

AGREEMENT AMONG
THE UNITED STATES OF AMERICA, THROUGH THE
DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION;
THE SOUTHERN NEVADA WATER AUTHORITY; AND
THE IMPERIAL IRRIGATION DISTRICT
FOR THE ADVANCE FUNDING AND CONSTRUCTION OF A CONFLUENCE
STRUCTURE AS AN INTEGRAL COMPONENT OF THE
LOWER COLORADO RIVER DROP 2 STORAGE RESERVOIR PROJECT

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1. PREAMBLE: THIS AGREEMENT is made this 13 day of December, 2007, pursuant to the Act of Congress approved June 17, 1902 (32 Stat. 388), designated the Reclamation Act, and acts amendatory thereof or supplementary thereto; the Act of March 4, 1921 (41 Stat. 1404, 43 U.S.C. §395); the Act of January 21, 1927 (44 Stat. 1010, chapter 47), designated the Colorado River Front Work and Levee System, as amended; the Act of December 21, 1928 (45 Stat. 1057), designated the Boulder Canyon Project Act; and particularly pursuant to Section 396 of the Act of December 20, 2006 (Public Law 109-432, 120 Stat. 3047), hereinafter referred to as "Authorizing Act," all of which acts are part of the body of law commonly known and referred to as Federal Reclamation law; among the UNITED STATES OF AMERICA, hereinafter called the "United States," represented by the Secretary of the Interior, hereinafter referred to as the "Secretary," and acting through the officer executing this Agreement, hereinafter referred to as "Contracting Officer"; the SOUTHERN NEVADA WATER AUTHORITY, a political subdivision of the State of Nevada, hereinafter referred to as "SNWA"; and the IMPERIAL IRRIGATION DISTRICT, an irrigation district created, organized, and existing under and by virtue of the laws of the State of California, with its principal place of business at Imperial, Imperial County, California, hereinafter referred to as

“IID”; each of which is at times referred to individually as “Party” and which are at times collectively referred to as “Parties;”

WITNESSETH THAT:

2. EXPLANATORY RECITALS:

2.1 WHEREAS, for the purposes of controlling floods, improving navigation, regulating the flow of the Colorado River, and providing for storage and the delivery of stored water for the reclamation of public lands and other beneficial uses exclusively within the United States, the Secretary, acting under and pursuant to the provisions of the Colorado River Compact and the Boulder Canyon Project Act, has constructed and is now operating and maintaining in the mainstream of the Colorado River at Black Canyon that certain structure known as and designated Hoover Dam and incidental facilities, creating thereby a reservoir designated Lake Mead;

2.2 WHEREAS, as a means to deliver Colorado River water to the Imperial and Coachella Valleys, Imperial Dam and the All-American Canal system, which includes the All-American Canal and its Coachella Branch, were authorized and constructed pursuant to the Boulder Canyon Project Act;

2.3 WHEREAS, in 2005 the Bureau of Reclamation (hereinafter “Reclamation”) completed a study entitled, “Preliminary Study of Lower Colorado River Water Storage Alternatives” to identify potential alternatives for replacing lost storage capacity at Senator Wash Dam, reduce excess flows to the Republic of Mexico, improve operational control on the lower Colorado River, and avoid mismatches in water orders and diversions from the Colorado River below Parker Dam. The study determined that building a small reservoir near the All-American Canal in Imperial County, California, was the best alternative to meet these objectives for conserving Colorado River water. This reservoir would allow Reclamation to store water that

would be otherwise nonstorable so it is available to augment the water supply available for use in the Lower Colorado River Basin;

2.4 WHEREAS, the Secretary is directed by the Authorizing Act, notwithstanding any other provision of law and without delay, to design and provide for the construction, operation, and maintenance of a regulated water storage facility at or near the All-American Canal, including all incidental works that are reasonably necessary to operate the storage facility, to provide additional storage capacity to reduce nonstorable flows on the Colorado River below Parker Dam;

2.5 WHEREAS, the small reservoir near the All-American Canal in Imperial County, California, identified in Reclamation's Preliminary Study of Lower Colorado River Water Storage Alternatives and the regulated water storage facility at or near the All-American Canal which the Authorizing Act directed the Secretary to construct, together with related facilities, are the same storage reservoir facility, namely the Lower Colorado River Drop 2 Storage Reservoir Project (hereinafter "Drop 2 Reservoir Project");

2.6 WHEREAS, the Drop 2 Reservoir Project consists of (i) a reservoir facility of approximately 615 acres in size comprised of two 4,000 acre-foot cells having a total storage capacity of 8,000 acre-feet, (ii) an inlet canal of approximately 6.5 miles in length connecting the All-American Canal to the reservoir facility, and (iii) an inverted siphon and outlet canal connecting the reservoir facility back to the All-American Canal. An integral component of the outlet canal is the structure that connects the reservoir facility back to the All-American Canal (hereinafter called the "Confluence Structure" or "Project"), and is the subject of this Agreement;

2.7 WHEREAS, Reclamation has completed the design of the Confluence Structure with funds appropriated under the Colorado River Front Work and Levee System for the continued planning and design of the Drop 2 Reservoir Project;

2.8 WHEREAS, planning efforts for the Drop 2 Reservoir Project are governed by Sections 396 and 397 of Public Law 109-432, which provide that the Secretary “shall” “design and provide for the construction, operation, and maintenance” of the Drop 2 Reservoir Project “without delay,” “upon the date of enactment,” and “notwithstanding any other provision of law,” and Reclamation is implementing this statute as will be described in the forthcoming Environmental Determination;

2.9 WHEREAS, IID currently performs the operation, maintenance, repair and replacement functions of the All-American Canal pursuant to Contract No. Ilr-747 dated March 4, 1952, which is Amendatory of and Supplemental to the Contract for Construction of Diversion Dam, Main Canal, and Appurtenant Structures and for Delivery of Water between the United States of America and the Imperial Irrigation District dated December 1, 1932, as amended and supplemented;

2.10 WHEREAS, IID has contracted for the construction of the All-American Canal Lining Project (hereinafter “AACLP”), which work is currently underway;

2.11 WHEREAS, a significant cost savings and construction efficiency can be realized by the utilization of IID’s AACLP contractor (“IID’s AACLP Contractor”) for the construction of the Confluence Structure, and, it has been administratively determined by the United States that the construction of the Confluence Structure is so closely related to and requires such critical coordination with IID’s construction contractor for the AACLP as to make it appropriate, necessary, and desirable to have said work performed by IID’s AACLP Contractor;

2.12 WHEREAS, the Secretary is considering, and proposes to adopt by the end of calendar year 2007, specific interim guidelines for Colorado River Basin shortages and coordinated operations for Lake Powell and Lake Mead, particularly under drought and low reservoir conditions, which interim guidelines would be used by the Secretary to, among other things, (i) allow for the storage and delivery, pursuant to applicable federal law, of conserved

Colorado River system and non-system water in Lake Mead to increase the flexibility of meeting water use needs from Lake Mead and (ii) determine those conditions under which the Secretary may declare the availability of surplus water for use within the Lower Division states;

2.13 WHEREAS, one alternative that has been under consideration by the Secretary is the Basin States Alternative, one element of which provides for (i) the creation of “system efficiency intentionally created surplus” (“System Efficiency ICS”) through the contributions of capital to the Secretary by a contractor such as SNWA for use in Secretarial projects designed to realize system efficiencies that save water that would otherwise be lost from the Colorado River Mainstream in the United States, (ii) making available to the contributing contractor an amount of water equal to a portion of the water saved as System Efficiency ICS, and (iii) the release of System Efficiency ICS to the contributing contractor on a predetermined schedule of annual deliveries for a specified period of years;

2.14 WHEREAS, on June 15, 2007, Reclamation announced its preferred alternative for the interim guidelines, which alternative incorporates the key elements of the Basin States Alternative, including its System Efficiency ICS element;

2.15 WHEREAS, the Drop 2 Reservoir Project, including the Confluence Structure, is a system efficiency project of the type described in subsection 2.13 and would be eligible for contractor contributions and creation and delivery of System Efficiency ICS on a predetermined schedule if the Secretary were to adopt interim guidelines that include a system efficiency concept similar to that proposed in the Basin States Alternative and contained in the Preferred Alternative;

2.16 WHEREAS, on April 23, 2007, SNWA and the seven Colorado River Basin States executed an Agreement Concerning Colorado River Management and Operations that included a provision endorsing an interim water supply of at least 280,000 acre-feet for use in Nevada in return for SNWA’s funding of the Drop 2 Reservoir Project; and

2.17 WHEREAS, (i) SNWA is willing and able to contribute funds to the Secretary for the construction of the Drop 2 Reservoir Project if the Secretary should adopt interim guidelines as described in subsection 2.15 and (ii) SNWA is willing to contribute funds for the construction of the Confluence Structure on the terms and conditions specified in this Agreement in anticipation of a decision by the Secretary respecting such interim guidelines.

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the Parties agree as follows:

3. DEFINITIONS: For the purpose of this Agreement, the following definitions shall apply:

3.1 Colorado River Compact means the document signed on November 24, 1922, at Santa Fe, New Mexico, pursuant to an act of Congress approved August 19, 1921 (42 Stat. 171). The Colorado River Compact was approved in Section 13 (a) of the Boulder Canyon Project Act.

3.2 Colorado River System means that portion of the Colorado River and its tributaries within the United States of America.

3.3 Confluence Structure means that certain integral component of the Drop 2 Reservoir Project which consists of the part of the outlet canal that connects the reservoir facility back to the All-American Canal.

3.4 Contracting Officer means the Secretary, a duly appointed successor, or a duly authorized representative acting pursuant to this Agreement or applicable Reclamation law or regulation. Unless otherwise directed by the Secretary, the Regional Director, Bureau of Reclamation, Boulder City, Nevada, shall be the Contracting Officer.

3.5 Drop 2 Reservoir Project Funding Agreement means the proposed agreement among the United States, the Colorado River Commission of Nevada, and SNWA providing for the funding and construction of the Drop 2 Reservoir Project.

3.6 Drop 2 Reservoir Project means the project described in subsection 2.6.

3.7 Eligible Project Costs means the reasonable and necessary costs incurred by Reclamation and IID in the exercise of sound engineering, construction and business practices to implement this Project, including, but not limited to, (i) construction and construction management costs, (ii) properly allocable general administrative and overhead expenses, and (iii) all applicable costs for labor, assessments, additives, travel, materials, and equipment.

3.8 Exhibit A is the design and specifications for the Project.

3.9 Exhibit B is the funding schedule for the construction of the Project, tabulating the amount of funds necessary and estimated timetable for advancing such funds to IID and Reclamation.

3.10 Exhibit C is a listing of Reclamation's Reference Manuals for Design Standards and Specifications.

3.11 Exhibit D is a description of data to be included in the final construction report.

3.12 IID's AACLP Contractor means the contractor currently under contract to IID to construct the All-American Canal Lining Project.

3.13 Lower Colorado River Basin means those parts of the States of Arizona, California, Nevada, New Mexico and Utah within and from which waters naturally drain into the Colorado River System below Lee Ferry, and also all parts of said States located without the drainage area of the Colorado River System which are now or shall hereafter be beneficially served by waters diverted from the System below Lee Ferry.

3.14 Notice of Project Completion means the notice which the Contracting Officer issues to certify completion of the works constructed pursuant to this Agreement.

3.15 Project means the construction of and all related work for the Confluence Structure.

3.16 Regional Director means the Regional Director of the Lower Colorado Region, Bureau of Reclamation, or his or her duly authorized representative. The Regional Director is the Secretary's authorized representative for the actions anticipated by this Agreement.

