Since publication of the Draft Environmental Impact Statement (DEIS), all technical reports supporting the DEIS have been updated to reflect current conditions. A jurisdictional delineation has been performed for the Preferred Alternatives, the E1 and W59. Additionally, the 2005 Operating Agreement between the Arizona Department of Transportation (ADOT), Federal Highway Administration (FHWA), and the US Army Cops of Engineers (USACE) has been superseded by the 2013 Memorandum of Agreement. Changes to the Jurisdictional Waters Report are underlined and presented below.

Because a jurisdictional delineation has been performed for the Preferred Alternatives, the conclusions and mitigation measures have changed.

### 1. Project Description and Purpose and Need

Page 1-3, paragraph 4:

- From 1980 to **2010**, the Maricopa County population more than doubled, from 1.5 million to **3.8 million**.
- Phoenix is now the **sixth**-largest city in the country, and the region ranks as the **13th**-largest metropolitan area in the country.

Page 1-3, paragraph 5:

- MAG projections (conducted in collaboration with the Arizona Department of Economic Security) indicate Maricopa County’s population will increase from **3.8 million** in **2010** to **5.8 million** in **2035** (MAG 2013). It is projected that in the next 25 years, daily vehicle miles traveled will increase from **91 million** to **149 million**.

Page 1-4, paragraph 1:

- Even with anticipated improvements in light rail service, bus service, trip-reduction programs, and existing roads and freeways, vehicle traffic volumes are expected to exceed the capacity of Phoenix metropolitan area streets and highways by as much as **18 percent** in 2035.
- A freeway within the SMTC would accommodate approximately **11 percentage points** of the **18 percent** of the unmet travel demand and would be part of an overall traffic solution.
2. Affected Environment

Clean Water Act Sections 404 and 401 Permitting

Page 2-1, paragraph 3 (replace paragraph with):

- On March 18, 2013, FHWA, ADOT, and USACE entered into a Memorandum of Agreement (MOA), amended from the original Memorandum of Agreement, effective June 18, 2012\(^1\) (see Appendix A), which applies to transportation projects that are FHWA actions under NEPA and require USACE permits under Section 404 of the CWA (USACE 2013). The Memorandum of Agreement commits FHWA, USACE, and ADOT to establish priority review of federally funded projects with the goal of achieving timely design and implementation of highway improvements while ensuring the design and implementation is sensitive to the protection of aquatic resources under USACE’s jurisdiction. The permitting process for Section 404 requires CWA Section 401 certification. This certification is regulated by the Arizona Department of Environmental Quality (ADEQ) for waters of the United States, except on tribal land, which is regulated by the U.S. Environmental Protection Agency (EPA).

Page 2-1, paragraph 4 (replace paragraph with):

- In the Western Section, the W59 (Preferred) Alternative would affect less than 0.5 acre of jurisdictional waters (the Salt River) and would be permitted under a nationwide permit. The E1 Alternative would require permanent disturbances of greater than 0.5 acre at individual wash crossings; therefore, an individual Section 404 permit that would comply with Section 404(b)(1) of the CWA and an Individual Section 401 certification would be required. It would be filed with USACE according to the MOA.

Description of Jurisdictional Waters

Page 2-1, paragraph 5:

- Jurisdictional waters are delineated at the action alternative corridor level rather than at the Study Area level. Jurisdictional waters in the action alternative corridors include the Salt and Gila rivers and ephemeral washes. No springs, wetlands, or other special aquatic sites are known to be within the action alternative corridors.

Page 2-2, paragraph 2, fourth bullet:

- field investigation of waters of the United States to determine jurisdictional limits (field investigation of ephemeral washes in the Eastern Section E1 Alternative was conducted in 2003 and for both the E1 Alternative and the W59 Alternative in 2013)

Page 2-2, paragraph 3:

- All delineations were conducted in accordance with *USACE Wetland Delineation Manual* (USACE 1987), *Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest* USACE 2001), and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid Region of the Western United States* USACE 2008b). At that
time, USACE concurred that the ephemeral washes identified were jurisdictional. Guidance from EPA and USACE (2008) called for these determinations to be revisited with USACE.

- As committed to in the DEIS, a field delineation of jurisdictional waters in the Preferred Alternatives (E1 and W59) was conducted in the summer of 2013 to identify jurisdictional waters and to define the jurisdictional limits for the CWA Section 404 permitting. A preliminary jurisdictional determination was submitted to USACE in December 2013 in accordance with USACE and ADOT guidelines. USACE approved the jurisdictional determination in March 2014.

### Jurisdictional Waters within the Study Area

**Western Section**

Page 2-3, paragraph 2:
- Numerous lined and unlined irrigation conveyance channels (supply, feeder, and return) have been constructed in the upland agricultural areas. Jurisdictional waters in the Study Area, as depicted in the preliminary jurisdictional delineation, are shown in Figure 2.
- For a detailed exhibit showing the jurisdictional waters along the W59 Alternative, see Appendix B.

Page 2-4:
- Figure 2. Jurisdictional Waters (see page 6 of this addendum)

**Eastern Section**

Page 2-8, paragraph 3:
- Figure 2 shows the jurisdictional waters identified in the Eastern Section of the Study Area as presented in the preliminary jurisdictional delineation submitted to USACE in 2013. Detailed exhibits showing jurisdictional waters along the E1 Alternative can be found in Appendix B.

### 3. Environmental Consequences

Page 3-1, paragraph 2 (replace paragraph and bullets with):
- As stated previously, FHWA, ADOT, and USACE have entered into an MOA regarding the transportation projects that are both FHWA actions under NEPA and require a USACE individual permit under Section 404 of the CWA.

Page 3-1, paragraph 4 (replace paragraph with):
- USACE participated in the identification of the Preferred Alternative in accordance with Section 404(b)(1) of the CWA. USACE is obligated to select the least environmentally damaging practicable alternative after taking into consideration cost, existing technology, and logistics in light of overall project purposes (40 C.F.R. § 230). The permitting effort would need to consider the effects of the December 2, 2008, jurisdictional guidance memorandum (described in the Affected Environment section) on the designation of ephemeral washes as waters of the United States; the Final Compensatory Mitigation Rule issued on March 31, 2008; and USACE’s 2008 Regulatory Guidance Letter 08-03, which sets minimum monitoring requirements for mitigation.
Page 3-2, paragraph 1:

- For this report, the Salt River Bridge design is preliminary.

