



US Army Corps
of Engineers®
Little Rock District

JOINT PUBLIC NOTICE

CORPS OF ENGINEERS – STATES OF ARKANSAS & MISSOURI

Application Number: SWL 1995-10972-GI

Date: August 14, 2020

REISSUANCE OF A REGIONAL GENERAL PERMIT for work, including the placement of dredged and fill material, in waters of the United States associated with the authorization of recreational facilities (see RGP for specific authorized areas).

TO WHOM IT MAY CONCERN:

Background. On November 6, 2019, the Little Rock District Corps of Engineers issued a joint public notice with the States of Arkansas and Missouri announcing consideration of reissuance of this regional general permit for recreational facilities in navigable waters of the United States within the States of Arkansas and Missouri. As lead Corps District in the state, Little Rock District is responsible for coordinating advertisement and review of comments on this statewide regional general permit. Each district is responsible for administering the general permit in its respective geographical area of jurisdiction. The authority for permit issuance is found in Section 10 of the Rivers and Harbors Act of 1899 (33 U.S. Code 403) and Section 404 of the Clean Water Act (33 U.S. Code 1344). Corps districts are authorized to develop regional general permits in accordance with Title 33, Code of Federal Regulations Parts 325.2(e)(2) and 325.5(c)(1).

Determination to Reissue. After reviewing the previous actions authorized under this regional general permit and comments received on the public notice, it is our assessment that the work authorized will not have significant adverse environmental impacts and that the public interest will be served by reissuance of the regional general permit.

The policies of this regional general permit will be subject to reconsideration at any time, but will be reviewed at least every five (5) years. This regional general permit is therefore reissued for a period of 5 years until December 31, 2025, unless it is revoked or specifically extended in the interim.

Notification/Verification Requirement. Anyone wanting to do work under the regional general permit would have to notify the Corps District in which the work is to be performed and receive verification that the proposed work met the limits of the regional general permit. The notification/verification details are outlined in the Procedures for Verifying Authorization attached to the regional general permit.

Consideration of New/Additional Information. If additional information, developed during the life of the permit, indicates factors contrary to the public interest, this regional general permit may be suspended, modified, or revoked.

Interested parties are requested to provide comments on this regional general permit at any time during the life of the permit. Comments should be addressed to Chief, Regulatory Division, U.S. Army Corps of Engineers, P.O. Box 867, Little Rock, Arkansas 72203-0867.

NOTE: The mailing list for this Public Notice is arranged by state and county(s) where the project is located, and includes any addressees who have asked to receive copies of all public notices. Please discard notices that are not of interest to you. If you have no need for any of these notices, please advise us so that your name can be removed from the mailing list.

Enclosures

PROCEDURES FOR VERIFYING AUTHORIZATION

REGIONAL GENERAL PERMIT – **10972-GI**

RECREATIONAL FACILITIES

1. The US Army Corps of Engineers, Little Rock District, has issued the enclosed regional general permit for the construction, operation, and maintenance of recreational facilities in navigable waters of the United States within the States of Arkansas and Missouri for use in the Little Rock, Vicksburg, and Memphis Districts. This regional general permit is currently valid until **December 31, 2025**.

The area of the proposed work is divided among three Corps of Engineers Districts in Arkansas and two of the Corps of Engineers Districts in Missouri. The Little Rock District, as lead District for statewide regional general permits in Arkansas, developed this regional general permit in consultation with the Memphis and Vicksburg Districts. Each district would be responsible for administering the regional general permit in its respective geographical area of jurisdiction. The jurisdictional areas of the three Corps Districts in Arkansas and two of the Corps Districts in Missouri are shown on the map enclosed with the regional general permit. Individual submittals for work under this regional general permit would be reviewed by the Corps District in which the work is to be performed.

2. Procedures for Verifying Authorization. You shall use the following procedures in verifying authorization under this regional general permit.

a. You shall submit a written description of the proposed work to the appropriate US Army Corps of Engineers District at least 30 days prior to proposed commencement of work. The addresses are:

District Engineer, ATTN: CESWL-RD, US Army Corps of Engineers, Little Rock District, P.O. Box 867, Little Rock, Arkansas 72203-0867, Email: ceswl-regulatory@usace.army.mil

District Engineer, ATTN: CEMVK-OD-F, US Army Corps of Engineers, Vicksburg District, 4155 Clay Street, Vicksburg, Mississippi 39183-3435, Email: Regulatory@usace.army.mil

District Engineer, ATTN: CEMVM-OD-R, US Army Corps of Engineers, Memphis District, 167 North Main Street, Room B-202, Memphis, Tennessee 38103-1894.

b. Included with the submittal shall be drawings which accurately depict the work and its exact location. The type, sizes, and quantities of structures and/or materials to be used should be fully described, including appropriate dimensions, and if applicable, signed and stamped anchorage design documents from a Licensed Professional Engineer. This information should include lot sizes and the proposed distances between neighboring docks or other structures.

c. You shall submit the addresses of the adjacent landowners on each side of your lot/property.

d. Upon receipt of your request, the Corps of Engineers will determine whether the work falls within the criteria established by this regional general permit. The length of time required to evaluate each request under this regional general permit will be directly related to the adequacy and completeness of the information you submit. You will receive a letter of verification if the work is covered by this regional general permit. If the work cannot be authorized under this regional general permit, you will be notified that your application must be evaluated under other procedures, which may involve submission of additional information and likely issuance of a public notice.

