

*LOS ANGELES DISTRICT
U.S. ARMY CORPS OF ENGINEERS*

**DEPARTMENT OF THE ARMY
REGIONAL GENERAL PERMIT NO. 62
BUREAU OF RECLAMATION
OPERATION AND MAINTENANCE ACTIVITIES
LOWER COLORADO RIVER**

Permittee: This Regional General Permit (RGP) applies to the U.S. Department of the Interior, Bureau of Reclamation.

Permit Number: SPL-2000-01901-MB

Issuing Office: Los Angeles District

Effective Date: September 6, 2012

Expiration Date: September 6, 2017

Project Description

The District Engineer, Los Angeles District, U. S. Army Corps of Engineers hereby issues RGP No. 62.

This RGP authorizes the Bureau of Reclamation to conduct the following activities: To 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) (4 tons) to 10 cy (15 tons) per linear foot. To 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 first 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 placed on the backwater side of the culvert. The aprons would be placed underwater; approximately 50-100 cy of riprap is authorized under this RGP to be discharged per structure depending on the number of culverts in the structure. To 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 material excavated may be used for bankline stabilization in the affected wash; dredges are not authorized for use in wash fan removal. Maximum amount of material to be removed in total per year is 32,000 cy. To conduct dredging in front of dams and in desilting basins; 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 U.S. Environmental Protection Agency (EPA) on a case-by-case basis. To maintain existing rock weirs (the construction of new weirs is not authorized by this RGP). To 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 and if a dredge is used, the disposal site will be bermed; no return water is allowed directly to the river, its tributaries, backwaters, sloughs, or historic channels unless specifically approved by EPA on a case-by-case basis. To clear vegetation from an existing facility by dredge or land-based equipment (during low flows only); a maximum of no more than one acre of vegetation would be removed per occurrence and is limited to facilities, inlets/outlets, structures, and roads. No vegetation would be removed below the OHWM during bank stabilization activities. To construct boat ramps for equipment access with a maximum ramp width of 30', a maximum of 500 cy of rock for stabilization of the ramp, and maximum removal of material for ramp construction of 1,000 cy. This RGP does not allow for the placement of concrete for the ramp.

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

Permit Conditions

General Conditions:

1. The activity authorized by this permit must be maintained in good condition and in conformance with the terms and conditions of this permit. The Permittee is not relieved of this requirement if the permitted activity is abandoned, although a good faith transfer to a third party may be made in compliance with General Condition 4 below. Should the Permittee wish to cease to maintain the authorized activity or desire to abandon it without a good faith transfer, a modification must be obtained from this permit from this office, which may require restoration of the area.

2. If the Permittee discovers any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, the Corps must be immediately notified of what has been 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.
3. If a conditioned water quality certification has been issued for this project, the Permittee must comply with the conditions specified in the certification as special conditions to this permit.
4. The Permittee 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 with the terms and conditions of this permit.
5. 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.

Special Conditions: See attached sheet.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - (X) Section 10 of the River and Harbor Act of 1899 (33 U.S.C. 403).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1314).
 - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.

- c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this 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 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 permit.
 - d. Design or construction deficiencies associated with the permitted work.
 - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
- a. Failure to comply with the terms and conditions of this permit.
 - b. The information provided by the Permittee in support of the 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.
 - d. 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 permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measure 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. Work/activities authorized under RGP62 expire September 6, 2017. The Corps will normally give favorable consideration to a request for an extension of this time limit. It is expected that the RGP can be reissued for an additional five years; however, the Corps must determine if individual and cumulative impacts were and are expected to remain minimal.

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



Sallie McGuire
Chief, Arizona Branch, Regulatory Division
(for the District Engineer)



(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEEE)

(DATE)

SPECIAL CONDITIONS
PERMIT NO. SPL-2000-01901-MB

a. Should cultural resources or archeological remains be encountered during construction/excavation, work shall immediately cease in the area of discovery. The permittee shall promptly notify the State Historic Preservation Office at (602)542-7137 and the Corps at (602) 230-6954.

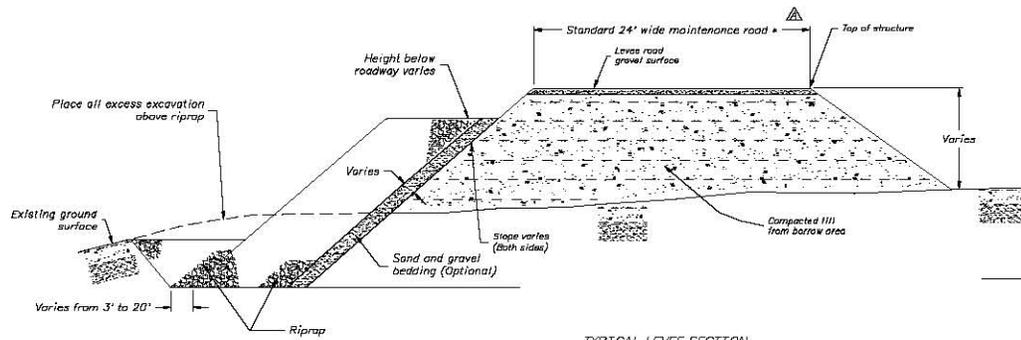
b. In order to use this RGP for any activity detailed herein, the permittee shall be required to notify the Corps, prior to commencement of any activity. The standard individual permit application form (FORM ENG 4345) may be used as notification but must clearly indicate that it is a RGP notification. 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:

1. 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,
2. a vicinity map indicating location of the activity; Section, Township, Range and latitude/longitude in decimal format,
3. 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,
4. location of dredged material deposition sites,
5. 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,
6. Section 401 water quality certification from the appropriate agency/agencies,
7. 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",
8. completed Section 106 consultation including consultation with appropriate Tribes regarding traditional cultural properties or the permittee's determination of "no effect",
9. a mitigation plan, in accordance with the Corps' "Habitat Mitigation and Monitoring Plan" format, for any permanent impacts to the aquatic ecosystem,
10. written authorization from any Native American Tribe which owns the project area.

