



# SPECIAL PUBLIC NOTICE

U.S. ARMY CORPS OF ENGINEERS  
LOS ANGELES DISTRICT

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**PROPOSED REISSUANCE**  
**Regional General Permit (RGP) No. 62**  
**Bureau of Reclamation**  
**Operation and Maintenance (O&M) Activities**  
**Lower Colorado River**

**Public Notice/Application No.:** SPL-2000-01901

**Project:** RGP 62 – Bureau of Reclamation, Lower Colorado River (LCR), Operations and Maintenance (O&M) Activities

**Comment Period:** 2021-04-21 through 2021-05-21

**Project Manager:** Therese Carpenter; (602) 230-6952; [Anne.T.Carpenter@usace.army.mil](mailto:Anne.T.Carpenter@usace.army.mil)

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**Applicant**

Chris Wallis  
Bureau of Reclamation, Yuma Area Office  
Resource Management Office  
7301 South Calle Agua Salada  
Yuma, Arizona 85364-9763

**Contact(s)**

Chris Wallis (928-343-8100)  
Julian DeSantiago (928-343-8259)  
Bureau of Reclamation, Yuma Area Office  
Resource Management Office  
7301 South Calle Agua Salada  
Yuma, Arizona 85364-9763

**Location**

In the Colorado River from Davis Dam to the Southern International Border (SIB) with Mexico; Mohave, La Paz, and Yuma Counties in Arizona, and San Bernardino, Riverside, and Imperial Counties in California.

**Activity**

To construct various structures such as bank stabilization, culverts/permeable structures, rock weirs, inlet/outlet channels, and boat ramps and to conduct specific activities such dredging, wash fan removal, and vegetation clearing in association with RGP 62 – Bureau of Reclamation, LCR, O&M Activities (see attached drawings). For more information see Additional Project Information section below.

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**Submittal of Public Comments**

Interested parties are hereby notified an application has been received for a Department of the Army permit for the activity described herein and shown on the attached drawing(s). We invite you to review today's public notice and provide views on the proposed work. By providing substantive, site-

specific comments to the Corps Regulatory Division, you provide information that supports the Corps' decision-making process. All comments received during the comment period become part of the record and will be considered in the decision. This permit will be issued, issued with special conditions, or denied under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act.

**During the Coronavirus Health Emergency, Regulatory Program staff are teleworking. Please do not mail hard copy documents, including comments to any Regulatory staff. Instead, your comments should be submitted electronically to: [Anne.T.Carpenter@usace.army.mil](mailto:Anne.T.Carpenter@usace.army.mil). Should you have any questions or concerns about the Corps' proposed action or our comment period, you may contact Therese Carpenter directly at (602) 230-6952.**

The mission of the U.S. Army Corps of Engineers Regulatory Program is to protect the Nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions. The Corps evaluates permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands. The Regulatory Program in the Los Angeles District is executed to protect aquatic resources by developing and implementing short- and long-term initiatives to improve regulatory products, processes, program transparency, and customer feedback considering current staffing levels and historical funding trends.

Corps permits are necessary for any work, including construction and dredging, in the Nation's navigable water and their tributary waters. The Corps balances the reasonably foreseeable benefits and detriments of proposed projects, and makes permit decisions that recognize the essential values of the Nation's aquatic ecosystems to the general public, as well as the property rights of private citizens who want to use their land. The Corps strives to make its permit decisions in a timely manner that minimizes impacts to the regulated public.

During the permit process, the Corps considers the views of other Federal, state and local agencies, interest groups, and the general public. The results of this careful public interest review are fair and equitable decisions that allow reasonable use of private property, infrastructure development, and growth of the economy, while offsetting the authorized impacts to the waters of the United States. The permit review process serves to first avoid and then minimize adverse effects of projects on aquatic resources to the maximum practicable extent. Any remaining unavoidable adverse impacts to the aquatic environment are offset by compensatory mitigation requirements, which may include restoration, enhancement, establishment, and/or preservation of aquatic ecosystem system functions and services.

### **Evaluation Factors**

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof. Factors that will be considered include conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people. In addition, if the proposal would discharge dredged or fill material,

the evaluation of the activity will include application of the EPA Guidelines (40 CFR Part 230) as required by Section 404 (b)(1) of the Clean Water Act.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

### **Preliminary Review of Selected Factors**

**EIS Determination:** A preliminary determination has been made an Environmental Impact Statement (EIS) is not required for the proposed work.

**Water Quality:** Section 401 requires any applicant for an individual Section 404 permit provide proof of water quality certification to the Corps of Engineers prior to permit issuance. Prior to authorization of each specific activity under Section 404 of the Clean Water Act and this RGP, the Bureau of Reclamation (Reclamation) shall be required to obtain a Section 401 water quality certification from the State of Arizona for activities occurring therein, and/or the State of California for activities occurring therein, and/or the U.S. Environmental Protection Agency for activities occurring on Tribal lands. Upon receipt, Reclamation shall provide this certification to the Corps for inclusion in the Special Conditions authorizing the specific activity.

**Coastal Zone Management:** Not applicable within the State of Arizona.

**Essential Fish Habitat:** No Essential Fish Habitat (EFH), as defined by the Magnuson-Stevens Fishery Conservation and Management Act, occurs within the project area and no EFH is affected by the proposed project.

**Cultural Resources:** As the lead Federal agency, Reclamation is responsible for documenting to the Corps that all consultations in accordance with Section 106 of the National Register of Historic Places (NRHP) have been completed and concurred with by the State Historic Preservation Office (SHPO).

**Endangered Species:** As the lead Federal agency, Reclamation is responsible for documenting to the Corps that all consultations in accordance with Section 7 of the Endangered Species Act have been completed and concurred with by the U.S. Fish and Wildlife Service (FWS).

**Public Hearing:** Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearing shall state with particularity the reasons for holding a public hearing.

### **Proposed Activity for Which a Permit is Required**

**Basic Project Purpose-** The basic project purpose comprises the fundamental, essential, or irreducible purpose of the proposed project, and is used by the Corps to determine whether the

applicant's project is water dependent (i.e., requires access or proximity to or siting within the special aquatic site to fulfill its basic purpose). Establishment of the basic project purpose is necessary only when the proposed activity would discharge dredged or fill material into a special aquatic site (e.g., wetlands, pool and riffle complex, mudflats, coral reefs). The basic project purpose for RGP 62 is to provide a streamlined permitting process for activities having minimal impacts to allow Reclamation to perform routine O&M to ensure that efficient flow conditions exist to deliver water of sufficient quantity and quality to meet the needs of various water users along the river including international obligations to Mexico. O&M activities include maintaining the river conveyance channel, river banklines, levee systems, and flood control structures along the Lower Colorado River. The project is water dependent.

Overall Project Purpose: The overall project purpose serves as the basis for the Corps' 404(b)(1) alternatives analysis and is determined by further defining the basic project purpose in a manner that more specifically describes the applicant's goals for the project, and which allows a reasonable range of alternatives to be analyzed. The overall project purpose for the proposed project is to provide Reclamation with a RGP to allow Reclamation the ability to meet its requirements under the Colorado River Front Work and Levee System Act of 1927 (Stat. 1010) of maintaining the main river conveyance channel, river banklines, levee system, and flood control structures.

### **Additional Project Information**

Baseline information: In order to meet requirements under the Colorado River Front Work and Levee System Act of 1927 (Stat. 1010), Reclamation must maintain the main river conveyance channel, river banklines, levee system, and flood control structures under its jurisdictional authority. In 2001, the Corps issued RGP 62, a permit which allowed for the above-mentioned activities to be conducted in order for Reclamation to fulfill these requirements. The permit has been regularly reviewed and reissued since that time.

Project description: This RGP authorizes Reclamation to conduct the following activities:

1. Bankline Stabilization. Perform bank stabilization on an as-needed basis with lengths ranging from 25 linear feet for spot repairs to no more than 2,500 linear feet for currently unprotected or reinforcement of currently protected banklines. Armoring of banklines will require from 2.5 cubic yards (cy) (3.75 tons) to 10 cy (15 tons) per linear foot.
2. Replace/Relocate Culverts, Permeable Structures, and Associated Supporting Inlet/Outlet Work. Replace and/or relocate culverts and permeable structures to allow continuous flow of water. Material excavated may be used as backfill, but excess material will be hauled to an upland disposal site. The maximum length of a typical new structure would be 100 feet along an existing levee with approximately 3,500 cy of fill for each structure. To facilitate culvert placement activities in existing permeable structures, a small portion of the existing rock and fill permeable structure shall be left in place on the river side to act as a retaining wall. This shall allow initial placement of culverts by preventing flows from entering the work area. Once the culvert pipe section is placed on the backwater side, the retaining wall will then be removed, and the second pipe sections will be placed on the river side. To prevent scouring and destabilization of the streambed after new culverts have been placed, this RGP will also allow the placement of protective riprap (blanket) aprons to be placed on the backwater side of the culvert. The aprons would be placed underwater. Approximately 50 to 100 cy of riprap is authorized under this RGP to be discharged per structure, depending on the number of culverts in the structure.
3. Remove Wash Fan Material. Remove a maximum of 16,000 cy of sediment per wash fan, excavated to a maximum depth of 4 feet, but leaving a small portion of the fan in place for spawning habitat. Some materials excavated may be used for bankline stabilization in the affected wash.

