APPENDIX A
Scoping Outreach

News Release

RECLAMATION
Managing Water in the West

Phoenix Area Office
Glendale, Arizona

Media Contact: Patricia Cox (623) 773-6214 pcox@.usbr.gov
John McGlothlen (623) 773-6256 jmcglothlen@usbr.gov

Released on August 25, 2010

San Carlos Irrigation and Drainage District Proposes Rehabilitation of Major Irrigation Facilities

The San Carlos Irrigation and Drainage District is proposing to reconstruct and line several of the major canals within the off-reservation portion of the San Carlos Irrigation Project. The proposed project also includes relocating laterals or placing reaches of laterals in pipeline to accommodate changes in land use within the San Carlos Irrigation and Drainage District service area. The project is being funded by the Bureau of Reclamation.

Input from the public is desired to aid in the identification of key issues and possible alternatives related to the proposed project that should be considered in the Environmental Impact Statement (EIS). A scoping meeting will be held to solicit public input on the scope of the environmental review, including alternatives, concerns, and issues to be addressed in the EIS. The scoping meeting will be a 4-hour open house. The meeting will be held on Saturday, September 18, 2010, 10 am to 2 pm, at the Coolidge Police Department, City Council Chambers, 911 South Arizona Boulevard, Coolidge, Arizona.

Information regarding the proposed project can be found in the Public Scoping Notice, which can be obtained by calling Reclamation's Environmental Resource Management Division at (623) 773-6251, by e-mailing jharagara@usbr.gov , or by downloading it from the Phoenix Area Office website at http://www.usbr.gov/lc/phoenix/

Comments should be mailed to John McGlothlen at the Bureau of Reclamation, Phoenix Area Office, PXAO-1500, 6150 West Thunderbird Rd., Glendale, AZ. 85306-4001or faxed to (623) 773-6481, no later than October 18, 2010.

Questions may be directed to Mr. McGlothlen at (623) 773-6256.

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Reclamation is the largest wholesale water supplier and the second largest producer of hydroelectric power in the United States, with operations and facilities in the 17 Western States. Its facilities also provide substantial flood control, recreation, and fish and wildlife benefits.

SUMMARY: As required by 43 CFR 2650.7(d), notice is hereby given that the Bureau of Land Management (BLM) will issue an appealable decision approving the conveyance of the surface estate for certain lands to K'oyitl'ots'ina, Limited, Successor in Interest to Hadohdleekaga, Incorporated, for the Native village of Hughes, Alaska, pursuant to the Alaska Native Claims Settlement Act. The subsurface estate in these lands will be conveyed to Doyon, Limited, when the surface estate is conveyed to K'oyitl'ots'ina, Limited. The lands are in the vicinity of Hughes, Alaska, and are located in:

Kateel River Meridian, Alaska

T. 9 N., R. 23 E.,
Sec. 5.

Containing 549.52 acres.

Notice of the decision will also be published four times in the Fairbanks Daily News-Miner.

DATES: Any party claiming a property interest in the lands affected by the decision may appeal the decision within the following time limits:

1. Unknown parties, parties unable to be located after reasonable efforts have been expended to locate, parties who fail or refuse to sign their return receipt, and parties who receive a copy of the decision by regular mail which is not certified, return receipt requested, shall have until September 30, 2010 to file an appeal.

2. Parties receiving service of the decision by certified mail shall have 30 days from the date of receipt to file an appeal.

Parties who do not file an appeal in accordance with the requirements of 43 CFR part 4, subpart E, shall be deemed to have waived their rights.

ADDRESSES: A copy of the decision may be obtained from: Bureau of Land Management, Alaska State Office, 222 West Seventh Avenue, #13, Anchorage, Alaska 99513–7504.

FOR FURTHER INFORMATION CONTACT: The BLM by phone at 907–271–5960, by e-mail at *ak.blm.conveyance@blm.gov*, or by telecommunication device (TDD) through the Federal Information Relay Service (FIRS) at 1–800–877–8339, 24 hours a day, 7 days a week.

Barbara Opp Waldal,

Land Law Examiner, Land Transfer Adjudication I Branch.

[FR Doc. 2010–21707 Filed 8–30–10; 8:45 am]

BILLING CODE 4310–JA–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[AA–11144; LLAK–962000–L14100000–HY0000–P]

Alaska Native Claims Selection

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of decision approving lands for conveyance.

SUMMARY: As required by 43 CFR 2650.7(d), notice is hereby given that the Bureau of Land Management (BLM) will issue an appealable decision to Chugach Alaska Corporation. The decision will approve the conveyance of the surface and subsurface estates in certain lands pursuant to the Alaska Native Claims Settlement Act. The lands are located southwest of Cordova, Alaska, aggregating 23.28 acres. Notice of the decision will also be published four times in the Anchorage Daily News.

DATES: Any party claiming a property interest in the lands affected by the decision may appeal the decision within the following time limits:

1. Unknown parties, parties unable to be located after reasonable efforts have been expended to locate, parties who fail or refuse to sign their return receipt, and parties who receive a copy of the decision by regular mail which is not certified, return receipt requested, shall have until September 30, 2010 to file an appeal.

2. Parties receiving service of the decision by certified mail shall have 30 days from the date of receipt to file an appeal.

Parties who do not file an appeal in accordance with the requirements of 43 CFR part 4, subpart E, shall be deemed to have waived their rights.

ADDRESSES: A copy of the decision may be obtained from: Bureau of Land Management, Alaska State Office, 222 West Seventh Avenue, #13, Anchorage, Alaska 99513–7504.

FOR FURTHER INFORMATION CONTACT: The BLM by phone at 907–271–5960, or by e-mail at *ak.blm.conveyance@ak.blm.gov.* Persons who use a telecommunication device (TDD) may contact the BLM by calling the Federal Information Relay Service (FIRS) at 1–800–877–8339, 24 hours a day, 7 days a week.

Dina L. Torres,

Land Transfer Resolution Specialist, Branch of Preparation and Resolution.

[FR Doc. 2010–21705 Filed 8–30–10; 8:45 am]

BILLING CODE 4310–JA–P

DEPARTMENT OF THE INTERIOR

Bureau of Reclamation

San Carlos Irrigation Project, Arizona

AGENCY: Bureau of Reclamation, Interior.

ACTION: Notice of intent to prepare an Environmental Impact Statement (EIS) and notice of public scoping meeting.

SUMMARY: The Department of the Interior, Bureau of Reclamation, announces its intent to prepare an EIS pursuant to the National Environmental Policy Act of 1969, as amended, on the rehabilitation of San Carlos Irrigation Project (SCIP) water delivery facilities near the communities of Casa Grande, Coolidge, and Florence in Pinal County, Arizona. SCIP canals convey irrigation water from the Gila River and Central Arizona Project (CAP) to agricultural lands in the San Carlos Irrigation and Drainage District (SCIDD) and Gila River Indian Community.

The EIS will evaluate alternatives for rehabilitation of existing facilities and construction of new facilities to meet the objectives of the Gila River Indian Community Water Rights Settlement Agreement, as amended, pursuant to Title II of the Arizona Water Settlements Act of 2004 (Pub. L. 108–451).

DATES: Written comments on the scope of the EIS will be accepted until October 18, 2010.

A scoping meeting will be held to solicit public input on the scope of the environmental document, alternatives, concerns, and issues to be addressed in the EIS. The scoping meeting will be a 4-hour open house. The meeting will be held on Saturday, September 18, 2010, 10 a.m.–2 p.m., Coolidge, Arizona.

ADDRESSES: The public scoping meeting will be held at the Coolidge Police Department, City Council Chambers, 911 South Arizona Boulevard, Coolidge, Arizona.

Send written comments on the scope of the EIS to Mr. John McGlothlen, Bureau of Reclamation, 6150 West Thunderbird Road, Glendale, Arizona 85306; or e-mail at *jmcglothlen@usbr.gov.*

Those not desiring to submit comments or suggestions at this time, but who would like to receive a copy of the Scoping Notice and/or EIS, should write to the address given above. Scoping information will also be available on Reclamation's Phoenix Area Office Web site at *http://www.usbr.gov/lc/phoenix.*

FOR FURTHER INFORMATION CONTACT: Mr. John McGlothlen at 623–773–6256, or e-mail at *jmcglothlen@usbr.gov*.

SUPPLEMENTARY INFORMATION:

Background

The purpose of the proposed action is to conserve water, reduce maintenance requirements and associated costs, and improve service to SCIDD and Gila River Indian Community lands. The SCIP system has more than 95 miles of main canals that are unlined, and water losses from infiltration and evapotranspiration are significant. The long length and large cross section of the canal system relative to the service area, combined with the system's age, make operating and maintaining the facilities challenging. Rehabilitation and modernization of canals will conserve water and reduce maintenance requirements by shortening the length of the conveyance system needed to serve SCIDD and Gila River Indian Community lands. In addition, provisions for increased storage and modernized measurement and control will improve service to customers while providing additional avenues for water conservation.

The proposed action includes the reconstruction and lining of major canals, such as the Florence-Casa Grande, Casa Grande, and North Side canals, and construction of new check structures and cross-drainage features. The existing Florence Canal and Florence-Casa Grande Canal Extension would be converted to drainage and recharge channels to protect rehabilitated canals and associated project lands. These conversions would reduce the size of the main water delivery system and reduce maintenance requirements. A new canal would be constructed to connect the rehabilitated Florence-Casa Grande Canal with the rehabilitated Casa Grande Canal. The project would also include relocating laterals or placing short reaches of laterals in pipeline to accommodate changes in land use within the SCIDD service area.

Alternatives currently under consideration include:

- Construction and repair of wells adjacent to the North Side Canal to allow delivery of a combination of groundwater and Gila River water to the SCIDD service area.
- Construction and repair of wells adjacent to the North Side Canal to allow delivery of only groundwater to the SCIDD service area.
- Implementation of an exchange agreement between SCIDD and the Central Arizona Water Conservation District to allow delivery of CAP water to rehabilitated North Side Canal facilities through proposed interties with the CAP Aqueduct. The exchange agreement would also allow flexibility during rehabilitation of the Florence-Casa Grande Canal and facilitate long-term operational reliability of the SCIP system.
- Construction of mid-system and lower-system reservoirs to store irrigation water. Sites presently under consideration may also afford suitable conditions for hydropower generation.

A portion of the water that is conserved from lining SCIP canals would be made available to the Secretary of the Interior for exchange with water stored in the San Carlos Reservoir to maintain a permanent minimum pool in the reservoir for fish and wildlife. Water that is exchanged for this purpose would be retained in the San Carlos Reservoir and not released to the Gila River.

Indian trust assets associated with the proposed action consist of Gila River water conveyed through SCIP facilities to the Gila River Indian Community and conserved water that is retained in the San Carlos Reservoir to maintain a minimum pool.

Special Assistance for Public Scoping Meeting

If special assistance is required at the scoping meeting, please contact Ms. Jessie Haragara at 623–773–6251, or e-mail at *jharagara@usbr.gov.* Please notify Ms. Haragara at least 2 weeks in advance of the meeting to enable Reclamation to secure the needed services. If a request cannot be honored, the requestor will be notified.

Public Disclosure

Before including your name, address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal indentifying information from public review, we cannot guarantee that we will be able to do so.

Dated: August 25, 2010.

Lorri Gray-Lee,

Regional Director, Lower Colorado Region.

[FR Doc. 2010–21642 Filed 8–30–10; 8:45 am]

BILLING CODE 4310–MN–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLAK920000–L19100000–BJ0000–LRCS46810000]

Notice of Filing of Plats of Survey, Alaska

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice.

SUMMARY: Notice of Filing of Plats of Survey, Alaska.

DATES: The Alaska State Office, Bureau of Land Management, Anchorage, Alaska, must receive comments on or before September 30, 2010.

ADDRESS: Bureau of Land Management, Alaska State Office; 222 W. 7th Ave., Stop 13; Anchorage, AK 99513–7599.

FOR FURTHER INFORMATION CONTACT: Stephen B. Hamrick, 907–271–5481, fax 907–271–4549, e-mail *shamrick@blm.gov.*

SUPPLEMENTARY INFORMATION: This survey of an Indian Allotment held in trust status and located approximately 18 miles northerly of Talkeetna, Alaska, was executed at the request of the Bureau of Indian Affairs, Alaska Region. The lands surveyed are: The dependent resurvey and subdivision of the SW1/4 of the SE1/4 of section 32, Township 29 North, Range 5 West, Seward Meridian, Alaska, into Lots 5, 6 and 7.

The plat will be available for viewing in the BLM Public Room located on the first floor of the Federal Building; 222 W. 7th Ave., Anchorage, AK 99513–7599. Copies may be obtained for a minimum recovery fee. The plat will not be officially filed until the day after BLM has accepted or dismissed all protests and they have become final, including decisions on appeals.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority: 43 U.S.C. 3; 53.

Stephen B. Hamrick,

Chief Cadastral Surveyor.

[FR Doc. 2010–21640 Filed 8–30–10; 8:45 am]

BILLING CODE 4310–JA–P

United States Department of the Interior

BUREAU OF RECLAMATION
Phoenix Area Office
6150 West Thunderbird Road
Glendale, Arizona 85306-4001

IN REPLY REFER TO:
PXAO-1500
ENV-7.00

AUG 23 2010

TAKE PRIDE IN AMERICA

MEMORANDUM

To: All Interested Persons, Organizations, and Agencies

From: Randy N. Chandler
Acting Area Manager

Subject: Notice of Intent to Prepare an Environmental Impact Statement (EIS) and Notice of Public Meeting on Rehabilitation of San Carlos Irrigation Project Facilities, Pinal County, Arizona (Action by October 18, 2010)

Attached is a scoping notice summarizing a proposal to reconstruct and line several of the major canals within the off-reservation portion of the San Carlos Irrigation Project. The proposed action also includes relocating laterals or placing reaches of laterals in pipeline to accommodate changes in land use within the San Carlos Irrigation and Drainage District service area. Funding for the project would be provided by the Bureau of Reclamation, pursuant to Title II of the Arizona Water Settlements Act of 2004.

During this initial scoping phase, Reclamation is soliciting input from the interested public to aid in the identification of key issues and alternatives related to the proposal that should be considered in an upcoming EIS. After the public scoping period has ended, Reclamation will prepare an EIS to evaluate the potential environmental consequences of the proposed action.

A scoping meeting will be held to solicit public input on the scope of the environmental review, including alternatives, concerns, and issues to be addressed in the EIS. The scoping meeting will be a 4-hour open house. The meeting will be held on Saturday, September 18, 2010, at 10:00 a.m. to 2:00 p.m., at the Coolidge Police Department, City Council Chambers, 911 South Arizona Boulevard, Coolidge, Arizona.

Comments concerning the proposed action should be submitted to Mr. John McGlothlen, Bureau of Reclamation, 6150 West Thunderbird Road, Glendale, Arizona 85306, no later than October 18, 2010. For further information regarding this action, please contact Mr. McGlothlen at 623-773-6256 (email: jmcglothlen@usbr.gov).

Attachment

RECLAMATION

Managing Water in the West

PROPOSED REHABILITATION
SAN CARLOS IRRIGATION PROJECT FACILITIES

Pinal County, Arizona

Scoping Information
and
Opportunity to Comment

U.S. Department of the Interior
Bureau of Reclamation
Phoenix Area Office

August 2010

INTRODUCTION

This Scoping Notice is being offered to the public to allow early and meaningful participation in the National Environmental Policy Act (NEPA) review of an irrigation system rehabilitation project proposed by the San Carlos Irrigation and Drainage District (SCIDD) with funding provided by the U.S. Department of the Interior Bureau of Reclamation. After the public scoping period has ended, Reclamation, as the lead Federal agency, will prepare an Environmental Impact Statement (EIS) to evaluate the potential environmental consequences of the proposed project. The Gila River Indian Community/Pima-Maricopa Irrigation Project (P-MIP), the Bureau of Indian Affairs (BIA)/San Carlos Irrigation Project (SCIP), and SCIDD will serve as cooperating agencies in the preparation of the EIS.

The proposed project includes rehabilitation and modernization of the BIA/SCIP water delivery facilities that convey irrigation water to both SCIDD and Gila River Indian Community lands, and the improvement of facilities used to distribute water and manage drainage within SCIDD. The EIS will consider development of water exchanges to transfer SCIDD-conserved water upstream to maintain a permanent fish pool in San Carlos Reservoir. Also, Gila River water exchanges will be considered with the Central Arizona Project (CAP) to facilitate the continuation of water deliveries during construction of canal improvements and to facilitate long-term operational reliability of the SCIP system. The EIS will also consider the potential for hydropower generation. Implementation of the project would require land acquisition.

Work to be completed under the EIS will address water delivery facilities in the project area downstream of the Ashurst–Hayden Diversion Dam. The project area includes lands near the communities of Casa Grande, Coolidge, and Florence in Pinal County, Arizona (Figure 1). Execution of water exchanges could affect water releases from the San Carlos Reservoir; hence, the project area also includes a reach of the Gila River between Ashurst–Hayden Diversion Dam and Coolidge Dam in Pinal and Gila counties, Arizona.

BACKGROUND

In 1976, the Gila River Indian Community filed claims with the court to have its water rights quantified. These efforts culminated in the promulgation of the Gila River Indian Community Water Rights Settlement Agreement (Amended and Restated, Final Version, October 21, 2005), and Title II of the Arizona Water Settlements Act (AWSA) (Public Law 108-451, December 10, 2004). Section 203 of the AWSA authorizes the execution of the Gila River Indian Community Water Rights Settlement Agreement and directs the Secretary of the Interior to provide for the rehabilitation and replacement of SCIP water diversion and delivery works, including the Joint Works, with funds provided by Reclamation under Section 403(f)(2) of the Colorado River Basin Project Act (Public Law 90-537, as amended). In addition, Section 203 designates Reclamation as the lead agency with respect to environmental compliance and for oversight of construction and rehabilitation of SCIP diversion and delivery facilities.

The SCIP conveyance facilities transport water from the Gila River and the CAP Aqueduct to 50,546 acres of Indian farmland located on the Gila River Indian Reservation and served by P-MIP, and 50,000 acres of non-Indian farmland located outside of the Gila River Indian Reservation and served by SCIDD. Major components of the SCIP Joint Works include Coolidge Dam and Picacho Reservoir, the Ashurst–Hayden Diversion Dam, the Florence-Casa Grande Canal (FCG), and the Pima Lateral. No modifications to Coolidge Dam and Picacho Reservoir are included in this project.

The first stage of rehabilitation, which was addressed in a separate Environmental Assessment, included the repair of the Ashurst–Hayden Diversion Dam, construction of a settling basin, and development of sediment handling and storage facilities. The remaining work, addressing facilities downstream of the settling basin, is the subject of this EIS.

PURPOSE AND NEED

The purpose of the project is to conserve water, reduce operation and maintenance costs, and improve service to SCIDD and Gila River Indian Community lands. The SCIP system consists of more than 95 miles of main canals that are unlined. Water losses attributable to infiltration and evapotranspiration are significant. Operation and maintenance of the canal system are challenging and costly because of aging structures, wide cross sections relative to service area, length of conveyance facilities, and volume of water delivered.

PROPOSED ACTION

The proposed action includes the reconstruction and lining of the FCG Canal and the Casa Grande Canal, and the construction of cross-drainage features to convey storm water across the canal alignment and new control structures to improve operation of the rehabilitated canals. The proposed action would also rehabilitate the Florence Canal, which would be converted to a linear park/recharge feature, and the existing FCG Canal Extension would be converted to a drainage/recharge feature. Lands now served from the Florence Canal would be served from the new FCG Canal. A new canal would connect the FCG Canal with the Casa Grande Canal, requiring new construction and acquisition of right-of-way. All lands west of Picacho Reservoir would be served from the rehabilitated Casa Grande Canal.

The proposed action also includes relocating and lining SCIDD laterals or placing reaches of those laterals in pipeline to accommodate changes in land use within the SCIDD service area.

A portion of the water that is conserved from lining the SCIP canals would be made available to the Secretary of the Interior for exchange to the San Carlos Reservoir to maintain a permanent minimum pool in the reservoir for fish and wildlife. Water that is exchanged for this purpose would be retained in the San Carlos Reservoir and not released to the Gila River.

ALTERNATIVES TO THE PROPOSED ACTION

A no action alternative must always be evaluated in an EIS (40 Code of Federal Regulations [CFR] Part 1502.14). "No action" represents a projection of current conditions and reasonably foreseeable actions to the most reasonable future conditions that could occur during the life of the project without any action alternatives being implemented. The no action alternative provides a baseline for comparison of the environmental effects associated with the action alternatives.

In addition to no action and the proposed action, several action alternatives were developed under two categories. The first category of alternatives, referred to as system alignment alternatives, involves the conveyance features of the main canal system and represents various canal alignments. As with the proposed action, these alternatives are designed to reduce the length of main canal needed to serve project lands, and capture and manage storm water runoff and excess diversions.

The second category of alternatives, referred to as common alternatives, includes project elements that can be developed and analyzed independently of alternative alignments for rehabilitation of the main canal system. Each of the system alignment alternatives, including that of the proposed action, can be paired with any of the common alternatives.

System Alignment Alternatives

Alternative A. A new lined FCG Canal would be constructed adjacent to the existing canal, and the existing canal would be used as a drainage channel to intercept surface water runoff and to convey runoff and excess diverted flow from the Gila River to Picacho Reservoir for temporary storage. The Florence Canal would not be modified and would receive water through interties with the new FCG Canal. Drainage flows conveyed to Picacho Reservoir would be available for use by SCIDD and the Gila River Indian Community. This alternative includes construction of a link canal around the northwest side of Picacho Reservoir to convey water from the rehabilitated FCG Canal to the rehabilitated Casa Grande Canal. West of Picacho Reservoir, all water deliveries would be from the Casa Grande Canal and the FCG Canal Extension would be converted to a drainage/recharge feature.

Alternative B. The FCG Canal would be rehabilitated and lined to serve as the sole conveyance between the Ashurst–Hayden Diversion Dam and the Pima Lateral Interconnection. The Florence Canal, from its headworks to its siphon undercrossing of the Pima Lateral, would be abandoned and the right-of-way retained for SCIDD uses such as flood management. Lands now irrigated from this reach of the Florence Canal would receive water from the rehabilitated FCG Canal through a series of connector pipelines. Downstream of the Pima Lateral, SCIDD laterals would be served from a rehabilitated and lined Florence Canal that would be extended along the north side of Picacho Reservoir to connect with the Casa Grande Canal. This extension would involve new construction and right-of-way acquisition. The FCG Canal between the Pima Lateral Interconnection and Picacho Reservoir would be converted to an interceptor drain and channel for conveying flood waters to the reservoir. Downstream of

Picacho Reservoir, all water deliveries would be from the Casa Grande Canal and the FCG Canal Extension would be converted to a drainage/recharge feature.

Common Alternatives

New Mid-system and Lower-system Reservoirs. Consideration would be given to the siting of new mid-system and/or lower-system reservoirs to store irrigation water. The new reservoirs would provide a means to regulate flows to reduce variability and to allow improved delivery flexibility. These reservoirs would supplement the water storage capacity of Picacho Reservoir. The sites currently under consideration may also afford suitable conditions for the generation of hydropower.

Gila River Water Exchanges. In addition to water exchanges to allow SCIDD-conserved water to be retained in San Carlos Reservoir to support a permanent fishery pool, exchanges of Gila River water with CAP water are proposed to allow flexibility during rehabilitation of the Florence-Casa Grande Canal and facilitate long-term operational reliability of the SCIP system. This action would require implementation of an exchange agreement between the Central Arizona Water Conservation District and the construction of new interties with the CAP Aqueduct.

Installation of Fish Barrier. To prevent nonnative fish known to be present in the CAP Aqueduct from swimming upstream into the Gila River, two options are under consideration: (1) construction of a new physical fish barrier and (2) rehabilitation or replacement of the existing electric fish barrier.

Decommissioning of China Wash Flume. Because of its poor physical condition and because it is unlikely to align with the vertical profile of the rehabilitated FCG Canal, the China Wash Flume will be decommissioned. Specifics of decommissioning will comply with its status as a historic structure.

Replacement of U.S. Geological Survey Flow Measurement Structure at China Wash. The U.S. Geological Survey flow measurement structure at China Wash will be replaced by a new measurement facility at this location.

North Side Canal Service Area. Three alternatives are under consideration for the North Side Canal service area:

- Supply irrigation water to the North Side Canal service area from a combination of surface and groundwater sources. This option would line the existing canal, rehabilitate/replace canal structures, repair the existing wells, and install new wells.
- Supply the North Side Canal service area irrigation needs solely with groundwater. This option would repair existing wells and install new wells.
- Supply CAP water to the North Side Canal service area through implementation of an exchange agreement between SCIDD and the Central Arizona Water Conservation District. This would allow rehabilitated North Side Canal facilities to receive CAP water through proposed and existing interties with the CAP Aqueduct.

Relocation and Rehabilitation of SCIDD Laterals. To realize the benefits of the improvements to the main canal system, the rehabilitation program includes relocation and lining of SCIDD laterals or placing reaches of those laterals in pipelines to accommodate changes in land use within the SCIDD service area.

DECISION FRAMEWORK

The Responsible Official for the EIS is the regional director of Reclamation's Lower Colorado Region. This official must decide whether to implement the proposed action or an alternative action that would meet the purpose and need.

PRELIMINARY ISSUES

In accordance with Department of the Interior NEPA regulations at 43 CFR Part 46, Reclamation has determined that an EIS is the appropriate level of NEPA compliance to evaluate the potential environmental consequences of the proposed project. NEPA applies to Federal actions; therefore, the first step in determining the scope of the EIS is to identify key issues related to the effect of the proposed Federal action on the existing environment. Public input during this initial scoping process will help to focus the EIS on relevant environmental issues.

At a minimum, it is anticipated that the following issues will be addressed in the EIS:

- Effects to biological resources (including special status species)
- Effects to cultural resources
- Effects to air quality
- Effects to water quality
- Effects to land use and ownership
- Effects to Indian trust assets
- Socioeconomic considerations

PUBLIC MEETING

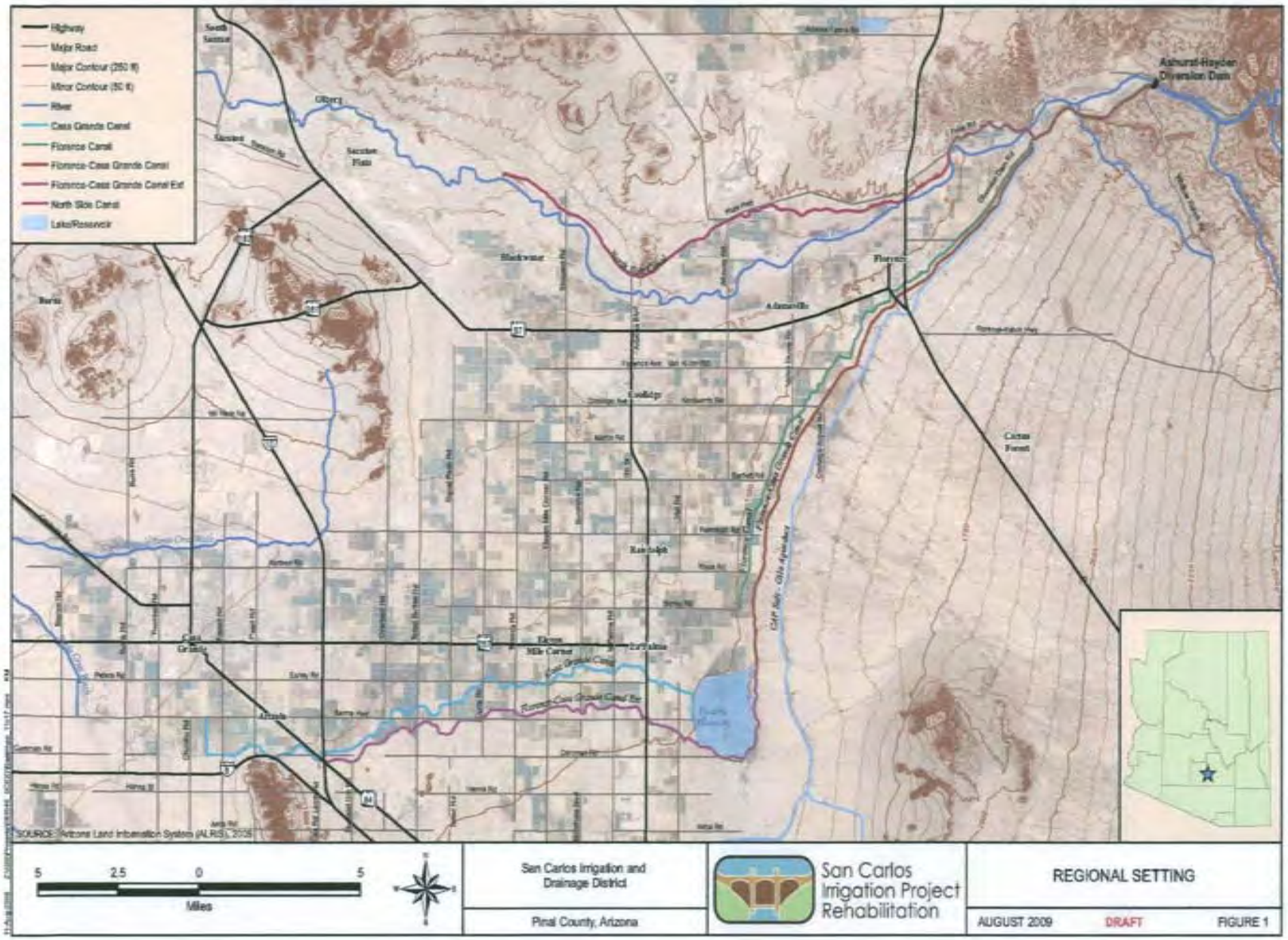
A scoping meeting will be held to solicit public input on the scope of the environmental document, including alternatives, concerns, and issues to be addressed in the EIS. The scoping meeting will be conducted using an open-house format. The meeting will be held from 10 a.m. to 2 p.m. on Saturday, September 18, 2010, at the Coolidge Police Department, City Council Chambers, 911 S. Arizona Blvd., Coolidge, Arizona.

HOW TO COMMENT AND TIME FRAME

You are encouraged to offer comments on the scope of the upcoming EIS, including potential environmental issues and alternatives to the proposed project that would meet the stated purpose and need. Please submit your comments by October 18, 2010, in order to be considered in the draft EIS. Include your full name, address, and project title (Proposed Rehabilitation: San Carlos Irrigation Project Facilities) with your comments. Comments should be submitted to Mr. John McGlothlen, Bureau of Reclamation, 6150 W. Thunderbird Road, Glendale, AZ 85306. Facsimiles may be sent to Mr. McGlothlen at 623-773-6486. Hand-delivered written comments may be submitted to the above address Monday through Friday between 7:30 a.m. and 4 p.m., excluding Federal holidays. E-mail comments may be submitted to jmcglothlen@usbr.gov.

By law, the names and addresses of those providing comments are available for public review. However, individuals may request that their name and/or address be withheld from the record. These requests will be honored to the extent allowable by law. If you wish your name and/or address withheld, you must state this prominently at the beginning of your comment letter. All comments from organizations or businesses will be available for public inspection in their entirety.

For additional information concerning the proposed project, please contact Mr. McGlothlen at the address above, by telephone at 623-773-6256, or by email at jmcglothlen@usbr.gov.


Highway
Major Road
Major Contour (250 ft)
Minor Contour (50 ft)
River
Casa Grande Canal
Florence Canal
Florence-Casa Grande Canal
Florence-Casa Grande Canal Ext
North Side Canal
Lake/Reservoir
Ashurst-Hayden Diversion Dam
Florence
Coolidge
Casa Grande
Eloy
Maricopa
Picacho Reservoir
Cactus Forest
SOURCE: Arizona Land Information System (ALRIS), 2005
5 2.5 0 5
Miles
San Carlos Irrigation and Drainage District
Pinal County, Arizona
San Carlos Irrigation Project Rehabilitation
REGIONAL SETTING
AUGUST 2009
DRAFT
FIGURE 1

APPENDIX B

Agency and Public Scoping Comments Received and Summary of Agency Scoping Comments and Reclamation Responses

ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janice K. Brewer
Governor

Benjamin H. Grumbles
Director

September 13, 2010

Mr. John McGlothlen
U.S. Department of the Interior
Bureau of Reclamation
Phoenix Area Office
6130 West Thunderbird Road
Glendale, AZ 85306-4001

Re: Pinal County: EIS Preparation Notice – Proposed Rehabilitation San Carlos Irrigation Project Facilities (PXAO-1500, Env-7.00)

Dear Mr. McGlothlen:

The Air Quality Division has reviewed your scoping notice letter, dated August 23, 2010, that was submitted to ADEQ for comments. The proposed San Carlos Irrigation Project, as described, is located in an attainment area for 10-micron particulate matter (PM10), and stretches in and out of a proposed PM10 nonattainment boundary that is expected to be designated as nonattainment in the fall of 2010. Therefore, considering the area location, prevailing winds, and to comply with other applicable air pollution control requirements and minimize adverse impacts on public health and welfare, the following information is provided for consideration:

REDUCE DISTURBANCE of PARTICULATE MATTER during CONSTRUCTION

This action, plan or activity may temporarily increase ambient particulate matter (dust) levels. Particulate matter 10 microns in size and smaller can penetrate the lungs of human beings and animals and is subject to a National Ambient Air Quality Standard (NAAQS) to protect public health and welfare. Particulate matter 2.5 microns in size and smaller is difficult for lungs to expel and has been linked to increases in death rates; heart attacks by disturbing heart rhythms and increasing plaque and clotting; respiratory infections; asthma attacks and cardiopulmonary obstructive disease (COPD) aggravation. It is also subject to a NAAQS.

The following measures are recommended to reduce disturbance of particulate matter, including emissions caused by strong winds as well as machinery and trucks tracking soil off the construction site:

I. Site Preparation and Construction
   A. Minimize land disturbance;

B. Suppress dust on traveled paths which are not paved through wetting, use of watering trucks, chemical dust suppressants, or other reasonable precautions to prevent dust entering ambient air
C. Cover trucks when hauling soil;
D. Minimize soil track-out by washing or cleaning truck wheels before leaving construction site;
E. Stabilize the surface of soil piles; and
F. Create windbreaks

II. Site Restoration
A. Revegetate any disturbed land not used;
B. Remove unused material; and
C. Remove soil piles via covered trucks.

The following rules applicable to reducing dust during construction, demolition and earth moving activities are enclosed:

- Arizona Administrative Code R18-2-604 through -607
- Arizona Administrative Code R18-2-804
- Pinal County Code Chapter 4

Should you have further questions, please do not hesitate to call Bonnie Cockrell at (602) 771-2378 or Dave Biddle at (602) 771-2376 of the Planning Section Staff.

Very truly yours,

Diane L. Arnst, Manager
Air Quality Planning Section

Enclosures

cc: Bret Parke, EV Administrative Counsel
David A. Biddle, Environmental Program Specialist
File No. 244060

c. If the burning would occur at a solid waste facility in violation of 40 CFR 258.24 and the Director has not issued a variance under A.R.S. § 49-763.01.

E. Open outdoor fires of dangerous material. A fire set for the disposal of a dangerous material is allowed by the provisions of this Section, when the material is too dangerous to store and transport, and the Director has issued a permit for the fire. A permit issued under this subsection shall contain all provisions in subsection (D)(3) except for subsections (D)(3)(e) and (D)(3)(f). The Director shall permit fires for the disposal of dangerous materials only when no safe alternative method of disposal exists, and burning the materials does not result in the emission of hazardous or toxic substances either directly or as a product of combustion in amounts that will endanger health or safety.

F. Open outdoor fires of household waste. An open outdoor fire for the disposal of household waste is allowed by provisions of this Section when permitted in writing by the Director or a delegated authority. A permit issued under this subsection shall contain all provisions in subsection (D)(3) except for subsections (D)(3)(e) and (D)(3)(f). The permittee shall conduct open outdoor fires of household waste in an approved waste burner and shall either:

1. Burn household waste generated on-site on farms or ranches of 40 acres or more where no household waste collection or disposal service is available; or
2. Burn household waste generated on-site where no household waste collection and disposal service is available and where the nearest other dwelling unit is at least 500 feet away.

G. Permits issued by a delegated authority. The Director may delegate authority for the issuance of open burning permits to a county, city, town, air pollution control district, or fire district. A delegated authority may not issue a permit for its own open burning activity. The Director shall not delegate authority to issue permits to burn dangerous material under subsection (E). A county, city, town, air pollution control district, or fire district with delegated authority from the Director may assign that authority to one or more private fire protection service providers that perform fire protection services within the county, city, town, air pollution control district, or fire district. A private fire protection provider shall not directly or indirectly condition the issuance of open burning permits on the applicant being a customer. Permits issued under this subsection shall comply with the requirements in subsection (D)(3) and be in a format prescribed by the Director. Each delegated authority shall:

1. Maintain a copy of each permit issued for the previous five years available for inspection by the Director;
2. For each permit currently issued, have a means of contacting the person authorized by the permit to set an open fire if an order to extinguish open burning is issued; and
3. Annually submit to the Director by May 15 a record of daily burn activity, excluding household waste burn permits, on a form provided by the Director for the previous calendar year containing the information required in subsections (D)(3)(e) and (D)(3)(f).

H. The Director shall hold an annual public meeting for interested parties to review operations of the open outdoor fire program and discuss emission reduction techniques.

I. Nothing in this Section is intended to permit any practice that is a violation of any statute, ordinance, rule, or regulation.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Amended effective October 2, 1979 (Supp. 79-5). Correction, subsection (C) repealed effective October 2, 1979, not shown (Supp. 80-1). Former Section R9-3-602 renumbered without change as Section R18-2-602 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-602 renumbered to R18-2-802, new Section R18-2-602 renumbered from R18-2-401 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 10 A.A.R. 388, effective March 16, 2004 (Supp. 04-1).

R18-2-603. Repealed

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-603 renumbered without change as Section R18-2-603 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-603 renumbered to R18-2-803, new Section R18-2-603 renumbered from R18-2-403 effective November 15, 1993 (Supp. 93-4). Repealed effective October 8, 1996 (Supp. 96-4).

R18-2-604. Open Areas, Dry Washes, or Riverbeds

A. No person shall cause, suffer, allow, or permit a building or its appurtenances, or a building or subdivision site, or a driveway, or a parking area, or a vacant lot or sales lot, or an urban or suburban open area to be constructed, used, altered, repaired, demolished, cleared, or leveled, or the earth to be moved or excavated, without taking reasonable precautions to limit excessive amounts of particulate matter from becoming airborne. Dust and other types of air contaminants shall be kept to a minimum by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means.

B. No person shall cause, suffer, allow, or permit a vacant lot, or an urban or suburban open area, to be driven over or used by motor vehicles, trucks, cars, cycles, bikes, or buggies, or by animals such as horses, without taking reasonable precautions to limit excessive amounts of particulates from becoming airborne. Dust shall be kept to a minimum by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means.

C. No person shall operate a motor vehicle for recreational purposes in a dry wash, riverbed or open area in such a way as to cause or contribute to visible dust emissions which then cross property lines into a residential, recreational, institutional, educational, retail sales, hotel or business premises. For purposes of this subsection "motor vehicles" shall include, but not be limited to trucks, cars, cycles, bikes, buggies and 3-wheelers. Any person who violates the provisions of this subsection shall be subject to prosecution under A.R.S. § 49-463.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-604 renumbered without change as Section R18-2-604 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-604 renumbered to R18-2-804, new Section R18-2-604 renumbered from R18-2-404 and amended effective November 15, 1993 (Supp. 93-4).

R18-2-605. Roadways and Streets

A. No person shall cause, suffer, allow or permit the use, repair, construction or reconstruction of a roadway or alley without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Dust and other particulates shall be kept to a minimum by employing temporary paving, dust suppressants, wetting down, detouring or by other reasonable means.

B. No person shall cause, suffer, allow or permit transportation of materials likely to give rise to airborne dust without taking reasonable precautions, such as wetting, applying dust suppressants, or covering the load, to prevent particulate matter from becoming airborne. Earth or other material that is deposited by trucking or earth moving equipment shall be removed from paved streets by the person responsible for such deposits.

Historical Note

Adopted effective May 14, 1979 (Supp. 79-1). Former Section R9-3-605 renumbered without change as Section R18-2-605 (Supp. 87-3). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-605 renumbered to R18-2-805, new Section R18-2-605 renumbered from R18-2-405 effective November 15, 1993 (Supp. 93-4).

R18-2-606. Material Handling

No person shall cause, suffer, allow or permit crushing, screening, handling, transporting or conveying of materials or other operations likely to result in significant amounts of airborne dust without taking reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods to prevent excessive amounts of particulate matter from becoming airborne.

Historical Note

Section R18-2-606 renumbered from R18-2-406 effective November 15, 1993 (Supp. 93-4).

R18-2-607. Storage Piles

A. No person shall cause, suffer, allow, or permit organic or inorganic dust producing material to be stacked, piled, or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting, or covering to prevent excessive amounts of particulate matter from becoming airborne.

B. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne.

Historical Note

Section R18-2-607 renumbered from R18-2-407 effective November 15, 1993 (Supp. 93-4).

R18-2-608. Mineral Tailings

No person shall cause, suffer, allow, or permit construction of mineral tailing piles without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne. Reasonable precautions shall mean wetting, chemical stabilization, revegetation or such other measures as are approved by the Director.

Historical Note

Section R18-2-608 renumbered from R18-2-408, new Section R18-2-408 adopted effective November 15, 1993 (Supp. 93-4).

R18-2-609. Agricultural Practices

A person shall not cause, suffer, allow, or permit the performance of agricultural practices outside the Phoenix and Yuma planning areas, as defined in 40 CFR 81.303, which is incorporated by reference in R18-2-210, including tilling of land and application of fertilizers without taking reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne.

Historical Note

Section R18-2-609 renumbered from R18-2-409 effective November 15, 1993 (Supp. 93-4). Amended by final rulemaking at 6 A.A.R. 2009, effective May 12, 2000 (Supp. 00-2). Amended by final rulemaking at 11 A.A.R. 2210, effective July 18, 2005 (Supp. 05-2).

R18-2-610. Definitions for R18-2-611

The definitions in Article 1 of this Chapter and the following definitions apply to R18-2-611:

1. "Access restriction" means restricting or eliminating public access to noncropland with signs or physical obstruction.
2. "Aggregate cover" means gravel, concrete, recycled road base, caliche, or other similar material applied to noncropland.
3. "Artificial wind barrier" means a physical barrier to the wind.
4. "Best management practice" means a technique verified by scientific research, that on a case-by-case basis is practical, economically feasible, and effective in reducing PM_{10} emissions from a regulated agricultural activity.
5. "Chemical irrigation" means applying a fertilizer, pesticide, or other agricultural chemical to cropland through an irrigation system.
6. "Combining tractor operations" means performing two or more tillage, cultivation, planting, or harvesting operations with a single tractor or harvester pass.
7. "Commercial farm" means 10 or more contiguous acres of land used for agricultural purposes within the boundary of the Maricopa PM_{10} nonattainment area.
8. "Commercial farmer" means an individual, entity, or joint operation in general control of a commercial farm.
9. "Committee" means the Governor's Agricultural Best Management Practices Committee.
10. "Cover crop" means plants or a green manure crop grown for seasonal soil protection or soil improvement.
11. "Critical area planting" means using trees, shrubs, vines, grasses, or other vegetative cover on noncropland.
12. "Cropland" means land on a commercial farm that:
    a. Is within the time-frame of final harvest to plant emergence;
    b. Has been tilled in a prior year and is suitable for crop production, but is currently fallow; or
    c. Is a turn-row.

ARTICLE 8. EMISSIONS FROM MOBILE SOURCES (NEW AND EXISTING)

R18-2-801. Classification of Mobile Sources

A. This Article is applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or agricultural equipment used in normal farm operations.

B. Unless otherwise specified, no mobile source shall emit smoke or dust the opacity of which exceeds 40%.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Amended effective February 3, 1993 (Supp. 93-1). Former Section R18-2-801 renumbered to Section R18-2-901, new Section R18-2-801 renumbered from R18-2-601 effective November 15, 1993 (Supp. 93-4).

R18-2-802. Off-road Machinery

A. No person shall cause, allow or permit to be emitted into the atmosphere from any off-road machinery, smoke for any period greater than 10 consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

B. Off-road machinery shall include trucks, graders, scrapers, rollers, locomotives and other construction and mining machinery not normally driven on a completed public roadway.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-802 renumbered to Section R18-2-902, new Section R18-2-802 renumbered from R18-2-602 effective November 15, 1993 (Supp. 93-4).

R18-2-803. Heater-planer Units

No person shall cause, allow or permit to be emitted into the atmosphere from any heater-planer operated for the purpose of reconstructing asphalt pavements smoke the opacity of which exceeds 20%. However three minutes' upset time in any one hour shall not constitute a violation of this Section.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-803 renumbered to Section R18-2-903, new Section R18-2-803 renumbered from R18-2-603 effective November 15, 1993 (Supp. 93-4).

R18-2-804. Roadway and Site Cleaning Machinery

A. No person shall cause, allow or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than 10 consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

B. In addition to complying with subsection (A), no person shall cause, allow or permit the cleaning of any site, roadway, or alley without taking reasonable precautions to prevent particulate matter from becoming airborne. Reasonable precautions may include applying dust suppressants. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Amended effective February 3, 1993 (Supp. 93-1). Former Section R18-2-804 renumbered to Section R18-2-904, new Section R18-2-804 renumbered from R18-2-604 effective November 15, 1993 (Supp. 93-4).

R18-2-805. Asphalt or Tar Kettles

A. No person shall cause, allow or permit to be emitted into the atmosphere from any asphalt or tar kettle smoke for any period greater than 10 consecutive seconds, the opacity of which exceeds 40%.

B. In addition to complying with subsection (A), no person shall cause, allow or permit the operation of an asphalt or tar kettle without minimizing air contaminant emissions by utilizing all of the following control measures:

1. The control of temperature recommended by the asphalt or tar manufacturer;
2. The operation of the kettle with lid closed except when charging;
3. The pumping of asphalt from the kettle or the drawing of asphalt through cocks with no dipping;
4. The dipping of tar in an approved manner;
5. The maintaining of the kettle in clean, properly adjusted, and good operating condition;
6. The firing of the kettle with liquid petroleum gas or other fuels acceptable to the Director.

Historical Note

Adopted effective February 26, 1988 (Supp. 88-1). Amended effective September 26, 1990 (Supp. 90-3). Former Section R18-2-805 renumbered to Section R18-2-905, new Section R18-2-805 renumbered from R18-2-605 effective November 15, 1993 (Supp. 93-4).

AK-CHIN INDIAN COMMUNITY

Community Government

42507 W. Peters & Nall Road • Maricopa, Arizona 85138 • Telephone: (520) 568-1000 • Fax: (520) 568-1001

October 7, 2010

Mr. John McGlothlen,
Bureau of Reclamation
6150 West Thunderbird Road
Glendale, Arizona 85306

RE: **PXAO-1500—ENV-7.00**

Dear Mr. McGlothlen:

The Ak-Chin Indian Community received your notice summarizing a proposal to reconstruct and line several of the major canals within the off-reservation portion of the San Carlos Irrigation Project. Also, Notice of Intent to prepare an environmental impact statement and public meeting on the proposed project.

At this time, due to the location of the project, we will defer all comments to the Tribal Historic Preservation Office, Gila River Indian Community, Sacaton, AZ.

If you have any questions, please contact Mrs. Caroline Antone, Cultural Resource Manager, at 520-568-1372, or Mr. Gary Gilbert at 520-568-1369.

Sincerely,

Leslie Carlyle-Burnett

Leslie Carlyle-Burnett, Vice-Chairman
Ak-Chin Indian Community

cc: Cultural Resources

ENVIRONMENTAL IMPACT STATEMENT
FOR
REHABILITATION OF SAN CARLOS IRRIGATION PROJECT FACILITIES

Public Scoping Meeting/Open House
Coolidge, Arizona
September 18, 2010

Altern sidered:

City of
Casa Grande
Mary Johnson
Community Services Director

404 East Florence Boulevard
Casa Grande, Arizona ~~85222~~ 85122
(520) 421-8677, Ext. 4510 (421-86PR)
Fax: (520) 421-8678
mjohnson@casagrandeaz.gov

Issues and/or resource impacts that should be considered, and why:

I attended the open house to better understand the overall project, but more specifically, my department is concerned regarding the amount of flow going ~~thru~~ through Dave White Municipal Golf Course. In 2010, ~~the~~ there seems to be more release of water through the golf course, and this has resulted in damage and/or "wash out" of our bridges ~~that~~ allow access to our back nine holes. This resulted in closure of the golf course during our prime season (January 2010), thus loss of revenues, plus costly repairs to our bridges, in both January and July.

Other comments or questions:

On an unrelated topic, I also spoke with Doug Mason, General Manager w/ SCIDD, regarding the possibility of entering into an IGA w/ SCIDD as it relates to public access and future development of non-motorized trails along the irrigation canals. Many other communities have IGA's in place with irrigation and utility districts, that provide great recreational benefit to a community.

THE HOPI TRIBE

LeRoy N. Shingoitewa
CHAIRMAN

Herman G. Honanie
VICE-CHAIRMAN

9/30 1100 RDO
10/4 1000 FAX
1500

September 27, 2010

Randy N. Chandler, Acting Area Manager
Attention: John McGlothlen, Bruce D. Ellis, Jon S. Czaplicki
Bureau of Reclamation, Phoenix Area Office
6150 West Thunderbird Road
Glendale, Arizona 85306-4001

Dear Mr. Chandler,

This letter is in response to your correspondence dated August 23, 2010, regarding a Notice to Prepare an Environmental Impact Statement on Rehabilitation of San Carlos Irrigation Project Facilities. The Hopi Tribe claims cultural affiliation to prehistoric cultural groups in Arizona, including the Hohokam cultural group in southern Arizona. The Hopi Cultural Preservation Office supports the identification and avoidance of prehistoric archaeological sites, and we consider the prehistoric archaeological sites of our ancestors to be Traditional Cultural Properties. Therefore, we appreciate the Bureau of Reclamation, Phoenix Area Office's solicitation of our input and your efforts to address our concerns.

In the enclosed letter dated July 30, 2010, the Hopi Cultural Preservation Office reviewed the Draft Environmental Assessment for Phase 1 Rehabilitation of San Carlos Irrigation Project Facilities We stated we understood prehistoric archaeological site AZ U:15:1 (REC), described as a National Register eligible Hohokam artifact scatter and possible habitation, may be adversely affected by this proposal. We determined that that proposal may adversely affect cultural resources significant to the Hopi Tribe and requested copies of the proposed Memorandum of Agreement or Programmatic Agreement and any proposed testing or data recovery plans for review and comment. We received a Finding of No Significant Impact for the Phase 1 dated August 5, 2010.

We have now reviewed the enclosed Scoping Information and understand the proposed project includes rehabilitation of the BIA/SCIP water delivery facilities that convey irrigation water to both SCIDD and Gila River Indian Community lands, and the improvement of facilities used to distribute water and manage drainage within SCIDD. If other National Register eligible prehistoric sites are identified by the cultural resources survey of the area of potential effect that will be adversely affected by project activities, please provide us with copies of the survey report and any proposed draft treatment plans for review and comment.

If you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office at 928-734-3619 or tmorgart@hopi.nsn.us. Thank you for your consideration.

Respectfully,

Leigh J. Kuwanwisiwma, Director
Hopi Cultural Preservation Office

Enclosure: July 30, 2010 letter to BOR
xc: Arizona State Historic Preservation Office

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV
REGION VI, 7200 E. UNIVERSITY DRIVE, MESA, AZ 85207

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DIRECTOR
LARRY D. VOYLES
DEPUTY DIRECTORS
GARY R. HOVATTER
BOB BROSCHEID

November 1, 2010

Mr. McGlothlen
Bureau of Reclamation
6150 W. Thunderbird Road
Glendale, Arizona 85306

Re: Proposed Rehabilitation: San Carlos Irrigation Project Facilities

Dear Mr. McGlothlen:

The Arizona Game and Fish Department (Department) appreciates the opportunity to provide comments on the above referenced project in Pinal County, Arizona. The Department understands the proposed project includes the rehabilitation and modernization of the Bureau of Indian Affairs/San Carlos Irrigation Project water delivery facilities for conveying water to both San Carlos Irrigation and Drainage District and the Gila River Indian Community lands. The improvements would be used to distribute water and manage the drainage district. We offer the following comments for your consideration when developing the Environmental Impact Statement (EIS).

The Department would prefer utilization of the existing canals and right of way areas, as new canals and disturbance areas would have larger impacts on the fish and wildlife moving through or located within the immediate area. We support the continued use of a fish barrier for preventing the movement of non native species from the CAP upstream into the Gila River and would like to provide further discussion when more information becomes available on the option of a new barrier. Further, the Department does have some concerns regarding impacts to wildlife resources to include:

- connectivity and permeability of species movement,
- habitat disturbance and loss of riparian habitat,
- fish resource depletions,
- potential for drowning of special status species and other wildlife,

The analysis within the EIS should adequately address species and potential for impacts associated with each alternative. Some considerations for minimizing impacts should include:

- minimizing the slope to decrease the chance for wildlife drowning,
- keeping unlined dirt canals to the maximum extent practicable,
- limit timing of activities outside of sensitive periods for species,
- identification of impacts on water releases from the San Carlos reservoir and thus on streamflows through the Coolidge Dam to Ashurst-Hayden Diversion Dam,
- ensure Picacho Reservoir has water in it year round to support the riparian habitat and associated species,
- ensure bald eagle prey base and habitat is not further degraded,
- minimize impacts to riparian vegetation from decreased water loss along currently unlined canals,
- consideration of mitigation measures to include: escape routes, fencing and crossing structures to facilitate movement and enhancement of riparian vegetation in areas where green up occurs

In addition, this section of the river supports a substantial riparian vegetative community including tamarisk, willow, cottonwood, ash, and mesquite, along with patches of cattail and other emergent vegetation. Birds documented included Grey, Black, and Zone-tailed Hawks; various ducks, herons, and a variety of passerine species. A substantial population of willow flycatchers occurs along the San Pedro River upstream of the confluence with the Gila and nesting is a potential along this stretch. Some of the other common mammals that occur in the area including: beaver, deer, javelina, bats, coyote, and mountain lion. There are many aquatic non native species including: fish, frogs and turtles within the area. Fish documented along this stretch of Gila include: mosquitofish, green sunfish, red shiners, yellow bullhead, and channel catfish. In addition, there are two bald eagle breeding areas downstream of Coolidge dam that rely on fish resources during the breeding season.