3.17 Secretary means the Secretary of the Interior, a duly appointed successor, or an authorized representative acting pursuant to any authority of the Secretary and through any agency of the Department of the Interior.

3.18 System Efficiency ICS means "system efficiency intentionally created surplus" as described in subsection 2.13.

3.19 Uncontrollable Force means any cause beyond the control of the Party affected. Uncontrollable Forces shall include, but are not limited to, facilities failure, flood, earthquake, storm, lightning, fire, epidemic, war, riot, civil disturbance, labor disturbance, sabotage, and restraint by court or public authority which by exercise of due diligence and foresight such Party could not have reasonably expected to avoid.

4. GENERAL TERMS AND CONDITIONS: Subject to the terms, conditions, and provisions set forth herein:

4.1 This Agreement shall become effective upon the date set forth in Section 1 herein and shall remain in effect until terminated pursuant to Section 10 herein or by written agreement of all Parties.

4.2 This Agreement may only be amended or revised in writing and by mutual agreement of the Parties.

4.3 The Parties shall work cooperatively in accordance with the terms of this Agreement.

5. PROJECT FUNDING AND PAYMENT:

5.1 SNWA shall provide advance Project funding to IID and Reclamation for their respective Eligible Project Costs as provided in this Agreement. The maximum amount of

SNWA funding available for the Project shall not exceed one million dollars (\$1,000,000), unless otherwise agreed to by SNWA in a written modification to Exhibit B and as provided in this Agreement.

5.2 Funding and Payment for IID's Costs. IID's Eligible Project Costs will be funded in advance by SNWA as specified in Exhibit B. Funds must be received by IID before IID is obligated to perform any work pursuant to this Agreement.

5.2.1 IID shall ensure its staff and contractors keep daily time and equipment reports and shall submit such records and reports as may reasonably be required by SNWA. All records relating to payroll, materials, and accounts for all charges and expenditures of the Project shall be available at all reasonable times to allow SNWA to check and audit the costs incurred and the statements submitted by IID. IID agrees that SNWA's duly authorized representatives shall, until the expiration of three (3) years after final payment to IID under this Agreement, have access to and the right to examine any pertinent books and records of IID involving transactions related to this Agreement.

5.2.2 IID shall submit itemized statements to SNWA, commencing with the second advance received from SNWA, detailing the actual Eligible Project Costs incurred by IID in performing the work provided for herein, or causing such work to be performed. Itemized statements shall contain copies of invoices, receipts, statements, and other documents which support the actual costs incurred for the work performed by IID or which IID has caused to be performed. All overhead, surcharges, and additives properly allocable to the work shall be itemized.

5.2.3 IID shall immediately notify SNWA and Reclamation in writing whenever IID or IID's AACLP Contractor encounters a condition respecting the Project site, Project design, or other matters pertinent to the costs of IID or IID's AACLP Contractor (i) that was not reasonably foreseeable under the circumstances pertaining to the Project, and (ii) which IID has reason to

believe may cause IID's costs or the costs of IID's AACLP Contractor to exceed IID's or IID's AACLP Contractor's total cost as shown in Exhibit B. The notice shall state the following separately for each category of IID cost reflected on Exhibit B: the nature of the additional work required, the estimated amount of additional funds required to complete the work, the nature of the unforeseen circumstances, and the reason the circumstance was not reasonably foreseeable. If such a condition is encountered, IID is not obligated to continue performance of work under this Agreement, or cause performance to be continued, or otherwise incur costs in excess of its total cost shown in Exhibit B, until additional funding is made available and agreed to by SNWA for the costs attributable to such unforeseeable conditions and Exhibit B is amended in writing as provided in this Agreement.

5.2.4 Within 60 days after the date on which the Contracting Officer issues a Notice of Project Completion, IID shall return to SNWA without interest any funds advanced by SNWA that are unexpended and unobligated as of the date of such notice.

5.3 Funding and Payment for Reclamation's Costs. Reclamation's Eligible Project Costs will be funded in advance by SNWA as specified in Exhibit B. Funds must be received by Reclamation before Reclamation is obligated to perform any work pursuant to this Agreement.

5.3.1 Reclamation shall ensure its staff and contractors keep daily time and equipment reports and shall submit such records and reports as may reasonably be required by SNWA. All records relating to payroll, materials, and accounts for all charges and expenditures of the Project shall be available at all reasonable times to allow SNWA to check and audit the costs incurred and the statements submitted by Reclamation until the expiration of three (3) years after final payment to Reclamation under this Agreement.

5.3.2 Upon completion of the work to be performed, Reclamation will prepare and submit an itemized report to SNWA detailing the actual Eligible Project Costs incurred by

Reclamation. All overhead, surcharges, and additives properly allocable to the work shall be included in the itemized report.

5.3.3 Reclamation shall immediately notify SNWA in writing whenever it encounters, or receives a notice from IID that IID or IID's AACLP Contractor has encountered, a condition respecting the Project site, Project design, or other matters pertinent to the costs of Reclamation (i) that was not reasonably foreseeable under the circumstances pertaining to the Project, and (ii) which Reclamation has reason to believe may cause Reclamation's costs to exceed Reclamation's total cost as shown in Exhibit B. The notice shall state the following separately for each category of IID cost reflected on Exhibit B: The nature of the additional work required of Reclamation, the estimated amount of additional funds required to complete the work, the nature of the unforeseen circumstances, and the reason the circumstance was not reasonably foreseeable. If such a condition is encountered, Reclamation is not obligated to continue performance of work under this Agreement, or cause performance to be continued, or otherwise incur costs in excess of its total cost shown in Exhibit B, until additional funding for the costs attributable to such unforeseeable conditions is made available and agreed to by SNWA in accordance with subsection 5.1.

5.3.4 Within 60 days after the date on which the Contracting Officer issues a Notice of Project Completion, Reclamation shall return to SNWA without interest any funds advanced by SNWA that are unexpended and unobligated as of the date of such notice.

6. RESPONSIBILITIES OF IID:

6.1 IID shall construct the Project, or cause the Project to be constructed, in accordance with the terms and conditions of this Agreement, including the design and specifications contained in Exhibit A herein. In carrying out the construction of the Project, IID shall act with the same degree of diligence, care, and skill that a prudent businessperson would exercise in the management of personal business affairs, shall perform all work, or cause all

work to be performed, in a good and workmanlike manner, and shall ensure the Project is constructed in accordance with acceptable industry practices and without causing delay to the AACLP currently underway. IID shall utilize its best efforts to minimize Project costs, complete construction of the Project on schedule so as not to impact the schedule of the AACLP, and ensure compliance with all applicable governmental permits, laws, ordinances and regulations. IID's responsibilities include, but are not limited to, those specified in subsection 6.2.

6.2 Construction, Management, and Scheduling.

6.2.1 The standards of construction of the Project shall be equal to or better than those in Reclamation's Reference Manuals for Design Standards and Specifications as listed in Exhibit C herein. All construction work performed shall be in strict compliance with Reclamation's Safety and Health Standards (dated 2001 or latest version in effect at the time).

6.2.2 Construction of the Project shall be accomplished by IID's contractor currently constructing Reaches 2 and 3 of the AACLP, on the terms and conditions specified in this subsection 6.2.

6.2.3 Immediately after the effective date of this Agreement, IID shall obtain a change order proposal from IID's AACLP Contractor to perform the work required for construction of the Project in accordance with the design and specifications listed in Exhibit A and all other terms and conditions of this Agreement. The proposal shall specify the total price for which, and the schedule on which, the contractor will complete the Project, subject only to any conditions subsequently encountered by the contractor respecting the Project site, Project design, or other matters pertinent to schedule or price that are not reasonably foreseeable under the circumstances pertaining to the Project. Upon receipt of the proposal, IID shall provide a copy to Reclamation and consult with Reclamation regarding the technical adequacy and schedule of the contractor's proposal. If (i) Reclamation approves the proposal's technical elements and schedule, and (ii) the proposed price does not exceed the amount shown on Exhibit B for IID's AACLP

Contractor, then IID shall promptly issue a change order to its contractor, to be executed by its contractor, to perform the work (i) as specified in this Agreement, and (ii) for the price, and on the schedule, specified in the contractor's proposal. IID shall provide a copy of such executed change order to Reclamation and SNWA together with a copy of the contract to which such change order relates.

6.2.4 If Reclamation does not approve IID's AACLP Contractor's proposal or the contractor's proposed price exceeds the amount shown on Exhibit B, then IID shall arrange for a meeting among IID, its contractor and Reclamation, which meeting shall include SNWA if price is at issue, to discuss the proposal and attempt to resolve any technical, schedule, or pricing issues. If resolution is achieved and the price for the work to be performed by IID's AACLP Contractor does not exceed the amount specified on Exhibit B, IID shall promptly issue a change order, incorporating the terms of such resolution, in the manner specified in paragraph 6.2.3. If such resolution includes a price for the work to be performed by IID's AACLP Contractor that exceeds the amount specified on Exhibit B, then the representatives of each Party shall seek any additional authority that may be required to allow such Party to execute an amendment to this Agreement that incorporates the increased price into Exhibit B, and upon such amendment IID shall promptly issue a change order to IID's AACLP Contractor in the manner specified in paragraph 6.2.3, which change order shall incorporate the increased price and any other terms that may have been agreed upon.

6.2.5 If Reclamation, IID, and IID's AACLP Contractor are unable, after diligent and good faith effort, to resolve technical or schedule issues as provided in paragraph 6.2.4, then Reclamation shall give notice of such fact to IID and SNWA. If any Party is unable to obtain any additional authority that may be required to allow such Party to execute an amendment to this Agreement that incorporates an increased price into Exhibit B as specified in paragraph

6.2.4, then such Party shall give notice of such fact to the other Parties. Any notice given pursuant to this paragraph 6.2.5 shall terminate this Agreement as provided in Section 10 herein.

6.2.6 IID shall manage, or cause to be managed, IID's AACLP Contractor during the construction of the Project. Management activities include, but are not limited to, construction inspection, safety, contract administration, and overall quality assurance. IID shall ensure IID's AACLP Contractor complies with Reclamation's Safety and Health Standards (dated 2001 or latest version in effect at the time) to protect the public health and safety during construction of the Project. Any changes to the Project's design which significantly depart from that contained in Exhibit A herein shall be submitted to Reclamation for review and approval prior to the change being implemented in the field. IID shall give Reclamation and SNWA written notification of Project completion. Within ninety (90) days of Project completion, IID shall provide Reclamation with three (3) sets of "as-built" drawings of the completed construction, and a final construction report containing Project description, purpose, authorities, total cost, and photographs depicting various stages of construction and other such pertinent information as listed in Exhibit D herein.

6.2.7 IID shall advise Reclamation immediately of any cultural resources, artifacts, bones, or fossils found during construction. In the event cultural resources, artifacts, bones, or fossils are found during construction, IID will ensure construction is halted immediately until the find can be evaluated by Reclamation. Reclamation and IID shall promptly take all actions reasonably necessary so as to allow construction of the Project to resume consistent with applicable law.

6.2.8 IID shall update and revise the schedule for completion of the Project as specified in IID's AACLP Contractor's proposal, as it may have been modified during the Project in consultation with Reclamation.

6.3 IID agrees that it will perform all of its responsibilities it is to perform under this Section 6, other than construction to be undertaken by IID's AACLP Contractor under a change order, within the cost limit specified for IID and IID's consultants in Exhibit B, subject only to cost increases attributable to conditions respecting the Project site, Project design, or other matters pertinent to IID's costs that are not reasonably foreseeable under the circumstances pertaining to the Project.