Dredges are not authorized for use in wash fan removal. The maximum amount of material to be removed in total per calendar year is 32,000 cy.

4. Dredging of Settling Basins and Above Dams. Conduct dredging in front of dams and in desilting basis. The maximum amount of material allowable for dredging is 2.7 million cy per site. Dredged spoil will be removed to an upland, bermed disposal site with no return water to the river, its tributaries, backwaters, sloughs, or historic channels unless specifically approved by the US Environmental Protection Agency (EPA) on a case-by-case basis.

5. Maintain Rock Weirs. Maintain existing rock weirs. Construction of new weirs is not authorized by this RGP.

6. Remove 25,000 Cubic Yards of Material from Inlets/Outlets. Use a dredge, amphibious excavator, or land-based equipment to remove a maximum of 25,000 cy of material per inlet and/or outlet to reopen backwaters and other facilities. Removed material will be disposed of at an upland disposal site. If a dredge is used, the disposal site will be bermed; no return water is allowed to flow directly to the river, its tributaries, backwaters, sloughs, or historic channels unless specifically approved by EPA on a case-by-case basis.

7. Remove Vegetation from Existing Structures. Clear vegetation from an existing facility by dredge or land-based equipment; vegetation may only be cleared during low flows. A maximum of no more than one acre of vegetation may be removed per occurrence, and activities shall be limited to facilities, inlets/outlets, structures, and roads. No vegetation shall be removed below the ordinary high water mark (OHWM) during bank stabilization activities.

8. Construct Boat Ramps. Construct boat ramps for equipment access. The maximum width of each ramp shall be 50 feet. 500 cy is the maximum allowable amount of rock that may be used to stabilize the ramp, and a maximum of 1000 cy of material may be removed for ramp construction. This RGP does not allow for the placement of concrete for ramps.

Notification Requirements: For any of the proposed activities under RGP 62, Reclamation is required to provide written notification to the Corps of Engineers at least ten (10) days prior to the start of work. Electronic correspondence is acceptable for the purpose of providing this notification. Notification shall include the location and nature of activities, and anticipated beginning and ending dates of construction. Reclamation shall conduct activities authorized by this RGP in good condition, and in conformance with the terms and conditions of this permit.

Proposed Mitigation: The proposed mitigation may change as a result of comments received in response to this public notice, the applicant's response to those comments, and/or the need for the project to comply with the 404(b)(1) Guidelines. In consideration of the above, the proposed mitigation sequence (avoidance/minimization/compensation), as applied to the proposed project is summarized below:

Avoidance: No wetlands will be adversely impacted. To the extent practicable, all activities will be conducted outside endangered species spawning and/or nesting seasons.

Minimization: All work will be confined to previously disturbed areas and/or will avoid and minimize impacts to wetland vegetation.

Compensation: N/A

### **Proposed Special Conditions**

The following list is comprised of proposed Permit Special Conditions, which are required of similar types of projects:

1. Should cultural resources or archeological remains be encountered during construction and/or excavation, work shall immediately cease in the area of discovery. The permittee shall promptly notify the State Historic Preservation Office at (602) 542-7141 and the Corps at (602) 230-6952.

2. In the event Reclamation activities deviate from or exceed limits outlined in this RGP, the permittee shall be required to meet additional notification requirements prior to commencement of activities. The standard individual permit application form (FORM ENG 4345) may be used for this notification, but must clearly indicate that it is a RGP notification. Work may not commence until verification of compliance with this RGP is received from the Corps or sixty days have passed since the Corps received a complete notification package. The notification package shall include:

- a) a complete written description of the specific activity including all dimensions, area to be impacted, and amounts of excavation and/or fill; detailed description of method of undertaking the work including type of equipment to be used;
- b) a vicinity map indicating location of the activity; Section, Township, Range and latitude/longitude in decimal format;
- c) a plan view and cross-section of the proposed activity; submittal of all figures shall be in accordance with "Map and Drawing Standard for the Los Angeles District Regulatory Division", as applicable;
- d) location of dredged material deposition sites;
- e) location of any special aquatic sites, including wetlands, within the project area; please note that with the exception of very small stands of cattails/bulrush (less than 100 square feet provided no agency objects and on a case-by-case basis), this RGP will not authorize any work in any special aquatic site;
- f) Section 401 water quality certification from the appropriate agency/agencies;
- g) documentation of completed coordination under the Fish and Wildlife Coordination Act with the FWS and the appropriate State and/or Tribal game and fish agency, and the completed Section 7 consultation or the permittee's determination of "no effect";
- h) completed Section 106 consultation including consultation with appropriate Tribes regarding traditional cultural properties or the permittee's determination of "no effect";
- i) a mitigation plan, in accordance with the Corps' "Habitat Mitigation and Monitoring Plan" format, for any permanent impacts to the aquatic ecosystem;
- j). written authorization from any Native American Tribe which owns the project area.

3. The permittee shall comply with all requirements and conditions in the letter of (state) water quality certification issued by the appropriate agency. This certification demonstrates that the permittee has complied with Section 401(a) of the Clean Water Act.

4. The permittee shall minimize disturbance to native vegetation. Work under this RGP is not authorized in special aquatic sites, including wetlands, with the exception of small stands of cattails and bulrush. In general, "small stands" is defined as 10 square feet or less. In extenuating circumstances and where there is no agency objection, a maximum of 100 square feet of special aquatic sites could be authorized for removal on a case-by-case basis.. Reclamation shall provide mitigation for any permanent impacts.

5. The permittee shall not stockpile material below the OHWM of any water of the U.S.

6. This permit does not authorize training structures, jetties, or any other similar structures which extend into the river.

7. The permittee, when using amphibious or land-based equipment, shall perform work during low water conditions when the area is naturally dewatered and shall suspend all operations when there is

water within the project area. The permittee shall not discharge fill or construction debris into the waters of the Colorado River or its tributaries, sloughs, backwaters, or historic channels.

8. The permittee shall immediately remove all excavated/dredged material to an upland disposal site. Upland sites for dredged material shall be bermed.

9. The permittee shall not allow return water to be discharged directly into the Colorado River, its tributaries, sloughs, backwaters, or historic channels unless it is specifically approved by the U.S. Environmental Protection Agency on a case-by-case basis. In general, return water shall be discharged over land or allowed to percolate into groundwater.

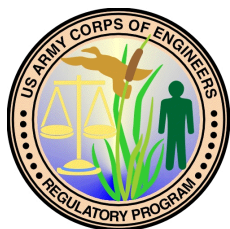
10. The permittee shall not divert flows outside of the OHWM of any water of the U.S.

11. The permittee shall not pour concrete for any ramp.

12. The permittee shall not excavate, fill, or grade in the watercourse outside of the minimum area needed to accomplish the activity.

13. The permittee shall not dredge/excavate sediment below the OHWM specifically for use as a fill source; however, in the case of reconstruction/installation of culverts or where material is excavated from facilities, wash fans, or inlet/outlet channels to improve hydraulic efficiency, the permittee may use the excess material as fill outside of waters of the U.S.

For additional information please call Therese Carpenter of my staff at (602) 230-6952 or via e-mail at [Anne.T.Carpenter@usace.army.mil](mailto:Anne.T.Carpenter@usace.army.mil). This public notice is issued by the Chief, Regulatory Division.



*Regulatory Program Goals:*

- To provide strong protection of the nation's aquatic environment, including wetlands.
- To ensure the Corps provides the regulated public with fair and reasonable decisions.
- To enhance the efficiency of the Corps' administration of its regulatory program.

