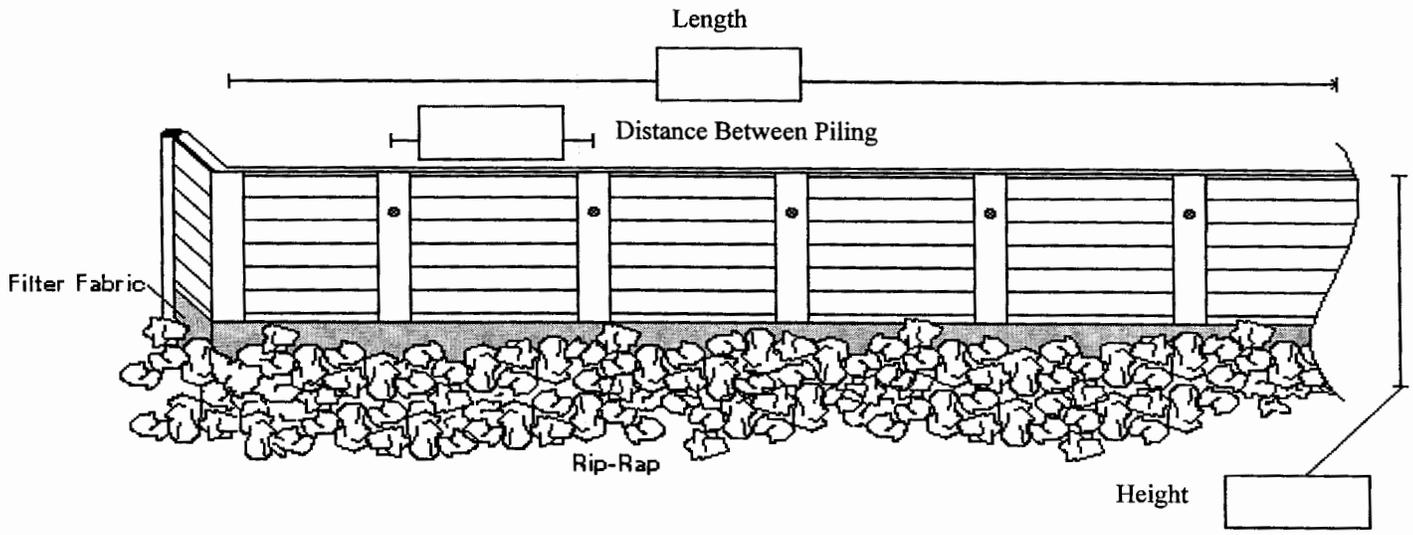
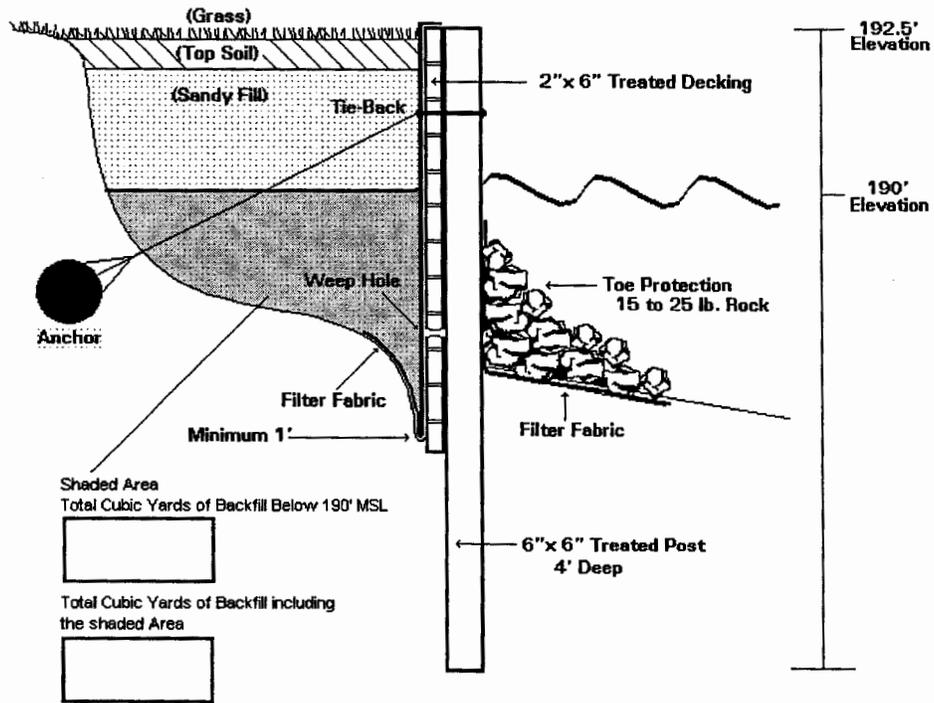


Exhibit VIII

Bank Stabilization Plans and Requirements

WOOD RETAINING WALL

EXHIBIT "A-11"



CONCEPTUALLY APPROVED
for
U.S. Army Corps of Engineers, Mobile District

BY: _____
DATE: _____

NOTICE: This approval stamp DOES NOT certify an engineering review. The builder should rely on professional engineering services to certify that the design is suitable for intended purposes and meets minimum standards including those related to the safety of the users.