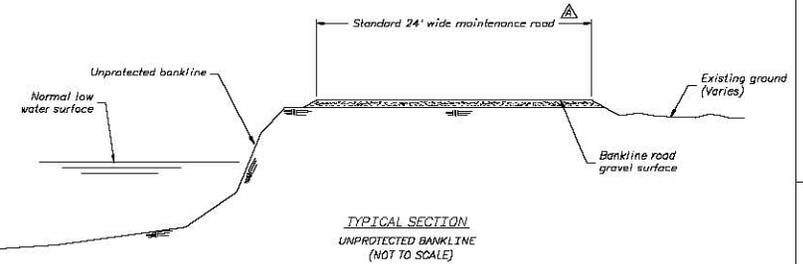
c. The permittee shall comply with all requirements and conditions in the letter of (state) water quality certification issued by the appropriate agency. This certification demonstrates that the permittee has complied with Section 401(a) of the Clean Water Act. A copy of the certification for the individual project is enclosed.

- d. The permittee shall minimize disturbance to native vegetation and is not authorized to conduct work under this RGP 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 on a case-by-case basis for removal. The Bureau shall provide mitigation for any permanent impacts.
- e. The permittee shall not stockpile material below the ordinary high water mark of any water of the U.S.
- f. This permit does not authorize training structures, jetties, or any other similar structures which extend into the river.
- g. 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.
- h. The permittee shall immediately remove all excavated/dredged material to an upland disposal site. Upland sites for dredged material shall be bermed.
- i. 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.
- j. The permittee shall not divert flows outside of the ordinary high water mark of any water of the U.S.
- k. The permittee shall not pour concrete for any ramp.
- l. The permittee shall not excavate, fill, or grade in the watercourse outside of the minimum area needed to accomplish the activity.
- m. 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.

- n. The permittee shall remove all excess fill and/or construction debris/equipment from the site immediately upon completion of construction.
- o. If any activity is proposed to occur on Tribal lands, the permittee shall provide to the Corps written authorization from the appropriate Tribe to perform the work.
- p. Each project which meets all terms and conditions of this RGP shall be verified for a period of three years. If the specific project is not under construction within that timeframe, the project shall be resubmitted for reverification under this RGP.
- q. This RGP shall be effective for five years from the date of issuance after which time it may be reauthorized if Federal, State, and local agencies and the public support its reissuance.
- r. This RGP may be modified or revoked in the future if: (1) new species or new critical habitat become Federally listed that could be adversely affected by the permitted activities or (2) additional information indicates that activities permitted under this RGP cause significant environmental impacts.



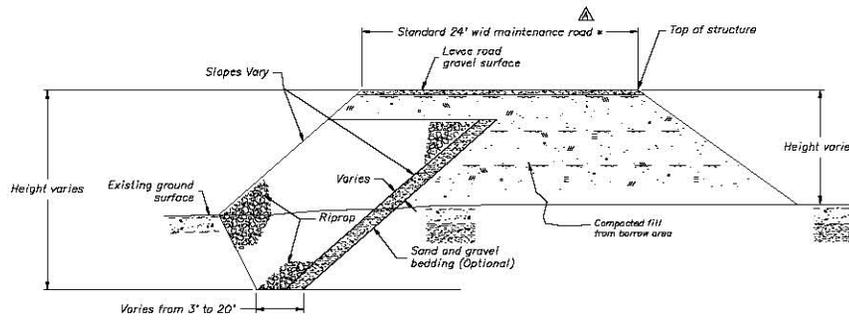
TYPICAL LEVEL SECTION
(NOT TO SCALE)



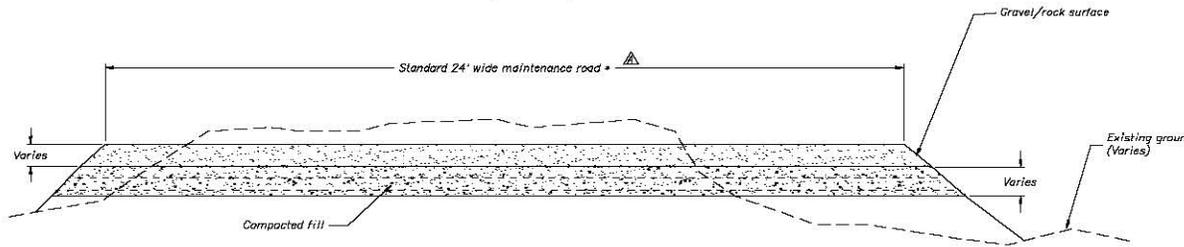
TYPICAL SECTION
UNPROTECTED BANKLINE
(NOT TO SCALE)

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)



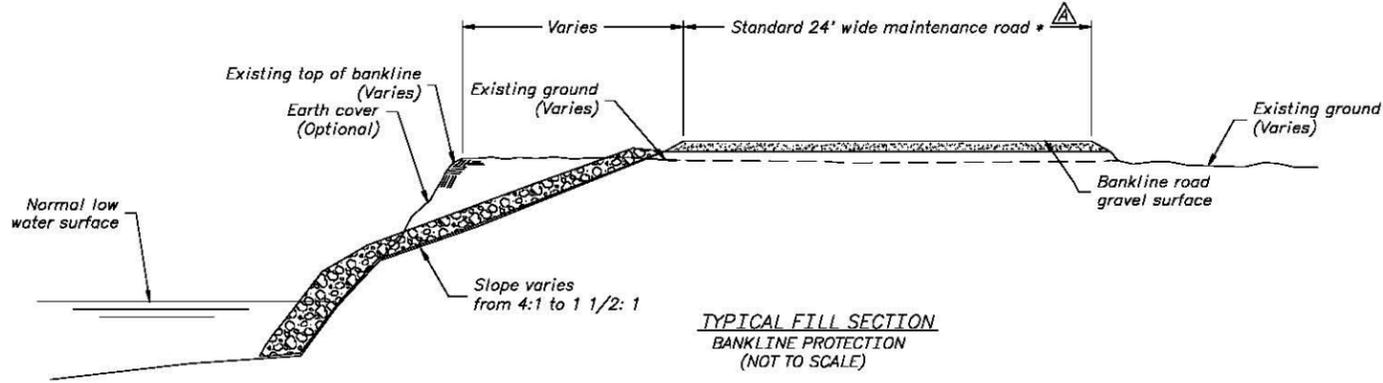
TYPICAL SECTION - ACCESS ROAD
(NOT TO SCALE)

NOTES:

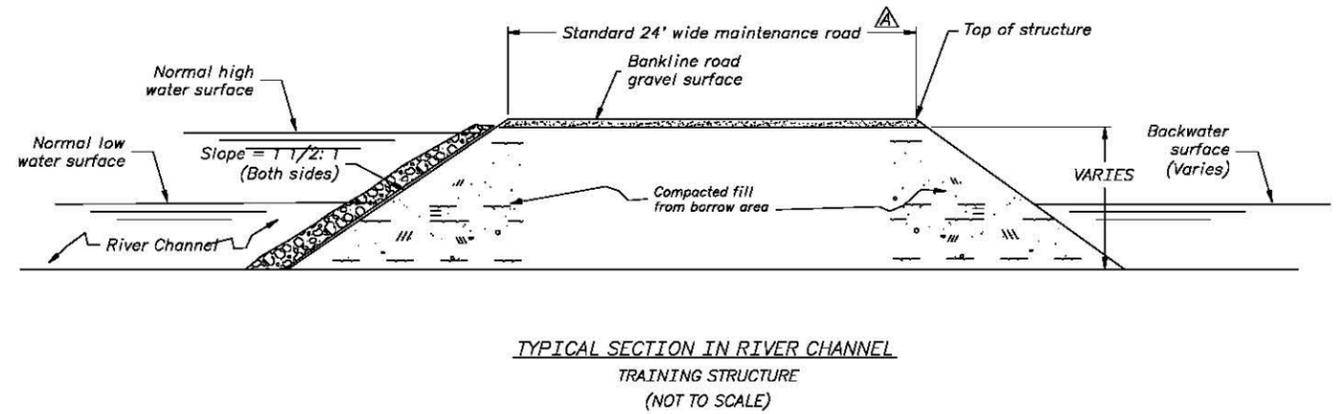
1. Drawing is not to scale.
2. Riprap varies from 4 to 15 tons/foot.
3. Gravel and rock surfacing for roads varies from 6 to 18 inches.
4. Depth of fill and cut sections vary depending on existing terrain.
5. Levee and riprap slopes vary for 4:1 to 1 1/2:1 depending on existing topography.
6. Riprap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

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| 3-11-2002 41.8-303 | CHANGE IN THE WIDTHS OF THE ROAD, AND ADDED NOTES ADDED TYPICAL SECTION UNPROTECTED BANKLINE. |
| Design Concurrence | J.R. KIRKALDIE |
| | |
| UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION COLORADO RIVER TREATY WORK AND LEVEE SYSTEM YUMA DIVISION - ARIZONA - CALIFORNIA - NEVADA LEVEE AND ACCESS ROAD BANKLINE STABILIZATION TYPICAL SECTIONS | |
| DESIGNED BY | J.H.L. Sullivan, C.E.T. TECH. APPR. Mike Zgon, P.E. |
| DRAWN BY | J.H.L. Sullivan, C.E.T. SUBMITTED |
| CHECKED BY | Mike Zgon, P.E. APPROVED BY Mike Sullivan, P.E. CHIEF OF DIVISION |
| DATE PLOTTED | 11/15/02 |
| DATE PRINTED | 11/15/02 |
| YUMA, ARIZONA | SHEET 1 OF 1 |

D

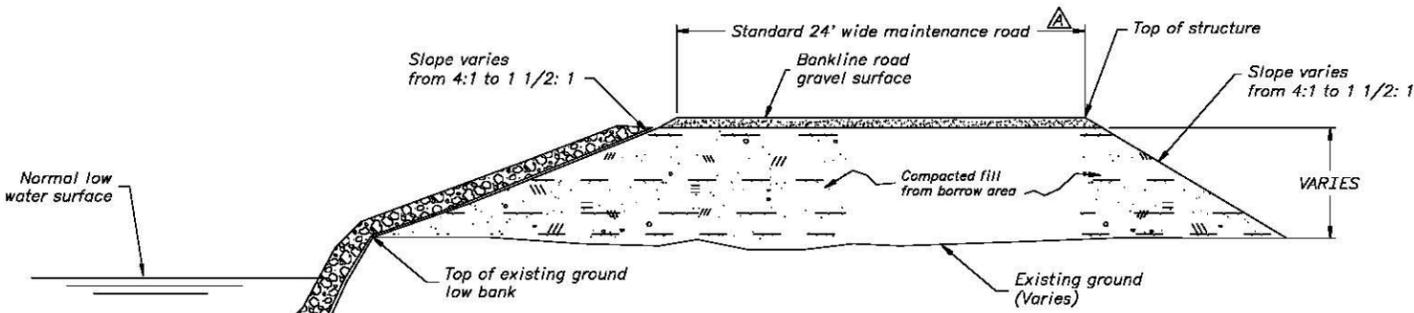


TYPICAL FILL SECTION
BANKLINE PROTECTION
(NOT TO SCALE)

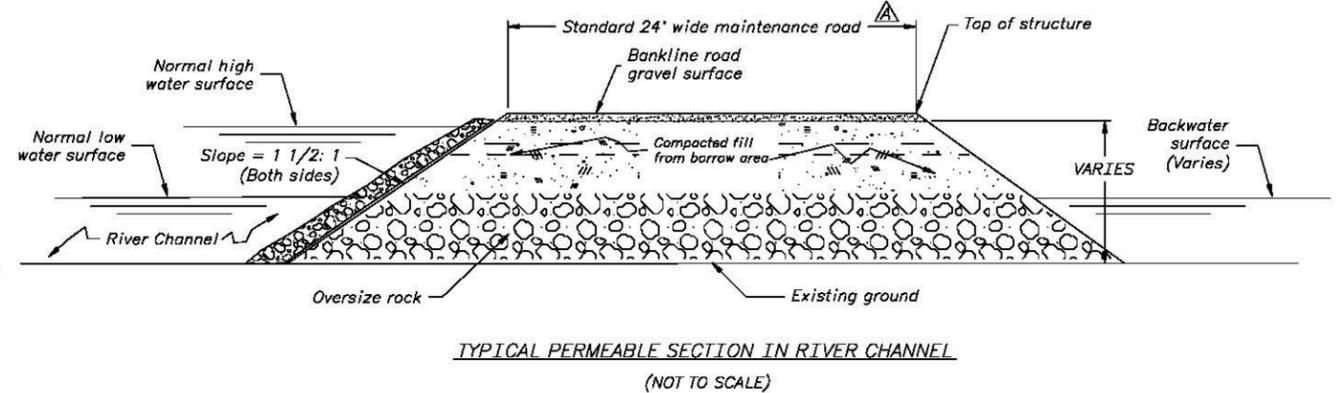


TYPICAL SECTION IN RIVER CHANNEL
TRAINING STRUCTURE
(NOT TO SCALE)