e. To comply with the intent of the National Historic Preservation Act (NHPA), each proposed activity that meets the criteria in this regional general permit will be coordinated with our staff archeologist, for review. The Corps archeologist will (1) review the National Register of Historic Places for known historic properties and (2) review any completed archeological reconnaissance and surveys in the affected area. If applicable, the review findings may require that the applicant submit a reconnaissance survey for historic properties on the proposed site by a cultural resources professional if one has not already been completed. The qualifications of a cultural resource professional are defined in the Secretary of Interior's guidelines found in 36 CFR Part 61. No work shall begin in the permit area until the requirements of 33 CFR Part 325, Appendix C, and 36 CFR Part 800 have been satisfied.

f. In areas where the United States has acquired an interest in the real estate under the jurisdiction of the Corps of Engineers, such as easements for occasional flooding, a real estate instrument will be required. Processing of the real estate instrument will begin when plans are received from you. If the request for use of the real estate is disapproved, the authority granted under this regional general permit will be null and void.

g. The proposed project will be coordinated for possible conflicts with navigation when it is proposed for construction on the McClellan-Kerr Arkansas River Navigation System and on the Ouachita and Black Rivers Navigation System, which extends up to approximate River Mile 332.5 (2006 navigation chart) at the US Highway 79/278 (Business) bridge at Camden, Arkansas. The proposed project may also be coordinated with the District Section 408 Coordinator for review. Section 14 of the Rivers and Harbors Act of 1899, as amended, and codified in 33 U.S.C. 408 (Section 408) provides that the Secretary of the Army may, upon the recommendation of the Chief of Engineers, grant permission to other entities for the permanent or temporary alteration or use of any USACE Civil Works project, including navigation systems. If the request for Section 408 approval is disapproved, the authority granted under this regional general permit will be null and void.

h. Each applicant must comply with applicable FEMA-approved state or local floodplain management requirements.

i. The placement of any dredged or fill material carried out under the general permit shall not impact the daily hydropower operations of any of the hydropower projects located within the permit's geographical jurisdiction. If any special hydropower operations are required during the

placement of dredged or fill material, the Corps will coordinate with the Southwestern Power Administration's Tulsa office at least 30 days in advance. Note: Southwestern Power Administration's ability to accommodate special hydropower operations requests can be limited due to hydrologic conditions and energy demand.

j. No activity is authorized under this RGP which is likely to jeopardize the continued existence of a threatened or endangered (T&E) species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. All applications must identify any Federally listed (or proposed for listing) endangered or threatened species or critical habitat that might be affected or is in the vicinity of the project. Updated and additional information on the location of T&E species and their critical habitat, as well as clearance procedures, can be obtained directly from the offices of the USFWS or at <http://www.fws.gov/>.

DEPARTMENT OF THE ARMY PERMIT

Regional General Permit: **RECREATIONAL FACILITIES - Arkansas and Missouri**

Permit No.: **10972-GI**

Issuing Office: U.S. Army Corps of Engineers
Little Rock District, Regulatory Division
PO Box 867
Little Rock, Arkansas 72203-0867

NOTE: The term "you" and its derivatives, as used in this regional general permit, means any of the permittees whose work is authorized under its terms and conditions. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Work authorized under this regional general permit (RGP) is restricted to the construction, operation, and maintenance of certain facilities designed and intended for recreational use. Authorized structures include pile supported or floating docks, mooring piles, and marine railways. Structures shall not extend more than 50 feet waterward of where the ordinary high water elevation intersects the bankline or 15 percent of the waterway width, whichever is less. Docks or other structures located on the section of Lake Taneycomo upstream of the Union Pacific Railroad Bridge (navigation mile 520.35) shall not extend waterward more than 12 percent of the waterway width. Configuration of docks may vary provided that the surface area does not exceed 1,000 square feet. The length of the dock parallel to the shoreline shall not exceed 50 percent of the landowner's shoreline frontage. Docks shall not be placed within 50 feet of another dock unless the width of the lot does not allow this minimum distance. In that case, the distance between the proposed dock and the property line must be a minimum of 20 percent of the landowner's shoreline frontage.

Fill material used to complete railway systems should not exceed 15 cubic yards below the ordinary high water mark. No activity may use unsuitable material (e.g., trash, debris, asphalt). Materials used for construction must be free from toxic pollutants in toxic amounts.

Note: The dock structure (i.e. framing, bracing, dock, flotation, roof, etc.) shall be designed in accordance with all applicable local codes and regulations. It is recommended that the construction of new recreational facilities or the repair of existing, permitted facilities be in accordance with the design criteria attached as APPENDIX I and the *Anchorage Design Requirements for Docks and Barges on Navigable Waters Regulated by Southwest Little Rock District (SWL)* Memo dated May 20, 2019.

Project Location: This RGP is applicable to all navigable waters of the United States in the Little Rock District, all navigable waters of the United States in the Memphis District

jurisdictional boundaries of Missouri, and the entire State of Arkansas including the Vicksburg and Memphis Districts with the exceptions of: (1) the portion of Lake Taneycomo upstream of White River navigation mile 525.5 (Fall Creek vicinity), (2) any portion of the Arkansas River inside the navigation channel, (3) those lakes constructed and operated by the US Army Corps of Engineers where the surrounding property is under complete Federal ownership and administered under 36 CFR, Part 327, paragraphs 1 – 30, and (4) Morgan Point Bendway Lake.