Page 3-2, paragraph 3:

- Based on the 2013 preliminary jurisdictional delineation of the W59 Alternative, disturbances to jurisdictional waters caused by the W59 Alternative would be less than 0.5 acre; therefore, Nationwide Permit #14, Linear Transportation Projects, would be required.

Page 3-3, paragraph 3:

- USACE informally agreed with the conclusion that there were no jurisdictional constructed wetlands in the Study Area in 2003 and again in 2013 after submittal of the preliminary jurisdictional delineation.

*Impacts Associated with Eastern Section Action Alternatives*

Ephemeral Washes

Page 3-3, paragraph 4:

- A meeting was held with USACE in June 2013 to discuss its expectations for the preliminary jurisdictional delineation of the E1 Alternative. Following that meeting, a preliminary jurisdictional delineation of the E1 Alternative was conducted in the summer of 2013; it identified 49 ephemeral washes as jurisdictional waters. Drainages less than 3 feet in width were not identified as jurisdictional waters in accordance with USACE instructions.

Page 3-5, paragraph 2:

- The preliminary jurisdictional delineation limits of the E1 Alternative would not change.

Page 3-5, paragraph 3 (replace paragraph with):

- Implementation of the E1 Alternative would permanently affect between 1 and 2 acres of jurisdictional waters (ephemeral washes), including disturbances of greater than 0.5 acre at individual wash crossings; therefore, an individual permit that would comply with Section 404(b)(1) of the CWA would be required.
- Because the impact acreage is based on conservative design limits, it is anticipated that design refinement and construction sequencing would reduce impacts on jurisdictional waters.

4. Mitigation

Page 4-1, paragraph 1:

- The following describes potential mitigation measures for ADOT to consider as future commitments to be implemented as part of the project to avoid, reduce, or otherwise mitigate environmental impacts associated with the project. The discussion of these measures in this report does not obligate ADOT to these specific measures. ADOT, along with FHWA and USACE, may choose to modify, delete, or add measures to mitigate impacts. Final obligation of mitigation measures would be made in the record of decision.
The W59 Alternative would qualify for Section 404 of the CWA Nationwide Permit #14, Linear Transportation Projects, because of the limited amount of fill that would be placed into jurisdictional waters. ADOT would comply with all terms and conditions of the Section 404 Nationwide Permit #14 as established by USACE.

An Individual Permit under Section 404 of the CWA would be required for the E1 Alternative. The E1 Alternative would require permanent disturbances of greater than 0.5 acre at individual wash crossings; therefore, an individual permit that would comply with Section 404(b)(1) of the CWA would be required. USACE participated in identification of the Preferred Alternative. Under Section 404(b)(1), USACE is obligated to select the least environmentally damaging practicable alternative after considering cost, existing technology, and logistics, in light of overall project purposes (40 C.F.R. § 230).

ADOT would prepare and submit an application to the USACE for a CWA Section 404 permit as appropriate, dictated by impacts on jurisdictional waters. No work would occur within jurisdictional waters until the appropriate CWA Sections 401 and 404 permits were obtained.

5. Bibliography/References


U.S. Army Corps of Engineers (USACE), Federal Highway Administration (FHWA), and Arizona Department of Transportation (ADOT). 2013. Amended and Superseded Memorandum of Agreement. March.

6. Appendices

Appendix A: Memorandum of Agreement, amended

Appendix B: Detailed Maps Showing Waters of the United States for the W59 and E1 Alternatives

Appendix C: Preliminary Jurisdictional Delineation sent to USACE in 2013
Figure 2
Jurisdictional Waters
Jurisdictional Waters Report
Aerial photography date: July 2013

Note: The W101 Alternative Western, Central, and Eastern Options include Partial and Full Reconstruction Options that are not visible because of the scale and overlapping.

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202(ADY)
ADOT Project Number: 202L MA 044(HST) 69
Document Path: C:\Projects\ADOT\SouthMtn\ADOT\Document\map\WUS_JurisWtrs.png

1 inch = 12,000 Feet

Study Area
Maricopa County
Appendix A

Memorandum of Agreement, amended
AMENDED AND SUPERSEDED
MEMORANDUM OF AGREEMENT
BETWEEN THE
ARIZONA DEPARTMENT OF TRANSPORTATION,
FEDERAL HIGHWAY ADMINISTRATION, ARIZONA DIVISION OFFICE
AND
THE UNITED STATES ARMY CORPS OF ENGINEERS’
LOS ANGELES DISTRICT
CONCERNING FUNDING FOR THE DEPARTMENT OF THE ARMY PERMIT PROCESS ON
PRIORITY FEDERAL-AID HIGHWAY PROJECTS

THIS AMENDED AND SUPERSEDED MEMORANDUM OF AGREEMENT (“AMENDED
MOA”) is entered into as of this day 18 of MARCH, 2013, between the U.S. Army Corps of
Engineers’ Los Angeles District (hereinafter the “Corps”), Federal Highway Administration, Arizona
Division Office (hereinafter the “FHWA”), and the Arizona Department of Transportation (hereinafter the
“ADOT”), collectively, referred to herein as the “Parties.”