C

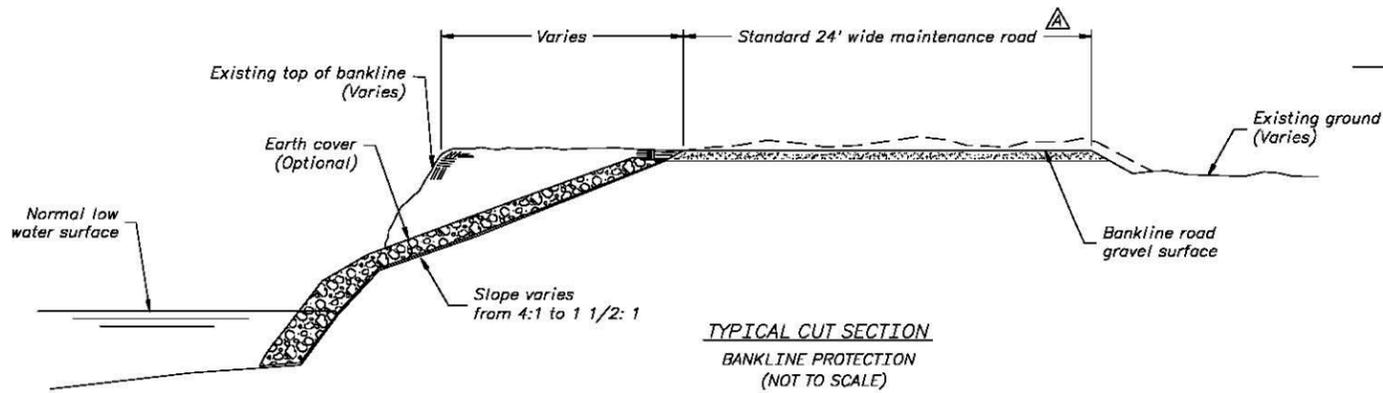


TYPICAL SECTION ON EXISTING BANK
BANKLINE PROTECTION
(NOT TO SCALE)

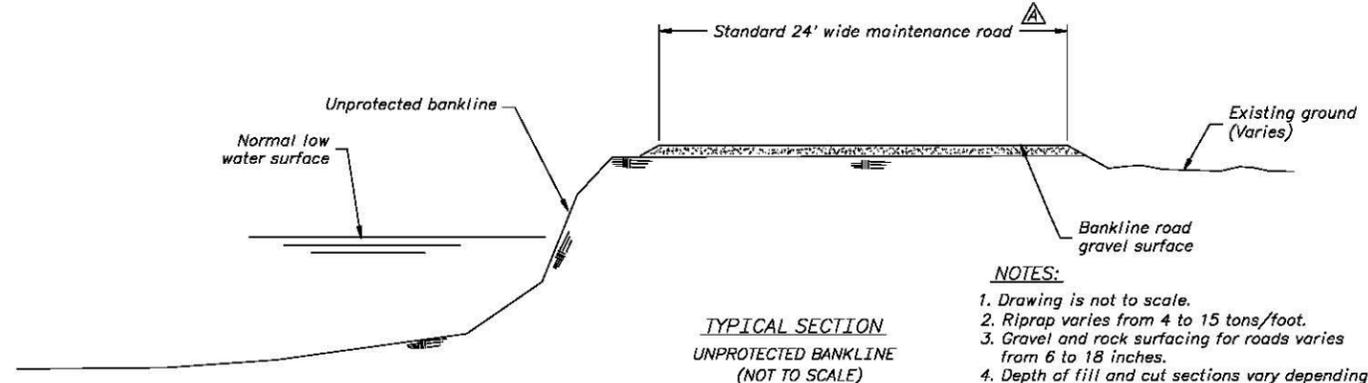


TYPICAL PERMEABLE SECTION IN RIVER CHANNEL
(NOT TO SCALE)

B



TYPICAL CUT SECTION
BANKLINE PROTECTION
(NOT TO SCALE)



TYPICAL SECTION
UNPROTECTED BANKLINE
(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. Bankline stabilization varies between 25 linear feet up to 2,500 linear feet.

A

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

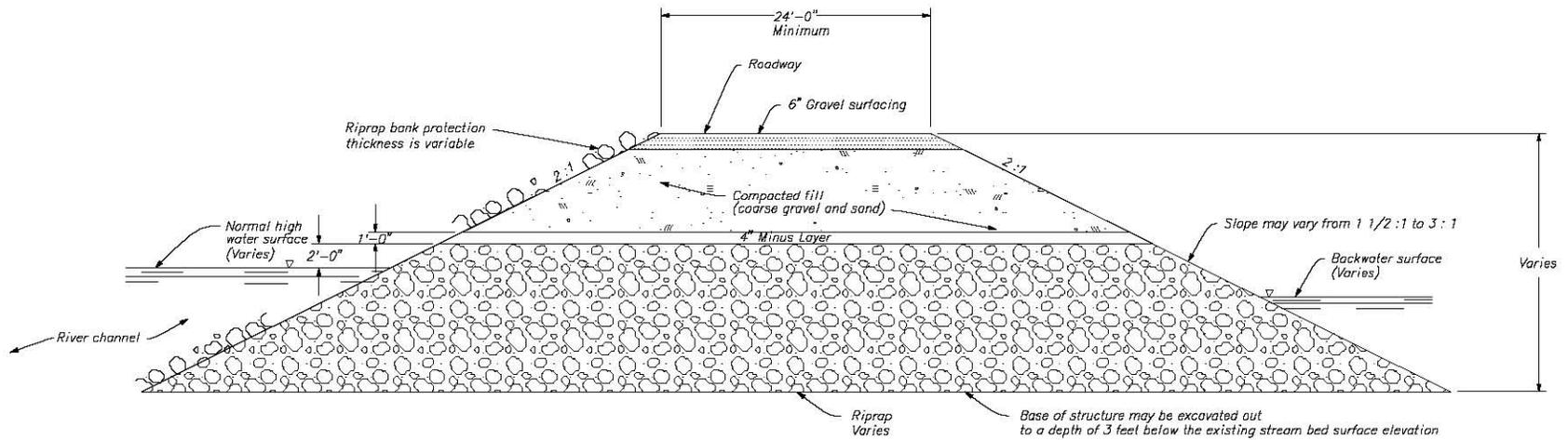
| | | |
|------------|---|---|
| 12-07-2011 | △ | ADDED NOTE 5, AND ADDED BANKLINES IN TITLE BLOCK. |
| JLS-303 | | |
| 2-11-2000 | △ | CHANGE IN ROAD WIDTHS, AND NOTES, ADDED UNPROTECTED BANKLINE. |
| JLS-303 | | |