We would appreciate further coordination regarding the fish and wildlife resources in the area to assist in the development of the biological evaluation and EIS to identify, minimize, mitigate and/or avoid impacts. We would like to offer additional species specific recommendations for minimizing impacts when more information becomes available. At a minimum, an initial survey should be considered to determine the need for fencing or providing escape routes for species and/or sensitive timing that should be avoided during construction activities for the following species: burrowing owl, southwestern willow flycatcher, bald eagle, golden eagle, desert tortoise, Tucson shovel-nosed snake, Yuma clapper rail and the western yellow-billed cuckoo.

Mr. McGlothlen
November 1, 2010

The Department appreciates the opportunity to provide comments during the initial scoping process for the project and looks forward further coordination during the development of the biological evaluation and EIS process. Please contact Kelly Wolff at 480-324-3550 or kwolff@azgfd.gov, if you have any questions regarding this letter.

Sincerely,

Kelly Wolff
Habitat Program Manager
Region VI, Mesa

M10-10153238

cc: Alex Smith, Bureau of Reclamation
Rod Lucas, Regional Supervisor, Region VI
Laura Canaca, Project Evaluation Program Supervisor
John Windes, Habitat Program Manager, Region V
Dave Weedman, Aquatic Habitat Program Manager
James Driscoll, Birds and Mammals Program Manager
Bill Burger, Nongame Specialist, Region VI

OFFICIAL FILE COPY
PHOENIX AREA OFFICE
ACTION BY:
RECEIVED:
1
SEP 28 '10
DATE | SURNAME | CODE
RETURN TO:
CLASSIFICATION:
CONTROL NO.
PROJECT

Arizona® State Parks

September 23, 2010

John McGlothen
Bureau of Reclamation
6150 West Thunderbird Road
Glendale, AZ 85306

ATTN: Jon Czaplicki, Archaeologist

Re: NOI to Prepare an EIS for the Rehabilitation of San Carlos Irrigation Project Facilities, Pinal County, AZ
SHPO-2010-1253(86896)

Dear Mr. McGlothen:

Thank you for consulting with us on the above proposed project. Pursuant to 36 CFR Part 800, the Advisory Council on Historic Preservation's regulations implementing Section 106 of the National Historic Preservation Act, we have reviewed the scoping notice and have the following comments:

1) We note that BOR is proposing to reconstruct and line several of the major canals within the off-reservation portion of the San Carlos Irrigation Project (SCIP). The proposed action also includes relocating laterals or placing reaches of laterals in pipeline to accommodate changes in land use within the area.

2) As you know, much of the SCIP system is historic in age. The system has been documented to Historic American Engineering Report (HAER) standards. However, Dr. Bill Collins, Deputy State Historic Preservation Officer and Historian for this office, has a concern regarding the decommissioning of the Chino Wash Flume. This feature of the system is a significant example of reclamation engineering and should be preserved in place, even if it is decommissioned.

3) In addition, any work related to the activities associated with the proposed project that will cause new ground disturbance (i.e., disturbance of the surface and/or subsurface in areas that have not been previously disturbed) may require archaeological survey. We request that you consult with Mr. Jon Czaplicki, Phoenix Area Office archaeologist, in order to ascertain if these areas have already been surveyed. If archaeological survey is required, the survey report should be sent to our office and relevant Tribes for review and comment within a 30-day review period.

We look forward to the Agency's Section 106 consultation on this undertaking. We appreciate your continued cooperation with this office in

Janice K. Brewer
Governor

State Parks Board Members

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Tucson

Tracey Westerhausen
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Phoenix

Walter D. Armer, Jr.
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Sedona

William C. Scalzo
Phoenix

Maria Baier
State Land Commissioner

Renée E. Bahl
Executive Director

Arizona State Parks
1300 W. Washington
Phoenix, AZ 85007

Tel & TTY: 602.542.4174
AZStateParks.com

800.285.3703 from (520 & 928) area codes

General Fax: 602.542.4180

Director's Office Fax: 602.542.4188

complying with the historic preservation requirements for federal undertakings. If you have any questions or concerns, please feel free to contact me at 602/542-7138, or e-mail me at ahoward@azstateparks.gov.

Sincerely,

Ann V. Howard

Ann Valdo Howard
Public Archaeology Programs Manager/
Senior Archaeological Compliance Specialist
Arizona State Historic Preservation Office

-----Original Message-----
From: Peter Steere [mailto:peter.steere@tonation-nsn.gov]
Sent: Thursday, September 16, 2010 4:03 PM
To: McGlothlen, John W
Subject: EIS SCIP Rehabilitatin Project

Date: September 17, 2010

To: John McGlothlen, Burea of Reclamation

From: Peter L. Steere, THPO - Tohono O'odham Nation

Re: EIS for SCIP Rehabilitation Project

Thank you for consulting with Tohono O'odham Nation on this project

Please copies of technical reports - cultural resources and biology for review

Please copy of draft EIS for review

Every effort should be made to avoid cultural resource sites

OCT 12 '10

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

October 7, 2010

Mr. John McGlothlen
Bureau of Reclamation
6150 West Thunderbird Road,
Glendale, Arizona 85306

Subject: Subject: Notice of Intent (NOI) to Prepare an Environmental Impact Statement for the San Carlos Irrigation Project, Pinal County, Arizona and Gila River Indian Community.

Dear Mr. McGlothlen:

The United States Environmental Protection Agency (EPA) has reviewed the San Carlos Irrigation Project (SCIP), NOI pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. These comments were also prepared under the authority of, and in accordance with, the provisions of the Federal Guidelines promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA).

We commend the Gila River Indian Community and the Bureau of Reclamation for their efforts to provide a common use irrigation system to better utilize scarce water supplies and provide additional economic benefits and employment opportunities for the Community. EPA strongly supports sustainable agriculture and efficient and reliable use of valuable water. We also applaud the active public outreach efforts, and acknowledge the critical role of agriculture in the cultural heritage of the Community.

The San Carlos Irrigation Project (SCIP) system has more than 95 miles of main canals that are unlined and slated for rehabilitation. The DEIS will evaluate alternatives for both rehabilitation of existing facilities and construction of new facilities. EPA recommends that sections of the proposed action be prioritized for implementation, with primary emphasis on rehabilitation of existing irrigation systems and agricultural areas. We strongly urge that a site-specific environmental analysis of each section be fully analyzed in the DEIS. In addition, each site-specific environmental analysis should evaluate, in detail, the specific environmental effects of the section and its cumulative impacts in relation to the entire irrigation project. We believe it is crucial that the environmental effects of the entire irrigation project be kept in mind throughout the build-out of the project. Additional recommendations are provided in the attached Detailed Scoping Comments.

We appreciate the opportunity to review this NOI. When the DEIS is released for public review, please send one hard copy and three CD ROMs to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3800, or munson.james@epa.gov.

Sincerely,

James Munson, Lead Reviewer
Environmental Review Office
Communities and Ecosystems Division

cc list:

Margaret Cook
Director Department of Environmental Quality
Gila River Indian Community
PO Box 97
Sacaton, AZ 85247

Mr. William Rhodes
Governor
Gila River Indian Community
P.O. Box 97
Sacaton, AZ 85247

EPA's Detailed Scoping Comments for the San Carlos Irrigation Project, Pinal County, Arizona and Gila River Indian Community. October 7, 2010

Alternatives Analysis

The underlying need (e.g., an effective and reliable water supply delivery system) and purpose for the project (e.g., rehabilitation of existing canals, and sustainable reuse of water resources) should be clearly identified in the DEIS. The National Environmental Policy Act (NEPA) requires rigorous exploration and evaluation of all reasonable alternatives that meet the purpose and need, including those not within the jurisdiction of the lead agency (40 CFR Part 1502.14). The Draft Environmental Impact Statement (DEIS) should discuss the potential adverse impacts of each alternative on surface and groundwater quality, riparian areas, air quality, fish and wildlife habitat, and public health and safety, as well as potential actions to overcome possible project barriers, such as conflicts with other agencies' actions.

Water Resources

Water Quality

Potential adverse effects to surface and groundwater quality and quantity are predicted due to increased groundwater pumping; increased use of fertilizers and pesticides; and increased surface water diversions. The DEIS should provide specific information regarding potential severity and location of salt build-up, high groundwater, and poor drainage areas. In addition, the probable effect on agricultural drainage volume and water quality, groundwater quality, drinking water quality, should be fully evaluated. The DEIS should include a mitigation plan to minimize potential adverse impacts of the project on water quality in the long term and during construction activities.

Clean Water Act Section 404

The Bureau of Reclamation (BOR) should demonstrate in the DEIS how potential impacts to waters of the United States (WUS) would be avoided and minimized to the maximum extent practicable prior to obtaining a Clean Water Act (CWA) Section 404 permit (40 CFR 230.10(a) and 230.10(d)). The DEIS should include a waters assessment of appropriate scope and detail to identify sensitive areas in aquatic systems with functions susceptible to change. The CWA Section 404(b)(1) Guidelines (Guidelines) 40 CFR Part 230.10(a) state that "...no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences."

Recommendations:
Estimate WUS within the project area using CWA jurisdictional determinations; these findings should then be submitted (including maps) to the Army Corps of Engineers for verification and consultation.

If a CWA Section 404 permit is required, CWA Section 401 certifications should be obtained from both the U.S. EPA Region 9 and the Arizona Department of Environmental Quality, as the project occurs on both state and tribal lands.

Identify all protected resources with special designations, and all special aquatic sites and waters within State, local, and federal protected lands. Avoid and minimize impacts to these areas.

Provide specific descriptions of proposed activities in CWA regulated waters, including grading plans and cross sections. Include the classification of waters and the geographic extent of waters and adjacent riparian areas.

Characterize the functional condition of waters and adjacent riparian areas. Describe the extent and nature of stream channel alteration, riverine corridor continuity, and buffered tributaries.

Include in the DEIS an evaluation of wildlife species potentially affected by the project that could be expected to use waters or associated riparian habitat, and sensitive plant species that are associated with waters/riparian habitat.

Avoidance and Minimization Measures

To demonstrate compliance with CWA Guidelines, explore alternatives to avoid or minimize impacts to WUS.

Recommendations:
Demonstrate how all potential effects to WUS will be avoided or minimized. If impacts cannot be avoided or minimized, the DEIS analyses should clearly demonstrate how cost, logistical and/or technological constraints preclude avoidance and minimization of impacts.

Both temporary and permanent impacts on WUS for each alternative should be quantified; for example, acres of waters impacted, etc. It is helpful to present these numbers in a table for each alternative, listing each impacted water and wetland feature.

Identify design measures and modifications to avoid and minimize impacts to water resources. Quantify the benefits that would be achieved for each alternative studied, for example, acres of WUS avoided, number of stream crossings avoided, etc.

Include a compensation proposal for unavoidable impacts to CWA regulated waters that comply with the regulations for compensatory mitigation promulgated in April 2007 (40 CFR 230 Subpart J).

Canals

The DEIS should include, in detail, a description of impacts to the canals, and measures taken to protect water quality. Since portions of the project area may have historic significance, ground disturbance in these areas may expose archeological finds. BOR should contact the State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO) prior to making alterations to structures over 50 years old, such as portions of the canals and wells, or ground disturbance adjacent to them.

Air Quality

The DEIS should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS), criteria pollutant nonattainment areas, and potential air quality impacts of the proposed project (including cumulative and indirect impacts). Such an evaluation is necessary to ensure compliance with State and federal air quality regulations, and to disclose the potential impacts from temporary or cumulative degradation of air quality.

The DEIS should describe and estimate air emissions from the proposed project, including potential construction and maintenance activities, as well as proposed mitigation measures to minimize those emissions. The DEIS should specify the pollutants and the emission sources: mobile sources, stationary sources, and/or ground disturbances. The DEIS should identify if there is a need for an Equipment Emissions Mitigation Plan (EEMP). An EEMP would identify actions to reduce diesel particulate matter, carbon monoxide, hydrocarbons, and NOx associated with construction activities. The DEIS should summarize all applicable air quality regulations and their implementing agencies for Pinal County, including required monitoring and enforcement.

Construction Emissions Mitigation

The DEIS should include a thorough analysis of impacts from the construction of the proposed project alternatives. It should provide estimates of the emissions of all criteria pollutants and diesel particulate matter (DPM) and list all applicable NAAQS, including the federal 8-hour ozone standard and the particulate matter under 2.5 microns (PM2.5) standard. Furthermore, the area is violating the particulate matter under ten microns (PM10) NAAQS and EPA has proposed to re-designate it as nonattainment. The DEIS should disclose available information about the health risks associated with vehicle emissions and mobile source air toxics. For more information, see: http://www.epa.gov/otaq/toxics.htm. Similarly, the DEIS should include a Construction Emissions Mitigation Plan (CEMP) for fugitive dust and diesel particulate matter DPM, and commit to this plan in the DEIS. The following mitigation measures should be included in the CEMP in order to reduce impacts associated with emissions of particulate matter and other toxics from construction related activities.

Mobile and stationary source controls

Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. Control technologies such as particle traps control approximately 80 percent of DPM. Specialized catalytic converters (oxidation catalysts) control approximately 20 percent of DPM, 40 percent of carbon monoxide emissions, and 50 percent of hydrocarbon emissions.

Ensure that diesel powered construction equipment is properly tuned and maintained and shut off when not in direct use.

Reduce use, trips, and unnecessary idling from heavy equipment.

Prohibit engine tampering to increase horsepower and require continuing adherence to manufacturer's recommendations.

Locate diesel engines, motors, and equipment staging areas as far as possible from residential areas and sensitive receptors such as schools, daycare centers, and hospitals.

Require the use of low sulfur diesel fuel (<15 parts per million sulfur) for diesel construction equipment.

Reduce construction related trips of workers and equipment, including trucks. Develop construction traffic and parking management plans that minimizes traffic interference and maintains traffic flow.

If practicable, the DEIS should commit to leasing new equipment that meets the most stringent of applicable Federal or State Standards. In general, only Tier 2 or newer engines should be employed in the construction phase.

Use lower emitting engines and fuels, including electric, liquefied gas, hydrogen fuel cells, and/or alternative diesel formulations.

Fugitive Dust Source Controls:

Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate, to both inactive and active sites, at all times, particularly during windy conditions.

Install wind fencing and phase grading operations where appropriate, and operate water trucks for surface stabilization under windy conditions.

When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

Develop construction traffic and parking management plans that minimize traffic interference and maintain traffic flow.

Greenhouse Gases

Executive Order 13423: "Strengthening Federal Environmental, Energy, and Transportation Management" "Section 2(a) states that federal agencies shall (a) improve energy efficiency and reduce greenhouse gas emissions of the agency, through reduction of energy intensity by (i) 3 percent annually through the end of fiscal year 2015, or (ii) 30 percent by the end of fiscal year 2015, relative to the baseline of the agency's energy use in fiscal year 2003," (p. 12). Similarly, Executive Order 13514 states: "Federal Government should make reduction of greenhouse gas emissions a priority. The DEIS should discuss any project elements that will be major contributors to greenhouse gases (GHGs) and identify what practices or project elements will be incorporated to reduce GHG emissions to help meet this goal. For more information on Executive Order 13514 see:
http://www.whitehouse.gov/assets/documents/2009fedleader_eo_rel.pdf
For more information on Executive Order 13423 see:
http://www.whitehouse.gov/sites/default/files/omb/assets/procurement_green/eo13423_instructions.pdf.

Climate Change

Impacts of climate change on the project

The DEIS should include a description of climate change and its implications for the San Carlos Irrigation Project (SCIP). For example, describe and evaluate projected climate change consequences, such as increased frequency of high intensity storms, amplified rain events, and their potential effects on culverts and bridges. Consider the impacts of temperature increases and changes in water availability. Adaptation strategies should be identified and discussed.

Cumulative climate change impacts on resources also affected by the project.

The DEIS should include a discussion on cumulative climate change impacts to resources that are also affected by the project. The DEIS should also clearly describe the effects of the project on water quality, riparian habitat, fish passage, and sensitive species in the context of climate change. Likewise, cumulative impacts on public health and environmental justice communities from climate change should be included in the DEIS[1].

Direct, Indirect, and Cumulative Effects

The NEPA requires evaluation of direct, indirect, and cumulative effects that are caused by the action (40 CFR 1508.8(b) and 1508.7). For the cumulative impacts assessment, we recommend focusing on resources of concern or resources that are "at risk" and/or significantly

[1] EPA's report *Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems* (available: http://www.climatescience.gov/Library/sap/sap4-6/final-report) suggests that EJ communities have less adaptive capacity and are thus more prone to disproportional impacts from climate change.

impacted by the proposed project, before mitigation. Identify all on-going, planned, and reasonably foreseeable future projects in the study area that may contribute to cumulative impacts. If studies exist on the adverse environmental impacts of these other projects, use those studies as a source for quantifying cumulative impacts. If it is determined that significant cumulative effects would occur as a result of the proposed project, the DEIS should identify alternatives that would avoid, minimize, or mitigate adverse effects. Clearly state the lead agency's mitigation responsibilities and the mitigation responsibilities of other entities.

Consultation with Tribal Governments

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States' government-to-government relationships with Indian tribes. The Project area may include sites of cultural value to local tribes. The area around SCIP is part of an integrated canal system that has been used by the tribes for generations. EPA recommends the DEIS describe the process and outcome of government-to-government consultation between the BOR and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed in relation to the proposed action and selection of a preferred alternative.

National Historic Preservation Act and Executive Order 13007

The proposed SCIP includes ground disturbance, including grading, filling, vegetation clearing, paving, and increased vehicle traffic. This disturbance could have significant impacts on cultural, particularly tribal, resources. Consultation for tribal cultural resources is required under Section 106 of the National Historic Preservation Act (NHPA). Historic properties, under the NHPA, are properties that are included in the National Register of Historic Places (NRHP) or that meet the criteria for the National Register. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, consult with the appropriate State Historic Preservation Officer SHPO and or the Tribal Historic Preservation Officer THPO.

Executive Order 13007, Indian Sacred Sites (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners, and to avoid adversely affecting the physical integrity, accessibility, or use of sacred sites. It is important to note that a sacred site may not meet the National Register criteria for a historic property and that, conversely, a historic property may not meet the criteria for a sacred site.

Recommendation:
The DEIS should identify any sacred sites that would be affected by the proposed project and address how these sites will be protected.

Include in the DEIS any consultation with tribes regarding sites that would be affected by the proposed project.

Environmental Justice

In February 1994, the President issued Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations". The DEIS should describe measures taken by the BOR to: (1) fully analyze the environmental effects of the proposed actions on minority and low income populations, both within the affected tribes and in affected areas not on tribal land; and (2) present opportunities for affected communities to participate in the NEPA process, including information and participation materials in all languages spoken by those in affected areas. The Council on Environmental Quality's (CEQ) environmental justice guidance to Federal agencies should be addressed in the DEIS. Please refer to the CEQ's *Environmental Justice Guidance Under the National Environmental Policy Act*, December 1997. http://ceq.hss.doe.gov/nepa/regs/ej/justice.pdf.

Environmental justice considerations may play an important role in the proposed Project, both from the standpoint of anticipated benefits of the Project and adverse impacts. In the context of "affected environment", the DEIS should document existing human health and environmental risks to which people in the project areas are exposed. The document should also explore potential mitigation measures for any adverse effects to these communities.

Species of Concern

EPA recommends that the DEIS include a complete review of species that would be affected by the project alternatives. The results of consultation with the United States Fish and Wildlife Service, if appropriate, regarding threatened or endangered species or critical habitat should be included in the DEIS. We encourage BOR to relocate, reduce, or eliminate portions of the project that adversely affect threatened, endangered, or candidate species or their potential habitat.

White Mountain Apache Tribe Heritage Program
PO Box 507 Fort Apache,AZ 85926
1 (928) 338-3033 Fax: (928) 338-6055

To: John McGlothlen, Bureau of Reclamation – Phoenix Area Office
Date: September 01, 2010
Project: Proposed Rehabilitation: San Carlos Irrigation Project Facilities

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The White Mountain Apache Historic Preservation Office (THPO) appreciates receiving information on the proposed project, dated August 23, 2010 In regards to this, please attend to the checked items below.

► ***There is no need to send additional information unless project planning or implementation results in the discovery of sites and/or items having known or suspected Apache Cultural affiliation.***

☐ The proposed project is located within an area of probable cultural or historical importance to the White Mountain Apache Tribe (WMAT). As part of the effort to identify historical properties that maybe affected by the project we recommend an ethno-historic study and interviews with Apache Elders. The Cultural Resource Director, ***Mr. Ramon Riley*** would be the contact person at (928) 338-4625 should this become necessary.

► Please refer to the attached additional notes in regards to the proposed project:

We have received and reviewed the information regarding the proposal to reconstruct and line several of the major canals within the off-reservation portion of the San Carlos Irrigation Project, as well as relocating laterals or placing reaches of laterals in pipeline to accommodate changes in land use within the San Carlos Irrigation and Drainage District service area, and after careful consideration we've determined the proposed projects ***will not have an effect*** on the White Mountain Apache tribe's Cultural Heritage Resources and/or historic properties. We further recommend that any/all ground disturbance should be monitored ***if*** there are reasons to believe that human remains and/or funerary objects are present, if such remains and/or objects are encountered all construction activities should be stopped and the proper authorities and/or affiliated tribe(s) be notified to evaluate the situation.

We look forward to continued collaborations in the protection and preservation of places of cultural and historical significance.

Sincerely,

Mark T. Altaha

White Mountain Apache Tribe
Historic Preservation Officer
Email: markaltaha@wmat.us

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
Arizona Department of Environmental Quality	
Recommended measures to reduce disturbance of particulate matter: • Minimize land disturbance • Suppress dust on traveled paths that are not paved through wetting, use of watering trucks, chemical dust suppressants, or other reasonable precautions to prevent dust from entering ambient air • Cover trucks when hauling soil • Minimize soil track-out by washing or cleaning truck wheels before leaving construction site • Stabilize the surface of soil piles • Create wind breaks • Revegetate any disturbed land not used • Remove unused material • Remove soil piles via covered trucks	Fugitive dust will be addressed through the Pinal County Nonattainment Area Dust Permit. Mitigation measures will be incorporated to reduce the generation of dust and diesel particulate matter. Refer to Chapter 2.0, Table 1, Air Quality, for related mitigation measures.
Arizona Game and Fish Department (AGFD)	
Concerns expressed regarding impacts to wildlife resources to include: • Connectivity • Habitat disturbance and loss of riparian habitat • Fish resource depletions • Potential for drowning of special status species and other wildlife	Chapter 3.0 of the Environmental Assessment (EA) addresses potential impacts of the No Action and action alternatives on wildlife resources.
EIS analysis should address species and potential for impacts associated with each alternative. Some considerations for minimizing impacts should include: • Limit timing of activities outside of sensitive periods for species • Identification of impacts on water releases from Coolidge Dam and the effects on Gila River flows between Coolidge Dam and the Ashurst–Hayden Diversion Dam • Ensure bald eagle prey base and habitat is not further degraded • Minimize impacts to riparian vegetation from decreased water loss along currently unlined canals	Chapter 3.0 of the EA addresses potential impacts of the No Action and action alternatives on vegetation, wildlife, threatened and endangered species, other special status species, and invasive species.
• Ensure that Picacho Reservoir has water in it year-round to support riparian habitat and associated species	The action alternatives would allow the potential diversion and delivery of more water from the Gila River during storm events, which could result in an increased amount and frequency of water entering Picacho Reservoir. Though more water could at times be discharged to Picacho Reservoir, water levels in this reservoir would continue to fluctuate based on the magnitude and frequency of storm events and irrigation water demand. Some increase in the total area of wetland and riparian vegetation would likely occur during those periods when more water is stored in Picacho Reservoir.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
AGFD (continued)	
• Minimizing the slope to decrease chance for wildlife drowning • Keeping unlined dirt canals to the maximum extent practicable • Consideration of mitigation measures to include: escape routes, fencing and crossing construction to facilitate movement, and enhancement of riparian vegetation in areas where green-up occurs	Lining the existing and new canal segments with concrete under all action alternatives would make it more difficult for wildlife that fall into a canal to escape. As documented in Chapter 2.0, Table 1, under all action alternatives, wildlife exclusion fencing would be installed and maintained in Reach 1, two existing wildlife bridges across the canal would be maintained, and a new wildlife bridge would be constructed at the lower end of Reach 1. The lined canal system would be monitored in Reaches 2 and 3. The detection of any dead animals and the sightings of wildlife in or along the canal will be reported to the Bureau of Reclamation (Reclamation) monthly. Consultation among the San Carlos Irrigation and Drainage District (SCIDD), Reclamation, and the AGFD would be conducted to review the results of monitoring, determine the need for remedial actions, and identify the type and location of remediation required (fencing, escape ramps, drinkers, or others to be determined).
This section of the Gila River supports a substantial riparian vegetative community. A substantial population of willow flycatchers occurs along the San Pedro River upstream of the confluence with the Gila River, and nesting is a potential along this stretch. There are two bald eagle breeding areas downstream of Coolidge Dam that rely on fish resources during the breeding season.	Chapter 3.0 describes the affected environment for biological resources, riparian zones, and wetlands. The alternative initially preferred by the engineering team would have had the potential for substantial effects on federally listed species and other species of concern associated with the need to interrupt irrigation releases from Coolidge Dam to the Gila River for extended periods of time during construction. Through coordination and collaboration with an Internal Biology Working Group (which included AGFD representatives), the design team developed a "new" alternative that would greatly reduce construction-related impacts on flows in the Gila River downstream of the Ashurst–Hayden Diversion Dam. Refer to Chapter 2.0 for a description of how water deliveries would be managed during construction under each action alternative.
The AGFD requested further coordination regarding the fish and wildlife resources in the area to identify, minimize, mitigate, and/or avoid impacts. At a minimum, an initial survey should be considered to determine the need for fencing or providing escape routes for species and/or construction timing considerations for sensitive species: burrowing owl, Southwestern willow flycatcher, bald eagle, golden eagle, desert tortoise, Tucson shovel-nosed snake, Yuma clapper rail, and Western yellow-billed cuckoo.	Reclamation organized an Internal Biology Working Group, with representatives from Reclamation, the AGFD, and the U.S. Fish and Wildlife Service, to identify potential concerns and explore opportunities to minimize impacts from the project. The EA examines potential impacts and includes mitigation commitments to minimize impacts on biological resources of concern (Chapter 2.0, Table 1). Refer to related concerns and responses listed in this table under the Internal Biology Working Group heading.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
Ak-Chin Indian Community	
At this time, due to the project's location, we will defer all comments to the Tribal Historic Preservation Office, Gila River Indian Community, Sacaton, Arizona.	No response required.
Arizona State Historic Preservation Office (SHPO)	
Much of the San Carlos Irrigation Project (SCIP) system is historic in age. A primary concern is the China Wash Flume, a significant example of Reclamation engineering. Even if decommissioned, the China Wash Flume should be preserved in place. The survey report for the project should be sent to the SHPO and to relevant tribes for review and comment.	Reclamation would use an existing Programmatic Agreement/Memorandum of Agreement or develop a new one that would stipulate development and implementation of a treatment plan prior to initiation of construction. The survey report will be forwarded to relevant tribes.
City of Casa Grande Parks and Recreation Department	
Concerned about the amount of drainage flowing through Dave White Municipal Golf Course. In 2010, there seemed to be more water released through the golf course, which has resulted in damage and/or washout of our bridges that allow access to the back nine holes. This resulted in closure of the golf course during our prime season (January 2010), thus loss of revenues, plus costly repairs to our bridges in January and July.	In addition to the water that SCIDD contributes to the referenced drain, the drain carries flows from a large "contributing acreage." The flows in the drain come from the mountains north of Casa Grande. In addition, the subdivisions that have been developed along the drain contribute to the flows. In particular, channelization of the washes within these subdivisions has increased the amount of flow to the drain. With the rehabilitation of the SCIP system, as proposed, SCIDD would have the capacity for off-stream water storage and more flexibility/control in the system operations. Though this would not eliminate the potential for flood damage or washout, the proposed project should result in a reduction in the SCIDD's contribution to this drain.
Interested in the possibility of entering into an Intergovernmental Agreement (IGA) with SCIDD related to public access and future development of nonmotorized recreational trails along SCIDD irrigation canals. Many other communities have IGAs with irrigation and utility districts, which provide great recreational benefit to the community.	Though the IGA request is outside of the scope of work of the EA, SCIDD is amenable to exploring opportunities to enter into an IGA with the City of Casa Grande for this purpose.
Hopi Tribe	
Requested copies of the survey report and any proposed draft treatment plans for review and comment if any National Register eligible prehistoric sites will be adversely affected by project activities.	Reclamation will forward copies of the survey report and any proposed draft treatment plans for review and comment by the Hopi Tribe as requested.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
Internal Biology Working Group	
Issues identified: • Wildlife (and livestock) mortality from concrete-lined canals • Loss of water source for wildlife and livestock with concrete-lined canals • Reduction in connectivity and permeability of species movement/creating barriers to wildlife movement • Potential effect on vegetation from loss of canal seepage • Loss of riparian vegetation and fish resource depletions due to dry-up of Gila River with the proposed Central Arizona Project exchange • Loss of riparian vegetation along currently unlined canals due to proposed concrete lining • Loss of prey base for bald eagles with Central Arizona Project exchange • Habitat disturbance • Modified flows in Gila River pre-spring (leaf-out) • Loss of Tucson shovel-nosed snake habitat with construction of new reservoirs in creosote bush plant communities • Construction disturbance to golden eagles during nesting season • Need for Bald and Golden Eagle Protection Act permit and associated time requirements • Spread of invasive species • Creation of new fire hazards • Need for fish barrier Mitigation measures suggested: • To provide wildlife connectivity and minimize drowning wildlife in the project area, consider canal slope design, floor substrate, pipes, culverts, and bridges • Provide wildlife habitat at the proposed regulating reservoirs, including the concept of retaining a minimum pool at each to allow for the establishment of marsh vegetation • Use Picacho Reservoir as a regulating reservoir • Increase the overflow storage to minimize the need for new regulating reservoirs • To minimize drowning of wildlife in lined canals, consider fencing, constructing wildlife crossings, or escape routes, or pipe short sections of the North Side Canal in areas of high wildlife use	Reclamation organized an Internal Biology Working Group, with representatives from Reclamation, the AGFD, and the U.S. Fish and Wildlife Service, to identify potential concerns and explore opportunities to minimize impacts from the project. The EA examines potential impacts and includes mitigation commitments to minimize impacts on biological resources of concern (Chapter 2.0, Table 1).

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
Internal Biology Working Group (continued)	
• Consider the use of existing canals/rights-of-way to reduce potential impacts on fish and wildlife • Ensure Picacho Reservoir has water in it year-round to support the riparian habitat and associated species • Schedule construction to avoid sensitive periods for species	
Myers	
A grazing permittee expressed concern about wildlife and livestock access to water in the Florence–Casa Grande Canal and potential for wildlife/livestock to drown with concrete-lined canals.	Because the mainstem canal is dirt-lined, livestock that are grazing on Bureau of Land Management land on both sides of the existing mainstem canal currently have access to water in the canal. The rehabilitated canal, with its concrete lining, steeper side slopes, and increased flow velocities, may preclude livestock access to this water in the future. Subsequent to the scoping process, the Bureau of Land Management and the affected grazing permittee have agreed to share in the cost of drilling a well for production of livestock water.
Tohono O'odham Nation	
Requested that copies of technical studies (biological and cultural) and the Draft EIS be forwarded for its review.	Reclamation will forward copies of technical documents and the Draft EA as requested.
Requested that every effort be made to avoid cultural resource sites.	A Class III cultural resources survey of the area of potential effects has been initiated and would be completed prior to construction. Reclamation intends to avoid cultural resources whenever possible. If avoidance is not possible, Reclamation would use an existing Programmatic Agreement/Memorandum of Agreement or would develop a new one that would stipulate development and implementation of a treatment plan prior to initiation of construction.
U.S. Environmental Protection Agency (EPA) Region 9	
<u>Alternatives Analysis</u> The underlying need (e.g., an effective and reliable water supply delivery system) and purpose for the project (e.g., rehabilitation of existing canals and sustainable reuse of water resources) should be clearly identified in the Draft EIS. The National Environmental Policy Act requires rigorous exploration and evaluation of all reasonable alternatives that meet the purpose and need, including those not within the jurisdiction of the lead agency (40 Code of Federal Regulations [CFR] Part 1502.14). The Draft EIS should discuss the potential adverse impacts of each alternative on surface and ground water quality, riparian areas, air quality, fish and wildlife habitat, and public health and safety, as well as potential actions to overcome possible project barriers, such as conflicts with other agencies' actions.	Section 1.4 of the EA describes the purpose and need, including requirements of various legal instruments. Chapter 2.0 describes the alternatives evaluated in detail in the EA and those eliminated from further consideration. It also identifies the Environmentally Preferred Alternative. Chapter 3.0 addresses the potential adverse and beneficial effects of each alternative by resource topic. Table 2 summarizes the effects.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
U.S. EPA Region 9 (continued)	
Water Resources *Water Quality* Potential adverse effects to surface and ground water quality and quantity are predicted due to increased ground water pumping, increased use of fertilizers and pesticides, and increased surface water diversions.	The acreage of agricultural land cultivated within the SCIDD service area varies from year to year, mainly dependent on water availability. Most years, surface water supplies are not adequate to irrigate the full acreage (50,000 acres) of the SCIDD service area, though all of the 50,000 acres have been in production at one time or another. No new lands in the service area would be converted to agriculture as a result of the project. Farmers pump ground water to supplement surface water supplies, as needed. With more surface water available for irrigation with the project, it is expected that ground water pumping would be reduced. With the project, the total acreage in cultivation would continue to vary from year to year; however, a slight increase in average acres cultivated could occur as a result of a more dependable surface water supply. The use of fertilizers and pesticides would also vary from year to year, proportionate to the number of acres farmed. Stream flow in the Gila River upstream of the Ashurst–Hayden Diversion Dam is dependent on upstream releases from Coolidge Dam, flows from tributaries, and precipitation in the watershed. Today, releases from Coolidge Dam are based almost entirely on irrigation water orders from SCIDD and the Gila River Indian Community. Except during large flood events, all of the water that reaches the Ashurst–Hayden Diversion Dam is diverted to the Florence–Casa Grande Canal for irrigating farmland downstream. For these reasons, no increase in surface water diversions is expected with the project. In fact, the Secretary of the Interior could decide to retain 8,000 acre-feet of water in the San Carlos Reservoir to create a minimum pool for fish and wildlife. This could result in a slight decrease in water diversions at the Ashurst–Hayden Diversion Dam.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
U.S. EPA Region 9 (continued)	
Water Resources (continued) The Draft EIS should provide specific information regarding potential severity and location of salt build-up, high ground water, and poor drainage areas.	Salt build-up is managed on agricultural fields by farmers, who apply additional water to the fields, as needed, to leach salt out of the plant root zone. High ground water is not an issue in the SCIDD service area. From the Ashurst–Hayden Diversion Dam to Picacho Reservoir, depth to ground water averages 182 feet. From Picacho Reservoir to Interstate 10, the average depth of ground water is 205 feet. The agricultural fields in the SCIDD service area are designed and managed to allow all applied irrigation water to soak in. There is essentially no runoff from the fields. Poor drainage is not a concern common to this area.
In addition, the probable effect on agricultural drainage volume and water quality, ground water quality, and drinking water quality should be fully evaluated. The Draft EIS should include a mitigation plan to minimize potential adverse impacts of the project on water quality in the long term and during construction activities.	The project would not be expected to cause an increase in agricultural drainage over the existing condition because the fields are designed and managed to allow all applied irrigation water to soak in. The project is expected to have only minor effects on surface water quality—primarily associated with the construction period. Refer to Chapter 3.0 of the EA. Because the project would not have an adverse effect on ground water quality, there would be no real potential to affect the water quality supplies to drinking water wells. Effects to water quality are described in the EA, Chapter 3.0. The project would include Best Management Practices to control the release of pollutants into storm water during construction (Chapter 2.0, Table 1).
Clean Water Act (CWA) Section 404 Reclamation should demonstrate in the Draft EIS how potential impacts to Waters of the United States (Waters) would be avoided and minimized to the maximum extent practicable prior to obtaining a CWA Section 404 permit (40 CFR 230.10[a] and 230.10[d]). The Draft EIS should include a waters assessment of appropriate scope and detail to identify sensitive areas in aquatic systems with functions susceptible to change. The CWA Section 404(b)(1) Guidelines 40 CFR Part 230.10(a) state that "…no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences."	A preliminary investigation of potential jurisdictional waters in the study area identified Picacho Reservoir and a number of drainages likely to be jurisdictional Waters. Though Picacho Reservoir, a special aquatic site, falls in the study area, no construction would take place within it. Based on preliminary engineering plans, the proposed replacement of the siphon in Bogart Wash under the Proposed Action is the only activity identified to date that would likely require a CWA Section 404 permit. Final design of the Bogart Wash crossing is pending. Coordination with the U.S. Army Corps of Engineers has been initiated, as required. No construction would begin prior to U.S. Army Corps of Engineers authorization.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
U.S. EPA Region 9 (continued)	
CWA Section 404 (continued) Recommendations: • Estimate Waters in the project area using CWA jurisdictional determinations; these findings should then be submitted (including maps) to the U.S. Army Corps of Engineers for verification and consultation. • If a CWA Section 404 permit is required, CWA Section 401 certifications should be obtained from the U.S. EPA Region 9 and the Arizona Department of Environmental Quality, as the project occurs on both state and tribal lands. • Identify all protected resources with special designations, and all special aquatic sites and Waters within state, local, and Federal protected lands. Avoid and minimize impacts in these areas. • Provide specific descriptions of proposed activities in CWA-regulated Waters, including grading plans and cross sections. Include the classification of Waters and the geographic extent of Waters and adjacent riparian areas. • Characterize the functional condition of Waters and adjacent riparian areas. Describe the extent and nature of stream channel alteration, riverine corridor continuity, and buffered tributaries. • Include in the Draft EIS an evaluation of wildlife species potentially affected by the project that could be expected to use Waters or associated riparian habitat, and sensitive plant species that are associated with waters/riparian habitat.	The project will not take place on tribal lands; therefore, CWA Section 401 Water Quality Certifications will be obtained from the Arizona Department of Environmental Quality. Picacho Reservoir is one of the few or only special aquatic sites in the study area. No construction will occur within this aquatic site. Under the project, flows into Picacho Reservoir may be increased slightly, a potential beneficial effect. Small, isolated patches of wetland vegetation occur at some locations where there is seepage of irrigation water from existing canal release gates. Improvement of the canal system would likely remove these areas of wetland vegetation. Since these are human-induced and isolated, the jurisdictional status of these areas (whether they constitute special aquatic sites under Section 404) is uncertain and must be determined by the U.S. Army Corps of Engineers. Refer to Chapter 3.0, Biological Resources and Riparian Zones and Wetlands for a characterization of the functional condition of Waters and adjacent riparian areas and a description of the biological resources potentially affected by the project, including those associated with Waters/riparian habitat.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
U.S. EPA Region 9 (continued)	
CWA Section 404 (continued) Avoidance and Minimization Measures To demonstrate compliance with CWA Guidelines, explore alternatives to avoid or minimize impacts to Waters. Recommendations: • Demonstrate how all potential effects to Waters will be avoided or minimized. If impacts cannot be avoided or minimized, the Draft EIS analyses should clearly demonstrate how cost, logistical, and/or technological constraints preclude avoidance and minimization of impacts. • Both temporary and permanent impacts on Waters for each alternative should be quantified; for example, acres of waters impacted, etc. It is helpful to present these numbers in a table for each alternative, listing each impacted water and wetland feature. • Identify design measures and modifications to avoid and minimize impacts to water resources. Quantify the benefits that would be achieved for each alternative studied, for example, acres of Waters avoided, number of stream crossings avoided, etc. • Include a compensation proposal for unavoidable impacts to CWA regulated waters that comply with the regulations for compensatory mitigation promulgated in April 2007 (40 CFR 230 Subpart J).	As noted previously, impacts on Waters would be limited to Bogart Wash. Because the design of this crossing has not been completed, details are not available to estimate the acreage of impact, etc. Based on available information, the development of a compensatory proposal would be premature. One alternative that would have resulted in additional impacts on Waters was initially considered for the project but was eliminated. This alternative would have used Picacho Reservoir as a regulating reservoir in lieu of building a new reservoir. Using this reservoir without major alteration would result in high seepage and evapotranspiration losses, which would have conflicted with the project's primary goal to conserve water. Substantial alteration of Picacho Reservoir to improve operational efficiency would be expected to have significant adverse effects on cultural and biological resources, including wetlands. Impacts to jurisdictional Waters at Picacho Reservoir under this alternative could have exceeded 2,500 acres.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
U.S. EPA Region 9 (continued)	
Canals The Draft EIS should include, in detail, a description of impacts to the canals and measures taken to protect water quality. Since portions of the project area may have historic significance, ground disturbance in these areas may expose archeological finds. Reclamation should contact the SHPO/Tribal Historic Preservation Officer prior to making alterations to structures over 50 years old, such as portions of the canals and wells, or ground disturbance adjacent to them.	The Florence and Florence–Casa Grande canals were determined eligible under Criterion A and recommended eligible under Criterion D. Both canals were documented in a previous SCIP Historic American Engineering Record document. For adjoining areas within the construction footprint, Reclamation is completing a Class III survey for historic and archaeological resources. Consultation with the SHPO is under way. Construction activities would not affect tribal land.
Air Quality The Draft EIS should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS), criteria pollutant and nonattainment areas, and potential air quality impacts of the proposed project (including cumulative and indirect effects). The Draft EIS should describe and estimate air emissions from the proposed project, including potential construction and maintenance activities as well as proposed mitigation measures to minimize those emissions. The Draft EIS should specify the pollutants and the emission sources: mobile sources, stationary sources, and/or ground disturbances. The Draft EIS should identify if there is a need for an Equipment Emissions Mitigation Plan. This plan would identify actions to reduce diesel particulate matter, carbon monoxide, hydrocarbons, and nitrogen oxides associated with construction activities. The Draft EIS should summarize all applicable air quality regulations and their implementing agencies for Pinal County, including required monitoring and enforcement.	Chapter 3.0, Air Quality and Climate, provides a detailed discussion of ambient air conditions, NAAQS, nonattainment areas, applicable air quality regulations and implementing agencies, and potential air quality impacts. The project is expected to contribute more to dust than emission pollutants. Minor, short-term increases in other criteria pollutants are anticipated during construction. Regional impacts from the action alternatives are unlikely to exceed NAAQS for any criteria pollutant because of the short-term nature and relatively small localized sources of emissions during construction. The study area has been recently designated as nonattainment for particulate matter under 10 microns (PM_{10}). The study area is not designated as nonattainment for any other criteria pollutants. Mitigation measures have been incorporated to reduce the generation of dust and equipment emissions (refer to Chapter 2, Table 1, for related mitigation measures). PM_{10} and particulate matter under 2.5 microns ($PM_{2.5}$) emission estimates associated with fugitive dust and combustion engine emissions were developed for construction activities under the action alternatives. The other criteria pollutants were not quantified because the project is in an attainment area for these pollutants and no conformity determination was required.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
U.S. EPA Region 9 (continued)	
Construction Emissions Mitigation The Draft EIS should include a thorough analysis of impacts from the construction of the proposed project alternatives. It should provide estimates of the emissions of all criteria pollutants and diesel particulate matter and list all applicable NAAQS, including the federal eight-hour ozone standard and the $PM_{2.5}$ standard. Furthermore, the area is violating the PM_{10} NAAQS, and EPA has proposed to redesignate it as nonattainment. The Draft EIS should disclose available information about the health risks associated with vehicle emissions and mobile source air toxics. Similarly, the Draft EIS should include a Construction Emission Mitigation Plan for fugitive dust and diesel particulate matter and commit to this plan in the Draft EIS.	Refer to previous response. Fugitive dust will be addressed through the Pinal County Nonattainment Area Dust Permit. Mitigation measures will be incorporated to reduce both the generation of dust and diesel particulate matter. Refer Chapter 2.0, Table 1, Air Quality, for related mitigation measures. Health risks associated with exposure to PM_{10}, vehicle emissions, and mobile source air toxics are described in the EA.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
U.S. EPA Region 9 (continued)	
Construction Emissions Mitigation (continued) The following mitigation measures should be included in the Construction Emission Mitigation Plan to reduce impacts associated with emissions of particulate matter and other toxics from construction related activities. Mobile and stationary controls: • Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. Control technologies such as particulate traps control approximately 80 percent of diesel particulate matter. Specialized catalytic converters (oxidation catalysts) control approximately 20 percent of diesel particulate matter, 40 percent of carbon monoxide emissions, and 50 percent of hydrocarbon emissions. • Ensure that diesel-powered construction equipment is properly tuned and maintained and shut off when not in direct use. • Reduce use, trips, and unnecessary idling from heavy equipment. • Prohibit engine tampering to increase horsepower and require continuing adherence to manufacturer's recommendations. • Locate diesel engines, motors, and equipment staging areas as far as possible from residential areas and sensitive receptors such as schools, daycare centers, and hospitals. • Require the use of low-sulfur diesel fuel (<15 parts per million sulfur) for diesel construction equipment. • Reduce construction-related trips of workers and equipment, including trucks. Develop construction traffic and parking management plans that minimize traffic interference and maintains traffic flow. • If practicable, the Draft EIS should commit to leasing new equipment that meets the most stringent of applicable Federal or state standards. In general, only Tier 2 or newer engines should be employed in the construction phase. • Use lower-emitting engines and fuels, including electric, liquefied gas, hydrogen fuel cells, and/or alternative diesel formulations.	Reclamation has not required the preparation of an equipment inventory prior to construction, as noted under the first bullet, because this would add significantly to project costs and there is no related regulatory requirement. Similarly, the cost of leasing new equipment, limiting use to Tier 2 or newer engines, or using only lower-emitting engines or fuels, as noted, would be prohibitive. To the extent practicable, however, mitigation measures have been incorporated into the EA to address the intent of the mitigation measures identified by the EPA for mobile and stationary controls. Refer to Chapter 2.0, Table 1, Air Quality. The use of low-sulfur diesel fuel was not considered feasible because it is not currently available in the project vicinity. The project is in a rural area and traffic volumes are quite low. In the limited locations where the canal intersects a public roadway, the EA commits to the use of flag persons, physical barriers, or electric signals to allow motorists to bypass any lane closures on public roads during construction activities (Chapter 2.0, Table 1, Transportation).

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
U.S. EPA Region 9 (continued)	
Construction Emissions Mitigation (continued) Fugitive Dust Source Controls: • Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate, to both inactive and active sites, at all times, particularly during windy conditions. • Install wind fencing and phase grading operations where appropriate and operate water trucks for surface stabilization under windy conditions. • When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour. Limit speed of earth-moving equipment to 10 miles per hour. • Develop construction traffic and parking management plans that minimize traffic interference and maintain traffic flow.	The mitigation measure related to dust suppression/ stabilization in the EA has been revised as follows to specifically reference staging areas and open stockpiles as well. To suppress dust on unpaved roads and staging areas, and to stabilize open stockpiles, the contractor would use watering trucks, chemical dust suppressants, or other reasonable precautions. The benefits of installing wind fencing would not be expected to outweigh the costs because of the long and narrow nature of the construction footprint. The contractor will obtain a Pinal County Nonattainment Area Dust Permit and comply with its terms and conditions as codified in the Pinal County Air Quality Control District Code of Regulations Chapter 4, Article 7, and Arizona Revised Statute Section 49-480. All active construction areas, including on-site haul roads, staging areas, and storage piles, will be effectively stabilized against dust emissions by applying water, chemical suppressants, and/or other reasonable measures. The contractor will apply water and/or chemical suppressants on all unpaved haul roads that are not public roads. Speeds of less than 25 miles per hour will be maintained on unpaved public roads that are used for construction haulage. Construction traffic plans will be developed where warranted.
Greenhouse Gases Executive Order 13423, "Strengthening Federal Environmental, Energy, and Transportation Management": "Section 2(a) state that federal agencies shall (a) improve energy efficiency and reduce greenhouse gas emissions of the agency, through reduction of energy intensity by (i) 3 percent annually through the end of fiscal year 2015, or (ii) 30 percent by the end of fiscal year 2015, relative to the baseline of the agency's energy use in fiscal year 2003," (page 12). Similarly, Executive Order 13514 states: "Federal Government should make reduction of greenhouse gas emissions a priority." The Draft EIS should discuss any project elements that will be major contributors to greenhouse gas and identify what practices or project elements will be incorporated to reduce greenhouse gas emissions to help meet this goal.	Greenhouse gases are discussed in Chapter 3.0, Air Quality and Climate. The project would not be a major contributor of greenhouse gases. Following construction, the rehabilitation and concrete lining of the canals would reduce overall maintenance needs compared with the No Action alternative. Air quality impacts from fugitive dust and engine exhaust would be substantially less (roughly 50 percent) than the No Action alternative due to a reduction in miles traveled by service vehicles to maintain a much more compact and concrete-lined mainstem canal system.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
U.S. EPA Region 9 (continued)	
Climate Change *Impacts on Climate Change on the project* The Draft EIS should include a description of climate change and its implications for the SCIP. For example, describe and evaluate projected climate change consequences, such as increased frequency of high-intensity storms, amplified rain events, and their potential effects on culverts and bridges. Consider the impacts of temperature increases and changes in water availability. Adaptation strategies should be identified and discussed.	Potential impacts on climate change are discussed in Chapter 3.0, Water Resources and Quality, Cumulative Effects, and Air Quality and Climate.
Climate Change (continued) *Cumulative Climate Change Impacts on Resources Also Affected by the Project* The Draft EIS should include a discussion on cumulative climate change impacts to resources that are also affected by the project. The Draft EIS should also clearly describe the effects of the project on water quality, riparian habitat, fish passage, and sensitive species in the context of climate change. Likewise, cumulative impacts on public health and environmental justice communities from climate change should be included in the Draft EIS. The EPA's report *Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems* suggests that environmental justice communities have less adaptive capacity and are thus more prone to disproportionate impacts from climate change.	Potential impacts on climate change are discussed in Chapter 3.0, Water Resources and Quality, Cumulative Effects, and Air Quality and Climate.
Direct, Indirect, and Cumulative Effects The National Environmental Policy Act requires evaluation of direct, indirect, and cumulative effects that are caused by the action (40 CFR 1508.8[b] and 1508.7). For the cumulative impacts assessment, we recommend focusing on resources of concern or resources that are "at risk" and/or significantly impacted by the proposed project, before mitigation. Identify all ongoing, planned, and reasonably foreseeable future projects in the study area that may contribute to cumulate impacts. If studies exist on the adverse environmental impacts of these other projects, use those studies as a source for quantifying cumulative impacts. If it is determined that significant cumulative effects would occur as a result of the proposed project, the Draft EIS should identify alternatives that would avoid, minimize, or mitigate adverse effects. Clearly state the lead agency's mitigation responsibilities and the mitigation responsibilities of other entities.	The EA considers direct, indirect, and cumulative effects and recommends mitigation measures for those resource topics where adverse effects could be reasonably mitigated.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
U.S. EPA Region 9 (continued)	
Consultation with Tribal Governments Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (November 6, 2000), was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications and to strengthen the U.S. government-to-government relationships with Indian tribes. The project area may include sites of cultural value to local tribes. The area around the SCIP is part of an integrated canal system that has been used by the tribes for generations. The EPA recommends the Draft EIS describe the process and outcome of government-to-government consultation between Reclamation and each of the tribal governments affiliated with the project area, issues that were raised (if any), and how those issues were addressed in relation to the proposed action and selection of a preferred alternative.	The list of tribes consulted is included in the EA.
National Historic Preservation Act (NHPA) and Executive Order 13007 The proposed SCIP includes ground disturbance, including grading, filling, vegetation clearing, paving, and increased vehicle traffic. This disturbance could have significant impacts on cultural, particularly tribal, resources. Consultation for tribal cultural resources is required under Section 106 of the NHPA. Historic properties, under the NHPA, are properties that are included in or meet the criteria for the National Register of Historic Places. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control affect historic properties, consult with the appropriate SHPO and/or the Tribal Historic Preservation Officer.	Consultation with the SHPO and Native American tribes has been initiated. Reclamation is completing a Class III survey for historic and archaeological resources. The cultural survey report is in preparation and will be submitted to the SHPO upon completion. Based on consultation with Native American tribes, no traditional cultural properties, including sacred sites, have been identified in the study area. Reclamation will develop a Programmatic Agreement with stipulations for treatment of historic properties. The project is not on tribal lands; therefore, consultation with the Gila River Indian Community Tribal Historic Preservation Office was not initiated.
Executive Order 13007, Indian Sacred Sites (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners, and to avoid adversely affecting the physical integrity, accessibility, or use of sacred sites. It is important to note that a sacred site may not meet the National Register of Historic Places criteria for a historic property and that, conversely, a historic property may not meet the criteria for a sacred site. Recommendations: • The Draft EIS should identify and sacred sites that would be affected by the proposed project and address how these sites will be protected. • Include in the Draft EIS any consultation with tribes regarding sites that would be affected by the proposed project.	Based on consultation with Native American tribes, no traditional cultural properties, including sacred sites, have been identified in the study area. The list of tribes consulted is included in the EA.

