Option Submittal Form

Contact Information (optional):

☐ Keep my contact information private

Date Option Submitted: ~~Jan. 17, 2012~~

Option Name:

Yuma Island Wildlife, Irrigation & Improvement Project

Yuma Island

Description of Option:

Bard is requesting permission from USBR to extend our service boundaries to include Quechan tribal lands, farm land (patented) in Arizona and Arizona trust lands located in the "Yuma Island". We would also service Quechan Ranch 1, Ranch 5, and the Quechan Duke-Mitchell Ranch.
We feel that 35,000 acre feet of water will be conserved for lower priority users in California. We are only interested in serving lands that are currently irrigated.

Location: Describe location(s) where option could be implemented and other areas that the option would affect, if applicable. Attach a map, if applicable.

Bard Water District, Reservation division Yuma Projects, "Yuma Island", Quechan lands located in Arizona and California, Arizona trust lands located in California.

Quantity and Timing: Roughly quantify the range of the potential amount of water that the option could provide over the next 50 years and in what timeframe that amount could be available. If option could be implemented in phases, include quantity estimates associated with each phase. If known, specify any important seasonal (e.g,. more water could be available in winter) and/or frequency (e.g., more water could likely be available during above-average hydrologic years) considerations. If known, describe any key assumptions made in order to quantify the potential amount.

The potential water savings are approximately 35,000 acre feet per year or 1,750,000 acre feet over a 50 year period. More water could be made available through a land fallowing program.

Additional Information

Technical Feasibility: Describe the maturity and feasibility of the concept/technology being proposed, and what research and/or technological development might first be needed.

The project can be implemented through concrete canal lining and water measuring devices.

Costs: Provide cost and funding information, if available, including capital, operations, maintenance, repair, replacement, and any other costs and sources of funds (e.g., public, private, or both public and private). Identify what is and is not included in the provided cost numbers and provide references used for cost justification. Methodologies for calculating unit costs (e.g., $/acre-foot or $/million gallons) vary widely; therefore, do not provide unit costs without also providing the assumed capital and annual costs for the option, and the methodology used to calculate unit costs.

Multiple Species Conservation Program will pay costs incurred for the MSCP portion. A grant will be obtained for the micro-hydropower plant. Bard Water District will seek funding from Congress for the canal rehabilitation.

Permitting: List the permits and/or approvals required and status of any permits and/or approvals received.

Permission and approval from Reclamation will be needed.

Legal / Public Policy Considerations: Describe legal/public policy considerations associated with the option. Describe any agreements necessary for implementation and any potential water rights issues, if known.

Multispecies conservation areas have a zero water use per federal regulations. The Indian lands have a reserved water right per the Winters Decision. Other lands have a section 5 Water Right. The ASLD land in CA will need a Section 5 water right.

Implementation Risk / Uncertainty: Describe any aspects of the option that involves risk or uncertainty related to implementing the option.

Reliability: Describe the anticipated reliability of the option and any known risks to supply or demand, such as: drought risk, water contamination risk, risk of infrastructure failure, etc.

Lower drought risk
Water quality testing will improve
Food safety
The plan will make more water available during a drought.

Water Quality: Identify key water quality implications (salinity and other constituents) associated with the option in all of the locations the option may affect.

The water used to irrigate the "Yuma Island" will have a lower salinity than the pump water used so that lower amounts of water will be used to irrigate crops.

Energy Needs: Describe, and quantify if known, the energy needs associated with the option. Include any energy required to obtain, treat, and deliver the water to the defined location at the defined quality.

Energy Required	Source(s) of Energy
None	

Hydroelectric Energy Generation: Describe, and quantify if known, any anticipated increases or decreases in hydroelectric energy generation as a result of the option.

Location of Generation	Impact to Generation
Head of All American Canal and Reservation Main Canal	
Micro-Hydroelectric generation will be installed	

Recreation: Describe any anticipated positive or negative effects on recreation.

Locations	Anticipate Benefits or Impacts
The multispecies area will be excellent for bird watching, hiking and other outdoor activities.	

Environment: Describe any anticipated positive or negative effects on ecosystems within or outside of the Colorado River Basin.