Design Concurrence J.R. KIRKALDIE

ALWAYS THINK SAFETY

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
COLORADO RIVER FRONT WORK AND LEVEE SYSTEM
YUMA DIVISION - ARIZONA - CALIFORNIA - NEVADA
**BANKLINES, AND RIVER TRAINING
AND PERMEABLE STRUCTURES
TYPICAL SECTIONS**

| | | | |
|-------------|---------------------------|-----------------------|------------------------|
| 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 | AutoCAD PLOT 18.1s | CADD FILENAME | 423-303-2902-1-1.DWG |
| | | DATE AND TIME PLOTTED | DECEMBER 7, 2011 13:30 |
| | | | 7-15-99 |
| | | | 423-303-2902 |

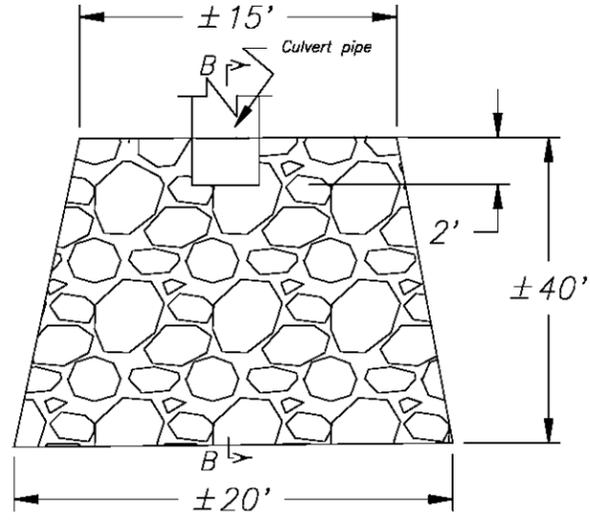


TYPICAL SECTION
PERMEABLE TRAINING STRUCTURE
Scale: 1" = 10'-0"

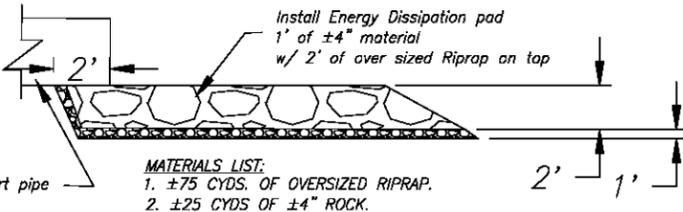
NOTES:

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 | |
| | |
| UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION YUMA AREA PROJECTS OPERATIONS AND MAINTENANCE - PALO VERDE - CALIFORNIA C-8 BACKWATER PROJECT PERMEABLE STRUCTURES TYPICAL SECTION | |
| DESIGNED J. SANDERSON C.E.T. | TECH. APPROVAL Mike Igoe P.E. |
| DRAWN J. SANDERSON C.E.T. | SUBMITTED Mike Igoe P.E. |
| CHECKED R.A. QUJAMEN | APPROVED Steve Messinger P.E. CHIEF OF ENGINEERING |
| CADD SYSTEM AutoCAD Rel. 17.0s | CADD FILENAME 1163-303-0677-2 |
| YUMA, ARIZONA | DATE AND TIME PLOTTED OCTOBER 20, 2006 11:00 |
| JAN. 19, 2000 | 1163-303-677 |
| SHEET 2 OF 2 | |

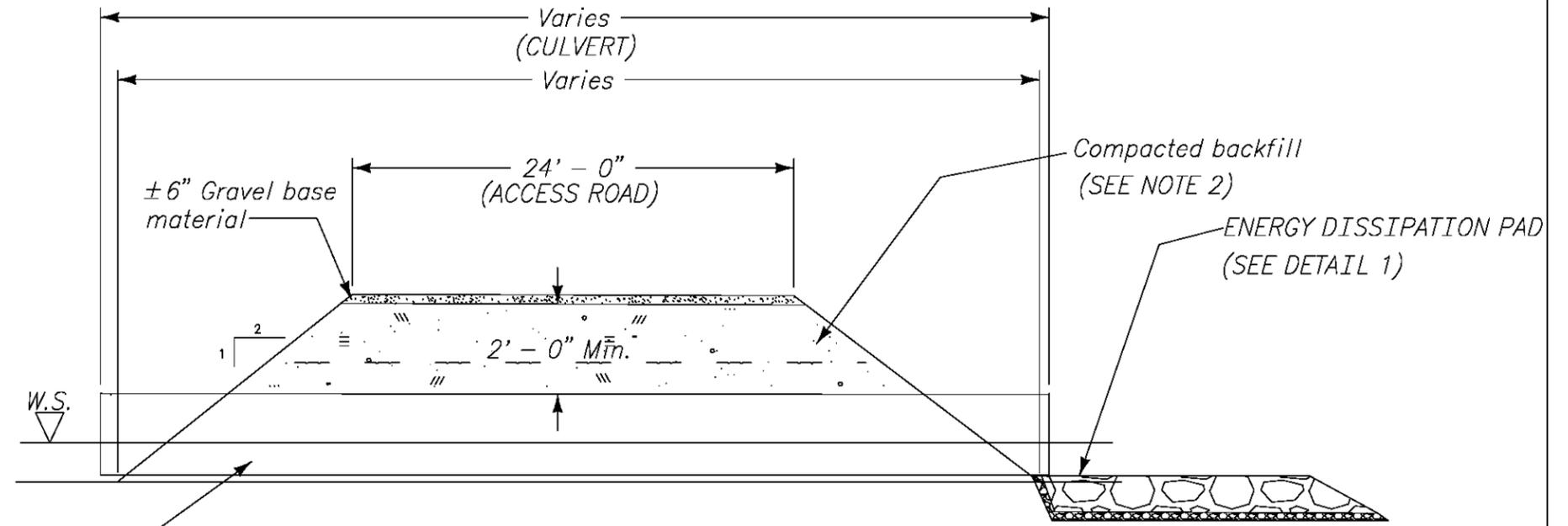


DETAIL 1
(NOT TO SCALE)