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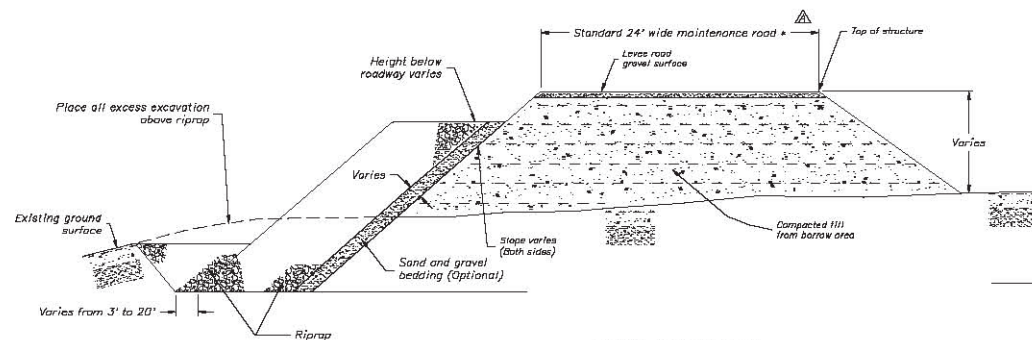
**DEPARTMENT OF THE ARMY**  
**LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS**  
[WWW.SPL.USACE.ARMY.MIL/MISSIONS/REGULATORY](http://WWW.SPL.USACE.ARMY.MIL/MISSIONS/REGULATORY)

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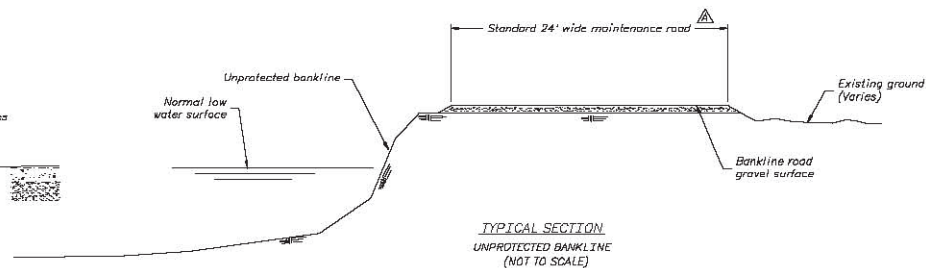
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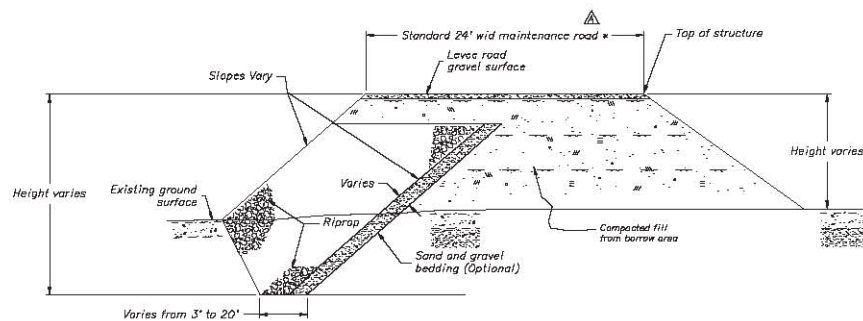
TYPICAL LEVEE SECTION  
(NOT TO SCALE)



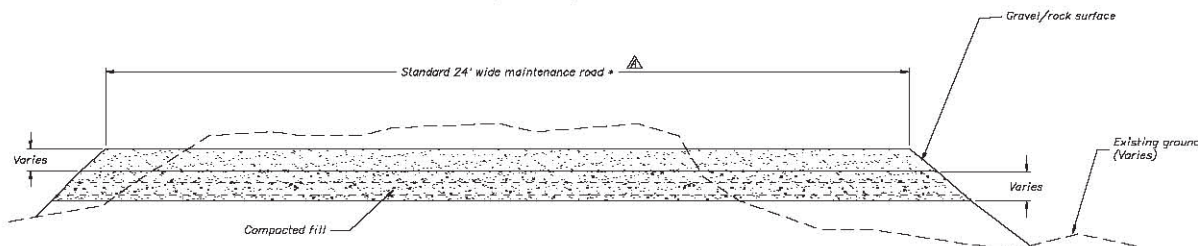
TYPICAL SECTION  
UNPROTECTED BANKLINE  
(NOT TO SCALE)

**2002 BANKLINE STABILIZATION WORK**  
BANKLINE STABILIZATION AT R.M. 135.0 BETWEEN 2 AND 7  
CUBIC YARDS ON MATERIAL PER LINEAR FOOT WILL  
BE PLACED ALONG THE 350 FOOT LONG BANK AREA.

△ \* EVERY 600' - 1000',  
A 50' x 75' TURN AROUND WILL  
BE CONSTRUCTED.



TYPICAL SECTION WITH BURIED RIPRAP  
(NOT TO SCALE)



TYPICAL SECTION - ACCESS ROAD  
(NOT TO SCALE)

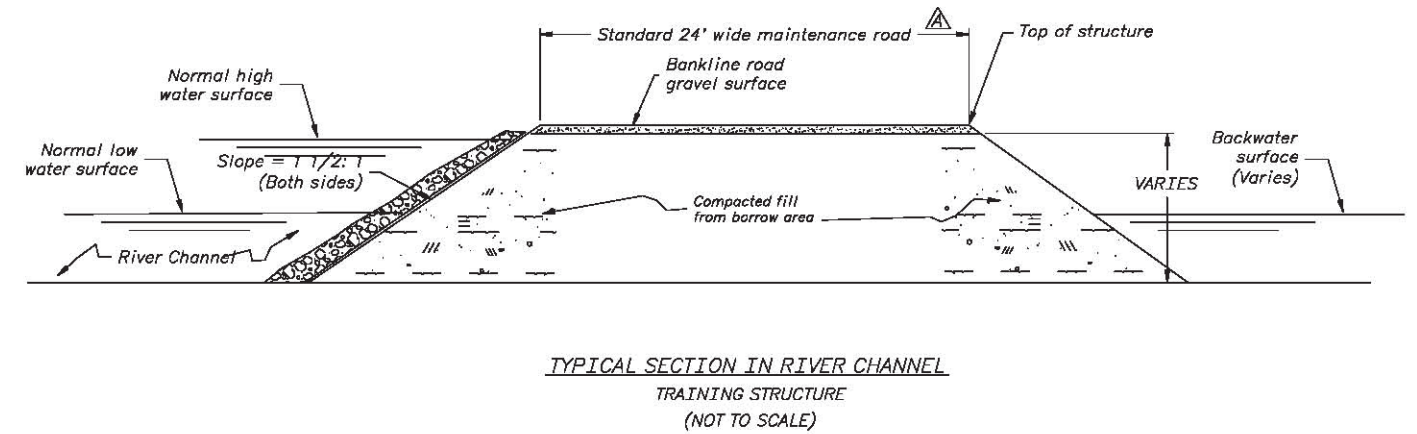
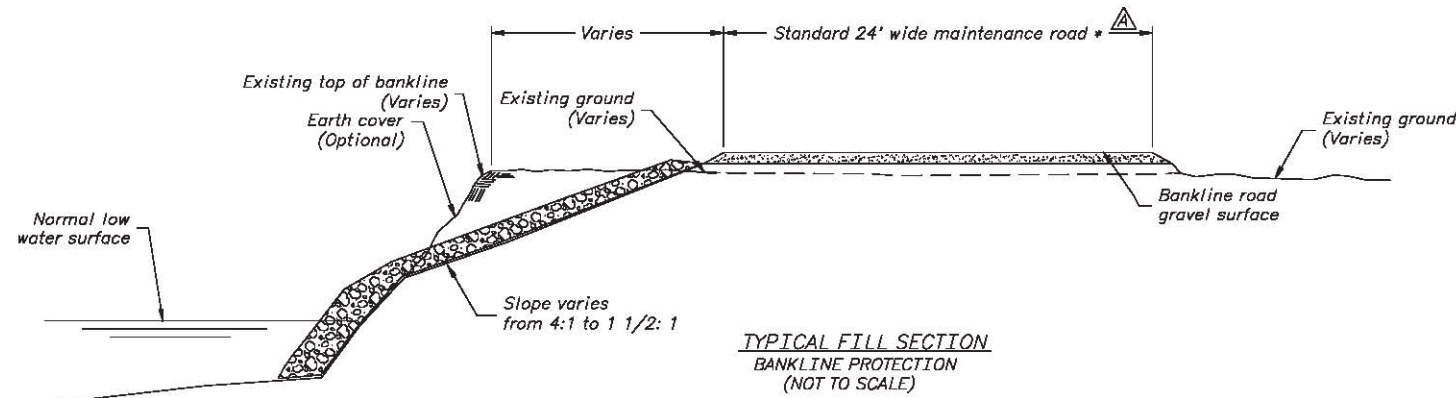
NOTES:

1. Drawing is not to scale.
2. Riprap varies from 4 to 15 tons/foot.
3. Gravel and rock surfacing for roads varies from 6 to 18 inches.
4. Depth of fill and cut sections vary depending on existing terrain.
5. Levee and riprap slopes vary for 4:1 to 1 1/2:1 depending on existing topography.
6. Riprap may or may not be covered with earth depending on specific needs of the site.