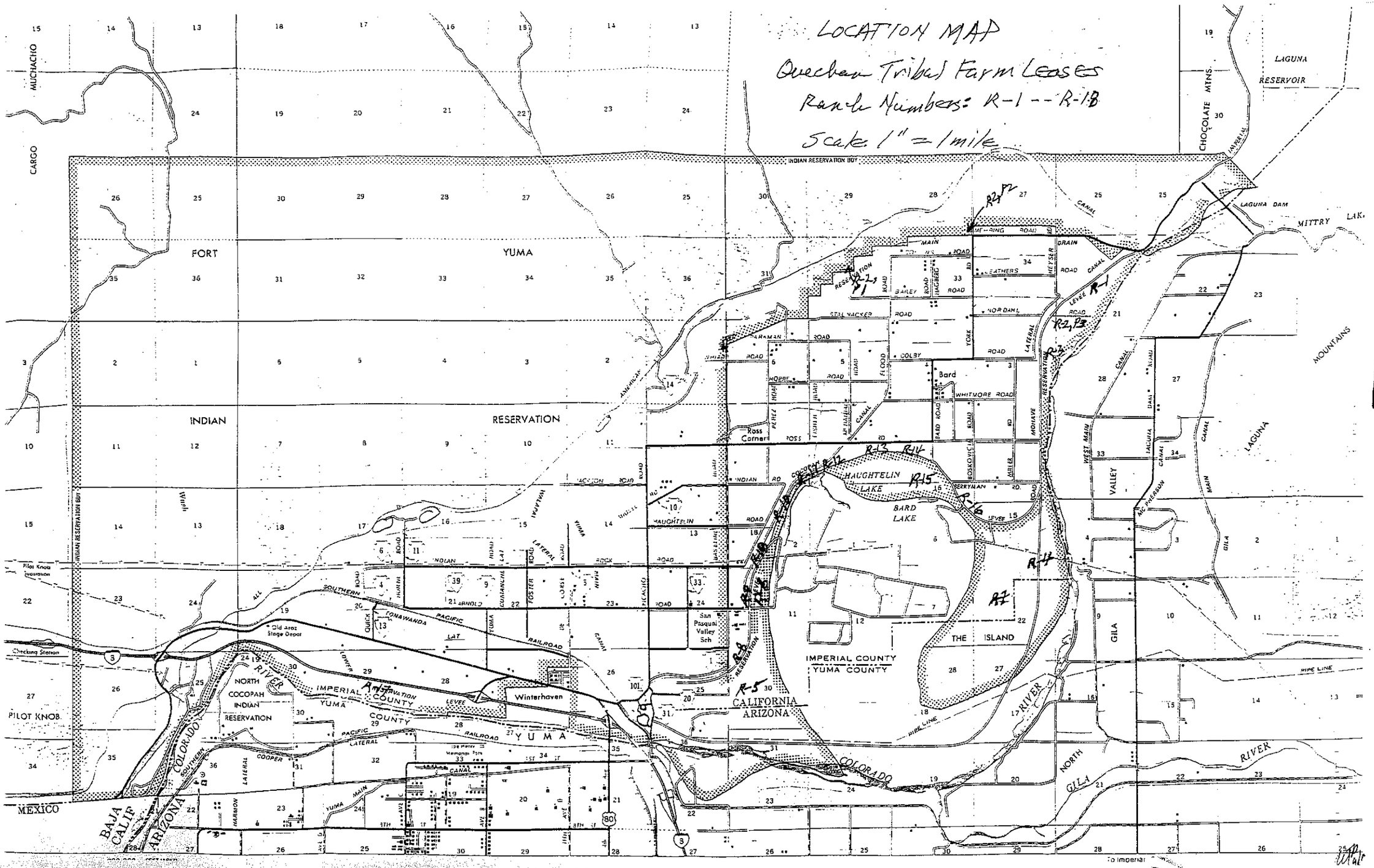
Locations	Anticipated Benefits or Impacts
The positive environmental impact of the multispecies area will restore the ecosystem to a natural state.	