RECITALS

WHEREAS, the Parties entered into a Memorandum of Agreement (“Original MOA”)
effective June 18, 2012 concerning funding for the Department of the Army permit process on priority
Federal-aid highway projects; and

WHEREAS, the Parties wish to amend and supersede the Original MOA in its entirety; and

WHEREAS, the Corps has regulatory jurisdiction over certain activities occurring in waters of
the United States, including wetlands; and

WHEREAS, because of Federal-aid transportation funding increases under the Moving Ahead
for Progress in the 21st Century (“MAP-21”), Public Law 112-141, ADOT substantially increased the
number of transportation projects the Corps must review pursuant to 33 U.S.C. 1344 (Section 404 of
the Clean Water Act of 1972 (“CWA”)), as amended and 33 U.S.C. 403 (Section 10 of the River and
Harbor Act of 1899 (“RHA”)); and

WHEREAS, the Corps has indicated that, due to staff resource constraints, it is currently unable
to provide ADOT with priority review for permitting decisions for the increased number of Federal-aid
transportation projects pursuant to its responsibilities; and

WHEREAS, ADOT desires the Corps to increase its level of early involvement during the
project planning and development process, so that final Corps reviews will not constitute an unexpected
delay in ADOT project implementation; and
WHEREAS, 23 U.S.C. 139(j) [Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)], allows ADOT to furnish Federal-Aid Highway Program (“FAHP”) funds to the Corps to expedite the processing of environmental documents for permit decisions for priority transportation projects, and

WHEREAS, this AMENDED MOA is intended to (1) enable the Parties to fully consider, address, and protect environmental resources early in the development of proposed transportation actions; (2) avoid conflicts late in project development through close coordination during early transportation planning and development stages; (3) provide sufficient information to the Corps for timely analysis of project effects and to assist ADOT in developing appropriate mitigation measures; (4) maximize the effective use of limited Corps personnel resources by focusing attention on projects that would most affect aquatic resources; (5) provide a mechanism for expediting project coordination when necessary; and (6) provide procedures for resolving disputes in this resource partnering effort, and

WHEREAS, the FHWA has indicated and agrees that the State’s apportioned Federal-aid highway funds can be used to support this AMENDED MOA.

NOW, THEREFORE, the Parties agree as follows:

AGREEMENT

Article I. PURPOSE AND AUTHORITIES

A. This AMENDED MOA is entered into by the Parties for the purpose of establishing the responsibilities of the Parties relative to priority review of FAHP-funded projects with the goal of achieving timely design and implementation of highway improvements while also assuring such design and implementation is sensitive to the protection of aquatic resources for which the Corps is responsible under Federal statute and regulation. This AMENDED MOA is not intended as the exclusive means of obtaining review of projects proposed by ADOT. This AMENDED MOA is a vehicle by which ADOT may obtain expedited review of FAHP-funded projects designated as priorities, outside of the ordinary Corps review process.

B. ADOT enters into this AMENDED MOA pursuant to Arizona Revised Statute section 28-401 and other relevant Arizona law and 23 U.S.C. 139(j) (Section 6002 of SAFETEA-LU).

C. The Corps enters into this AMENDED MOA pursuant to 23 U.S.C. 139(j) (Section 6002 of SAFETEA-LU).

D. FHWA enters into this AMENDED MOA pursuant to 23 U.S.C. 139(j) (Section 6002 of SAFETEA-LU).

Article II. SCOPE OF WORK

A. Activities that the Corps may pursue under this AMENDED MOA are restricted to actions taken under Corps regulatory authority that will expedite processing of environmental permits required by ADOT in furtherance of FAHP funded projects in accordance with the mandates of 23 U.S.C. 139(j), to facilitate permit application review in less than the customary time necessary for such review. Said processing shall include a full consideration of all relevant and applicable environmental laws and regulations. In no way shall it be construed or implied that the Parties intend to abrogate by entering into this AMENDED MOA any obligations or duties to comply with applicable Federal or state
laws, regulations, guidance, policies and procedures. Use of such funds will not affect the impartial decision-making of the Corps either substantively or procedurally.

B. The Corps’ Regulatory Program is funded as a Congressionally appropriated line item in the annual Federal budget. ADOT will provide the Corps with funds in accordance with 23 U.S.C. 139(j). The Corps will provide one full-time Regulatory Program Manager qualified at grade GS-11 as described in Attachment C, exclusively dedicated to expediting permit evaluation-related services, as described in Article II.D, below, for ADOT-designated priority projects to support efficient decision-making related to ADOT’s permitting needs.

C. The Corps will establish a separate internal financial account to track receipt and expenditure of the funds associated with its review of permit applications submitted by ADOT. The Corps full-time Regulatory Program Manager will charge his or her time and expenses against the account when they perform work to either expedite permit evaluation related requests designated by ADOT as a priority or undertake other programmatic efforts to support efficient decision-making related to ADOT’s permitting needs. Corps Regulatory personnel will focus on permit approvals prioritized by ADOT; however, if no or less than three projects are designated by ADOT as a priority, Corps regulatory personnel will then work on other programmatic efforts, and assist with staff training for ADOT.

D. Funds contributed by ADOT hereunder will be expended by the Corps to defray the costs of the funded Regulatory Program Manager (including salary, associated benefits, overhead and travel expenses) and other costs in order to expedite the evaluation of priority permit applications designated by ADOT. Such activities will include, but not be limited to, the following: jurisdictional determinations; site visits; travel; federal register preparation; public notice preparation and distribution; public hearings; preparation of correspondence; public interest review; preparation and review of environmental documentation; meetings with ADOT and resource agencies; training for ADOT employees, partners and contractors; and any other permit evaluation related responsibilities that may be mutually agreed upon.

E. If the funds provided by ADOT are expended and not replenished, any remaining priority permit applications will be handled like those of any permit applicant.

Article III. INTERAGENCY COMMUNICATIONS

To provide for consistent and effective communication between the Parties, each party will appoint a Principal Representative to serve as its central point of contact on matters relating to this AMENDED MOA. Additional representatives may also be appointed to serve as points of contact on specific actions or issues. Each party will issue a letter to the other designating the Principal Representative for each party within fifteen (15) calendar days of AMENDED MOA execution. The Principal Representative for each party may be changed upon written notification to the other parties.