Permit Conditions:

General Conditions:

1. Authorization under this RGP is valid for **three years** from the date of the verification letter to you. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this RGP in good condition and in conformance with the terms and conditions of this RGP. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this RGP from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this RGP, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. No activity is authorized under this RGP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act, or which will destroy or adversely modify the critical habitat of such species. All applications must identify any Federally listed (or proposed for listing) endangered or threatened species or critical habitat that might be affected or is in the vicinity of the project.
5. If you sell the property associated with this RGP, you must inform the new owner to contact this office so that the authorization can be transferred or reissued.
6. A conditioned water quality certification from the Arkansas Department of Energy and Environment, Division of Environmental Quality, Office of Water Quality, Planning Branch, and the Missouri Department of Natural Resources, Division of Environmental Quality, has been issued for your project. You must comply with the conditions specified in the applicable certification as special conditions to this RGP. For your convenience, a copy of the certification is attached.

7. If an activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must be aware that the activity which requires section 408 permission is not authorized by this RGP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written RGP verification.
8. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this regional general permit.

Special Conditions:

- 1. You must take all appropriate steps to ensure the integrity of the permitted structure through adequate construction practices and secure anchorage. Recommended dock design criteria are attached as APPENDIX I. Anchorage design requirements for docks are attached as a Corps of Engineers memorandum dated May 20, 2019, referenced as "Anchorage Design Requirements".**
- 2. Materials used in the construction or repair of structures must either be metal or pressure treated wood to retard rotting and/or decomposition.**
- 3. On all new floating docks, flotation shall be of materials that will not become waterlogged, are resistant to damage by animals, and will not sink or contaminate the water if punctured. Foam bead flotation is authorized provided that it meets the above criteria, is not subject to deterioration through loss of beads, and has a minimum density of 1.2 lb/cubic foot. Foam bead flotation with a density of 1.2 lb/cubic foot, but which 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 eight years against cracking, peeling, sloughing, and deterioration from ultra violet rays, while retaining its resiliency against ice and bumps by watercraft.**
- 4. You must remove all excess construction materials and debris from the bank after completion of the work.**
- 5. You must protect all areas disturbed along the bank during construction from subsequent erosion. Any excavation or other disturbance shall be limited to that minimum amount necessary to install and anchor boat docks or other facilities.**
- 6. There shall be no unreasonable interference with navigation by the existence of the authorized activity.**
- 7. No structure shall be constructed within the established buffer zone of an intake for a public water system, or 300 feet, whichever is larger.**

8. You shall not use trees as an anchoring point for the structure.

9. For floating boat docks with a footprint greater than 1,000 square feet, design documents (survey, drawings and calculations) shall be performed and or reviewed by a Licensed Professional Engineer within the state in which the dock is being constructed. Design documents shall be signed and stamped by the Licensed Professional Engineer and should follow the criteria in the attached “Anchorage Design Requirements” document dated May 20, 2019. Any design documents submitted without meeting this requirement will automatically be recommended for disapproval. For all other floating boat docks, it is highly recommended that the same anchorage criteria in the “Anchorage Design Requirements” be followed, but there is typically not a requirement for a Licensed Professional Engineer review and stamp.

10. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

☒ (X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S. Code 403).

☒ (X) Section 404 of the Clean Water Act (33 U.S. Code 1344).

☐ () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization:

a. This regional general permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This regional general permit does not grant any property rights or exclusive privileges.

c. This regional general permit does not authorize any injury to the property or rights of others.

d. This regional general permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability: In issuing this regional general permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this regional general permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this regional general permit.

4. Reliance on Applicant's Data: The determination of this office that your proposed work complies with the terms and conditions of this regional general permit was made in reliance on the information you provided.

5. Reevaluation of Permit Decision: This office may reevaluate its decision on this regional general permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this regional general permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your regional general permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions: General Condition 1 establishes a time limit for the completion of your activity authorized by this regional general permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

APPENDIX I

RECOMMENDED DESIGN CRITERIA

Minimum Design Loads:

- (1) Deck loads and walkways (substructure) 30 lbs./sq. ft.**
- (2) Wind loads (sub and superstructure) 20 lbs./sq. ft.**
- (3) Roof loads (superstructure) 10 lbs./sq. ft.**

1. Wood Construction: Wood materials will be of good quality, suitable for the intended purpose. All connections will be secured to resist movement that would tend to dismantle the structural connections.

(a) Wooden floor joists and flotation frames shall be not less than 2" x 8" with a maximum spacing of 24" center to center.

(b) Wood columns may be 4" x 4" and/or double 2" x 4" spaced not more than 4'-0" center-to-center or single 2" x 4", spaced not more than 2'-0" center-to-center. Where the roof structure has adequate bracing, the 4" x 4" vertical supports may be spaced up to 8' -0" on centers. Columns will be spaced symmetrically on each side of walkways and bolted through the 4" dimension to 2" x 8" stringers or flotation frames.

(c) Wooden walkways and decking shall be not less than 1" rough, 2" x 6" S4S, 3/4" exterior plywood, or other material capable of supporting a minimum design load of 30 lbs. sq. ft.

(d) Wood roof joists or rafters shall be 2" x 6" spaced not more than 2'-0" center-to-center. Consideration will be given to 4'-0" spacing with 2" x 8" rafters. Purlins shall be 2" x 4" spaced not more than 24" center to center.

(e) Wood roof decking may consist of 1" nominal tongue and groove, shiplap, or 1/2" plywood sheathing covered with 90-pound asphalt roll roofing or asphalt shingles. When asphalt shingles are used, the roof slope must be at least 4 on 12. Roofs must be securely fastened to the superstructure to resist wind uplift.