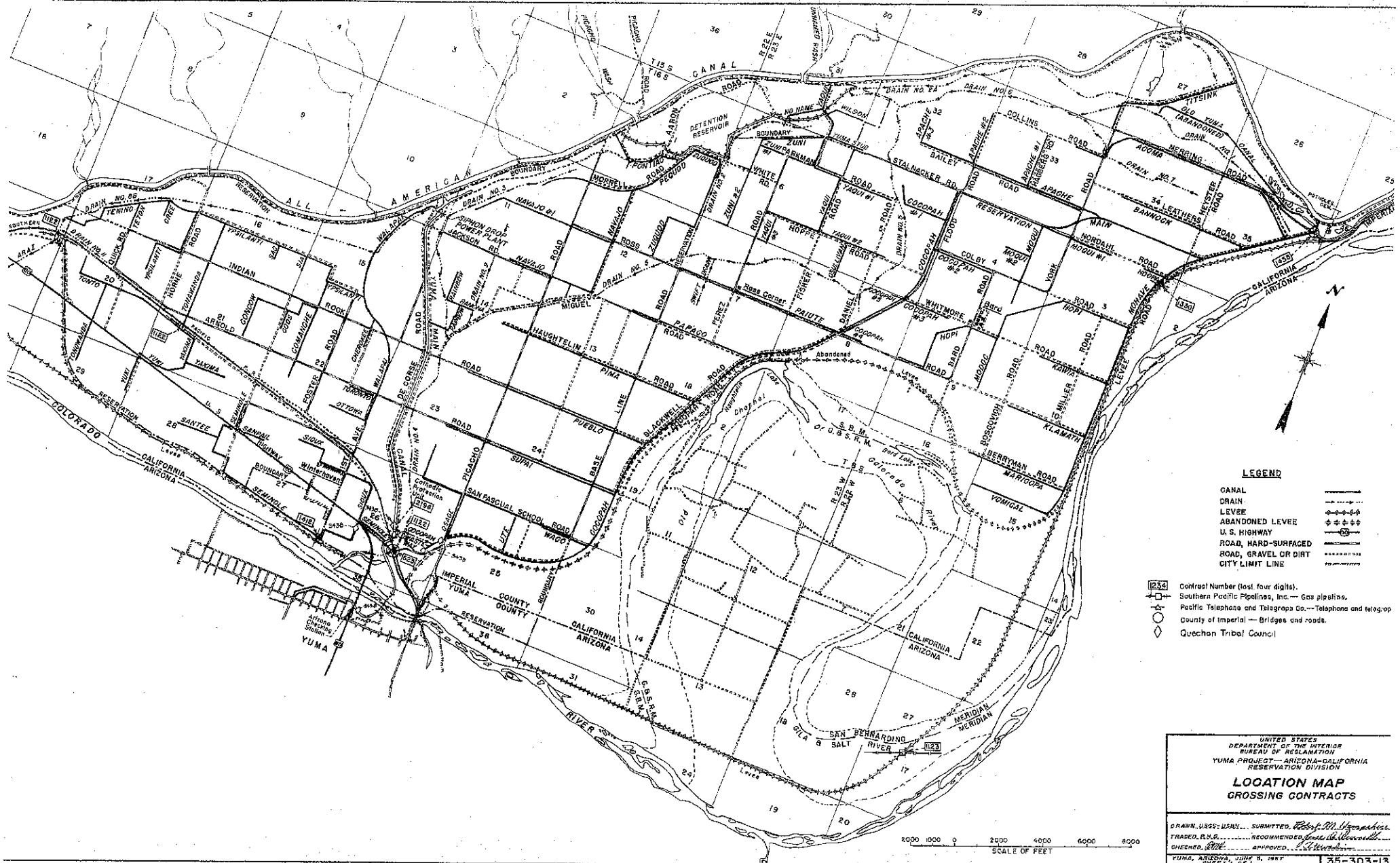
Socioeconomics: Describe anticipated positive or negative socioeconomic (social and economic factors) effects.

The positive economic factor will be that members of the Quechan tribe will receive preferential hiring to maintain the multispecies area. Land values will be enhanced in this area.

Other Information: Provide other information as appropriate, including potential secondary benefits or considerations. Attach supporting documentation or references, if applicable.

1. With the removal of 17 pumps, energy will be conserved.
2. Water accounting will be enhanced.
3. Reliability and improved efficiency of water delivery.
4. Improved crop production.
5. Improved food safety.
6. Enhanced feasibility of hydroelectric plant.


LOCATION MAP
Quechan Tribal Farm Leases
Ranch Numbers: R-1 -- R-18
Scale 1" = 1 mile
FORT YUMA INDIAN RESERVATION
CARGO MUCHACHO
CHOCOLATE MTNS.
LAGUNA RESERVOIR
LAGUNA DAM
MITTRY LAKE
LAGUNA MOUNTAINS
INDIAN RESERVATION BDY
HAUGHTELIN LAKE
BARD LAKE
Bard
Ross Corner
San Pasqual Valley Sch
IMPERIAL COUNTY
YUMA COUNTY
THE ISLAND
CALIFORNIA
ARIZONA
Winterhaven
NORTH COCOPAH INDIAN RESERVATION
PILOT KNOB
MEXICO
BAJA CALIF
ARIZONA
COLORADO RIVER
GILA RIVER
NORTH GILA VALLEY
Old Araz Stage Depot
Checking Station
Pilot Knob Substation
To Imperial
R-1
R-2, P1
R-2, P2
R-2, P3
R-3
R-4
R-5
R-6
R-7
R-8
R-9
R-10
R-11
R-12
R-13
R-14
R-15
R-16
R-17