I will construct this facility according to this plan.

Name: _____
Subdivision: _____
Lot No.: _____

**WOOD RETAINING WALL SPECIFICATIONS
MINIMUM REQUIREMENTS**

NOTICE: PLEASE ATTACH A DETAILED SITE PLAN AND DIAGRAM OF YOUR WALL TO THIS FORM.

1. Construction should begin within six (6) months of issuance date of permit. Once construction begins the wall should be completed within sixty (60) days.
2. Only walls using sound engineering design and construction will be considered.
3. Only treated material will be allowed in wood wall construction.
4. Base of wall should be installed as close to the existing shore as possible.
5. Minimum height 192.5 feet MSL; actual height to be determined by site inspection, location, and terrain conditions.
6. Timber bulkhead cross-members must be square cut type lumber, so that they fit flush without gaps.
7. Non-woven polyester needle punched filter fabric must be installed as shown on the attached drawing or the entire inside surface of the wall. Minimum acceptable filter fabric will weigh eight (8) ounces per square yard.
8. Wall must have toe protection a minimum of 1/3 wall height. Toe protection will be stone, rip-rap, no broken concrete or other rubble will be permitted. Filter fabric (as specified in "6") must be installed as shown on the attached drawing under toe protection.
9. Weepholes - Minimum one between each post, approximately two (2) inches in diameter. To be located within one foot from bottom elevation. Weepholes must be covered by filter fabric.

10. MAXIMUM DISTANCE BETWEEN POSTS

<u>WALL HEIGHT</u>	<u>4X4 FACING</u>	<u>2X6 FACING</u>	<u>MINIMUM POST SIZE</u>
4 FT. HIGH	8' MAX. SPACE	6' MAX. SPACE	6 X 6"
5 FT. HIGH	6' MAX. SPACE		6 X 6"
6 FT. HIGH	4' MAX. SPACE	4' MAX. SPACE	8 X 8"

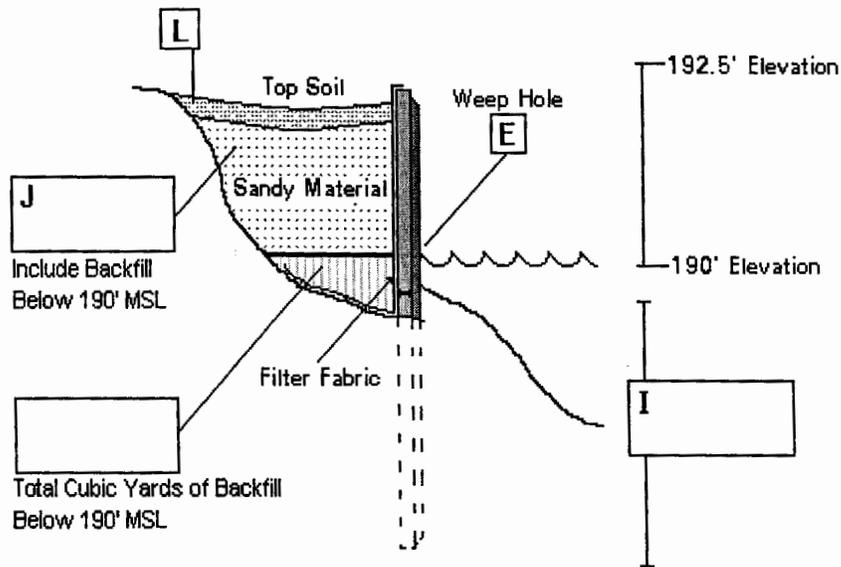
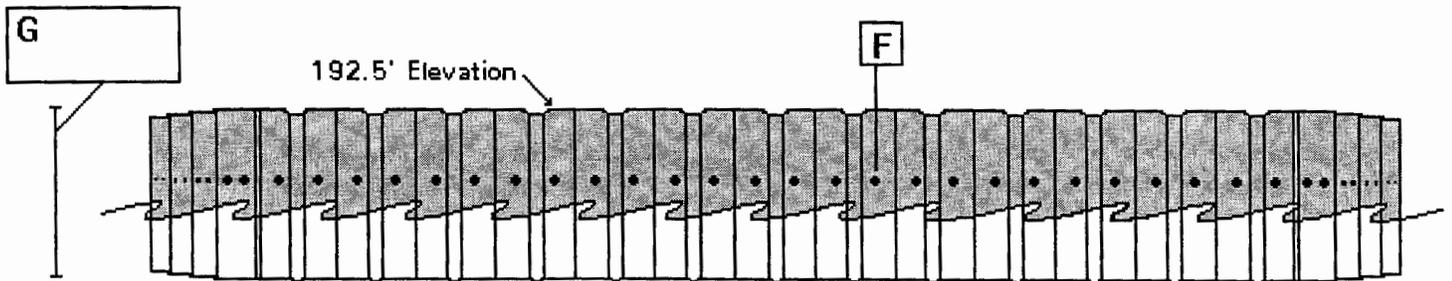
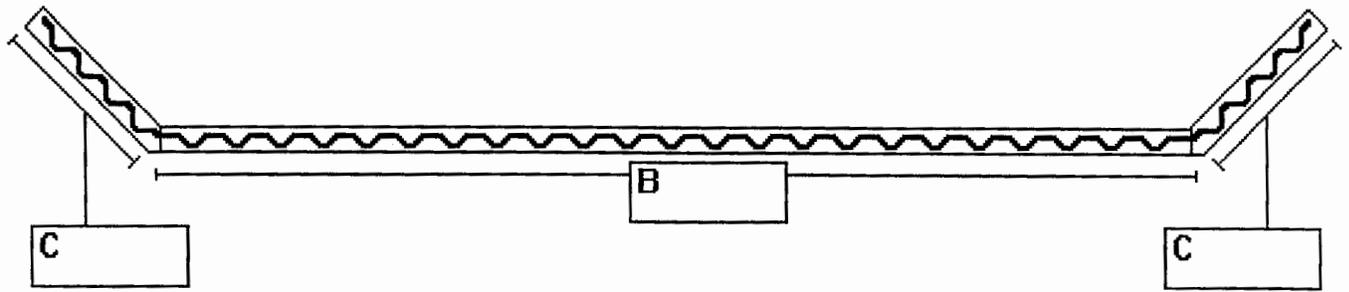
*NOTE: MINIMUM POST DEPTH IS FOUR FEET BELOW BOTTOM ELEVATION.