7. RESPONSIBILITIES OF RECLAMATION: The Project has been designed by Reclamation and will be constructed according to Reclamation's Reference Manuals for Design Standards and Specifications as listed in Exhibit C herein as well as acceptable industry practices. Reclamation will utilize its best efforts to control Project costs, and ensure satisfactory completion of construction of the Project. Reclamation's responsibilities include, but are not limited to, those specified in subsection 7.1.

7.1 Reclamation shall manage the Project in accordance with the terms and conditions of this Agreement. Reclamation's management activities include, but are not limited to, construction inspection, ensuring safety compliance, administration of this Agreement, and overall quality assurance. Through IID or its authorized on site representatives, Reclamation shall ensure that IID's AACLP Contractor complies with Reclamation's Safety and Health Standards (dated 2001 or latest version in effect at the time) to protect the public health and safety during construction of the Project. Reclamation shall not direct IID's AACLP Contractor, but shall communicate Project requirements through IID or its authorized on site representatives. Concerns with construction practices or deficiencies will be brought to IID's attention and/or its authorized on site representatives for timely resolution with IID's AACLP Contractor.

7.1.1 At the completion of construction of the Project, Reclamation shall initiate a final inspection to be performed in conjunction with IID. Upon correction of any noted

deficiencies, and settlement of any and all claims, the Contracting Officer will issue a Notice of Project Completion, certifying satisfactory construction completion and acceptance.

7.2 Reclamation agrees that it will perform all of its responsibilities it is to perform under this Agreement within the cost limits specified for Reclamation in Exhibit B, subject only to cost increases attributable to conditions respecting the Project site, Project design, or other matters pertinent to Reclamation's costs that are not reasonably foreseeable under the circumstances pertaining to the Project.

8. RESPONSIBILITIES OF SNWA: SNWA shall fund the Project and its own activities related to the Project, pursuant to the terms and conditions of this Agreement.

8.1 SNWA shall advance funds to IID and Reclamation as provided in subsections 5.2 and 5.3 herein.

8.2 SNWA shall participate in consultations as needed on all matters pertaining to the funding of this Project.

9. PROVISIONS RESPECTING FUNDS ADVANCED BY SNWA - FUTURE DROP 2 PROJECT FUNDING AGREEMENT:

9.1 The following shall constitute the total amount of funds contributed by SNWA to the United States for construction of this Project, which amounts shall be included in any Drop 2 Reservoir Project Funding Agreement as funds contributed by SNWA:

9.1.1 All net funds advanced by SNWA to IID pursuant to subsection 5.2; and

9.1.2 All net funds advanced by SNWA to Reclamation pursuant to subsection 5.3.

9.2 If the Secretary ultimately adopts any legal or regulatory mechanism that allows for the creation and delivery of a quantity of Colorado River water conserved by the Drop 2 Reservoir Project to a party funding the construction of the Drop 2 Reservoir Project, including but not limited to the adoption of the interim guidelines described herein, then the funds contributed by SNWA pursuant to this Agreement will qualify for creation and delivery of

conserved water pursuant to such legal or regulatory mechanism and the provisions of the subsequent Drop 2 Reservoir Project Funding Agreement.

9.3 The United States shall have no obligation whatsoever to reimburse SNWA for its contributions for this Project. SNWA shall not accrue or acquire any right to conserved water arising from its contributions provided for this Project should the Drop 2 Reservoir Project Funding Agreement not be executed: Provided, however, that if the Drop 2 Reservoir Project is ever constructed in the future under authority of the United States, other than pursuant to a Drop 2 Reservoir Project Funding Agreement with SNWA, and such construction occurs pursuant to an advanced funding or contributed funds agreement with an entity other than SNWA, then all sums contributed by SNWA pursuant to this Agreement as specified in subsection 9.1 herein together with interest thereon shall be included as a line item cost in such funding or contributed funds agreement and such amount refunded to SNWA from the funds provided by the funding entity for such construction to the extent permitted by law.

10. TERM OF THIS AGREEMENT: This Agreement shall become effective upon the date set forth in Section 1 herein and shall terminate as follows:

10.1 As to all Parties, upon the giving of any notice pursuant to paragraph 6.2.5.

10.2 As to IID, upon the Notice of Project Completion issued by the Contracting Officer pursuant to paragraph 7.1.1, subject to continuation of paragraph 5.2.1.

10.3 As to the United States and SNWA, upon either (i) execution of a Drop 2 Reservoir Project Funding Agreement by the United States and SNWA, or (ii) the refund of the total amount of funds contributed by SNWA for construction of this Project together with interest thereon as specified in subsection 9.3 herein.

11. INDEMNITY AND INSURANCE:

11.1 SNWA and IID shall defend, indemnify, and hold the United States harmless against all claims, costs, damages, judgments, and loss of any type, whether for death, bodily

injury, property damage or other loss, and whether direct, indirect, or consequential, arising from any act, omission, or occurrence relating to the Project, except for acts of negligence committed by the United States or by its employees, agents, or contractors for which the United States is found liable under the Federal Tort Claims Act.

11.2 Except for claims and losses attributable to the gross negligence or willful misconduct of IID, SNWA shall defend, indemnify and hold IID, its directors, officers, agents and employees harmless against all claims, costs, damages, judgments and loss of any type, including but not limited to any legal challenges to the Project, whether for death, bodily injury, property damage or other loss, and whether direct, indirect or consequential, arising from any act, omission, or occurrence relating to the Project.

11.3 The Parties agree and acknowledge that IID has and shall maintain during the term of this Agreement an insurance program sufficient to cover claims or losses of any type or magnitude arising out of activities in conjunction with the construction of the Project.

11.4 IID shall require all contractors performing work on the Project to provide general liability, automobile liability, builder's risk, and worker's compensation insurance naming IID, SNWA, and Reclamation as additional insureds for general liability and loss payee under builder's risk.

11.5 Each insurance policy required by this Agreement shall contain a provision that it cannot be canceled for any reason unless thirty (30) days' prior written notice of the cancellation is given to SNWA and Reclamation in the manner required by this Agreement for service of notices, unless the Parties are self-insured.

11.6 The provisions of this Agreement shall not be construed so as to relieve any insurer of its obligation to pay any insurance proceeds in accordance with the terms and conditions of any valid insurance policy of any Party.

12. NON-WAIVER: No Party to this Agreement shall be considered to have waived any right hereunder except when such waiver of the right is given in writing. The failure of a Party to insist in any one or more instances upon strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or a relinquishment of any such rights for the future, but such provisions and rights shall continue and remain in full force and effect.

13. OWNERSHIP OF PROJECT FACILITIES: Title to all works constructed under this Agreement shall be held by the United States.

14. UNCONTROLLABLE FORCES: No Party shall be considered to be in default in the performance of any of its obligations under this Agreement when a failure of performance shall be due to an Uncontrollable Force, as defined in subsection 3.19 herein. A Party rendered unable to fulfill any of its obligations under this Agreement by reason of an Uncontrollable Force shall give prompt written notice of such act to the other Parties and shall exercise due diligence to remove such inability with all reasonable dispatch.

15. DISPUTES FALLING UNDER THE RESPONSIBILITY OF THE CONTRACTING OFFICER:

15.1 All actions by the United States shall be binding unless and until reversed or modified in accordance with the provisions herein.

15.2 Any disputes or disagreements as to interpretation or performance of the provisions of this Agreement shall be presented to and decided by the Contracting Officer of Reclamation's Lower Colorado Region. The Contracting Officer shall be deemed to have denied the other Parties' contention or claim if it is not acted upon within sixty (60) days of its having been presented. The decision of the Contracting Officer shall be final.

15.3 Upon a decision becoming final, the disputing Party's remedy lies with the appropriate Federal court. Any claim that a final decision of the Contracting Officer violates any

right accorded the Parties under this Agreement is barred unless suit asserting such claim is filed in a Federal court of competent jurisdiction within one year of the Contracting Officer's final decision.

16. REPRESENTATIONS AND WARRANTIES:

16.1 Each Party has all legal power and authority to enter into this Agreement and to perform its obligations hereunder on the terms set forth in this Agreement, and the execution and delivery hereof by each Party and the performance by each Party of its obligations hereunder will not violate or constitute an event of default under the terms or provisions of any agreement, document, or instrument to which each of the Parties is a Party or by which each Party is bound.

16.2 Each Party executing this Agreement warrants and represents that the individual executing this Agreement on behalf of the Party has the full power and authority to bind the Party he or she represents to the terms of this Agreement.

16.3 This Agreement constitutes a valid and binding agreement of each Party, enforceable against each Party in accordance with its terms.

16.4 There are no actions, suits, legal or administrative proceedings, nor governmental investigations pending or, to each Party's knowledge, threatened against or affecting each Party relating to the performance contemplated by this Agreement.

16.5 Each Party agrees to give notice, within fifteen (15) days of discovery, to each other Party if the Party discovers that any of its own representations and warranties were untrue when made or determines that any of its own representations and warranties will be untrue as of the effective date of this Agreement.

17. GOVERNING LAW: This Agreement shall be interpreted, governed by, and construed under any applicable Federal law and any applicable law of the State of California. In case of conflict between Federal and State law, Federal law controls.

18. BINDING EFFECT AND LIMITED ASSIGNMENT: The provisions of this Agreement shall apply to and bind the successors and assigns of the Parties upon receipt of written agreement to the terms of this Agreement, but no assignment or transfer of this Agreement or any right or interest therein shall be valid until approved in writing by all Parties, which approval any Party may withhold in its absolute discretion. This Agreement is and will be binding upon and will inure to the benefit of the Parties and, upon dissolution, the legal successors and assigns of their assets and liabilities.

19. AMENDMENT, MODIFICATION, AND/OR SUPPLEMENT: This Agreement may be supplemented, amended, or modified only by the written agreement of the Parties. No supplement, amendment, or modification will be binding unless it is in writing and signed by all Parties.

20. DRAFTING CONSIDERATIONS: Each Party and its counsel have participated fully in the drafting, review and revision of this Agreement, each of whom is sophisticated in the matters to which this Agreement pertains, and no one Party shall be considered to have drafted this Agreement.

21. NOTICES:

21.1 All notices, requests, demands, or other communications under this Agreement must be in writing and sent to the addresses of each Party set forth below. Notice will be sufficiently given for all purposes as follows:

21.1.1 Personal Delivery. When delivered to the recipient, notice is effective upon delivery.

21.1.2 Certified Mail. When mailed certified mail, return receipt requested. Notice is effective on receipt, if a return receipt confirms delivery.

21.1.3 Overnight Delivery. When delivered by an overnight delivery service such as Federal Express, charges prepaid or charged to the sender's account. Notice is effective on delivery, if delivery is confirmed by the delivery service.

21.1.4 Facsimile Transmission. Notice is effective on receipt, provided that the facsimile machine provides the sender a notice that indicates the transmission was successful and that a copy is mailed by first-class mail on the facsimile transmission date.

21.2 Addresses for purpose of giving notice are as follows:

If to SNWA by personal service, overnight delivery, or by U.S. mail:	Southern Nevada Water Authority Attention: General Manager 1001 South Valley View Boulevard Las Vegas, NV 89153
If to IID by personal service, or overnight delivery, by U.S. mail:	Imperial Irrigation District Attention: General Manager 333 East Barioni Boulevard Imperial, CA 92251 P.O. Box 937 Imperial, CA 92251
If to Reclamation by personal service, overnight delivery, or by U.S. mail:	U.S. Bureau of Reclamation Yuma Area Office Attention: Area Manager 7301 Calle Agua Salada Yuma, Arizona 85364
cc: by personal service, or overnight delivery: by U.S. mail:	Regional Director Lower Colorado Region Attention: LC-1000 500 Fir Street Boulder City, NV 89005 P. O. Box 61470 Boulder City, NV 89006-1470

21.3 A correctly addressed notice that is refused, unclaimed, or undeliverable because of an act or omission by the Party to be notified will be deemed effective as of the first date that notice was refused, unclaimed, or deemed undeliverable by the postal authorities, messenger, or overnight delivery service.