Summary of Agency Scoping Comments and Reclamation Responses

Name and Summary of Comments	Response
U.S. EPA Region 9 (continued)	
Environmental Justice In February 1994, the President issued Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations." The Draft EIS should describe measures taken by Reclamation to: (1) fully analyze the environmental effects of the proposed actions on minority and low-income populations, both within the affected tribes and in affected areas not on tribal land; and (2) present opportunities for affected communities to participate in the National Environmental Policy Act process, including information and participation materials in all languages spoken by those in affected areas. Please refer to the Council on Environmental Quality's *Environmental Justice Guidance Under the National Environmental Policy Act*, December 1997. Environmental Justice considerations may play an important role in the proposed project, both from the standpoint of anticipated benefits of the project and adverse impacts. In the context of "affected environment," the Draft EIS should document existing human health and environmental risks to which peopled in the project area are exposed. The document should also explore potential mitigation measures for any adverse effects to these communities.	Chapter 3.0 of the EA considers both potential adverse and beneficial effects related to Executive Order 12898 on Environmental Justice.
Species of Concern The EPA recommends that the Draft EIS include a complete review of species that would be affected by the project alternatives. The results of consultation with the U.S. Fish and Wildlife Service, if appropriate, regarding threatened or endangered species or critical habitat should be included in the Draft EIS. We encourage Reclamation to relocate, reduce, or eliminate portions of the project that adversely affect threatened, endangered, or candidate species or their potential habitat.	Chapter 3.0, Biological Resources, includes a review of species that could be affected by project alternatives. Refer also to the section on Riparian Zones and Wetlands. Consultation has been initiated with the U.S. Fish and Wildlife Service. A Draft Biological Assessment has been submitted. Reclamation is awaiting a draft Biological Opinion. A Biological Resources Protection Plan has been developed to incorporate wildlife and tortoise fencing, canal escape ramps, wildlife bridges, and wildlife water sources. The related commitments have been incorporated into the EA (Chapter 2.0, Table 1).
White Mountain Apache Tribe Historic Preservation Office	
There is no need to send additional information on the project to the White Mountain Apache Tribe Historic Preservation Office unless project planning or implementation results in the discovery of sites and/or items having known or suspected Apache cultural affiliation.	No response required unless planning or implementation results in the discovery of sites/items having known or suspected Apache affiliation.

APPENDIX C

Public Notices and Draft EA Responses

statutory authority responsibility to protect the park areas it administers and to manage the public use thereof (54 U.S.C. 100101, 100751, 3210102). NPS regulations codified in 36 CFR parts 1 through 7, 12 and 13 are designated to implement statutory mandates that provide for resource protection and pubic enjoyment. NPS Forms 10–404, ''Backcountry/Wilderness Use Permit Application'' and 10–404A, ''Backcountry/Wilderness Use Permit Hangtag'' are the primary forms used to provide access into NPS backcountry areas including those areas that require a reservation to enter where use limits are imposed in accordance with other NPS regulations. Such permitting enhances the ability to the NPS to educate users on potential hazards, search and rescue efforts, and resource protection.

II. Data

OMB Control Number: 1024–0022.
Expiration Date: May 31, 2016.
Title: Backcountry/Wilderness Use Permit (36 CFR 1.5, 1.6, and 2.10).
Service Form Numbers: NPS Forms 10–404, Backcountry/Wilderness Use Permit'' and 10–404A, ''Backcountry/Wilderness Use Permit Hangtag''.
Type of Request: Revision of a currently approved collection of information.
Description of Respondents: Individuals wishing to use backcountry and wilderness areas within national parks.
Estimated Average Number of Responses: 285,000.
Frequency of Response: 1 per respondent.
Estimated Average Time Burden per Respondent: 5 minutes.
Estimated Total Annual Reporting Burden: 23,750 hours.
Respondent's Obligation: Required to obtain or retain a benefit.

III. Comments

We invite comments concerning this information collection on:

- Whether or not the collection of information is necessary, including whether or not the information will have practical utility;
- The accuracy of our estimate of the burden for this collection of information;
- Ways to enhance the quality, utility, and clarity of the information to be collected; and
- Ways to minimize the burden of the collection of information on respondents.

Comments that you submit in response to this notice are a matter of public record. We will include or summarize each comment in our request to OMB to approve this IC. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Dated: September 8, 2016.

Madonna L. Baucum,

Information Collection Clearance Officer, National Park Service.

[FR Doc. 2016–22010 Filed 9–13–16; 8:45 am]

BILLING CODE 4310–EH–P

DEPARTMENT OF THE INTERIOR

Bureau of Reclamation

[RR03250000; XXXR4079V1; RA.R3441003.0960000]

Notice of Cancellation To Prepare a Draft Environmental Impact Statement for the San Carlos Irrigation Project, Arizona

AGENCY: Bureau of Reclamation, Interior.

ACTION: Notice.

SUMMARY: The Bureau of Reclamation (Reclamation) is terminating preparation of an Environmental Impact Statement (EIS) for the San Carlos Irrigation Project. The proposed project scope has been modified, and Reclamation has determined that an Environmental Assessment (EA) rather than an EIS is the appropriate level of environmental documentation for the proposed action.

FOR FURTHER INFORMATION CONTACT: Mr. Sean Heath at (623) 773–6250, or email at *sheath@usbr.gov.*

SUPPLEMENTARY INFORMATION: The proposed project includes rehabilitation and modernization of San Carlos Irrigation Project Joint Works and District Works irrigation canals. Primary components of the rehabilitation are the lining of all or most of the main canals with concrete to reduce seepage and evaporation losses from the system, the modification of the canal prism (cross-sections and profiles) to increase system efficiency, the inclusion of a water storage facility, and modernized measurement and control amenities to improve delivery service. To protect and preserve the new lined conveyance system, separate storm water drainage facilities would be dedicated to cross drainage storm water management.

A Notice of Intent to prepare the EIS for the San Carlos Irrigation Project was published in the **Federal Register** on August 31, 2010 (75 FR 53332). The proposed action was originally scoped as an EIS. Publication of the **Federal Register** notice was followed with a scoping letter to potentially interested individuals, organizations, tribes, and agencies, and posting of the notice on Reclamation's Phoenix Area Office Web site. In addition, a news release was submitted to 12 news media outlets. Two public scoping meetings were held to solicit public comment. Reclamation received nine comment letters regarding the proposed action, none of which identified potentially significant effects to the human environment.

The Notice of Intent described a proposal to rehabilitate and line up to 40 miles of major canals, such as the Florence-Casa Grande, Casa Grande, and North Side canals, along with construction of new check structures and cross-drainage features. During preparation of the EIS, a new alternative was subsequently developed that would reduce potential environmental impacts of the project. The new alternative would accommodate the delivery of irrigation flows during construction, thereby reducing potential adverse impacts to sensitive riparian habitat and bird species on the Gila River. Furthermore, the geographic scope of the rehabilitation was reduced from 40 miles to 25 miles. Reclamation has not identified other environmental effects of the proposed action that are potentially significant and would warrant us to consider preparation of an EIS over an EA. Based on the reduction in scope, and the limited response to solicitation of comments, Reclamation has determined that an EA is the appropriate level of environmental analysis for the proposed action.

Dated: September 8, 2016.

Marc Maynard,

Acting Regional Director, Lower Colorado Region.

[FR Doc. 2016–22053 Filed 9–13–16; 8:45 am]

BILLING CODE 4332–90–P

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Region
Phoenix Area Office
6150 West Thunderbird Road
Glendale, AZ 85306-4001

IN REPLY REFER TO:
PXAO-1500
ENV-6.00

MAY 15 2017

MEMORANDUM

To: All Interested Persons, Organizations, and Agencies

From: Leslie A. Meyers
Area Manager

Subject: Notice of Availability of a Draft Environmental Assessment (EA) for Rehabilitation of San Carlos Irrigation Project (SCIP) Facilities (Action by June 2, 2017)

The Bureau of Reclamation has issued a Draft EA to solicit public comments on the potential environmental effects of the proposed Phase 2, Reaches 1-3 rehabilitation of San Carlos Irrigation Project facilities. The Phase 2 project includes consolidation and concrete lining of primary irrigation canals, and construction of a regulating reservoir within the SCIP system in order to conserve surface water, reduce operational and maintenance costs, and improve irrigation water delivery service to the San Carlos Irrigation and Drainage District and the Gila River Indian Community. The project would be implemented to meet the objectives of the Gila River Indian Community Water Rights Settlement Agreement, as amended, pursuant to Title II of the Arizona Water Settlements Act of 2004 (Pub. L. 108-451). A public open-house style meeting will be held to solicit public comments on the potential environmental effects of the proposed action. The public meeting will be held:

Wednesday, May 24, 2017
6:00 p.m. to 8:00 p.m.
Coolidge Council Chambers
911 South Arizona Boulevard
Coolidge, Arizona 85128

A paper copy or CD of the Draft EA can be obtained by calling the Bureau of Reclamation at 623-773-6251, or via email at ajenkins@usbr.gov. The EA may be viewed on the Phoenix Area Office web site at http://www.usbr.gov/lc/phoenix/.

Comments should be submitted to Mr. Sean Heath at the Bureau of Reclamation, Phoenix Area Office, 6150 West Thunderbird Road, PXAO-1500, Glendale, Arizona 85306-4001; fax to 623-773-6481; or via email at sheath@usbr.gov, no later than June 2, 2017. By law, the names and addresses of those providing comments are available for public review. However, individuals may request that their name and/or address be withheld from the record. These requests will be honored to the extent allowable by law.

If you wish your name and/or address withheld, you must state this prominently at the beginning of your comment letter. All comments from organizations or businesses will be available for public inspection in their entirety.

For additional information regarding this matter, please contact Mr. Heath via email at shcath@usbr.gov, or by calling 623-773-6250.

7-1596B (9-08)

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DATE	SURNAME	CODE
5/12/17	S. Heath	1500
5/12/17	A Smith	1500
5/12/17	L Meyers	1100
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Classification		
Project		
Control No.		
Folder I.D.		

PXAO-1500
ENV-6.00

MAY 15 2017

MEMORANDUM

To: All Interested Persons, Organizations, and Agencies

From: Leslie A. Meyers
Area Manager

Leslie A. Meyers

Subject: Notice of Availability of a Draft Environmental Assessment (EA) for Rehabilitation of San Carlos Irrigation Project (SCIP) Facilities (Action by June 2, 2017)

The Bureau of Reclamation has issued a Draft EA to solicit public comments on the potential environmental effects of the proposed Phase 2, Reaches 1-3 rehabilitation of San Carlos Irrigation Project facilities. The Phase 2 project includes consolidation and concrete lining of primary irrigation canals, and construction of a regulating reservoir within the SCIP system in order to conserve surface water, reduce operational and maintenance costs, and improve irrigation water delivery service to the San Carlos Irrigation and Drainage District and the Gila River Indian Community. The project would be implemented to meet the objectives of the Gila River Indian Community Water Rights Settlement Agreement, as amended, pursuant to Title II of the Arizona Water Settlements Act of 2004 (Pub. L. 108-451). A public open-house style meeting will be held to solicit public comments on the potential environmental effects of the proposed action. The public meeting will be held:

Wednesday, May 24, 2017
6:00 p.m. to 8:00 p.m.
Coolidge Council Chambers
911 South Arizona Boulevard
Coolidge, Arizona 85128

A paper copy or CD of the Draft EA can be obtained by calling the Bureau of Reclamation at 623-773-6251, or via email at ajenkins@usbr.gov. The EA may be viewed on the Phoenix Area Office web site at http://www.usbr.gov/lc/phoenix/.

Comments should be submitted to Mr. Sean Heath at the Bureau of Reclamation, Phoenix Area Office, 6150 West Thunderbird Road, PXAO-1500, Glendale, Arizona 85306-4001; fax to 623-773-6481; or via email at sheath@usbr.gov, no later than June 2, 2017. By law, the names and addresses of those providing comments are available for public review. However, individuals may request that their name and/or address be withheld from the record. These requests will be honored to the extent allowable by law.

If you wish your name and/or address withheld, you must state this prominently at the beginning of your comment letter. All comments from organizations or businesses will be available for public inspection in their entirety.

For additional information regarding this matter, please contact Mr. Heath via email at sheath@usbr.gov, or by calling 623-773-6250.

Chrono 1500
WBR:SHeath:AEJ:5/11/2017:Ext. 6250
N:\Projects\Tribes\Gila River Indian Community (GRIC)\SCIP Rehab Phase 2 EA\NEPA\Draft EA\Public Draft

STATE OF ARIZONA
} ss.
COUNTY OF PINAL

BUREAU OF RECLAMATION
INVITES PUBLIC COMMENT
PROPOSED IRRIGATION
SYSTEM IMPROVEMENTS
PINAL COUNTY, ARIZONA

The Bureau of Reclamation (Reclamation) has made available for public review and comment the Draft Environmental Assessment (DEA) for the San Carlos Irrigation Project (SCIP) Facilities Phase 2 Rehabilitation, Reaches 1-3, Pinal County, Arizona. A public meeting has been scheduled to provide information and receive oral or written comments.

The proposed project would consolidate and line with concrete primary irrigation canals and construct a regulating reservoir in the SCIP canal delivery system to conserve surface water, reduce operational and maintenance costs, and improve irrigation water delivery service to the San Carlos Irrigation and Drainage District and the Gila River Indian Community. The rehabilitation and replacement activities are needed to update aging canal delivery structures, improve the hydraulic efficiency of the system, and minimize canal system water losses. Separate storm water drainage facilities are needed to protect and preserve the rehabilitated conveyance system. The DEA analyses three alternatives: one that would use the existing Florence-Casa Grande Canal alignment, one that would use the Florence Canal alignment, and a No Action alternative.

PUBLIC MEETING WILL BE HELD
Wednesday, May 24, 2017
6:00 p.m. to 8:00 p.m.
Coolidge Council Chambers
911 S. Arizona Boulevard
Coolidge, Arizona 85128

WRITTEN COMMENTS ON THE DEA SHOULD BE SUBMITTED ON OR BEFORE: FRIDAY, JUNE 2, 2017

WHERE TO FIND COPIES OF THE DEA:

* The DEA may be viewed at Reclamation's Phoenix Area Office web site at http://www.usbr.gov/lc/phoenix/.

* Paper copies of the DEA are available for public review and inspection at the Bureau of Reclamation, Phoenix Area Office, 6150 West Thunderbird Road, Glendale, Arizona 85306-4001.

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FOR ADDITIONAL INFORMATION

Affidavit of Publication

RUTH A. KRAMER first being duly sworn deposes and says: That he/she is a native born citizen of the United States of America, over 21 years of age, that I am an agent and/or publisher of the Coolidge Examiner, a weekly newspaper published at Coolidge, Pinal County, Arizona, Wednesday of each week; that a notice, a full, true and complete printed copy of which is hereunto attached, was printed in the regular edition of said newspaper, and not in a supplement thereto, for ONE consecutive issues. The first publication thereof having been on the 17TH

day of MAY A.D., 2017

Second publication _____

Third publication _____

Fourth publication _____

Fifth publication _____

Sixth publication _____

COOLIDGE EXAMINER

By _____
agent and/or publisher of the Coolidge Examiner

Sworn to before me this 22nd

day of May A.D., 2017

_____
Notary Public in and for the County
of Pinal, State of Arizona

Official Seal
NOTARY PUBLIC
State of Arizona
County of Pinal
CATHERINE ORTIZ
My Comm. Expires 7-13-2018

STATE OF ARIZONA }

COUNTY OF PINAL }

BUREAU OF RECLAMATION
INVITES PUBLIC COMMENT
PROPOSED IRRIGATION
SYSTEM IMPROVEMENTS
PINAL COUNTY, ARIZONA

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The proposed project would consolidate and line with concrete primary irrigation canals and construct a regulating reservoir in the SCIP canal delivery system to conserve surface water, reduce operational and maintenance costs, and improve irrigation water delivery service to the San Carlos Irrigation and Drainage District and the Gila River Indian Community. The rehabilitation and replacement activities are needed to update aging canal delivery structures, improve the hydraulic efficiency of the system, and minimize canal system water losses. Separate storm water drainage facilities are needed to protect and preserve the rehabilitated conveyance system. The DEA analyses three alternatives: one that would use the existing Florence-Casa Grande Canal alignment, one that would use the Florence Canal alignment, and a No Action alternative.

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911 S. Arizona Boulevard
Coolidge, Arizona 85128

WRITTEN COMMENTS ON THE DEA SHOULD BE SUBMITTED ON OR BEFORE: FRIDAY, JUNE 2, 2017

WHERE TO FIND COPIES OF THE DEA:

* The DEA may be viewed at Reclamation's Phoenix Area Office web site at http://www.usbr.gov/lc/phoenix/.
* Paper copies of the DEA are available for public review and inspection at the Bureau of Reclamation, Phoenix Area Office, 6150 West Thunderbird Road, Glendale, Arizona 85306-4001.
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FOR ADDITIONAL INFORMATION CONTACT:

Affidavit of Publication

RUTH A. KRAMER first being duly sworn deposes and says: That he/she is a native born citizen of the United States of America, over 21 years of age, that I am an agent and/or publisher of the the Florence Reminder & Blade-Tribune, a weekly newspaper published at Florence, Pinal County, Arizona, on Thursday of each week; that a notice, a full, true and complete printed copy of which is hereunto attached, was printed in the regular edition of said newspaper, and not in a supplement thereto, for ONE consecutive issues. The first publication thereof having been on the 18TH

day of MAY A.D., 2017

Second publication _____

Third publication _____

Fourth publication _____

Fifth publication _____

Sixth publication _____

FLORENCE REMINDER & BLADE-TRIBUNE

By _____
agent and/or publisher of the Florence Reminder & Blade-Tribune

Sworn to before me this 22nd

day of May A.D., 2017

Catherine Ortiz

Notary Public in and for the County
of Pinal, State of Arizona

Official Seal
NOTARY PUBLIC
State of Arizona
County of Pinal
CATHERINE ORTIZ
My Comm. Expires 7-13-2018

Kent Taylor
Open Space and Trails
Director

Greg Stanley
County Manager

PINAL COUNTY

June 22, 2017

Sean Heath
Bureau of Reclamation, Phoenix Area Office
6150 West Thunderbird Road
Glendale, Arizona 85306

Re: Draft Environmental Assessment: San Carlos Irrigation Project Facilities, Phase 2 Rehabilitation Reaches 1-3, Pinal County

Thank you for the opportunity to provide comment on the above project. The Pinal County Open Space and Trails Master Plan (OSTMP, map attached) provides the County's vision for future regional park, trail and open space opportunities within the County. In the above project, there are opportunities for future partnerships which would assist Pinal County in achieving this vision. Specifically,

- Picacho Reservoir has a long history in Pinal County of providing a variety of recreational opportunities for both residents and visitors. We understand that the Bureau of Reclamation (BOR) will be constructing a "regulating reservoir" immediately adjacent to the Picacho Reservoir.

  Pinal County is requesting that BOR work with us and other willing partners to develop the regulating reservoir in such a way as it can meet its purpose, but also provide opportunities as a recreational amenity, accessible to the public. We understand that the Arizona Game and Fish Department has made a similar request and ask that any meeting of stakeholders on this subject include both AZGFD and Pinal County.

- Pinal County has planned a regional trail network which connects communities, parks and recreational opportunities throughout the County. Integral in this network is the opportunity to co-locate recreational trails in conjunction with other linear infrastructure, such as canals, power lines, roads etc.

  The southern portion of the above project offers future regional trail opportunities as identified in the OTMP and we respectfully request that these connections be considered within this project.

Thank you for your time and consideration.

Sincerely,

Kent A. Taylor, Director
Pinal County
Open Space and Trails Department
PO Box 2973
Florence, AZ 85132

PINAL COUNTY Open Space and Trails Master Plan

Existing/Planned Multi-Use trail Corridor
Proposed Multi-Use Trail Corridor
Adopted County Trail Corridor
Planned/Existing OHV Trail
Proposed OHV Trail

Proposed Open Space
Existing/Planned Open Space
Existing/Planned or Proposed Regional Park
Restricted Use Open Space
Indian Reservation Land

Miles
0 2.5 5 10

NORTH

Superstition Wilderness Area
Tonto National Forest
Superior
White Canyon Wilderness Area
Apache Junction
OLD WEST HWY
Queen Creek
Santan Mountain Regional Park
Gila River Indian Community
Maricopa
Ak-Chin Indian Community
MARICOPA CASA GRANDE HWY
HUNT HWY
Florence
Casa Grande Ruins National Mounment
Coolidge
Randolph
Casa Grande
Stanfield
Pinal County Fairgrounds
Casa Grande Mountains
Sonoran Desert National Monument
Table Top Wilderness Area
Arizona City
Eloy
Picacho
Tohono O'Odham Nation
Ironwood Forest National Monument
Red Rock
Ironwood Forest National Monument
Marana
FLORENCE KELVIN HWY
Riverside
Kearny
Winkelman
Dudleyville
San Carlos Apache Tribe
Aravaipa Canyon Wilderness Area
Aravaipa
Mammoth
PARK LINK DR
Oracle
San Manuel
Oracle Junction
Tortolita Mountains
Coronado National Forest

PINAL • COUNTY
Wide open opportunity

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV
REGION V, 555 N. GREASEWOOD ROAD, TUCSON, AZ 85745

GOVERNOR
DOUGLAS A. DUCEY
COMMISSIONERS
CHAIRMAN, EDWARD "PAT" MADDEN, FLAGSTAFF
JAMES R. AMMONS, YUMA
JAMES S. ZIELER, ST. JOHNS
ERIC S. SPARKS, TUCSON
KURT R. DAVIS, PHOENIX
DIRECTOR
LARRY D. VOYLES
DEPUTY DIRECTOR
TY E. GRAY

SENT ELECTRONICALLY

June 22, 2017

Sean Heath
Bureau of Reclamation, Phoenix Area Office
6150 West Thunderbird Road
Glendale, Arizona 85306

Electronic Submission via email: sheath@usbr.gov with subject "AGFD Comments NOA DEA Rehab of SCIP Facilities"

Re: Draft Environmental Assessment: San Carlos Irrigation Project Facilities, Phase 2 Rehabilitation Reaches 1-3, Pinal County

The Arizona Game and Fish Department (Department) has reviewed the Bureau of Reclamation's (BOR) above referenced draft environmental assessment (EA). We refer you to our previous comments during scoping and incorporate them here by reference. In those comments we discussed design features for minimizing impacts to fish and wildlife resources, which include: wildlife and tortoise fencing, bridges for facilitation of wildlife movement, passive fish barriers, etc. The Department provides the following additional comments and considerations for the development of the final EA. Specific comments are provided in a short spreadsheet (attached).

The Department recognizes the action alternatives would allow the potential diversion and delivery of water from the Gila River during storm events making its way to Picacho Reservoir in an increased amount and frequency. This may include the increase in total area of wetland and riparian vegetation during those high flow periods if water remains stored in the reservoir. The reservoir has been an important area for fish and wildlife related recreation intermittently over many years. Recently the reservoir has been dry more often than wet due to diminished precipitation, increased vegetation, and sedimentation coupled with increased aridity in the climate. Rehabilitation of the reservoir is highly desirable by the Department as is maintaining permanent water for recreational opportunity. We request that Reclamation further examine opportunities for providing additional fish and wildlife habitat and opportunities for the public to access wildlife resources in the vicinity of Picacho Reservoir to include the 19 acre regulating reservoir. We understand it will be lined with soil cement or geomembrane. We request this pond be considered to dually serve for fish and wildlife habitat and be accessible to the public.

Since the time we last met on the ground and offered scoping comments, SCIP has restricted public access for the first time (to our knowledge) in the history of Picacho Reservoir. Motorized

access to the lake has been blocked and the lake has been posted "U.S. Government, No Trespassing." This is a situation the Department never anticipated at the time of scoping, and one which we take very seriously.

The Department owns property at Picacho Reservoir very near the proposed regulating reservoir (see attached map) which was purchased for sensitive species management and wildlife recreation purposes. We require access to our property for management purposes. We also insist on public access to the reservoir and to our property so the public can utilize the wildlife resources we manage for them there. The Department formally requests that a designated motorized access route, and the minimum necessary associated infrastructure, which allows the public to access our property and the best part of the reservoir for launching of small watercraft be part of the design of the project.

In general, Reclamation has been very cooperative as anticipated by the NEPA, Fish and Wildlife Coordination Act, and various means by which we may formally coordinate. Reclamation has incorporated many of the features the Department has recommended. We would like to meet with you again to discuss this letter and our access needs to Picacho Reservoir and new recreational opportunities.

The Department appreciates the opportunity to review and comment on this project. We look forward to continued coordination and collaboration on the design features of the project related to fish and wildlife resources. If you have any questions concerning this letter, please contact John Windes at jwindes@azgfd.gov or 520-628-5376.

Sincerely,

John Windes
Habitat, Evaluation and Lands Program Manager, Tucson

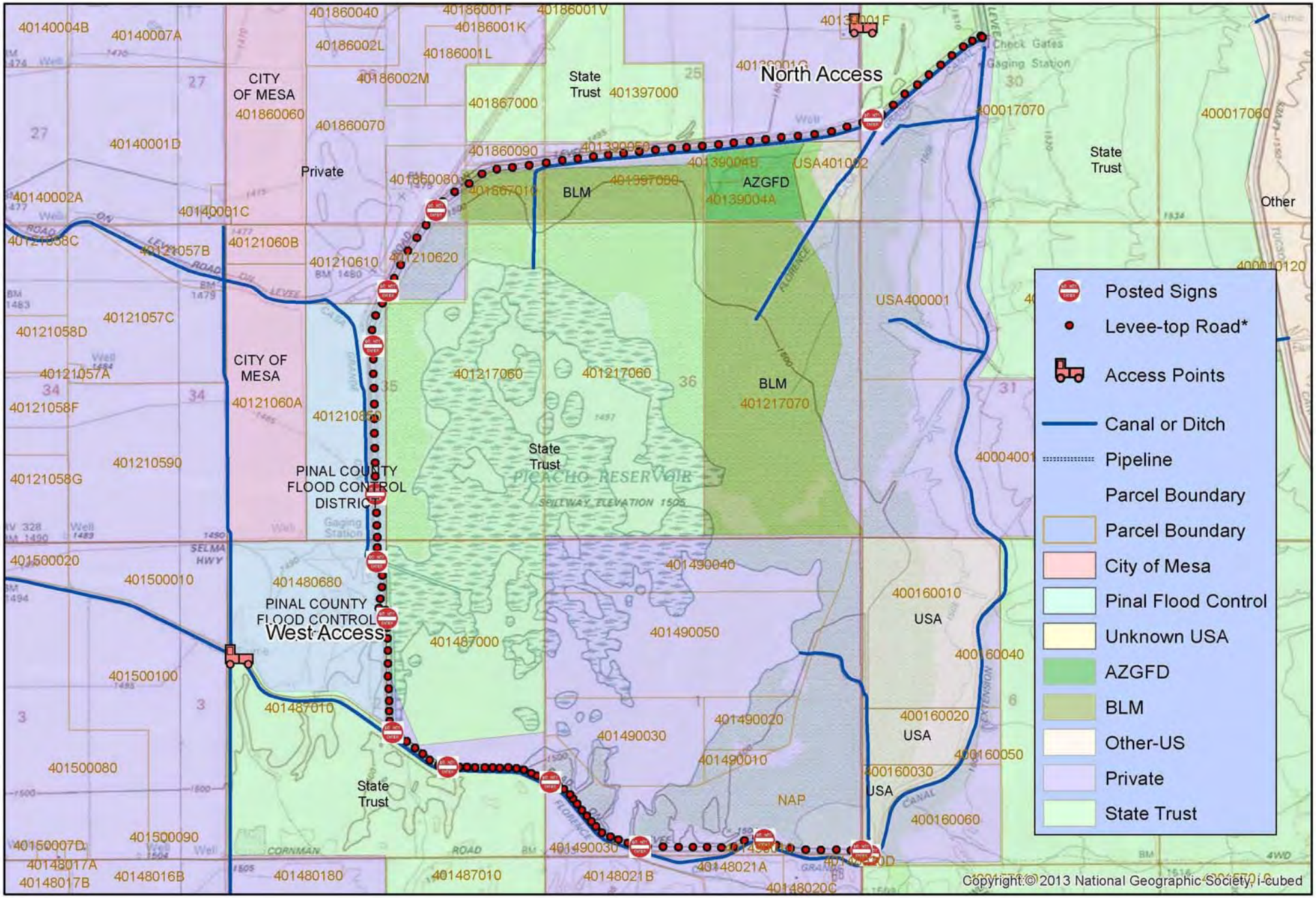
Cc: Joyce Francis, Habitat Branch Chief
Laura Canaca, Project Evaluation Program Supervisor
Kelly Wolff-Krauter, HEL Program Manager Mesa
James Ruff, Land and Water Program Supervisor

Attachments:

- Spreadsheet with specific comments
- Map showing locations of "No Trespassing" signs

AGFD Log# M17-05180100

Parcel Ownership - Picacho Reservoir Area



SCIP AGFD Comments

Page	Section	Subsection	Comment	Reviewer
			Table 12 cites a 2002 ANS Plan that is outdated. The table needs revision to reflect the Arizona Invasive Species Management Plan of 2011.definition in the 2011 plan, AIS "does not include any nonindigenous species lawfully or historically introduced into this state for sport fishing recreation". This runs counter to species in Table 12.	dw
	3.11.1		Needs to be rewritten	dw
	3.11		Fails to recognize the potential for downstream movement of fishes out of Aravaipa Creek and into the study reach, whereby they can be "taken" by water shutdowns resulting in drying of the Gila.	dw
			Table 9 is missing loach minnow, which similar to spikedace, may out migrate from Aravaipa during wet seasons.	dw
22	2.3.3	Reach 3A	Reach 3B will bisect area of proposed multi-use recreational trail as part of the Pinal County Open Space and Trails Master Plan (2007). Is there a way to include funding/mitigation for a crossing structure at a later date?	CH
28	2.3.7	Proposed Action - Management of Irrigation Water During Construction	How does an "extended" 5-3-5 dry-up schedule affect water levels in Picacho Reservoir during winter months? This is valuable wintering habitat for waterfowl as well as a key duck hunting areas. Dewatering for extended periods during construction will adversely affect these recretional opportunities.	CH
38			Certified weed free native seed mix should be used only	kwk
40		Wildlife exclusion fence	The Department request to work with SCIDD for specifications and locations.	kwk
40		Wildife crossing	The Department request to work with SCIDD for specifications and locations.	
41	Table 1	Wildife Impacts mitigation financial assurance fund	SCIDD would work with the Department to determine adaptive management needs to ensure fish and wildife resources impacts are minimized	kwk
42	Table 1	Installation of wildife drinker	The Department request SCIDD work with the Wildilfe Manager directly for determining placement of the drinker and final design.	kwk

Summary of Comments Received on Draft Environmental Assessment and Reclamation Responses

Summary of Comments	Response
Public Comments	
Email submitted May 24, 2017:	
• Responder stated objection to the project.	Comment noted.
• Responder expressed concern that project implementation would have a negative impact on the environment (i.e., vegetation and water supply to animals) and would also negatively impact property values.	Comment noted. Environmental impacts are evaluated in Chapter 3 of the Environmental Assessment (EA).
• Responder also expressed concern that their existing well, which they indicate is in close proximity to the existing canal, could be impacted by project implementation.	To the extent possible, potential impacts to adjacent wells are discussed in the EA in Section 3.9.
Agency Comments	
Arizona Game and Fish Department letter from John Windes, Director, Evaluation and Lands Program Manager, Tucson, submitted June 22, 2017:	
• Asked that previous comments made during scoping be incorporated by reference.	Comment noted (refer to Appendix B).
• The Arizona Game and Fish Department (AGFD) notes that the project has the potential to increase the amount and frequency of water being discharged to Picacho Reservoir, which might increase the total area of wetland and riparian vegetation during some periods.	Based on design and engineering evaluations completed to date, it is now anticipated that storm flows into Picacho Reservoir would be reduced. However, the planned rehabilitation of the inlet structure would facilitate the capture of storm flows that reach the reservoir, and this water would not be withdrawn for irrigation purposes. The net effect on surface water availability, riparian habitat, and wetlands at Picacho Reservoir is difficult to quantify; however, it appears unlikely to result in an increase in riparian and wetland vegetation and may result in a decrease in this vegetation. The Final EA was revised to reflect this change.

Summary of Comments Received on Draft Environmental Assessment and Reclamation Responses

Summary of Comments	Response
• Picacho Reservoir has been an important area for fish- and wildlife-related recreation intermittently over many years; however, recently the reservoir has been dry more than wet due to diminished precipitation, increased vegetation, and sedimentation coupled with increased aridity in the climate. Rehabilitation of the reservoir and maintaining permanent water in it for recreational opportunity is important to the AGFD. The AGFD requests that the Bureau of Reclamation (Reclamation) further examine opportunities for providing additional fish and wildlife habitat and opportunities for the public to access wildlife resources in the vicinity of Picacho Reservoir and requests that the proposed 19-acre regulating reservoir be considered to dually serve for fish and wildlife habitat and be accessible to the public.	As noted in response to the previous comment, an increase in permanent water in the reservoir is not anticipated. Providing additional fish and wildlife habitat opportunities for the public to access at Picacho Reservoir and the new regulating reservoir is outside the purview of Reclamation and is beyond the purpose and need for this project. The AGFD letter has been forwarded to the Bureau of Indian Affairs (BIA)/San Carlos Irrigation Project (SCIP) and the San Carlos Irrigation and Drainage District (SCIDD).
• The AGFD expressed concern that since the time the agency provided scoping comments, SCIP restricted public access to Picacho Reservoir, blocking motorized access to the lake and posting No Trespassing signs. The AGFD owns property at Picacho Reservoir, which is also near the proposed regulating reservoir. This land was purchased for sensitive species management and wildlife recreation purposes. The AGFD requires access to its property and insists on public access to the reservoir and the AGFD property. The AGFD requests that a designated motorized access route and associated infrastructure be part of the project design to allow public access to AGFD property and the best part of the reservoir for launching small watercraft.	The No Trespassing signs and motorized access restrictions are outside the scope of this EA and outside Reclamation's purview. The AGFD response letter has been forwarded to the BIA/SCIP.
• Reclamation has incorporated many of the features the AGFD recommended. The AGFD requests an opportunity to meet with Reclamation again to discuss the comments on the Draft EA, access needs to Picacho Reservoir, and new recreational opportunities.	Public access to Picacho Reservoir and new recreational opportunities are outside the scope of this EA and outside Reclamation's purview. AGFD comments on the Draft EA have been forwarded to the BIA/SCIP.

Summary of Comments Received on Draft Environmental Assessment and Reclamation Responses

Summary of Comments	Response
• Table 12 of the Draft EA cites a 2002 Aquatic Nuisance Species Plan that is outdated. The table needs to be revised to reflect the Arizona Invasive Species Management Plan of 2011. As defined in the 2011 plan, Arizona Invasive Species do "not include any nonindigenous species lawfully or historically introduced into this state for sport fishing recreation." This runs counter to species in Table 12.	The Final EA has been revised to address this concern. The table (now Table 13) identifies the species listed therein as nonindigenous aquatic and semiaquatic species, and the text clarifies that the bullfrog is the only Aquatic Invasive Species identified in the 2011 Plan (Priority 3).
• Section 3.11 fails to recognize the potential for downstream movement of fishes out of Aravaipa Creek and into the study reach, whereby they could be "taken" by water shutdowns resulting in drying of the Gila River.	The EA has been revised to address this concern. Specifically, it discusses the potential for dry-ups to impact individual spikedace or loach minnows that may be transported from known populations in Aravaipa Creek.
• Table 9 is missing loach minnow, which, similar to spikedace, may out-migrate from Aravaipa Creek during wet seasons.	The EA has been revised to address this concern. Loach minnow has been added to what is now Table 10.
• Reach 3B will bisect an area of proposed multi-use recreational trail as part of the Pinal County Open Space and Trails Master Plan (2007). Is there a way to include funding/mitigation for a crossing structure at a later date (Section 2.3.7, page 22)?	Based on a conversation with Kent A. Taylor, Director, Pinal County Open Space and Trails Department, the referenced trail is a proposal by the City of Coolidge. The Final EA was revised to document that a segment of new canal would cross the alignment of a proposed multi-use trail.
• How does an "extended" 5-3-5 dry-up schedule affect water levels in Picacho Reservoir during winter months under the Proposed Action? This is valuable wintering habitat for waterfowl as well as a key duck-hunting area. Dewatering for extended periods during construction will adversely affect these recreational opportunities (Section 2.3.7, page 28).	The inflows to Picacho Reservoir under existing conditions are infrequent, occurring on average a few times per year. Therefore, the 5-3-5 dry-up schedule would not substantially affect water levels in the reservoir in winter. However, after rehabilitation, irrigation flows in the main canal won't be conveyed to Picacho Reservoir—only storm flows from the dedicated drainage channel (the existing Florence–Casa Grande Canal). With implementation of the Proposed Action, the frequency and amount of flow conveyed to Picacho Reservoir would be lessened.

Summary of Comments Received on Draft Environmental Assessment and Reclamation Responses

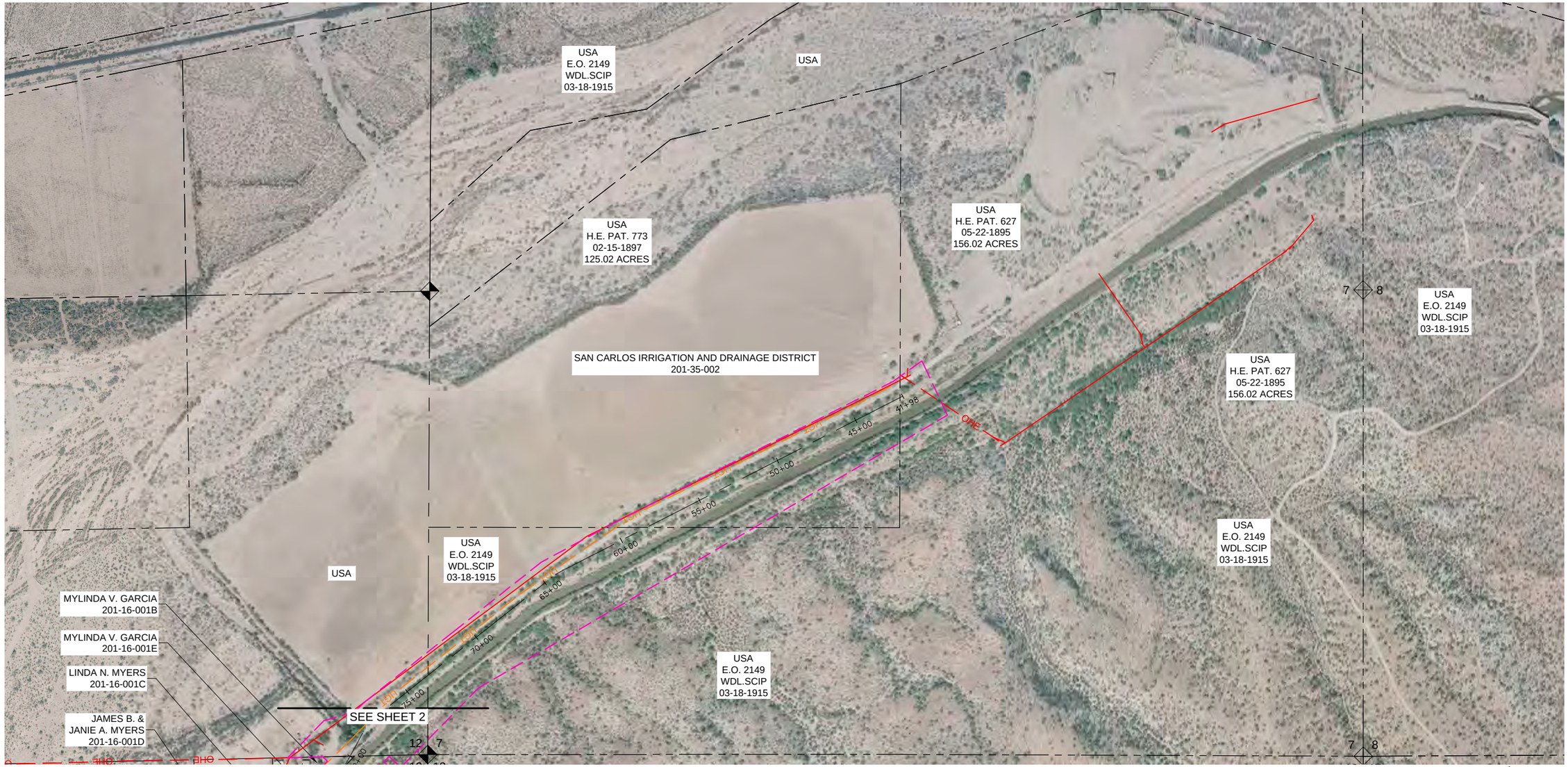
Summary of Comments	Response
• Certified weed-free native seed mix should be used only (page 38).	The environmental commitment related to the seeding of disturbed areas has been revised to specify that certified weed-free seed mix will be used (Table 1).
• The AGFD requests to work with SCIDD for specifications and locations of the wildlife exclusion fence and wildlife crossings (page 40).	Wildlife fence specifications developed by the AGFD were incorporated into the design of the proposed action. The approximate location of the wildlife crossing was identified in the SCIDD Final Wildlife Protection Plan, which was developed in partnership with the AGFD.
• Regarding the wildlife impacts mitigation financial assurance fund, SCIDD would work with the AGFD to determine adaptive management needs to ensure fish and wildlife resources impacts are minimized (page 41, Table 1).	Comment noted.
• Requests SCIDD work directly with the AGFD Wildlife Manager for determining placement of the wildlife drinker and final design (page 42, Table 1).	The approximate location of the wildlife drinker was identified in the SCIDD Final Wildlife Protection Plan.
Pinal County, letter from Kent A. Taylor, Director, Pinal County Open Space and Trails Department, submitted June 22, 2017:	
• The Pinal County Open Space and Trails Master Plan provides the county's vision for future regional park, trail, and open space opportunities in the county.	Comment noted and information forwarded to BIA/SCIP and SCIDD.
• Pinal County requests that Reclamation work with the county and other willing partners to develop the regulating reservoir in such a way that it can meet its purpose but also provide opportunities as a recreational amenity accessible to the public. We understand that the AGFD has made a similar request and ask that any meeting of stakeholders on this subject include the AGFD and Pinal County.	Providing additional recreational opportunities for the public at the new regulating reservoir is outside the purview of Reclamation and is beyond the purpose and need for this project. Pinal County's comments on the Draft EA have been forwarded to the BIA/SCIP and SCIDD.

Summary of Comments Received on Draft Environmental Assessment and Reclamation Responses

Summary of Comments	Response
• Pinal County has planned a regional trail network that connects communities, parks, and recreational opportunities throughout the county. Integral in this network is the opportunity to co-locate recreational trails in conjunction with other linear infrastructure, such as canals, power lines, roads, etc. The southern portion of the project offers future regional trail opportunities, as identified in the Open Space and Trail Master Plan, and we respectfully request that these connections be considered in this project.	Comment noted. Pinal County's comments on the Draft EA have been forwarded to the BIA/SCIP and SCIDD.

APPENDIX D

Potential Construction Areas and Temporary Construction Easements—Proposed Action



LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- OVERHEAD ELECTRIC (OHE)
- EX WATER LINE (W)
- EX GAS LINE (G)
- UNDERGROUND FIBER OPTIC (UGFO)
- EX STORM DRAIN (SD)
- SECTION CORNER (NOT SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

GCE inc.
GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-01
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT
REACH 1
COOLIDGE, ARIZONA

SECTIONS 7 & 8 T4S - R11E
SECTION 12 T4S - R10E

1 OF 4

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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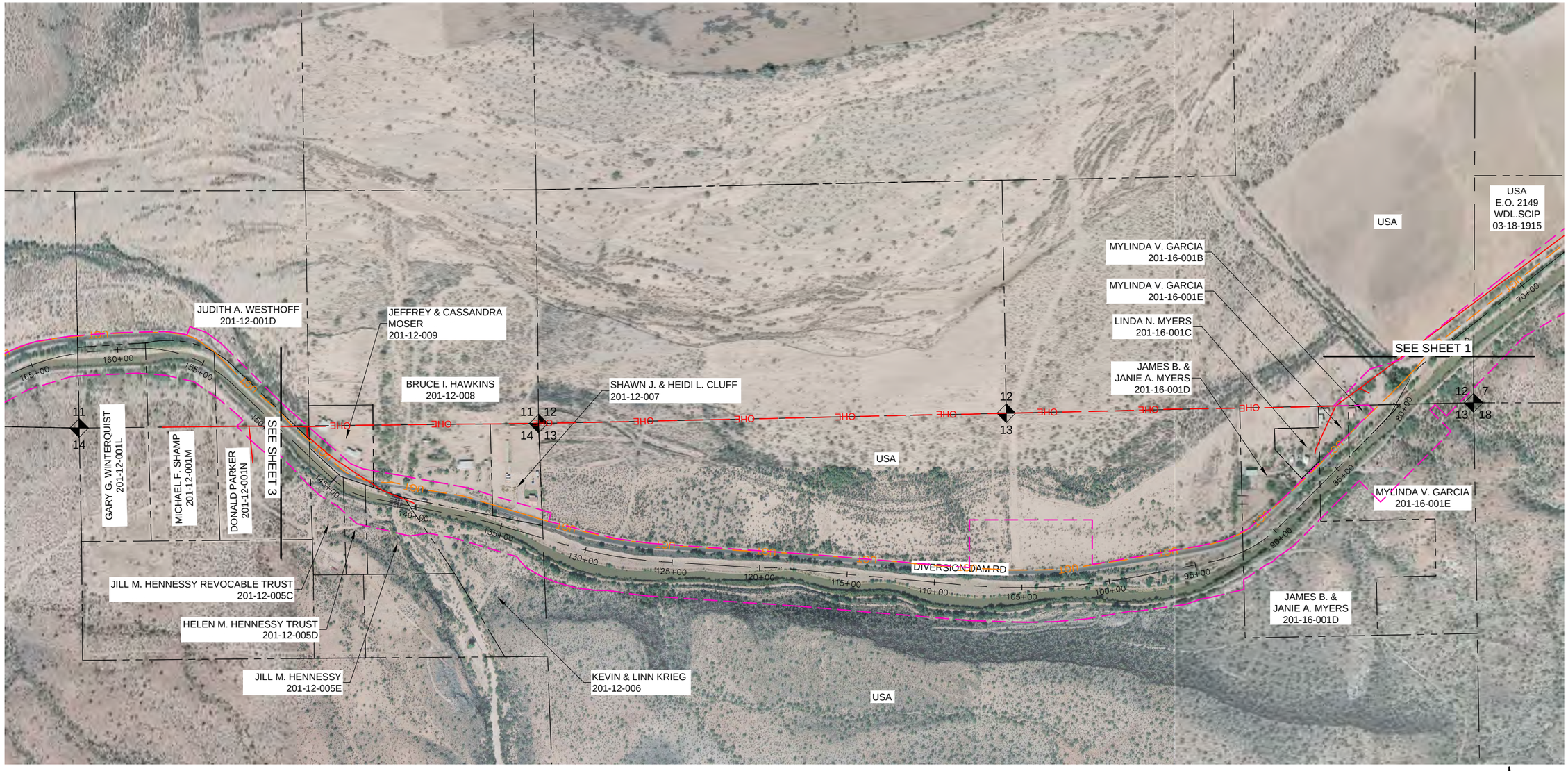

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- OVERHEAD ELECTRIC
- EX WATER LINE
- EX GAS LINE
- UNDERGROUND FIBER OPTIC
- EX STORM DRAIN
- SECTION CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-01
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT
REACH 1
COOLIDGE, ARIZONA

SECTIONS 11, 12, 13, & 14
T4S - R10E

2 OF 4

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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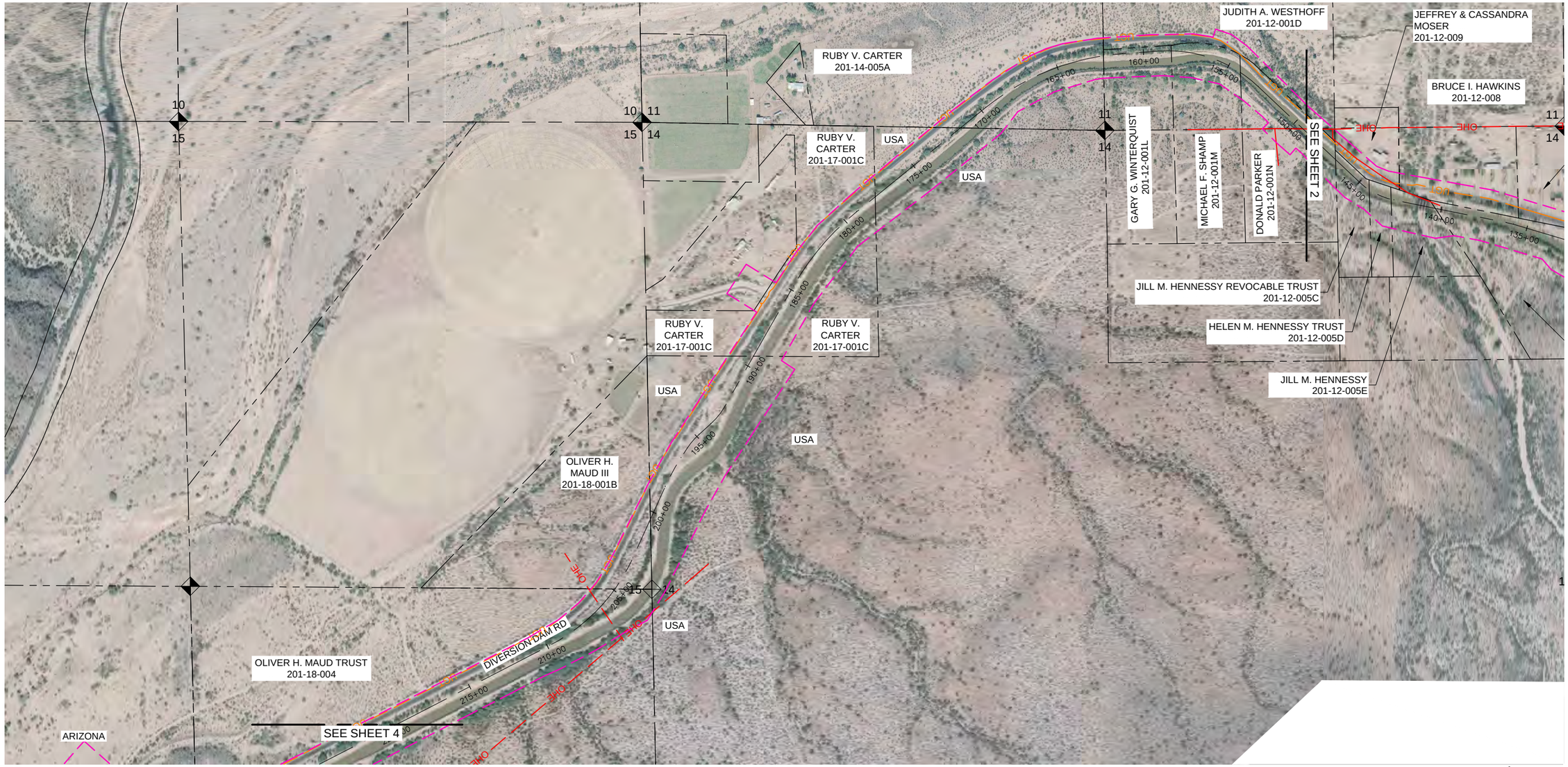

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- OVERHEAD ELECTRIC (OHE)
- EX WATER LINE (W)
- EX GAS LINE (G)
- UNDERGROUND FIBER OPTIC (UGFO)
- EX STORM DRAIN (SD)
- SECTION CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

GCE Inc.
GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY: J. GARDENER
DRAWN BY: P. ESQUER
APPROVED BY: S. HINDMAN
DRAWING: SCR-01
PLOT DATE: MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT
REACH 1
COOLIDGE, ARIZONA

SECTIONS 11, 14, & 15
T4S - R10E

3 OF 4

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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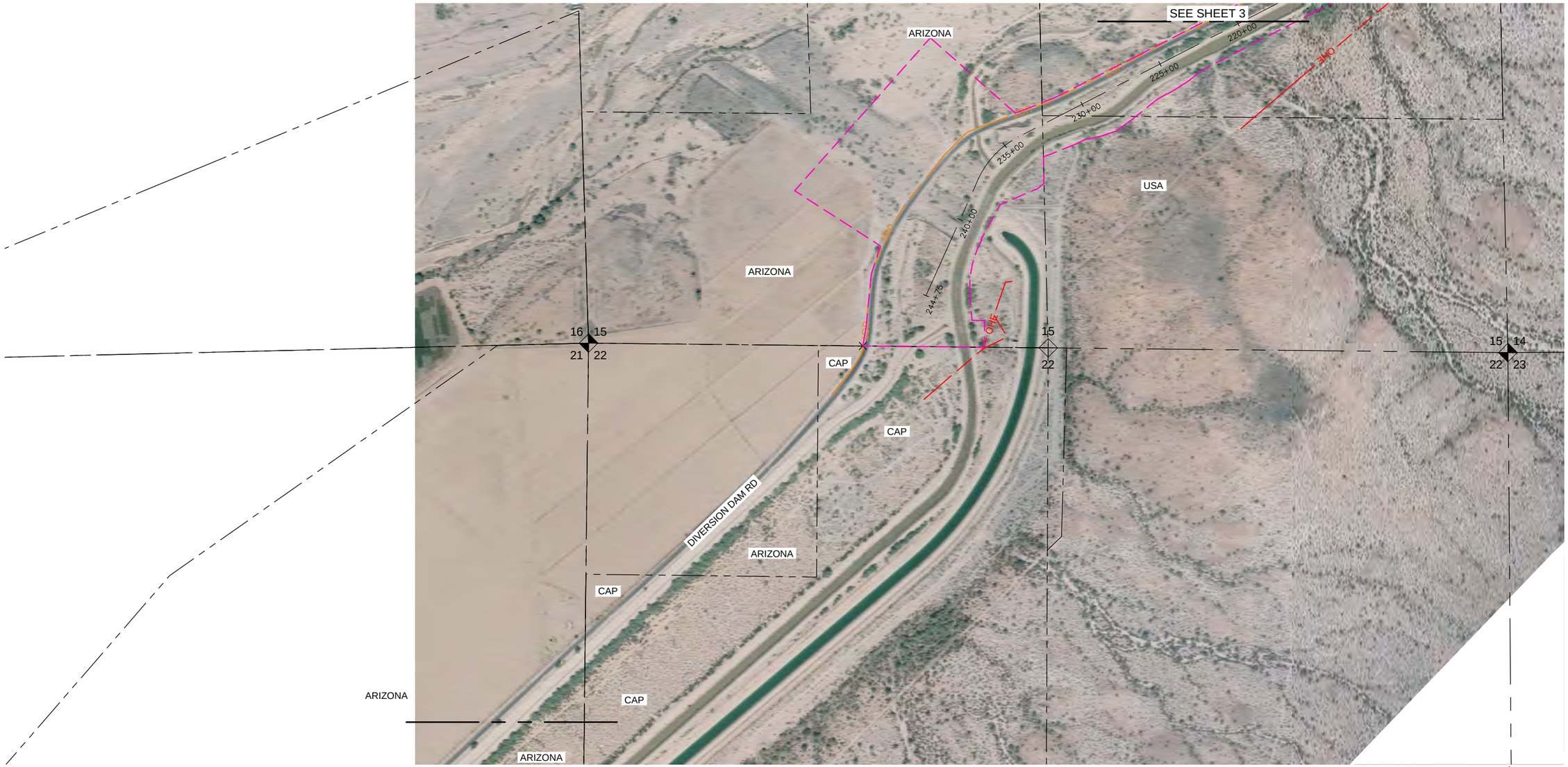