2. Metal Construction: New metal on the exposed exterior of the superstructure is desired. Used metal may be authorized if it is in good condition with no rust. Either welded or bolted connections may be used.

(a) Metal floor joists and flotation frames shall be the equivalent of 2" ID standard pipe. Framing for metal wall or column construction shall be the equivalent of 1-1/4" ID standard pipe. Studs shall not exceed 48" center to center. Other standard steel or aluminum structural sections may be approved if designed for a minimum design load of 30 lbs./sq. ft.

(b) Metal roof joists or rafters shall be the equivalent of 1-1/4" ID standard pipe or larger spaced not more than 2'-0" center-to-center. Consideration will be given to approving 4'-0" spacing where sufficient vertical supports and bracing are provided. Other standard steel or aluminum structural sections may be approved if designed for a minimum design load of 10 lbs./sq. ft.

(c) Metal roofs must be a minimum of 28 gauge for steel and aluminum roofs must have a thickness of at least 0.032 inches. Roofs must be securely fastened to the superstructure to resist wind uplift.

3. **Bracing:** All columns and studwalls will be adequately braced to resist windloads. Bracing will be designed and constructed to counteract design loads while allowing sufficient flexibility so wave action will not damage the structural and/or roof system.

4. **Anchorage:** The anchorage system shall provide secure mooring of the structure. Anchorage systems utilizing a deadman or ground stakes shall be installed flush with the existing grade. Anchor cables or other securing devices shall be maintained in good repair, and located to minimize obstruction hazards.

5. **Walkways:**

(a) Main walkways shall be at least 3 feet in width. The minimum width walkway between slips shall be 3 feet when used as access to boats.

(b) Walkways from shore to dock shall be free from excessive spring, deflection, and lateral movement.

(c) Walkways shall be above the water at all times.

(d) The method of permanently attaching the walkway to the dock and anchoring it to the shore will be shown in detail on the dock plans.

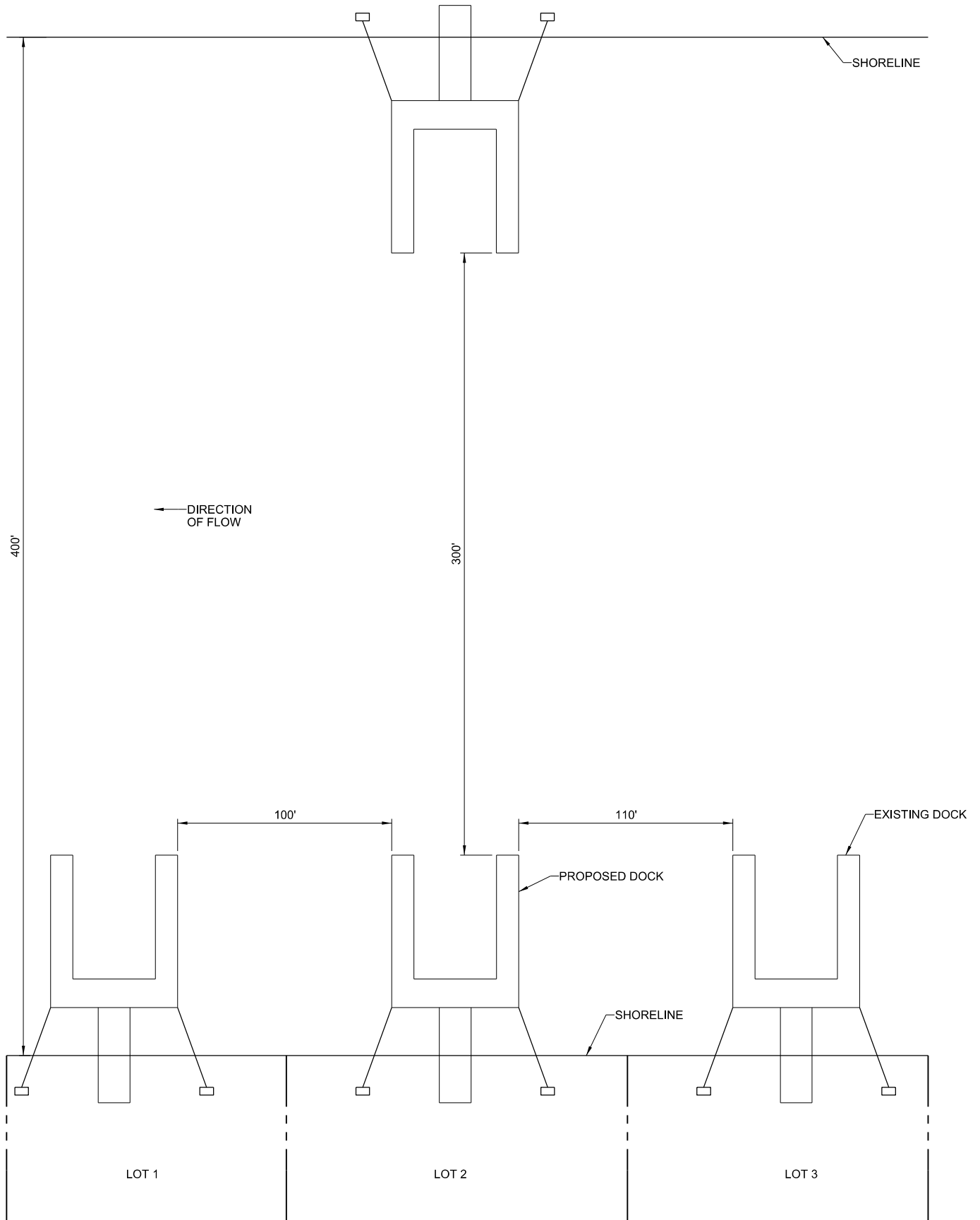
6. **Handrails:**

(a) Handrails will be provided on at least one side of the walkways leading to the dock and around the outside of the dock except where an opening is needed for loading and unloading boats.