ALL AMERICAN CANAL
COLORADO RIVER
YUMA
CALIFORNIA
ARIZONA
IMPERIAL COUNTY
YUMA COUNTY
SAN BERNARDINO MERIDIAN
GILA & SALT RIVER
SAN PASCUAL SCHOOL ROAD
HAUGHTELIN ROAD
PAPAGO ROAD
PUEBLO ROAD
BASE LINE ROAD
PICACHO ROAD
SUPAI ROAD
WACO ROAD
COCOPAH ROAD
BLACKWELL ROAD
PIMA ROAD
MIGUEL ROAD
NAVAJO ROAD
ROSS ROAD
PAIUTE ROAD
HOPI ROAD
YORK ROAD
MOQUI ROAD
MAIN ROAD
APACHE ROAD
BANNOCK ROAD
LEATHERS ROAD
MERRING ROAD
ACOMA ROAD
COLLINS ROAD
STALNACKER RD.
BAILEY ROAD
WHITMORE ROAD
COLBY ROAD
NORDAHL ROAD
HOPI ROAD
KAWIA ROAD
MILLER ROAD
KLAMATH ROAD
BERRYMAN ROAD
MARICOPA ROAD
VOMIGAL ROAD
BOSCOVICH ROAD
MOHAVE ROAD
LEVEE ROAD
TITSINK ROAD
OLD YUMA (ABANDONED) DRAIN
DETENTION RESERVOIR
SIPHON DROP POWER PLANT
JACKSON RD.
Ross Corner
Abandoned Levee
Old Colorado River
Bard Lake
Cathedic Protection Unit
Arizona Checking Station
Winterhaven
SCALE OF FEET
2000 1000 0 2000 4000 6000 8000
LEGEND
CANAL
DRAIN
LEVEE
ABANDONED LEVEE
U. S. HIGHWAY
ROAD, HARD-SURFACED
ROAD, GRAVEL OR DIRT
CITY LIMIT LINE
Contract Number (last four digits).
Southern Pacific Pipelines, Inc. — Gas pipeline.
Pacific Telephone and Telegraph Co. — Telephone and telegrap
County of Imperial — Bridges and roads.
Quechan Tribal Council
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
YUMA PROJECT — ARIZONA-CALIFORNIA
RESERVATION DIVISION
LOCATION MAP
CROSSING CONTRACTS
DRAWN USGS-USBR SUBMITTED
TRACED R.H.S. RECOMMENDED
CHECKED APPROVED
YUMA, ARIZONA, JUNE 5, 1957
SHEET 1 OF 1
35-303-13

35-303-1312

Island Unit Fields Cropped in CY2008

Acres of Cropped Land by Contract:

Arizona:

Ft Yuma Indian Reservation: 181
State of Arizona - Unit A: 554
State of Arizona - Unit B: 128
Beattie Farms - Unit A: 118
Beattie Farms - Unit B: 0
Cha Cha: 379
JRJ Partners: 180

California:

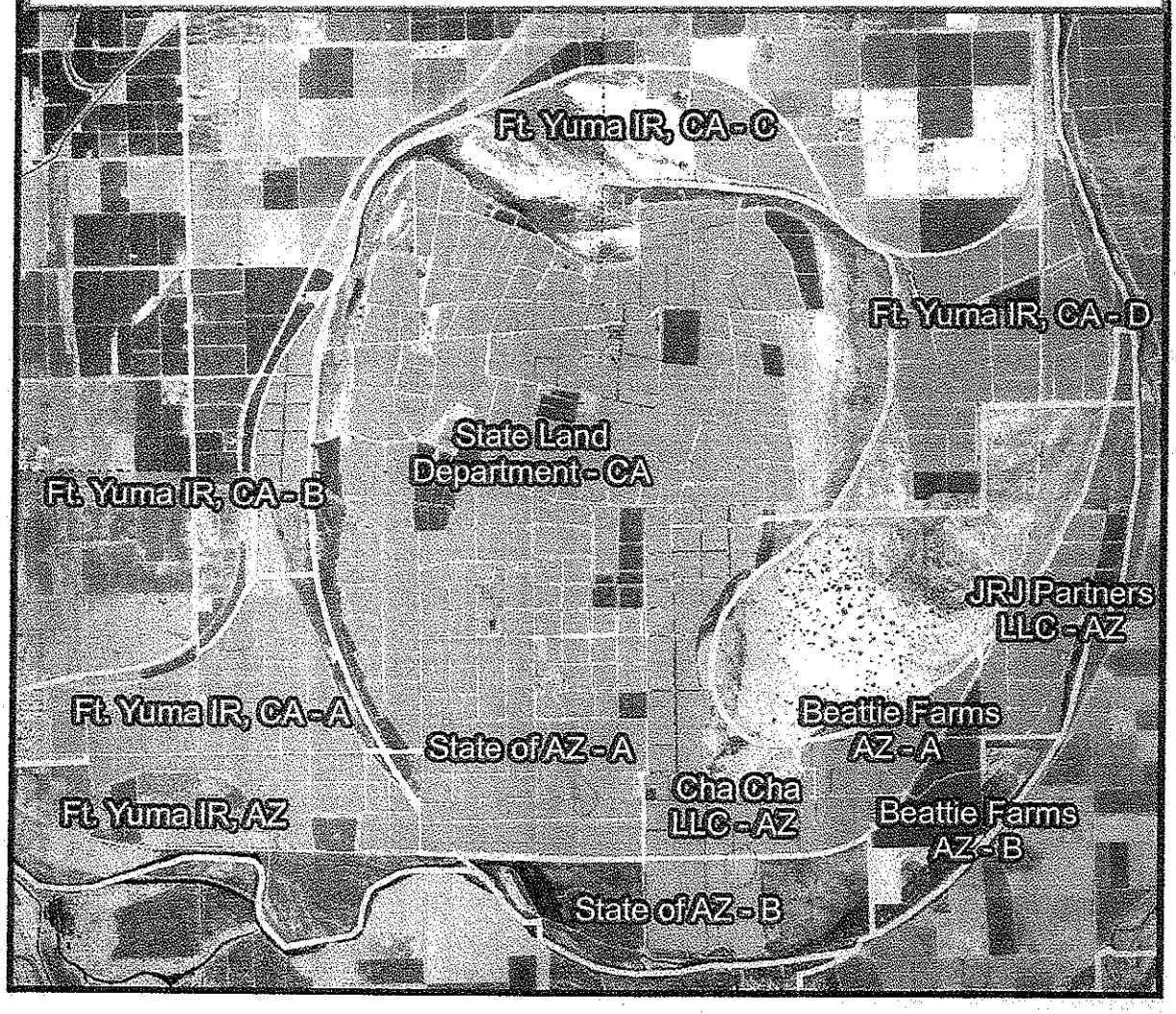
Ft Yuma Indian Reservation - Unit A: 341
Ft Yuma Indian Reservation - Unit B: 83
Ft Yuma Indian Reservation - Unit C: 127
Ft Yuma Indian Reservation - Unit D: 419
State Land Department: 1,756