Article IV. RESPONSIBILITIES OF THE PARTIES

A. The Corps shall supplement, and not supplant, its existing Regulatory Program personnel, who currently review ADOT projects on a routine basis, with one qualified full-time Regulatory Program Manager at grade GS-11 as described in Attachment C, within projected funding levels provided by ADOT. The Corps shall use the funds provided to defray the costs of salaries and associated benefits and to reimburse travel expenses in order to:

1. Expedite review of ADOT’s FAHP-funded priority projects in accordance with the purpose, terms, and conditions of this AMENDED MOA. ADOT will provide and update the list of
priority projects as needed. The Corps shall not redirect resources from, or otherwise postpone, other non-priority projects submitted by ADOT through the standard Corps review process.

2. Actively participate in ADOT scoping, planning, and project development meetings and field reviews, when requested, to identify critical issues, key decision points, and potential conflicts as early as possible. Participation includes sharing, when appropriate, the most current information to ensure that good transportation decisions result. The level of participation will be determined by the project’s relative priority, as identified by ADOT, as well as the Corps’ current and projected workload of priority projects and activities.

3. Participate with other federal, state, and local agencies in the concurrent and proactive review of transportation projects and provide any concurrences or recommendations, as required. The level of participation will be determined by the project’s relative priority, as identified by ADOT, as well as the Corps’ current and projected workload of priority projects and activities.

4. Participate in transportation planning meetings, their related activities, and the review of the environmental elements of any planning documents, as requested. The level of participation will be determined by the project’s relative priority, as identified by ADOT, as well as the Corps’ current and projected workload of priority projects and activities.

5. As appropriate, use a coordinated process to review draft and final environmental impact statements and other environmental documents, and provide timely agency comments.

6. Explore potential programmatic permitting approaches to facilitate reduced processing time.

7. Provide quarterly status updates on Corps decisions or pending actions that will affect ADOT.

8. Perform other related priority tasks, such as early project scoping/coordination as requested by ADOT and agreed to by the Corps.

9. Review application packages for completeness and notify ADOT within 15 calendar days of receipt if application is incomplete.

10. Provide periodic CWA section 404 permit training for ADOT employees, partners, consultants, and contractors.

11. Attend periodic application status meetings with ADOT as necessary.

12. Provide ADOT with quarterly accounting records of actual account of expenditures for salaries, benefits, travel and indirect costs as drawn against advance state payment in support of work contemplated by this AMENDED MOA.

B. ADOT will provide $169,313.65 to fund Corps Regulatory personnel for the purpose of timely review of selected FAHP-funded priority projects and other identified activities. To facilitate the Corps’ reviews and activities, ADOT will:

1. Identify individual projects and other activities requiring priority involvement by the Corps under this AMENDED MOA. The list of projects will be reviewed and revised by ADOT as
necessary.

2. Actively engage the Corps personnel in ADOT scoping, planning, and project development through various means, including, but not limited to, meetings, field visits, conference calls, video teleconferencing, and electronic correspondence.

3. Provide adequate information regarding projects and other specific activities. Provide sufficient information and time to the Corps, on projects requiring authorization by standard individual permit, for the timely determination of project purpose statements and range of alternatives, analysis of project effects, determination of the least environmentally damaging practicable alternative, and development of appropriate mitigation measures. Upon request, provide supplemental information necessary to assure that the Corps can effectively accomplish the tasks listed in Article IV. A. above.

4. In consultation with the Corps, recommend realistic timelines for the Corps’ involvement.

5. Maintain a single focal point of contact at ADOT for general coordination with the Corps, arranging pre-application meetings, submittal of Department of the Army permit applications, and other requests for regulatory action.

6. Attend periodic application status meetings with the Corps, as necessary.

7. Participate, to the extent allowable, and in training provided by the Corps pursuant to Article IV.A.10 above.

8. Program a FAHP project to track costs contemplated by this AMENDED MOA.

9. Provide advance payments as contemplated by this AMENDED MOA.

C. FHWA will:

1. Approve programming a FAHP project to accomplish the work contemplated by this AMENDED MOA at the applicable federal-aid reimbursement rate.

2. Within 3 days after receiving an invoice from ADOT, reimburse ADOT for the total amount of Federal share payable for any project programmed (including advance payments) to support this AMENDED MOA.

3. In the event FHWA fails to fulfill the obligations set forth in this AMENDED MOA or withdraw its proposed plans for whatever reason, the FHWA shall, subject to the availability of funds, be responsible for all costs incurred by the ADOT up to the time of withdrawal, unless the reason for the FHWA failure or cancellation is due to ADOT’s failure to comply with its obligations hereunder.

D. Performance Measures

1. ADOT and the Corps have agreed to a set of performance measures to monitor activities under this AMENDED MOA. These performance measures are included as Attachment A to this AMENDED MOA and incorporated herein by reference.
2. These performance measures may be revised by mutual agreement of ADOT and the Corps without necessitating a formal amendment to this AMENDED MOA.

Article V. FUNDING

A. Within 60 days of execution of this AMENDED MOA and prior to the Corps incurring any expenditure to expedite permit evaluation-related activities as specified in this AMENDED MOA, funds shall be provided by ADOT to the Corps in the amount of $42,328.41 to cover a period of three months of the Corps' budget estimate, which is included as Attachment B to this AMENDED MOA and incorporated herein by reference. Payments by ADOT are to be made by check, wire transfer, or electronic funds transfer as follows:

1. For checks, the payment shall be mailed to:

   U.S. Army Corps of Engineers, Los Angeles District
   Finance and Accounting Officer
   P.O. Box 532711
   Los Angeles, CA 90053-2325
   Attn: Carlos M. Tabares

2. For electronic funds transfers, payment shall be made in accordance with Standard Operating Procedure ("SOP") UFC 08 (Attachment D).

3. For wire transfers, payment shall be made in accordance with SOP UFC 07 (Attachment E). Paragraph 4a of this SOP refers to this AMENDED MOA instead of a Project Cooperation Agreement.