11. Tiebacks - Should be of sound engineering design and construction compatible with the type wall proposed. Tieback cables must be a minimum of 1/2" diameter and be connected to posts. Minimum is one tieback for each post used in wall construction.
12. Anchor should be a concrete or treated wood minimum 6" diameter post.
13. Fill Material - Must be clean sandy fill dirt, and free of rocks broken concrete, bricks, and other debris. Upper layer should be topsoil and be grassed immediately upon completion of wall.

STEEL Z-PILING RETAINING WALL

(No Tie Backs Required)

EXHIBIT "A-11"



CONCEPTUALLY APPROVED
for
U.S. Army Corps of Engineers, Mobile District

BY: _____
DATE: _____

NOTICE: This approval stamp DOES NOT certify an engineering review. The builder should rely on professional engineering services to certify that the design is suitable for intended purposes and meets minimum standards including those related to the safety of the users.

I will construct this facility according to this plan.

Name: _____

Subdivision: _____

Lot No.: _____

STEEL Z- PILING RETAINING WALL OR OTHER FREE STANDING STEEL PILING WALL
--NO TIE BACKS REQUIRED.--

NOTICE: PLEASE ATTACH A DETAILED SITE PLAN AND DIAGRAM OF YOUR WALL TO THIS FORM.

- a. Give dimensions in all boxes. Any deviations must be shown on drawing and prior approved.
- b. Write in the length of the wall in box (b).
- c. Write in the length of the wing walls in boxes (c). Any deviations must be noted and approved.
- d. Normal upper pool elevation is 190.0.
- e. Indicates two inch (2") diameter weep holes six feet (6') on center located one (1') foot above the base of the wall with filter cloth installed behind the holes.
- f. Indicates ball and socket type steel z-piling wall.
- g. Top of wall must be a minimum of 192.5. Indicate elevation of top of wall.
- h. Non-woven polyester needle punched filter fabric. Minimum acceptable weight is eight (8) ounces per square yard.
- i. Required depth of piling:
 - 1. Two and one half foot (2 1/2') tall wall.....Four feet (4') required in ground.
 - 2. Three foot (3') tall wall.....Five feet (5') required in ground.
 - 3. Four foot (4') tall wall.....Six feet (6') required in ground.
 - 4. Five foot (5') tall wall.....Seven feet (7') required in ground.
 - 5. Six foot (6') tall wall.....Eight feet (8') required in ground.
 - 6. Seven foot (7') tall wall.....Nine feet (9') required in ground.

ANY WALLS FIVE FEET (5') AND OVER REQUIRE SPECIAL APPROVAL.