Miles
0 0.25 0.5 1 1.5 2

Crop grown on field in CY2008
Fallow entire CY2008

RECLAMATION
Managing Water in the West

KZander USBR 8/28/09
H:/gisdata/special_requests/maps/cy2009/yuma_island_08.pdf ; kz-proj-4



Area of Arizona State Land Department Yuma Island Lands in California

Approximate area measurements: (calculated with ESRI ArcGIS software)

ASLD Lands: 2394 acres

ASLD Lands, Arizona Channel in California: 393 acres

Total ASLD Lands in California: 2787 acres

Reservation Levee

N

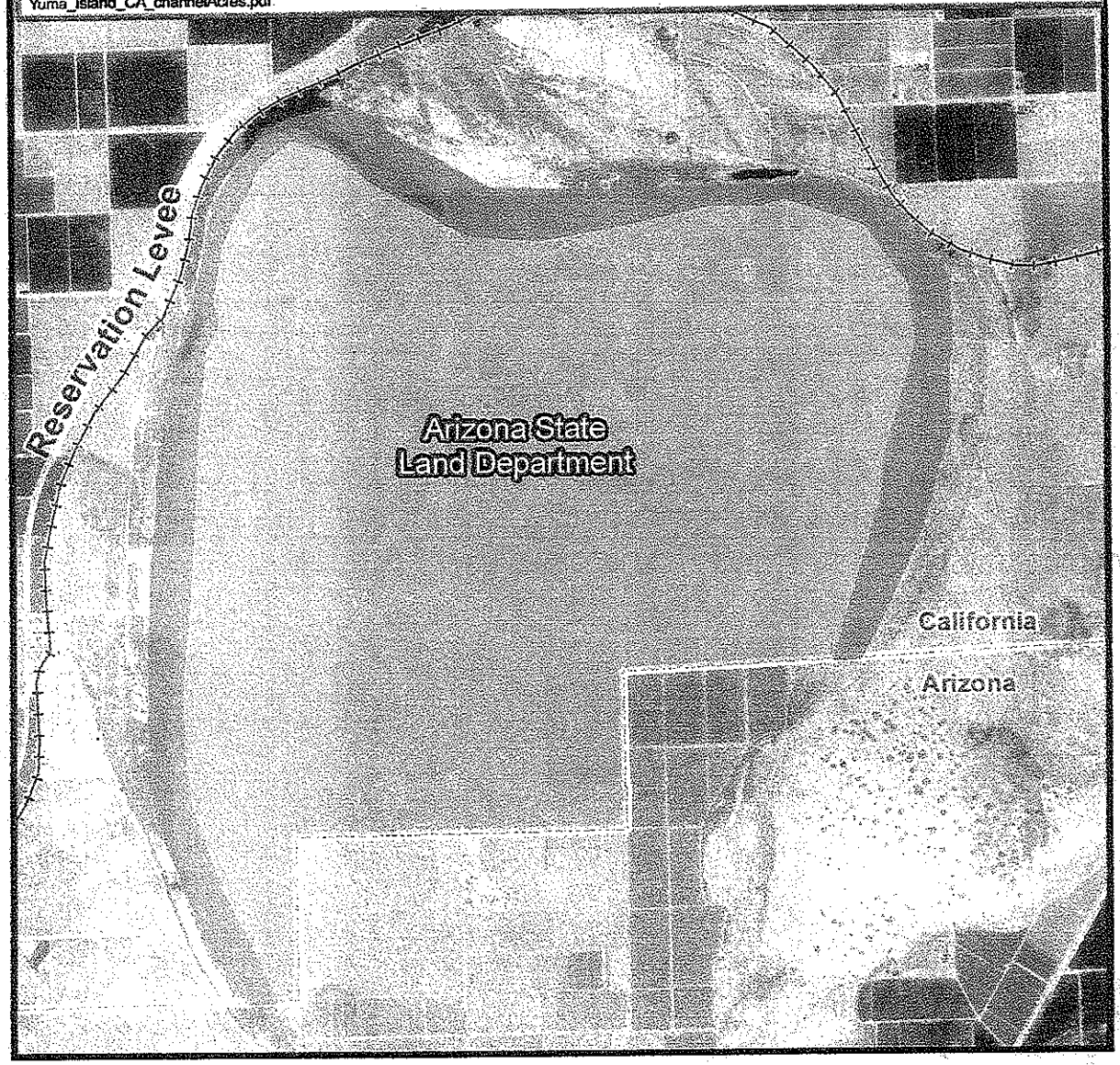
0 0.5 1 Mile

Acre measurements are not calculated from legal boundary definitions. They are not intended for legal purposes.

Source: Channel boundaries digitized off of Plate 8 in *Colorado River Boundary Determination Reach 1 Summary Report* Dec 2002, using USGS Bard and Yuma East 1:24000 DRG as reference Imagery 2010 1-m NAIP

KZander USBR 3/14/2011
H:/gisdata/special_requests/maps/cy2011/Yuma_Island_CA_channelAcres.pdf