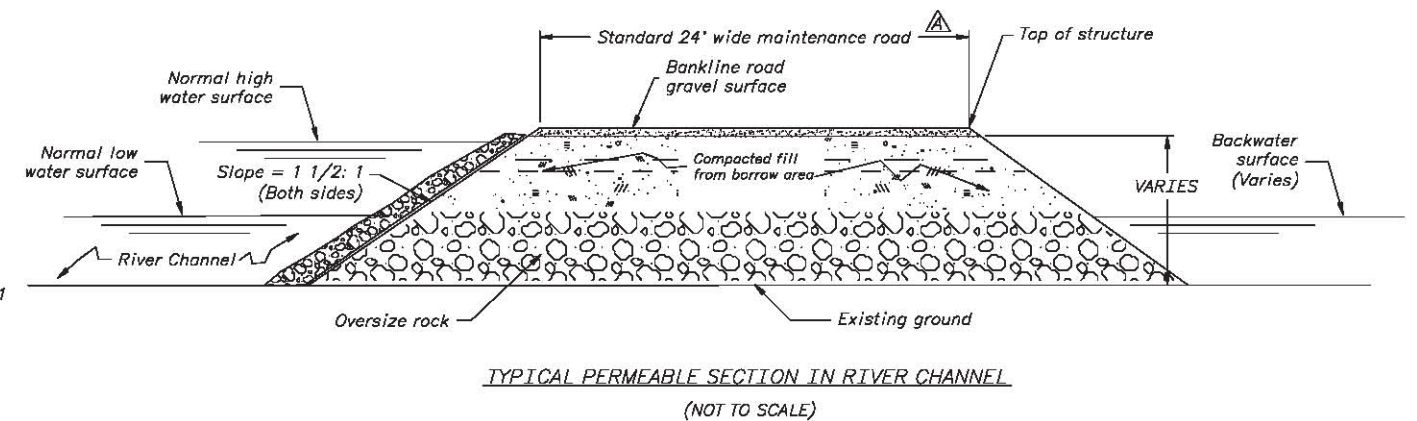
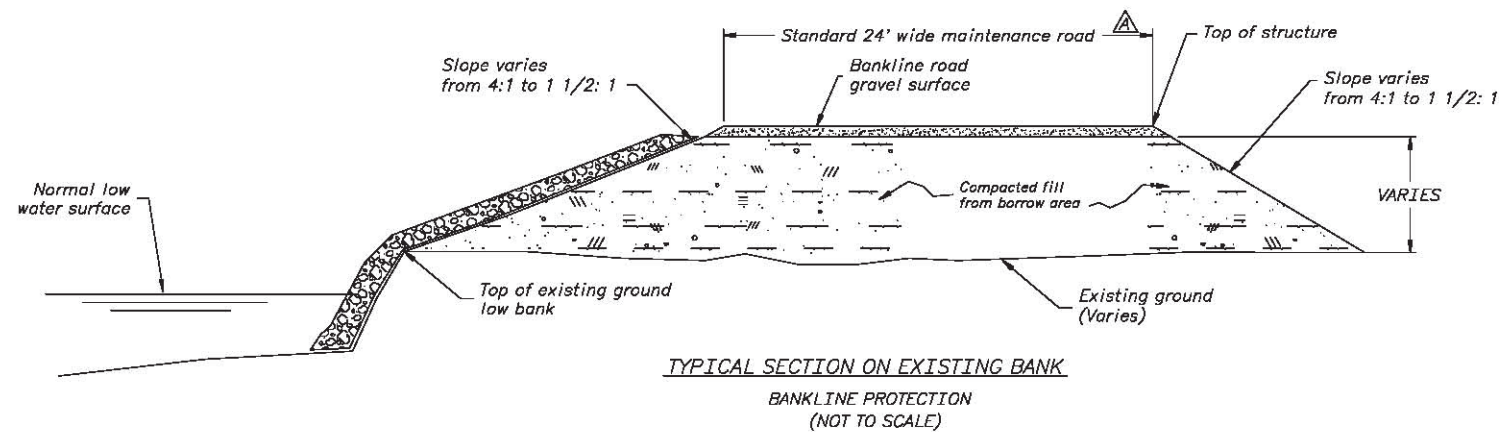
2-11-2002 423-303-2903	CHANGE IN THE WIDTHS OF THE ROADS, AND ADDED NOTES. ADDED TYPICAL SECTION UNPROTECTED BANKLINE.
Design Concurrence	J.R. KIRKALDIE
ALWAYS THINK SAFETY	
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION COLORADO RIVER TREATY WORK AND LEVEE SYSTEM YUMA DIVISION - ARIZONA - CALIFORNIA - NEVADA <b>LEVEE AND ACCESS ROAD</b> <b>BANKLINE STABILIZATION</b> <b>TYPICAL SECTIONS</b>	
DESIGNED	Jeff L. Sullivan, C.E.T. TECH. APPR. Mike Igou, P.E.
DRAWN	Jeff L. Sullivan, C.E.T. SUBMITTED
CHECKED	Mike Igou, P.E. APPROVED Mike Brownlee, P.E. CHIEF OF ENGINEERING
CADD SYSTEM AUTOCAD 17.0a YUMA, ARIZONA	CADD FILENAME 423-303-2903-1-1.dwg 7-15-98
DATE AND TIME PLOTTED OCTOBER 20, 2002, 10:28 423-303-2903	
SHEET 1 OF 1	