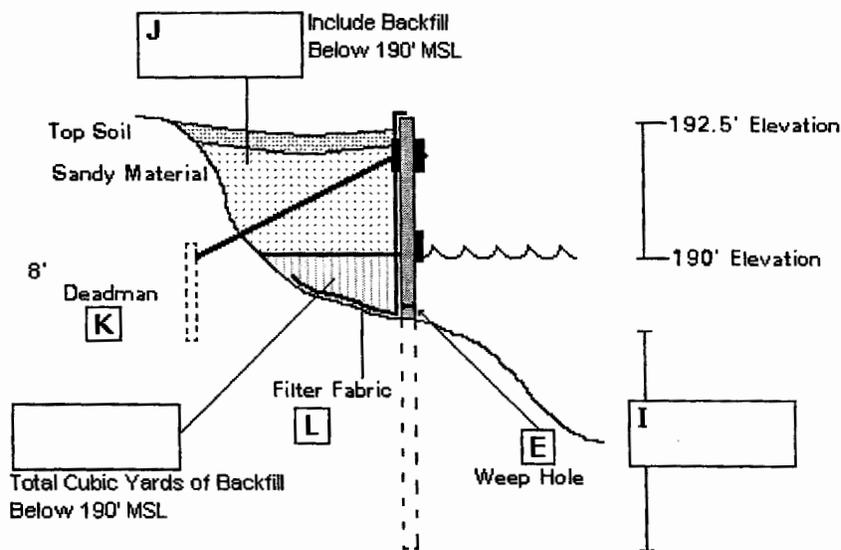
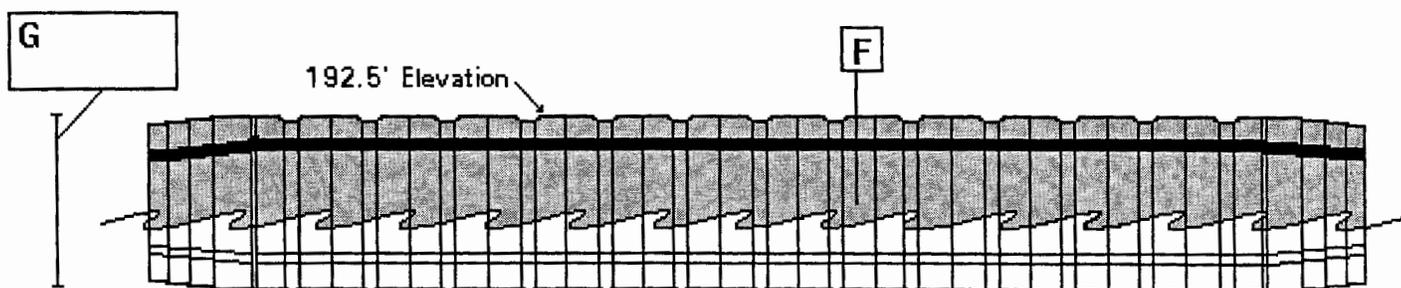
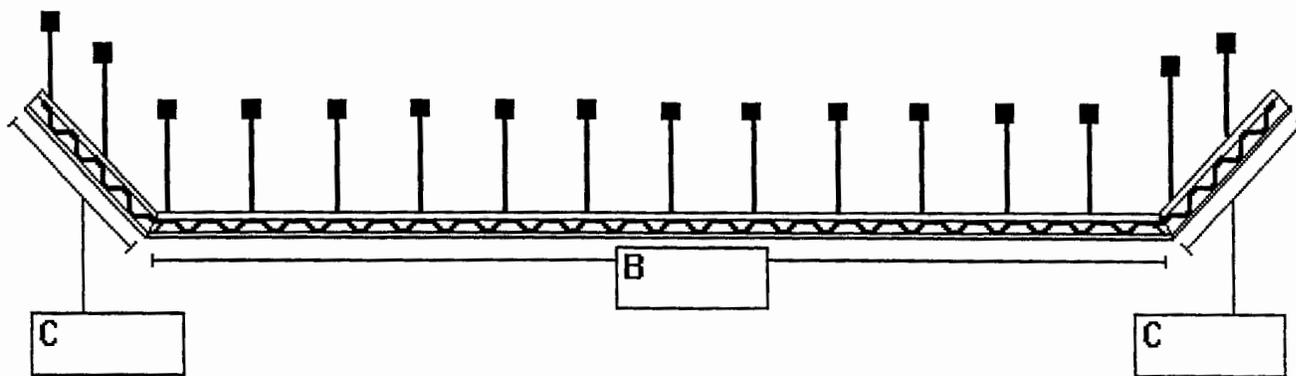
- j. Indicate total cubic yards of sand backfill material. (Water displacement). Indicate the total cubic yards of sandy material that will be placed below the 190' elevation, if this applies.
- k. Deadman posts or tie-backs are not required for this type of wall.
- l. Indicates four inches (4") of top soil with grass to be installed upon completion of wall.

NOTE: ALL STEEL Z- PILING MUST BE LOCATED ON THE SCENE AND INSPECTED PRIOR TO INITIATION OF ANY WORK.

VINYL SHEET PILING RETAINING WALL

(Tie-Backs Required)

EXHIBIT "A-11"



CONCEPTUALLY APPROVED
for
U.S. Army Corps of Engineers, Mobile District

BY: _____
DATE: _____

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I will construct this facility according to this plan.

Name: _____

Subdivision: _____

Lot No.: _____

VINYL SHEET PILING RETAINING WALL (TIE BACKS REQUIRED)

NOTICE: PLEASE ATTACH A DETAILED SITE PLAN AND DIAGRAM OF YOUR WALL TO THIS FORM.

- a. Give dimensions in all boxes. Any deviations must be shown on drawing and prior approved.
- b. Write in the length of the wall in box (b).
- c. Write in the length of the wing walls in boxes (c). Any deviations must be noted and approved.
- d. Minimum of one inch (1") solid steel tieback connected to sheet piling dead-man or treated piling driven , or concrete anchors poured a minimum of five (5) feet into solid ground required. Indicate number of tiebacks.
- e. Indicates two inch (2") diameter weep holes six feet (6') on center located one (1') foot above the base of the wall with filter cloth installed behind the holes.
- f. Indicates a minimum wall thickness of 0.25 inch vinyl sheet piling.
- g. Top of wall must be a minimum of 192.5. Indicate elevation of top of wall.
- h. Normal upper pool elevation is 190.0.
- i. Required depth of piling:
 - 1. Two and one half foot (2 1/2') tall wall.....Four feet (4') required in ground.
 - 2. Three foot (3') tall wall.....Five feet (5') required in ground.
 - 3. Four foot (4') tall wall.....Six feet (6') required in ground.
 - 4. Five foot (5') tall wall.....Seven feet (7') required in ground.
 - 5. Six foot (6') tall wall.....Eight feet (8') required in ground.
 - 6. Seven foot (7') tall wall.....Nine feet (9') required in ground.