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- OVERHEAD ELECTRIC
- EX WATER LINE
- EX GAS LINE
- UNDERGROUND FIBER OPTIC
- EX STORM DRAIN
- SECTION CORNER (NOT SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (SURVEYED)

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY: J. GARDENER
DRAWN BY: P. ESQUER
APPROVED BY: S. HINDMAN
DRAWING: SCR-01
PLOT DATE: MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT
REACH 1
COOLIDGE, ARIZONA

SECTIONS 15, 21, & 22
T4S - R10E

4 OF 4

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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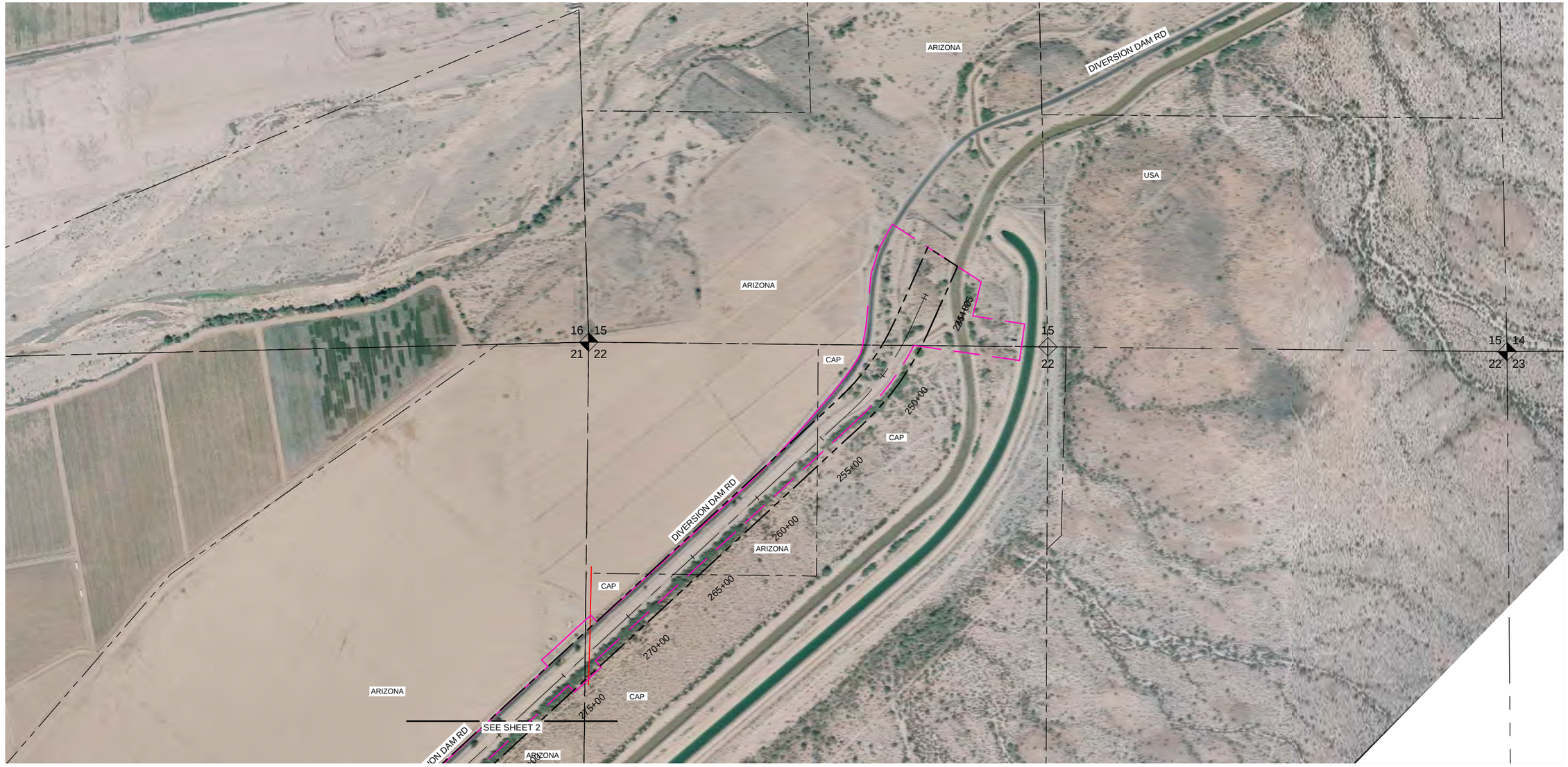

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- RIGHT-OF-WAY
- OHE — OVERHEAD ELECTRIC
- UGE — UNDERGROUND ELECTRIC
- W — EX WATER LINE
- G — EX GAS LINE
- UGFO — UNDERGROUND FIBER OPTIC
- SD — EX STORM DRAIN
- SECTION CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

GCE Inc.
GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-02
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTIONS 15, 21, & 22
T04S - R10E

1 OF 13

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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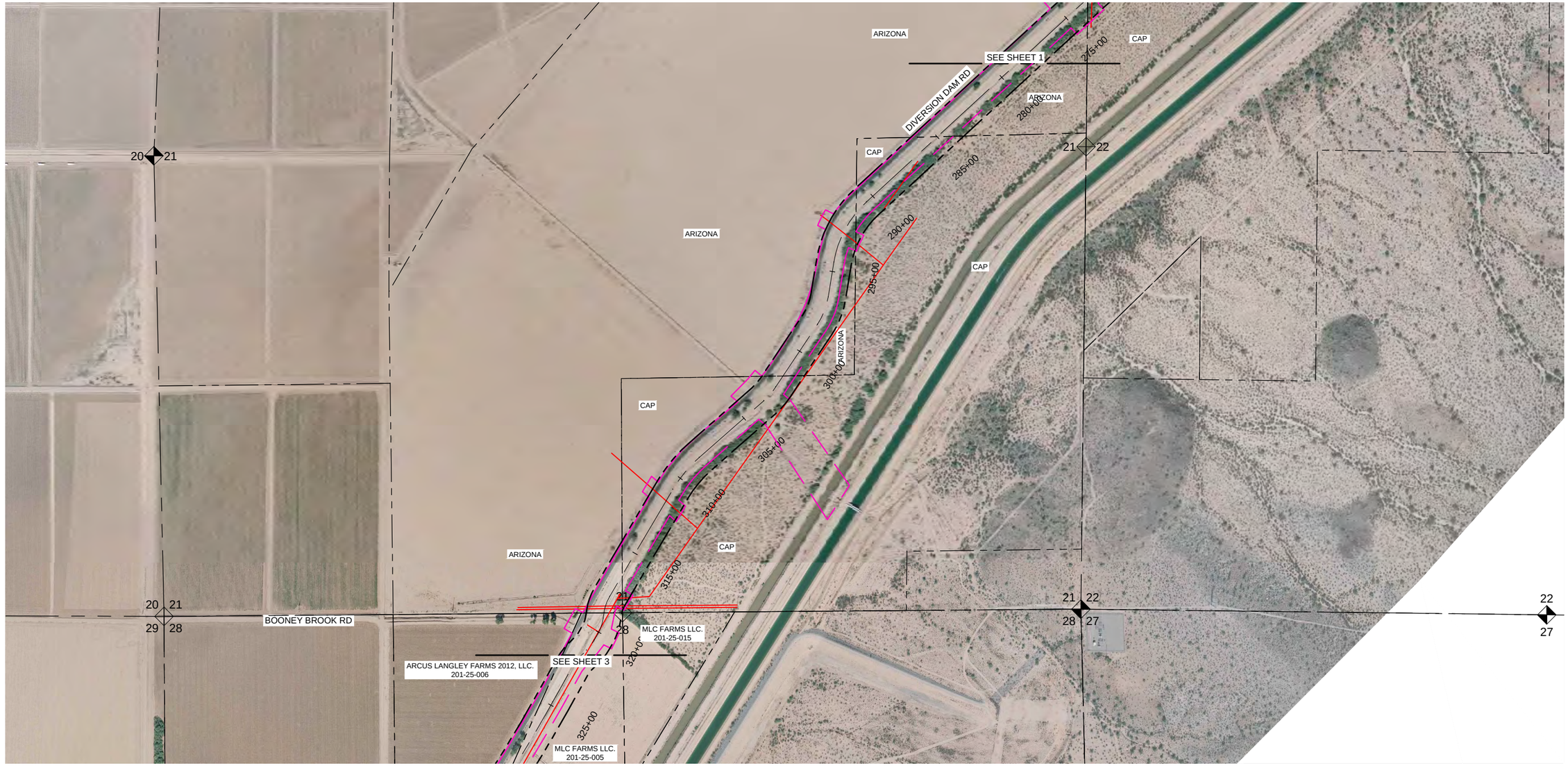

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- RIGHT-OF-WAY
- OHE — OVERHEAD ELECTRIC
- UGE — UNDERGROUND ELECTRIC
- W — EX WATER LINE
- G — EX GAS LINE
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- SD — EX STORM DRAIN
- SECTION CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

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GCE Inc.
GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-02
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTIONS 21, 22, 28, & 29
T04S - R10E

2 OF 13

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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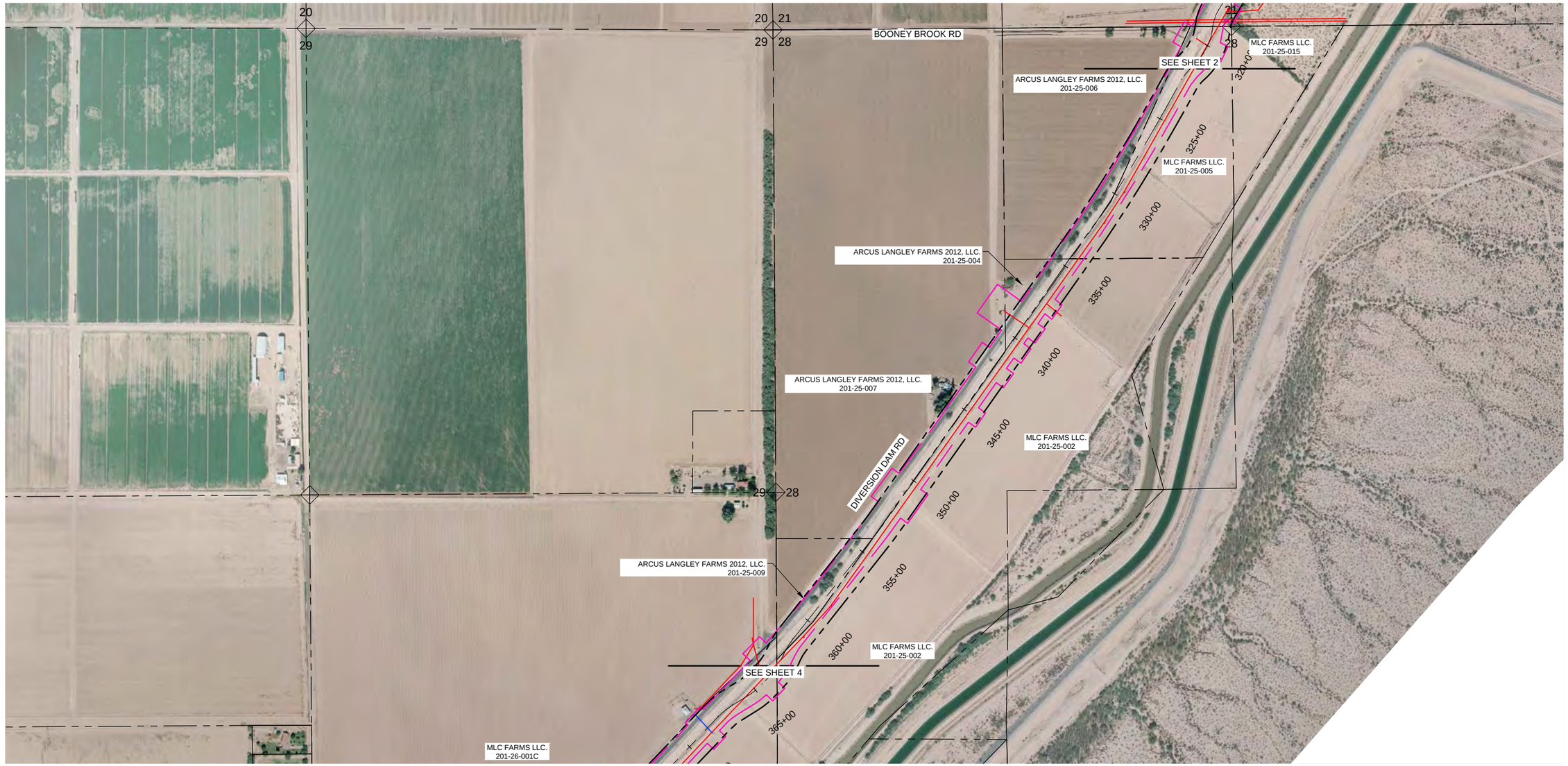

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- RIGHT-OF-WAY
- OHE — OVERHEAD ELECTRIC
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- SECTION CORNER (NOT SURVEYED)
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- PARCEL CORNER (NOT SURVEYED)
- PARCEL CORNER (SURVEYED)

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0' 300' 600'

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GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
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WWW.GCAIROINC.COM

DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-02
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTIONS 28, & 29
T04S - R10E

3 OF 13

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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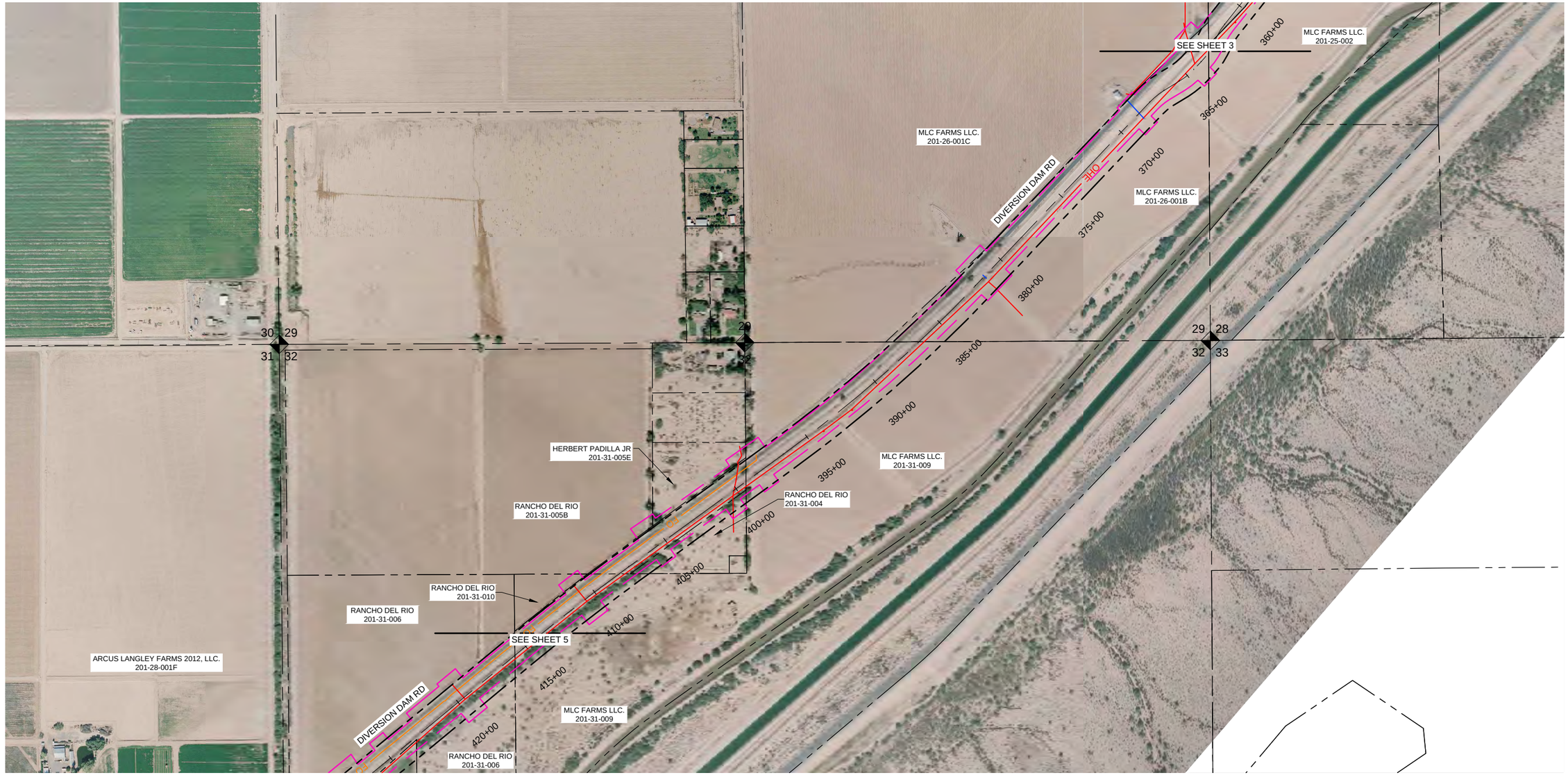

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
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- CENTERLINE
- RIGHT-OF-WAY
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- PARCEL CORNER (SURVEYED)

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0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

GCE Inc.
GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY: J. GARDENER
DRAWN BY: P. ESQUER
APPROVED BY: S. HINDMAN
DRAWING: SCR-02
PLOT DATE: MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTIONS 29 & 32
T04S - R10E

4 OF 13

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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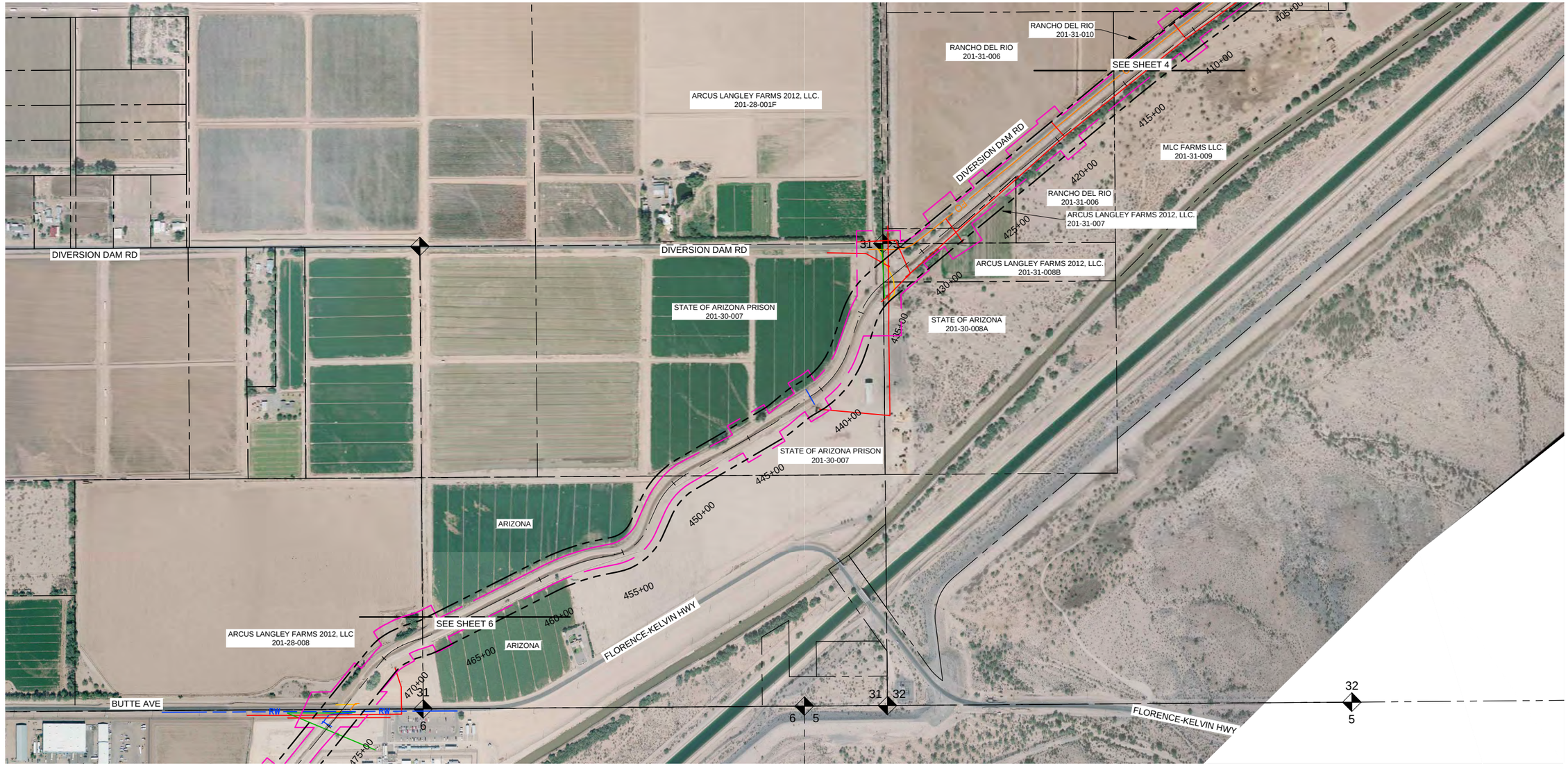

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- RIGHT-OF-WAY
- OHE — OVERHEAD ELECTRIC
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- SECTION CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
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DRAWING:	SCR-02
PLOT DATE:	MAY 2015

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P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTIONS 31 & 32
T04S - R10E

5 OF 13

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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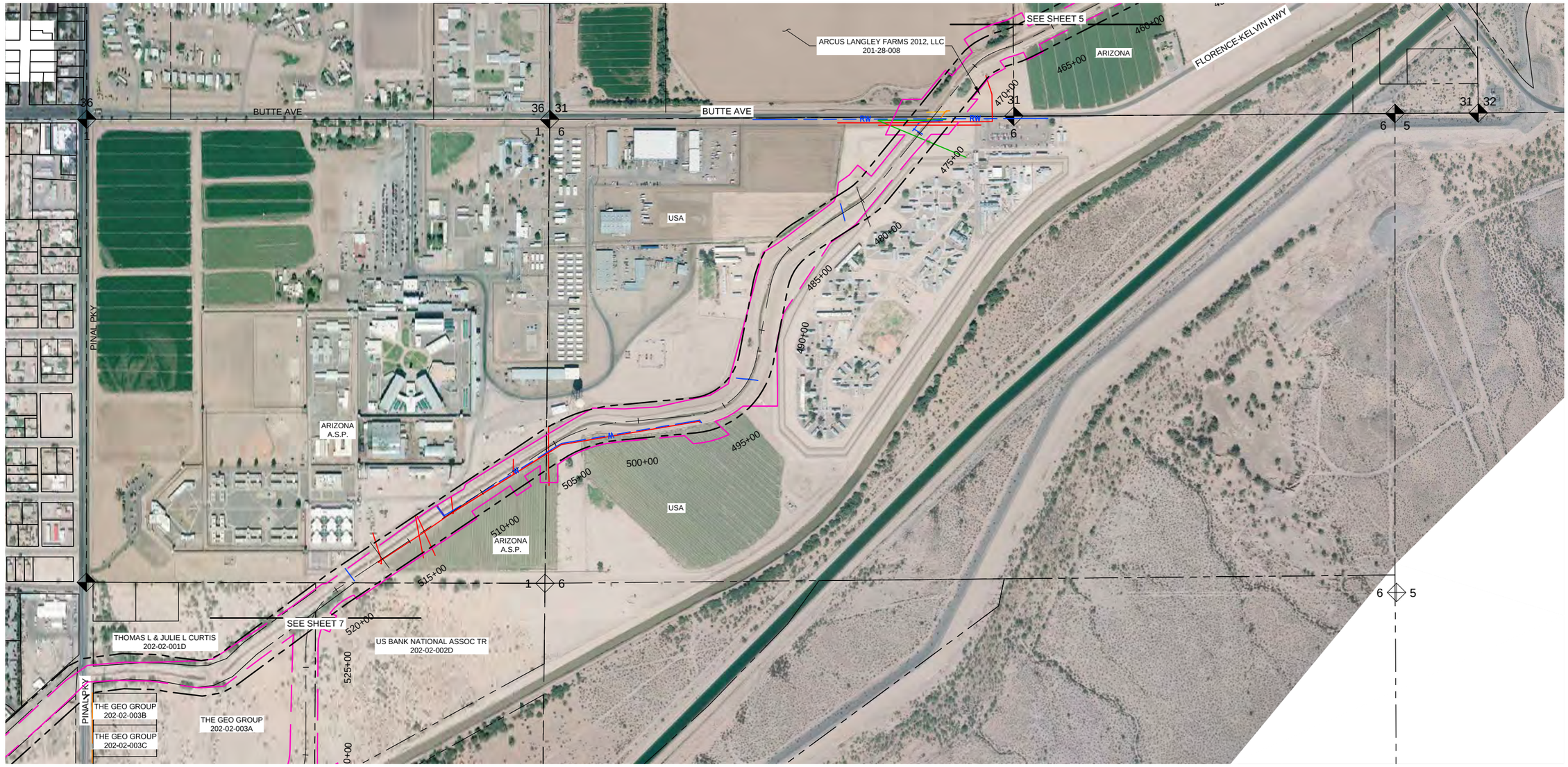

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- RIGHT-OF-WAY
- OVERHEAD ELECTRIC (OHE)
- UNDERGROUND ELECTRIC (UGE)
- EX WATER LINE (W)
- EX GAS LINE (G)
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- EX STORM DRAIN (SD)
- SECTION CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

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APPROVED BY:	S. HINDMAN
DRAWING:	SCR-02
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTION 1 T05S - R09E &
SECTION 6 T05S - R10E

6 OF 13

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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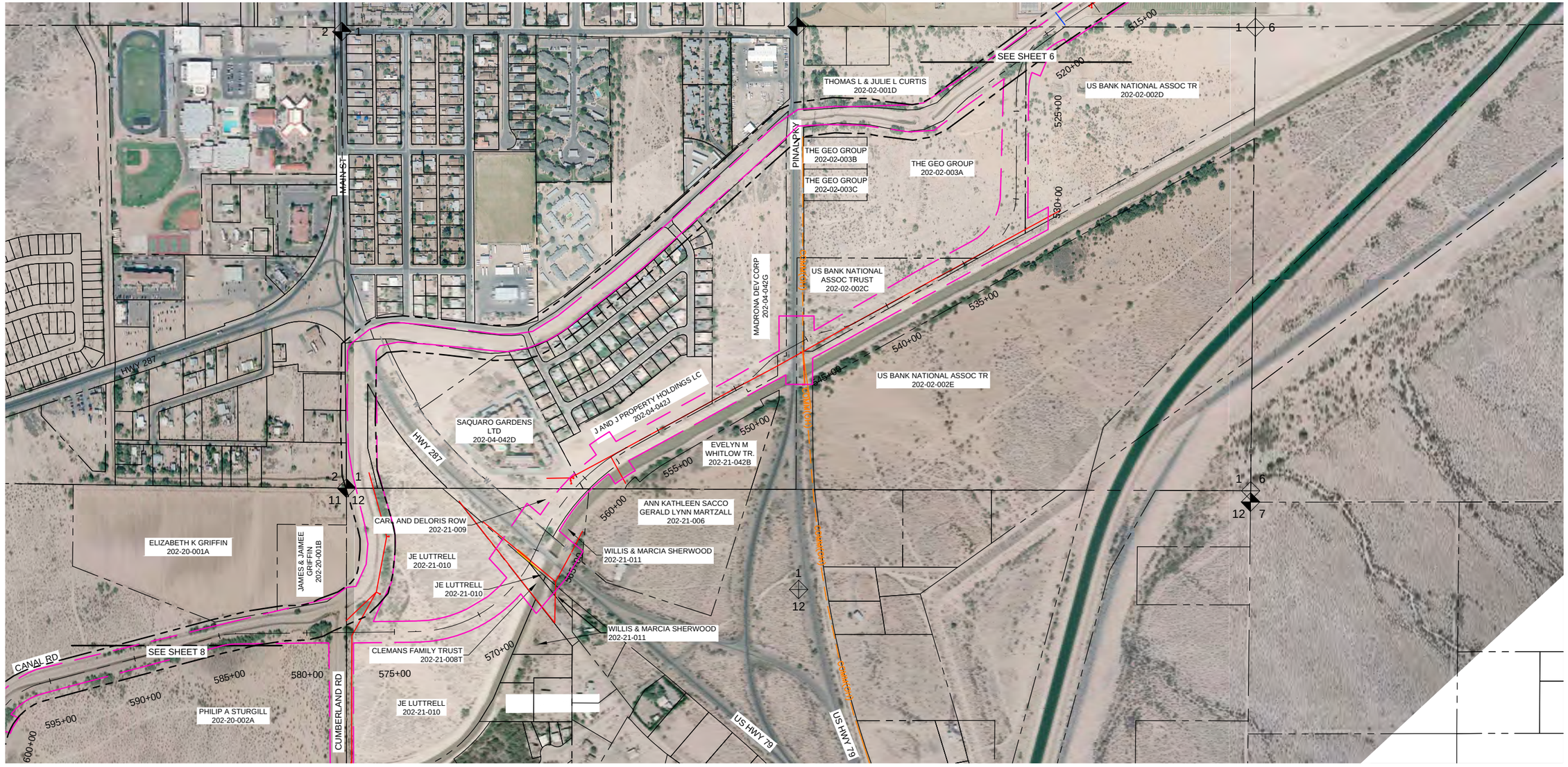

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- RIGHT-OF-WAY
- OVERHEAD ELECTRIC (OHE)
- UNDERGROUND ELECTRIC (UGE)
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- EX GAS LINE (G)
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- EX STORM DRAIN (SD)
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- PARCEL CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

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STAPLEY CENTER
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DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-02
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTIONS 1, 11, & 12
T05S - R09E

7 OF 13

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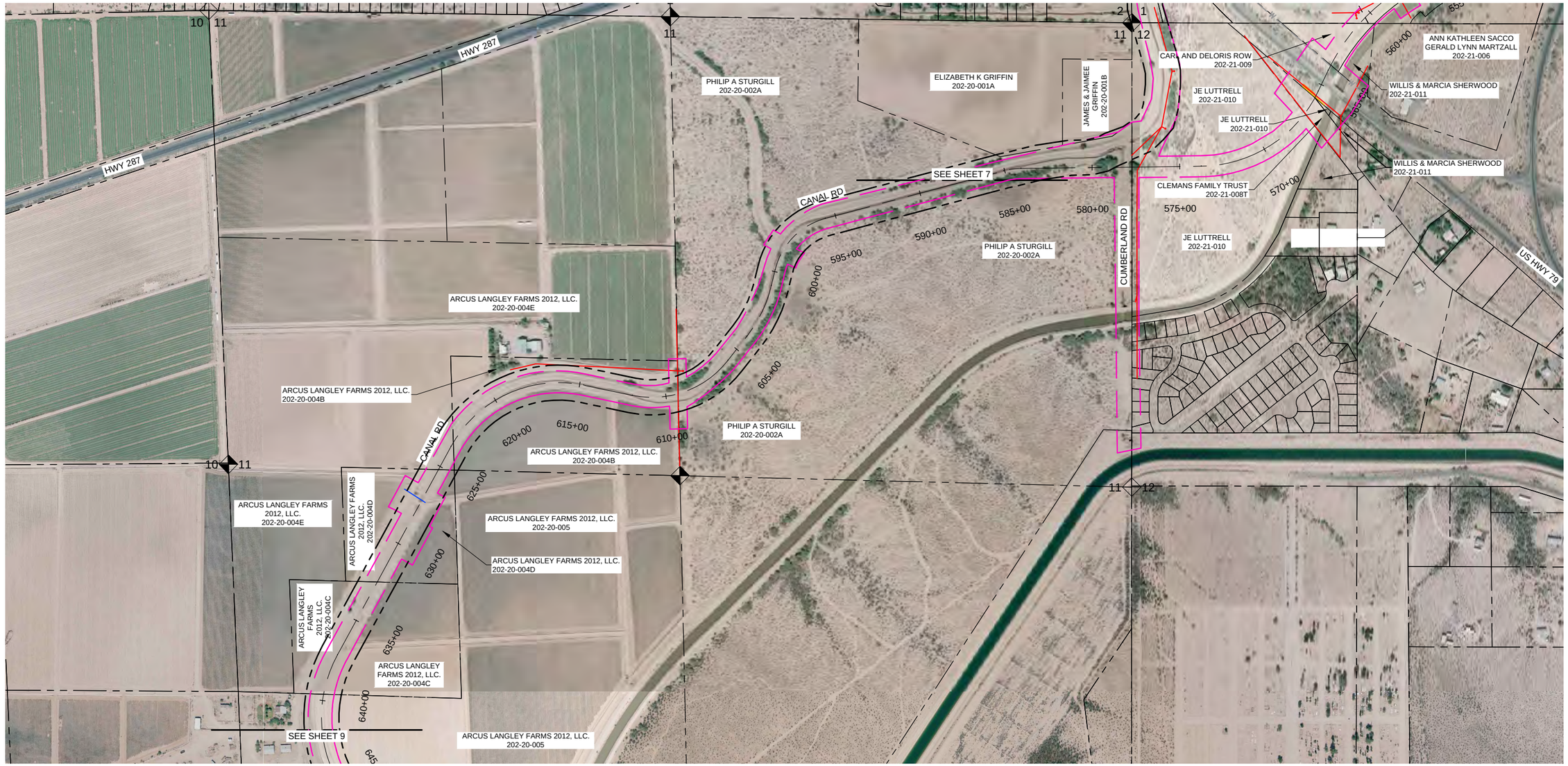

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- RIGHT-OF-WAY
- OHE — OVERHEAD ELECTRIC
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P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTIONS 11 & 12
T05S - R09E

8 OF 13

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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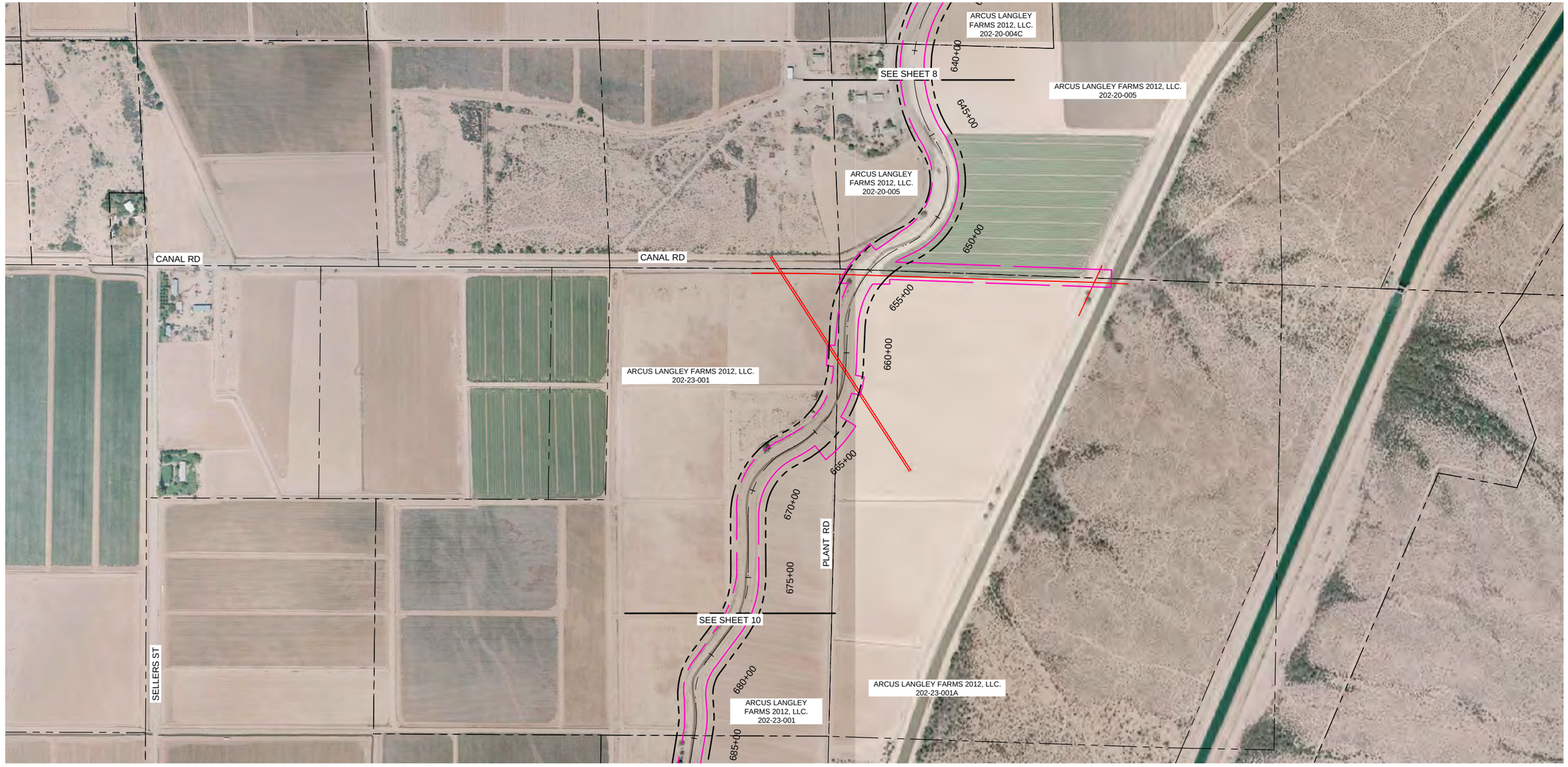

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
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N

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GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-02
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTIONS 14 & 15
T05S - R09E

9 OF 13

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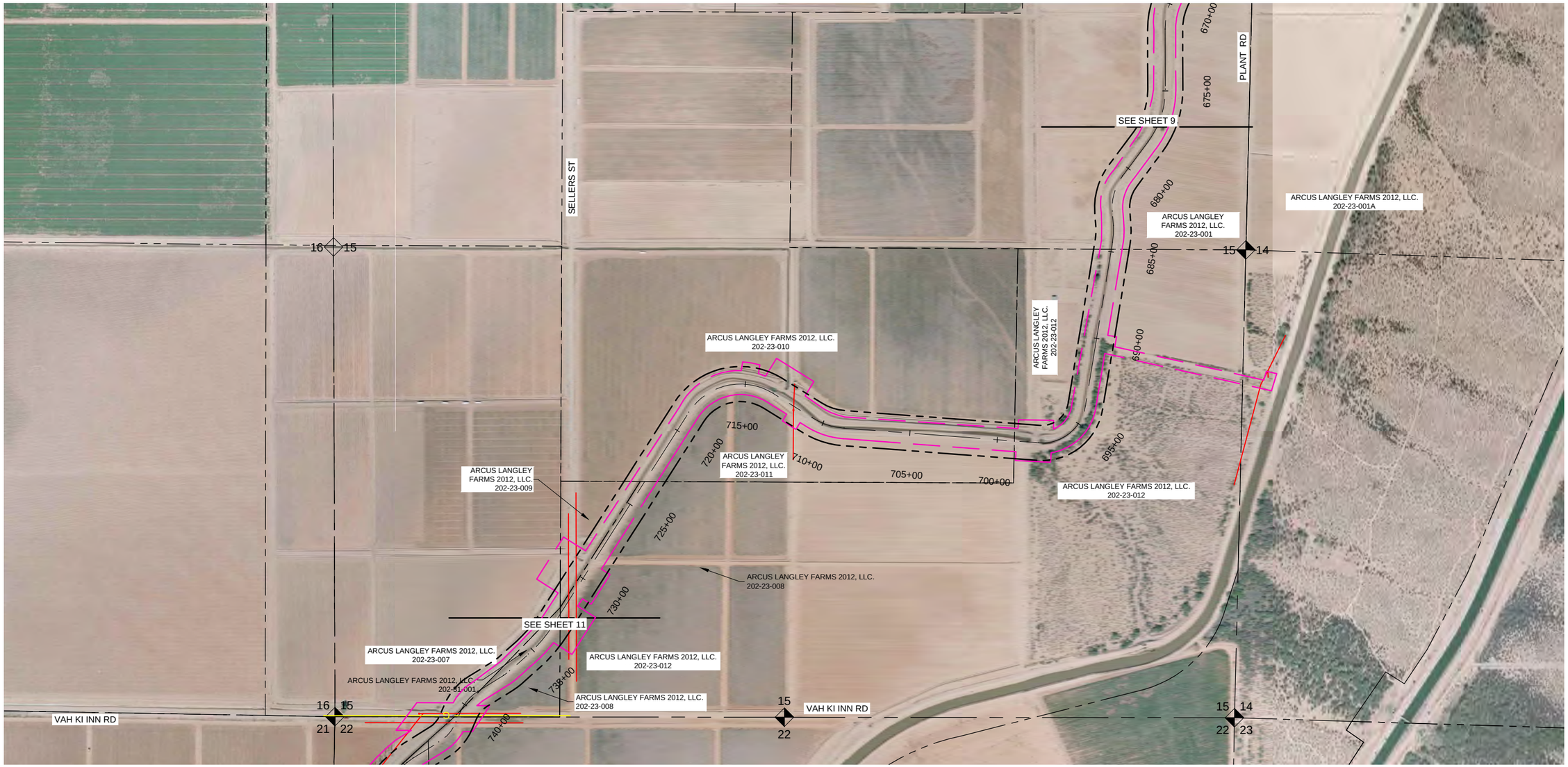

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- RIGHT-OF-WAY
- OHE — OVERHEAD ELECTRIC
- UGE — UNDERGROUND ELECTRIC
- W — EX WATER LINE
- G — EX GAS LINE
- UGFO — UNDERGROUND FIBER OPTIC
- SD — EX STORM DRAIN
- SECTION CORNER (NOT SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

GCE Inc.
GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY: J. GARDENER
DRAWN BY: P. ESQUER
APPROVED BY: S. HINDMAN
DRAWING: SCR-02
PLOT DATE: MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTION 15
T05S - R09E

10 OF 13

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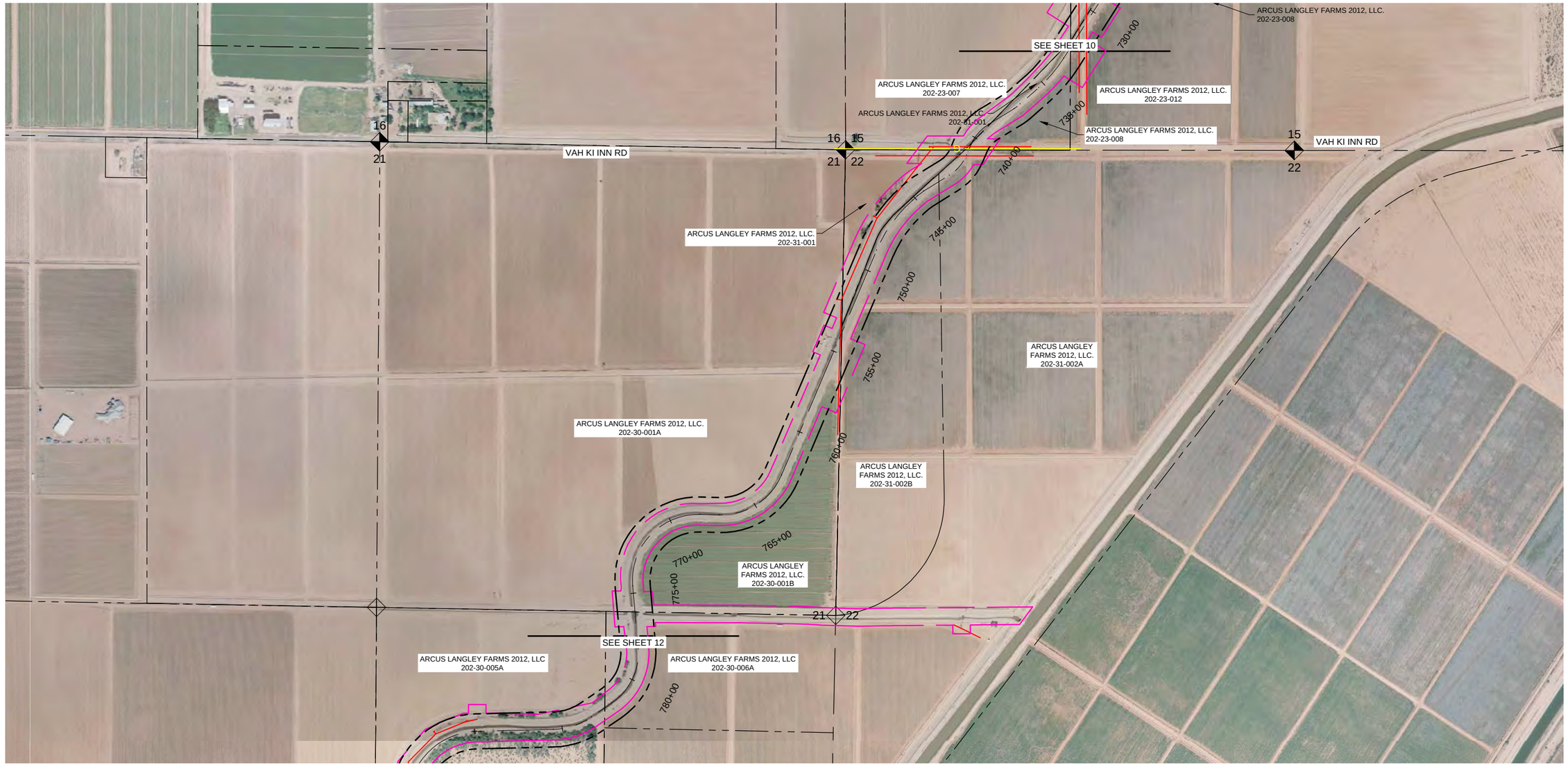

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- RIGHT-OF-WAY
- OHE — OVERHEAD ELECTRIC
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- SECTION CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

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(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTIONS 21 & 22
T05S - R09E

11 OF 13

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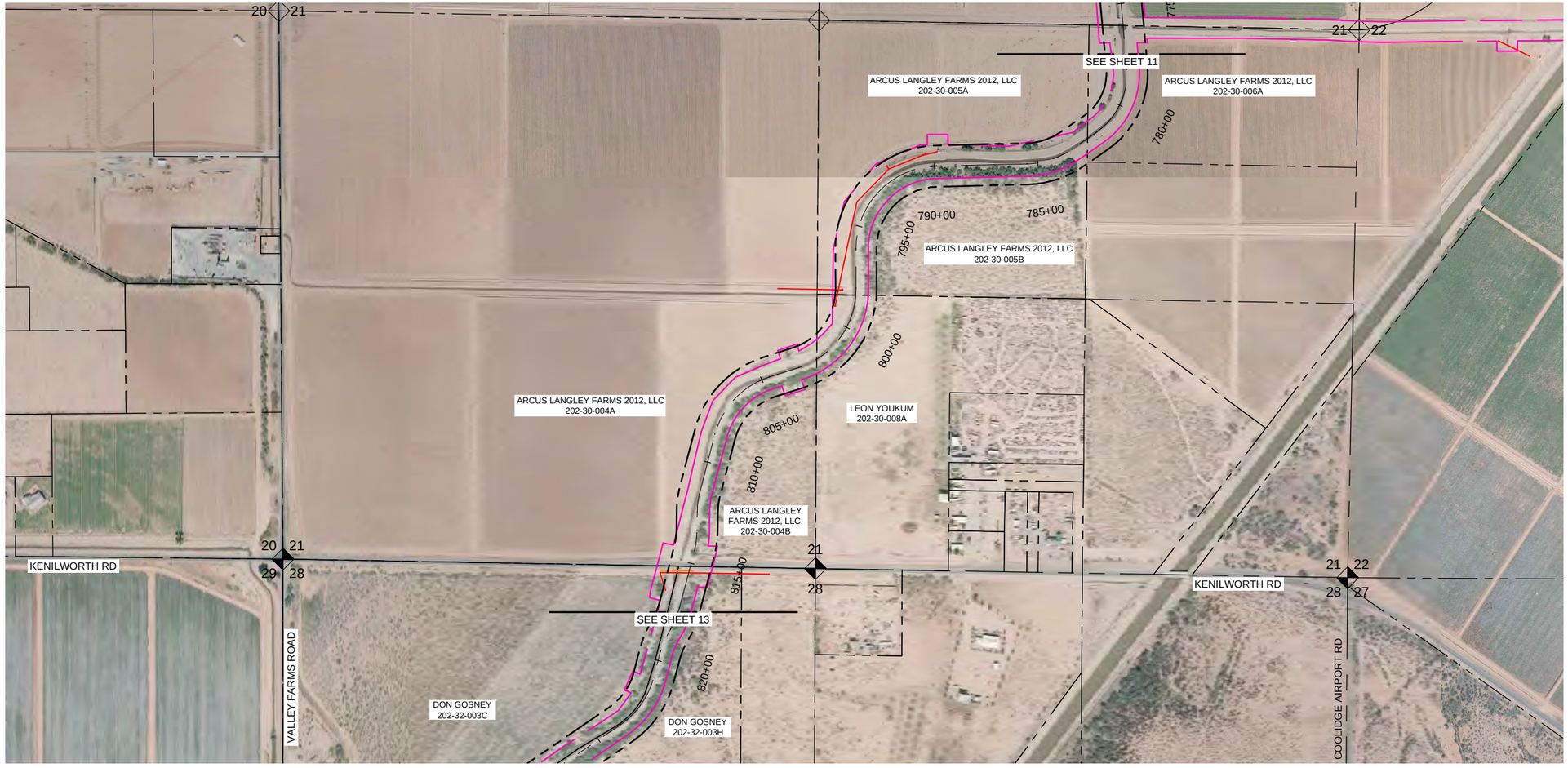

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- RIGHT-OF-WAY
- OVERHEAD ELECTRIC (OHE)
- UNDERGROUND ELECTRIC (UGE)
- EX WATER LINE (W)
- EX GAS LINE (G)
- UNDERGROUND FIBER OPTIC (UGFO)
- EX STORM DRAIN (SD)
- SECTION CORNER (NOT SURVEYED) — 10 11 / 15 14
- SECTION CORNER (SURVEYED) — 10 11 / 15 14
- PARCEL CORNER (NOT SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

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STAPLEY CENTER
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COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTIONS 21 & 28
T05S - R09E

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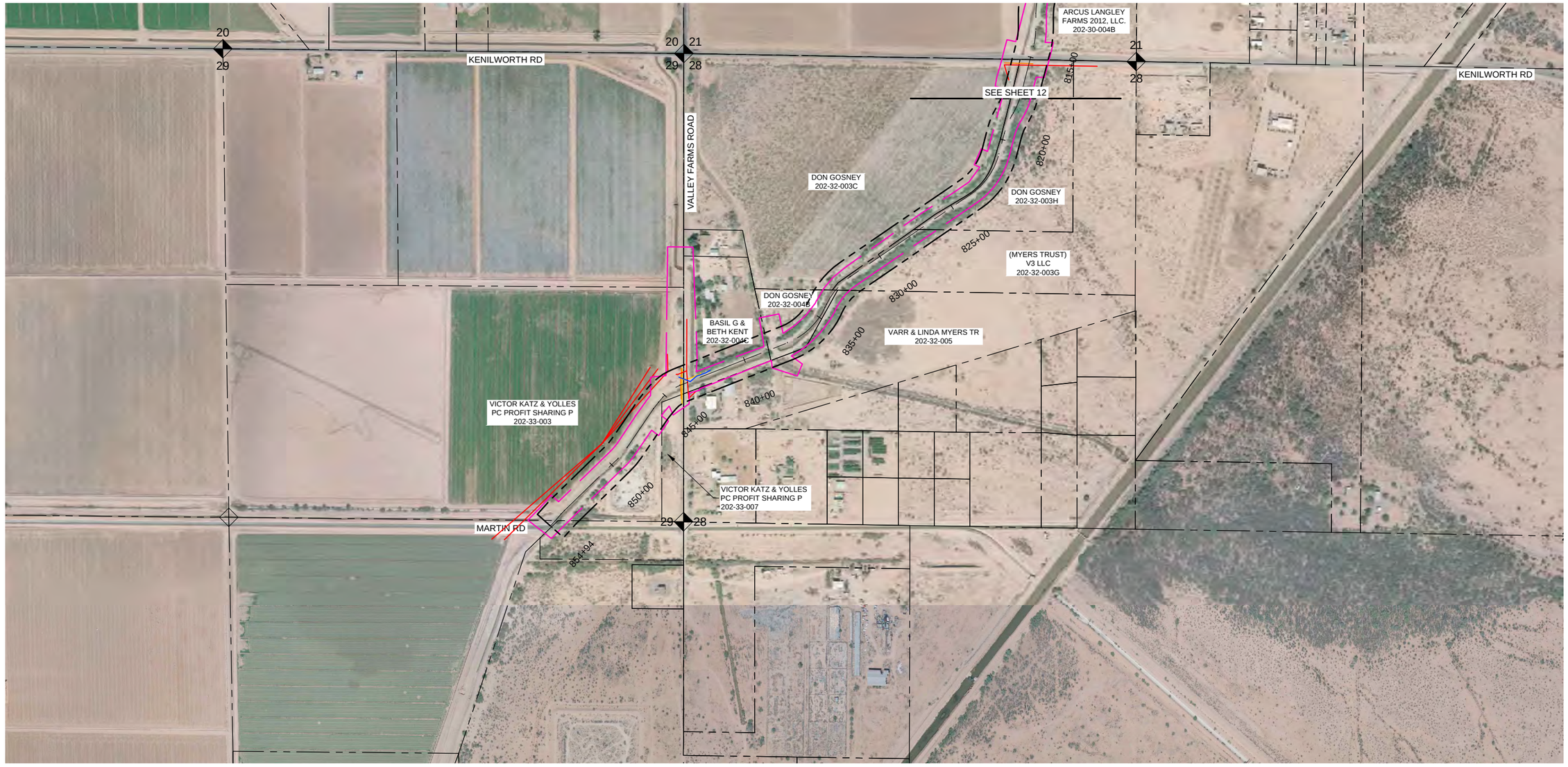