SECTION B-B
(NOT TO SCALE)

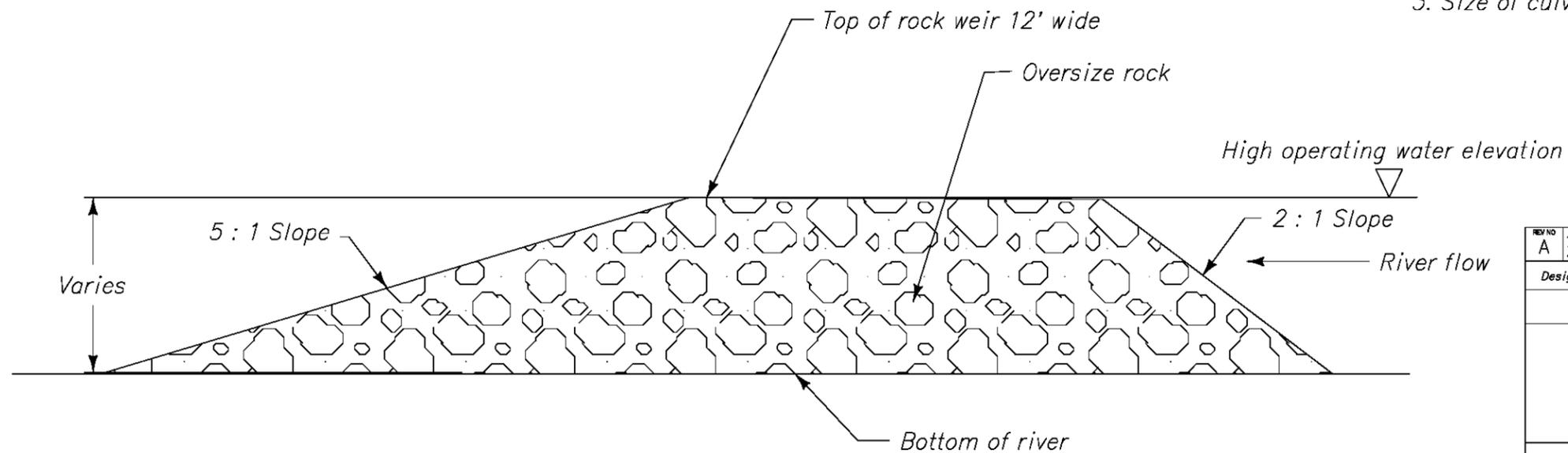
- MATERIALS LIST:
 1. ±75 CYDS. OF OVERSIZED RIPRAP.
 2. ±25 CYDS OF ±4" ROCK.



CULVERT TYPICAL SECTION
(NOT TO SCALE)

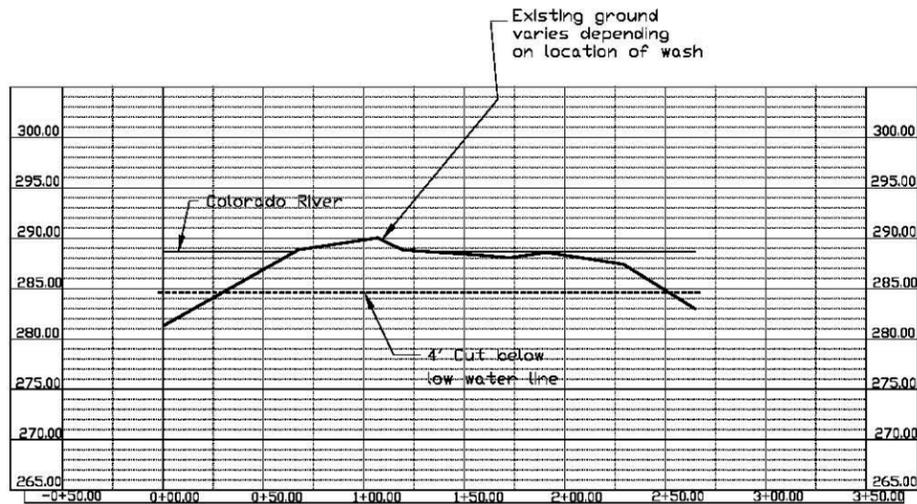
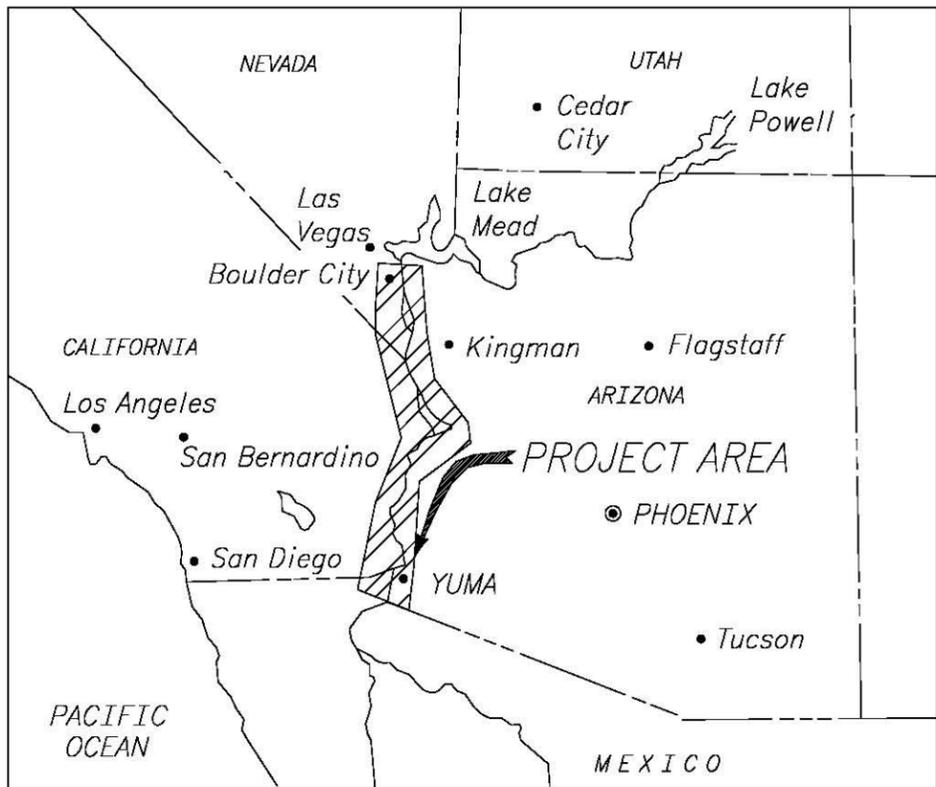
Dia. varies
(SEE NOTE 3)

- 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.