21.4 A Party may change its address by giving the other Parties notice of the change in any manner permitted by this Agreement.

22. JUDICIAL REMEDIES NOT FORECLOSED: Nothing herein shall be construed (i) as depriving any Party from pursuing and prosecuting any remedy in any appropriate court of the United States, the State of California, or the State of Nevada which would otherwise be available to such Party, or (ii) as depriving any Party of any defense thereto which would otherwise be available.

23. AVAILABILITY OF INFORMATION: Subject to applicable Federal laws and regulations, each Party to this Agreement shall have the right during office hours to examine and make copies of the other Party's books and records relating to matters covered by this Agreement.

24. FEDERAL OBLIGATIONS CONTINGENT ON APPROPRIATION OR ALLOTMENT OF FUNDS: The expenditure or advance of any money or the performance of any obligation of the United States under this Agreement shall be contingent upon appropriation, allotment of funds, or advancement of funds by SNWA as provided in this Agreement. No liability shall accrue to the United States in case funds are not appropriated, allotted, or advanced.

25. EQUAL OPPORTUNITY:

25.1 During the performance of this Agreement, SNWA and IID agree as follows:

25.1.1 SNWA and IID each will not discriminate against any employee or applicant for employment because of race, color, religion, sex, disability, or national origin. SNWA and IID each will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, disability, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

SNWA and IID each agree to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Regional Director or his designee setting forth the provisions of this nondiscrimination clause.

25.1.2 SNWA and IID will, in all solicitations or advertisements for employees placed by or on behalf of SNWA and IID, state that all qualified applicants will receive consideration for employment without discrimination because of race, color, religion, sex, disability, or national origin.

25.1.3 SNWA and IID each will provide each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice, to be provided by the Regional Director or his designee advising said labor union or workers' representative of SNWA's and IID's commitments under Section 202 of Executive Order 11246 of September 24, 1965, as amended, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

25.1.4 SNWA and IID each will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.

25.1.5 SNWA and IID will each furnish all information and reports required by said amended Executive Order and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to books, records, and accounts by the Regional Director or his designee and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

25.1.6 In the event of SNWA's and/or IID's noncompliance with the nondiscrimination clauses of this Agreement or with any of such rules, regulations, or orders, this Agreement may be canceled, terminated, or suspended, in whole or in part, and SNWA and/or IID may be declared ineligible for further Government contracts in accordance with procedures

authorized in said amended Executive Order, and such other sanctions may be imposed and remedies invoked as provided in said amended Executive Order, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

25.1.7 IID will include the provisions of paragraphs 25.1.1 through 25.1.7 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of said amended Executive Order, so that such provisions will be binding upon each subcontractor or vendor. IID will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance; Provided, however, That in the event IID becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, IID may request the United States to enter into such litigation to protect the interests of the United States.

25.2 The requirements of this Section shall also apply to all SNWA and IID contractors and subcontractors related to the Project; Provided, however, that any inadvertent noncompliance by SNWA, IID, or their contractors or subcontractors may not automatically cancel, terminate, or suspend any portion of this Agreement.

26. PROTECTION OF WATER AND AIR QUALITY: During Project construction, IID shall ensure its contractors comply with all applicable water and air pollution laws and regulations of the United States and the State of California and shall obtain all required permits or licenses from the appropriate Federal, State, and/or local authorities.

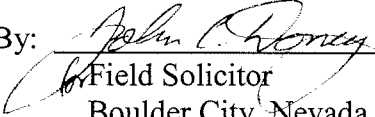
27. TIME OF THE ESSENCE: Time is of the essence under this Agreement and of every provision thereof.

28. OFFICIALS NOT TO BENEFIT: No Member of or Delegate to the Congress, or Resident Commissioner, or official of SNWA or IID, shall benefit from this Agreement other than as a water user or landowner in the same manner as other water users or landowners.

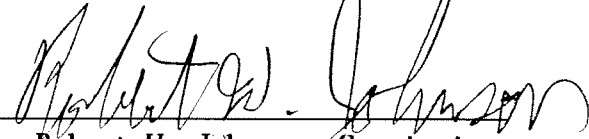
29. EXHIBITS MADE PART OF THIS AGREEMENT: The initial Exhibits A, B, C, and D are attached hereto and made a part hereof, and each shall be in force and effect in accordance with its respective provisions until superseded by a subsequent exhibit executed by the Parties.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement No. 07-XX-30-W0513 the day and year first written above.

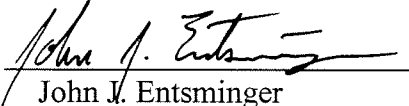
Approved as to legal sufficiency:

By: 
Field Solicitor
Boulder City, Nevada

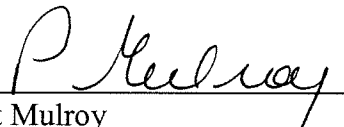
THE UNITED STATES OF AMERICA

By: 
Robert W. Johnson, Commissioner
Bureau of Reclamation

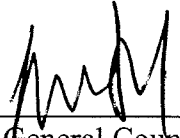
Approved as to form:

By: 
John J. Entsminger
Deputy General Counsel

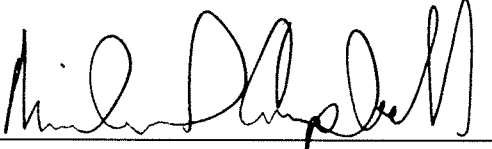
**SOUTHERN NEVADA WATER
AUTHORITY**

By: 
Pat Mulroy
General Manager

Approved as to form:

By: 
General Counsel

IMPERIAL IRRIGATION DISTRICT

By: 
Interim General Manager

DESIGN AND SPECIFICATIONS FOR THE CONFLUENCE STRUCTURE

1. This Exhibit A, made this 13 day of December, 2007, to be effective under and as a part of Agreement No. 07-XX-30-W0513, hereinafter called "Agreement," shall become effective on the date of the Agreement's execution and shall remain in effect until amended as provided for in subsection 4.2 of the Agreement; Provided, That this Exhibit A or any superceding Exhibit A shall terminate with termination of the Agreement.
2. Attached hereto are the Statement of Work, specifications, design data, and drawings for the Confluence Structure.

**CANAL CONFLUENCE STRUCTURE
DROP 2 STORAGE RESERVOIR
COLORADO RIVER FRONT WORK AND LEVEE SYSTEM - CALIFORNIA**

STATEMENT OF WORK

Canal Confluence Structure – Drop 2 Storage Reservoir – Colorado River Front Work and Levee System – California is added to and made a part of Contract for All American Canal Lining Project – Imperial Irrigation District – Bid No. 05-43.

Work for Canal Confluence Structure is located in the vicinity of All American Canal Station 2198+00.

Perform the following items of work for Canal Confluence Structure in accordance with the additional drawings, applicable referenced specifications, and additional specifications.

1. Compact earth materials in accordance with Paragraph 3.1.3 Compacting Earth Materials.
2. Excavate to the lines, grades, and elevations shown on the drawings in accordance with Paragraph 3.2.3 Excavation for Structures.
3. Place backfill to the lines, grades and dimensions shown on the drawings in accordance with Paragraph 3.3.1 Backfill About Structures.
4. Compact backfill placed for the earth plug in accordance with Paragraph 3.3.2 Compacting Backfill About Structures.
5. Furnish and install geomembrane for earth plug as shown on the drawings and in accordance with Section 02344 – Exposed Geomembrane for Earth Plug.
6. Construct reinforced concrete and unreinforced concrete in canal lining in accordance with Paragraph 5.2.1 Concrete in Canal Lining with the following exception:
 - a. In Subparagraph 5.2.1.a, after the first subparagraph, insert the following subparagraph:

Reinforced concrete lining and unreinforced concrete lining shall be constructed for canal confluence structure at the locations shown and as detailed on the drawings.
7. Trim earth foundations for concrete lining in accordance with Paragraph 5.2.2 Trimming Earth Foundation for Lining.
8. Furnish and place concrete in accordance with Paragraphs 5.3.1 Composition through 5.3.18 Repair of Concrete with the following exception:

- a. In subparagraph 5.3.18.a, third line, delete the date “March 1, 1990” and replace with the date “August 1996”.
9. Furnish and place cementitious materials in accordance with Paragraph 5.3.2 Cementitious Material.
10. Construct contraction joints in the concrete canal structure lining in accordance with Paragraph 5.2.3 Contraction Joints for Concrete Canal Lining with the following exception:
 - a. In subparagraph 5.2.3.a, second and third lines, delete the sentence “Contraction joints for hand-placed lining shall be the “Alternative No. 1” contraction joint as shown on the Drawings.” And replace with the sentence “Construct contraction joints in the concrete canal structure lining in accordance with the Contraction Joint Detail as shown in Detail 1 on drawing 423-D-749”.
11. Furnish and install PVC base seal waterstop as shown on the drawings and in accordance with Section 03156 – PVC Base Seal Waterstop.
12. In Special Conditions, Paragraph D-9 Reports of Physical Conditions on Page D-5, add the following new subparagraph D-9 b. 3):
 - 3) All American Canal, Drop 2 Storage Reservoir, Siphon, and County Road Investigations, Geology Report, Colorado River Front Works and Levee System, California, By Bureau of Reclamation, Technical Service Center, Denver, Colorado, June 2007.
13. The following drawings are added to the specifications:

423-D-748 – All American Canal Lining Project – Canal Confluence Structure – Plan and Sections – Sheet 1 of 3

423-D-749 – All American Canal Lining Project – Canal Confluence Structure – Sections and Details – Sheet 2 of 3

423-D-750 – All American Canal Lining Project – Canal Confluence Structure – Reinforced Concrete Canal Lining – Plan, Sections and Details – Sheet 3 of 3
14. Boring Log for SPT-06-05 is added to Appendix E.
15. Payment. – Payment for constructing canal confluence structure as described in this Statement of Work, the specifications, and as shown on the drawings for this Change Order will be made at the lump sum price offered for constructing canal confluence structure.

SUPPLIES OR SERVICES AND PRICES /COSTS

**CANAL CONFLUENCE STRUCTURE
DROP 2 STORAGE RESERVOIR
COLORADO RIVER FRONT WORK AND LEVEE SYSTEM - CALIFORNIA**

SCHEDULE

(a) The following schedule is added to and made a part of Contract for All American Canal Lining Project, Bid No. 05-43.

(b) Definitions:

(1) CLIN – Contract Line Item Number

SCHEDULE

CLIN	Supplies or Services	Quantity and Unit	Unit Price	Amount
1	Excavation	25,000 yd ³		\$
2	Backfill	5,700 yd ³		\$
3	Compacting backfill	2,900 yd ³		\$
4	Exposed geomembrane for soil plug	1,000 yd ²		\$
5	Trimming for canal confluence structure concrete lining	3,100 yd ²		\$
6	Reinforced concrete in canal confluence structure lining	1,800 yd ²		\$
7	Unreinforced concrete in canal confluence structure lining	3,600 yd ²		\$
8	Cementitious materials	210 tons		\$
9	Contraction joints in canal confluence structure unreinforced concrete lining	3,800 lin ft		\$

Canal Confluence Structure
Drop 2 Storage Reservoir
Colorado River Front Work and Levee System - California

10	PVC base seal waterstop in canal confluence structure reinforced concrete lining	1,550 lin ft		\$
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TOTAL FOR SCHEDULE \$ _____

SECTION 02344 – EXPOSED GEOMEMBRANE FOR SOIL PLUG

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

- A. Exposed Geomembrane for Soil Plug:
1. Measurement: Surface area covered, except no allowance will be made for seam overlap, repair or waste.
 2. Payment: Square yard price offered in the schedule.
 - a. Includes cost of geomembrane, surface preparation, and geomembrane installation.