(b) Handrails shall be at least 2" x 4", approximately 42" high with a guardrail at 20" above the deck. Posts for handrails shall be spaced not more than 8'-0" on center and must be the equivalent of 4" x 4" if wood or 2" OD standard pipe if metal.

7. **Electrical:** All electrical work shall meet the requirements of any local or state codes and the National Electric Code. Particular attention should be given to article 555 of the

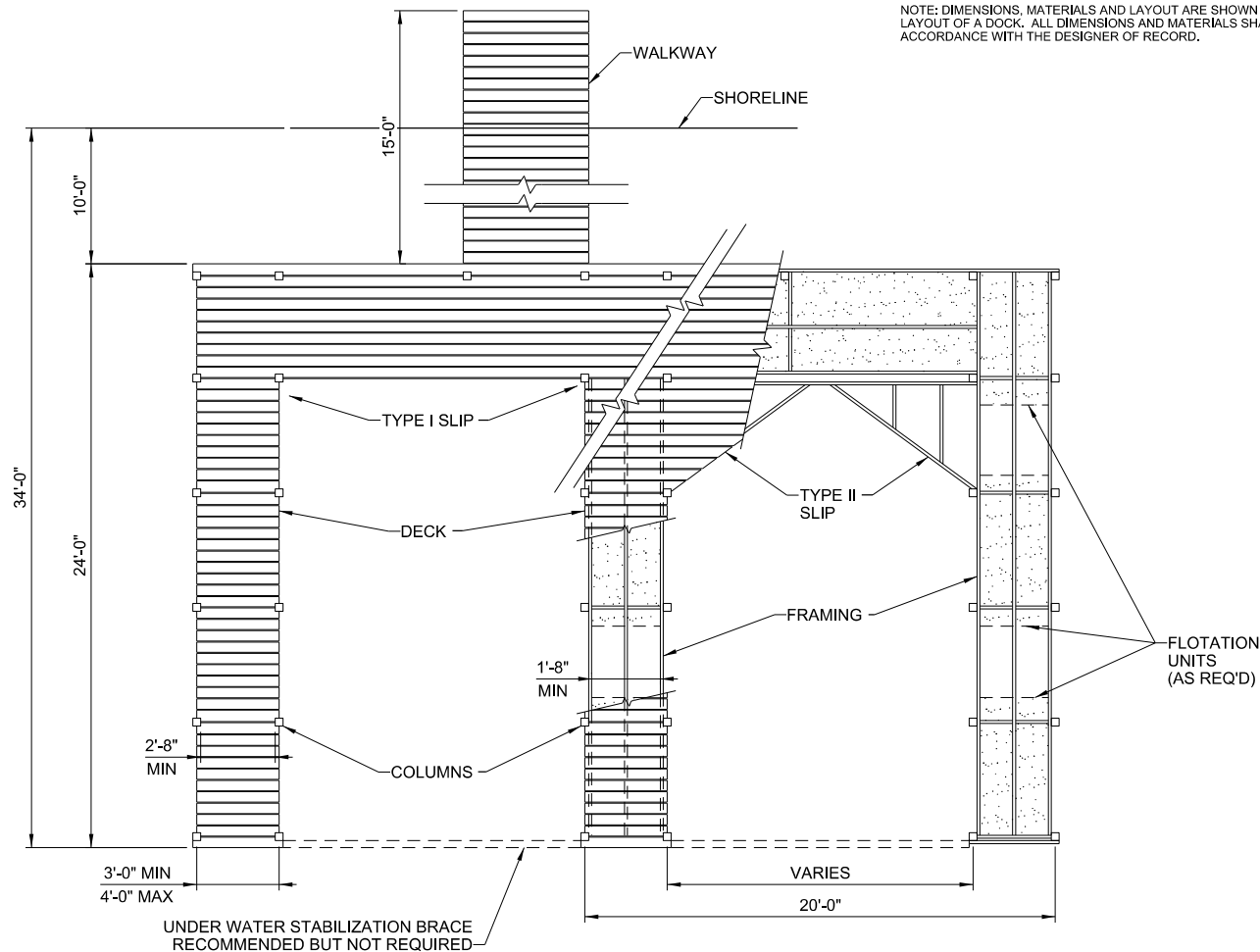
National Electric Code. It is strongly recommended that any electrical work be done by a licensed electrician, engineer, or electrical contractor. Where a meter pole is used, a fused disconnect switch should be provided for de-energizing the feeder cable at its source.