RECLAMATION
Managing Water in the West



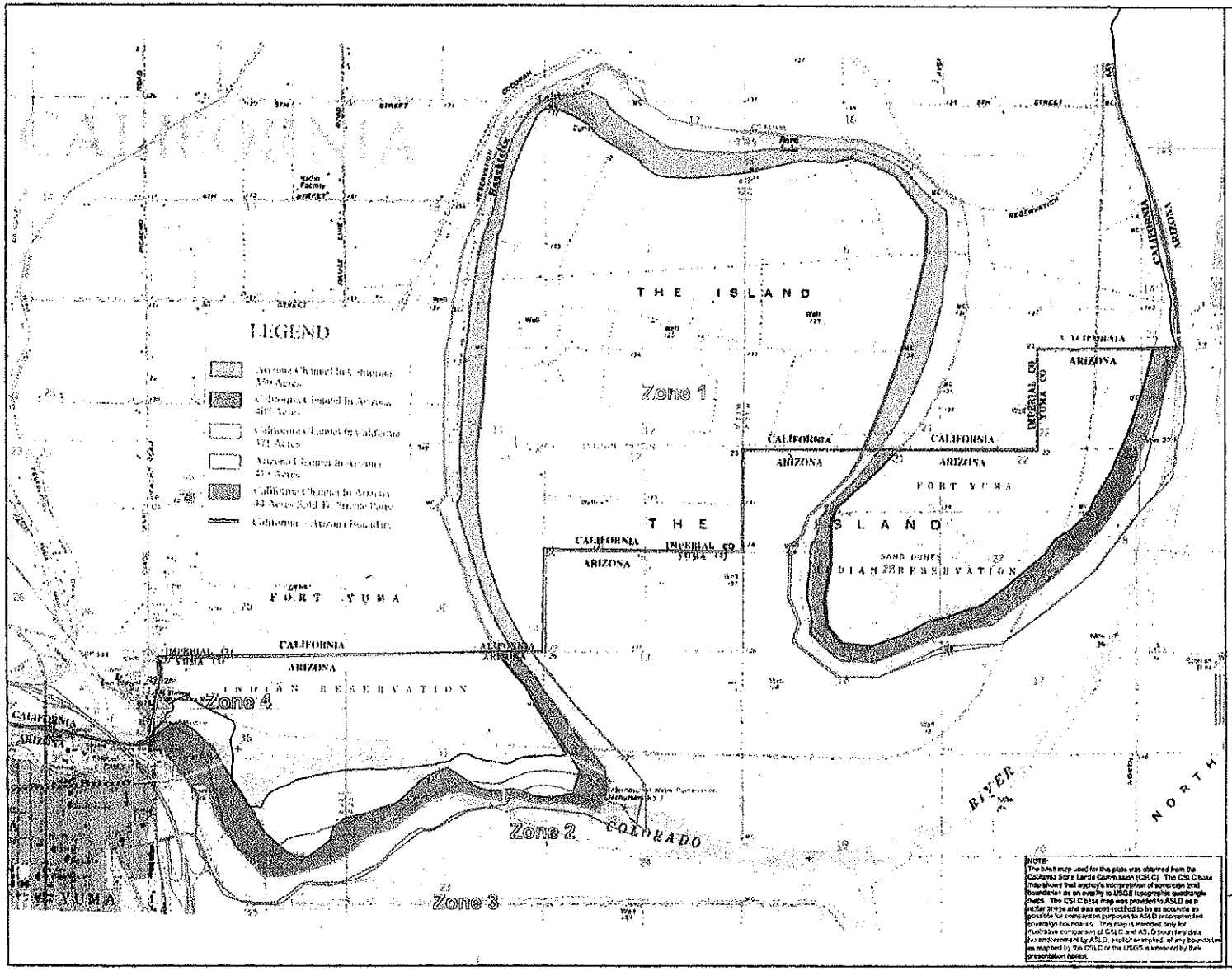


Plate 8

Arizona State Land Department
Colorado River
Boundary Determination

Reach 1

SOVEREIGN BOUNDARY COMPARISON MAP

Legend

- Arizona Channel in California[1] 359 Acres
- California Channel in Arizona[2] 512 Acres
- California Channel in California[3] 370 Acres
- Arizona Channel in Arizona[4] 579 Acres
- Zone Boundaries
- Medial Line
- 1848 International Boundary
- Jurisdictional Boundary

Sources:

1. 1961 BLM surveys by G.F. Pillman, D.A. Connon, R.C. Yundt, R.S. Kaiser a dependent resurvey of Q.R. Campbell (1949)
2. 1969 BLM survey by J.W. Rebedew a dependent resurvey of J.L. Warboys (1932), D.R. Averill (1949), F.A. Brooks (1960-61), and W.S. Ross (1977) photo/field interpretation from 1996 USGS DOQQ aerial photos and field visits on August 5-6, 2002, 1953 aerial photography from Lewis, Perley M., (1954) 1954 Mosaic of the Colorado River from Nevada Oblique Boundary to Mexico, prepared for State of Arizona Colorado River Boundary Commission
3. 1960 BLM survey by J.W. Rebedew a dependent resurvey of J.L. Warboys (1932), D.R. Averill (1949), F.A. Brooks (1960-61), and W.S. Ross (1977)
4. 1961 BLM surveys by G.F. Pillman, D.A. Connon, R.C. Yundt, R.S. Kaiser a dependent resurvey of Q.R. Campbell (1949), photo/field interpretation from 1996 USGS DOQQ aerial photos and field visits on August 5-6, 2002, 1953 aerial photography from Lewis, Perley M., (1954) 1953 Mosaic of the Colorado River from Nevada Oblique Boundary to Mexico, prepared for State of Arizona Colorado River Boundary Commission
5. Base Map, California State Lands Commission 2002, USGS 1965 7.5' Quadrangles (Yuma East and Bard), photorevised 1979

0 0.5 1
Miles

December 2002

NOTE:
The base map used for this plate was obtained from the California State Lands Commission (CSLC). The CSLC base map shows that agency's interpretation of sovereign land boundaries as an overlay to USGS topographic quadrangle maps. The CSLC base map was provided to ASLD as a raster image and was scan rectified to be as accurate as possible for comparison purposes to ASLD incorporated sovereign boundaries. This map is intended only for illustrative comparison of CSLC and ASLD boundary data. No endorsement by ASLD, explicit or implied, of any boundaries as mapped by the CSLC or the USGS is intended by their presentation herein.