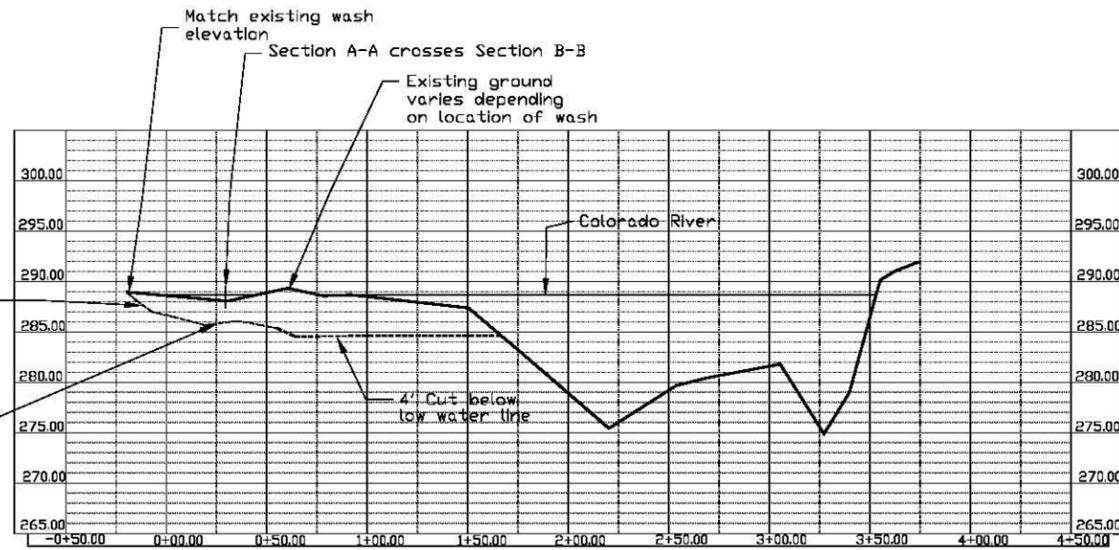


ROCK WEIR TYPICAL SECTION
(NOT TO SCALE)

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

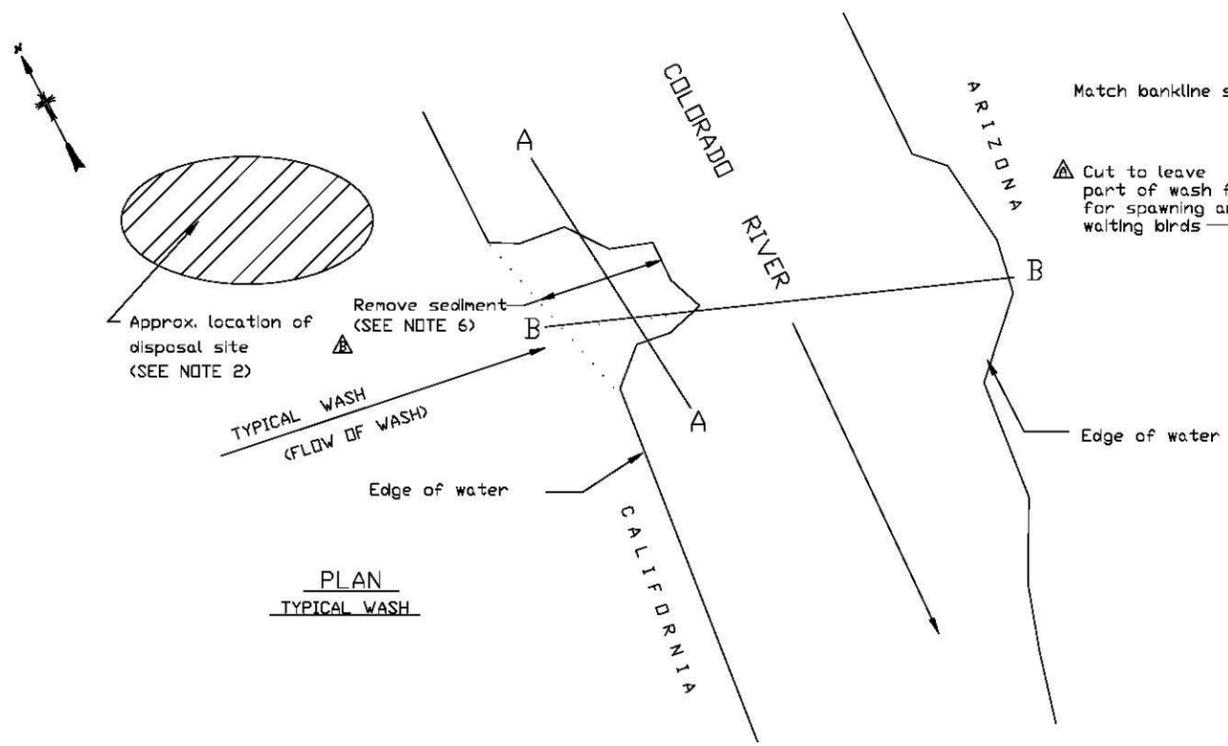


SECTION A-A
 (ELEVATIONS AND STATIONS ARE FOR INFORMATION ONLY
 THEY VARY DEPENDING ON THE LOCATION)
 (NOT TO SCALE)