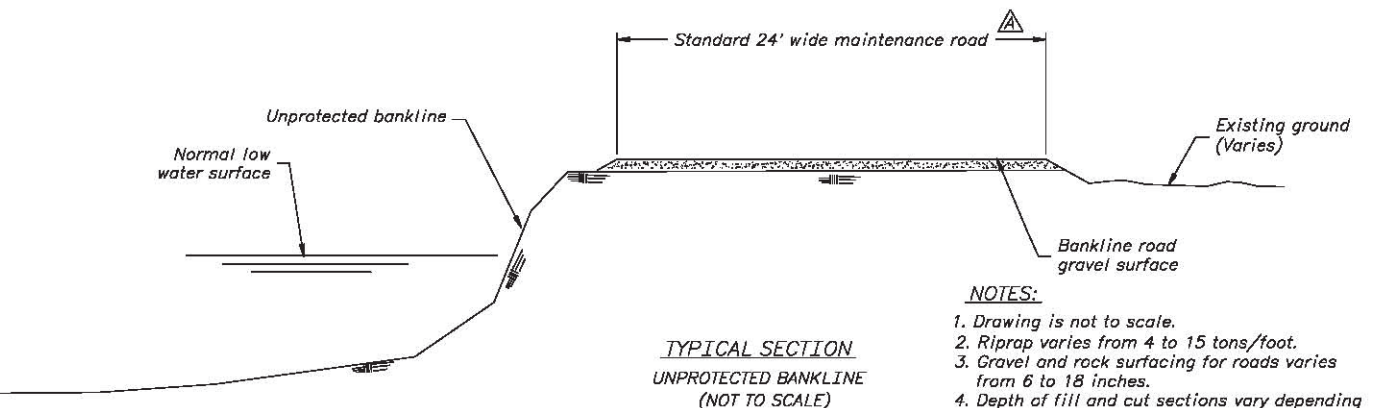
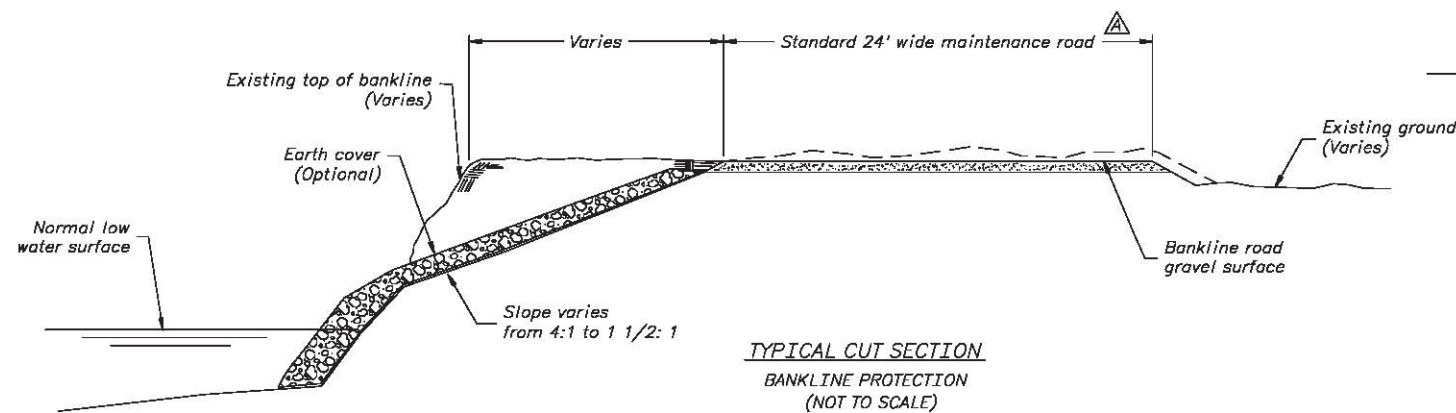
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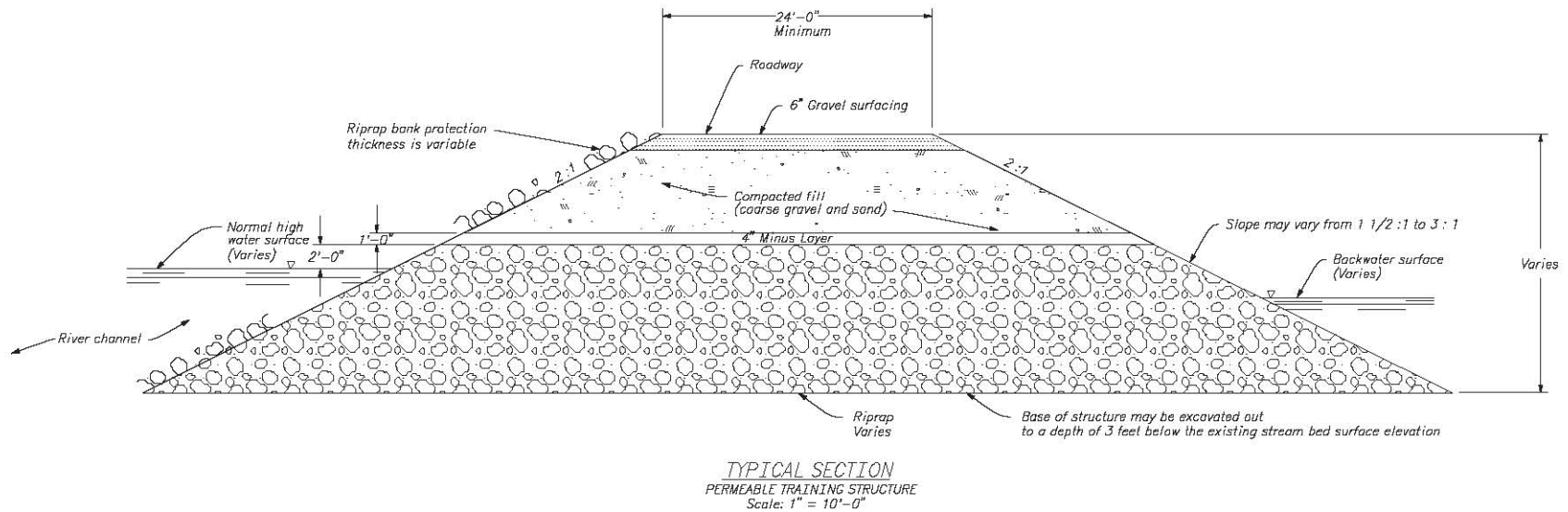
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△ \* EVERY 600' - 1000',  
A 50' x 75' TURN AROUND WILL  
BE CONSTRUCTED.

## NOTES:


1. Drawing is not to scale.
2. Riprap varies from 4 to 15 tons/foot.
3. Gravel and rock surfacing for roads varies from 6 to 18 inches.
4. Depth of fill and cut sections vary depending on existing terrain.
5. Bankline stabilization varies between 25 linear feet up to 2,500 linear feet.

12-07-2011 JLS-303	△ ADDED NOTE 5, AND ADDED BANKLINES IN TITLE BLOCK.
2-11-2000 JLS-303	△ CHANGE IN ROAD WIDTHS, AND NOTES, ADDED UNPROTECTED BANKLINE.
Design Concurrency	J.R. KIRKALDIE
<div> <b>ALWAYS THINK SAFETY</b> </div>	
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION COLORADO RIVER FRONT WORK AND LEVEE SYSTEM YUMA DIVISION - ARIZONA - CALIFORNIA - NEVADA <b>BANKLINES, AND RIVER TRAINING            AND PERMEABLE STRUCTURES            TYPICAL SECTIONS</b>	
DESIGNED	Jeff L. Sanderson C.E.T. TECH. APPR. MIKE IGDE P.E.
DRAWN	Jeff L. Sanderson C.E.T. SUBMITTED
CHECKED	MIKE IGDE P.E. APPROVED MIKE VANDEVELDE P.E.
CADD SYSTEM	CADD FILENAME
Autocad Rev. 18.1s	423-303-2902-1-1.DWG
YUMA, ARIZONA	DATE AND TIME PLOTTED
	7-15-99 DECEMBER 7, 2011 13:30
SHEET 1 OF 1	423-303-2902

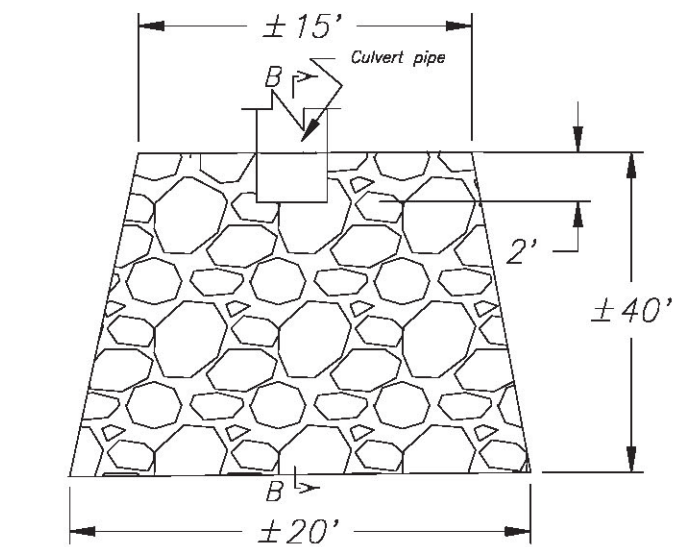


**NOTES:**

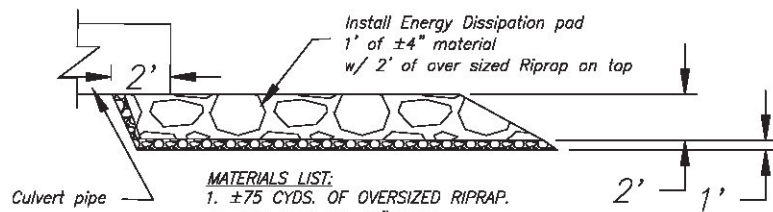
1. Two permeable structures would be constructed in place of the existing levee at the upstream end of the two C-8 backwater channels; each permeable structure would be constructed in two phases.
2. The permeable structures would replace approx. 100 lineal feet of the existing levee (3000 cubic yards) and would be excavated to 3 feet below the existing stream bed surface elevation.
3. The material excavated will be stockpiled on the levee road surface.
4. Approx. 600 cubic yards of oversize rock will be placed into the bottom of the excavated area, and 2,400 cubic yards of stockpiled material would be placed on top of the oversize material to complete the permeable structures.
5. Any remaining stockpiled material will be hauled to an approved stockpile site.
6. The same operation will be followed for the second permeable structure. The total amount of material to be excavated and placed to construct the two permeable structures would be approx. 6,000 cubic yards.