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BOULDER CANYON PROJECT

AGREEMENT

REQUESTING APPORTIONMENT OF CALIFORNIA'S SHARE OF THE WATERS OF THE COLORADO RIVER AMONG THE APPLICANTS IN THE STATE

August 18, 1931

THIS AGREEMENT, made the 18th day of August, 1931, by and between Palo Verde Irrigation District, Imperial Irrigation District, Coachella Valley County Water District, Metropolitan Water District of Southern California, City of Los Angeles, City of San Diego and County of San Diego;

WITNESSETH:

WHEREAS the Secretary of the Interior did, on November 5, 1930, request of the Division of Water Resources of California, a recommendation of the proper apportionments of the water of and from the Colorado River to which California may be entitled under the provisions of the Colorado River Compact, the Boulder Canyon Project Act and other applicable legislation and regulations, to the end that the same could be carried into each and all of the contracts between the United States and applicants for water contracts in California as a uniform clause; and

WHEREAS the parties hereto have fully considered their respective rights and requirements in cooperation with the other water users and applicants and the Division of Water Resources aforesaid;

NOW, THEREFORE, the parties hereto do expressly agree to the apportionments and priorities of water of and from the Colorado River for use in California as hereinafter fully set out and respectfully request the Division of Water Resources to, in all respects, recognize said apportionments and priorites in all matters relating to State authority and to recommend the provisions of Article I hereof to the Secretary of the Interior of the United States for insertion in any and all contracts for water made by him pursuant to the terms of the Boulder Canyon Project Act, and agree that in every water contract which any party may hereafter enter into with the United States, provisions in accordance with Article I shall be included therein if agreeable to the United States.