1 DOCK OVERVIEW
NO SCALE

EXAMPLE PLANS

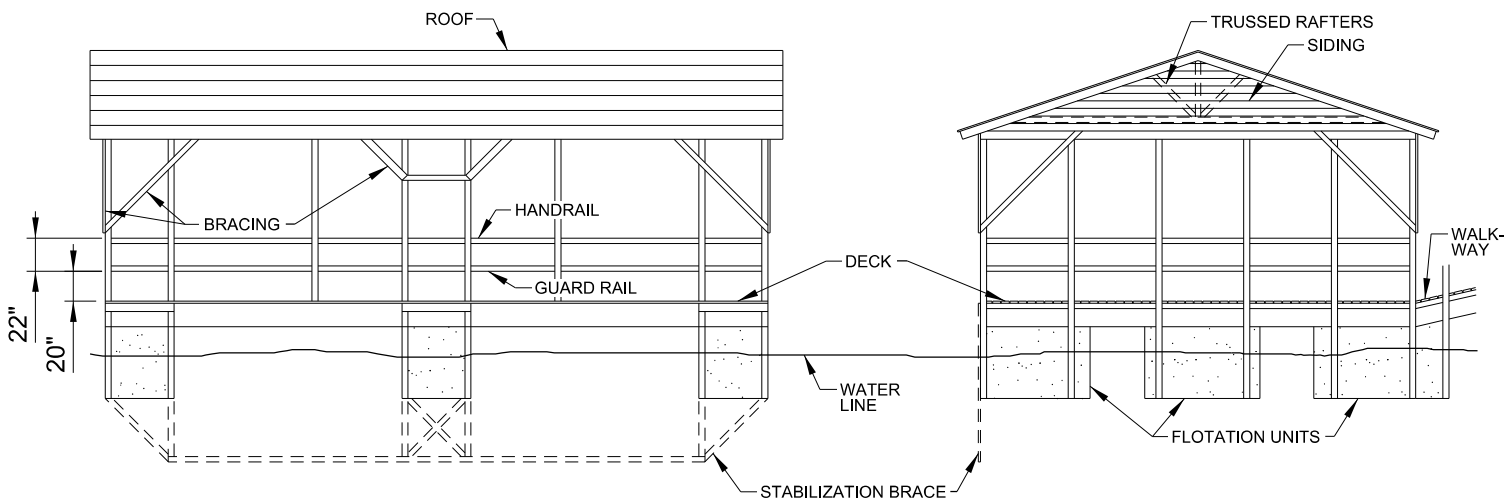
NOTE: DIMENSIONS, MATERIALS AND LAYOUT ARE SHOWN FOR TYPICAL LAYOUT OF A DOCK. ALL DIMENSIONS AND MATERIALS SHALL BE IN ACCORDANCE WITH THE DESIGNER OF RECORD.



1

DOCK PLAN

SCALE: 1/8" = 1'-0"



2

FRONT ELEVATION

SCALE: 3/32" = 1'-0"

3

SIDE ELEVATION

SCALE: 3/32" = 1'-0"