1.02 REFERENCES

- A. ASTM International (ASTM)
- | | | |
|-----|-----------------------|---|
| 1. | ASTM D 746-04 | Brittleness Temperature of Plastics and Elastomers by Impact |
| 2. | ASTM D 792-00 | Density and Specific Gravity (Relative Density) of Plastics by Displacement |
| 3. | ASTM D 882-02 | Tensile Properties of Thin Plastic Sheeting |
| 4. | ASTM D 1004-03 | Tear Resistance (Graves Tear) of Plastic Film and Sheeting |
| 5. | ASTM D 1204-02 | Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature |
| 6. | ASTM D 4437-99 | Integrity of Field Seams used in Joining Flexible Polymeric Sheet Geomembranes |
| 7. | ASTM D 4833-00 | Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products |
| 8. | ASTM D 5617-04 | Multi-Axial Tension Test for Geosynthetics |
| 9. | ASTM D 5199-01 (2006) | Nominal Thickness of Geosynthetics |
| 10. | ASTM D 7272-06 | Integrity of Seams Used in Joining Geomembranes by Pre-manufactured Taped Methods |
| 11. | ASTM G 155-05a | Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials |

1.03 SUBMITTALS

- A. Submit the following.

B. 02344-1, Certifications:

1. Certified test results for geomembrane to be furnished including physical property tests listed in Tables 02344A – EPDM Geomembrane Properties. Identify with production date, roll goods number, and quantity represented

C. 02344-2, Samples and Instructions:

1. One sample from each fabricated panel to be furnished.
 - a. Take 12-inch-long sample from entire width of each fabricated panel to include each factory seam.
 - b. Mark samples with contract name and number, product identification, lot number, roll number, machine direction, and quantity represented.
2. Manufacturer's instructions for delivery, storage, handling, and installation of geomembrane

D. 02344-3, Qualifications of Installer:

1. Documentation of previous projects including name of owner, project location, geomembrane type and thickness, geomembrane area in square feet, types of seaming equipment, dates of installation, and person to contact at the facility.

1.04 QUALITY ASSURANCE

A. Manufacturer's Qualifications

1. Manufacturer to possess a minimum of ten years experience in the manufacturing of EPDM geomembrane for the purpose of general containment linings.

B. Installer's Qualifications

1. Installation Supervisor shall have completed within the last 5 years at least two projects with a minimum total of 200,000 square feet of the specified geomembrane, using the seaming equipment proposed for use on this project.

1.05 DELIVERY, STORAGE AND HANDLING

A. Ship, handle, store, and care for geomembrane, in accordance with manufacturer's instructions.

B. Pack geomembrane in snug-fitting containers having smooth, abrasive-free interior to prevent damage to geomembrane during transit and handling.

1. Use containers having structurally sound bottoms designed for lifting with forklift-type trucks or approved cables or slings.
2. Mark each container of geomembrane with name of material, approved roll good numbers, specifications number, quantity contained, name of Contractor, and order or purchase number.

- C. Protect geomembrane from puncture, dirt, grease, water, moisture, mud, mechanical abrasions, excessive heat or cold, direct sunlight or other damage

PART 2 PRODUCTS

2.01 MATERIALS

A. GEOMEMBRANE

1. 45-mil EPDM (Ethylene Propylene Diene Monomer) rubber geomembrane
2. Suggested vendors include:
 - a. Firestone Pondgard, 310 E 49th Drive, Indianapolis IN 46240, Phone 800-428-4442, Fax 317-575-7002
3. Finished sheet properties:
 - a. Meet or exceed values in Table 02344A - EPDM Geomembrane Properties.
 - b. Unless otherwise noted, specified values are minimum average roll values (MARVs).

Table 02344A – EPDM Geomembrane Properties

Property	Test Method	Test Value	Units
Thickness, minimum average Lowest of 10 values	ASTM D 5199	45 40.5	mils mils
Density, nominal	ASTM D 792	1.1	g/cm ³
Tensile Properties Break Strength Break Elongation	ASTM D 882	50 500	lbs/inch Percent
Multi-Axial Strain	ASTM D 5617	100	Percent
Tear Resistance	ASTM D 1004	9	Lbs
Puncture Resistance	ASTM D 4833	35	Lbs
UV Resistance, Xenon Arc 2000 hrs @ 80°C Retained Tensile Retained Elongation	ASTM G 155 ASTM D 882 ASTM D 882	 90 75	 Percent Percent
Brittleness Temperature	ASTM D 746	-49	°F
Dimensional Stability, max	ASTM D 1204	0.75	Percent

Table 02344A – EPDM Geomembrane Properties

Property	Test Method	Test Value	Units
Seam Strength (1)	ASTM D 4437		
Peel	or	14	lbs/inch
Shear	ASTM D 7272	35	lbs/inch

Notes: (1) - Seam strength failure modes shall be in Film Tear Bond (FTB).

PART 3 EXECUTION

3.01 EQUIPMENT

- A. Do not operate heavy equipment including front-end loaders or fork lifts directly on the geomembrane.
- B. Maintain 12-inch minimum cover between geomembrane liner and construction equipment.
- C. Equipment used shall not damage the geomembrane during handling, trafficking, or other activities.

3.02 SUBGRADE PREPARATION

- A. Fill voids and remove protrusions or offsets greater than 1/2-inch before placement of the geomembrane liner.
- B. Do not place geomembrane over loose, soft or saturated subgrade.

3.03 INSTALLATION

- A. Geomembrane:
 - 1. Install geomembrane at locations shown on the drawings and in accordance with this section.
 - 2. Fabricate geomembrane into panels of appropriate size to fit the canal prism and to minimize field seaming.
 - 3. Place geomembrane in a slackened condition to conform to subgrade contour and to prevent tensile stresses.
 - 4. Ballast to prevent relocation of compensating slack by wind and to prevent uplift by wind at edges, ends, and other locations, as required.
 - 5. Seam geomembrane as described below
- B. Seams

1. Surfaces to be seamed shall be dry and thoroughly cleaned of dirt, dust, grease, oil, and other foreign materials.
 2. Seam in accordance with installation plan and manufacturer's recommendations.
 3. Non-destructively test all seams by air lance (ASTM D 4437).
 4. Perform seam testing as seaming work progresses, not at the completion of seaming
 5. Repair failed seams by cap stripping.
 6. Non-destructively test all cap strips by air lance.
 7. Seams shall meet the strength properties listed in Table 02344A – EPDM Geomembrane Properties.
- C. Repairs
1. Damage to geomembrane is the sole responsibility of the Contractor and shall be repaired immediately using approved repair techniques at the Contractor's expense.
 2. Repair all defects, holes, and tears in the geomembrane with rounded patches that overlap undamaged geomembrane a minimum of 6 inches.
 3. Non-destructively test all repairs by air lance.

END OF SECTION

SECTION 03156 - PVC BASE SEAL WATERSTOP

PART 1 GENERAL

1.01 MEASUREMENT AND PAYMENT

- A. PVC Base Seal Waterstop in Canal Confluence Structure Reinforced Concrete Lining:
1. Measurement: Length of installed waterstop measured along centerline of waterstop with no allowance for splices and intersections.
 2. Payment: Linear foot offered in the schedule.

1.02 REFERENCES

- A. ASTM International (ASTM)
1. ASTM D 638-03 Tensile Properties of Plastics
 2. ASTM D 746-04 Brittleness Temperature of Plastics and Elastomers by Impact
 3. ASTM D 747-02 Apparent Bending Modulus of Plastics by Means of a Cantilever Beam
 4. ASTM D 1203-94(2003) Volatile Loss From Plastics Using Activated Carbon Methods
- B. United States Army Corps of Engineers (COE)
1. COE CRD-C-572-74 Polyvinylchloride Waterstop

1.03 SUBMITTALS

- A. Submit the following.
- B. 03156-1, Purchase Orders:
1. Copies of purchase orders for waterstop.
- C. 03156-2, Approval Samples:
1. 2-foot-long sample of each size and type of waterstop to be used in work.
- D. 03156-3, Certifications:
1. Manufacturer's certification for PVC compound used to fabricate waterstop.
 - a. Include physical property test data on compound from tests performed by manufacturer or other laboratory within 18 months before submittal.
 2. Sampling certification that samples are representative of waterstop to be used in work.

- E. 03156-4, Drawings:
1. Details of waterstop, including dimensions, shapes, and details of intersections and splices.
- F. 03156-5, Instructions:
1. Manufacturer's recommendations for installing and splicing waterstop.

1.04 QUALIFICATIONS

- A. Use skilled workmen to make splices.
- B. Demonstrate to COR that workmen are sufficiently skilled to fabricate required splices.

PART 2 PRODUCTS

2.01 PVC BASE SEAL WATERSTOP WITH CRACK INDUCER

- A. PVC Base Seal Waterstop with Crack Inducer equal to Greenstreak 982, manufactured by Greenstreak, Inc., 3400 Tree Court Industrial Blvd., St. Louis MO 63122-6689, telephone (800) 325-9504.
- B. PVC Compound:
1. Domestic virgin PVC with additional resins, plasticizers, stabilizers, or other materials required to meet specified requirements.
 2. Do not use reclaimed PVC or manufacturer's scrap.
- C. Meet physical characteristic requirements specified in Table 03156A - PVC Waterstop Physical Characteristics.

Table 03156A – PVC Waterstop Physical Characteristics

Property	Test Method	Requirement
Tensile test, minimum	ASTM D 638, speed D, specimen type IV	2,000 lbs/in ²
Ultimate elongation, minimum	ASTM D 638, speed D, specimen type IV	300 percent
Stiffness in flexure, minimum	ASTM D 747	600 lbs/in ²
Low temperature brittleness at -35 degrees F	ASTM D 746	No cracking or chipping
Volatile loss, change in weight, maximum	ASTM D 1203, method A, 0.08-inch-thick specimen	0.50 percent

Table 03156A – PVC Waterstop Physical Characteristics

Property	Test Method	Requirement
Tensile strength after accelerated extraction test, percent of tensile strength before extraction test, minimum	COE CRD-C-572	80 percent
Ultimate elongation after accelerated extraction test, percent of ultimate elongation before extraction test, minimum	COE CRD-C-572	80 percent
Change in weight after effect of alkalis test, range	COE CRD-C-572	+0.25 percent -0.10 percent
Change in Shore Hardness after effect of alkalis test, maximum	COE CRD-C-572	± 5 points

- D. Prepare test specimens in accordance with COE CRD-C-572.
- E. Crack inducer fabricated from either rigid ABS or rigid PVC as provided by the manufacturer of the base seal waterstop.

2.02 FABRICATION

- A. Mold or extrude so that cross section will be dense, homogeneous, and free from porosity and other imperfections.
- B. Conform to detail dimensions and tolerances indicated on Drawing 28 (AAC-133).

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install waterstops at locations shown on drawings.
- B. Install in accordance with manufacturer's recommendations.
- C. Position waterstop so that one-half of waterstop width will be embedded on each side of concrete joint.
- D. Position waterstop and secure during installation so that a continuous watertight diaphragm will be formed in joint unless otherwise shown on drawings.
- E. Secure waterstop to the subgrade with nails or stakes as recommended by the waterstop manufacturer.

- F. Support and protect waterstop during work.
- G. Protect waterstop from oil, grease, and curing compound.
- H. Remove large pieces of aggregate near waterstop by hand so that complete contact is maintained between waterstop and surrounding concrete.
- I. Vibrate concrete surrounding waterstop with additional vibration so that waterstop is completely embedded in concrete.