B. At the end of the calendar month in which the Corps received the advance payment specified in Article V.A. above and at the end of the calendar month of each month thereafter while this AMENDED MOA remains in effect, the Corps will invoice ADOT for an advance payment for the next month in the amount equal to what the Corps expended during the prior calendar month. Payment shall be made within a reasonable period of time after ADOT receives the invoice (not to exceed 30 calendar days) in the same manner as provided in Article V.A. above. Invoices shall be submitted by the Corps to:

   Mr. Paul O'Brien
   Arizona Department of Transportation
   Manager, Environmental Planning Group
   1611 W Jackson Street; Mail Drop EM02
   Phoenix, AZ 85007

C. If the Corps' actual costs for providing the agreed upon level of service will exceed the amount of funds available, the Corps will notify ADOT prior to fund exhaustion of the incremental amount of funds needed to defray the remaining anticipated costs.

D. No later than July 31, 2013, and July 31 of each subsequent year that this AMENDED MOA remains in effect, the Corps and ADOT will discuss the Corps' anticipated costs to be incurred for the next Federal fiscal year, including any step-increase and locality adjustments. Revisions agreed to by ADOT and the Corps will be incorporated into a revised budget estimate, without necessitating a formal revision or amendment to this MOA. No later than August 30, 2013 and August 30 of each subsequent year that this AMENDED MOA remains in effect, the Corps will provide a written request to ADOT for the total amount specified in the revised budget estimate.

E. The Corps will carry over any unexpended and unobligated funds from year to year. In
the event any funds remain unexpended and unobligated when this AMENDED MOA is terminated or expires, the Corps will refund such unexpended and unobligated funds to ADOT.

Article VI. APPLICABLE LAWS

The applicable statutes, regulations, directives, and procedures of the United States will govern this AMENDED MOA and all documents and actions pursuant to it. Unless otherwise required by law, all expediting of permit applications undertaken by the Corps will be governed by Corps regulations, guidance, policies and procedures.

Article VII. DISPUTE RESOLUTION

In the event of a dispute, the Parties agree to use their best efforts to resolve the dispute in an informal fashion through consultation and communication, or other forms of non-binding alternative disputes resolution mutually acceptable to the Parties. The Parties agree that, in the event such measures fail to resolve the dispute, they shall proceed in accordance with applicable Federal law.

Article VIII. PUBLIC INFORMATION

Justification and explanation of FHWA and/or ADOT programs or projects before other agencies, departments and offices will not be the responsibility of the Corps. The Corps may provide, upon request from ADOT or the FHWA, any assistance necessary to support justification or explanations of activities conducted under this AMENDED MOA. In general, the Corps is responsible only for public information regarding Corps Regulatory activities. ADOT and/or FHWA will give the Corps advance notice before making formal, official statements regarding Corps activities funded under this AMENDED MOA.

Article IX. AMENDMENT, MODIFICATION AND TERMINATION

A. This AMENDED MOA may be modified or amended only by written, mutual agreement of the Parties.

B. Any Party may terminate this AMENDED MOA without cause upon thirty (30) days’ written notice to the other Parties. In the event of termination, ADOT will continue to be responsible for all costs incurred by the Corps in performing expedited environmental permit review services up to the time of notice and for the costs of closing out any ongoing contracts in support of the provision of services by the Corps under this AMENDED MOA.

C. Within sixty (60) calendar days of termination, or the expiration of the AMENDED MOA, the Corps shall provide ADOT with a final statement of expenditures. Within sixty (60) calendar days after submittal of the Corps’ final statement of expenditures, the Corps, subject to availability of funds, shall remit to ADOT any unobligated or unexpended funds.

Article X. MISCELLANEOUS

A. This AMENDED MOA will not affect any pre-existing or independent relationships or obligations between the Parties.

B. The Corps’ participation in this AMENDED MOA does not imply endorsement of ADOT projects nor does it diminish, modify, or otherwise affect Corps statutory or regulatory authorities.
C. If any provision of this AMENDED MOA is determined to be invalid or unenforceable, the remaining provisions will remain in force and unaffected to the fullest extent permitted by law and regulation.

D. This AMENDED MOA, including any documents incorporated by reference or attachments thereto, constitute the entire agreement between the Parties. All prior or contemporaneous agreements, understandings, representations and statements, oral or written, are merged herein and shall be of no further force or effect.

Article XI. EFFECTIVE DATE AND DURATION

This AMENDED MOA and any amendments will become effective on the date of signature by the last Party, and the signing and dating of the Determination Letter by the Arizona State’s Attorney General. ADOT shall provide written notice to the Corps and FHWA of the occurrence of the latter event. Unless amended or modified pursuant to Article IX.A., this AMENDED MOA shall remain in force until whichever of these events occurs first: 1) September 30, 2017; or 2) the AMENDED MOA is terminated pursuant to Article IX.B.

IN WITNESS WHEREOF, the Arizona Department of Transportation, acting by and through its authorized officer, the State Engineer, the U.S Army Corps of Engineers, acting by and through its authorized officer, the District Engineer, and the Federal Highway Administration, acting by and through its authorized officer, the Division Administrator, executes this AMENDED MOA.

ARIZONA DEPARTMENT OF TRANSPORTATION

Dallas Hammit, P.E.
Deputy State Engineer, Development
Date: 2/21/2013

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

R. Mark Toy, P.E.
Colonel, US Army
Commander and District Engineer
Date: 18 MAR 2013
FEDERAL HIGHWAY ADMINISTRATION,
ARIZONA DIVISION OFFICE

[Signature]
Karla S. Petty
Division Administrator
Date: 3/4/2013
Attachment A

Performance Measures

For the measures listed below, ADOT and the Corps are expected to achieve the identified objective, for those projects designated as a priority by ADOT, unless ADOT and Corps have mutually agreed to extend the timeframe.