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

KEY MAP

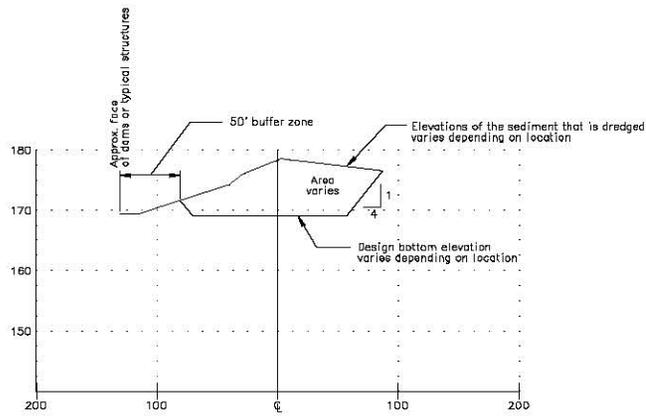


PLAN
 TYPICAL WASH

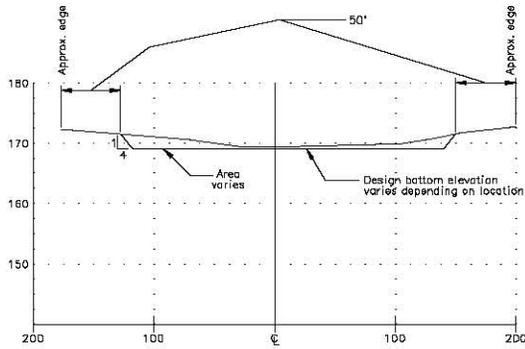
NOTES:

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 TORRE, P.E. |
| DRAWN: J.L. SANDERSON, C.E.T. | SUBMITTED: SEVE MESSINGER, P.E. |
| CHECKED: MIKE TORRE, P.E. | APPROVED: PARKINS KETLENELL, P.E. |
| CADD SYSTEM: AutoCAD PLOT 18.1s | CADD FILENAME: 423-303-2908-1-1.DWG |
| DATE AND TIME PLOTTED: FEB. 22, 2000 | DATE AND TIME PLOTTED: DECEMBER 7, 2011 13:08 |
| YUMA, ARIZONA | SHEET 1 OF 1 |

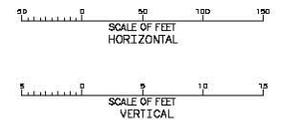


TYPICAL SECTION AT DAMS



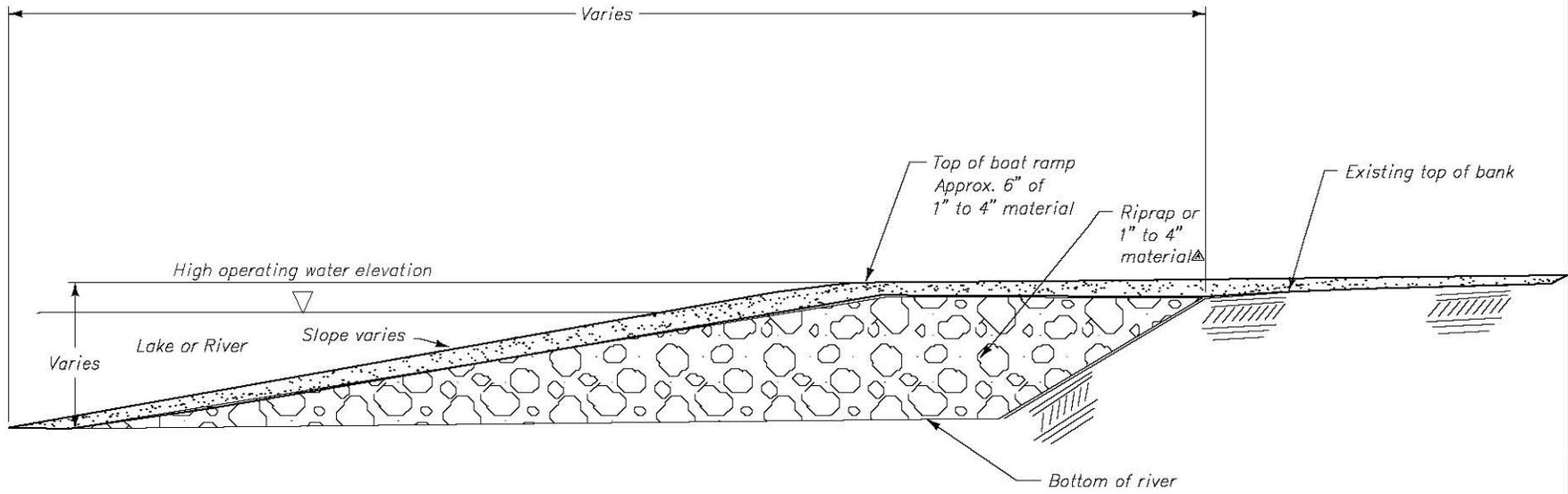
TYPICAL SECTION AT INLET AND OUTLET

SCALES:



| | |
|---|---|
| 3-14-00 | CHANGE IN TYPICAL SECTIONS |
| M.S. | |
| Design Concurrence | ENVIRONMENTAL SUPPORT TEAM CURTIS BYTES |
| 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.T. TECH. APPR. MARY EGGE, P.E. |
| DRAWN | J. L. SANDERSON, C.E.T. SUBMITTED STEVE MESSINGER, P.E. |
| CHECKED | MARY EGGE, P.E. APPROVED RYAN WING KITTLEMEYER, P.E. |
| CORR. SYSTEM | ADULTS ONLY 172m |
| PROJECT NUMBER | 423-303-2909-1-2.00 |
| DATE PRINTED | OCTOBER 02, 2008 11:57 |
| TEAM, ALEXANDRA | SHEET 1 OF 1 |
| | 423-303-2909 |

1163-303-686



BOAT RAMP 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. Boat ramps are approx. 30' wide and length will vary.
4. Approx. 1,000 cubic yards of material may need to be removed to shape ramp.
5. Approx. 1,000 cubic yards of clean riprap, and 500 cubic yards of 1" to 4" material will be used for ramp.

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|--|--------------------------------------|-----------------------|
| 1163-303-686 | CHANGE IN TEXT | △ |
| Design Concurrence | Maintenance Division: Doug Lancaster | |
| ALWAYS THINK SAFETY | | |
| UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION YUMA AREA OFFICE OPERATIONS AND MAINTENANCE ALL DIVISIONS - ARIZONA, CALIFORNIA, AND NEVADA BOAT RAMP TYPICAL SECTION | | |
| DESIGNED | Jeff L. Sanderson C.E.T. | TECH. APPROVAL |
| DRAWN | Jeff L. Sanderson C.E.T. | SUBMITTED |
| CHECKED | Mike Lopez P.E. | APPROVED |
| CADD SYSTEM | AutoCAD Rel. 17.0a | DATE AND TIME PLOTTED |
| YUMA, ARIZONA | MARCH 23, 2006 | 11:19 |
| SHEET 1 OF 1 | | 1163-303-686 |