1-25-2000 JLS-303	CHANGE IN NOTE 2 AND 4.
Design Concurrence Robert Palmer & Doug Lancaster	
 <b>ALWAYS THINK SAFETY</b>	
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION YUMA AREA PROJECTS OPERATIONS AND MAINTENANCE - PALO VERDE - CALIFORNIA <b>C-8 BACKWATER PROJECT</b> PERMEABLE STRUCTURES <b>TYPICAL SECTION</b>	
DESIGNED J. SANDERSON C.E.T.	TECH. APPROVAL Mike Iggo P.E.
DRAWN J. SANDERSON C.E.T.	SUBMITTED Mike Iggo P.E.
CHECKED R.A. QUAMEN	APPROVED Steve Messenger P.E.
CHIEF OF ENGINEERING	
CADD SYSTEM AutoCAD Rel. 17.0s	CADD FILENAME 1163-303-0577-2
YUMA, ARIZONA	DATE AND TIME PLOTTED JAN. 19, 2000 11:00
1163-303-677	
SHEET 2 OF 2	

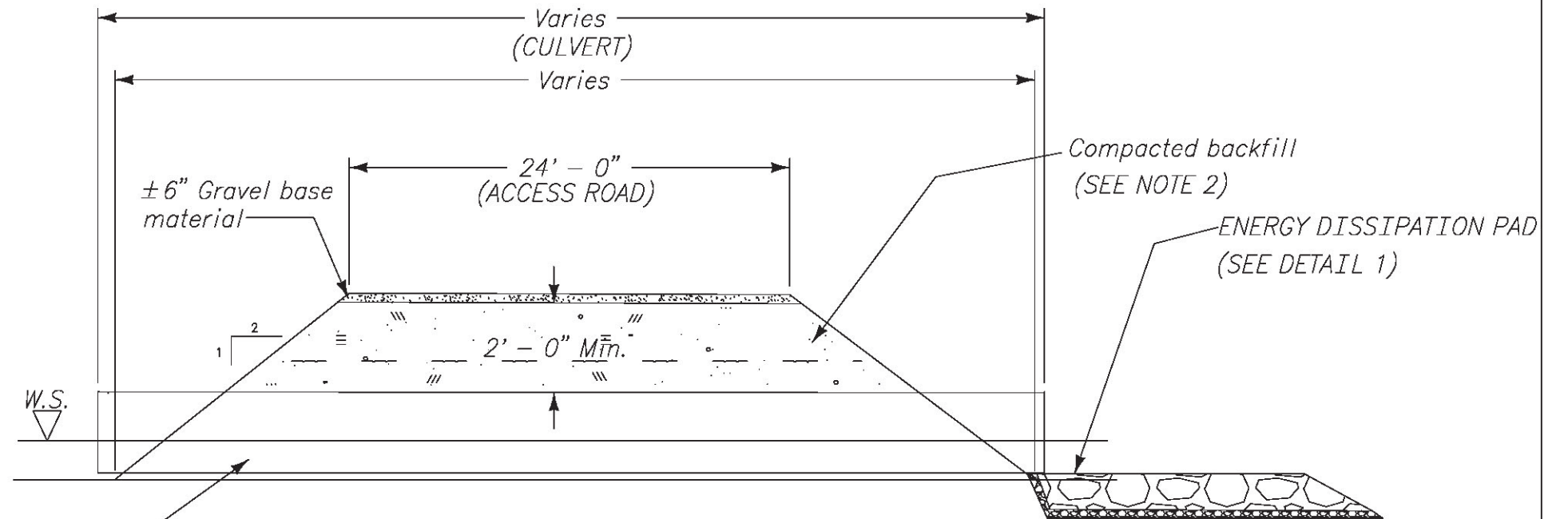




DETAIL 1  
(NOT TO SCALE)



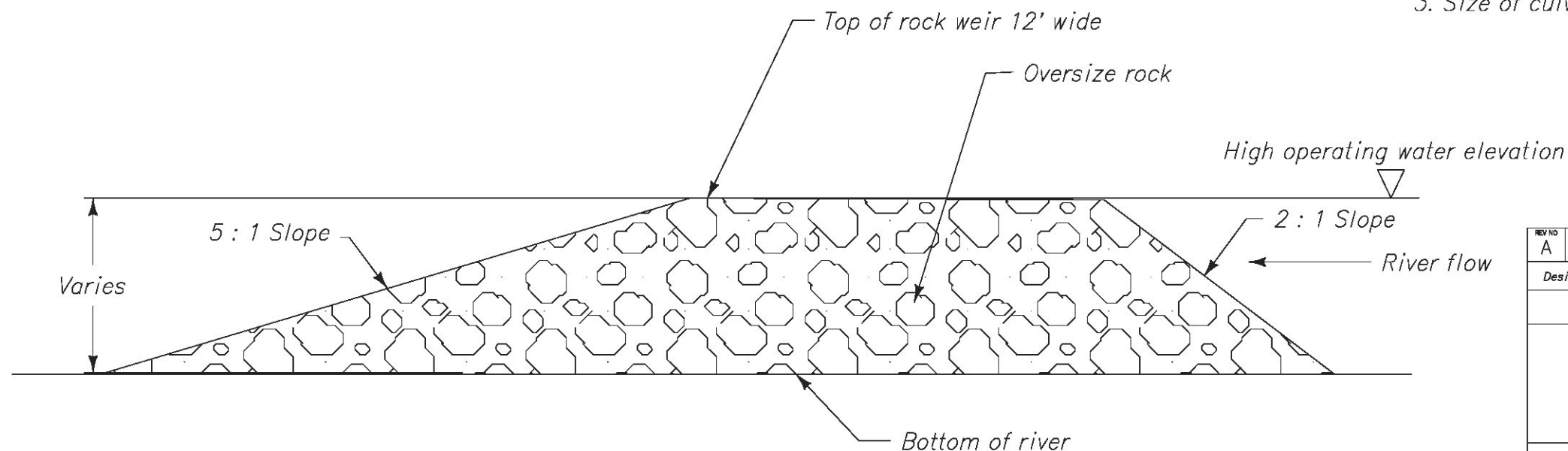
SECTION B-B  
(NOT TO SCALE)



CULVERT TYPICAL SECTION  
(NOT TO SCALE)

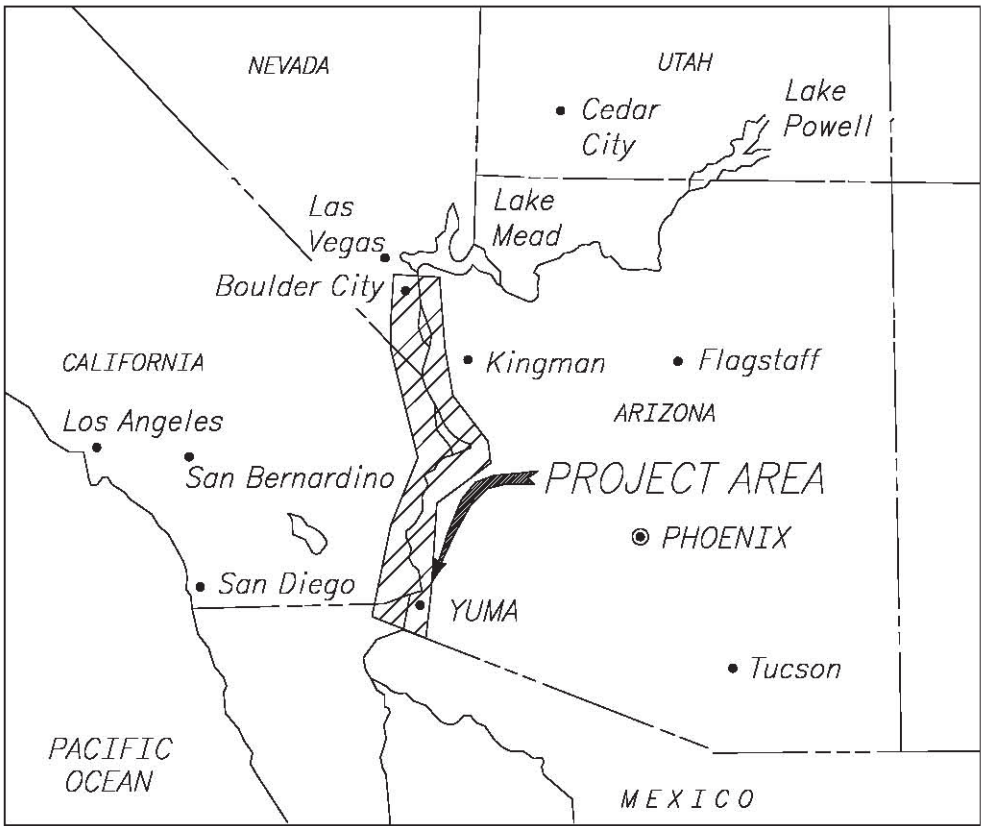
NOTES:

1. Drawing is not to scale.
2. Compaction shall be obtained by bringing the material to optimum moistures and then wheel rolling with heavy equipment or loaded haul trucks.
3. Size of culvert will depend on location.