<table>
<thead>
<tr>
<th>Performance Objective</th>
<th>Performance Measure</th>
</tr>
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<tbody>
<tr>
<td>• When appropriate, the ADOT staff will utilize the Nationwide Permit (NWP) Information Form to ensure a complete Department of the Army permit application is received, which in turn is expected to expedite the Corps’ permit review process.</td>
<td>The NWP Information Form shall be utilized at least 90% of the time.</td>
</tr>
<tr>
<td>• Upon initial receipt of a permit application, the Corps will notify ADOT within fifteen (15) calendar days if additional information is necessary to deem the application complete.</td>
<td>The Corps shall provide such notification within the stated time frame at least 85% of the time.</td>
</tr>
<tr>
<td>• Standard Individual Permits will be processed within sixty (60) days of a complete application, with the exception of those that are delayed due to: absence of CWA Section 401 certification; Section 7 of the Endangered Species Act (ESA) consultation(s); Section 106 of the National Historic Preservation Act (NHPA) consultations; untimely submittal of information or comments from ADOT; an extended comment period for the PN; and/or other environmental review processes with statutory time frames (e.g., Environmental Impact Statement).</td>
<td>The Corps shall meet the stated objective at least 90% of the time.</td>
</tr>
<tr>
<td>• General Permits, including Nationwide Permits, will be processed within 45 calendar days, with the exception of those that are delayed due to the absence of CWA Section 401 certification, Section 106 of the NHPA and/or Section 7 of the ESA.</td>
<td>The Corps shall meet the stated objective at least 90% of the time.</td>
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Attachment B

Corps' Budget Estimate
GS-11 Project Manager in Phoenix, Arizona

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<th>Monthly</th>
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<td><strong>$14,109.47</strong></td>
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Three month estimate: $42,328.41
Attachment C

Professional Standards for Supplemental Staff

One (1) full time employee, or equivalent, with experience and/or education in engineering, biology, natural resources, or other related environmental science. Working knowledge of Section 404 of the (Federal) Clean Water Act, Section 10 of the Rivers and Harbors Act or 1899, the National Environmental Policy Act, the (Federal) Endangered Species Act, and the National Historic Preservation Act is essential. In addition, the ability to travel, occasionally overnight, is mandatory (temporary duty may constitute 10-20% of the employee’s time). This employee will be qualified to be paid under the Federal White Collar Pay Schedule at the GS-11 or GS-12 level.
STANDING OPERATING PROCEDURES
ELECTRONIC FUNDS TRANSFERS TO THE CORPS

1. PURPOSE. To Standing Operating Procedure (SOP) provides procedures for utilizing Electronic Funds Transfer (EFT) and the Automated Clearing House (ACH) networks in lieu of mailing a check for payment to the Corps.

2. APPLICABILITY. The provisions of this SOP apply to the USACE Finance Center (UFC) and activities supported by the UFC.

3. REFERENCE. SOP No. UFC-03, Collection/Deposit Procedures.

4. PROCEDURES. When a Corps customers wishes to use EFT or ACH processes to transfer of cash contributions in lieu of mailing a check to the UFC, the enclosed procedures must be followed to ensure accurate and timely credit for the funds transferred.

   a. The customer must notify the supported activity F&A Officer or Project Manager in advance of the pending cash transfer. **The customer’s notification should include the date of the transfer, amount, type of transfer (CCD+ or CTX format), and any other known data that will be used to identify the transfer.** The customer’s financial institution will transfer the funds via the ACH network using the Cash Concentration or Disbursement Plus (CCD+) or Corporate Trade Exchange (CTX) formats of transactions. The required data elements for these types of transactions are provided in the enclosures.

   b. Upon notification from the customer or the Project Manager of the pending EFT, the supported activity F&A Officer must enter a Collection Receiving Officer Voucher (ROV) in CEFMS. All EFT collection vouchers must be submitted to the UFC Disbursing Division using Form UFC-DISB-1 (available at: http://fc.ufc.usace.army.mil/forms/a-ufcdisb1.pdf). There should only be one EFT transaction per ROV and no other transactions should be attached to an ROV established for EFT purposes.
c. In addition to the enclosed format instructions, the F&A Officer or the Project manager must also provide the following information to the customer for the EFT transfer:

(1) The District/Division/Laboratory/RBC two-digit EROC
(2) The CEFMS ROV number
(3) The Advance Account or Local Cost Share Number

5. **Ca$hLink II Agency Access System.** Ca$hLink II is an on-line U.S. Treasury system that allows the UFC to access and confirm our deposit information the next working day after the EFT is posted. The UFC monitors the Ca$hLink II system daily. Upon verification of the EFT transfer in Ca$hLink II, the UFC will certify the ROV and confirm the deposit. Funds will be available immediately after the deposit confirmation.

The UFC will not require any additional documentation from the supported activity or the customer provided all required documentation identified above is provided. **If an EFT transaction is received via Ca$hLink II that cannot be identified, it will be rejected back to the sender.** Before rejecting an EFT, the UFC will research and try to determine the proper supported activity and CEFMS account to update. For those EFT transactions rejected by the UFC, the financial institution (bank) that initiated the EFT will notify the customer (sender) of the rejected transaction.

6. **CHANGES.** Refer all discrepancies, comments or questions regarding this SOP to the Chief, Disbursing Division, Directorate of Finance (CEFC-FD) 901-874-8648.

FOR THE DIRECTOR:

Shirley L. Autry
Deputy Director, Finance
ACH CCD+ Format

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*Data remains same for every transaction
**EROC Code of Corps District
***Data supplied by Corps District to Customer - If data is not present, transaction will be rejected
ACH CTX Format

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<td></td>
<td>detail trace number</td>
<td></td>
<td></td>
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*Data remains same for every transaction

**EROC Code of Corps District

***Data supplied by Corps District to Customer - If data is not present, transaction will be rejected
STANDING OPERATING PROCEDURE
WIRE TRANSFER OF FUNDS

1. PURPOSE. This Standing Operating Procedure (SOP) provides procedures to follow in order to deposit funds into an advance account or a cost sharing account through use of Wire Transfer.