3.02 SPLICING

- A. Provide factory-made waterstop fabrications for tees, crosses, and other changes in direction.
- B. Only straight butt splices are allowed in the field.
- C. Make neat splices with waterstop ends joined in true alignment.
- D. Use a miter-box guide and portable saw to make cuts so that ends to be joined will be in proper alignment and contact will be maintained between joined surfaces.
- E. Splice by heat sealing adjacent surfaces in accordance with manufacturer's recommendations.
 - 1. Use a thermostatically-controlled, Teflon-coated, electric heat source.
 - 2. Use correct temperature to melt material.
 - 3. Do not char material.
- F. Make splice so that cooled splice when bent by hand to as sharp an angle as possible shows no sign of separation.

END OF SECTION

GEOLOGIC LOG OF DRILL HOLE NO. SPT-06-05

SHEET 1 OF 2

FEATURE: AAC-Drop 2 Storage Res. - Siphon and Road x-ing
 LOCATION: Canal Confluence with new lined AAC
 BEGUN: 8/29/06 FINISHED: 8/29/06
 DEPTH AND ELEVATION OF WATER
 LEVEL AND DATE MEASURED: 12.8 (119.8) 8/29/06

PROJECT: Colorado River Front Works & Levee System
 COORDINATES: N 1,838,431.0 E 6,935,324.0
 TOTAL DEPTH: 50.0
 DEPTH TO BEDROCK: N/A

STATE: California
 GROUND ELEVATION: 132.6
 ANGLE FROM HORIZONTAL: 90 AZIMUTH:
 HOLE LOGGED BY: C. Sullivan
 REVIEWED BY: S. Willcut

G1

NOTES	DEPTH	LABORATORY DATA					GEOLOGIC UNIT SYMBOL	STANDARD PENETRATION TEST					HOLE COMPLETION	CLASSIFICATION AND PHYSICAL CONDITION		
		% FINES	% SAND	% GRAVEL	LAB CLASSIFICATION	ELEVATION		RECOVERY	NUMBER OF BLOWS	BLOWS PER FOOT						
										140 LB. HAMMER - 30 IN. DROP						
NOTE: All measurements are in Feet from ground surface. Vertical datum NAVD 29 Horizontal datum NAD 83, California State Plane, Zone 6, survey feet PURPOSE OF HOLE: To obtain geologic and geotechnical data for final design. LOCATION: All American Canal station 2200+00, 40 ft. south of the upper canal bank DRILLING EQUIPMENT: Truck-mounted CME-75 rotary drill rig. DRILLER: Charlie Jones, USBR-LC Region-YAO Sheldon Bedaya, helper Jim Wambeke, helper DRILLING METHOD: 0.0-3.5: Aligned hole with center pilot bit inside 3/4-inch I.D. Hollow Stem Augers 3.5-15.0: Standard Penetration Testing (SPT) continuous at 2.5 ft. intervals, dry drilling 15.0-45.0: SPT continuous at 2.5 ft. intervals, bentonite mud inside to top of augers 45.0-50.0: Used pilot bit inside augers to clean out hole for piezometer installation. DRILLING CONDITIONS: Augering was smooth with mostly light auger pressure throughout. Wet at 12.8 ft.. Bentonite mud was mixed and filled the hole below 15.0 ft.. Mostly clay between 19.9 and 24.5 ft.. Minor sand heaving above 45.0 ft., but 1.5 ft. of sand heave before test at 46.0, so decided to terminate testing and complete hole with pilot bit to 50.0 ft. DRILLING FLUID: 0.0-15.0: no fluid in hole 15.0-46.0: bentonite mud mixture to stabilize hole and keep materials from heaving upward into augers. 46.0-50.0: cleaned out and flushed hole with fresh water to place piezometer DRILL FLUID LOSS: Depth Loss (%) 15.0-46.0 0 SAMPLE INTERVALS: Interval Method 0.0-3.5 FAPB 3.5-5.0 SPT 5.0-6.0 FAPB 6.0-7.5 SPT 7.5-8.5 FAPB 8.5-10.0 SPT 10.0-11.0 FAPB 11.0-12.5 SPT 12.5-13.5 FAPB 13.5-15.0 SPT 15.0-16.0 FAPB 16.0-17.5 SPT 17.5-18.5 FAPB 18.5-20.0 SPT 20.0-21.0 FAPB 21.0-22.5 SPT 22.5-23.5 FAPB 23.5-25.0 SPT						Fill	PB						0.0 to 5.0 ft. FILL (Fill) 0.0 to 5.0 ft. SILTY SAND (SM): About 70% coarse to predominately fine, hard, subrounded to rounded sand; about 25% low plasticity to nonplastic fines, with low to no dry strength, no toughness, slow to rapid dilatancy; and a trace to 5% fine, hard, subangular to rounded gravel; maximum size, 15mm; dry, beige to light grey to sandy color with specks of black and dark brown minerals throughout; strong reaction to HCl. Samples from 0.0 to 3.5 feet were taken from auger cuttings. Geologic determination of Fill based on proximity to the All American Canal, location of the hole between two spoil piles from construction at the side of an unimproved access roadway, and percentages of gravel and fines observed.			
	5	24.4	74.74	1.2	SM		127.6	100	3							
								PB								
								100	9							
								PB								
	10	5.9	92.6	1.5	SP-SM	122.6	Qal	100	14					5.0 to 50.0 ft. QUATERNARY ALLUVIUM (Qal) 5.0 to 19.9 ft. POORLY GRADED SAND (SP): About 90-95% medium to predominately fine, hard, subrounded to rounded sand; about 5-10% silty, nonplastic fines, with no dry strength, no toughness, rapid dilatancy; and a trace of fine, hard, subangular to rounded gravel; maximum size, 8mm; dry to 12.8 ft. then saturated; light grey to sandy color above groundwater then beige to dark brown, with specks of black and dark brown minerals throughout; strong reaction to HCl; small percentage of coarse sand observed below the depth of 16.0 feet. 19.9 to 24.5 ft. FAT CLAY with SAND (CH)s: About 80-90% medium to high plasticity fines, with medium to high dry strength, medium to high toughness, no dilatancy, firm consistency, sticky when wet; about 10-20% medium to predominately fine, hard, subrounded to rounded sand; no gravels; maximum size, medium sand; wet; medium to reddish brown with white spots and stringers; strong reaction to HCl. Three intervals: 20.5 to 20.8 ft., 21.3 to 21.8 ft. and 23.0 to 23.5 ft. contain about 60-70% medium to fine, hard, subrounded to rounded sand; and about 30-40% low to medium plasticity fines, with low to medium dry strength, low to medium toughness, no dilatancy; and are visually classified as CLAYEY SAND (SC). 24.5 to 25.5 ft. CLAYEY SAND (SC): About 40% low to medium plasticity fines, with low to medium dry strength, low to medium toughness, no dilatancy; about 60% medium to fine, hard, subrounded to rounded sand; no gravels; maximum size, medium sand; wet; medium to reddish brown; strong reaction to HCl. 25.5 to 50.0 ft. POORLY GRADED SAND (SP): About 90-95% coarse to fine, hard, subrounded to rounded sand; about 5-10% predominately nonplastic fines, with no to low dry strength, no to low toughness, rapid to no dilatancy; and a trace of coarse to fine, hard, subangular to rounded gravel; maximum size, 30mm at 28.7 ft.; wet; medium to reddish brown; strong reaction to HCl; at depths below 36.0 ft. coarse sand is not present. Laboratory data for all testing intervals is displayed in the center column.		
								PB								
								100	21							
								PB								
								100	19							
	15	3.6	96.4	0.0	SP	120.1		100	32							
								PB								
								100	32							
								PB								
								100	15							
	20	3.0	97.0	trace	SP	117.6		100	21							
								PB								
								100	32							
								PB								
								100	15							
							100	21								
							PB									
							100	32								
							PB									
							100	32								
25	8.9	90.9	0.2	SP-SM	112.6		100	15								
							PB									
							100	21								
							PB									
							100	32								
							100	21								
							PB									
							100	32								
							PB									
							100	32								
							100	32								
							PB									
							100	32								
							PB									
							100	32								

COMMENTS: Classification of SPT intervals are based on laboratory data.
 Lab testing performed in accordance with USBR 5325 and USBR 5335.
 Intervals between SPT tests are visually classified by auger cuttings.

Visual classification performed in accordance with USBR 5305.
 SPT Testing performed in accordance with USBR 7015.

Number of blows (N-value) on this log have not been corrected for water or mud used in the testing process.

N/A= data not available, no bedrock was drilled.

NR= no recovery, usually due to cohesionless materials.

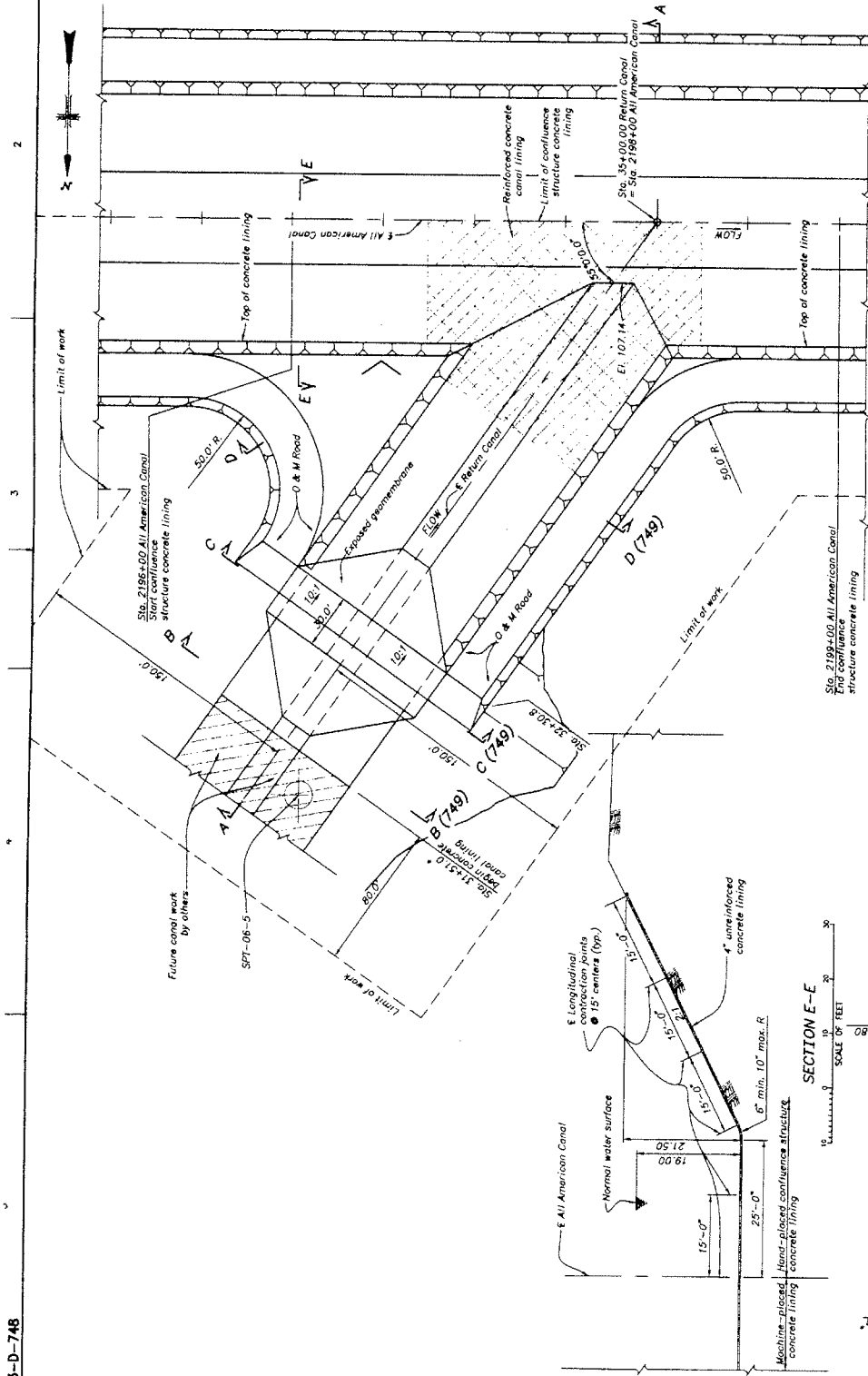
PB= Pilot bit used inside 3-3/4-inch I.D. by 7-5/8-inch O.D. augers, no sample.