ANY WALLS FIVE FEET (5') AND OVER REQUIRE SPECIAL APPROVAL.

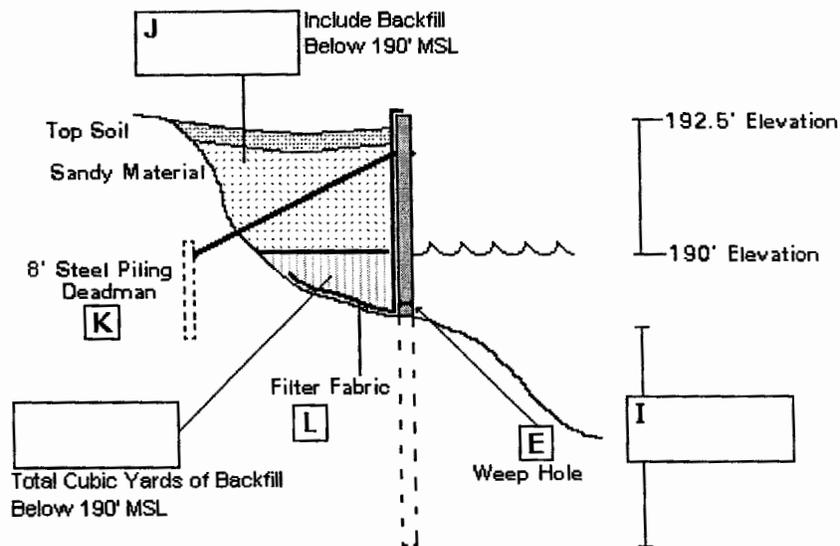
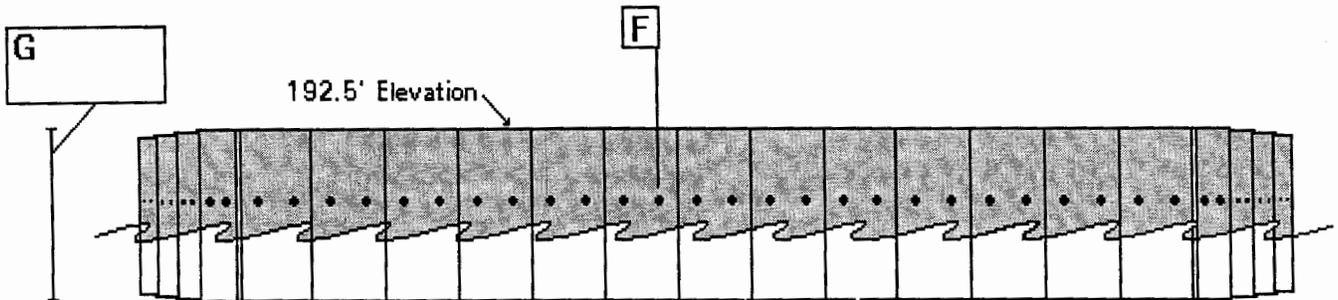
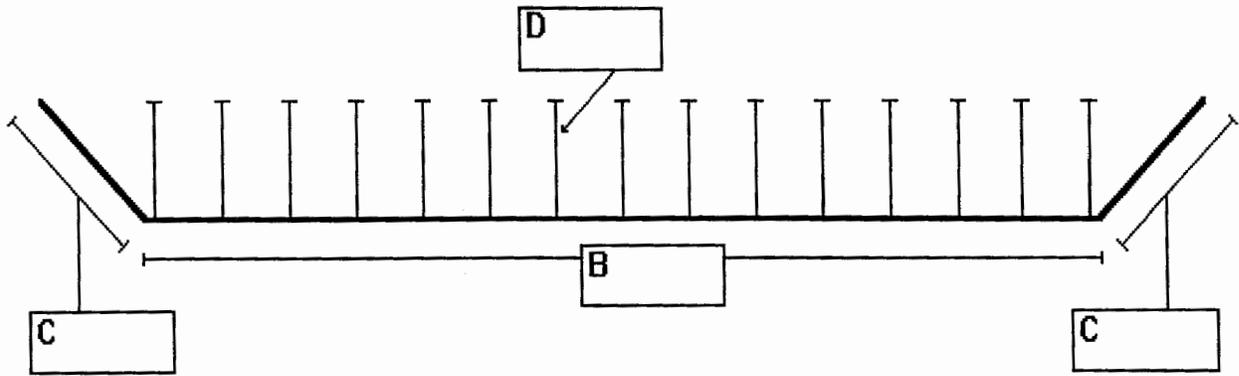
- j. Indicate total cubic yards of sandy material backfill. (Water displacement). Indicate the total cubic yards of sandy material that will be placed below the 190' elevation, if this applies.
- k. Indicates dead-man set back a minimum of eight foot (8').
- l. Non-woven polyester needle punched filter fabric. Minimum acceptable weight is eight (8) ounces per square yard.
- m. Indicates four inches (4") of top soil with grass to be installed upon completion of wall.