2. APPLICABILITY. This SOP applies the USACE Finance Center (UFC) and activities supported by the UFC.

3. REFERENCE. SOP No. UFC-03, Collection/Deposit Procedures.

4. PROCEDURES. When a customer wishes to use wire transfer procedures to transfer funds to the Corps, the enclosed wire transfer procedures must be followed to ensure accurate and timely credit for funds transferred.

   a. The customer must notify the supporting F&A Officer in advance of a transfer providing the date of the transfer, amount and the applicable Project Cooperation Agreement (PCA) number or advance account number the funds are intended for. The sponsor must wire the funds through the Federal Reserve Bank of New York using a Type 1000, Structured Third Party Funds Transfer Message to transfer the funds to the UFC. The data needed by the customer’s sponsor bank is provided as enclosure 1.

   b. When notification from the customer is received by the F&A Officer, a Collection Receiving Office Voucher (ROV) must be created in CEFMS. All wire transfer collection vouchers must be submitted to the UFC Disbursing Division using the UFC-DISB-6 Form (enclosure 2). The supported F&A Officer must ensure that all information on the form is provided and forwarded to the UFC arriving in advance of the transfer. There should only be one wire transfer for each ROV.

5. CaShLink II Agency Access System. CaShLink II is an on-line U.S. Treasury system that allows the UFC to access and confirm our deposit information the next working day after the wire transfer is posted. The UFC monitors the CaShLink II system daily. Upon verification of the wire transfer in CaShLink II, the UFC will certify the ROV and confirm the deposit. Funds will be available immediately after the deposit confirmation.
The UFC will not require any additional documentation from the supported activity or the customer provided all required documentation identified above is provided. **If a wire transfer is received via CaShLink II that cannot be identified, it will be rejected back to the sender.** Before rejecting a wire transfer, the UFC will research and try to determine the proper supported activity and CEFMS account to update. For those wire transfers rejected by the UFC, the financial institution (bank) that initiated the transfer will notify the customer (sender) of the rejected transaction.

6. **CHANGES.** Refer all discrepancies, comments or questions regarding this SOP to the Chief, Disbursing Division, Directorate of Finance (CEFC-FD) 901-874-8648.

FOR THE DIRECTOR:

[Signature]

SHIRLEY L. AUTRY
Deputy Director, Finance
TYPE 1000, STRUCTURED THIRD PARTY FUNDS TRANSFER MESSAGE
(Information Provided by Customer when Making Transfer)

KEY FIELDS - 1000 FUNDS TRANSFER

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<td>Sender-dfi #</td>
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<td>Sender ABA-number (Bank Routing No.)</td>
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<tr>
<td>Sender-ref-#</td>
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<td>Filled by sender (Use PCA No.)</td>
</tr>
<tr>
<td>Amount</td>
<td>18</td>
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</tr>
<tr>
<td>Sender-dfi-info</td>
<td>80</td>
<td>Filled by sender</td>
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<tr>
<td>Receiver-dfi-info</td>
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NOTE: THE RECEIVER-DFI-INFO FIELD IS OF CRITICAL IMPORTANCE. IT MUST APPEAR IN THE PRECISE MANNER SHOWN TO ALLOW FOR THE AUTOMATED PROCESSING AND CLASSIFICATION OF THE FUNDS TRANSFER MESSAGE.

| Free-text-line-1 | 80     | Filled in by sender                        |
| Free-text-line-1 | 80     | Filled in by sender                        |
| Free-text-line-1 | 80     | Filled in by sender                        |
WIRE TRANSFER ONLY

RECEIVING VOUCHER ROUTING SLIP

Date Receiving Voucher Entered Into CEFMS: ____________________________

Authorized Collector's Name: ____________________________

District: ____________________________

PCA#, Advance Account Number, Local Cost Share Number: ______________

Sponsor Name: ____________________________

CEFMS Receiving Voucher Number: ____________________________

Date of Transfer: ____________________________

Amount of Transfer: ____________________________

If you have any questions please contact the Disbursing Division at (901) 874-8432.

FORM: UFC-DSIB-6 (Rev. April 2006)
Appendix B

Detailed Maps Showing Waters of the United States for the W59 and E1 Alternatives
Potential Waters of the United States

Survey area

- W59
- E1

Jurisdictional Waters
Jurisdictional Waters Report

Aerial photography date: July 2013
Page B-3
Potential Waters of the United States

Survey area

- W59
- E1

Aerial photography date: July 2013

Jurisdictional Waters
Jurisdictional Waters Report

Aerial photography date: July 2013
Page B-4
Appendix C

Preliminary Jurisdictional Delineation sent to USACE in 2013
January 23, 2014

Ms. Sallie Diebolt, Chief
Arizona Section Regulatory Branch
U.S. Army Corps of Engineers
3636 North Central Avenue, Suite 900
Phoenix, Arizona 85012-1927

Attention: Kathleen Tucker

RE: Clean Water Act Section 404 Preliminary Jurisdictional Delineation
NH-202-D(ADY)
202L MA 054 H5764 01L
South Mountain Transportation Corridor

Dear Ms. Diebolt:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA), is preparing for the design of the South Mountain Freeway in southern Phoenix, Maricopa County, Arizona. The project would extend from Interstate 10 (I-10), (Maricopa Freeway), to I-10 (Papago Freeway), following an east to west alignment along Pecos Road, northwest along the Gila River Indian Community border and then north to I-10 between 55th and 63rd avenues (Figures 1 and 2). The project limits are approximately 22 miles long and can be located on the United States Geological Survey (USGS) Guadalupe, AZ, Lone Butte, AZ, Laveen, AZ, and Fowler, AZ 7.5-minute topographic quadrangles (Figure 3a-d). The geographic coordinates of the midpoint of the project limits are approximately 33.319040°N, 112.161501°W, NAD 83.

The project area includes existing Pecos Road and associated residential development, the undeveloped western limits of the South Mountain Park and Preserve, and agricultural fields and industrial properties in the remainder of the corridor. The scope of work includes constructing a freeway with five traffic lanes in each direction. The project will incorporate existing Pecos Road and the remainder will be on new alignment. Chandler Boulevard will also be extended to Pecos Road along an existing gravel road west of 19th Avenue, through an undeveloped parcel of land. New drainage facilities will be constructed and the Salt River will be spanned with a bridge.