I.D.= Inside Diameter.

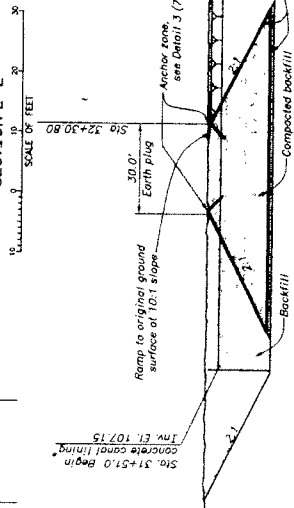
 Bentonite Seal: 1 pipe group, 1 pipe

 Slough Backfill: 1 pipe group, 1 pipe

 Slotted Pipe: 1 pipe group, 1 pipe

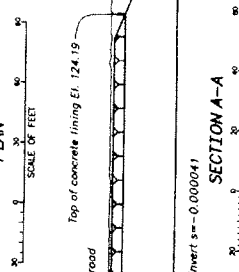


SECTION E-E



*Sta. may be adjusted as directed to avoid interference with existing features.

PLAN



SECTION A-A



NOTES

1. Reinforced and unreinforced concrete canal lining in confluence structure shall be structural concrete with compressive strength of $f'_c = 4,000 \text{ lbs./in.}^2$ at 28 days.
2. Geomembrane shall be 45-mil EPDM rubber.
3. Geomembrane shall be installed on earth on concrete lining to avoid damage.
4. Except where shown, concrete canal lining shall be unreinforced.
5. For details of contraction joint, see 423-D-749.
6. For details of reinforced concrete canal lining, see 423-D-750.

THIS DRAWING SUPERSEDES DRAWING
423-D-710 2007-09-07

NO.	DATE	BY	CHKD.	DESCRIPTION
1	07-24-07	WJ	WJ	ISSUED FOR CONSTRUCTION OF CONFLUENCE STRUCTURE
2	07-24-07	WJ	WJ	ISSUED FOR CONSTRUCTION OF CONFLUENCE STRUCTURE
3	07-24-07	WJ	WJ	ISSUED FOR CONSTRUCTION OF CONFLUENCE STRUCTURE
4	07-24-07	WJ	WJ	ISSUED FOR CONSTRUCTION OF CONFLUENCE STRUCTURE
5	07-24-07	WJ	WJ	ISSUED FOR CONSTRUCTION OF CONFLUENCE STRUCTURE
6	07-24-07	WJ	WJ	ISSUED FOR CONSTRUCTION OF CONFLUENCE STRUCTURE
7	07-24-07	WJ	WJ	ISSUED FOR CONSTRUCTION OF CONFLUENCE STRUCTURE
8	07-24-07	WJ	WJ	ISSUED FOR CONSTRUCTION OF CONFLUENCE STRUCTURE
9	07-24-07	WJ	WJ	ISSUED FOR CONSTRUCTION OF CONFLUENCE STRUCTURE
10	07-24-07	WJ	WJ	ISSUED FOR CONSTRUCTION OF CONFLUENCE STRUCTURE

ALWAYS THINK SAFETY

DESIGNED BY: E. A. SAMP	CHECKED BY: J. A. SAMP
APPROVED BY: J. A. SAMP	APPROVED BY: J. A. SAMP
CONSTRUCTION SUPERVISOR: J. A. SAMP	CONSTRUCTION SUPERVISOR: J. A. SAMP
CONSTRUCTION SUPERVISOR: J. A. SAMP	CONSTRUCTION SUPERVISOR: J. A. SAMP
CONSTRUCTION SUPERVISOR: J. A. SAMP	CONSTRUCTION SUPERVISOR: J. A. SAMP
CONSTRUCTION SUPERVISOR: J. A. SAMP	CONSTRUCTION SUPERVISOR: J. A. SAMP
CONSTRUCTION SUPERVISOR: J. A. SAMP	CONSTRUCTION SUPERVISOR: J. A. SAMP
CONSTRUCTION SUPERVISOR: J. A. SAMP	CONSTRUCTION SUPERVISOR: J. A. SAMP
CONSTRUCTION SUPERVISOR: J. A. SAMP	CONSTRUCTION SUPERVISOR: J. A. SAMP
CONSTRUCTION SUPERVISOR: J. A. SAMP	CONSTRUCTION SUPERVISOR: J. A. SAMP

423-D-748

SHEET 2 OF 2

STATE: California
GROUND ELEVATION: 132.6
ANGLE FROM HORIZONTAL: 90 AZIMUTH:
HOLE LOGGED BY: C. Sullivan
REVIEWED BY: S. Willcutt

G2

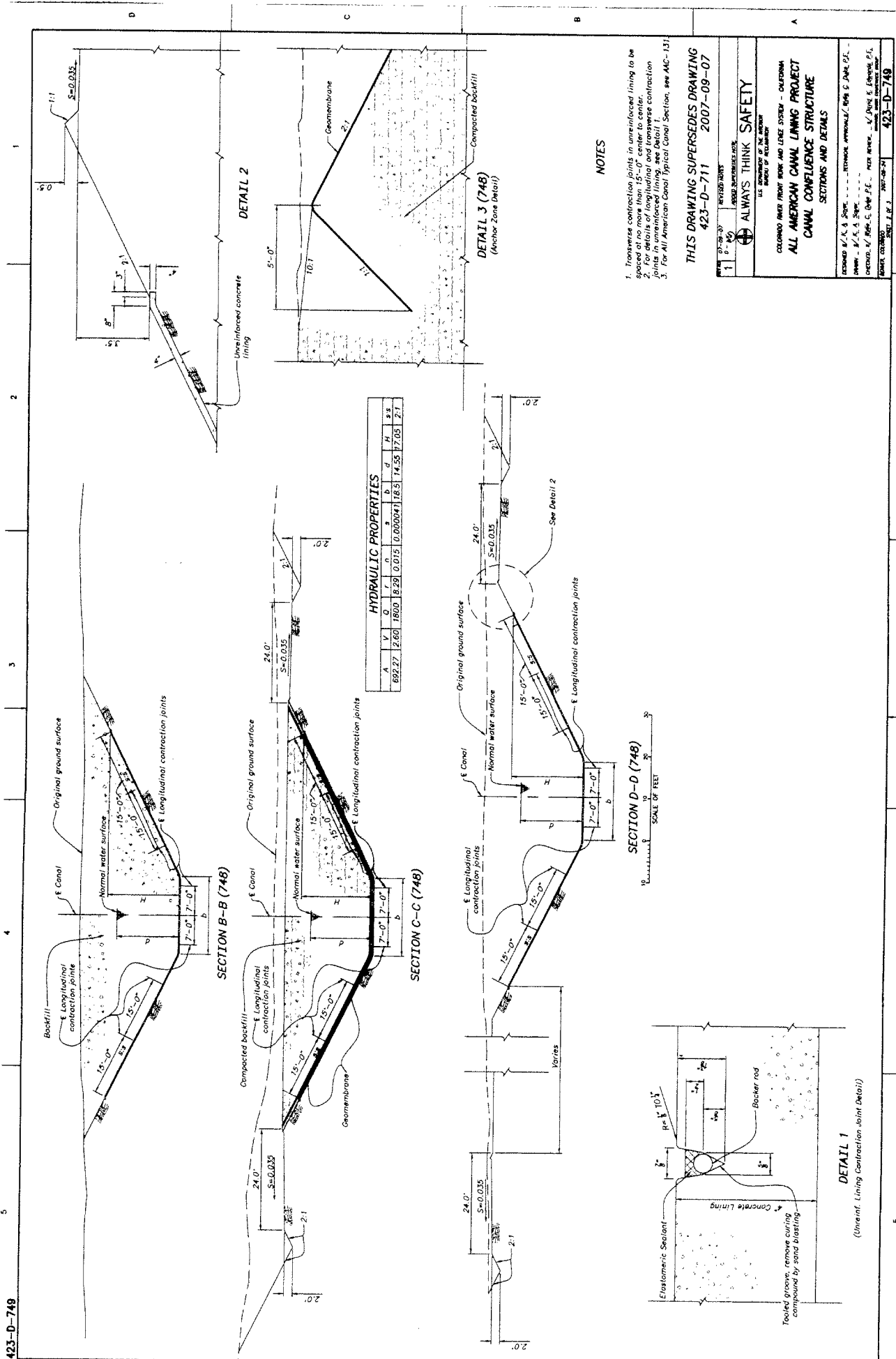
COMMENTS:

 Bentonite Seal: 1 pipe group, 1 pipe

 Slough Backfill: 1 pipe group, 1 pipe

 Slotted Pipe: 1 pipe group, 1 pipe

423-D-748

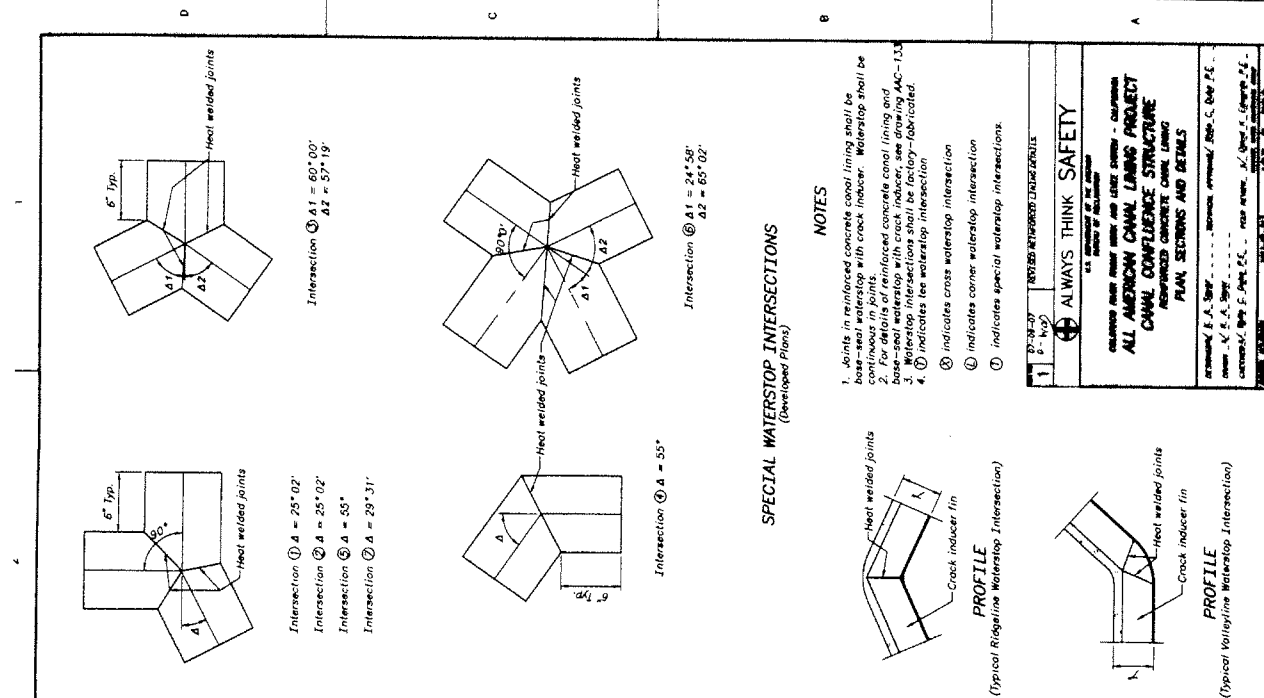
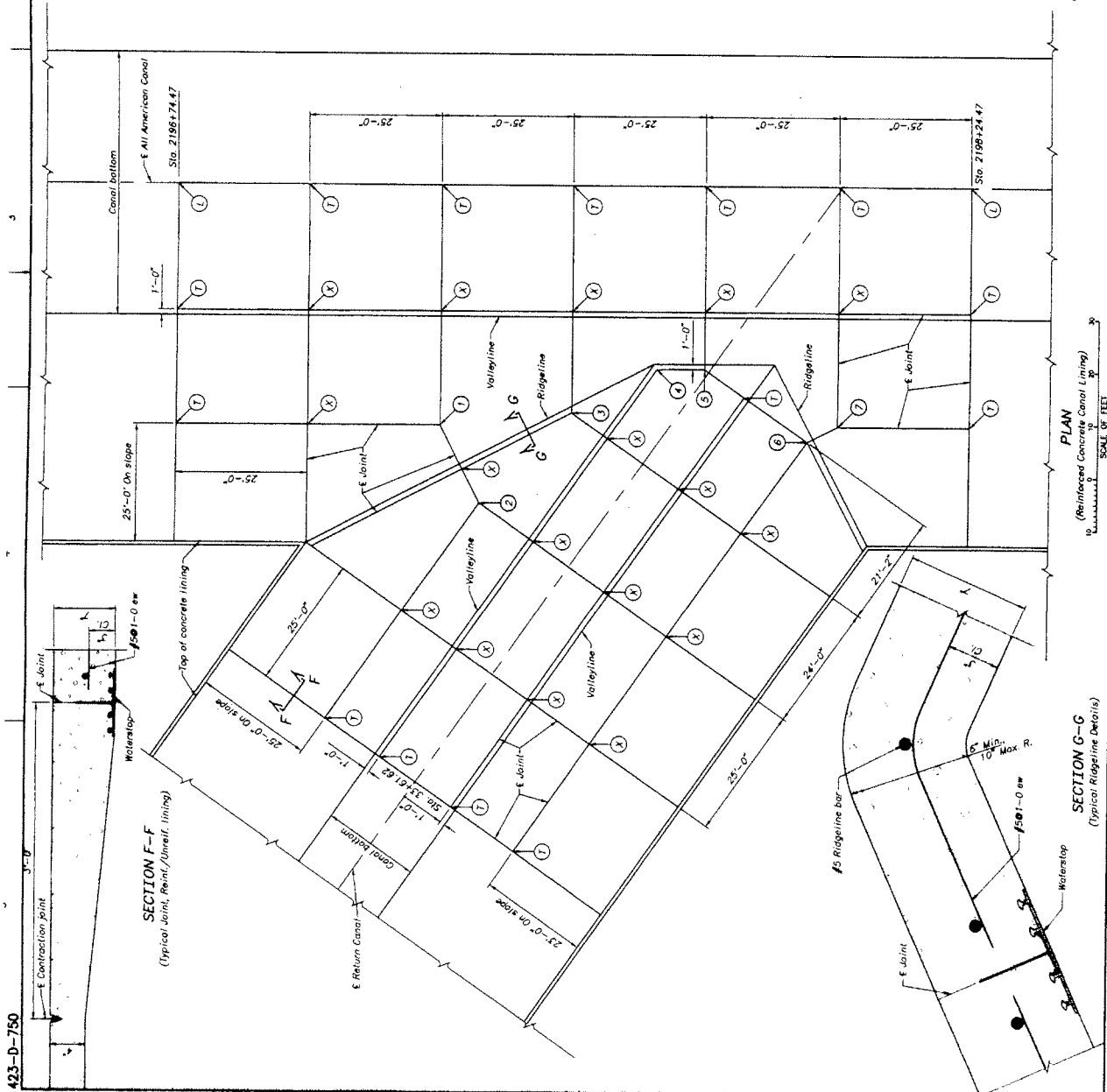


NOTES

1. Transverse contraction joints in unreinforced lining to be spaced at no more than 15'-0" center to center.
2. For details of longitudinal and transverse contraction joints in unreinforced lining, see Detail 1.
3. For All American Canal Typical Canal Section, see AAC-131.

THIS DRAWING SUPERSEDES DRAWING
423-D-711 2007-09-07

DESIGNED BY: J. S. JONES	CHECKED BY: J. S. JONES	
DRAWN BY: J. S. JONES	APPROVED BY: J. S. JONES	
ALL AMERICAN CANAL Lining PROJECT		
CANAL CONFLUENCE STRUCTURE		
SECTIONS AND DETAILS		
REVISIONS		
NO.	DATE	DESCRIPTION
1	0-0-07	ADDED SUPERSEDES KEY
ALWAYS THINK SAFETY		
U.S. DEPARTMENT OF THE INTERIOR		
BUREAU OF RECLAMATION		
COLORADO RIVER FRONT BANK AND LEVEE SYSTEM - CALIFORNIA		
PROJECT NO. 10-00-0000		
SHEET NO. 1 OF 2		
423-D-748		



ALWAYS THINK SAFETY

DESIGNED AND DRAWN BY: **ALL AMERICAN CANAL Lining PROJECT**
 CANAL CONFLUENCE STRUCTURE
 REINFORCED CONCRETE CANAL Lining
 PLAN, SECTIONS AND DETAILS

APPROVED: J. A. Sayer, Jr., P.E., Director, American Concrete Institute
 DRAWN: J. A. Sayer, Jr., P.E., Project Engineer
 CHECKED: J. A. Sayer, Jr., P.E., Project Engineer
 SCALE: 1" = 20' 1/2" = 10' 1/4" = 5'

**FUNDING SCHEDULE FOR THE CONSTRUCTION OF
THE CONFLUENCE STRUCTURE**

1. This Exhibit B, made this 13 day of December, 2007, to be effective under and as a part of Agreement No. 07-XX-30-W0513, hereinafter called "Agreement," shall become effective on the date of the Agreement's execution and shall remain in effect until amended as provided for in subsection 4.2 of the Agreement; Provided, That this Exhibit B or any amended Exhibit B shall terminate with termination of the Agreement.

2. Following is the Funding Schedule for the Construction of the Confluence Structure:

<u>Category</u>	<u>Not-to-Exceed (NTE) Cost</u>
IID Costs:	
IID's AACLP Contractor NTE Cost (includes contingencies)	\$884,000
IID Other NTE Costs (IID Design Consultant, IID Construction Management Consultant, IID Project Oversight)	<u>\$75,000</u>
Total IID NTE Costs:	\$959,000
 Reclamation NTE Costs (Reclamation Project Management and Administration, Reclamation Quality Assurance/Inspection)	 <u>\$41,000</u>
Total NTE Costs:	\$1,000,000

Funding Schedule

Advancement of Funds to IID:

100% of IID Other Costs on Contract Effective Date	\$75,000
50% of IID's AACLP Contractor Cost Specified in §6.2 Change Order within three (3) business days after execution of Change Order by IID and Contractor	NTE \$442,000
50% of IID's AACLP Contractor Cost Specified in §6.2 Change Order within forty-five (45) calendar days after execution of Change Order by IID and Contractor	NTE <u>\$442,000</u>
Total IID Advance:	\$959,000

Advancement of Funds to Reclamation:

100% of Reclamation NTE Costs on Contract Effective Date	\$41,000
--	----------

**RECLAMATION'S REFERENCE MANUALS FOR
DESIGN STANDARDS AND SPECIFICATIONS**

1. This Exhibit C, made this 13 day of December, 2007, to be effective under and as a part of Agreement No. 07-XX-30-W0513, hereinafter called "Agreement," shall become effective on the date of the Agreement's execution and shall remain in effect until amended as provided for in subsection 4.2 of the Agreement; Provided, That this Exhibit C or any superceding Exhibit C shall terminate with termination of the Agreement.

2. In accordance with subsection 6.2 of the Agreement, Reclamation's Reference Manuals for Design Standards and Specifications are listed below. The Project shall be constructed in accordance with design standards and specifications that are equal to or better than the criteria provided in these manuals:

- a. Design Standards No. 3, Water Conveyance Systems; Chapter 11, General Hydraulic Considerations, DS-3(11)-2 – 1994
- b. Design Standards No. 3, Water Conveyance Systems; Chapter 12, General Structural Considerations, DS-3(12)-2 - 1994
- c. Design Standards No. 3, Canals and Related Structures, DS3-5 - 12/8/67
- d. USBR Safety and Health Standards, 1993, Reprinted 2001
- e. Concrete Manual, Eighth Edition, Revised 1981, Reprinted 1988
- f. Earth Manual - Part 1, Third Edition 1998
- g. Design of Small Canal Structures, 1978 (Available from Water Resources Publications, LLC @ www.waterplus.com/wrp)
- h. Water Measurement Manual, 1997, Third edition, 1997
- i. Hydraulic Design of Stilling Basins and Energy Dissipaters, Revised January 1978, Seventh Printing, 1983

- j. Construction Activities, Reclamation Manual FAC 03-02
- k. Reclamation Instructions, Series 170 Construction, Part 175 Reports of Construction and Structural Behavior, Chapter 2, Final Construction Report

DATA REQUIRED FOR THE DROP 2 RESERVOIR CONFLUENCE STRUCTURE
FINAL CONSTRUCTION REPORT

1. This Exhibit D, made this 13 day of December, 2007, to be effective under and as a part of Agreement No. 07-XX-30-W0513, hereinafter called "Agreement," shall become effective on the date of the Agreement's execution and shall remain in effect until amended as provided for in subsection 4.2 of the Agreement; Provided, That this Exhibit D or any superceding Exhibit D shall terminate with termination of the Agreement.
2. The following topics found in the referenced Reclamation Instructions are to be included as appropriate in the Project's Final Construction Report:¹
 - a. Cover Sheet
 - b. Frontispiece (Appendix I, Sheet 3)
 - c. Table of Contents (Appendix I, Sheet 4)
 - d. General Description of Project including a Location Map
 - e. Chronology (Appendix I, Sheet 5)
 - f. Design (Appendix I, Sheet 7)
 - g. Resume of Construction Work (Appendix I, Sheet 7)
 - h. Contract Administration, including bids, award of contract, contract modifications, and claims (Appendix I, Sheets 7 and 8)
 - i. Construction Operations (Appendix I, Sheets 9-11)
 - j. Factors Affecting Contractor's Progress (Appendix I, Sheet 12)
 - k. Construction Equipment (Appendix I, Sheet 12)

¹Reference Reclamation Instructions, Series 170 Construction, Part 175, Reports of Construction and Structural Behavior, Chapter 2, Final Construction Report 175.2.1 and Appendix I which have been provided to IID.

- l. Organization and Personnel (Appendix I, Sheet 13)
- m. Safety (Appendix I, Sheet 14)
- n. Final Cost Analysis (Appendix I, Sheet 15)
- o. Appendices including photographs, key drawings, special reports, etc. (Appendix I, Sheet 15)