NOTE: ALL VINYL SHEET PILING MUST BE LOCATED ON THE SCENE AND INSPECTED PRIOR TO INITIATION OF ANY WORK.

STEEL SHEET PILING RETAINING WALL

(Tie-Backs Required)

EXHIBIT "A-11"



CONCEPTUALLY APPROVED
for
U.S. Army Corps of Engineers, Mobile District

BY: _____
DATE: _____

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I will construct this facility according to this plan.

Name: _____

Subdivision: _____

Lot No.: _____

STEEL SHEET PILING RETAINING WALL
(TIE BACKS REQUIRED)

NOTICE: PLEASE ATTACH A DETAILED SITE PLAN AND DIAGRAM OF YOUR WALL TO THIS FORM.

- a. Give dimensions in all boxes. Any deviations must be shown on drawing and prior approved.
- b. Write in the length of the wall in box (b).
- c. Write in the length of the wing walls in boxes (c). Any deviations must be noted and approved.
- d. Minimum of one inch (1") solid steel tieback welded to sheet piling dead-man driven a minimum of five (5) feet into solid ground required. Indicate number of tiebacks.
- e. Indicates two inch (2") diameter weep holes six feet (6') on center located one (1') foot above the base of the wall with filter cloth installed behind the holes.
- f. Indicates ball and socket type steel sheet piling wall.
- g. Top of wall must be a minimum of 192.5. Indicate elevation of top of wall.
- h. Normal upper pool elevation is 190.0.
- i. Required depth of piling:
 - 1. Two and one half foot (2 1/2') tall wall.....Four feet (4') required in ground.
 - 2. Three foot (3') tall wall.....Five feet (5') required in ground.
 - 3. Four foot (4') tall wall.....Six feet (6') required in ground.
 - 4. Five foot (5') tall wall.....Seven feet (7') required in ground.

ANY WALL FIVE FEET (5') AND OVER REQUIRE SPECIAL APPROVAL.

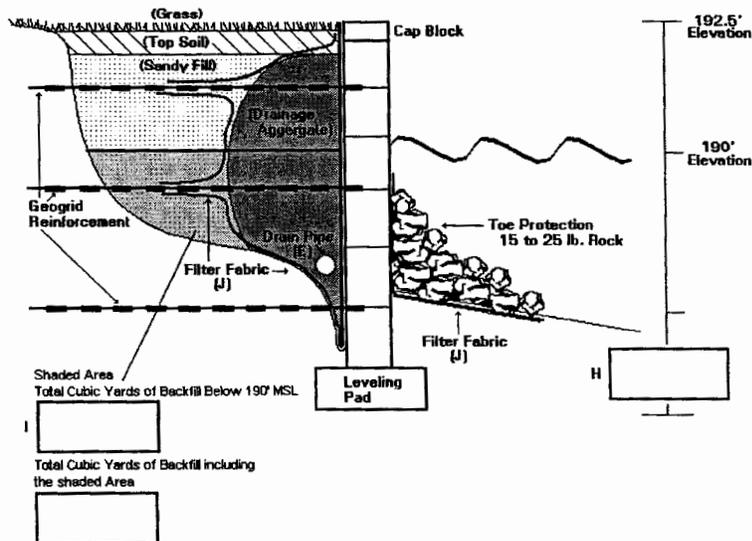
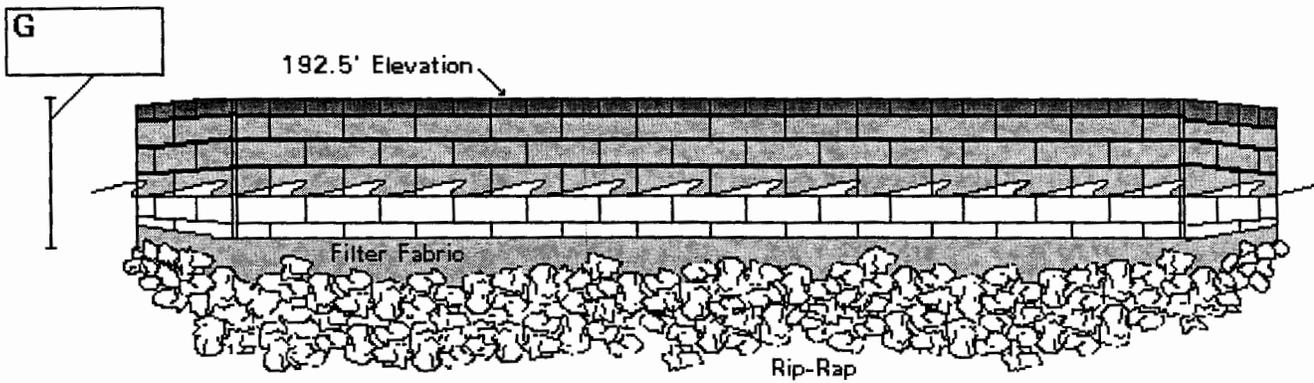
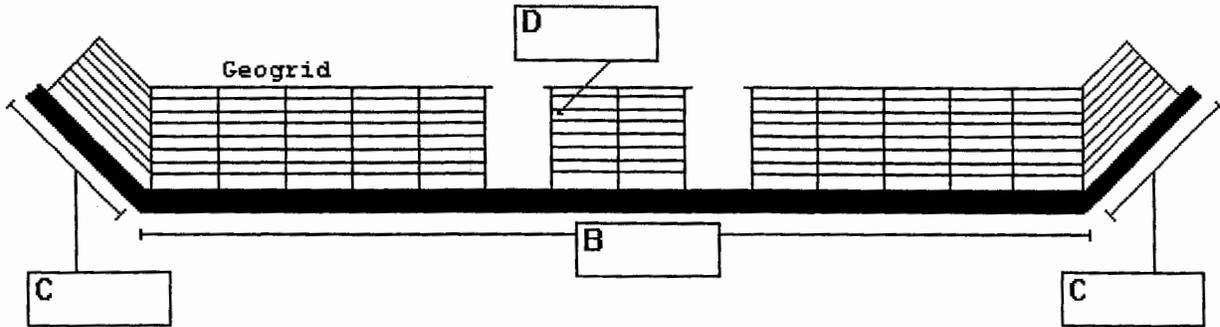
- j. Indicate total cubic yards of sandy material backfill. (Water displacement). Indicate the total cubic yards of sandy material that will be placed below the 190' elevation, if this applies.
- k. Indicates eight foot (8') steel piling dead-man.
- l. Non-woven polyester needle punched filter fabric. Minimum acceptable weight is eight (8) ounces per square yard.
- m. Indicates four inches (4") of top soil with grass to be installed upon completion of wall.