ARTICLE I.

The waters of the Colorado River available for use within the State of California under the Colorado River Compact and the Boulder Canyon Project Act shall be apportioned to the respective interests below named and in amounts and with priorities therein named and set forth, as follows:

SECTION 1. A first priority to Palo Verde Irrigation District for beneficial use exclusively upon lands in said District as it now exists and upon lands between said District and the Colorado River, aggregating (within and without said District) a gross area of 104,500 acres, such waters as may be required by said lands.

SECTION 2. A second priority to Yuma Project of United States Bureau of Reclamation for beneficial use upon not exceeding a gross area of 25,000 acres of land located in said project in California, such waters as may be required by said lands.

SECTION 3. A third priority (a) to Imperial Irrigation District and other lands under or that will be served from the All American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa", adjacent to Palo Verde Irrigation District, for beneficial consumptive use, 3,850,000 acre feet of water per annum less the beneficial consumptive use under the priorities designated in Sections 1 and 2 above. The rights designated (a) and (b) in this section are equal in priority. The total beneficial consumptive use under priorities stated in Sections 1, 2 and 3 of this article shall not exceed 3,850,000 acre feet of water per annum.

SECTION 4. A fourth priority to the Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the Coastal Plain of Southern California, 550,000 acre feet of water per annum.

SECTION 5. A fifth priority, (a) to The Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the Coastal Plain of Southern California, 550,000 acre feet of water per annum and (b) to the City of San Diego and/or County of San Diego, for beneficial consumptive use, 112,000 acre feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

SECTION 6. A sixth priority (a) to Imperial Irrigation District and other lands under or that will be served from the All American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa," adjacent to Palo Verde Irrigation District, for beneficial consumptive use, 300,000 acre feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

SECTION 7. A seventh priority of all remaining water available for use within California, for agricultural use in the Colorado River Basin in California, as said basin is designated on Map No. 23000 of the Department of the Interior, Bureau of Reclamation.

SECTION 8. So far as the rights of the allottees named above are concerned, The Metropolitan Water District of Southern California and/or the City of Los Angeles shall have the exclusive right to withdraw and divert into its aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said District and/or said City (not exceeding at any one time 4,750,000 acre feet in the aggregate) by reason of reduced diversions by said District and/or said City; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other states without distinction in priority, and to determine the correlative relations between said District and/or said City and such users resulting therefrom.

SECTION 9. In addition, so far as the rights of the allottees named above are concerned, the City of San Diego and/or County of San Diego shall have the exclusive right to withdraw and divert into an aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said County and/or said County (not exceeding at any one time 250,000 acre feet in the aggregate) by reason of reduced diversions by said City and/or said County; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other states without distinction in priority, and to determine the correlative relations between the said City and/or said County and such users resulting therefrom.

SECTION 10. In no event shall the amounts allotted in this agreement to the Metropolitan Water District of Southern California and/or the City of Los Angeles be increased on account of inclusion of a supply for both said District and said City, and either or both may use said apportionments as may be agreed by and between said District and said City.

SECTION 11. In no event shall the amounts allotted in this agreement to the City of San Diego and/or to the County of San Diego be increased on account of inclusion of a supply for both said City and said County, and either or both may use said apportionments as may be agreed by and between said City and said County.

SECTION 12. The priorities hereinbefore set forth shall be in no wise affected by the relative dates of water contracts executed by the Secretary of the Interior with the various parties.

ARTICLE II.

That each and every party hereto who has heretofore filed an application or applications for a permit or permits to appropriate water from the Colorado River requests the Division of Water Resources to amend such application or applications as far as possible to bring it or them into conformity with the provisions of this agreement; and each and every party hereto who has heretofore filed a protest or protests against any such application or applications of other parties hereto does hereby request withdrawal of such protest or protests against such application or applications when so amended.

ARTICLE III.

That each and all of the parties to this agreement respectively request that the contract for delivery of water between The United States of America and The Metropolitan Water District of Southern California under date of April 24, 1930, be amended in conformity with Article I hereof.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their respective officers thereunto duly authorized, the day and year first above written. Executed in seven originals.

Recommended for Execution:

PALO VERDE IRRIGATION DISTRICT,
By ED J. WILLAMS,
ARVIN B. SHAW, JR.

IMPERIAL IRRIGATION DISTRICT,
By MARK ROSE,
CHAS. L. CHILDERS,
M. J. DOWD.

COACHELLA VALLEY COUNTY WATER DISTRICT,
By THOS. C. YAGER.

METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA,
By W. B. MATTHEWS,
C. C. ELDER.

WATER CONTRACTS

CITY OF LOS ANGELES,
By W. W. HURLBUT,
C. A. DAVIS.

CITY OF SAN DIEGO,
By C. L. BYERS,
H. N. SAVAGE.

COUNTY OF SAN DIEGO,
By H. N. SAVAGE,
C. L. BYERS.