EXAMPLE PLANS

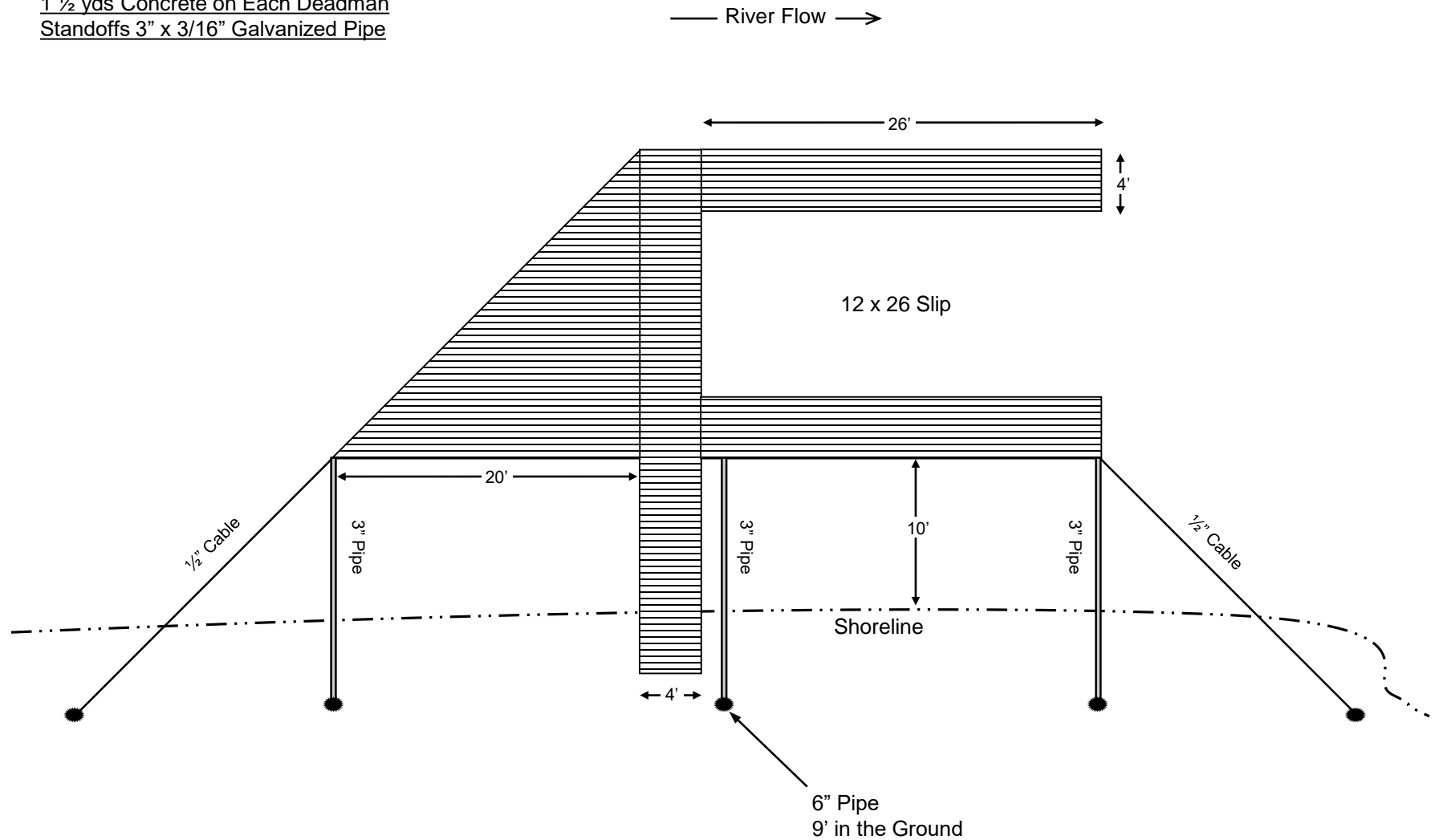
EXAMPLE PLANS

1/2" Galvanized Aircraft Cable

6" Pipe Driven 9' Deep

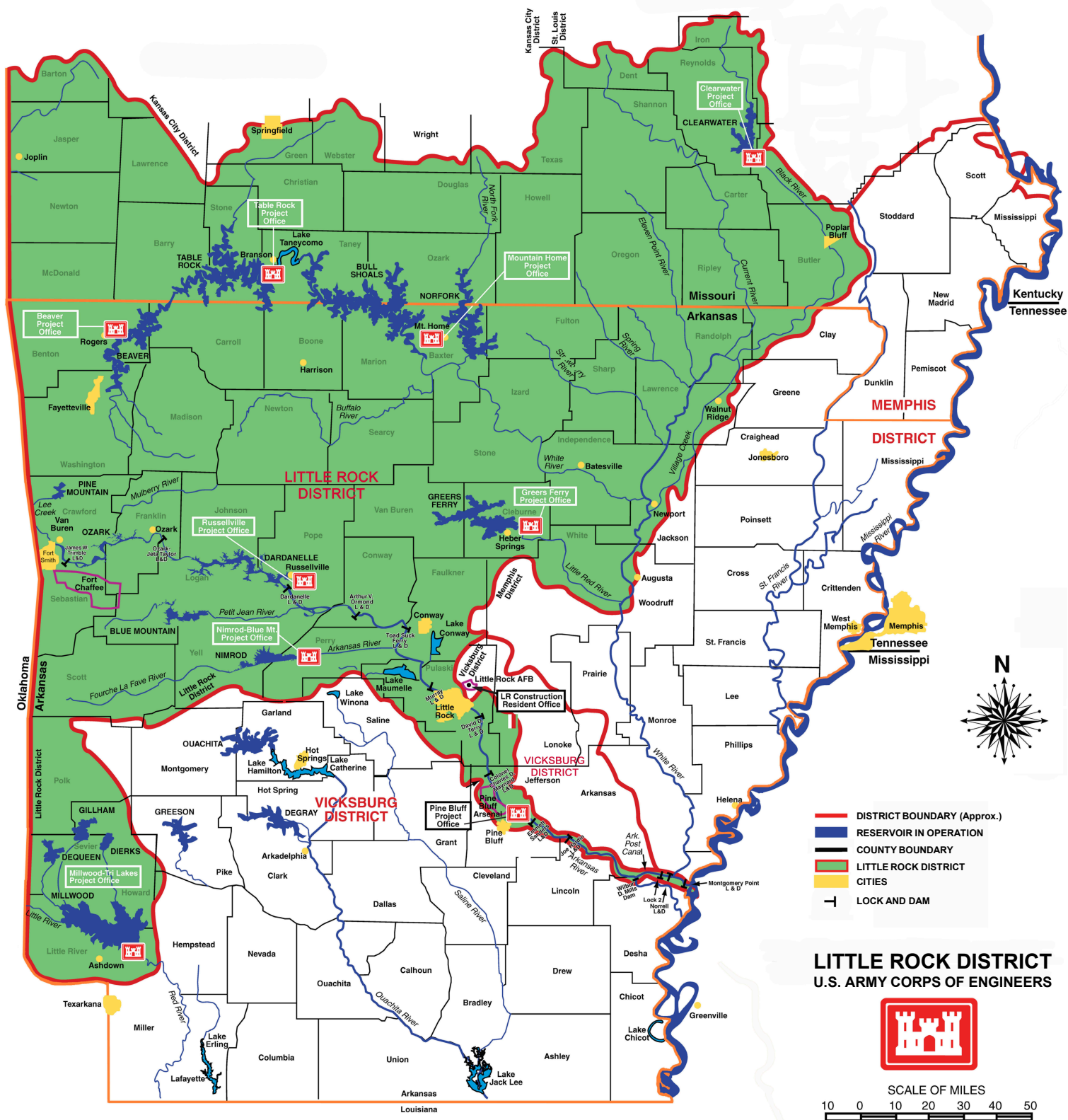
1 1/2 yds Concrete on Each Deadman

Standoffs 3" x 3/16" Galvanized Pipe



1 DOCK PLAN
NO SCALE

EXAMPLE PLANS



Points of Contact U. S. ARMY CORPS OF ENGINEERS Regulatory Activities – Little Rock District & Adjacent Districts

Little Rock District
ATTN: CESWL-RD
P.O. Box 867
Little Rock, AR 72203-0867
(501) 324-5295

Memphis District
ATTN: CEMVM-OD-R
167 N. Main Street, Rm. B-202
Memphis, TN 38103-1894
(901) 544-3471

Vicksburg District
ATTN: CEMVK-OD-F
4155 E. Clay Street
Vicksburg, MS 39183
(601) 631-5276



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
LITTLE ROCK DISTRICT, CORPS OF ENGINEERS
POST OFFICE BOX 867
LITTLE ROCK, AR 72203-0867
www.swl.usace.army.mil

CESWL-EC-DI

20 May 2019

MEMORANDUM THRU

Chief, Hydraulics and Technical Services Branch
Chief, Design Branch

REIN.ALBERT.G.1239719950
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REIN.ALBERT.G.1239719950
Date: 2019.06.12 16:06:06 -05'00'

MEMO FOR RECORD

SUBJECT: Anchorage Design Requirements for Docks and Barges on Navigable Waters Regulated by Southwest Little Rock District (SWL).