NOTE: ALL STEEL SHEET PILING MUST BE LOCATED ON THE SCENE AND INSPECTED PRIOR TO INITIATION OF ANY WORK.

BLOCK RETAINING WALL

(Tie-Backs Required)

EXHIBIT "A-11"



CONCEPTUALLY APPROVED
for
U.S. Army Corps of Engineers, Mobile District

BY: _____
DATE: _____

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I will construct this facility according to this plan.

Name: _____

Subdivision: _____

Lot No.: _____

**BLOCK RETAINING WALL
(TIE BACKS REQUIRED)**

A Certified Structure Engineer Must Certify That This Wall is Suited to the Particular Site Conditions that Exist. Engineer Drawing and Plan Must be Submitted for Corps Approval.

NOTICE: PLEASE ATTACH A DETAILED SITE PLAN AND DIAGRAM OF YOUR WALL TO THIS FORM.

- a. Give dimensions in all boxes. Any deviations must be shown on drawing and prior approved.
- b. Write in the length of the wall in box (b).
- c. Write in the length of the wing walls in boxes (c). Any deviations must be noted and approved.
- d. Geosynthetic Reinforcement Grid must be used. Number of Grid layers is determined by height of Wall.
- e. Drain pipe place with drainage aggregate to direct water out from behind wall.
- f. Top of wall must be a minimum of 192.5. Indicate elevation of top of wall.
- g. Normal upper pool elevation is 190.0. Show height of Wall.
- h. Depth of Wall
- i. Indicate total cubic yards of sandy material backfill. (Water displacement). Indicate the total cubic yards of sandy material that will be placed below the 190' elevation, if this applies.
- j. Non-woven polyester needle punched filter fabric. Minimum acceptable weight is eight (8) ounces per square yard.
- k. Indicates four inches (4") of top soil with grass to be installed upon completion of wall.

NOTE: ALL BLOCKS AND INSTALLATION MATERIAL MUST BE LOCATED ON THE SCENE AND INSPECTED PRIOR TO INITIATION OF ANY WORK.

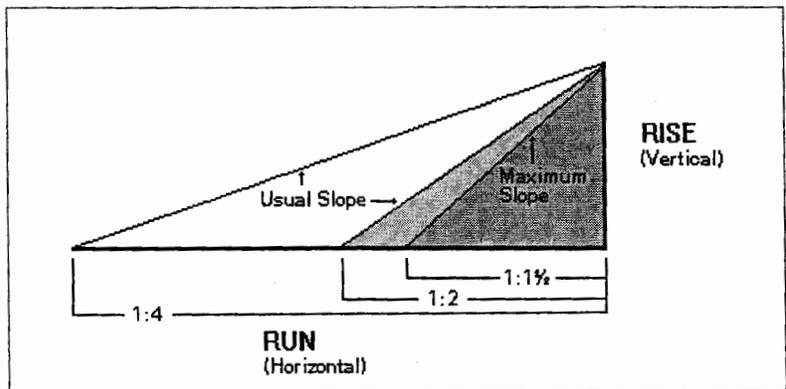
Revetments that are adequate under normal conditions may be damaged in severe storms, when the speed of water and carrying power of waves increase to several times their normal rates. Revetments must be thus strong enough to resist the battering action of waves and wave-carried debris. Heavy stones can help prevent the construction material from being washed away.

Revetments can be adopted to a variety of local conditions and available materials. Some materials are more suitable to gentle slopes and light wave action, others are more sturdy. Armoring the revetment with a heavy face layer and providing drainage are key elements of success.

Site Characteristics

Revetments are stable if they are built on relatively gentle slopes, with two to four feet of run for every foot of rise. Revetments should not be built on slopes with less than a foot and a half of run per foot of rise. The slope on which a revetment is to be built may require grading or smoothing to prepare an adequate foundation for construction.