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- RIGHT-OF-WAY
- OVERHEAD ELECTRIC (OHE)
- UNDERGROUND ELECTRIC (UGE)
- EX WATER LINE (W)
- EX GAS LINE (G)
- UNDERGROUND FIBER OPTIC (UGFO)
- EX STORM DRAIN (SD)
- SECTION CORNER (NOT SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

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GCE Inc.
GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-02
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 2
COOLIDGE, ARIZONA

REACH 2
SECTIONS 28 & 29
T05S - R09E

13 OF 13

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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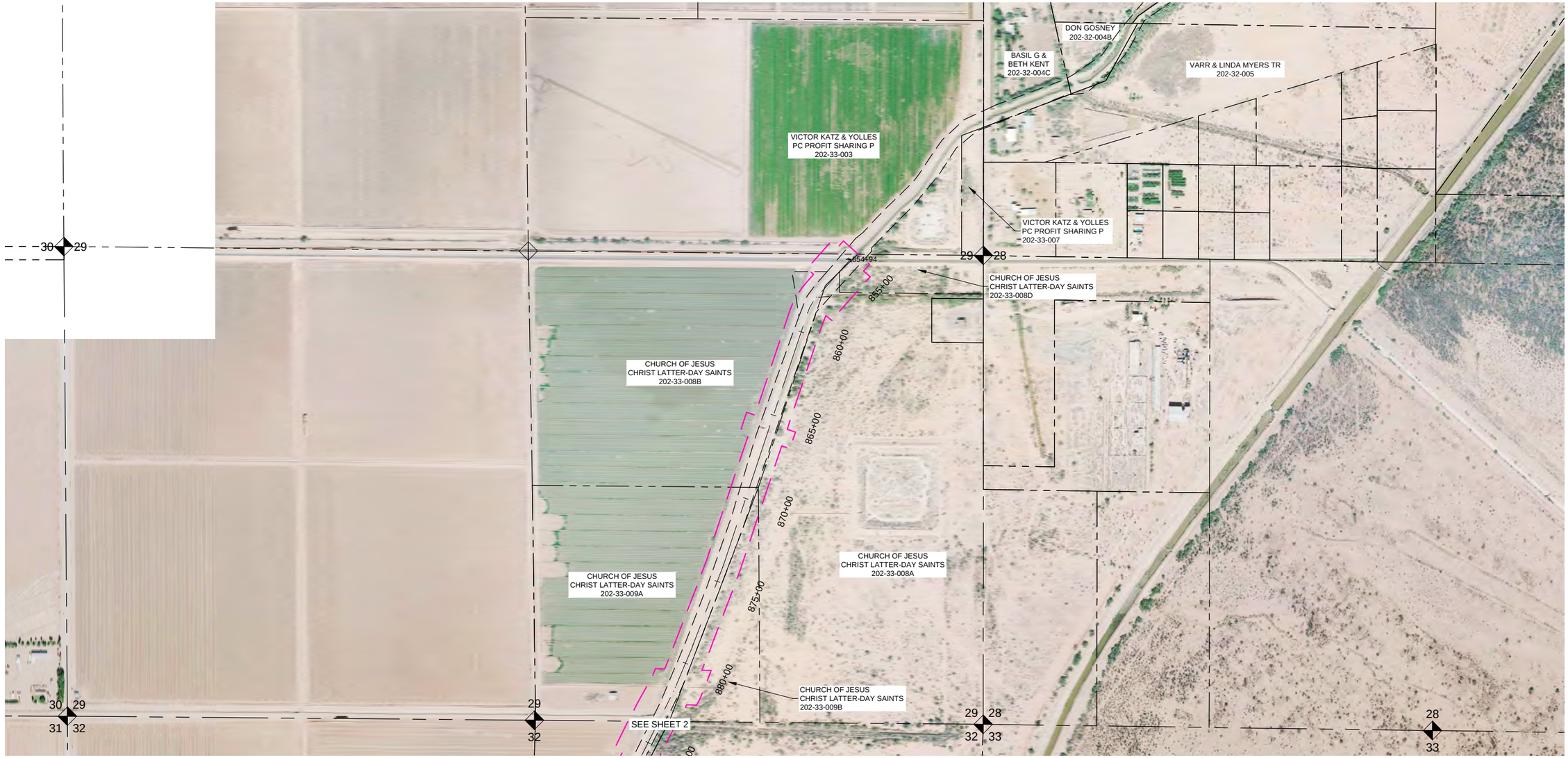

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- OVERHEAD ELECTRIC
- W — EX WATER LINE
- G — EX GAS LINE
- UNDERGROUND FIBER OPTIC
- SD — EX STORM DRAIN
- SECTION CORNER (NOT SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

GCE Inc.
GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
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DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-03
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTION 29
T05S - R09E

1 OF 13

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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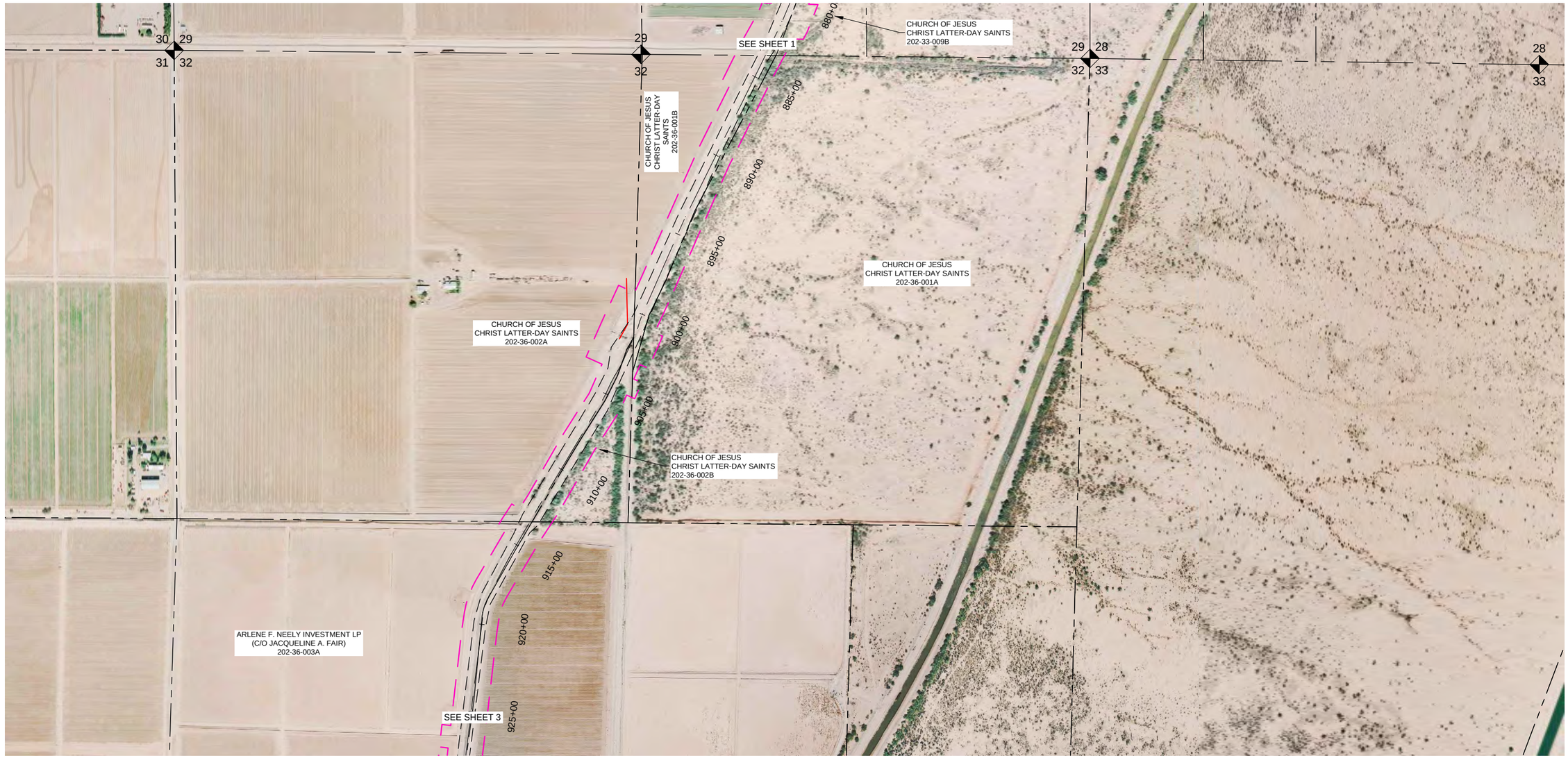

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- OVERHEAD ELECTRIC
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- SECTION CORNER (SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

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STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
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DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-03
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTION 32
T05S - R09E

2 OF 13

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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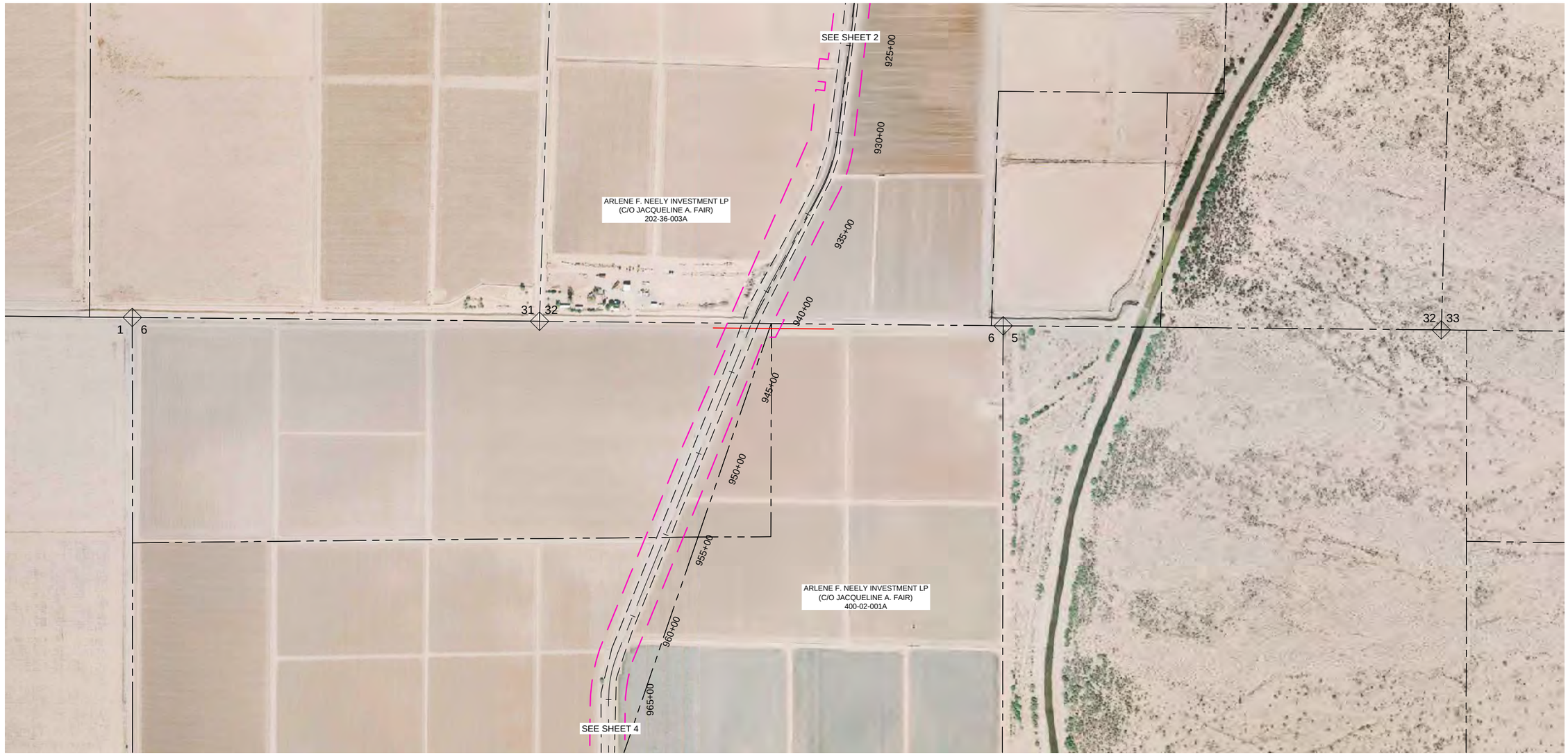

LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- OVERHEAD ELECTRIC
- EX WATER LINE (W)
- EX GAS LINE (G)
- UNDERGROUND FIBER OPTIC
- EX STORM DRAIN (SD)
- SECTION CORNER (NOT SURVEYED)
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- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

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STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
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P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTION 32 T05S - R09E
SECTION 6 T06S - R09E

3 OF 13

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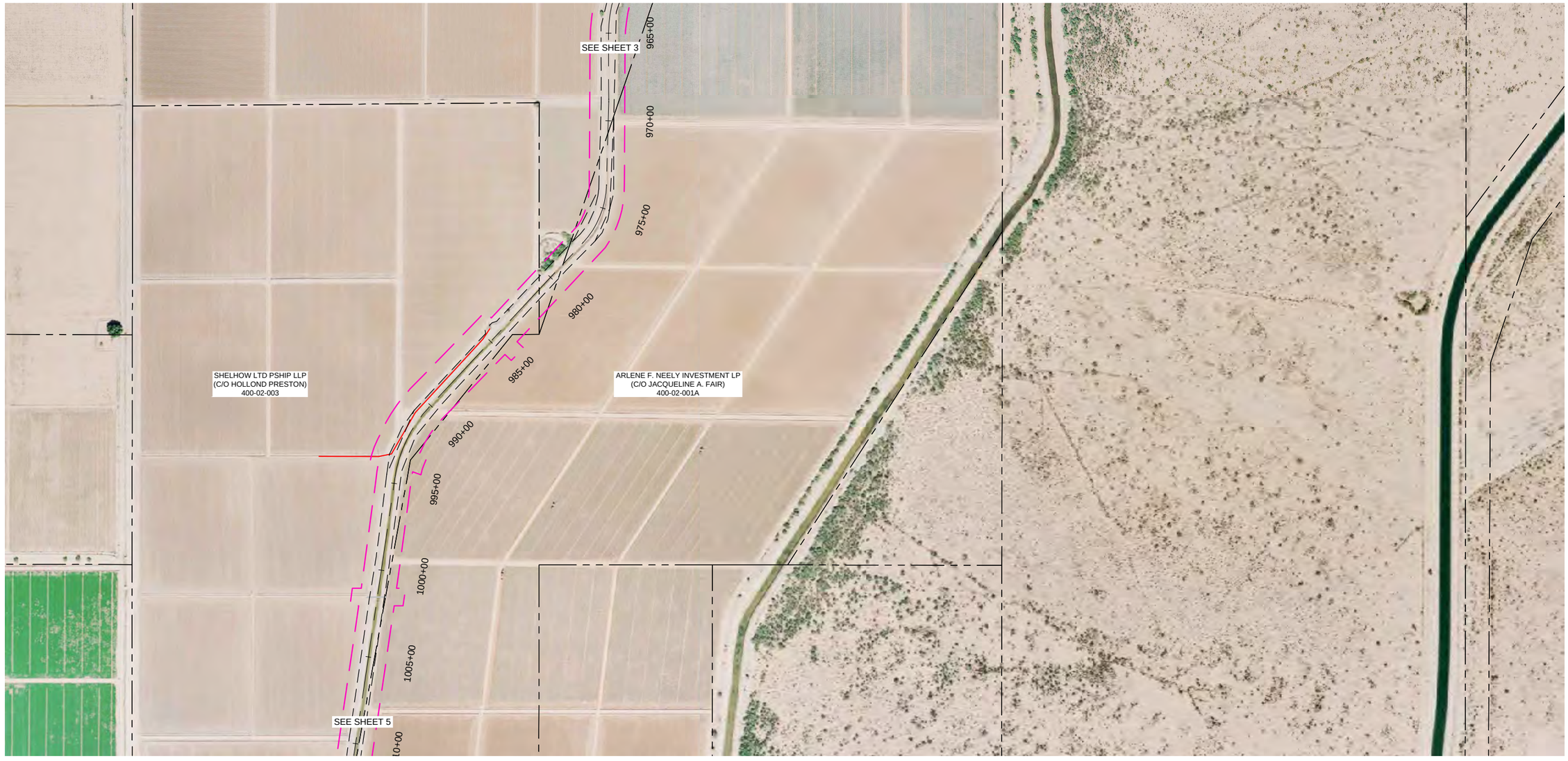

LEGEND

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- PROPERTY LINES
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- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

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PLOT DATE:	MAY 2015

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COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTION 6 T06S - R09E

4 OF 13

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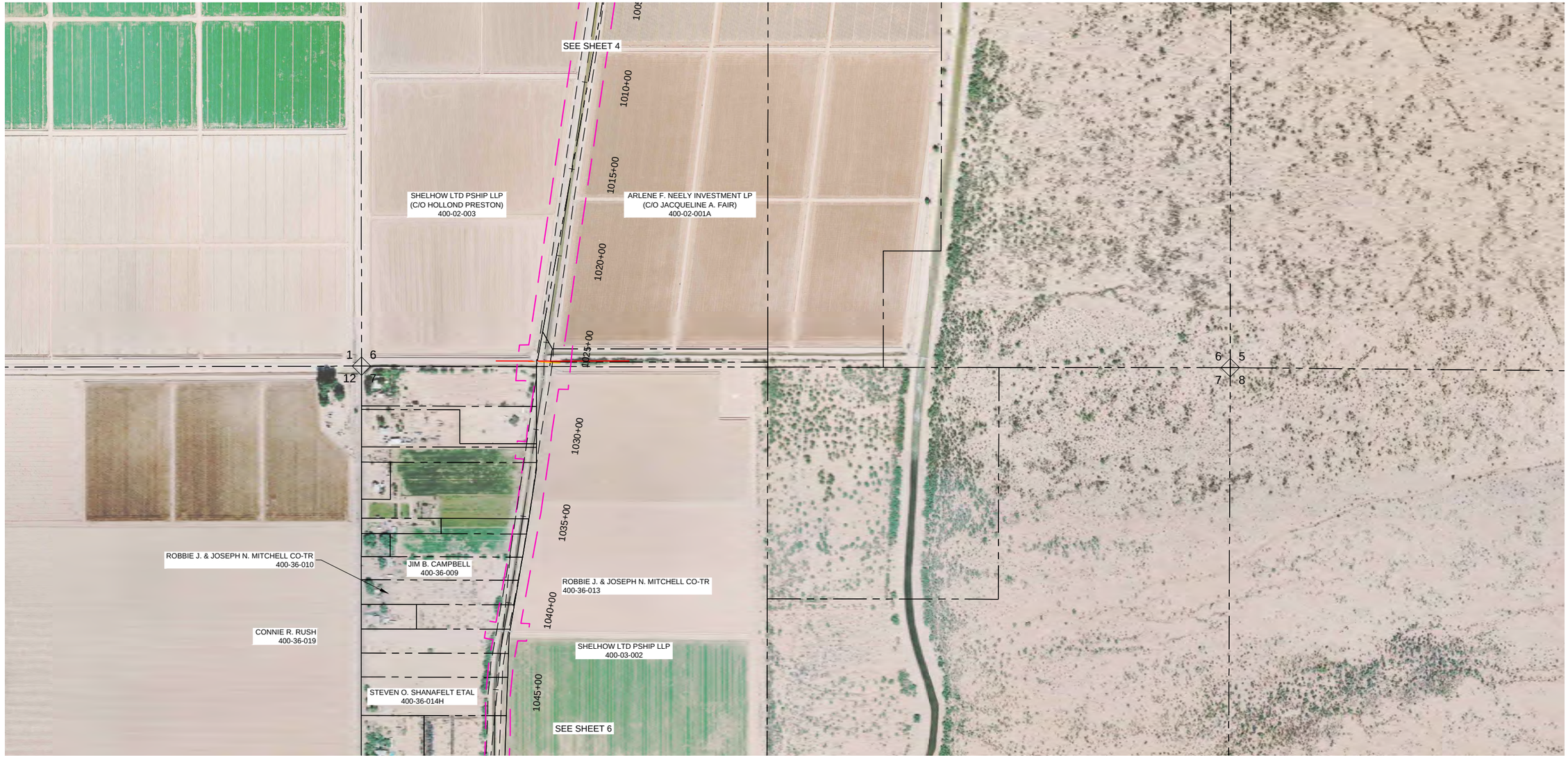

LEGEND

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N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

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COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3

COOLIDGE, ARIZONA

SECTIONS 6 & 7
T06S - R09E

5 OF 13

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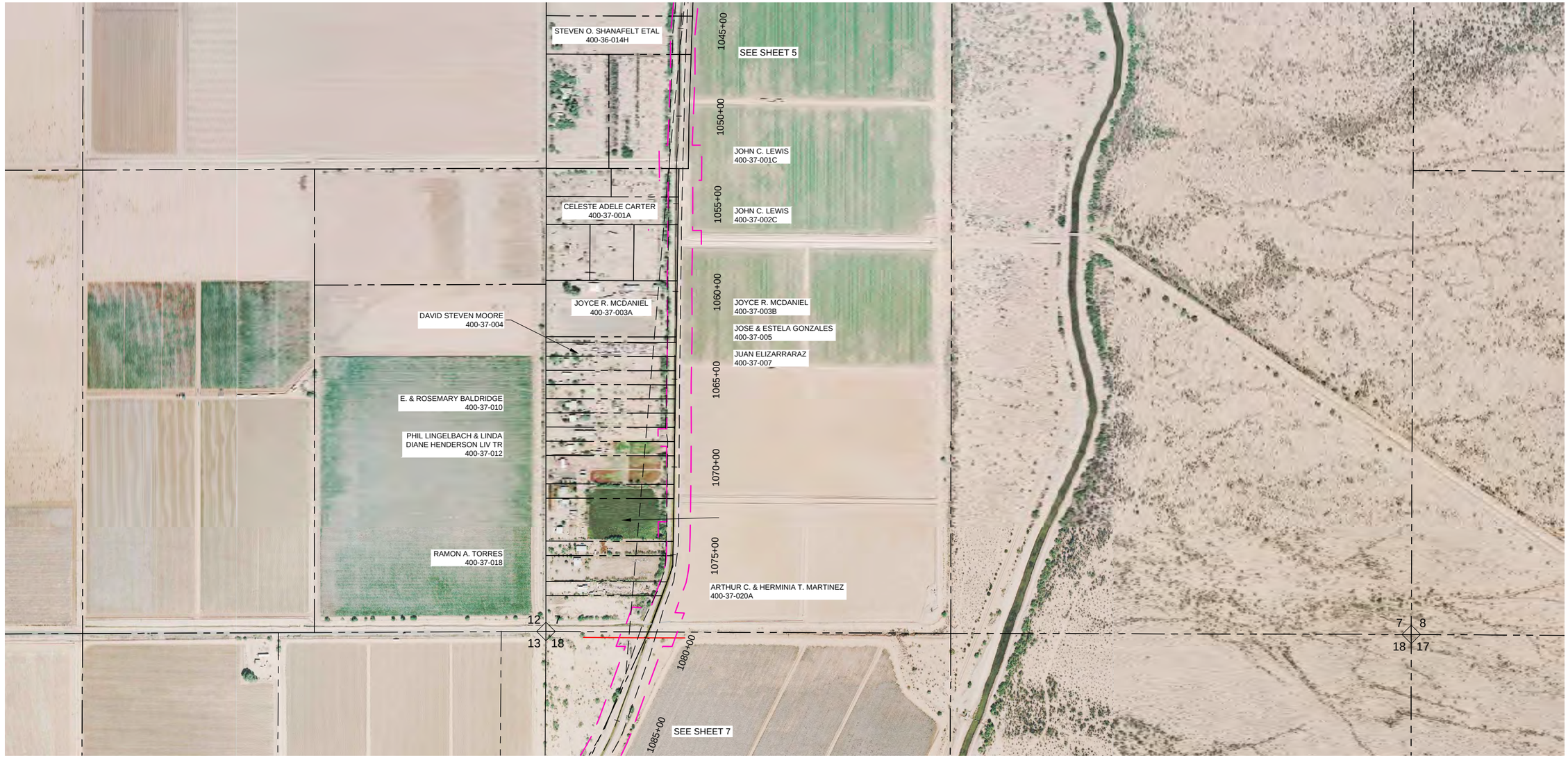

LEGEND

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- PROPERTY LINES
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- PARCEL CORNER (SURVEYED)

N

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AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTIONS 7 & 18
T06S - R09E

6 OF 13

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LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
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- OVERHEAD ELECTRIC
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(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTION 18 T06S - R09E
SECTION 6 T06S - R08E

7 OF 13

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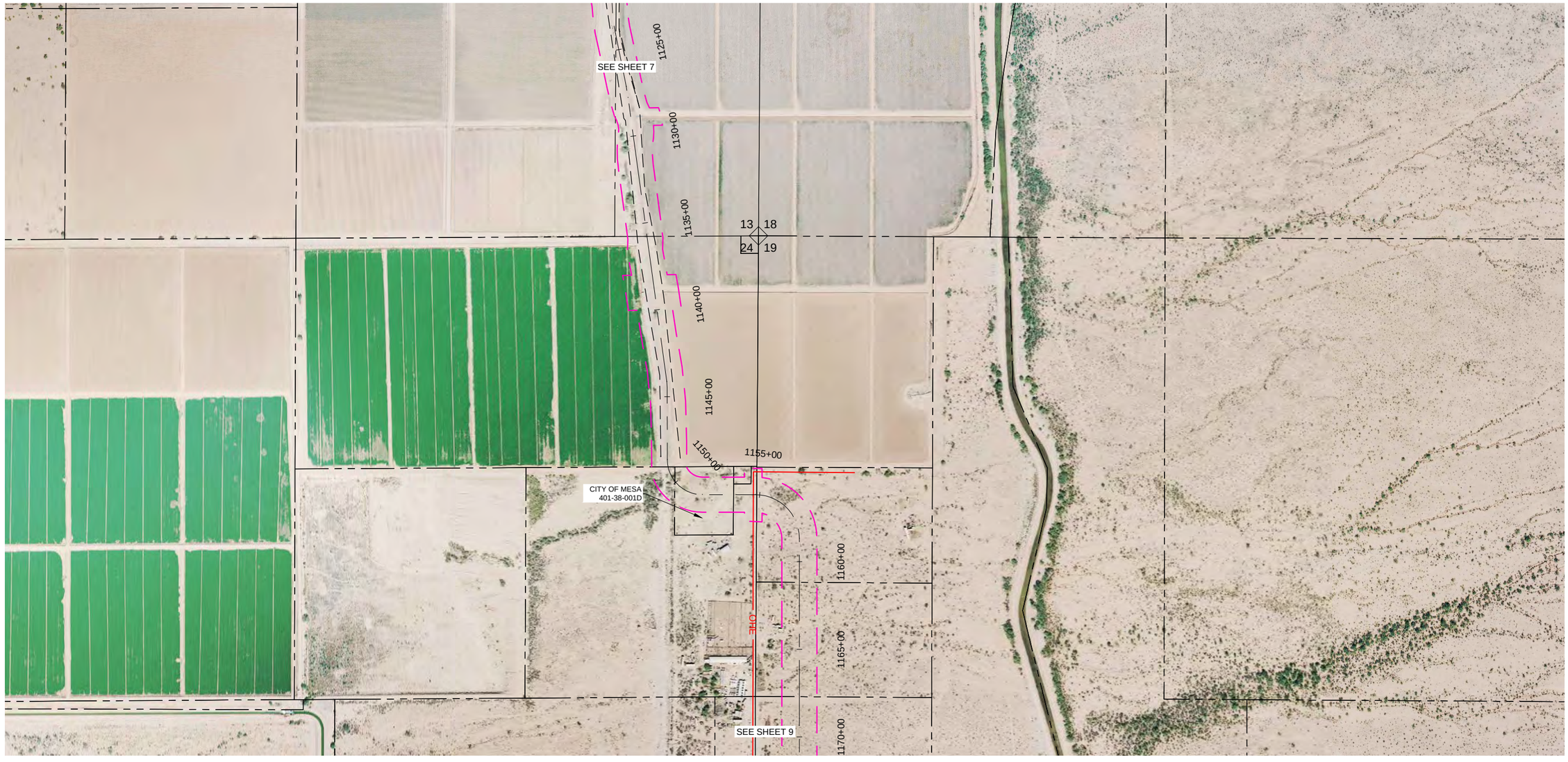

LEGEND

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DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-03
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTION 19 T06S - R09E
SECTIONS 13 & 24
T06S - R08E

8 OF 13

REUSE OF DOCUMENT: THESE PLANS & SPECIFICATIONS, AND THE IDEAS & DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF GCE, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION AND CONSENT OF GCE, INC. ©

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LEGEND

- SECTION LINES
- PROPERTY LINES
- FENCE
- AREA OF POTENTIAL EFFECT
- CENTERLINE
- OVERHEAD ELECTRIC
- W — EX WATER LINE
- G — EX GAS LINE
- UNDERGROUND FIBER OPTIC
- SD — EX STORM DRAIN
- SECTION CORNER (NOT SURVEYED)
- SECTION CORNER (SURVEYED)
- PARCEL CORNER (NOT SURVEYED)
- PARCEL CORNER (SURVEYED)

N

0' 300' 600'

REV.	DATE	REVISION DESCRIPTION	BY

GCE inc.
GEORGE CAIRO ENGINEERING, INC.
STAPLEY CENTER
1630 S. STAPLEY DR., SUITE 117
MESA, ARIZONA 85204
WWW.GCAIROINC.COM

DESIGNED BY:	J. GARDENER
DRAWN BY:	P. ESQUER
APPROVED BY:	S. HINDMAN
DRAWING:	SCR-03
PLOT DATE:	MAY 2015

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTIONS 19 & 30
T06S - R09E
SECTIONS 24 & 25
T06S - R08E

9 OF 13

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(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTION 30 T06S - R09E
SECTION 25 T06S - R08E

10 OF 13

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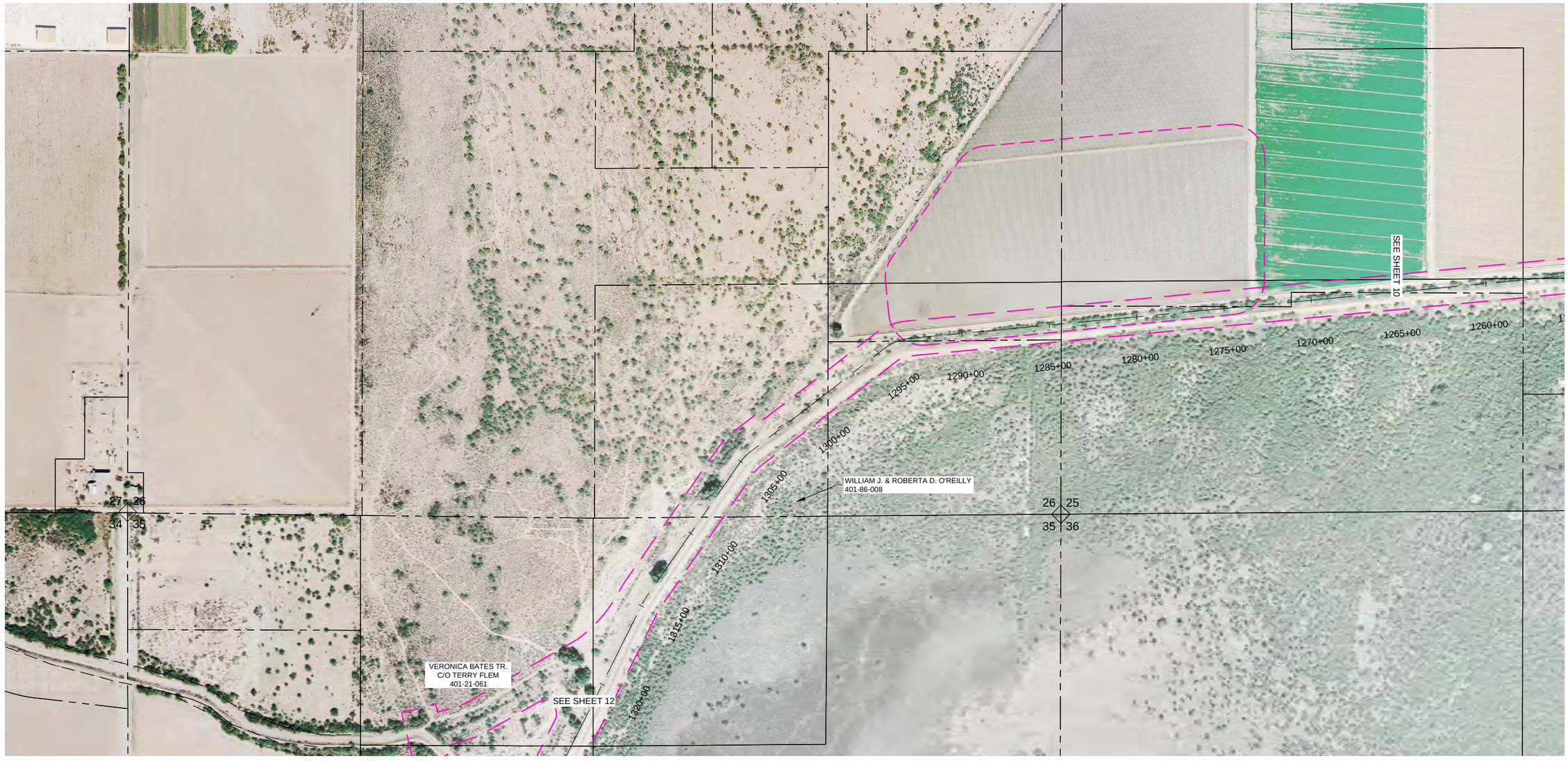

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P.O. BOX 218
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(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTIONS 25, 26 & 35
T06S - R08E

11 OF 13

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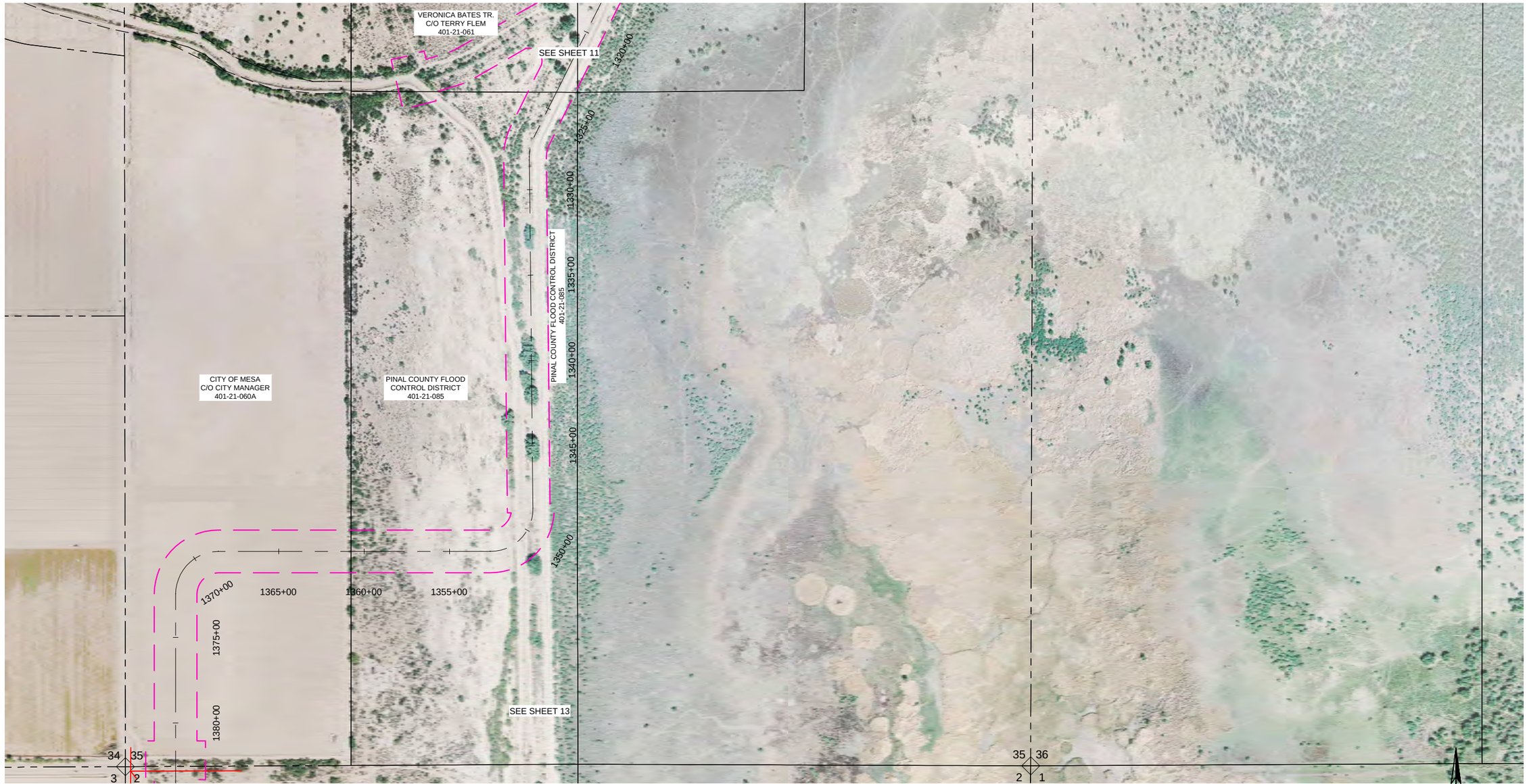

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- PROPERTY LINES
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SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
P.O. BOX 218
COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTIONS 35 T06S - R08E

12 OF 13

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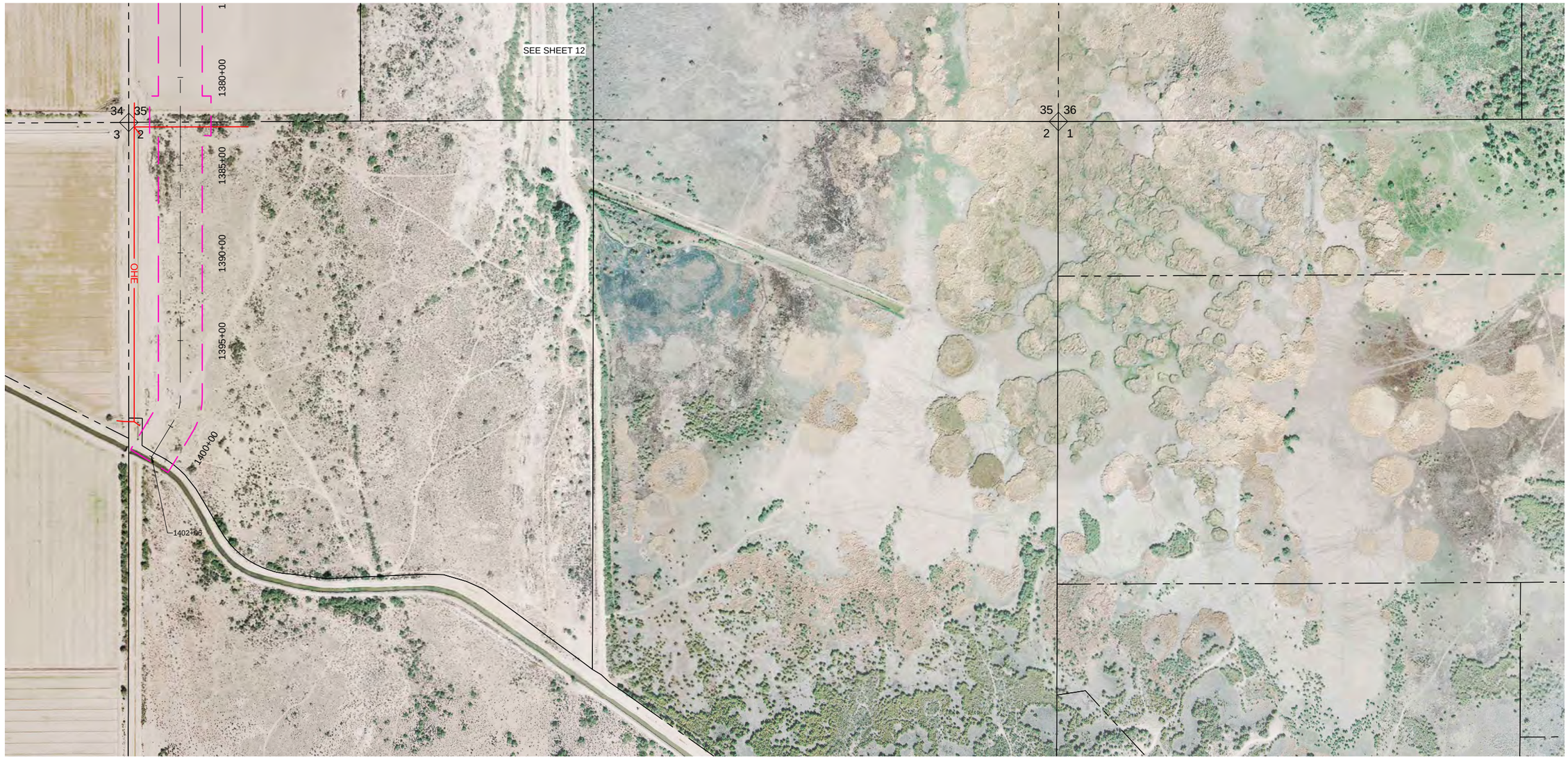

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SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT
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COOLIDGE, AZ 85228
(520) 723-5408

AREA OF POTENTIAL EFFECT

REACH 3
COOLIDGE, ARIZONA

SECTION 2 T07S - R08E

13 OF 13

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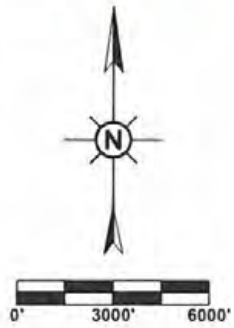
APPENDIX E

Wasteways, Crosscut Canals, and Wells



LEGEND

- REACH 2
- EXISTING CANAL CROSS CUT / WELL SUPPLY
- FUTURE CROSS CUT / WELL PIPELINE
- DRAINAGE RELIEF STRUCTURE

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT

REACH 2 CANAL CROSS CUTS / WELL SUPPLY

GEORGE CAIRO ENGINEERING, INC.

GCE inc.

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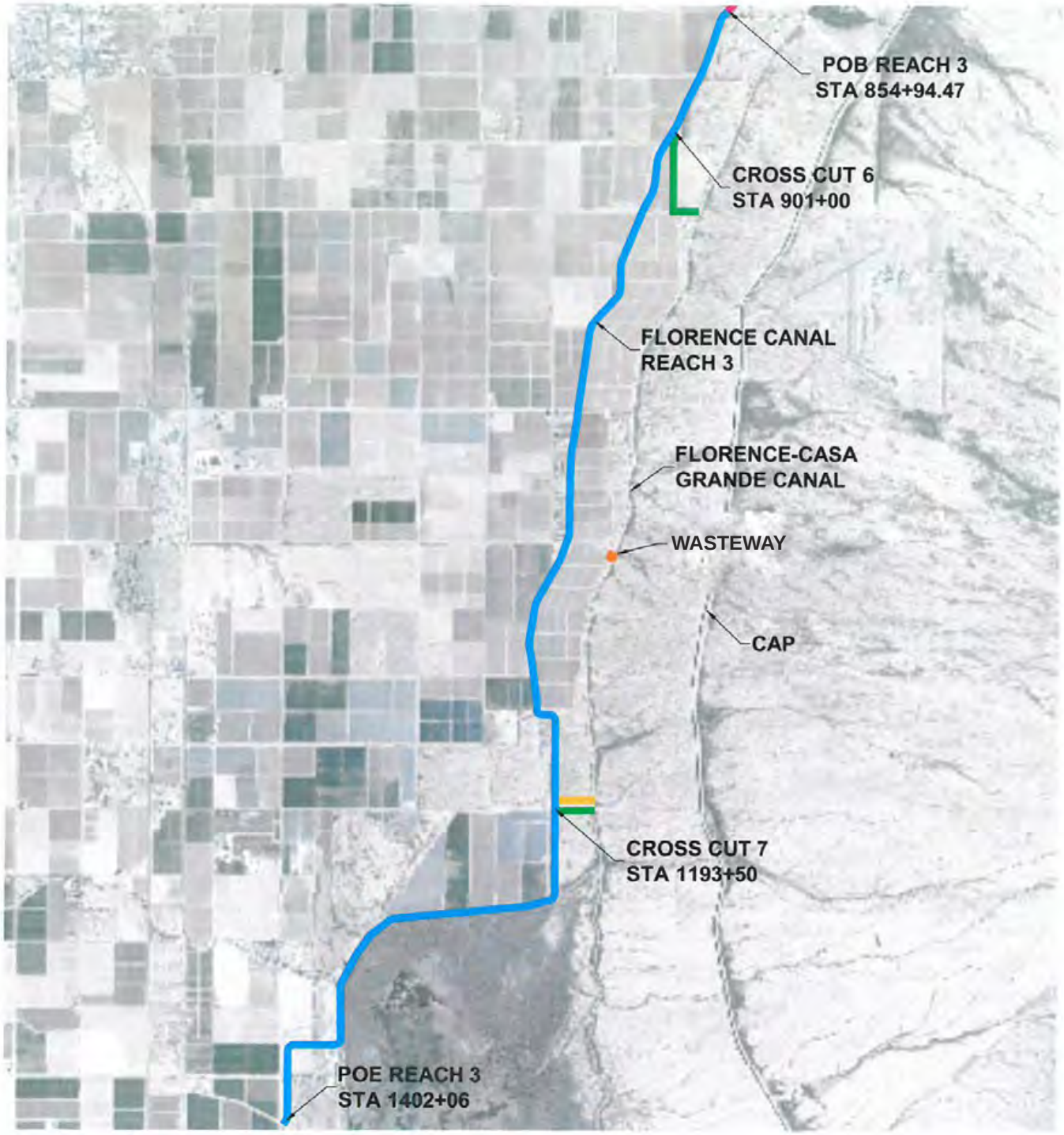

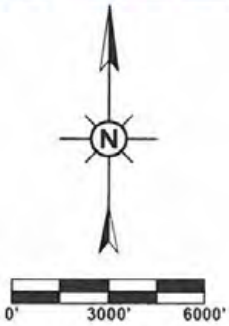

LEGEND

- REACH 3
- EXISTING CANAL CROSS CUT / WELL SUPPLY
- FUTURE CROSS CUT / WELL PIPELINE
- DRAINAGE RELIEF STRUCTURE

SAN CARLOS IRRIGATION AND DRAINAGE DISTRICT

REACH 3 CANAL CROSS CUTS / WELL SUPPLY

GEORGE CAIRO ENGINEERING, INC.

GCE inc.