1. Summary. Southwest Little Rock District has established design criteria and procedures for anchorage design review for obtaining a permit to construct a dock. Requirements set are in an effort to prevent docks from breaking away from the anchorage and causing a safety hazard to the public as well as an operational hazard to elements of the locks and dams.
2. References for Anchor Design. Fluid Mechanics, 8th Ed., Streeter & Wylie, pgs. 247-260 was used for the recommended barge coefficients and safety factors for the design criteria.
3. Design Loadings and Safety Factors. The dock structure (i.e. framing, bracing, deck, flotation, roof, etc.) shall be designed in accordance with all applicable local codes and regulations. USACE structural engineers do not review the dock's structural design; review is performed for anchorage design only and in accordance with the below requirements. In the event the local codes and guidance conflict with the below, the most stringent criteria shall be used.
 - a. In the event that a life safety issue is identified with the structure during the review process, the permit will be recommended to be denied for issue. The recommendation for denial will be fully explained in writing and shall be provided to the requestor through Regulatory Division.
4. Dock Size Limitations. Although it is highly recommended to abide by the design requirements set below for any size structure, the level of review required by the structural section is dependent on the dock size. Generally, docks with a footprint less than 1000 square feet are not required to have the anchorage design reviewed unless specifically requested by Regulatory Division. Docks with a footprint less than 1,000 square feet are considered to pose little to no operational hazard to the locks and dams.

SUBJECT: Anchorage Design Requirements for Docks and Barges on Navigable Waters Regulated by Southwest Little Rock District.

5. Requirements. The requirements below shall be submitted through Regulatory Division and reviewed by a Structural Engineer as required.

a. Design documents (survey, drawings and calculations) shall be performed and or reviewed by a Licensed Engineer within the state in which the dock is being constructed. Design documents shall be signed and stamped by the Licensed Engineer. Any design documents submitted without meeting this requirement will automatically be recommended for disapproval.

b. A survey (plan view and sections) which shows the water's edge, top bank, elevation of proposed deadmen, elevation of proposed dock, horizontal location of deadmen and docks, position and numbers of barges, angle of pull on deadmen (horizontal and vertical), and location of buoyed navigation channel. The survey should also show Corps of Engineers locations of baseline points if available.

c. Calculations showing the horizontal and vertical effects/forces acting on the barge(s) or dock(s).

(1) Barges. Coefficients for barges in Table 1 below are acceptable, but the AE or designer may use a larger Coefficient if desired. The design velocity (V) may be obtained by contacting the SWL Hydraulics and Technical Services Branch (HTS).

(2) Large Docks. Docks with a footprint greater than 1000 square feet in plan view shall use the site specific design velocity for the 100 year event. The design velocity (V) may be obtained by contacting the SWL HTS.

(3) Small Docks. For docks being constructed on the Arkansas River and with a footprint less than 1000 square feet in plan view, a minimum required design velocity (V) of 7.5 ft/s may be used at the designer of record's discretion. This velocity is the average for any section of the river during the 100 year design event. The designer of record may request a site specific design velocity at their discretion from the SWL HTS. Velocities for rivers within the regulated area of SWL other than the Arkansas River may be requested from SWL HTS.

(4) Ensure the structure remains secure when the water elevation rises during high flow events.

Table 1 - Coefficients for Barges

- | | |
|---|---|
| (1) 35 ft. Width Barge - Force = $1.195AV^2$ | <i>Use velocity obtained from hydraulics (fps) for the 100 year flood or greater.</i> |
| (2) 70 ft. Width Barge - Force = $1.255AV^2$ | <i>A = wetted area in square feet</i> |
| (3) 105 ft. Width Barge - Force = $1.325AV^2$ | |

SUBJECT: Anchorage Design Requirements for Docks and Barges on Navigable Waters Regulated by Southwest Little Rock District.

d. Calculations showing the resultant of the force in the direction of pull on the deadmen. Check for the 100 year flood and any other smaller flood which might provide a greater force than the 100 year flood.

(1) Use the resultant force in all design calculations and provide safety factors for each calculation in accordance with Table 2.

(2) Check to see that the proposed deadmen or anchor will not pull out or overturn. Furnish data on existing soil or bedrock conditions, (soils borings, descriptions of exposed banks, etc). Check to see that items embedded in concrete have adequate bearing surface. Check all connection points to insure they will not fail. If cable is used, design all connection points.

6. Safety Factors (SF). Minimum SF should be used in all calculations. The following minimum safety factors in Table 2 are recommended, the designer may impose greater safety factors at their discretion.

Table 2 - Minimum Recommended Safety Factors

(1) Resistance to pulling out of the bank.	1.5
(2) Resistance to overturning.	1.3
(3) Connecting cables which are exposed to the elements and subject to corrosion.	3.0
(4) Connection at ends of cable.	1.5

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Gregory A. Mattson, P.E.
Chief, Infrastructure Safety Section