Erosion at the toe, common in steep revetments, further decreases the stability of the structure. In areas where unstable slope materials may displace the structure, other shoreline erosion devices should be considered. Where vandalism is likely to be a problem, especially heavy or durable construction elements are needed.



NOTICE: PLEASE ATTACH A DETAILED SITE PLAN AND DIAGRAM OF YOUR WALL TO THIS FORM.

CONCEPTUALLY APPROVED
for
U.S. Army Corps of Engineers, Mobile District

BY: _____
DATE: _____

NOTICE: This approval stamp DOES NOT certify an engineering review. The builder should rely on professional engineering services to certify that the design is suitable for intended purposes and meets minimum standards including those related to the safety of the users.

I will construct this facility according to this plan.

Name: _____

Subdivision: _____

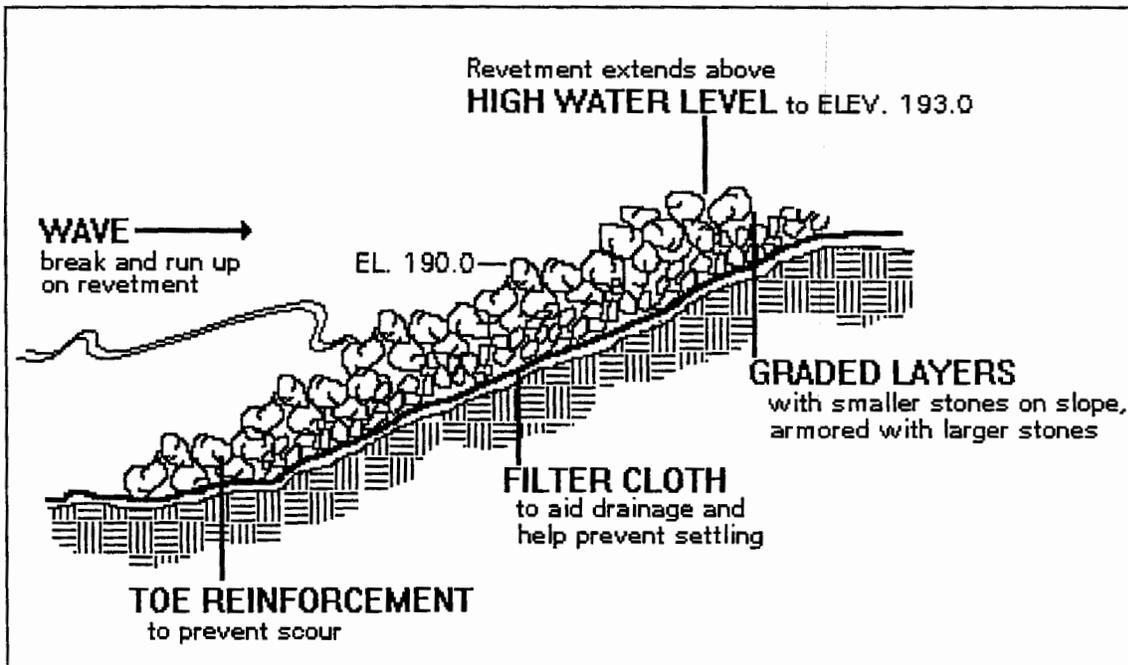
Lot No.: _____

REVETMENTS

EXHIBIT "A-11"

Revetments are structures placed on banks or bluffs in such a way as to absorb the energy of incoming waves. They are usually built to preserve the existing uses of the shoreline and to protect the slope. Like seawalls, revetments armor and protect the land behind them. They may be either watertight, covering the slope completely, or porous, to allow water to filter through after the wave energy has been dissipated.

Most revetments do not significantly interfere with transport of littoral drift. They do not redirect wave energy to vulnerable unprotected areas, although beaches in front of steep revetments are prone to erosion. Materials eroded from the slope before construction of a revetment may have nourished a neighboring area, however. Accelerated erosion there after the revetment is built can be controlled with a beach-building or beach-protecting structure such as a groin or a breakwater.



Design Considerations

Waves break on revetments as they would on an unprotected bank or bluff, and water runs up the slope. The extent of run-off can be reduced by using stone or other irregular or rough-surfaced construction materials. A rough surface offers more resistance to the water's flow than the original shoreline surface, decreasing the energy of the wave more quickly and preventing the water from traveling as far.

Important design considerations include providing appropriate height, width, and toe protection. Revetments should be high enough to prevent overtopping by high waves. To prevent flank erosion, the sides should be protected by tiebacks or returns. Scour at the toe can be prevented by a rock apron. Where there is a beach between the revetment and the water, access over the structure should be provided for beach users.

Construction Materials

Where they are readily available, rubble or quarry-stone make the most reliable and economical revetments. Adequate filters and armor stone size are important. The cost of labor or machinery necessary for slope preparation or placement of the largest sizes of stone may be high even where material is available at reasonable cost.

Revetment design should also allow for relief of groundwater pressure in the protected bank. Filters of cloth or small stones relieve water pressure in porous revetments, keeping drainage paths open and preventing settling. Solid revetments can be drained by evenly spaced „weep holes" along the bottom. This drainage channels the groundwater along non-eroding paths and prevents it from seeking its own way along the softer material of the slope.