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APPENDIX F

Utility and Roadway Conflicts and Known Encroachments—Proposed Action

Reach 1—Potential Utility and Roadway Conflicts with Proposed Action

Description	Northing	Easting	Station	Offset
Fiber	214852.8183	396397.1519	77+81	0
Fiber	214761.8038	396338.8374	78+75	0
Overhead electric	214105.6504	390754.1518	140+19	0
Road crossing	214206.256	390382.6468	144+35	0
Overhead electric	214544.7607	390015.3273	149+46	0
Overhead electric	211816.3839	385908.7487	206+23	0
Cap siphon	210004.9213	383123.3087	240+00	0
Cap fiber	209983.0262	383113.4799	240+24	0

Reach 2—Potential Utility and Roadway Conflicts with Proposed Action

Description	Northing	Easting	Station	Offset
Overhead electric	207544.3895	381072.8619	272+66	34.41'
Overhead electric	207448.3208	381069.7264	273+33	-34.19'
Overhead electric	206521.6631	380060.4865	287+03	-33.32'
Overhead electric	206158.809	379624.7285	292+62	34.42'
Overhead electric	206115.1927	379679.7578	292+77	-34.23'
Road crossing	205186.5273	379206.0007	303+48	0
Overhead electric	204631.9003	378615.1649	311+45	33.92'
Overhead electric	204586.0357	378667.167	311+58	-34.18'
Overhead electric	204010.0087	378331.4045	318+32	-34.26'
Overhead electric	203995.0276	378326.5054	318+50	-34.26'
Overhead electric	204008.7194	378259.2022	318+55	34.26'
Overhead electric	203980.8308	378322.9471	318+67	-34.26'
Overhead electric	203994.1425	378255.7257	318+68	34.26'
Overhead electric	203878.9128	378227.7079	319+96	34.26'
Overhead electric	202287.9147	377183.2997	339+08	33.84'
Road crossing	201226.8291	376474.1297	351+93	0
Overhead electric	200267.5663	375713.8809	364+14	34.26'
Water	199993.8454	375378.8401	368+49	34.62'
Water	199968.4352	375402.4562	368+51	0.00'
Water	199943.933	375425.2283	368+53	-33.39'
Overhead electric	198988.5205	374564.425	381+39	-67.40'
Road crossing	199013.8806	374495.554	381+77	0
Overhead electric	197869.9623	373101.7669	399+76	34.35'
Overhead electric	197773.3738	373084.8893	400+47	-33.86'
Overhead electric	197223.8478	372219.5922	410+69	34.32'
Overhead electric	196662.7615	371526.326	419+60	34.33'
Overhead electric	196141.0029	370894.1265	427+79	34.01'
Overhead electric	196086.4732	370934.8389	427+83	-33.96'
Overhead electric	195931.7259	370640.8245	431+08	33.71'
Overhead electric	195867.2033	370669.4788	431+27	-34.30'
Gas	195863.2919	370556.9711	432+16	34.26'
Overhead electric	195859.4928	370553.3209	432+21	33.65'
Gas	195831.9856	370573.2281	432+24	-0.24'
Gas	195796.6553	370583.8634	432+38	-34.26'
Road crossing	195821.9737	370560.7162	432+49	0
Sewer	195836.2995	370524.5721	432+58	34.05'
Overhead electric	195773.1077	370555.3086	432+75	-34.26'
Sewer	195793.7404	370526.4794	432+84	0.00'
Sewer	195751.0185	370528.6054	433+10	-34.26'
Water	195175.0151	370089.8561	440+75	34.18'
Water	195145.2418	370106.6727	440+76	0.00'
Water	195113.537	370124.5803	440+76	-36.40'
Well pipe	193714.9432	367689.9819	469+51	35.02'
Well pipe	193678.4746	367700.8436	469+65	0.00'
Well pipe	193642.5256	367711.5506	469+83	-33.52'
Fiber	193396.2319	367521.847	472+97	-42.76'
Gas	193390.462	367518.464	473+03	-43.78'
Gas	193389.9281	367461.6015	473+40	0.00'
Sewer	193345.7049	367474.5431	473+66	-37.95'
Gas	193388.7701	367414.0439	473+71	36.16'
Water	193339.8142	367468.7339	473+74	-37.16'
Overhead electric	193332.0552	367460.5322	473+85	-35.69'
Sewer	193344.5222	367424.6686	473+98	0.00'

Reach 2—Potential Utility and Roadway Conflicts with Proposed Action

Description	Northing	Easting	Station	Offset
Water	193337.3317	367418.8199	474+07	0.00'
Overhead electric	193314.5148	367444.4231	474+09	-34.26'
Fiber	193346.8335	367376.8295	474+27	38.57'
Road crossing	193327.8635	367411.1185	474+29	0
Sewer	193341.7381	367368.3778	474+36	41.91'
Water	193332.6788	367368.116	474+43	36.40'
Overhead electric	193330.8881	367363.6067	474+47	38.77'
Overhead electric	193314.3042	367355.9271	474+65	34.26'
Water	193271.2643	367365.081	474+93	0.00'
Water	193288.5842	367335.0065	474+98	34.26'
Sewer	193234.435	367379.2865	475+12	-34.26'
Sewer	193248.2314	367346.3462	475+22	0.00'
Sewer	193262.1565	367313.0986	475+32	34.58'
16" storm drain	192914.9009	367018.1205	479+97	33.95'
16" storm drain	192881.3588	367029.8377	480+08	0.00'
16" storm drain	192849.591	367040.9352	480+17	-32.39'
Irrigation siphon	192848.1727	366914.7147	481+23	34.07'
Irrigation siphon	192813.6369	366923.8331	481+34	0.00'
Irrigation siphon	192778.9639	366932.9878	481+44	-34.21'
Road crossing	191980.5777	366428.9438	491+77	0
Water	191860.5102	366424.4967	492+78	-35.17'
Water	191865.3864	366387.3174	492+91	0.00'
Water	191868.2034	366349.637	493+08	34.08'
Water	191617.2141	366118.3017	496+45	-47.67'
Underground electric	191618.7584	366109.5938	496+53	-44.63'
Water	191631.5794	366107.0301	496+53	-31.57'
Underground electric	191624.6801	366103.3827	496+57	-37.80'
Underground electric	191575.8074	365808.7626	499+53	-57.85'
Water	191581.493	365807.7812	499+53	-52.10'
Water	191506.3416	365361.0024	504+24	-33.75'
Overhead electric	191498.064	365347.9386	504+40	-35.20'
Overhead electric	191518.127	365244.5867	505+19	34.52'
Overhead electric	191434.8872	365243.9405	505+66	-34.34'
Overhead electric	191382.7867	365043.5217	507+61	33.86'
Overhead electric	191148.953	364694.2551	511+81	33.83'
Water	191110.0207	364634.3911	512+53	34.78'
Overhead electric	191108.1676	364631.6312	512+56	34.78'
Water	191106.8481	364630.8935	512+58	34.09'
Overhead electric	191031.9362	364519.3636	513+92	33.88'
Overhead electric	190968.3583	364548.2803	514+03	-35.04'
Overhead electric	191017.9822	364498.1261	514+17	34.10'
Overhead electric	190944.3894	364512.0483	514+47	-34.80'
Overhead electric	190872.2222	364278.3592	516+81	35.23'
16" storm drain	190813.9658	364316.9218	516+81	-34.64'
16" storm drain	190841.8921	364296.3763	516+83	0.00'
16" storm drain	190870.2409	364275.5199	516+84	35.16'
Road crossing	190768.5845	364186.8664	518+24	0
Water	190728.7998	364127.4344	518+86	0.00'
Water	190755.6558	364107.1963	518+88	33.58'
Road crossing	189823.3107	363859.7663	529+09	0
Overhead electric	189490.0969	363803.3607	532+31	-34.06'
Overhead electric	188934.4797	362789.7306	543+72	-35.70'
Communications overhead	188972.8457	362641.2051	544+95	53.22'

Reach 2—Potential Utility and Roadway Conflicts with Proposed Action

Description	Northing	Easting	Station	Offset
Overhead electric	188838.2143	362644.1434	545+58	-66.23'
Fiber	188838.0899	362643.4094	545+58	-65.99'
Communications overhead	188837.8822	362642.2215	545+59	-65.60'
Road crossing	188890.018	362600.8728	545+80	0
Overhead electric	188789.1569	362529.642	546+82	-54.17'
Overhead electric	188222.5459	361562.3216	558+11	-32.62'
Overhead electric	188171.6502	361388.0531	559+80	35.19'
Water	187855.8777	361138.2036	563+71	41.04'
Water	187827.9398	361169.9767	563+81	0.00'
Water	187791.5522	361211.3595	563+95	-53.31'
Road crossing	187742.7771	361128.9325	564+85	0
Fiber	187694.9532	361049.1329	565+54	51.36'
Overhead electric	187690.6992	361048.1611	565+59	50.33'
Gas	187683.3695	361046.4868	565+66	48.49'
Gas	187651.7413	361083.0784	565+78	1.38'
Overhead electric	187626.1914	361126.5917	565+79	-49.05'
Gas	187619.0609	361120.6445	565+88	-47.25'
Overhead electric	187585.9241	361003.193	566+78	34.26'
Overhead electric	187530.0218	361046.9873	566+97	-34.23'
Overhead electric	187285.5434	360097.4236	577+12	34.26'
Overhead electric	187216.6522	360067.9882	577+42	-34.26'
Road crossing	187250.3104	360019.3599	578+00	0
Overhead electric	185992.1936	357445.4671	609+21	34.05'
Overhead electric	185921.9557	357446.9209	609+38	-33.97'
Water	185368.6182	355954.9833	627+17	34.21'
Water	185349.9846	355983.7911	627+19	0.00'
Road crossing	185340.1065	355978.4079	627+40	0
Overhead electric	182437.7953	354991.0144	660+47	35.17'
Overhead electric	182418.5076	354989.8756	660+66	35.51'
Overhead electric	182334.2582	355058.1242	661+42	-41.37'
Overhead electric	182317.7432	355055.2257	661+58	-41.61'
Road crossing	179198.6807	353729.417	697+90	0
Overhead electric	178434.4644	351110.4042	730+13	37.46'
Overhead electric	178361.8411	351067.6918	730+97	34.42'
Overhead electric	178302.1019	351110.8723	731+24	-34.12'
Overhead electric	178235.801	351068.3072	732+03	-33.89'
Overhead electric	177655.6322	350487.5489	740+42	-37.55'
Gas	177642.9727	350484.8992	740+55	-40.12'
Gas	177642.9727	350441.2886	740+72	0.00'
Overhead electric	177655.5889	350407.7537	740+74	35.80'
Gas	177642.9727	350402.2086	740+87	35.95'
Overhead electric	177601.8999	350468.8082	740+99	-41.42'
Road crossing	177625.8589	350433.9965	741+00	0
Overhead electric	177602.165	350378.5348	741+39	40.54'
Overhead electric	176668.4835	349707.8666	753+18	34.54'
Overhead electric	176480.438	349702.4657	754+93	-33.67'
Road crossing	174826.8825	348549.3377	777+90	0
Overhead electric	174378.759	347595.8625	790+18	62.87'
Overhead electric	174223.8935	347319.2065	793+04	41.67'
Overhead electric	174016.9017	347214.6903	795+18	34.35'
Road crossing	172376.106	346433.9483	815+25	0
Fiber	172354.4251	346428.2576	815+38	0.00'
Overhead electric	172344.438	346463.2613	815+39	-36.39'

Reach 2—Potential Utility and Roadway Conflicts with Proposed Action

Description	Northing	Easting	Station	Offset
Fiber	172356.0501	346387.1101	815+47	40.21'
Overhead electric	172345.5936	346387.3624	815+57	37.31'
Road crossing	170729.3493	344970.3741	838+30	0
2" water	170574.4206	344543.3171	842+75	13.07'
Gas	170576.0007	344536.8457	842+80	16.92'
Overhead electric	170579.3874	344475.9045	843+36	42.49'
Gas	170553.669	344469.1932	843+51	21.05'
Overhead electric	170496.3741	344482.1784	843+60	-37.00'
Fiber	170556.894	344440.454	843+77	34.62'
2" water	170560.9032	344438.6152	843+77	39.03'
Road crossing	170526.613	344458.0276	843+81	0
Fiber	170519.6085	344440.3262	843+91	0.00'
Fiber	170477.9257	344441.8364	844+06	-39.17'

Reach 3—Potential Utility and Roadway Conflicts with Proposed Action

Description	Northing	Easting	Station	Offset
Road	169492.1301	343498.3294	857+93	0
Road	161760.0679	340373.029	942+00	0
Overhead electric	161731.8404	340335.5406	942+40	24.12'
Overhead electric	161731.401	340388.4592	942+21	-25.08'
Pipe	156400.6622	338215.1556	1001+59	24.07'
Pipe	156400.9533	338239.2984	1001+55	0.23'
Pipe	156401.2437	338264.7513	1001+51	-24.91'
Overhead electric	153974.794	337859.4779	1026+07	24.25'
Overhead electric	153974.6474	337910.2124	1026+07	-26.49'
Gas	153970.6899	337859.4779	1026+11	24.24'
Gas	153969.0775	337883.8194	1026+13	-0.11'
Gas	153967.6119	337910.0657	1026+14	-26.36'
Pipe	153964.8273	337859.9182	1026+17	23.78'
Road	153956.8503	337883.6786	1026+25	0
Pipe	153955.4472	337883.8194	1026+26	-0.14'
Pipe	153945.0404	337909.7722	1026+37	-26.12'
Pipe	152437.3104	337629.6205	1041+67	25.39'
Pipe	152436.1077	337655.4432	1041+64	-0.23'
Pipe	152435.0377	337677.5325	1041+61	-22.16'
Road	151331.869	337585.4491	1052+72	0
Pipe	148706.6914	337419.1521	1079+26	24.48'
Pipe	148710.1287	337446.3651	1079+14	0.08'
Pipe	148714.0149	337475.6716	1079+00	-26.13'
Overhead electric	148630.1462	337391.6213	1080+08	24.20'
Overhead electric	148630.3864	337445.8602	1079+89	-26.69'
Road	147771.5166	337040.014	1089+40	0
Gas	146016.7051	336143.2142	1109+17	23.59'
Gas	146016.7051	336166.9256	1109+13	0.19'
Gas	146016.2212	336192.5732	1109+10	-25.20'
Gas	145954.0649	336132.5678	1109+81	23.94'
Gas	145953.5816	336156.7634	1109+77	-0.02'
Gas	145955.0327	336183.1369	1109+72	-25.81'
Road	143346.6443	336174.0297	1136+15	0
Road	138205.7867	337037.8063	1193+23	0
Overhead electric	134572.5364	336731.34	1231+58	29.23'
Overhead electric	134346.9068	335884.4709	1240+35	26.25'
Overhead electric	127520.6331	326447.7481	1382+82	43.65'
Overhead electric	127520.6331	326535.2814	1382+82	-43.88'

Bureau of Indian Affairs Program Guidance for Encroachments Affected by Rehabilitation of San Carlos Irrigation Project Facilities

Factors affecting the encroachment analysis within the Project's 200' reserved ROW:

(1) Whether the encroachment is impacting or obstructing the Project's O&M purpose.
(2) Whether the encroachment is by the underlying fee owner or a third party.
(3) Whether there is written consent/agreement from the underlying landowner for the encroachment.
(4) The rehab project will complete at its cost the centerline survey in metes and bounds for the 200' reserved ROW. BIA will record the delineated reserved ROW before construction. The U.S. will file and record an affidavit of completion of construction verifying the rehab works were constructed within the recorded, delineated reserved ROW.

Scenarios:

I. Encroachment within the Canal - Any encroachment within a BIA canal proper is an obstruction and may be removed by BIA any time without consequences (e.g., pipe constructed in the canal, outlet pipe constructed in the canal, etc.).

II. Overhead utility line with poles outside 200' reserved ROW - Any overhead utility line across the canal, where there is landowner consent, and which has poles located outside the 200' ROW and 15' or more above the ground, is not an encroachment.

III. Encroachment within the BIA's 200' reserved ROW

A. No written consent/agreement from the underlying landowner - Any encroachment in the 200' reserved ROW that doesn't have the written consent of the underlying fee landowner has no authority to be in the reserved ROW. BIA may remove this encroachment at any time without consequences. Cost to relocate/replace/repair unauthorized encroachment will not be covered by the rehab project.

B. Encroachment by underlying landowner – An encroachment by the underlying landowner within the 200' reserved ROW, which does not interfere with the BIA's O&M purpose, would be relocated/replaced/repaired at the expense of the rehab project. Example: The Department of Corrections owns a bridge and culvert on its own lands within BIA's 200' reserved ROW; DOC's use of the bridge and culvert do not obstruct or interfere with BIA's O&M purpose within the 200' reserved ROW. The rehab project will pay for relocation/replacement/repair costs resulting to bridge or culvert owned by DOC on its property within the BIA 200' reserved ROW

because the bridge/culvert encroachment does not interfere with the Project's O&M purpose.

C. "Joint Use" of BIA's 200' ROW by underlying fee landowner and BIA – A "joint use" encroachment is where an underlying fee owner has encroached over time on the 200' reserved ROW with a building or other obstruction, BIA's reserved ROW isn't physically evident because historically BIA hasn't used the full width of the ROW, and this "joint use" has not heretofore interfered with BIA's O&M purpose. The cost to relocate/replace/repair the "joint use" encroachment will be covered by the rehab project. Example: An underlying landowner built and uses a garage or out-building on his land. The recent survey work to delineate the BIA's 200' reserved ROW shows this encroachment, but BIA has not historically engaged in O&M activities in this part of the 200' reserved ROW. In this "joint use" encroachment, costs to relocate/replace/repair the encroachment will be covered by the rehab project.

D. Third party encroachment - Any third party encroachment that has the consent of the underlying fee landowner is subservient to the BIA's 200' reserved ROW, and replacement/repair of encroachment will not be covered by the rehab project. Example: Water and sewer lines owned by local utilities and serving Department of Corrections' lands are third party encroachments and subservient to BIA's reserved ROW; the third party utilities will pay relocation/repair costs resulting from rehab project.

E. Overhead utility line with pole/structure within 200' reserved ROW - An overhead utility line, with the consent of the underlying landowner, which has a pole/structure within the 200' reserved ROW, is subservient to BIA's 200' reserved ROW, and the utility will be responsible for the cost to relocate/replace/repair caused by the rehab project.

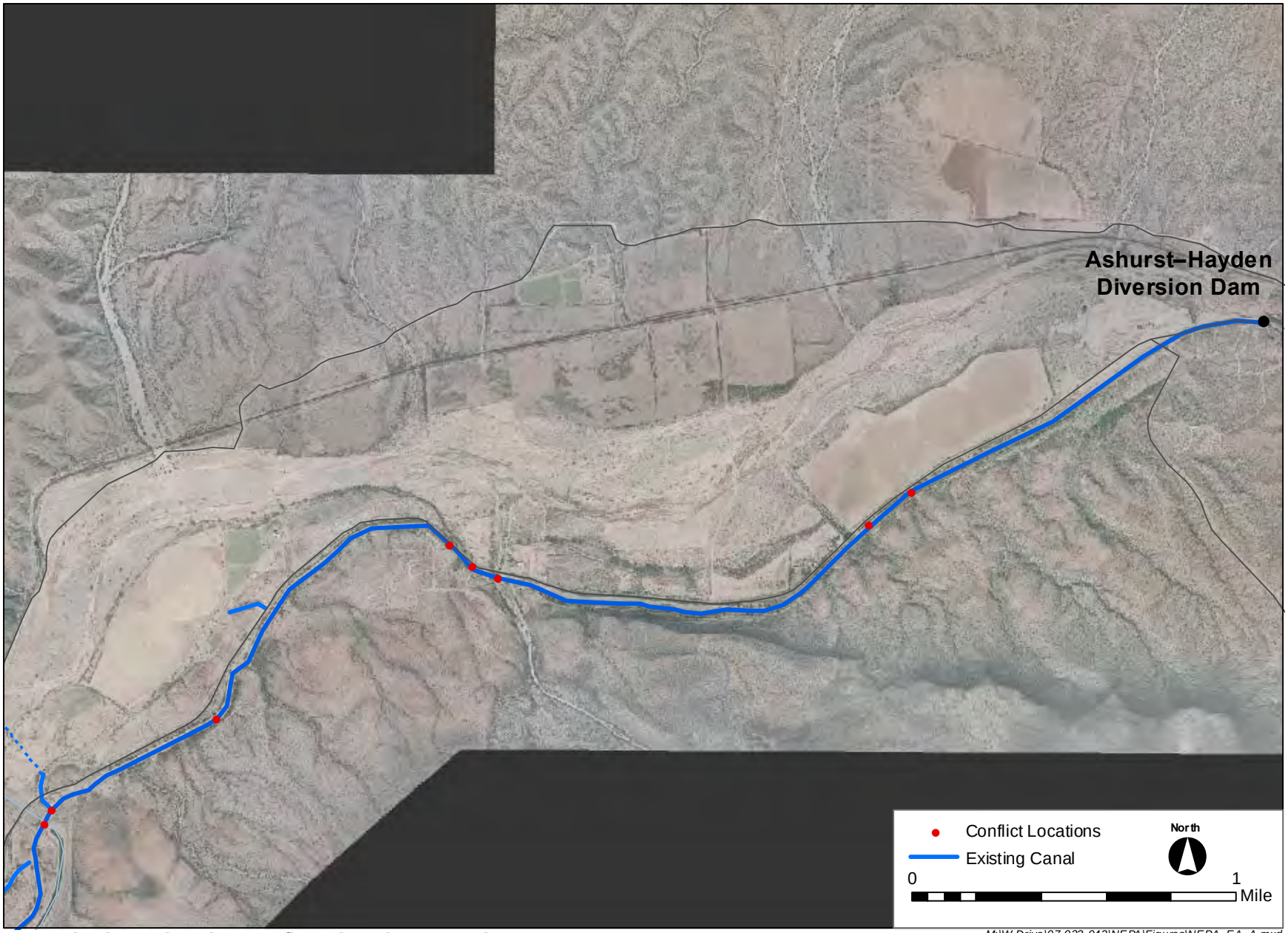
F. Underground encroachments – Underground encroachments which have no corresponding ground disturbance within the BIA's 200' reserved ROW will be evaluated on a case by case basis (but will be delineated and recorded by BIA regardless).

G. Private road within the 200' reserved ROW across a BIA canal: BIA's O&M purpose is primary to private road access regardless whether road belongs to underlying landowner or third party. However, a private road of the underlying owner within the 200' reserved ROW that doesn't interfere with BIA's primary O&M purpose will

be relocated/replaced/repaired at the expense of the rehab project. A third party's private road within the 200' reserved ROW which has underlying landowner's consent is subservient to the BIA's reserved ROW, and the third party will pay for the costs of relocation/replacement/repair of the private road.

H. Public roads – A public road encroaching on the BIA's 200' reserved ROW includes those declared and noticed as public by a local government, and the 33' easement designated by Pinal County on each side of a section line. BIA has the primary right in the 200' reserved ROW, and the public road owner has to pay the costs to relocate/replace/repair resulting from the rehab project.

BIA/SCIP Power Division overhead power lines – BIA's overhead power lines within the 200' reserved ROW will be evaluated on a case by case basis. For example, a BIA overhead power line that serves a SCIP well is an O&M purpose, it has the consent of the underlying landowner , and the rehab project should pay for relocation/repair to this overhead power line. A BIA power line that serves a private residence, has the consent of the underlying landowner, but is subservient to BIA's primary irrigation O&M purpose in the 200' reserved ROW. In this instance, the SCIP Power Division would be responsible for the relocation/replacement/repair costs resulting from the rehab project.



Potential utility and roadway conflicts along the Proposed Action

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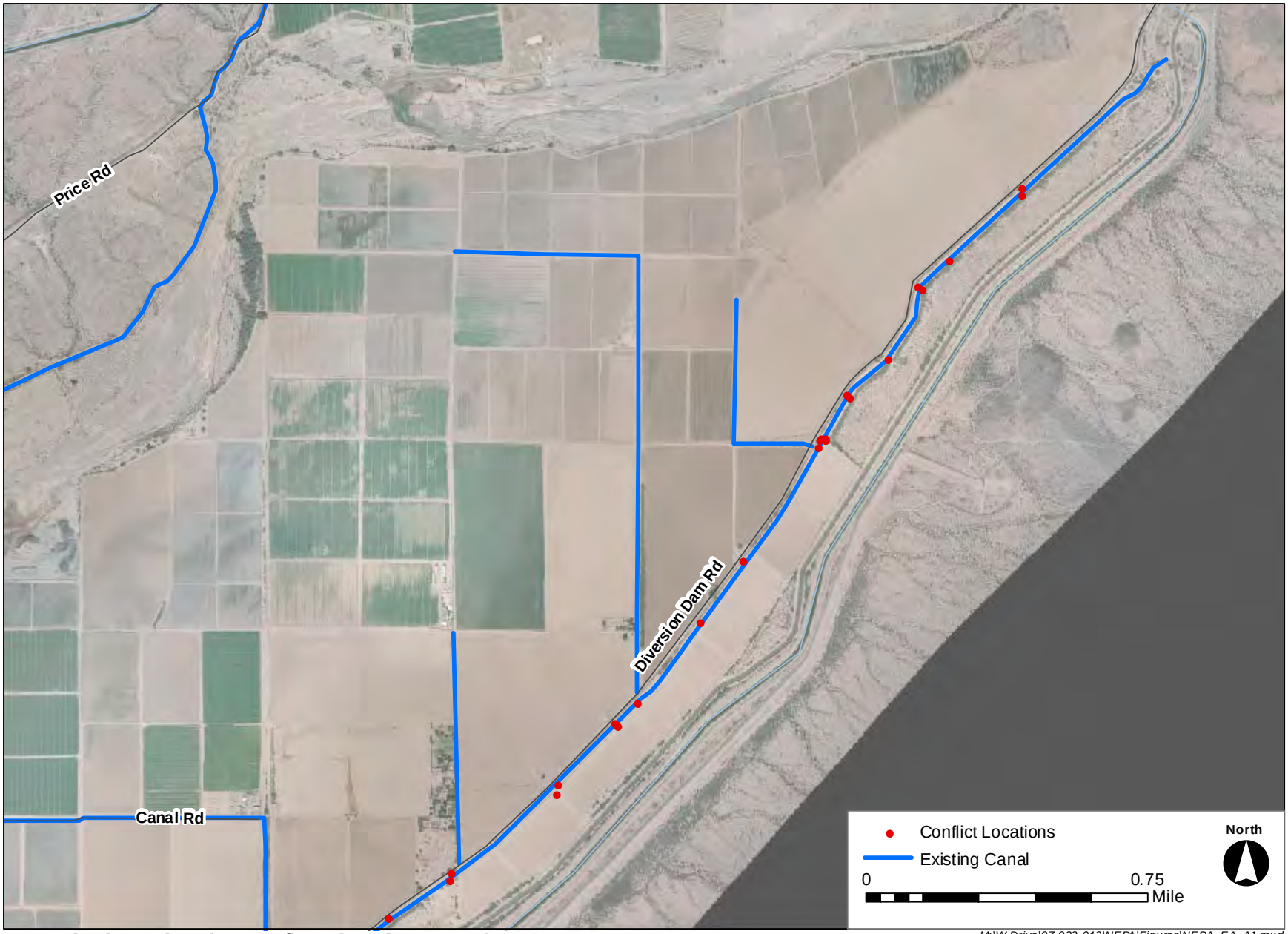

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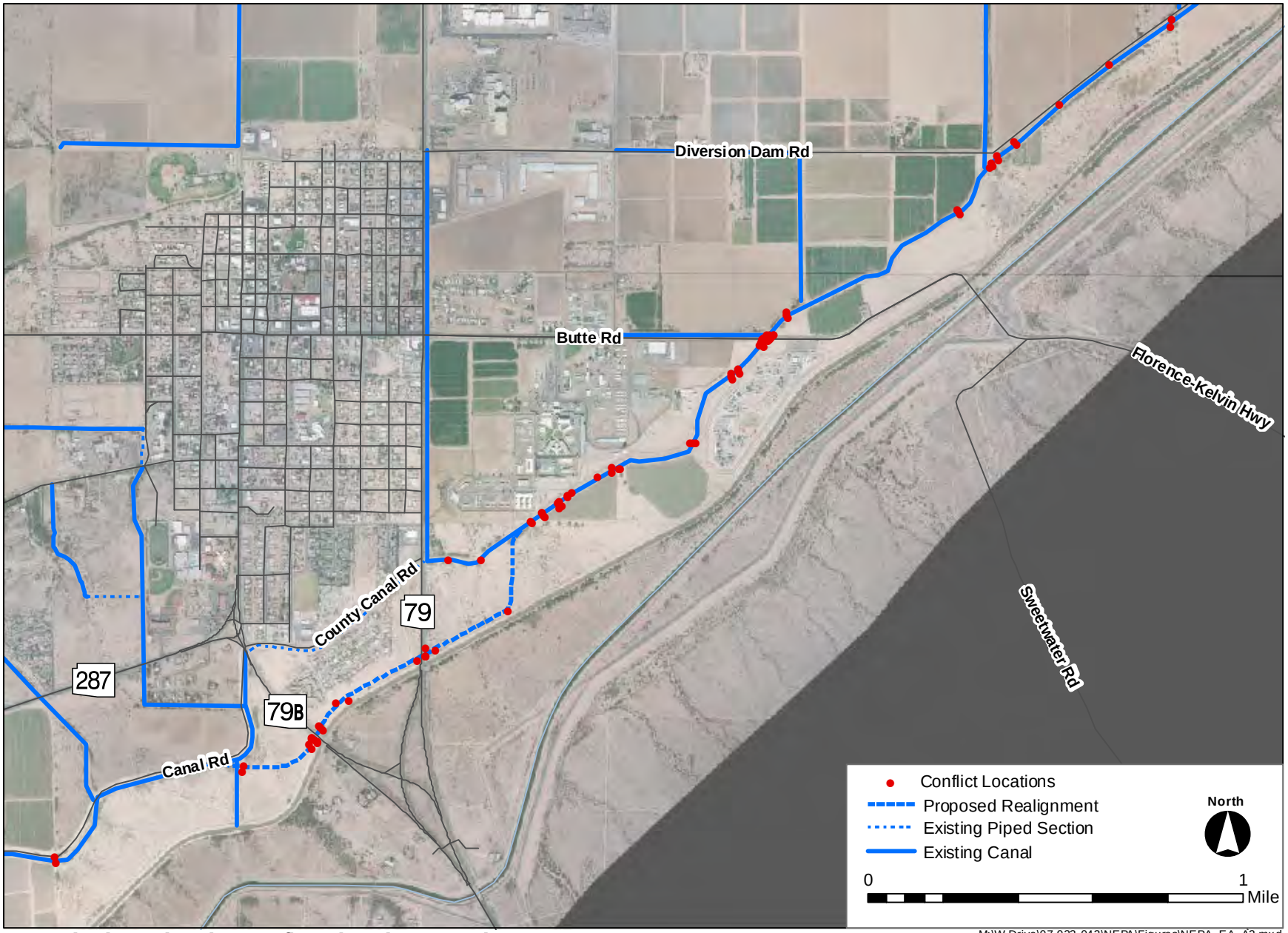

Potential utility and roadway conflicts along the Proposed Action

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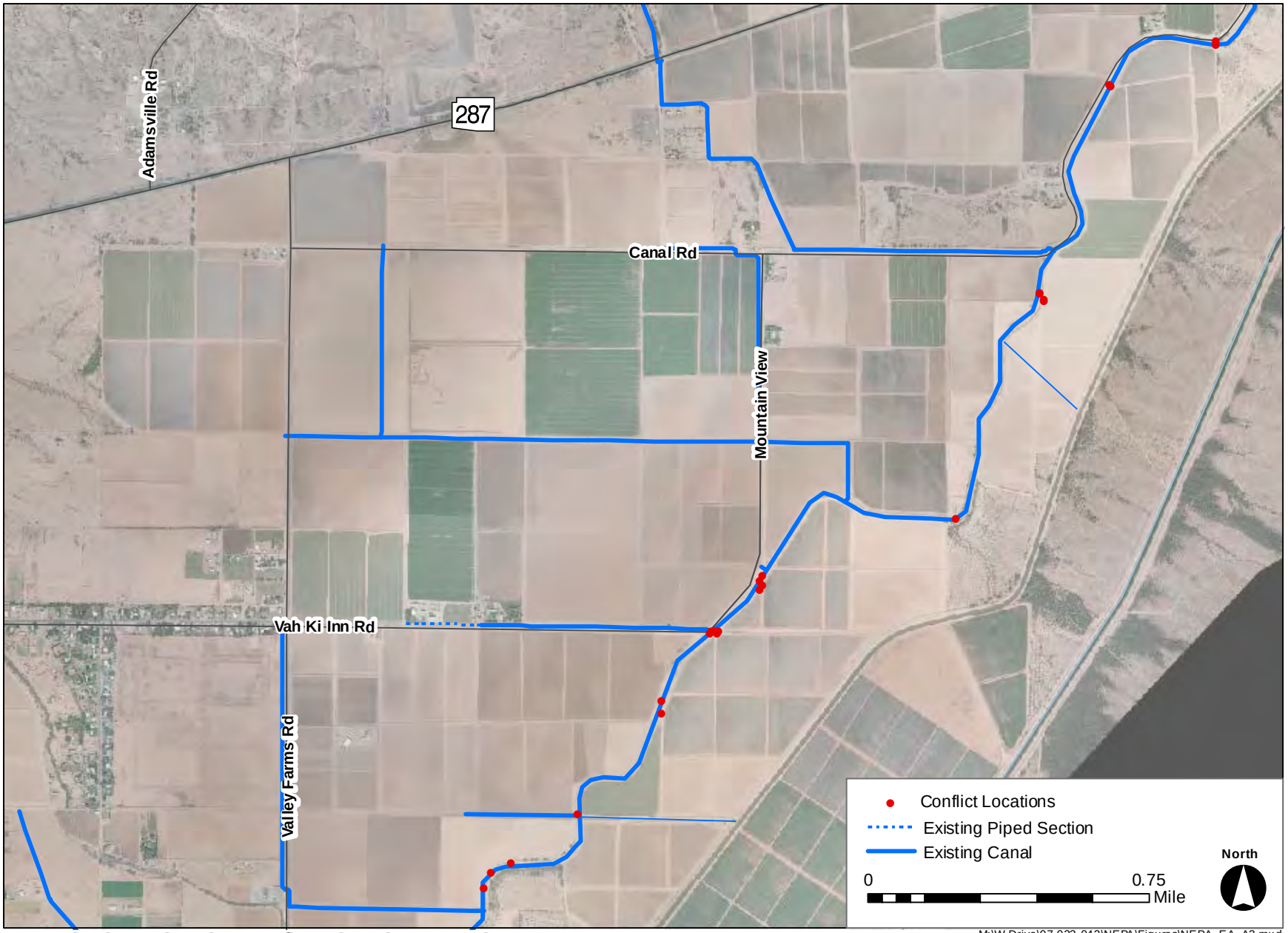

Potential utility and roadway conflicts along the Proposed Action

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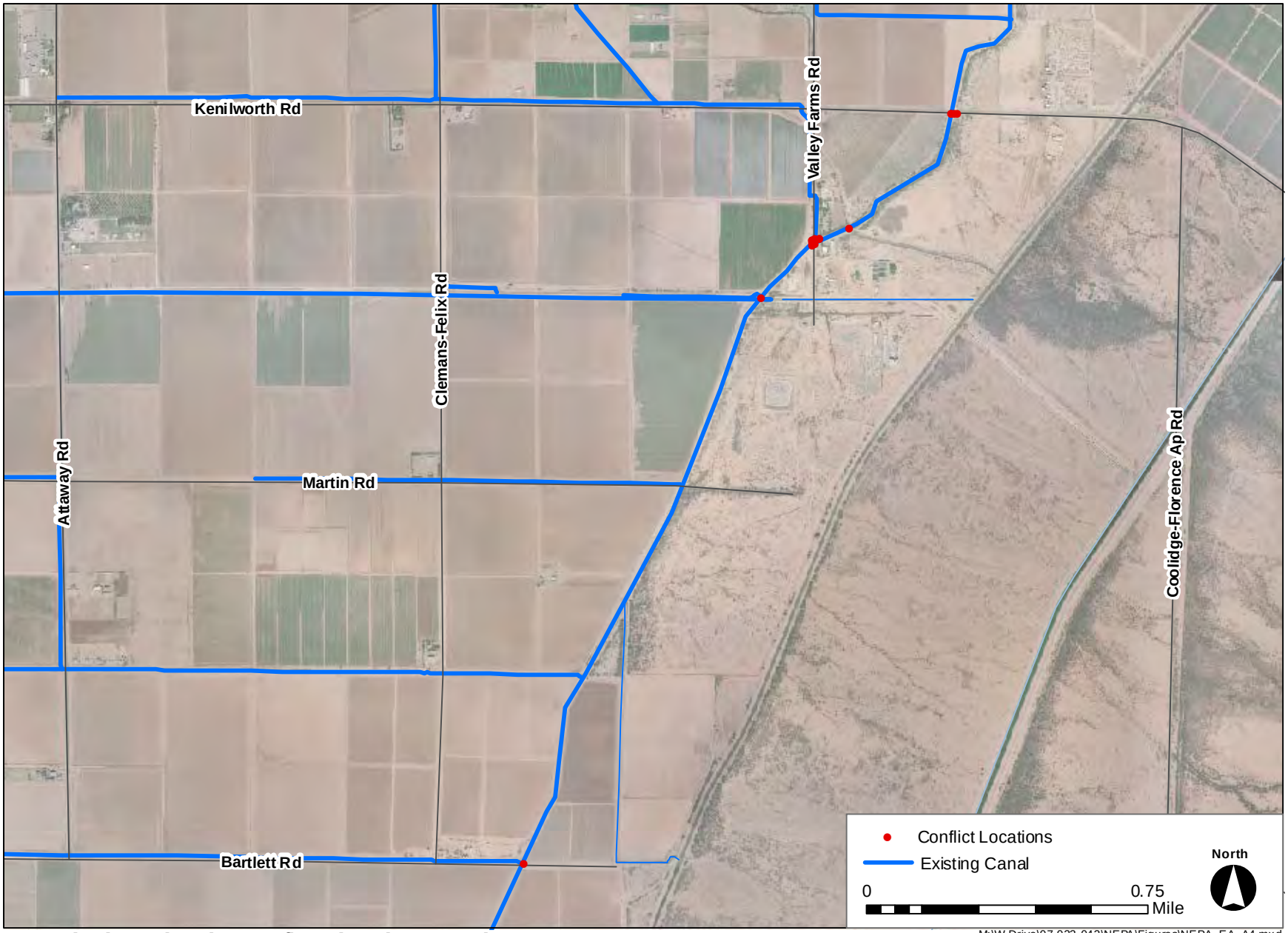
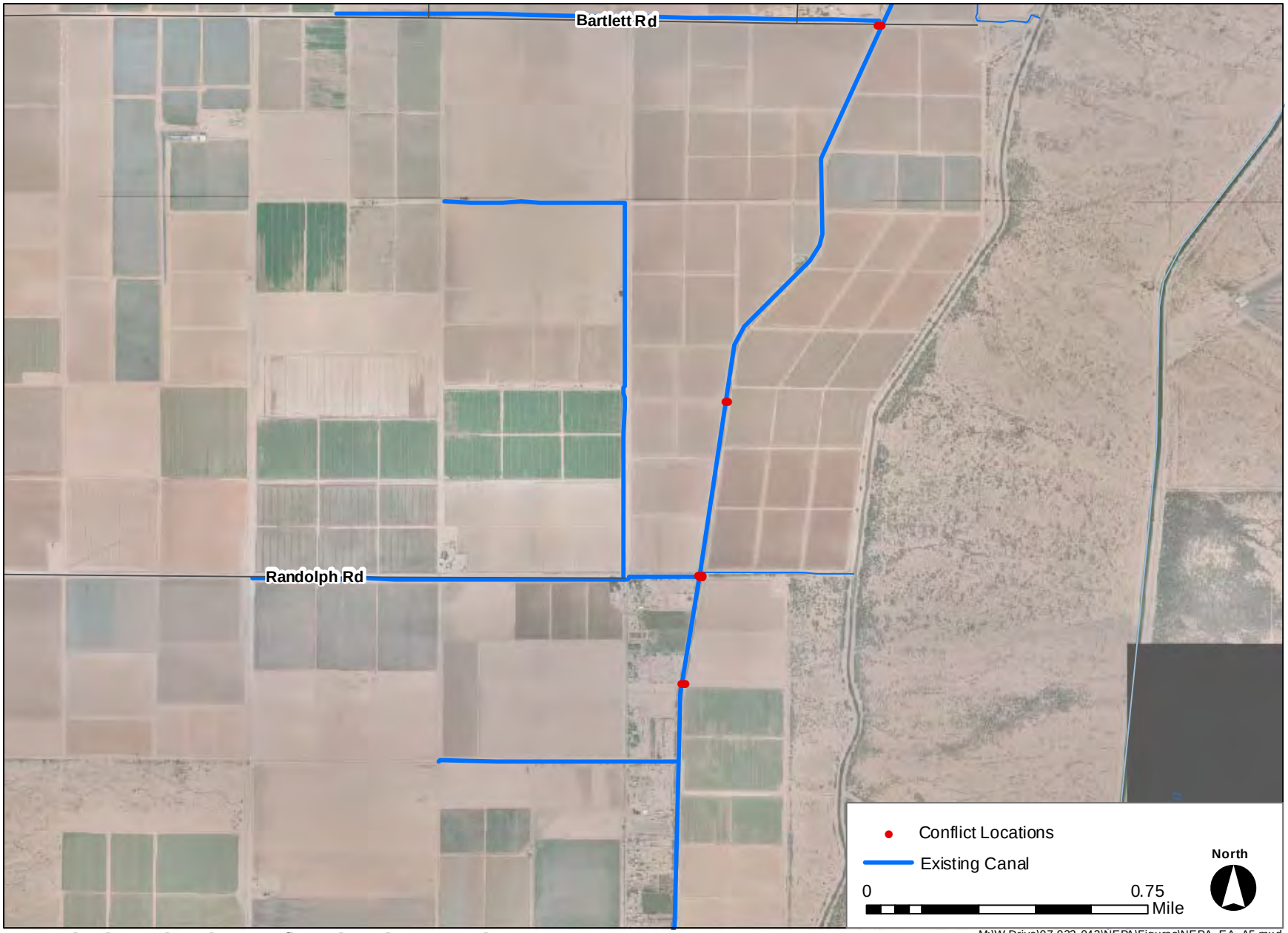


Potential utility and roadway conflicts along the Proposed Action



Potential utility and roadway conflicts along the Proposed Action

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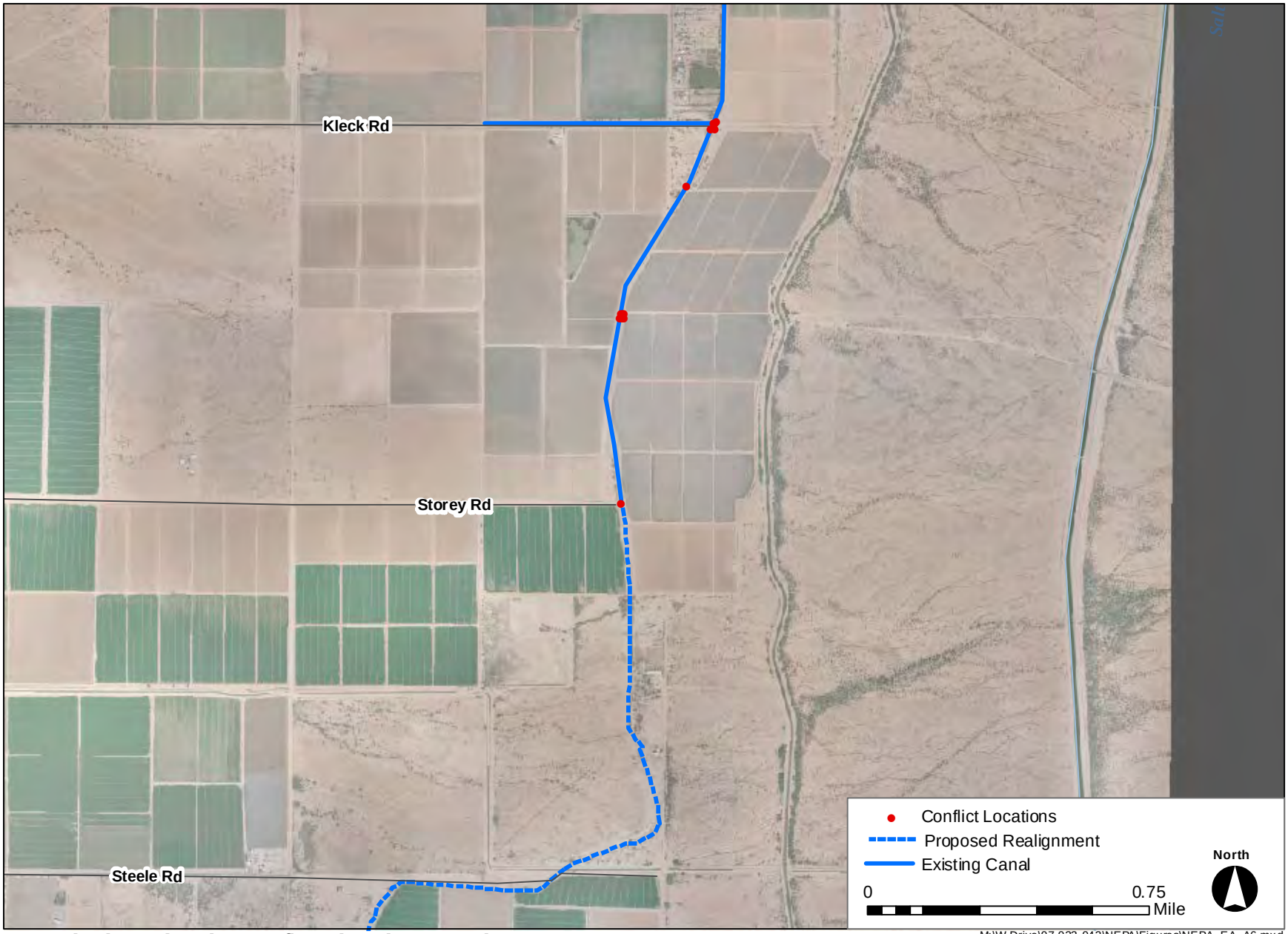

Potential utility and roadway conflicts along the Proposed Action

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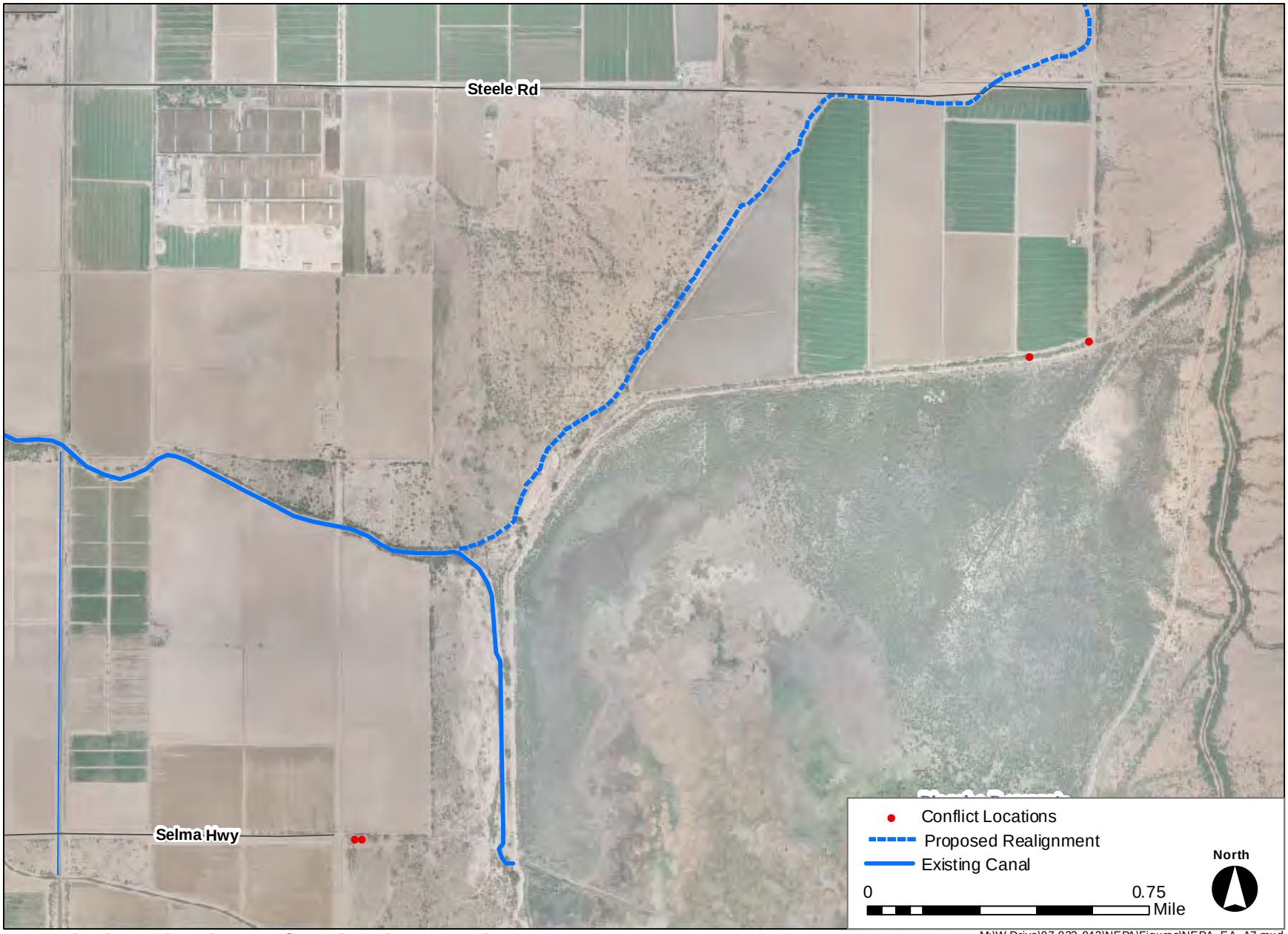

Potential utility and roadway conflicts along the Proposed Action

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APPENDIX G
Cultural Consultation Letters

ARIZONA
STATE
PARKS

1300 W. WASHINGTON
PHOENIX, ARIZONA 85007
TELEPHONE 602-542-4174

FIFE SYMINGTON
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STATE LAND COMMISSIONER

KENNETH E. TRAVOUS
EXECUTIVE DIRECTOR

CHARLES R. EATHERLY
DEPUTY DIRECTOR

3 October 1995

Bruce D. Ellis, Chief
Environmental Management Division
Bureau of Reclamation
Phoenix Area Office
PO Box 9980
Phoenix, AZ 85068-0980

Attention: Tom Lincoln

RE: Gila River, HAER Doc/San Carlos Irrigation Project, BR

Dear Mr. Ellis:

I have reviewed the Draft HAER Report on the San Carlos Irrigation Project and find it to be thorough and complete.

We appreciate the effort the Bureau of Reclamation has made in completing this project and the concerns your office brings to the preservation and management of cultural resources under your control.

Sincerely,

James Garrison
AZSHPO

United States Department of the Interior

NATIONAL PARK SERVICE
Pacific West Field Area
Pacific Great Basin System Support Office
600 Harrison Street, Suite 600
San Francisco, California 94107-1372

IN REPLY REFER TO:

H40(PGBC-PC)

April 18, 1996

Ms. Christine Pfaff
Technical Services Center
Bureau of Reclamation
P.O. Box 25007
Denver, Colorado 80225-0007

Re: Historic American Engineering Record documentation of the San Carlos Irrigation Project, Coolidge Vicinity, Pinal County, Arizona

Dear Ms. Pfaff:

The National Park Service acknowledges the receipt of and accepts the Historic American Engineering Record (HAER) documentation of the San Carlos Irrigation Project. This documentation meets the Historic American Engineering Record standards and complies with the Memorandum of Agreement among the Bureau of Reclamation, Arizona State Historic Preservation Officer, and the Advisory Council on Historic Preservation.

The completed documentation will be transmitted to the Prints and Photographs Division of the Library of Congress. The records are in the public domain and will be accessible through the Library. We will provide a copy of the documentation to the State Historic Preservation Officer.

The documentation is very thorough and well-executed and will be a valuable addition to the record of America's historic engineering and industrial resources.

Sincerely,

M. Pepin-Donat

Margaret Pepin-Donat
Co-Team Leader, Cultural Resources

cc:
HABS/HAER, WASO
SHPO, AZ
Advisory Council

PHOENIX AREA OFFICE
ACTION BY: MOE
RECEIVED
JUL 17 '12
CLASSIFICATION
CONTROL NO.
PROJECT

Janice K. Brewer
Governor

Bryan Martyn
Executive Director

Arizona State Parks
AZStateParks.com

Board Members

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Maria Baier, State Land Commissioner, *Vice Chair*
Kay Daggett, Sierra Vista
Alan Everett, Sedona
Larry Landry, Phoenix
William C. Scalzo, Phoenix
Tracey Westerhausen, Phoenix

In reply, refer to SHPO-2010-1253(105973)

July 13, 2012

Alexander Smith, Chief
Environmental Resource Management Division
Bureau of Reclamation
6150 West Thunderbird Road
Glendale, AZ 85306
Attn: Jon Czaplicki

Re: Final Survey Report, SCIDD-Florence Canal Station 45+00 to 1224+00, Pinal County, Arizona

Dear Mr. Alexander:

Thank you for continuing to consult with this office concerning the above-referenced undertaking. Pursuant to implementation of the National Historic Preservation Act, I have reviewed the submitted document, "Final Report of Class III Cultural Resources Survey for the SCIDD-Florence Canal, Station 45+00 to 1224+00, Pinal County, Arizona," and I have the following comments:

1. The report is well-written and meets the Secretary of Interior's Standards for Archaeological Documentation; no revisions are recommended.
2. Our records indicate that previous consultation between our offices resulted in consensus National Register of Historic Places (NRHP) determinations for all sites listed in your cover letter except for AZ AA:3:283, 284, 285, 286, and 287(ASM). I concur that these sites are not NRHP-eligible.
3. Sites AZ FF:9:17 and V:5:198(ASM) are NRHP-eligible in their entirety, but the portions within the project area are ineligible, non-contributing elements.
4. I concur with your continued efforts to relocate AZ U:15:5 and 47(ASM) and AZ U:15:5(ARS).
5. I concur that sites AZ AA:2:130, 215, FF:9:17, and V:5:198(ASM) require no additional fieldwork or documentation within the project area for the proposed undertaking. I concur with conducting additional archival research to document AZ AA:2:211 and U:15:665(ASM). I concur with conducting subsurface investigations at AZ U:15:124 and 663(ASM). Finally, I concur with the additional efforts proposed for AZ U:15:666(ASM) and also recommend that further archival research be conducted to clarify the relation of the architectural features to the prison complex.
6. I look forward to reviewing a treatment plan for any eligible sites if and when they may be impacted by SCIDD canal upgrading.

As always, I appreciate your cooperation with this office in complying with federal historic preservation requirements. If you have any questions or concerns, please feel free to contact me at 602/542-7142, or email me at jcogswell@azstateparks.gov.

Sincerely,

James Cogswell

James Cogswell, Ph.D
Archaeological Compliance Specialist
State Historic Preservation Office

SHPO-2010-1253 (130272)
ARIZONA STATE HISTORIC PRESERVATION OFFICE

OFFICIAL FILE COPY
PHOENIX AREA OFFICE
ACTION BY:
APR 25 '16
RECEIVED
MAR 25 2016
ARIZONA STATE HISTORIC PRESERVATION OFFICE
PROJECT

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Region
Phoenix Area Office
6150 West Thunderbird Road
Glendale, AZ 85306-4001

MAR 2 2016

IN REPLY REFER TO:
PXAO-1500
ENV-3.00

Dr. James Cogswell
Archaeologist
State Historic Preservation Office
1100 West Washington Street
Phoenix, Arizona 85007

Subject: Section 106 Consultation Request: Report of Findings for the San Carlos Irrigation and Drainage District Phase I Eligibility Testing, Data Recovery, and Archival Research along Reaches 1 and 2 of the San Carlos Irrigation Project Rehabilitation, Pinal County, Arizona (Report)

Dear Dr. Cogswell:

We have reviewed the subject Report, a copy of which is enclosed for your review. In accordance with the provisions of the *Memorandum of Agreement among the Bureau of Reclamation, the Bureau of Indian Affairs' San Carlos Irrigation Project, and the Arizona State Historic Preservation Officer Regarding Eligibility Testing, Phase I Data Recovery, Phase 2 Data Recovery, and Archival Research at Sites Located along Reaches 1 and 2 of the Florence-Casa Grande Canal, San Carlos Irrigation and Drainage District (SCIDD), San Carlos Irrigation Project, Pinal County, Arizona* (MOA), Reclamation directed Archaeological Consulting Services (ACS) to conduct archival research for three historic sites (AZ AA:3:21[ASM], AZ U:15:665[ASM], and AZ U:15:666[ASM]), eligibility testing at two sites (AZ U:15:5[ASM] and AZ U:15:47[ASM]), Phase I data recovery at three sites (AZ U:15:124[ASM], AZ U:15:663[ASM], and AZ U:15:678[ASM]), and limited boundary testing at one site (AZ U:15:676[ASM]) to mitigate adverse effects to cultural resources arising from the planned rehabilitation of SCIDD canals. The Florence-Casa Grande Canal (AZ AA:3:125(ASM), also within the project area, has been previously mitigated and requires no further work.

In a letter dated February 17, 2015, Reclamation consulted with you on the preliminary findings of the testing and Phase I data recovery investigations. You concurred that no further investigations were needed within the project area at sites AZ U:15:5(ASM), AZ U:15:47(ASM), AZ U:15:124(ASM), and AZ U:15:678(ASM); however, you requested modifications to the Phase II data recovery plan for AZ U:15:663(ASM) and AZ U:15:676(ASM). Reclamation agreed to these modifications in a letter dated April 27, 2015, and they have been incorporated into the subject Report, which details the complete results of all investigations including the archival research and artifact analysis.

Based on the results of the previously consulted on preliminary report and the findings in the subject Report, Reclamation has determined that adverse effects have been mitigated through archival and archaeological investigations at the following seven sites: AZ AA:3:21(ASM), AZ U:15:5(ASM), AZ U:15:47(ASM), AZ U:15:124(ASM), AZ U:15:665(ASM), AZ U:15:666(ASM), and AZ U:15:678(ASM). Reclamation recommends that Phase II data recovery be conducted at AZ U:15:663(ASM) and AZ U:15:676(ASM) following the plan detailed within the subject Report. Reclamation also recommends construction monitoring within a 100 foot buffer of AZ U:15:676(ASM).

We seek your concurrence with the determinations and recommendations above. If you have any questions, comments, or concerns, please contact Dr. Lauren Jelinek, staff archaeologist, at 623-773-6263, or email at ljelinek@usbr.gov.

Sincerely,

Sean Heath
Chief, Environmental Resource
Management Division

Enclosure

CONCUR

4/21/16

Arizona State Historic Preservation Office

SHPO - 2016-1469 (134347)
ARIZONA STATE HISTORIC PRESERVATION OFFICE

DOE

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Region
Phoenix Area Office
6150 West Thunderbird Road
Glendale, AZ 85306-4001

IN REPLY REFER TO:
PXAO-1500
ENV-3.00

DEC - 8 2016

RECEIVED
DEC 09 2016
ARIZONA STATE HISTORIC PRESERVATION OFFICE

CERTIFIED RETURN RECEIPT REQUESTED

Dr. James Cogswell
Archaeologist
State Historic Preservation Office
1100 West Washington
Phoenix, AZ 85007

Subject: Section 106 Consultation — A Class III Cultural Resource Survey for the San Carlos Irrigation and Drainage District (SCIDD) Rehabilitation Project in Reach 2 of the SCIDD and Joint Works Irrigation Facilities, Pinal County, Arizona (Report)

Dear Dr. Cogswell:

Archaeological Consulting Services, Ltd. (ACS) has completed a cultural resources inventory of the expanded area of potential effect (APE) on Reach 2 of the proposed second phase of the SCIDD Rehabilitation Project. The Bureau of Reclamation (Reclamation) previously consulted on a cultural resources inventory of a 200 foot-wide APE in 2011. Reclamation and the concurring and consulting parties then entered into a Memorandum of Agreement (MOA) to mitigate all adverse effects to historic properties and potentially eligible cultural resources within the APE. Following implementation of the Historic Properties Treatment Plan (HPTP) and consultation on an addendum to the original survey in 2014, the APE was expanded again to include temporary construction easements and utility turnouts. Reclamation then contracted with ACS to complete a cultural resources inventory of the expanded APE on Reach 2. The results of the Reach 2 cultural resources inventory are summarized below and described in the subject Report, which is enclosed for your review.