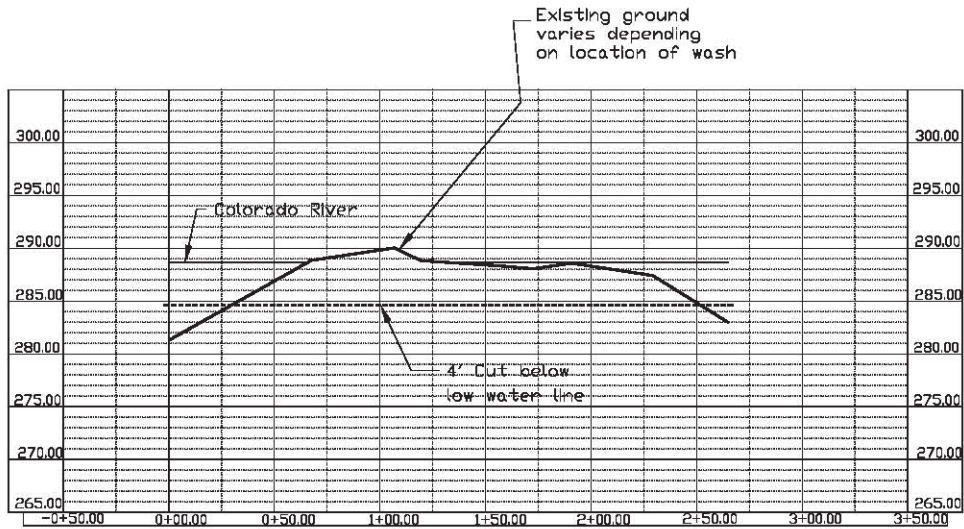
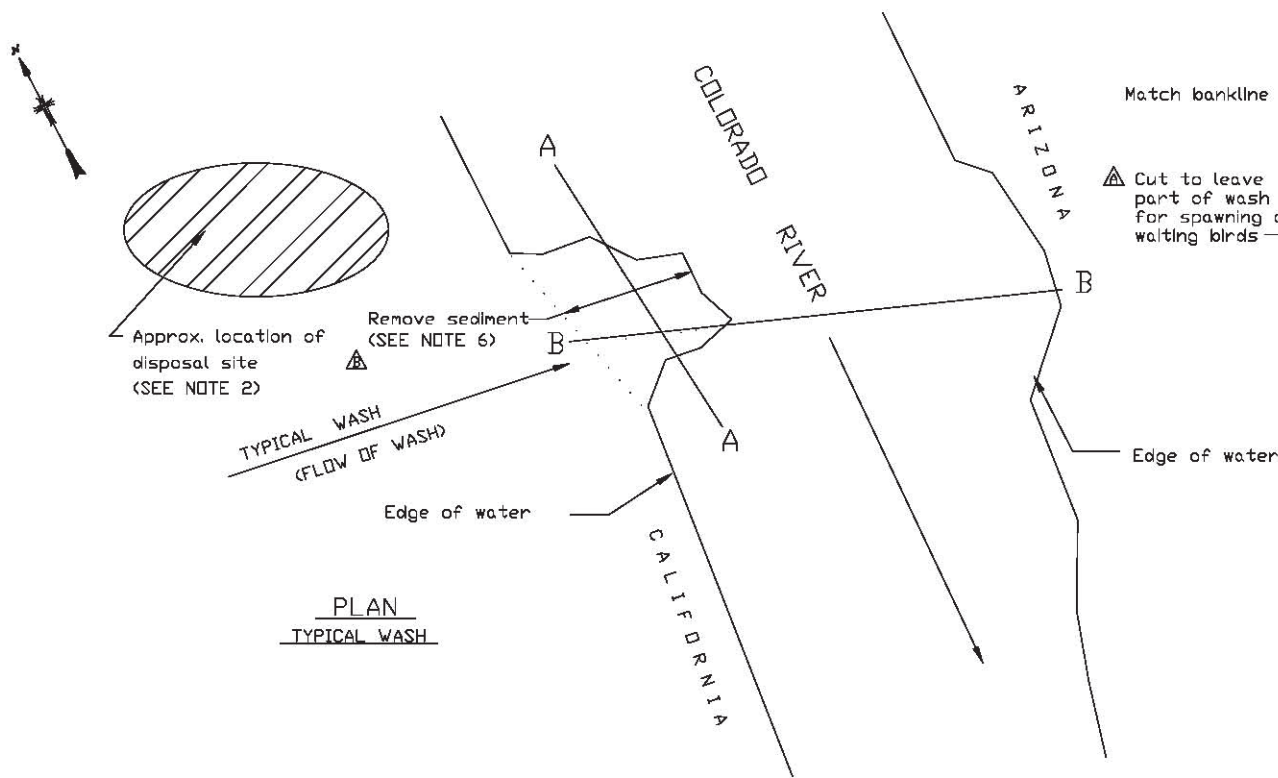


ROCK WEIR TYPICAL SECTION  
(NOT TO SCALE)

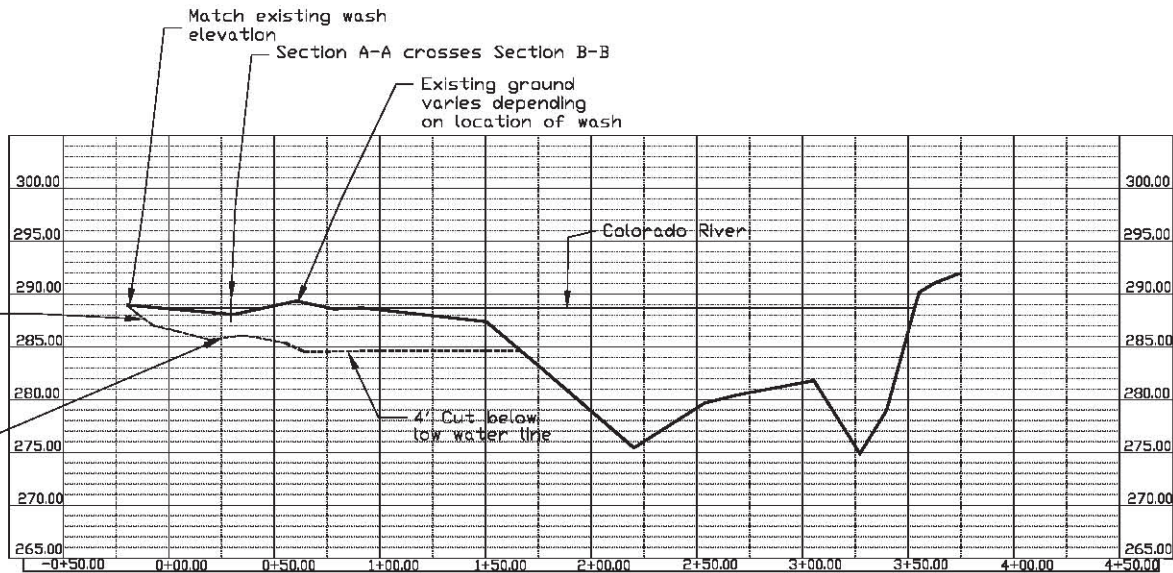
REV NO A	2011-12-7 303 J.L.S.	ADDED ENERGY DISSIPATION PAD.
Design Concurrence <u>Environmental Division: Chris Bates</u>		
<b>ALWAYS THINK SAFETY</b>		
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION YUMA AREA OFFICE OPERATIONS AND MAINTENANCE ALL DIVISIONS - ARIZONA, CALIFORNIA, AND NEVADA <b>CULVERTS, ROCK WEIR AND ENERGY DISSIPATION PAD TYPICAL SECTIONS</b>		
DESIGNED <u>Jeff L. Sanderson C.E.T.</u>	TECH. APPROVAL <u>Mike Igoo P.E.</u>	
DRAWN <u>Jeff L. Sanderson C.E.T.</u>	SUBMITTED <u>Steve Messinger P.E.</u>	
CHECKED <u>Mike Igoo P.E.</u>	APPROVED <u>Steve Messinger P.E.</u>	CHIEF OF ENGINEERING
CADD SYSTEM AutoCAD Rel. 18.1s	CADD FILENAME 1163-303-0685-1	DATE AND TIME PLOTTED OCTOBER 7, 2011 15:20
YUMA, ARIZONA	MARCH 23, 2000	1163-303-685
SHEET 1 OF 1		