ACS identified 15 archaeological sites and 30 isolated occurrences during this inventory. One previously recorded site, the Captain of the Guards House (131-I[SHPO]), was not relocated within the APE. Of the 15 archaeological sites identified during survey, 12 had been previously recorded and 3 were newly identified.

The following 8 previously recorded sites have been determined eligible for inclusion in the National Register of Historic Places (NRHP):

- AZ AA:3:211(ASM), Florence Canal, under Criteria A and D
- AZ AA:3:215(ASM), historic Florence-Casa Grande Canal, under Criterion A
- AZ FF:9:17(ASM), historic US 80/89, under Criteria A and D

- AZ U:15:124(ASM), multicomponent artifact scatter, under Criterion D
- AZ U:15:253(ASM), Hohokam habitation site, under Criterion D
- AZ U:15:663(ASM), multicomponent artifact scatter, under Criterion D
- AZ U:15:665(ASM), Florence to Picacho Road, under Criteria A and D
- AZ V:5:198(ASM), EMATL Hayden-Coolidge Transmission Line, under Criterion A

The following 3 previously recorded sites have been determined not eligible for inclusion in the NRHP:

- AZ U:15:661(ASM), historic San Carlos Irrigation Project utility line
- AZ U:15:662(ASM), historic Diversion Dam Road
- AZ U:16:664(ASM), historic artifact scatter
- AZ U:15:667(ASM), historic unpaved road

The following newly identified site is recommended eligible for inclusion in the NRHP:

- AZ U:15:860(ASM), Hohokam artifact scatter, under Criterion D

The following 2 newly identified sites are recommended unevaluated for inclusion in the NRHP:

- AZ U:15:861(ASM), Hohokam artifact scatter
- AZ U:15:862(ASM), Hohokam artifact scatter

Because the boundaries of AZ U:15:253(ASM) and AZ U:15:663(ASM) overlap and they are both characterized as probable prehistoric habitation sites with extensive artifact scatters, ACS recommends that they be combined into one site that retains the AZ U:15:663(ASM) designation. Furthermore, additional research has demonstrated that AZ U:16:664(ASM) was part of a larger multicomponent site, AZ U:15:124(ASM); therefore, ACS recommends that they also be combined into one site that retains the AZ U:15:124(ASM) designation.

ACS recommends Phase I data recovery within the expanded APE at AZ U:15:124(ASM) and AZ U:15:663(ASM). They also recommend eligibility testing within the APE for AZ U:15:861(ASM) and AZ U:15:862(ASM). ACS recommends no further cultural resource investigations at AZ U:15:860(ASM) because previous fieldwork has exhausted the information potential within the APE. Likewise, no additional cultural resource investigations are recommended for AZ AA:3:211(ASM), AZ AA:3:215(ASM), AZ FF:9:17(ASM), AZ U:15:665(ASM), or AZ V:5:198(ASM) because previous detailed recording and research has sufficiently mitigated all potential adverse effects from the proposed project.

Reclamation concurs with the site designation and NRHP recommendations in the subject report and has determined that the planned project will have an *adverse effect* on historic properties. We seek your concurrence with the site designations and NRHP recommendations above and the statement of *adverse effect*. As discussed in Reclamation's May 9, 2016 letter, a HPTP will be drafted and submitted for consultation following completion of inventory and consultation on

NRHP eligibility for all sites identified on Reaches 1–3. At that time, mitigation measures will be identified for all eligible or potentially eligible historic properties within the APE.

If you have any questions, comments, or concerns, please contact Dr. Lauren Jelinek, staff archaeologist, at 623-773-6263, or via email at ljelinek@usbr.gov.

Sincerely,

Scott Heath
Chief, Environmental Resource
Management Division

Enclosure

The MOA may need to be amended to reflect the change in scope.

CONCUR

James Garrison 5/4/16

Arizona State Historic Preservation Office

SHPO-2017-0088(135058)
ARIZONA STATE HISTORIC PRESERVATION OFFICE

DOE

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Region
Phoenix Area Office
6150 West Thunderbird Road
Glendale, AZ 85306-4001

IN REPLY REFER TO:
PXAO-1500
ENV-3.00

JAN 23 2017

JAN 20 2017

CERTIFIED - RETURN RECEIPT REQUESTED

Dr. James Cogswell
Archaeologist
State Historic Preservation Office
1100 West Washington
Phoenix, AZ 85007

Subject: Section 106 Consultation --- A Class III Cultural Resource Survey for the San Carlos Irrigation and Drainage District (SCIDD) Rehabilitation Project in Reach 3 of the SCIDD and Joint Works Irrigation Facilities, Pinal County, Arizona (Report)

Dear Dr. Cogswell:

Archaeological Consulting Services, Ltd. (ACS) has completed a cultural resources inventory of the expanded area of potential effect (APE) on Reach 3 of the proposed second phase of the SCIDD Rehabilitation Project. The Bureau of Reclamation (Reclamation) previously consulted on a cultural resources inventory of a 200 foot-wide APE in 2011. Reclamation and the concurring and consulting parties then entered into a Memorandum of Agreement (MOA) to mitigate all adverse effects to historic properties and potentially eligible cultural resources within the APE. Following implementation of the Historic Properties Treatment Plan (HPTP) and consultation on an addendum to the original survey in 2014, the APE was expanded again to include temporary construction easements and utility turnouts. Reclamation then contracted with ACS to complete a cultural resources inventory of the expanded APE on Reach 3. The results of the Reach 3 cultural resources inventory are summarized below and described in the subject Report, which is enclosed for your review.

ACS identified 11 archaeological sites and 25 isolated occurrences during this inventory. One previously recorded site, AZ AA:3:117(ASM), was not relocated within the APE. All of the 11 archaeological sites had been previously recorded.

The following 6 previously recorded sites have been determined eligible for inclusion in the National Register of Historic Places (NRHP):

- AZ AA:2:130(ASM), Pima Lateral, under Criterion A a/so D
- AZ AA:2:133(ASM), Florence-Casa Grande Extension Canal, under Criteria A and D
- AZ AA:3:209(ASM), Casa Grande Canal, under Criteria A and D a/so C
- AZ AA:3:211(ASM), Florence Canal, under Criteria A and D

- AZ AA:3:215(ASM), historic Florence-Casa Grande Canal, under Criterion A also C
- AZ AA:3:324(ASM), historic Picacho Reservoir, under Criterion A also C

The following 5 previously recorded sites have been determined not eligible for inclusion in the NRHP:

- AZ AA:2:216(ASM), Bartlett Road
- AZ AA:3:284(ASM), unimproved dirt road parallel to the Florence Canal
- AZ AA:3:285(ASM), historic trash scatter
- AZ AA:2:287(ASM), historic trash scatter
- AZ U:15:661(ASM), historic San Carlos Irrigation Project utility line

ACS recommends no further cultural resource investigations at AZ AA:2:130(ASM), AZ AA:2:133(ASM), AZ AA:3:209(ASM), AZ AA:3:211(ASM), AZ AA:3:215(ASM), and AZ AA:3:324(ASM) because previous detailed recording and research has sufficiently mitigated all potential adverse effects from the proposed project.

Reclamation concurs with the NRHP recommendations in the subject report and has determined that the planned project will have *no adverse effect* on historic properties. We seek your concurrence with the NRHP recommendations above and the statement of *no adverse effect*. As discussed in Reclamation's May 9, 2016 letter, a HPTP will be drafted and submitted for consultation following completion of inventory and consultation on NRHP eligibility for all sites identified on Reaches 1–3. At that time, mitigation measures will be identified for all eligible or potentially eligible historic properties within the APE.

If you have any questions, comments, or concerns, please contact Dr. Lauren Jelinek, staff archaeologist, at 623-773-6263, or via email at ljelinek@usbr.gov.

Sincerely,

Sean Heath
Manager, Environmental Resource
Management Division

Enclosure

CONCUR

Arizona State Historic Preservation Office

See above for additional eligibility criteria in SHPO database

SHPO-2014-0191 (135195)
ARIZONA STATE HISTORIC PRESERVATION OFFICE

United States Department of the Interior

BUREAU OF RECLAMATION
Washington, DC 20240

IN REPLY REFER TO:
PXAO-1500
ENV-3.00

JAN 26 2017

RECEIVED
JAN 30 2017
ARIZONA STATE HISTORIC PRESERVATION OFFICE

CERTIFIED – RETURN RECEIPT REQUESTED

Dr. James Cogswell
Archaeologist
State Historic Preservation Office
1100 West Washington
Phoenix, AZ 85007

Subject: Section 106 Consultation — Historic American Engineering Record Documentation of the China Wash Flume, Pinal County, Arizona (Report)

Dear Dr. Cogswell:

Pursuant to Stipulation I of the *Memorandum of Agreement [MOA] Among the Bureau of Reclamation, the Bureau of Indian Affairs' San Carlos Irrigation Project, and the Arizona State Historic Preservation Officer Regarding Mitigation Related to the Historic China Wash Flume Located Along Reach 1 of the Florence-Casa Grande Canal, Bureau of Indian Affairs' San Carlos Irrigation Project, Pinal County, Arizona.* North Wind Resource Consulting (North Wind) has documented the unique engineering and design of China Wash Flume in a Historic American Engineering Record (HAER). The results of their archival and field research are presented in an addendum to the San Carlos Irrigation Project HAER (AZ-50-F), per the direction of the National Park Service, and a detailed report.

Reclamation has reviewed the HAER and the report and accepted the findings contained therein. We seek your concurrence that the HAER and the report are sufficient and meet the requirements identified in Stipulation I(A) of the above referenced MOA. Following your review of these documents, Reclamation will direct North Wind to begin designing the interpretive exhibits discussed in Stipulation I(C).

If you have any questions, comments, or concerns, please contact Dr. Lauren Jelinek, staff archaeologist, at 623-773-6263, or via email at ljelinek@usbr.gov.

CONCUR

James Cogswell 1/31/17

Arizona State Historic Preservation Office

p/ Bill Collins, DSHPO-History

Sincerely,

Sean Heath
Manager, Environmental Resource Management Division

Enclosures

SHPO - 2015-0153 (136645)
ARIZONA STATE HISTORIC PRESERVATION OFFICE

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Region
Phoenix Area Office
6150 West Thunderbird Road
Glendale, AZ 85306-4001

APR 26 2017

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APR 27 2017
ARIZONA STATE HISTORIC PRESERVATION OFFICE

IN REPLY REFER TO:
PXAO-1500
ENV-3.00

CERTIFIED – RETURN RECEIPT REQUESTED

Dr. James Cogswell
Archaeologist
State Historic Preservation Office
1100 West Washington
Phoenix, AZ 85007

Subject: Section 106 Consultation A Class III Cultural Resource Survey for the San Carlos Irrigation and Drainage District (SCIDD) Rehabilitation Project Reach 1 of the SCIDD and Joint Works Irrigation Facilities, Pinal County, Arizona (Revised Report)

Dear Dr. Cogswell:

Archaeological Consulting Services, Ltd. (ACS) has revised its report on a cultural resources inventory of the expanded area of potential effect (APE) on Reach 1 of the proposed second phase of the SCIDD Rehabilitation Project. The Bureau of Reclamation previously consulted with you on a draft of this report in a letter dated October 26, 2016. The eligibility determinations of Reach 1 cultural resources are summarized below and described in the subject Report, which is enclosed for your review.

ACS identified 14 archaeological sites and 17 isolated occurrences during this inventory. One previously recorded historical-period house, AZ U:15:6(ARS), was not relocated within the APE. Of the 14 archaeological sites identified during survey, 6 had been previously recorded and 8 were newly identified.

The following three previously recorded sites have been determined eligible for inclusion in the National Register of Historic Places (NRHP):

- AZ AA:3:215(ASM), historic Florence-Casa Grande Canal, under Criterion A
- AZ U:15:13(ASM), Hohokam artifact scatter, under Criterion D
- AZ U:16:678(ASM), Hohokam artifact scatter, under Criterion D

The following two previously recorded sites have been determined not eligible for inclusion in the NRHP:

- AZ U:15:661(ASM), historic San Carlos Irrigation Project utility line
- AZ U:15:662(ASM), historic Diversion Dam Road

The following previously recorded site was determined unevaluated for inclusion in the NRHP because a large portion of its boundary extended outside the APE and could not be recorded:

- AZ U:15:47(ASM), Hohokam artifact scatter

The following newly identified site was determined not eligible for inclusion in the NRHP because it lacks integrity and is unlikely to yield data that could significantly contribute to our understanding of Hohokam history:

- AZ U:15:852(ASM), Hohokam artifact scatter

The following seven newly identified sites were determined unevaluated for inclusion in the NRHP because large portions of their boundaries extend outside the APE and could not be recorded during this project; however those portions within the APE are non-contributing to the sites' overall eligibility:

- AZ U:15:853(ASM), Hohokam artifact scatter
- AZ U:15:854(ASM), Hohokam artifact scatter
- AZ U:15:855(ASM), Hohokam artifact scatter
- AZ U:15:856(ASM), prehistoric lithic scatter
- AZ U:15:857(ASM), Hohokam artifact scatter
- AZ U:15:858(ASM), Hohokam artifact scatter
- AZ U:15:859(ASM), Hohokam lithic scatter

The revised report contains expanded recordation and a historical context for the Parshall flume and U.S. Geological Survey gauging station situated on the Florence-Casa Grande Canal (AZ AA:3:215[ASM]). ACS recommends these features as contributing to the eligibility of the Florence-Casa Grande Canal, but recommends that the historic context provided in this report and the recordation of these features have mitigated any potential adverse effects to the site.

ACS recommends that the northern portion of AZ U:15:678(ASM) be avoided or mitigated if avoidance is not feasible. ACS recommends no further cultural resource investigations for any other sites identified during this survey because they were sufficiently mitigated through recording as part of this project or during previous investigations, or the portion of the site within the APE lacks integrity and does not contribute to the overall eligibility of the site.

Reclamation concurs with the NRHP recommendations in the subject report and has determined that the planned project will have an *adverse effect* on AZ U:15:678(ASM) if the northern portion of the site cannot be avoided by the proposed project.

We seek your concurrence with the revised NRHP determinations above and the statement of *adverse effect* on AZ U:15:678(ASM). As discussed in Reclamation's May 9, 2016 letter, a historic properties treatment plan will be drafted and submitted for consultation following completion of inventory and consultation on NRHP eligibility for all sites identified on

Reaches 1-3. At that time, mitigation measures will be identified for all eligible or potentially eligible historic properties within the APE.

If you have any questions, comments, or concerns, please contact Dr. Lauren Jelinek, archaeologist, at 623-773-6263, or by email at ljelinek@usbr.gov.

Sincerely,

Sean M. Heath
Manager, Environmental Resource
Management Division

Enclosure

CONCUR

5/24/14

Arizona State Historic Preservation Office

Jelinek, Lauren <ljelinek@usbr.gov>

SCIP Reaches 1, 2, and 3 HPTP; SHPO-2015-0153(137236)

James W Cogswell <jcogswell@azstateparks.gov> Fri, Jun 23, 2017 at 1:04 PM
To: "Jelinek, Lauren" <ljelinek@usbr.gov>

Hi Lauren,
I don't have any substantive comments on the HPTP. The only suggestion, and one that doesn't require revising the document, is that the middle trench in AZ U:15:861(ASM) (see page 28) could be moved more to the southwest to catch more of the site.
Later,
JimC/SHPO

James W Cogswell, Ph.D, RPA
Archaeological Compliance Specialist
Arizona State Historic Preservation Office
1100 W. Washington St.
Phoenix, AZ 85007
602-542-7142
jcogswell@azstateparks.gov

Jelinek, Lauren <ljelinek@usbr.gov>

SCIP Reaches 1, 2, and 3 HPTP; SHPO-2015-0153(137236)

Jelinek, Lauren <ljelinek@usbr.gov> Fri, Jun 23, 2017 at 1:06 PM
To: James W Cogswell <jcogswell@azstateparks.gov>

Hi Jim, does that mean other than moving the trench we have SHPO's concurrence?

Lauren E. Jelinek, Ph.D., RPA
Archaeologist
Bureau of Reclamation
6150 West Thunderbird Road
Glendale, Arizona 85306
Office: (623) 773-6263
Fax: (623) 773-6486
ljelinek@usbr.gov

[Quoted text hidden]

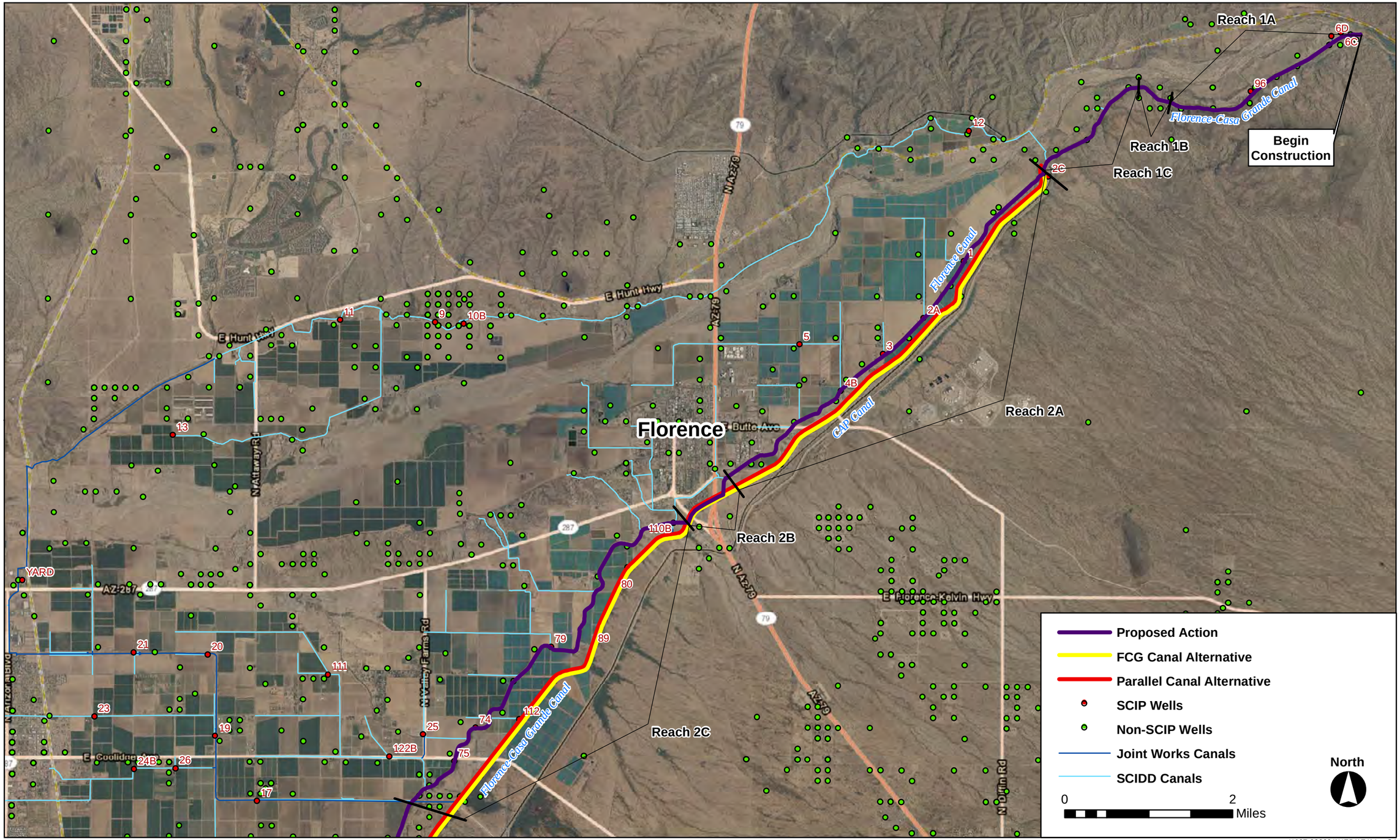
Jelinek, Lauren <ljelinek@usbr.gov>

SCIP Reaches 1, 2, and 3 HPTP; SHPO-2015-0153(137236)

James W Cogswell <jcogswell@azstateparks.gov> Fri, Jun 23, 2017 at 1:09 PM
To: "Jelinek, Lauren" <ljelinek@usbr.gov>

Yep.
[Quoted text hidden]

APPENDIX H
SCIP Vicinity Wells



W\07-033021\NEPA\EA\AppG1

SCIP vicinity wells, Reaches 1 and 2

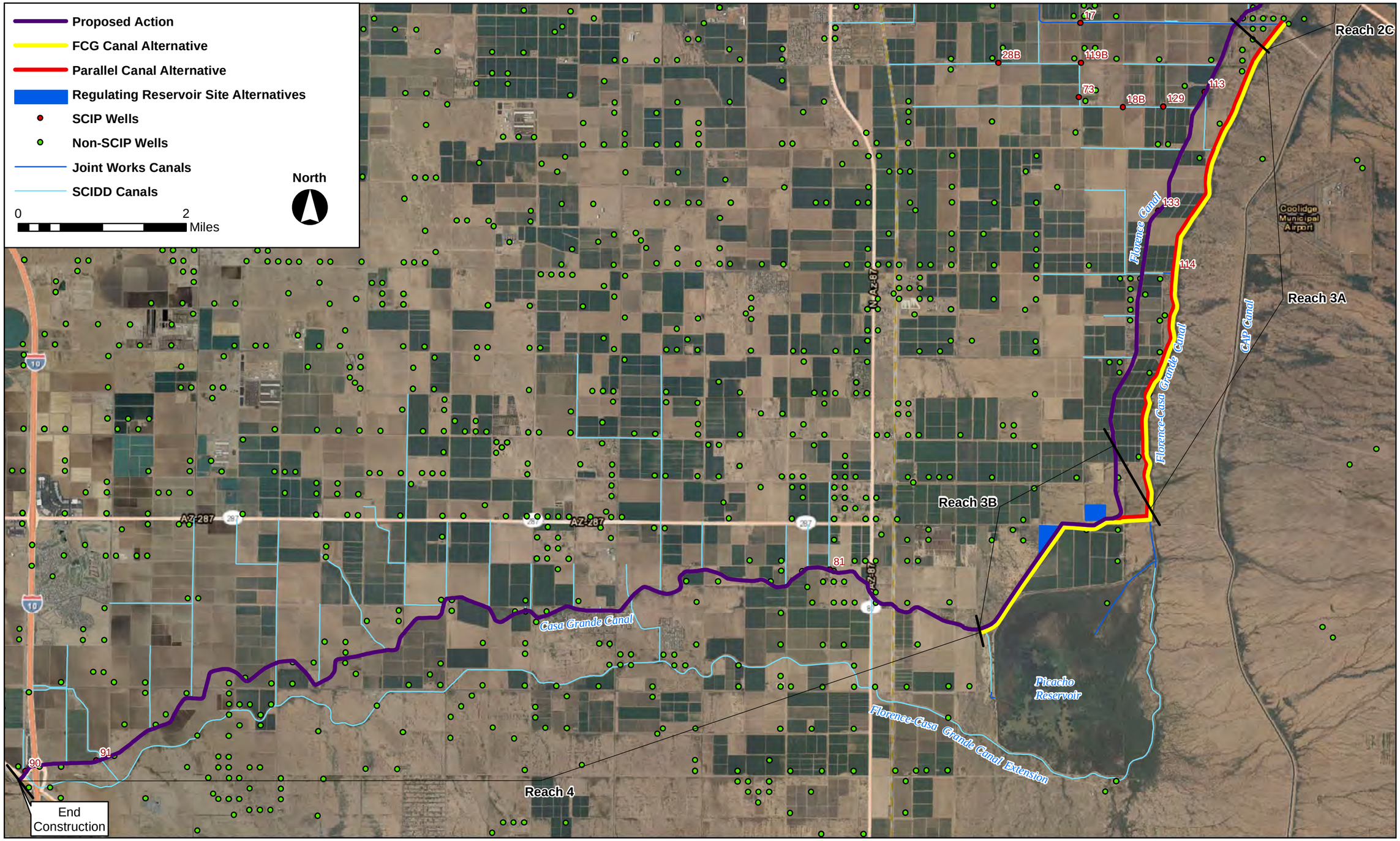


Figure B. SCIP vicinity wells, Reaches 3 and 4

W\07-033021\NEPA\EA\AppG2

APPENDIX I

Biological Consultation Letter, USFWS IPaC Official Species Lists, and AGFD Arizona Environmental Online Review Tool Report

United States Department of the Interior
Fish and Wildlife Service
Arizona Ecological Services Office
9828 North 31st Avenue
Phoenix, Arizona 85051
Telephone: (602) 242-0210 Fax: (602) 242-2513

AESO/SE
02EAAZ00-2017-I-0911
2-21-90-F-119
2-21-90-F-119a
22410-2007-F-0081

August 9, 2017

Memorandum

To: Area Manager, Phoenix Area Office, Bureau of Reclamation, Phoenix, AZ

From: Field Supervisor

Subject: Informal consultation on the Phase 2 Rehabilitation, Reaches 1-3, San Carlos Irrigation Project Facilities, Gila and Pinal Counties, Arizona

Thank you for your correspondence of July 14, 2017, received on July, 20, 2017. This letter documents our review of the Phase 2 Rehabilitation, Reaches 1-3 San Carlos Irrigation Project Facilities in Gila and Pinal Counties, Arizona, by the San Carlos Irrigation and Drainage District (SCIDD) in compliance with section 7 of the Endangered Species Act of 1973 (ESA) as amended (16 U.S.C. 1531 et seq.). Your letter concluded that the proposed project may affect, but is not likely to adversely affect the lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), loach minnow (*Tiaroga cobitis*) and its critical habitat, southwestern willow flycatcher (*Empidonax traillii extimus*) and its critical habitat, spikedace (*Meda fulgida*) and its critical habitat, western population of the yellow-billed cuckoo (*Coccyzus americanus*) and, in conference, its proposed critical habitat, and the Yuma Ridgways Rail (*Rallus obsoletus yumanensis*). Because critical habitat is proposed for the yellow-billed cuckoo, this document represents a conference report that may be converted to a concurrence, at your request, if yellow-billed cuckoo critical habitat is designated. We concur with your determinations and provide our rationale below. You also concluded there would be "no effect" to the Acuña cactus (*Echinomastus erectocentrus* var. *acunensis*), Arizona hedgehog (*Echinocereus triglochidiatus* var. *Arizonicus*), Gila topminnow (*Poeciliopsis o. occidentalis*), Mexican wolf (*Canis lupus baileyi*), Northern Mexican gartersnake (*Thamnophis eques megalops*), Ocelot (*Leopardus pardalis*), and Razorback sucker (*Xyrauchen texanus*). Species with "no effect" determinations do not require review from the Fish and Wildlife Service (FWS), and are not addressed further.

Description of the Proposed Action

A complete description of the proposed action is found in your July 10, 2017, biological evaluation (BE) and the accompanying maps and schematics sent to our office previously. The proposed action is the rehabilitation of existing San Carlos Irrigation Project (SCIP) water delivery facilities and construction of new regulating and conveyance facilities downstream of Ashurst–Hayden Diversion Dam. The upper segments of the Florence Casa Grande (FCG) Canal and the entire Florence Canal alignment will be used as the main conveyance system from Ashurst-Hayden Diversion Dam to near Picacho Reservoir. West of Picacho Reservoir, a link canal will be constructed from the terminus of the Florence Canal to the Casa Grande Canal Irrigation laterals that will be fed directly from the main canal system. Below the bifurcation with the Florence Canal, the existing FCG Canal and the FCG Canal Extension will be used to manage cross drainage and excess flows diverted from the Gila River.

The China Wash electrical barrier which was required by previous consultations on the operation of the Central Arizona Project, will be removed during this project. The 1994 biological opinion (2-21-90-F-119, term and condition 1.3) required Reclamation or their designee to maintain and operate the electrical barrier at China Wash for the life of the CAP, unless it was replaced by another specified measure, or another measure agreed upon by Reclamation, Fish and Wildlife Service, and the Arizona Game and Fish Department. There are several design features that exist in the system, and others will be added that will restrict fish escapement from the SCIDD system into the Gila River. The purpose of the China Wash electrical barrier was to reduce to a very low level the probability of upstream escapement or CAP introduced or mediated nonnative fish (2001 BO). All three agencies agree (Tony Robinson, AGFD, e-mail, June 27, 2016) the design features preclude fish escapement into the Gila River. The design features which can reduce or eliminate fish movement in the SCIDD system are:

- Settling basin weir wall, Reach 1, existing, physical and velocity barrier,
- Flow measurement flume, Reach 1, new, velocity barrier,
- China Wash Siphon, Reach 1, new, velocity barrier,
- Bifurcation structure, Reach 1 and 2, new, physical and velocity barrier,
- Pima Canal turnout, Reach 2 and 3, new, physical and velocity barrier, and
- Pima Canal chute, Reach 2, existing, velocity barrier.

The following specific aspects of the design features listed above are how the structures can minimize upstream movement of fish. The settling basin weir wall is 5.5’ high. At flows greater than 400cfs, there will be no physical drop below the weir, but water velocity over the weir should be high. The flow weir will provide a velocity barrier, ranging from 6.1fps at 200cfs to 9.8fps at 1000cfs flow.

The China Wash crossing will be a siphon, which will be a physical barrier to upstream fish passage. Additionally, water velocity through the siphon would range from 5.2 to 11.7fps.

The new bifurcation structure will be the greatest impediment to upstream fish movement in the system and serve as a replacement for the existing electrical fish barrier that will be removed at

the China Wash flume. The bifurcation structure will have overshot gates that will give it an effective barrier height ranging from 5.0 to 7.3' above surface elevation. Water velocities of 200 to 1000cfs over the top of the gates will also strengthen its barrier effect. Furthermore, the modified canal profile will create new hydraulic conditions that will create passive fish barriers (physical drops) at the turnout to the Northside Canal and at the end of Reach 1C.

The Pima Lateral (Canal) turnout will have four overshot gates. No technical specifications are available regarding barrier height and water velocity. But overshot gates here would have similar properties as at the bifurcation structure, providing both physical and velocity barriers.

The last design feature impeding fish movement upstream is the Pima Lateral chute. This is a velocity barrier with supercritical flow. The chute is 2.0 miles long, with a water velocity of 14.4fps at 1000cfs and 9.2fps at 200cfs.

The following are conservation measures that reduce the effects of the project on the listed species and critical habitat:

- Canal design features above reduce the chance for non-native fish to enter the Gila River from the canal system(i.e. multi-slide gate, 5-3-5 dry-up schedule, super-critical flow, velocity barriers, jump barriers);

- Construction in the area with saguaros will occur from November through January when lesser long-nosed bats are highly unlikely to occur;

- Some saguaros will be removed, representing loss of potential foraging resources. All salvageable saguaro that cannot be reasonably avoided will be transplanted nearby;

- Construction in the areas near potential habitat for southwestern willow flycatcher and Western yellow billed cuckoo will occur from November through January when those species are highly unlikely to occur;

- No suitable southwestern willow flycatcher habitat is in the action area along the FCG or other canals where construction is proposed;

- Picacho Reservoir supports potentially suitable habitat for southwestern willow flycatchers. Most vegetation near construction locations is tamarisk which is abundant and responds quickly to disturbance; and

- Construction activities will occur outside potentially suitable habitat and proposed critical habitat for Western yellow billed cuckoo.

DETERMINATION OF EFFECTS

We concur with your determination that the proposed action may affect, but is not likely to adversely affect the lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), loach minnow

(*Tiaroga cobitis*) and its critical habitat, southwestern willow flycatcher (*Empidonax traillii extimus*) and its critical habitat, spikedace (*Meda fulgida*) and its critical habitat, western population of the yellow-billed cuckoo (*Coccyzus americanus*) and its proposed critical habitat, the Yuma Ridgways Rail (*Rallus obsoletus yumanensis*) for the following reasons:

Lesser long-nosed bat

- It is extremely unlikely that the species regularly occurs in the action area of the proposed project based on survey information and the distance of known roosts. The nearest recorded bat location is 16 miles from Picacho Reservoir, and lesser long-nosed bats were only recorded once. Therefore, any potential direct or indirect effects on the species are discountable.

- Some saguaros will be removed from Reach 1, representing loss of potential foraging resources. All salvageable saguaro that cannot be reasonably avoided will be transplanted nearby. The small number of saguaro impacted, in addition to their being near the nightly flight distance limit for foraging bats, makes it extremely unlikely bats will be affected

Yuma Ridgways Rail

- The species used to occur in Picacho Reservoir, but has not been detected since 2011. Suitable habitat has the potential to occur in shallow water areas at Picacho Reservoir that support dense stands of cattails, bulrush, and tamarisk. Due to drying, the reservoir likely did not provide suitable habitat between 2001 and 2008. The influx of water into the reservoir since 2008 has the potential to reestablish suitable habitat for the Yuma Ridgways rail. However,, any potential direct or indirect effects on the species as a result of the proposed action are discountable.

- Project effects are likely to be limited to brief alterations which would occur during daytime hours, especially near bodies of water that may provide prey. These effects are insignificant because rails are unlikely to occur.

- Due to variable flow conditions, the reach of the Gila River between Coolidge Dam and Ashurst–Hayden Diversion Dam is unlikely to support extensive and dense marsh habitat required by Yuma Ridgways rails. No suitable habitat occurs along the FCG Canal, the Pima Lateral, or other SCIP facilities to be rehabilitated.

Spikedace with critical habitat

- Based on regular survey data that show no occurrence of spikedace in more than 20 years, and a predominance of nonnative predators and competitors, spikedace are unlikely to occur in the Gila River near the action area. Therefore, any potential direct or indirect effects on the species are discountable.

- Designated critical habitat is more than 50 miles upstream from Ashurst-Hayden Dam, and thus it is highly unlikely that elements of designated critical habitat will be affected.

Loach minnow with critical habitat

- The nearest known loach minnow habitat is in Aravaipa Creek. Loach minnow have not been found anywhere near the action area. Therefore, any potential direct or indirect effects on the species are discountable.

- Designated critical habitat is more than 50 miles upstream from Ashurst-Hayden Dam, and thus it is highly unlikely that elements of designated critical habitat will be affected.

Southwestern willow flycatcher with critical habitat

- It is extremely unlikely that the species currently occurs in the action area of the proposed project based on survey information and habitat availability. Therefore, any potential direct or indirect effects on the species are discountable.

- Managed and limited water releases from Coolidge Dam in fall and winter will occur outside the southwestern willow flycatcher nesting and migration period and will not directly affect the amount or extent of surface water in areas of suitable nesting habitat between Coolidge Dam and Ashurst–Hayden Diversion Dam during the breeding or migration periods.

- Project effects are likely to be limited to brief alterations which would occur during daytime hours, especially near bodies of water that may provide prey. These effects are insignificant.

- Survey data collected since 2008 show no evidence of negative effects of these managed flows on southwestern willow flycatchers along the reach of the Gila River below Coolidge Dam. The number of southwestern willow flycatcher territories recorded increased each survey year from 2008 to 2015, including in 2010 and 2011, when the 5-3-5 schedule was implemented, and in 2015, one year following implementation of the 5-3-5 schedule in 2014.

- Designated critical habitat for the southwestern willow flycatcher is found within the action area, downstream of Coolidge Dam to the Ashurst–Hayden Diversion Dam. All construction or management activities associated with the proposed action are not within critical habitat and will affect none of the primary constituent elements of critical habitat.

- The likelihood of any direct or indirect interaction between the proposed action and primary constituent elements is extremely low; therefore, any effects to critical habitat are assumed to be discountable.

Western yellow-billed cuckoo with proposed critical habitat

- It is extremely unlikely that the species currently occurs in the action area of the proposed project based on survey information, and habitat availability. Therefore, any potential direct or indirect effects on the species are discountable.

- Project effects are likely to be limited to brief alterations which could occur during daytime hours, especially near bodies of water that may provide prey. These effects are insignificant.

- With the exception of rehabilitation of the inlet and maintenance of the outlet structures within proposed critical habitat at Picacho Reservoir, the remainder of construction activities will occur outside potentially suitable habitat and proposed critical habitat for this species.

- The likelihood of any direct or indirect interaction between the proposed action and primary constituent elements is extremely low; therefore, any effects to proposed critical habitat are assumed to be discountable.

You may ask the FWS to confirm this conference report (yellow-billed cuckoo proposed critical habitat) as a concurrence issued through informal consultation if the proposed critical habitat is designated. The request must be in writing. If the FWS reviews the proposed action and finds there have been no significant changes in the action as planned or in the information used during the conference, the FWS will confirm the conference report as a concurrence for this project and no further section 7 consultation will be necessary.

Certain project activities may also affect species protected under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. sec. 703-712) and bald and golden eagles protected under the Bald and Golden Eagle Protection Act (Eagle Act). The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when authorized by the FWS. The Eagle Act prohibits anyone, without a FWS permit, from taking (including disturbing) eagles, and including their parts, nests, or eggs. If you think migratory birds and/or eagles will be affected by this project, we recommend seeking our Technical Assistance to identify available conservation measures that you may be able to incorporate into your project.

For more information regarding the MBTA and Eagle Act, please visit the following websites. More information on the MBTA and available permits can be retrieved from http://www.fws.gov/migratorybirds and http://www.fws.gov/migratorybirds/mbpermits.html. For information on protections for bald eagles, please refer to the FWS's National Bald Eagle Management Guidelines (72 FR 31156) and regulatory definition of the term "disturb" (72 FR 31132) published in the Federal Register on June 5, 2007 (http://www.fws.gov/southwest/es/arizona/BaldEagle.htm), as well at the Conservation Assessment and Strategy for the Bald Eagle in Arizona (http://www.SWBEMC.org).

In keeping with our trust responsibilities to American Indian Tribes, by copy of this memorandum we are notifying Tribes that may be affected by this proposed action and encourage you to invite the Bureau of Indian Affairs to participate in the review of your proposed action. We also encourage you to coordinate the review of this project with the Arizona Game and Fish Department.

Thank you for your continued coordination. No further section 7 consultation is required for this project at this time. Should project plans change, or if information on the distribution or abundance of listed species or critical habitat becomes available, this determination may need to be reconsidered. In all future correspondence on this project, please refer to consultation number 02EAAZ00-2017-I-0911.

Should you require further assistance or if you have any questions, please contact Doug Duncan (520) 670-6150 (x236) or Scott Richardson (520) 670-6150 (x242).

Sincerely,

Steven L. Spangle
Field Supervisor

cc (hard copy):
Field Supervisor, Fish & Wildlife Service, Phoenix, AZ (2 copies)
Assistant Field Supervisor, Fish & Wildlife Service, Tucson, AZ

cc (electronic copy):
Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Honorable Governor, Stephen R. Lewis, Gila River Indian Community, Sacaton, AZ
Director, Environmental Programs, Bureau of Indian Affairs, Phoenix, AZ
AESO Tribal Liaison, Flagstaff, AZ (John Nystedt)

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arizona Ecological Services Field Office
9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517
Phone: (602) 242-0210 Fax: (602) 242-2513
http://www.fws.gov/southwest/es/arizona/
http://www.fws.gov/southwest/es/EndangeredSpecies_Main.html

In Reply Refer To: April 04, 2017
Consultation Code: 02EAAZ00-2017-SLI-0525
Event Code: 02EAAZ00-2017-E-01114
Project Name: San Carlos Irrigation Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The Fish and Wildlife Service (Service) is providing this list under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). The list you have generated identifies threatened, endangered, proposed, and candidate species, and designated and proposed critical habitat, that may occur within one or more delineated United States Geological Survey 7.5 minute quadrangles with which your project polygon intersects. Each quadrangle covers, at minimum, 49 square miles. Please refer to the species information links found at http://www.fws.gov/southwest/es/arizona/Docs_Species.htm or http://www.fws.gov/southwest/es/arizona/Documents/MiscDocs/AZSpeciesReference.pdf for a quick reference, to determine if suitable habitat for the species on your list occurs in your project area.

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect federally listed species and/or designated critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If the Federal action agency determines that listed species or critical habitat may be affected by a federally funded, permitted or authorized activity, the agency must consult with us pursuant to 50 CFR 402. Note that a "may affect" determination includes effects that may not be adverse and that may be beneficial, insignificant, or discountable. An effect exists even if only one individual or habitat segment may be affected. The effects analysis should include the entire action area, which often extends well outside the project boundary or "footprint" (e.g., downstream). If the Federal action agency determines that the action may jeopardize a proposed species or adversely modify proposed critical habitat, the agency must enter into a section 7 conference. The agency may choose to confer with us on an action that may affect proposed species or critical habitat.

Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event they become proposed or listed prior to project completion. More information on the regulations (50 CFR 402) and procedures for section 7 consultation, including the role of permit or license applicants, can be found in our Endangered Species Consultation Handbook at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

In addition to species listed under the Act, we advise you to consider species protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668 et seq.). Both laws prohibit the take of covered species. The list of MBTA-protected birds is in 50 CFR 10.13 (for an alphabetical list see ¸¬¬°æññ©©©ò©-ò¹±ªñ³·¹®¿¬±®§¾·®¼-ñ®»¹«´¿¬·±²-°±´·½·»-ñ³¾¬¿ñ³¾¬¿²¼»¨ò¸¬³´). The Service's Division of Migratory Birds is the lead for consultations under these laws (Southwest Regional Office phone number: 505/248-7882). For more information regarding the MBTA, BGEPA, and permitting processes, please visit the following web site: http://www.fws.gov/migratorybirds/mbpermits.html. Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g. cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/southwest/es/arizona/CellTower.htm

Although bald eagles (Haliaeetus leucocephalus) are no longer listed under the Act, they are protected under both the BGEPA and the MBTA. If a bald eagle nest occurs in or near the proposed project area, our office should be contacted. An evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles (see http://www.fws.gov/southeast/es/baldeagle/) and the Division of Migratory Birds consulted if necessary. The National Bald Eagle Management Guidelines provide recommendations to minimize potential project impacts to bald eagles (see http://www.fws.gov/midwest/eagle/pdf/NationalBaldEagleManagementGuidelines.pdf).

Activities that involve streams and/or wetlands are regulated by the U.S. Army Corps of Engineers (Corps). We recommend that you contact the Corps to determine their interest in proposed projects in these areas. For activities within a National Wildlife Refuge, we recommend that you contact refuge staff for specific information about refuge resources.

If your action is on Indian land or has implications for off-reservation tribal interests, we

encourage you to contact the tribe(s) and the Bureau of Indian Affairs (BIA) to discuss potential tribal concerns, and to invite any affected tribe and the BIA to participate in the section 7 consultation. In keeping with our tribal trust responsibility, we will notify tribes that may be affected by proposed actions when section 7 consultation is initiated. For more information, please contact our tribal coordinator, John Nystedt, at (928) 556-2160 or John_Nystedt@fws.gov .

The State of Arizona protects some species not protected by Federal law. We recommend you contact the Arizona Game and Fish Department (AGFD) for animals and Arizona Department of Agriculture for plants to determine if species protected by or of concern to the State may occur in your action area. The AGFD has an Environmental Review On-Line Tool that can be accessed at http://www.azgfd.gov/hgis/. We also recommend that you coordinate with the AGFD regarding your project.

For additional communications regarding this project, please refer to the consultation Tracking Number in the header of this letter. We appreciate your concern for threatened and endangered species. If we may be of further assistance, please contact Brenda Smith at 928/556-2157 for projects in Northern Arizona, our general Phoenix number (602/242-0210) for central Arizona, or Jean Calhoun at 520/670-6150 (x223) for projects in southern Arizona.

Sincerely,

/s/

Steven L. Spangle

Field Supervisor

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arizona Ecological Services Field Office
9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517
(602) 242-0210

Project Summary

Consultation Code: 02EAAZ00-2017-SLI-0525

Event Code: 02EAAZ00-2017-E-01114

Project Name: San Carlos Irrigation Project

Project Type: AGRICULTURE

Project Description: San Carlos Irrigation Project

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/32.969207521000044N111.4306809893294W

Counties: Pinal, AZ

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

ÒßÓÛ	ÍÌßÌËÍ
Lesser Long-nosed Bat *(Leptonycteris curasoae yerbabuenae)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3245	Endangered

Birds

ÒßÓÛ	ÍÌßÌËÍ
Southwestern Willow Flycatcher *(Empidonax traillii extimus)* There is a **final** critical habitat designated for this species. Your location overlaps the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo *(Coccyzus americanus)* Population: Western U.S. DPS There is a **proposed** critical habitat for this species. Your location overlaps the proposed critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened
Yuma Clapper Rail *(Rallus longirostris yumanensis)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3505	Endangered

Reptiles

ÒßÓÛ	ÍÌßÌËÍ
Northern Mexican Gartersnake *(Thamnophis eques megalops)* There is a **proposed** critical habitat for this species. Your location is outside the proposed critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7655	Threatened

Fishes

ÒßÓÛ	ÍÌßÌËÍ
Roundtail Chub *(Gila robusta)* Population: Lower Colorado River Basin DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2782	Proposed Threatened

Flowering Plants

ÒßÓÛ	Í Ì ßÌ ËÍ
Acuna Cactus *(Echinomastus erectocentrus var. acunensis)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5785	Endangered

Critical habitats

There are 2 critical habitats wholly or partially within your project area.

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Yellow-billed Cuckoo *(Coccyzus americanus)*	Proposed
Southwestern Willow Flycatcher *(Empidonax traillii extimus)*	Final designated

United States Department of the Interior

FISH AND WILDLIFE SERVICE
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#c3
Phoenix, AZ 85051-2517
Phone: (602) 242-0210 Fax: (602) 242-2513
http://www.fws.gov/southwest/es/arizona/
http://www.fws.gov/southwest/es/EndangeredSpecies_Main.html

In Reply Refer To:
Consultation Code: 02EAAZ00-2017-SLI-0542
Event Code: 02EAAZ00-2017-E-01160
Project Name: San Carlos Irrigation Project (Coolidge Dam)

April 07, 2017

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The Fish and Wildlife Service (Service) is providing this list under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). The list you have generated identifies threatened, endangered, proposed, and candidate species, and designated and proposed critical habitat, that may occur within one or more delineated United States Geological Survey 7.5 minute quadrangles with which your project polygon intersects. Each quadrangle covers, at minimum, 49 square miles. Please refer to the species information links found at http://www.fws.gov/southwest/es/arizona/Docs_Species.htm or http://www.fws.gov/southwest/es/arizona/Documents/MiscDocs/AZSpeciesReference.pdf for a quick reference, to determine if suitable habitat for the species on your list occurs in your project area.

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Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event they become proposed or listed prior to project completion. More information on the regulations (50 CFR 402) and procedures for section 7 consultation, including the role of permit or license applicants, can be found in our Endangered Species Consultation Handbook at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

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If your action is on Indian land or has implications for off-reservation tribal interests, we

encourage you to contact the tribe(s) and the Bureau of Indian Affairs (BIA) to discuss potential tribal concerns, and to invite any affected tribe and the BIA to participate in the section 7 consultation. In keeping with our tribal trust responsibility, we will notify tribes that may be affected by proposed actions when section 7 consultation is initiated. For more information, please contact our tribal coordinator, John Nystedt, at (928) 556-2160 or John_Nystedt@fws.gov .

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For additional communications regarding this project, please refer to the consultation Tracking Number in the header of this letter. We appreciate your concern for threatened and endangered species. If we may be of further assistance, please contact Brenda Smith at 928/556-2157 for projects in Northern Arizona, our general Phoenix number (602/242-0210) for central Arizona, or Jean Calhoun at 520/670-6150 (x223) for projects in southern Arizona.

Sincerely,

/s/

Steven L. Spangle

Field Supervisor

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arizona Ecological Services Field Office
9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517
(602) 242-0210

Project Summary

Consultation Code: 02EAAZ00-2017-SLI-0542

Event Code: 02EAAZ00-2017-E-01160

Project Name: San Carlos Irrigation Project (Coolidge Dam)

Project Type: WATER QUALITY MODIFICATION

Project Description: Ashurst- Hayden Diversion Dam to Coolidge Dam

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/33.07907905777358N110.93728723932321W

Counties: Gila, AZ | Pinal, AZ

Endangered Species Act Species

There is a total of 12 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

ÒßÓÛ	Í Ì ßÌ ËÍ
Gray Wolf *(Canis lupus)* Population: Mexican gray wolf, EXPN population No critical habitat has been designated for this species.	Proposed Experimental Population, Non-Essential
Lesser Long-nosed Bat *(Leptonycteris curasoae yerbabuenae)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3245	Endangered
Ocelot *(Leopardus (=Felis) pardalis)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4474	Endangered

Birds

ÒßÓÛ	Í Ì ßÌ ËÍ
Southwestern Willow Flycatcher *(Empidonax traillii extimus)* There is a **final** critical habitat designated for this species. Your location overlaps the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo *(Coccyzus americanus)* Population: Western U.S. DPS There is a **proposed** critical habitat for this species. Your location overlaps the proposed critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

ÒßÓÛ	Í Ì ßÌ ËÍ
Northern Mexican Gartersnake *(Thamnophis eques megalops)* There is a **proposed** critical habitat for this species. Your location overlaps the proposed critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7655	Threatened

Fishes

ÒßÓÛ	Í Ì ßÌ ËÍ
Gila Topminnow (incl. Yaqui) *(Poeciliopsis occidentalis)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1116	Endangered
Headwater Chub *(Gila nigra)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1373	Proposed Threatened
Razorback Sucker *(Xyrauchen texanus)* There is a **final** critical habitat designated for this species. Your location overlaps the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/530	Endangered
Roundtail Chub *(Gila robusta)* Population: Lower Colorado River Basin DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2782	Proposed Threatened

Flowering Plants

ÒßÓÛ	Í Ì ßÌ ËÍ
Acuna Cactus *(Echinomastus erectocentrus var. acunensis)* There is a **final** critical habitat designated for this species. Your location is outside the designated critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5785	Endangered
Arizona Hedgehog Cactus *(Echinocereus triglochidiatus var. arizonicus)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1702	Endangered

Critical habitats

There are 4 critical habitats wholly or partially within your project area.

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Southwestern Willow Flycatcher *(Empidonax traillii extimus)*	Final designated
Northern Mexican Gartersnake *(Thamnophis eques megalops)*	Proposed
Razorback Sucker *(Xyrauchen texanus)*	Final designated
Yellow-billed Cuckoo *(Coccyzus americanus)*	Proposed

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:
San Carlos Irrigation Project - Reservoir to Coolidge Dam

User Project Number:
07-033042

Project Description:
San Carlos Irrigation Project - Reservoir to Coolidge Dam

Project Type:
Water Use, Transfer, and Channel Activities, Water diversion/channelization

Contact Person:
Thomas Ashbeck

Organization:
EcoPlan Associates, Inc.

On Behalf Of:
CONSULTING

Project ID:
HGIS-05221

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

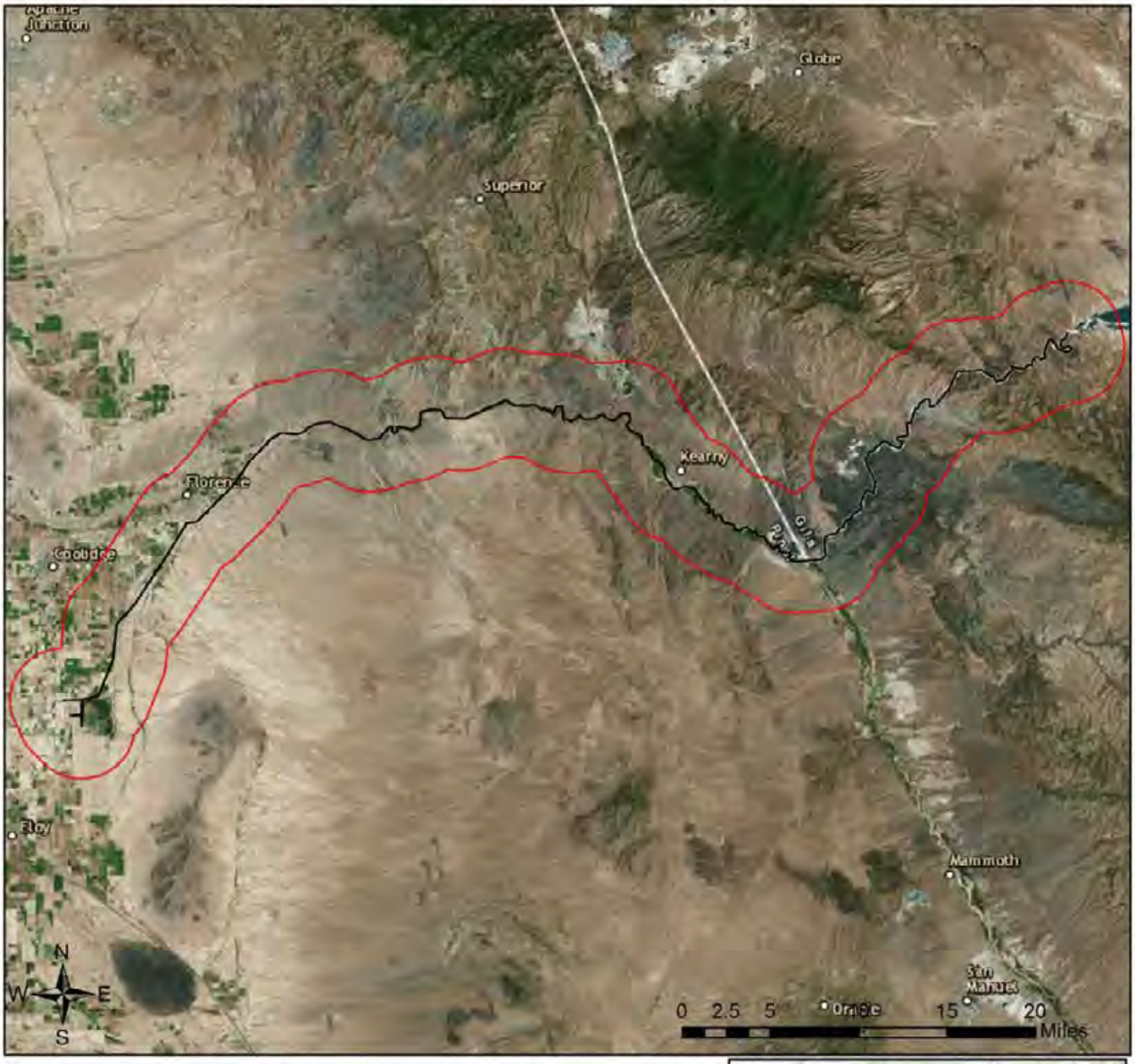
Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

San Carlos Irrigation Project - Reservoir to Coolidge Dam

Aerial Image Basemap With Locator Map



Project Boundary

Buffered Project Boundary

Project Size (acres): 765.99

Lat/Long (DD): 33.1024 / -111.0151

County(s): Gila; Pinal

AGFD Region(s): Mesa; Tucson

Township/Range(s): T3S, R18E; T3S, R17E; T4S, R17E +

USGS Quad(s): COOLIDGE DAM; MESCAL WARM SPRING +

Service Layer Credits: Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong).

San Carlos Irrigation Project - Reservoir to Coolidge Dam

Web Map As Submitted By User

Project Boundary

Buffered Project Boundary

Project Size (acres): 765.99

Lat/Long (DD): 33.1024 / -111.0151

County(s): Gila; Pinal

AGFD Region(s): Mesa; Tucson

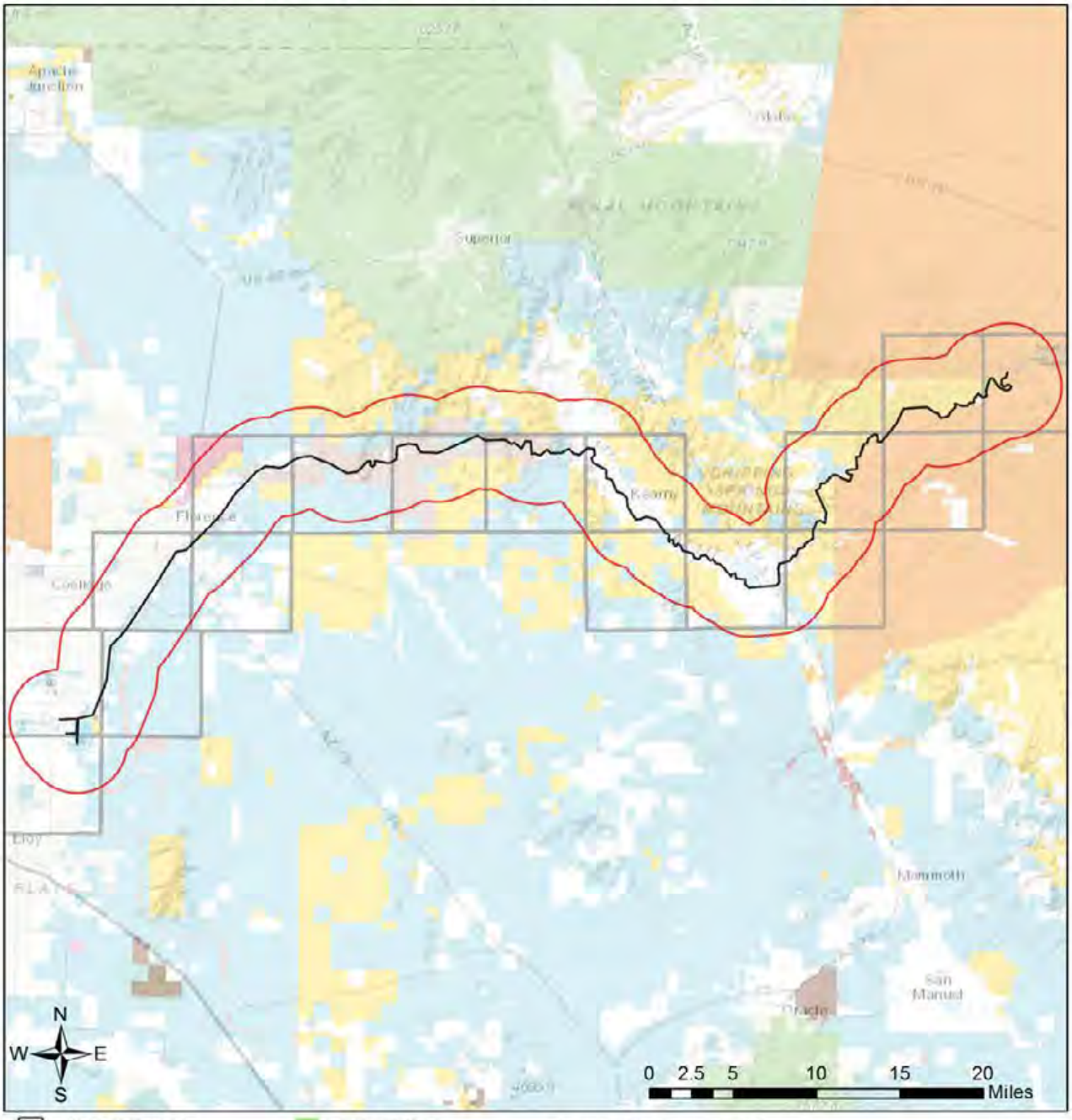
Township/Range(s): T3S, R18E; T3S, R17E; T4S, R17E +

USGS Quad(s): COOLIDGE DAM; MESCAL WARM SPRING +

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

San Carlos Irrigation Project - Reservoir to Coolidge Dam

Topo Basemap With Township/Ranges and Land Ownership



- Project Boundary
- Buffered Project Boundary
- Township/Ranges
- AZ Game and Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State and Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge

Project Size (acres): 765.99

Lat/Long (DD): 33.1024 / -111.0151

County(s): Gila; Pinal

AGFD Region(s): Mesa; Tucson

Township/Range(s): T3S, R18E; T3S, R17E; T4S, R17E +

USGS Quad(s): COOLIDGE DAM; MESCAL WARM SPRING +

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Special Status Species and Special Areas Documented within 3 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Abutilon parishii	Pima Indian Mallow	SC	S	S	SR	
Agosia chrysogaster chrysogaster	Gila Longfin Dace	SC		S		1B
Aquila chrysaetos	Golden Eagle	BGA		S		1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Bat Colony						
Buteo plagiatus	Gray Hawk	SC				
CH for Echinomastus erectocentrus var. acunensis	Acuna cactus Designated Critical Habitat					
CH for Empidonax traillii extimus	Southwestern Willow Flycatcher Designated Critical Habitat					
CH for Xyrauchen texanus	Razorback Sucker Designated Critical Habitat					
Catostomus clarkii	Desert Sucker	SC	S	S		1B
Catostomus insignis	Sonora Sucker	SC	S	S		1B
Chionactis occipitalis klauberi	Tucson Shovel-nosed Snake	SC				1A
Cicindela oregona maricopa	Maricopa Tiger Beetle	SC				
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S			1A
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Echinomastus erectocentrus var. acunensis	Acuna Cactus	LE			HS	
Empidonax traillii extimus	Southwestern Willow Flycatcher	LE				1A
Eriogonum capillare	San Carlos Wild-buckwheat	SC			SR	
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S			1A
Haliaeetus leucocephalus (wintering pop.)	Bald Eagle - Winter Population	SC,BGA	S	S		1A
Haliaeetus leucocephalus pop. 3	Bald Eagle - Sonoran Desert Population	SC,BGA	S	S		1A
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1A
Lower San Pedro River IBA						
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Meda fulgida	Spikedace	LE				1A
PCH for Coccyzus americanus	Yellow-billed Cuckoo Proposed Critical Habitat					
PCH for Thamnophis eques megalops	Northern Mexican Gartersnake Proposed Critical Habitat					
Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE				1A
Rallus obsoletus yumanensis	Yuma Ridgeway's Rail	LE				1A
San Carlos Apache Indian Reservation	San Carlos Apache Indian Reservation					
Terrapene ornata luteola	Desert Box Turtle			S		1A

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

Species of Greatest Conservation Need
Predicted within Project Vicinity based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Agosia chrysogaster	Longfin Dace	SC		S		1B
Aix sponsa	Wood Duck					1B
Ammodramus savannarum ammolegus	Arizona grasshopper sparrow		S	S		1B
Ammodramus savannarum perpallidus	Western Grasshopper Sparrow					1B
Ammospermophilus harrisii	Harris' Antelope Squirrel					1B
Anaxyrus microscaphus	Arizona Toad	SC				1B
Anthus spragueii	Sprague's Pipit	SC				1A
Aquila chrysaetos	Golden Eagle			S		1B
Aspidoscelis flagellicauda	Gila Spotted Whiptail					1B
Aspidoscelis stictogramma	Giant Spotted Whiptail	SC	S			1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Botaurus lentiginosus	American Bittern					1B
Buteo regalis	Ferruginous Hawk	SC		S		1B
Canis lupus baileyi	Mexican Wolf	LE,XN				1A
Castor canadensis	American Beaver					1B
Catostomus clarkii	Desert Sucker	SC	S	S		1B
Catostomus insignis	Sonora Sucker	SC	S	S		1B
Chilomeniscus stramineus	Variable Sandsnake					1B
Chionactis occipitalis klauberi	Tucson Shovel-nosed Snake	SC				1A
Chordeiles minor	Common Nighthawk					1B
Coccothraustes vespertinus	Evening Grosbeak					1B
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S			1A
Colaptes chrysoides	Gilded Flicker			S		1B
Coluber bilineatus	Sonoran Whipsnake					1B
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Crotalus cerberus	Arizona Black Rattlesnake					1B
Crotalus tigris	Tiger Rattlesnake					1B
Cynanthus latirostris	Broad-billed Hummingbird		S			1B
Cyprinodon macularius	Desert Pupfish	LE				1A
Dipodomys spectabilis	Banner-tailed Kangaroo Rat			S		1B
Empidonax traillii extimus	Southwestern Willow Flycatcher	LE				1A
Euderma maculatum	Spotted Bat	SC	S	S		1B
Eugenes fulgens	Magnificent Hummingbird					1B
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A

Species of Greatest Conservation Need
Predicted within Project Vicinity based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Gila intermedia	Gila Chub	LE				1A
Gila robusta	Roundtail Chub	PT, DPS	S			1A
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S			1A
Haliaeetus leucocephalus	Bald Eagle	SC	S	S		1A
Heloderma suspectum	Gila Monster					1A
Ictinia mississippiensis	Mississippi Kite					1B
Idionycteris phyllotis	Allen's Lappet-browed Bat	SC	S	S		1B
Incilius alvarius	Sonoran Desert Toad					1B
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		1B
Lasiurus blossevillii	Western Red Bat		S			1B
Lasiurus xanthinus	Western Yellow Bat		S			1B
Leopardus pardalis	Ocelot	LE				1A
Leptonycteris curasoae yerbabuenae	Lesser Long-nosed Bat	LE				1A
Lepus alleni	Antelope Jackrabbit					1B
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1A
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Meda fulgida	Spikedace	LE				1A
Melanerpes uropygialis	Gila Woodpecker					1B
Melospiza lincolnii	Lincoln's Sparrow					1B
Melozone aberti	Abert's Towhee		S			1B
Microtus mexicanus	Mexican Vole					1B
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myiarchus tuberculifer	Dusky-capped Flycatcher					1B
Myiodynastes luteiventris	Sulphur-bellied Flycatcher		S			1B
Myotis occultus	Arizona Myotis	SC		S		1B
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Odocoileus virginianus	White-tailed Deer					1B
Panthera onca	Jaguar	LE				1A
Passerculus sandwichensis	Savannah Sparrow					1B
Perognathus amplus	Arizona Pocket Mouse					1B
Perognathus longimembris	Little Pocket Mouse	No Status				1B
Peucaea botterii arizonae	Arizona Botteri's Sparrow			S		1B
Peucaea carpalis	Rufous-winged Sparrow					1B
Phrynosoma goodei	Goode's Horned Lizard					1B

Species of Greatest Conservation Need
Predicted within Project Vicinity based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Phrynosoma solare	Regal Horned Lizard					1B
Phyllorhynchus browni	Saddled Leaf-nosed Snake					1B
Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE				1A
Progne subis hesperia	Desert Purple Martin			S		1B
Rallus obsoletus yumanensis	Yuma Ridgeway's Rail	LE				1A
Setophaga petechia	Yellow Warbler					1B
Strix occidentalis lucida	Mexican Spotted Owl	LT				1A
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Terrapene ornata	Ornate Box Turtle					1A
Toxostoma lecontei	Le Conte's Thrasher					1B
Troglodytes pacificus	Pacific Wren					1B
Tyrannus crassirostris	Thick-billed Kingbird		S			1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B
Vulpes macrotis	Kit Fox	No Status				1B
Xantusia bezyi	Bezy's Night Lizard		S			1B

Species of Economic and Recreation Importance Predicted within Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Odocoileus hemionus	Mule Deer					
Odocoileus virginianus	White-tailed Deer					1B
Ovis canadensis mexicana	Mexicana Desert Bighorn Sheep					1B
Patagioenas fasciata	Band-tailed Pigeon					1C
Pecari tajacu	Javelina					
Puma concolor	Mountain Lion					
Ursus americanus	American Black Bear					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Water Use, Transfer, and Channel Activities, Water diversion/channelization

Project Type Recommendations:

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g., microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g., livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before leaving the site. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants, https://agriculture.az.gov/. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control, http://www.usda.gov/wps/portal/usdahome. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information https://www.azgfd.com/hunting/regulations.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

Based on the project type entered, coordination with State Historic Preservation Office may be required (http://azstateparks.com/SHPO/index.html).

Consider incorporating project components that may allow for the inclusion to promote, enhance, create, or restore wildlife habitat. Contact Project Evaluation Program for further information and opportunities, PEP@azgfd.gov or (623) 236-7600 or https://www.azgfd.com/agency/offices/

Based on the project type entered, coordination with Arizona Department of Water Resources may be required (http://www.azwater.gov/azdwr/default.aspx).

Based on the project type entered, coordination with U.S. Army Corps of Engineers may be required (http://www.usace.army.mil/)

Based on the project type entered, coordination with County Flood Control district(s) may be required.

Based on the project type entered, coordination with U.S. Fish and Wildlife Service (Fish and Wildlife Coordination Act) may be required (http://www.fws.gov/southwest/es/arizona/).

Project Location and/or Species Recommendations:

HDMS records indicate that one or more native plants listed on the Arizona Native Plant Law and Antiquities Act have been documented within the vicinity of your project area. Please contact:
Arizona Department of Agriculture
1688 W Adams St.
Phoenix, AZ 85007
Phone: 602.542.4373
https://agriculture.az.gov/environmental-services/np1

HDMS records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at http://www.fws.gov/southwest/es/arizona/ or:

Phoenix Main Office
2321 W. Royal Palm Rd, Suite 103
Phoenix, AZ 85021
Phone: 602-242-0210
Fax: 602-242-2513

Tucson Sub-Office
201 N. Bonita Suite 141
Tucson, AZ 85745
Phone: 520-670-6144
Fax: 520-670-6155

Flagstaff Sub-Office
SW Forest Science Complex
2500 S. Pine Knoll Dr.
Flagstaff, AZ 86001
Phone: 928-556-2157
Fax: 928-556-2121

HDMS records indicate that Western Burrowing Owls have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at:
https://www.azgfd.com/wildlife/speciesofgreatestconservneed/burrowingowlmanagement/.

HDMS records indicate that Sonoran Desert Tortoise have been documented within the vicinity of your project area. Please review the Tortoise Handling Guidelines found at: https://www.azgfd.com/wildlife/nongamemanagement/tortoise/

HDMS records indicate that Peregrine Falcons have been documented within the vicinity of your project area. Please review the Peregrine Falcon Management Guidelines at:
https://www.azgfd.com/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/peregrineFalconConservGuidelines.pdf.

The analysis has detected one or more Important Bird Areas within your project vicinity. Please see http://aziba.org/?page_id=38 for details about the Important Bird Area(s) identified in the report.

Tribal Lands are within the vicinity of your project area and may require further coordination. Please contact:
San Carlos Apache Tribal Council
PO Box 0
San Carlos, AZ 85550
(928) 475-2361
(928) 475-2567 (fax)

APPENDIX J
Noise Model

Appendix H-RCNM noise model for SCIP EIS
Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 09/03/2015
Case Description: San Carlos Irrigation Project Facilities Phase 2 Rehabilitation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Florence 175 feet	Residential	39.0	39.0	39.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	175.0	0.0
Concrete Mixer Truck	No	40		78.8	175.0	0.0
Compactor (ground)	No	20		83.2	175.0	0.0
Compressor (air)	No	40		77.7	175.0	0.0
Concrete Pump Truck	No	20		81.4	175.0	0.0
Dozer	No	40		81.7	175.0	0.0
Dump Truck	No	40		76.5	175.0	0.0
Excavator	No	40		80.7	175.0	0.0
Flat Bed Truck	No	40		74.3	175.0	0.0
Front End Loader	No	40		79.1	175.0	0.0
Generator	No	50		80.6	175.0	0.0
Grader	No	40	85.0		175.0	0.0
Crane	No	16		80.6	175.0	0.0
Paver	No	50		77.2	175.0	0.0
Pickup Truck	No	40		75.0	175.0	0.0
Scraper	No	40		83.6	175.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Backhoe	66.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Concrete Mixer Truck	67.9	63.9	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Compactor (ground)	72.3	65.4	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Compressor (air)	66.8	62.8	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Concrete Pump Truck	70.5	63.5	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Dozer	70.8	66.8	N/A	N/A	N/A	N/A	N/A	N/A	80.0			

N/A	N/A	N/A	N/A	N/A	None	N/A			
Dump Truck			65.6	61.6	N/A	N/A	N/A	N/A	80.0
N/A	N/A	N/A	N/A	N/A	None	N/A			
Excavator			69.8	65.8	N/A	N/A	N/A	N/A	80.0
N/A	N/A	N/A	N/A	N/A	None	N/A			
Flat Bed Truck			63.4	59.4	N/A	N/A	N/A	N/A	80.0
N/A	N/A	N/A	N/A	N/A	None	N/A			
Front End Loader			68.2	64.2	N/A	N/A	N/A	N/A	80.0
N/A	N/A	N/A	N/A	N/A	None	N/A			
Generator			69.7	66.7	N/A	N/A	N/A	N/A	80.0
N/A	N/A	N/A	N/A	N/A	None	N/A			
Grader			74.1	70.1	N/A	N/A	N/A	N/A	80.0
N/A	N/A	N/A	N/A	N/A	None	N/A			
Crane			69.7	61.7	N/A	N/A	N/A	N/A	80.0
N/A	N/A	N/A	N/A	N/A	None	N/A			
Paver			66.3	63.3	N/A	N/A	N/A	N/A	80.0
N/A	N/A	N/A	N/A	N/A	None	N/A			
Pickup Truck			64.1	60.1	N/A	N/A	N/A	N/A	80.0
N/A	N/A	N/A	N/A	N/A	None	N/A			
Scraper			72.7	68.7	N/A	N/A	N/A	N/A	80.0
N/A	N/A	N/A	N/A	N/A	None	N/A			
		Total	74.1	77.2	N/A	N/A	N/A	N/A	80.0
N/A	N/A	N/A	N/A	N/A	None	N/A			

**** Receptor #2 ****

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Florence 400 feet	Residential	39.0	39.0	39.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	400.0	0.0
Concrete Mixer Truck	No	40		78.8	400.0	0.0
Compactor (ground)	No	20		83.2	400.0	0.0
Compressor (air)	No	40		77.7	400.0	0.0
Concrete Pump Truck	No	20		81.4	400.0	0.0
Dozer	No	40		81.7	400.0	0.0
Dump Truck	No	40		76.5	400.0	0.0
Excavator	No	40		80.7	400.0	0.0
Flat Bed Truck	No	40		74.3	400.0	0.0
Front End Loader	No	40		79.1	400.0	0.0
Generator	No	50		80.6	400.0	0.0
Grader	No	40	85.0		400.0	0.0
Crane	No	16		80.6	400.0	0.0
Paver	No	50		77.2	400.0	0.0
Pickup Truck	No	40		75.0	400.0	0.0
Scraper	No	40		83.6	400.0	0.0

Results

	Noise Limits (dBA)	
Noise Limit Exceedance (dBA)		
Calculated (dBA)	Day	Evening

Equipment	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Lmax	Leq	Lmax
Backhoe	59.5	55.5	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Concrete Mixer Truck	60.7	56.8	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Compactor (ground)	65.2	58.2	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Compressor (air)	59.6	55.6	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Concrete Pump Truck	63.3	56.3	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Dump Truck	58.4	54.4	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Excavator	62.6	58.7	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Flat Bed Truck	56.2	52.2	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Front End Loader	61.0	57.1	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Generator	62.6	59.6	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Grader	66.9	63.0	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Crane	62.5	54.5	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Paver	59.2	56.1	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Pickup Truck	56.9	53.0	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Scraper	65.5	61.5	N/A	N/A	N/A	N/A	80.0	N/A	N/A
Total	66.9	70.0	N/A	N/A	N/A	N/A	80.0	N/A	N/A

**** Receptor #3 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Eleven Mile Corner 25 feet	Residential	39.0	39.0	39.0

Description	Equipment: Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	25.0	0.0
Concrete Mixer Truck	No	40		78.8	25.0	0.0
Compactor (ground)	No	20		83.2	25.0	0.0
Compressor (air)	No	40		77.7	25.0	0.0
Concrete Pump Truck	No	20		81.4	25.0	0.0
Dozer	No	40		81.7	25.0	0.0
Dump Truck	No	40		76.5	25.0	0.0
Excavator	No	40		80.7	25.0	0.0

Flat Bed Truck	No	40		74.3	25.0	0.0
Front End Loader	No	40		79.1	25.0	0.0
Generator	No	50		80.6	25.0	0.0
Grader	No	40	85.0		25.0	0.0
Crane	No	16		80.6	25.0	0.0
Paver	No	50		77.2	25.0	0.0
Pickup Truck	No	40		75.0	25.0	0.0
Scraper	No	40		83.6	25.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Backhoe	83.6	79.6	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Concrete Mixer Truck	84.8	80.8	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Compactor (ground)	89.3	82.3	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Compressor (air)	83.7	79.7	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Concrete Pump Truck	87.4	80.4	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Dozer	87.7	83.7	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Dump Truck	82.5	78.5	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Excavator	86.7	82.8	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Flat Bed Truck	80.3	76.3	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Front End Loader	85.1	81.2	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Generator	86.7	83.6	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Grader	91.0	87.0	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Crane	86.6	78.6	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Paver	83.2	80.2	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Pickup Truck	81.0	77.0	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Scraper	89.6	85.6	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Total	91.0	94.1	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A

**** Receptor #4 ****

Baselines (dBA)

Appendix H-RCNM noise model for SCIP EIS

Description	Land Use	Daytime	Evening	Night
Eleven Mile Corner 100 feet	Residential	39.0	39.0	39.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	100.0	0.0
Concrete Mixer Truck	No	40		78.8	100.0	0.0
Compactor (ground)	No	20		83.2	100.0	0.0
Compressor (air)	No	40		77.7	100.0	0.0
Concrete Pump Truck	No	20		81.4	100.0	0.0
Dozer	No	40		81.7	100.0	0.0
Dump Truck	No	40		76.5	100.0	0.0
Excavator	No	40		80.7	100.0	0.0
Flat Bed Truck	No	40		74.3	100.0	0.0
Front End Loader	No	40		79.1	100.0	0.0
Generator	No	50		80.6	100.0	0.0
Grader	No	40	85.0		100.0	0.0
Crane	No	16		80.6	100.0	0.0
Paver	No	50		77.2	100.0	0.0
Pickup Truck	No	40		75.0	100.0	0.0
Scraper	No	40		83.6	100.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Concrete Mixer Truck	72.8	68.8	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Compactor (ground)	77.2	70.2	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Concrete Pump Truck	75.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Dump Truck	70.4	66.5	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Flat Bed Truck	68.2	64.3	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A

Generator			74.6	71.6	N/A	N/A	N/A	N/A	80.0	
N/A	N/A	N/A	N/A	N/A	None	N/A				
Grader			79.0	75.0	N/A	N/A	N/A	N/A	80.0	
N/A	N/A	N/A	N/A	N/A	None	N/A				
Crane			74.5	66.6	N/A	N/A	N/A	N/A	80.0	
N/A	N/A	N/A	N/A	N/A	None	N/A				
Paver			71.2	68.2	N/A	N/A	N/A	N/A	80.0	
N/A	N/A	N/A	N/A	N/A	None	N/A				
Pickup Truck			69.0	65.0	N/A	N/A	N/A	N/A	80.0	
N/A	N/A	N/A	N/A	N/A	None	N/A				
Scraper			77.6	73.6	N/A	N/A	N/A	N/A	80.0	
N/A	N/A	N/A	N/A	N/A	None	N/A				
Total			79.0	82.1	N/A	N/A	N/A	N/A	80.0	
N/A	N/A	N/A	N/A	N/A	None	N/A				

**** Receptor #5 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Eleven Mile Corner 400 feet	Residential	39.0	39.0	39.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	400.0	0.0
Concrete Mixer Truck	No	40		78.8	400.0	0.0
Compactor (ground)	No	20		83.2	400.0	0.0
Compressor (air)	No	40		77.7	400.0	0.0
Concrete Pump Truck	No	20		81.4	400.0	0.0
Dozer	No	40		81.7	400.0	0.0
Dump Truck	No	40		76.5	400.0	0.0
Excavator	No	40		80.7	400.0	0.0
Flat Bed Truck	No	40		74.3	400.0	0.0
Front End Loader	No	40		79.1	400.0	0.0
Generator	No	50		80.6	400.0	0.0
Grader	No	40	85.0		400.0	0.0
Crane	No	16		80.6	400.0	0.0
Paver	No	50		77.2	400.0	0.0
Pickup Truck	No	40		75.0	400.0	0.0
Scraper	No	40		83.6	400.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Calculated (dBA) Day Evening Night

Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe			59.5	55.5	N/A	N/A	N/A	N/A	80.0			
N/A	N/A	N/A	N/A	N/A	None	N/A						

Concrete Mixer Truck	60.7	56.8	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Compactor (ground)	65.2	58.2	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Compressor (air)	59.6	55.6	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Concrete Pump Truck	63.3	56.3	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Dump Truck	58.4	54.4	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Excavator	62.6	58.7	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Flat Bed Truck	56.2	52.2	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Front End Loader	61.0	57.1	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Generator	62.6	59.6	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Grader	66.9	63.0	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Crane	62.5	54.5	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Paver	59.2	56.1	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Pickup Truck	56.9	53.0	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Scraper	65.5	61.5	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							
Total	66.9	70.0	N/A	N/A	N/A	N/A	80.0	N/A	N/A
N/A	None	N/A							

**** Receptor #6 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Florence 200 feet	Residential	39.0	39.0	39.0

Description	Equipment Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	200.0	0.0
Concrete Mixer Truck	No	40		78.8	200.0	0.0
Compactor (ground)	No	20		83.2	200.0	0.0
Compressor (air)	No	40		77.7	200.0	0.0
Concrete Pump Truck	No	20		81.4	200.0	0.0
Dozer	No	40		81.7	200.0	0.0
Dump Truck	No	40		76.5	200.0	0.0
Excavator	No	40		80.7	200.0	0.0
Flat Bed Truck	No	40		74.3	200.0	0.0
Front End Loader	No	40		79.1	200.0	0.0
Generator	No	50		80.6	200.0	0.0
Grader	No	40	85.0		200.0	0.0
Crane	No	16		80.6	200.0	0.0
Paver	No	50		77.2	200.0	0.0
Pickup Truck	No	40		75.0	200.0	0.0
Scraper	No	40		83.6	200.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Backhoe	65.5	61.5	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Concrete Mixer Truck	66.8	62.8	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Compactor (ground)	71.2	64.2	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Compressor (air)	65.6	61.6	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Concrete Pump Truck	69.4	62.4	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Dozer	69.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Dump Truck	64.4	60.4	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Excavator	68.7	64.7	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Flat Bed Truck	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Front End Loader	67.1	63.1	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Generator	68.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Grader	73.0	69.0	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Crane	68.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Paver	65.2	62.2	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Pickup Truck	63.0	59.0	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Scraper	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A
Total	73.0	76.1	N/A	N/A	N/A	N/A	N/A	N/A	80.0	N/A	N/A	N/A

APPENDIX K

Fugitive Dust and Combustion Emission Calculations

Fugitive Dust and Combustion Emission Calculations

Air quality impacts during construction would include fugitive dust and combustion emissions from construction equipment and support vehicles. Fugitive dust emissions, including particulate matter between 10 micrometers and 2.5 micrometers in diameter (PM_{10}) and particulate matter 2.5 micrometers and less in diameter ($PM_{2.5}$), would vary depending on the type, intensity, and duration of construction activity, site conditions, and other factors, and would result from the following components of project construction:

- General construction (canal excavation, material hauling, redeposition of excavated material, shaping, compacting, concrete lining, and repair/replacement/installation of structures)
- Operation of a portable concrete batch plant on-site (loading and transfer of sand, aggregate, cement, and cement supplement, weigh hopper and truck mix loading, and raw materials storage piles)
- Vehicle travel on unpaved roads (in addition to that included under general construction, such as contractor vehicle travel to and from the work site and materials hauling/equipment transport to and from off-site locations)
- Track-out of materials onto paved roads by haul trucks and other vehicles and subsequent fugitive dust generation by passing traffic

Fugitive dust emissions are described and estimated for each of the action alternatives using emission factors developed by the Environmental Protection Agency (EPA) in its guidance document AP-42—*Compilation of Air Pollutant Emission Factors* (EPA 1995) and subsequent modifications/refinements (EPA 2001, 2006; Midwest Research Institute 1996, 1999).

Emissions from engine exhaust (combustion emissions) would depend on the number and type of vehicles used during construction but would be minor and short-term (e.g., five years under the Proposed Action). Engine combustion associated with construction activities would generate as byproducts all of the criteria pollutants, except lead. Regional impacts from the action alternatives are unlikely to exceed National Ambient Air Quality Standards for any criteria pollutant because of the short-term and relatively small, localized sources of emissions during construction. Combustion emissions for each of the action alternatives are estimated based on information on the proposed fleet of construction equipment (e.g., equipment types and horsepower ratings), year-by-year activity data for each piece of equipment (e.g., hours of operation and fuel consumption), and emission factors from the EPA's NONROAD model (EPA 2005).

General Construction

Fugitive dust emissions from general construction activities are affected by the type of activity, duration, the area of disturbed soils exposed to potential wind erosion, and control measures applied. Rehabilitation of the canal system would progress in a linear fashion starting with Reach 1, and construction activities would occur over five years under the Proposed Action and seven years under the Florence Casa Grande (FCG) Canal and Parallel Canal alternatives. At any one time, the active construction area over a length of canal would extend for 5 to 8 miles, with an average length of disturbance of 6.5 miles over a one-year period.

In the active construction area under each of the alternatives, it is estimated that a maximum of 2,000 linear feet (100 feet wide) would be subject to materials excavation, placement of fill, reshaping, compaction, and concrete lining. These activities have the potential to generate the greatest amount of fugitive dust and, therefore, an AP-42 emission factor of 0.42 ton/month/acre (representing worst-case conditions) is used to calculate emissions.

An additional 50-foot easement along this 2,000-foot reach would be used for vehicle and equipment maneuvering and staging, and the AP-42 emission factor for general construction activities (0.11 ton/month/acre, representing average conditions) is used to calculate emissions.

For the remainder of the average 6.5-mile active construction area, activities would generally be limited to the hauling of fill material and concrete along the canal bank on a 16-foot-wide unpaved road, and installation, repair, or replacement of structures at specific locations (i.e., turnouts, check structures, road crossings, drainage under crossings, and railroad bridges). For these areas, the emission factor for general construction activities (0.11 ton/month/acre) is applied.

Under all action alternatives, areas subject to active construction activities (work areas and the haul/access road on the canal bank) would be watered as needed to control dust and would be subject to vehicle speed limits; these are expected to reduce fugitive dust emissions by at least 50 percent (EPA 2006). The inside slopes of the canal outside active work areas would be relatively stable (i.e., would form a surface crust) and would generate dust emissions only during periods of high wind. Table 1 lists the estimated fugitive dust emissions from general construction activities for each action alternative.

Concrete Batch Plant

Lining of the canal under the action alternatives would require either importing concrete from an off-site commercial source or on-site production by the contractor using a portable batch plant (either on-site, in a central location, or in multiple locations). To estimate fugitive dust emission from project construction, it is assumed that a portable batch plant (truck mix) would be used. Raw materials for concrete batching would most likely be delivered from a commercial pit, so it is assumed that no screening or crushing on-site would occur.

It is further assumed that the portable batch plant would be accessed via paved roads (i.e., there would be no fugitive dust emissions from traveling on paved roads to deliver raw materials to the batch plant). For portable batch plants, there would be a minimum of one conveyor belt used to stockpile aggregate, sand, and rock with sprinkling equipment to maintain proper moisture content and dust abatement. Additional equipment would include overhead aggregate storage bins, cement silos, cement weigh hoppers, three conveyor belts to feed the plant from the stockpiles, and a drum mixer.

Table 1. Estimated fugitive dust emissions from general construction activities.

Activity	Alternative	Average Area Affected at One Time (acres)	Emission Factor (tons/acre/ month)	Maximum Duration Construction Activity/Year (months)	Maximum Controlled Annual PM_{10} Emissions (tons/year)[a]	Maximum Controlled Annual $PM_{2.5}$ Emissions (tons/year)[b]
Excavation, placement of fill, reshaping, compaction, and concrete lining	Proposed	4.59[c]	0.42	10	9.64	0.96
	FCG Canal			11	10.60	1.06
	Parallel Canal			11	10.60	1.06
Access easement adjacent to excavation/ work area	Proposed	2.30[d]	0.11	10	1.27	0.13
	FCG Canal			11	1.39	0.14
	Parallel Canal			11	1.39	0.14
General construction area haul/ access road	Proposed	11.87[e]	0.11	10	6.53	0.651
	FCG Canal			11	7.18	0.72
	Parallel Canal			11	7.18	0.72
Structures	Proposed	2.00[f]	0.11	10	1.10	0.11
	FCG Canal			11	1.21	0.12
	Parallel Canal			11	1.21	0.12
Total Emissions/ Year	**Proposed**	**20.76**	**Not applicable**	**Not applicable**	**18.54**	**1.85**
	FCG Canal				**20.38**	**2.04**
	Parallel Canal				**20.38**	**2.04**

a. Number is the product of average acres affected at one time, emission factor, maximum months of construction activity, and a control efficiency of 50%.
b. A multiplier of 0.10 is applied to the estimated maximum annual PM_{10} emissions to obtain the estimated maximum annual $PM_{2.5}$ emissions (EPA 2006).
c. Based on a maximum 2,000 linear feet length by a 100-foot width that will be subject to these activities at any one time during the construction project.
d. Based on a 50-foot-wide easement along a maximum 2,000-linear-foot work area.
e. Based on a 16-foot-wide haul/access road for a length of 32,320 feet (6.5 miles [34,320 feet] minus 2,000 feet or 6.12 miles).
f. Assumes 2 acres of disturbed ground, on average, at any one time during the year.

Fugitive dust emissions are estimated using emission factors for a typical concrete batch facility listed in EPA guidance document AP-42, Fifth Edition, Section 11.12, Table 11.12-5. Emission sources include aggregate and sand transfer, cement and cement supplement unloading, weigh hopper loading, truck loading, and wind erosion from materials storage piles. Table 2 lists the estimated fugitive dust emissions from these sources, based on estimates of the amount of concrete needed. Emissions from hauling of concrete in the active construction area are included as part of emissions estimates for general construction.

Table 2. Estimated fugitive dust emissions from portable concrete batch plant operation.

Process/Source	Alternative	Emission Factor (PM_{10} controlled, lbs/yd^3)[a]	Controlled PM_{10} Emissions (tons/year)[b]	Controlled $PM_{2.5}$ Emissions (tons/year)[c]
Aggregate delivery to ground storage	Proposed	0.0031	0.0351	0.0035
	FCG Canal		0.0281	0.0028
	Parallel Canal		0.0281	0.0028
Sand delivery to ground storage	Proposed	0.0007	0.0079	0.0008
	FCG Canal		0.0064	0.0006
	Parallel Canal		0.0064	0.0006
Aggregate delivery to conveyor	Proposed	0.0031	0.0351	0.0035
	FCG Canal		0.0281	0.0028
	Parallel Canal		0.0281	0.0028
Sand transfer to conveyor	Proposed	0.0007	0.0079	0.0008
	FCG Canal		0.0064	0.0006
	Parallel Canal		0.0064	0.0006
Aggregate transfer to elevated storage	Proposed	0.0031	0.0351	0.0035
	FCG Canal		0.0281	0.0028
	Parallel Canal		0.0281	0.0028
Sand transfer to elevated storage	Proposed	0.0007	0.0079	0.0008
	FCG Canal		0.0064	0.0006
	Parallel Canal		0.0064	0.0006
Cement delivery to silo	Proposed	0.0001	0.0011	0.0001
	FCG Canal		0.0009	0.0001
	Parallel Canal		0.0009	0.0001
Cement supplement delivery to silo	Proposed	0.0002	0.0023	0.0002
	FCG Canal		0.0018	0.0002
	Parallel Canal		0.0018	0.0002
Weigh hopper loading	Proposed	0.0038	0.0430	0.0043
	FCG Canal		0.0344	0.0034
	Parallel Canal		0.0344	0.0034
Truck mix loading	Proposed	0.0074	0.0838	0.0084
	FCG Canal		0.0670	0.0067
	Parallel Canal		0.0670	0.0067
Materials storage piles	Proposed	0.3650[d]	0.7300[e]	0.0730
	FCG Canal		0.7300	0.0730
	Parallel Canal		0.7300	0.0730
Total Emissions/Year	**Proposed**	**Not applicable**	**0.99**	**0.10**
	FCG Canal		**0.94**	**0.09**
	Parallel Canal		**0.94**	**0.09**

a. Units are pounds of pollutant per cubic yard of truck mix concrete, based on AP-42, Section 11.12, Table 11.12-5.
b. Based on a total of 90,574 cubic yards of concrete for each alternative (78,235 cubic yards for lining and 12,339 cubic yards for structures). For the Proposed Action, this is assumed to average 22,644 cubic yards per year for the five-year construction period. For the FCG and Parallel Canal alternatives, this is assumed to average 18,115 cubic yards per year for the seven-year construction periods. Units are tons of pollutant per year, and number is the product of the average cubic yards of concrete produced per year and the emission factor, divided by 2,000 lbs/ton to obtain estimated tons per year.
c. Units are tons of pollutant per year. A multiplier of 0.10 is applied to the estimated annual PM_{10} emissions to obtain the estimated annual $PM_{2.5}$ emissions (EPA 2006).
d. Units are tons per year, based on an estimated 2 pounds of emissions per acre per day or 730 pounds per acre per year.
e. Units are tons of pollutant per year, and number assumes 2 acres of materials storage piles.

Unpaved Haul/Access Road Emissions

Fugitive dust emissions from vehicle travel on unpaved road surfaces would result from contractor personnel vehicles, haul trucks, concrete mixer trucks, and equipment transport trucks entering and leaving the active construction area from off-site locations. Emissions from hauling of concrete, fill, and other materials along a 16-foot-wide access on the canal bank are included in the estimates for general construction activities.

Calculation of the emission factor listed in AP-42, Section 13.2.2, is based on vehicle miles traveled and other related variables. The project area is generally accessible via paved roadways. Reach 1 and Reaches 2A and 2B are accessible from the Diversion Dam Road, State Route (SR) 287, and other paved roadways in the Florence area. The remainder of Reach 2 and Reach 3 are accessible via existing paved roadways at one-mile intervals (generally along the section lines), with the exception of an approximately one-mile section of Reach 3B along the northeast side of Picacho Reservoir.

Some of the section line roads are not paved all the way to the project area, and some unpaved roadways parallel the canal and may be used by contractor vehicles (Table 3).

Table 3. Unpaved road segments that may be used to access the project area.

Roadway Description	Unpaved Segment Length – Proposed Action (miles)	Unpaved Segment Length – FCG and Canal Alternatives (miles)
Vah Ki Inn Road (end of paved section to canal)	0.25	0.75
Canal Road (segment that parallels canal from end of paved section south of Florence to SR 79	2.00	Not applicable
Martin Road (from Clemans Road to canal)	0.63	Not applicable
Bartlett Road (from Clemans Road to canal)	0.37	0.75
Randolph Road (end of paved section to canal)	0.13	Not applicable
Kleck Road (Wheeler Road to canal)	0.50	1.25
Total Length	**3.88**	**2.75**

Fugitive dust emissions from unpaved roads are estimated based on the following assumptions and parameters:

- Unpaved road segments provide access to approximately 16 percent of the total project length. It is assumed that the miles of unpaved road segments identified for each alternative in Table 3 would be used for a total of 30 days.
- Twenty-five contractor staff members, each driving up to a two-ton personal vehicle (car or light truck), make two trips per day on unpaved roads (entering and leaving the project area each day) over the 30-day period.
- Five haul trucks, with an average weight of 20 tons, make two trips per day on unpaved roads to enter and leave the project area over the 30-day period (does not include hauling in the project area, which is accounted for under general construction emissions estimates).
- The emission factor is based on vehicle miles traveled (VMT) and other variables identified in AP-42, Section 13.2.2, and is calculated as follows:

Emission factor (E) = k (5.9) (s/12) (S/30) $(W/3)^{0.7}$ $(w/4)^{0.5}$ (365-p/365) lb/VMT, where E = pounds (lbs) of emissions (total suspended particulates) per VMT, k = particle size multiplier for PM_{10} (0.36); s = silt content of road surface (27 percent average based on soil descriptions [percent silt in A-horizons] in Hendricks 1985); S = mean vehicle speed (assumed 25 miles per hour); W = mean vehicle weight (tons); 5.14 tons average (fleet average, see AP-42, Section 13.2.2, page 13.2.2–6); w = mean number of wheels; assumed 4.84 wheels (fleet average); p = number of days with greater than, or equal to, 0.01 inch of precipitation per year (30 days based on AP-42, Section 13.2.2).

E = 0.36 (5.9) (27/12) (25/30) $(5.14/3)^{0.7}$ $(4.84/4)^{0.5}$ ([365-30]/365) lbs/VMT.

E = 5.85 pounds of PM_{10} emissions per vehicle mile traveled.

Under the Proposed Action, 30 passenger vehicles or light trucks making two trips per day on 3.88 miles of unpaved road for a total duration of 30 days would result in 6,984 VMT on unpaved roads. For 6,984 VMT, estimated emissions would be 40,856.40 lbs or ***20.43 tons of PM_{10} and 2.04 tons of $PM_{2.5}$.***

Under the FCG and Parallel Canal alternatives, 30 passenger vehicles or light trucks making two trips per day on 2.75 miles of unpaved road for a total duration of 30 days would result in 4,950 VMT on unpaved roads. For 4,950 VMT, estimated emissions would be 28,957.50 lbs or ***14.48 tons of PM_{10} and 1.45 tons of $PM_{2.5}$.***

Mud and Dirt Track-out

Fugitive dust from mud and dirt track-out and subsequent resuspension by passing traffic is based on methodology found in the EPA guidance document 450/3-88-008, *Control of Open Fugitive Dust Sources* (EPA 1988), where:

EF_{PM10} = (e) (M)

Where EF_{PM10} is the PM_{10} emission factor (lbs/day), e = unit emission increase (0.03 lbs/vehicle based on more than 25 entering and exiting per day), M = number of vehicles that pass by the site per day (most of the project area would be accessed from rural agricultural roads, and a 600 vehicle/day average is assumed).

EF_{PM10} = (0.03 lbs/vehicle) (600 vehicles/day) = 18 lbs/day per track-out location.

Assuming five track-out locations at any one time and 250 working days per year, this would result in an estimated 10,000 lbs or ***5 tons/year of PM_{10}*** and ***0.5 ton/year of $PM_{2.5}$*** emissions.

Combustion Emissions

Combustion emissions of $PM_{2.5}$ from construction activities under the action alternatives are calculated as a fraction of the estimated PM_{10} emissions from this source. The EPA's NONROAD model, which served as the basis for estimating exhaust emissions from construction equipment, converts PM_{10} emissions from diesel engines to $PM_{2.5}$ emissions using an adjustment factor of 0.97 (EPA 2010).

Summary of Estimated Fugitive Dust Emissions

Table 4 summarizes the estimated fugitive dust emissions from the sources described previously. Estimated total PM_{10} emissions under the Proposed Action and the other two action alternatives would be below the 100 tons/year *de minimis* threshold.

Table 4. Estimated particulate matter emissions from the project.

Source	Proposed Action		FCG Canal Alternative		Parallel Canal Alternative	
	Estimated PM_{10} emissions (tons/year)	**Estimated $PM_{2.5}$ emissions (tons/year)**	**Estimated PM_{10} emissions (tons/year)**	**Estimated $PM_{2.5}$ emissions (tons/year)**	**Estimated PM_{10} emissions (tons/year)**	**Estimated $PM_{2.5}$ emissions (tons/year)**
General construction	18.54	1.85	20.38	2.04	20.38	2.04
Concrete batch plant	0.99	0.10	0.94	0.09	0.94	0.09
Unpaved haul/access road emissions	20.43	2.04	14.48	1.45	14.48	1.45
Mud and dirt track-out	5.00	0.50	5.00	0.50	5.00	0.50
Combustion emissions	1.53	1.48	1.64	1.60	1.38	1.34
Total	**46.49**	**5.97**	**42.44**	**5.68**	**42.18**	**5.42**

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Sonoma Technology, Inc.
Air Quality Research and Innovative Solutions

Technical Memorandum

August 14, 2012 STI-912029

To: Leslie Stafford, EcoPlan Associates, Inc.

From: Stephen Reid and Yuan Du, Sonoma Technology, Inc.

Re: Estimation of Construction Equipment PM_{10} Emissions for an Irrigation Project in Pinal County Arizona

Background

EcoPlan Associates, Inc. is under contract with the Bureau of Reclamation to rehabilitate and line a large irrigation system in Pinal County, Arizona. A portion of the project falls within an area that has been designated by the U.S. Environmental Protection Agency (EPA) as not in attainment of the National Ambient Air Quality Standards (NAAQS) for particulate matter 10 microns in diameter or less (PM_{10}). To support the development of an Environmental Impact Statement for the project, EcoPlan has estimated PM_{10} emissions for sources of fugitive dust. To complete the PM_{10} emissions inventory, EcoPlan asked Sonoma Technology, Inc. (STI) to estimate exhaust PM_{10} emissions from the fleet of construction equipment expected to be used on the project. This document describes the methods STI used to perform these emissions estimates and provides a summary of the results.

Technical Approach

Overview

Exhaust emissions from construction equipment are typically estimated using the EPA's NONROAD model (U.S. Environmental Protection Agency, 2005), which calculates emissions as the product of engine population, hours of operation, engine power, engine load factor, and pollutant-specific emission factors. For example, PM emissions from excavators operating across a region of interest are calculated in NONROAD as follows:

$$PM = \sum \left(POP \times HRS \times HP \times LF \times PM_{EF} \right)$$

where:

PM = total PM emissions from excavators operating in the area of interest
POP = population of excavators with a given engine size (horsepower)
HRS = average hours of operation per excavator during the time frame of interest
HP = engine horsepower rating

LF = engine load factor (percentage of rated power while under load)
PM_{EF} = deterioration-adjusted PM emission factor in g/hp-hr (specific to each horsepower rating and engine model year)

NONROAD is designed to provide county-level emissions estimates for construction equipment and other types of non-road equipment, and the model contains a default database of equipment populations, activity data (annual hours of operations), load factors, and emission factors. Default load factor values for each type of equipment addressed by the model were developed from non-road engine test data performed over various transient cycles (U.S. Environmental Protection Agency, 2004).

For project-level assessments, if equipment characteristics and hours of operation for the project's fleet of construction equipment are available, load factor and emission factor information from NONROAD can be used to estimate emissions of PM_{10} and other pollutants. Alternatively, brake-specific fuel consumption factors (BSFC) from NONROAD can be used to develop fuel-based emission factors (e.g., grams emitted per gallon of fuel burned), and these factors can be applied to project-level fuel consumption data. The use of fuel-based emission factors eliminates dependence on engine loads or equipment duty cycles, which can vary according to the way equipment is used on a given project. Therefore, given the availability of fuel consumption data for this project, we used the fuel-based approach to estimate emissions for the three construction alternatives.

Activity Data

EcoPlan provided STI with construction equipment fleet information and activity data for three project alternatives: (1) the Preferred Alternative; (2) the Florence-Casa Grande Canal Alternative (FCG); and (3) the Parallel Canal Alternative. For each of these scenarios, EcoPlan provided a spreadsheet that listed:

- Equipment types and horsepower rating for the 26 pieces of equipment expected to be used on the project;
- Hours of operation by month and year for each piece of equipment; and
- Peak year total hours of operation and fuel consumption for each piece of equipment.

Table 1 summarizes the peak year, equipment-specific activity data for each of the three alternatives listed above. These data show that peak year hours of operation and fuel consumption are highest for the FCG Alternative, as this alternative requires more excavation than the other two options. Peak year fuel consumption is slightly higher (+2.5%) for the Preferred Alternative than for the Parallel Alternative. However, it should be noted that the overall construction schedule is shorter for the Preferred Alternative than the other two options.

Table 1. Equipment activity (hours) and fuel usage (gallons) for each alternative.

Equipment Type	Fuel	Preferred		FCG		Parallel	
		Hours	Gallons	Hours	Gallons	Hours	Gallons
Air Compressor - 250 cfm	Diesel	960	1,920	960	1,920	960	1,920
Backhoe - Cat 446B	Diesel	1,152	3,456	960	2,880	960	2,880
Canal Paving Train	Diesel	96	1,440	288	4,320	288	4,320
Canal Trimmer	Diesel	96	1,440	288	4,320	288	4,320
Compactor - Cat 825C	Diesel	1,104	16,560	1,344	20,160	1,152	17,280
Compactor - Cat CP 323	Diesel	528	2,112	960	3,840	720	2,880
Compactor - 14" Wacker	Gas	2,640	7,920	2,736	8,208	2,208	6,624
Crane - 30 Ton	Diesel	2,880	11,520	2,400	9,600	2,400	9,600
Crane - 75 Ton	Diesel	192	960	240	1,200	240	1,200
Crane - 100 Ton	Diesel	288	1,440	528	2,640	528	2,640
Dozer - Cat D7H	Diesel	1,152	10,368	1,056	9,504	672	6,048
Excavator - Cat 350	Diesel	672	5,376	2,400	19,200	576	4,608
Generator - 15kW	Diesel	2,880	2,880	2,400	2,400	2,400	2,400
Loader - Cat 966F	Diesel	672	5,376	1,440	11,520	1,104	8,832
Loader - Cat 988F	Diesel	576	5,760	480	4,800	624	6,240
Motor Grader - Cat 14H	Diesel	672	6,048	1,344	12,096	1,344	12,096
Pickup - 3/4 Ton 4x4	Diesel	19,008	19,008	20,736	20,736	16,800	16,800
Scraper - Cat 623F	Diesel	2,400	31,200	1,440	18,720	1,920	24,960
Truck - Concrete Mixer	Diesel	3,648	14,592	4,704	18,816	4,704	18,816
Truck - Concrete Pump	Diesel	1,152	5,760	960	4,800	960	4,800
Truck - Bottom or End Dump	Diesel	1,536	6,144	1,152	4,608	384	1,536
Truck – Flatbed	Diesel	2,976	11,904	2,688	10,752	2,880	11,520
Truck – Mechanics	Diesel	576	2,304	480	1,920	480	1,920
Truck – Pipe	Diesel	-	-	-	-	-	-
Truck – Water	Diesel	4,128	12,384	3,840	11,520	2,496	7,488
Water Tanker - Cat 621F	Diesel	672	6,720	816	8,160	816	8,160
Totals		52,656	194,592	56,640	218,640	47,904	189,888

Emission Factors

Emission factors in the NONROAD model vary by equipment type, horsepower rating, and model year. These variances account for increasingly strict emission standards (or “tiers”) for non-road equipment that have been implemented by EPA over time, as well as the deterioration (and increasing emission rates) that engines experience with use.

Because the model year of the equipment expected to be used on the irrigation project is not yet known, we had to make some assumptions about equipment ages. The NONROAD model includes state- and county-level equipment populations by horsepower bin, model year, and emission tier, and users are able to produce outputs by model year that include assumed

equipment populations, hours of operation, emission rates, and fuel consumption rates. Therefore, we were able to run NONROAD in "by model year" mode for 2012 for the State of Arizona and use the outputs to determine the most common model year and emission tier for each type of equipment listed in Table 1. Once the most common model year and emission tier was determined, we used the NONROAD outputs to back-calculate a fuel-based emission factor for each equipment type that includes NONROAD's assumed deterioration levels.

These emission factors were incorporated into an Access database, along with the activity data (i.e., fuel consumption estimates) for each alternative provided by EcoPlan. Queries were then set up in the Access database to calculate emissions by year and equipment type for each alternative.

Summary of Results

Estimates of construction equipment exhaust emissions by year and alternative are shown in **Tables 2 and 3**. For the Preferred Alternative, PM_{10} emissions are highest in Year 3 and total 1.53 tons. For the FCG Canal and Parallel Canal alternatives, PM_{10} emissions are highest in Year 4 and total 1.64 and 1.38 tons, respectively. Total PM_{10} emissions across the duration of the project are lowest for the Preferred Alternative, which has a shorter overall schedule than the other two alternatives. Note that the $PM_{2.5}$ emissions shown in Table 3 follow the same pattern. $PM_{2.5}$ emissions were calculated from PM_{10} emissions by applying fuel-specific adjustment factors from the NONROAD model. For diesel engines, this PM_{10}-to- $PM_{2.5}$ adjustment factor is 0.97 (U.S. Environmental Protection Agency, 2010).

Table 2. Construction equipment PM_{10} emissions (tons) by year and alternative.

Alternative	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Preferred	0.70	0.59	1.53	1.19	0.00	4.01
FCG	0.71	0.74	0.96	1.64	1.52	5.57
Parallel	0.71	0.73	0.79	1.38	1.30	4.91

Table 3. Construction equipment $PM_{2.5}$ emissions (tons) by year and alternative.

Alternative	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Preferred	0.68	0.57	1.48	1.15	0.00	3.89
FCG	0.69	0.72	0.93	1.60	1.47	5.40
Parallel	0.69	0.71	0.77	1.34	1.26	4.77

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