KEY MAP



SECTION A-A  
(ELEVATIONS AND STATIONS ARE FOR INFORMATION ONLY  
THEY VARY DEPENDING ON THE LOCATION)  
(NOT TO SCALE)



SECTION B-B  
(ELEVATIONS AND STATIONS ARE FOR INFORMATION ONLY  
THEY VARY DEPENDING ON THE LOCATION)  
(NOT TO SCALE)

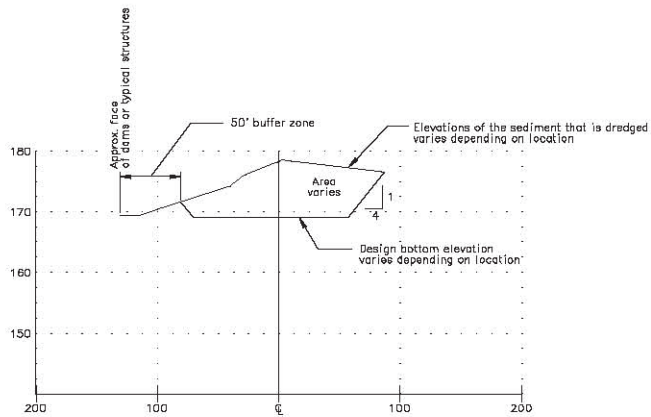
NOTES:

1. All dimensions and quantities vary at each wash.
2. Disposal sites vary depending on wash fan locations.
3. Survey's are required before and after construction.
4. Size of wash fans shall vary depending on the flows in typical side washes.
5. Typical wash fans sediment removal is at 4' below low water elevation.
6. Removal of material from wash fans varies from 3,000 CYDS. up to 16,000 CYDS. per wash fan.

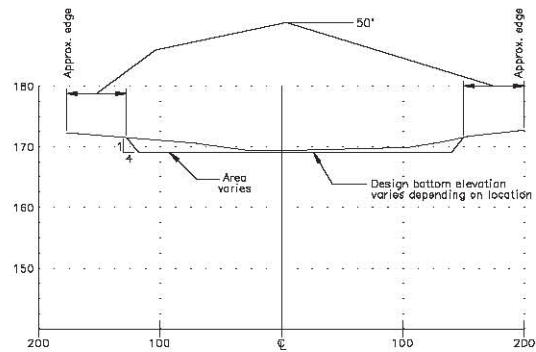
2011-12-07	ADDED NOTE 6 ON QUANTITIES.
303-J.L.S.	
5-17-01	CHANGE IN SECTION B-B.
303-J.L.S.	
Design Concurrence ENVIRONMENTAL SUPPORT TEAM: CHRIS BATES	
ALWAYS THINK SAFETY	
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION COLORADO RIVER FRONT WORK AND LEVEE SYSTEM YUMA DIVISION - ARIZONA - CALIFORNIA - NEVADA	
WASH FANS	
TYPICAL SECTIONS PLAN, SECTIONS, AND KEY MAP	
DESIGNED J. L. SANDERSON C.E.T.	TECH. APPR. MIKE TOPE P.E.
DRAWN J. L. SANDERSON C.E.T.	SUBMITTED ERIC MERTENHOF P.E.
CHECKED MIKE TOPE P.E.	APPROVED RICHARD KETTLER P.E.
CADD SYSTEM AutoCAD Rev. 18.1s	CHIEF OF ENGINEERING
423-303-2908-1-1.DWG	DATE AND TIME PLOTTED DECEMBER 7, 2011 13:09
YUMA, ARIZONA	FEB. 22, 2000
SHEET 1 OF 1	423-303-2908



423-303-2909

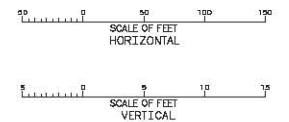


TYPICAL SECTION AT DAMS



TYPICAL SECTION AT INLET AND OUTLET

SCALES:



3-14-00		CHANGE IN TYPICAL SECTIONS	
ALLS			
Design Concurrence		ENVIRONMENTAL SUPPORT TEAM: CHRIS BATES	
ALWAYS THINK SAFETY			
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION COLORADO RIVER FRONT WORK AND LEVEE SYSTEM ALL DIVISIONS - ARIZONA - CALIFORNIA - NEVADA			
TYPICAL INLET DREDGING DREDGING IN FRONT OF EXISTING INLET STRUCTURES TYPICAL SECTIONS			
DESIGNED	J. L. SANDERSON, C.E.S.	TECH. APPR.	MIKE LOGG, P.E.
DRAWN	J. L. SANDERSON, C.E.S.	SUBMITTED	STEVE MESSENGER, P.E.
CHECKED	MIKE LOGG, P.E.	APPROVED	RYAN MCGILLI, P.E.
CADD SYSTEM		CADD FILENAME	
ARIZONA DIV. 17.0a		423-303-2909-1-2.0.mxd	
PLANNED BY		DATE AND TIME PLOTTED	
YANA, ARIZONA		OCTOBER 02, 2008 11:57	
SHEET 1 OF 1		423-303-2909	

D

C

B

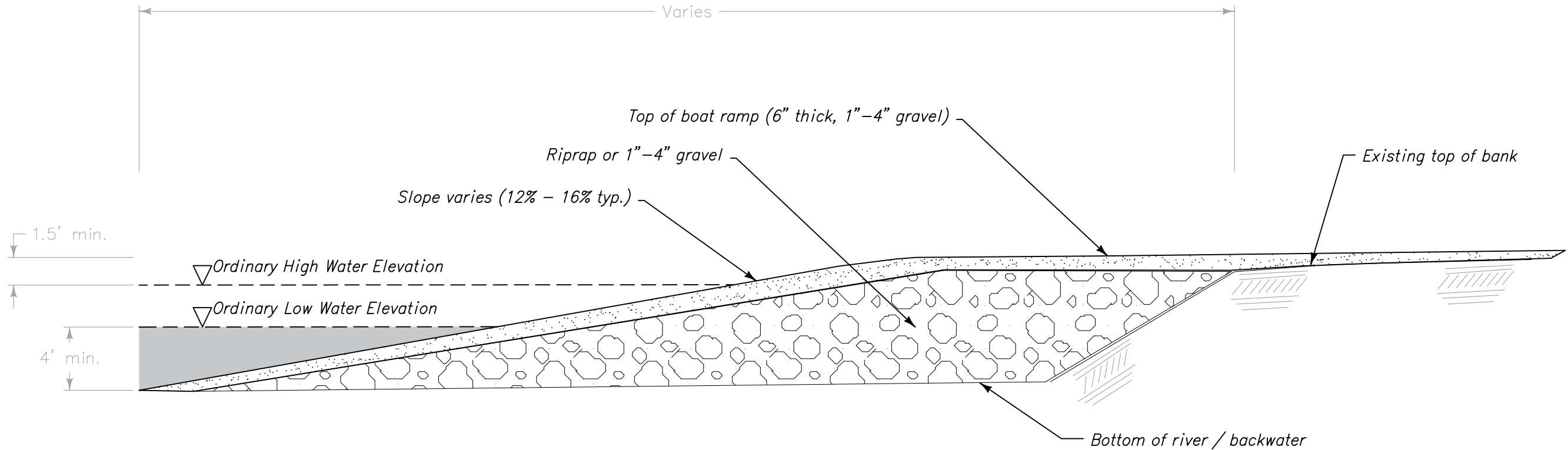
A

D

C

B

A



DREDGE LAUNCH RAMP TYPICAL SECTION

(NOT TO SCALE)

NOTES:

1. Drawing is not to scale.
2. The ramp shall be compacted by bringing the material to the optimum moisture range and then wheel rolling with heavy equipment in 6" lifts, or by vibratory plate/vibrating roller, until the required density is achieved.
3. Dredge launch ramps are approximately 50' wide and vary in length.
4. Up to approx. 1,650 CY of material may need to be removed to shape ramp.
5. Up to approx. 1,650 CY of riprap and up to approx. 825 CY of 1"-4" gravel may be used as fill in the construction of the ramp.

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

STANDARD DRAWINGS

STANDARD AND TYPICAL DESIGNS

COLORADO RIVER AND BACKWATERS

Jay Nemeth, P.E.

DESIGNED

Jay Nemeth, P.E.

DRAWN

Claudia Cain

CHECKED

TECH. APPR.

APPROVED

ADMIN APPROVAL - TITLE

YUMA, AZ

YYYY-MM-DD

DREDGE LAUNCH RAMP

TYPICAL DETAIL

40-303-T1123

SHEET 1