A site visit to identify waters of the U.S. was conducted by Kurt Watzek (HDR Engineering, Inc.) in July, 2013. The aerial photograph used for this preliminary jurisdictional delineation was taken in June 2013 and accurately depicts waters of the U.S. and current site conditions. Drainages across most private properties were delineated from the aerials and photos taken of these drainages were taken from public right-of-way and in some cases from outside the survey boundary, to at a minimum, document evidence of flows. Within the survey area, approximately 10.5 acres are proposed as waters of the U.S., which includes the Salt River, Laveen Conveyance, 41 unnamed washes and 6 constructed drainage channels. The survey area consists of the project corridor that varied from 300 to 2,600 feet wide. The U.S. Fish and Wildlife Service National Wetland Inventory (NWI) maps were reviewed and no mapped wetlands were found within the project limits. No potential wetlands were observed in the project area, or immediately upstream or downstream.
Ms. Diebolt  
January 23, 2014  
202L MA 054 H5764 01L  
Page 2

This letter serves as a request for review and issue of the preliminary jurisdictional delineation for the drainage features mentioned above in the project area.

The following items are included for your review:

- Project Figures (Figure 1 – State Map; Figure 2 – Vicinity Map; Figure 3a-d – Topographic Vicinity Map)
- Table 1. JD Physical Characteristics
- Preliminary Jurisdictional Determination Form
- Corps’ Water Data Sheet
- Aerials showing proposed jurisdictional delineation and photo locations (11”x17”, 50 sheets)
- Ground photographs of project drainages

If you require additional information or have any questions, please feel free to call me at (602) 712-7973 or Kurt Watzek at (602) 522-4327.

Thank you for your time and assistance.

Sincerely,

\[Signature\]

Ralph Ellis  
ADOT Environmental Planning Group

Enclosures  
c: Kurt Watzek, HDR Engineering, Inc.
Figure 1 – State Map
Figure 2 – Vicinity Map
Survey area
USGS 7.5' quadrangle boundary
FEMA FIRM Panel
Hazard zone
A-Approximate
AE-Detailed with elevation
AH-Sheet flow with height

FEMA FIRM Panels: 04013C2180L, 04013C2185L, 04013C2190L, 04013C2195L, 04013C2655L, 04013C2660L

Source: FEMA (October 2013)

Figure 3a – Topographic Floodplain Map
Survey area
USGS 7.5' quadrangle boundary
FEMA FIRM Panel

FEMA FIRM Panels: 04013C2655L, 04013C2660L, 04013C2670L

Source: FEMA (October 2013)

Figure 3b – Topographic Floodplain Map
Figure 3c – Topographic Floodplain Map

Source: FEMA (October 2013)
Figure 3d – Topographic Floodplain Map
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Table 1. J.D. Physical Characteristics & Other Information

nih-002-04-001

323, MA 556 16764 OIL

South Mountain Transportation Corridor

October 2013

Wash 1 crosses the survey area in two locations.

Staking for Truncated wash 14, and Wash 15 are on Chandler Blvd plan sheets.

CBO - concrete box culvert

CMAP - corrugated steel arch pipe

CSP - corrugated metal pipe

RCP - reinforced concrete pipe
March 12, 2014

Ralph Ellis  
ADOT EPG 
1611 W. Jackson St (MD EM02) 
Phoenix, AZ 85007

SUBJECT: Preliminary Jurisdictional Determination regarding geographic jurisdiction

Dear Mr. Ellis:

I am responding to your request (File No. SPL-2002-00055-KAT) dated January 23, 2014 for a preliminary Department of the Army jurisdictional determination (JD) for the South Mountain Transportation Corridor (TRACS 202L MA 054 H5764 01L) project site (33.319040°N, -112.161501°W) located in south Phoenix, Maricopa County, Arizona.

The Corps' evaluation process for determining whether or not a Department of the Army permit is needed involves two tests. If both tests are met, a permit would likely be required. The first test determines whether or not the proposed project is located within the Corps' geographic jurisdiction (i.e., it is within a water of the United States). The second test determines whether or not the proposed project is a regulated activity under Section 10 of the River and Harbor Act or Section 404 of the Clean Water Act. This evaluation pertains only to geographic jurisdiction.

Based on available information, I have preliminarily determined waters of the U.S. may be present on the South Mountain Transportation Corridor (TRACS 202L MA 054 H5764 01L) project site in the approximate locations noted on the enclosed drawing. The basis for this finding can be found on the enclosed Preliminary Jurisdictional Determination (JD) form. Please be aware preliminary JDs are non-binding indications of the presence of waters of the U.S., including wetlands, on a parcel, are advisory in nature and may not be appealed. However, you are hereby informed of your option to request an approved jurisdictional determination, which may be appealed. Note that for purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a preliminary JD will treat all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S.

Preliminary and approved jurisdictional determinations are fully explained in the enclosed Regulatory Guidance Letter 08-02, dated June 26, 2008. Further, proffered individual permits (and all terms and conditions contained therein), individual permit denials, and any jurisdictional issues may also be appealed pursuant to 33 CFR Part 331.
This determination was conducted to identify the extent of the Corps' Clean Water Act jurisdiction on the South Mountain Transportation Corridor (TRACS 202L MA 054 H5764 01L) project site identified in your request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

Thank you for participating in the regulatory program. If you have any questions, please contact Kathleen Tucker at 602-230-6956 or via e-mail at Kathleen.A.Tucker@usace.army.mil. Please be advised that you can now comment on your experience with Regulatory Division by accessing the customer survey form at: http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

Sincerely,

Sallie Diebolt
Chief, Arizona Branch
Regulatory Division

Enclosure(s)
C: Julia Manfredi, ADOT OES
PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

<table>
<thead>
<tr>
<th>District Office</th>
<th>Los Angeles District</th>
<th>File/ORM #</th>
<th>SPL-2002-00055-KAT</th>
<th>PJD Date:</th>
<th>January 2014</th>
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<tbody>
<tr>
<td>State</td>
<td>AZ</td>
<td>City/County</td>
<td>Phoenix/Maricopa County</td>
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<td>Nearest Waterbody</td>
<td>Salt River, Gila River</td>
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<tr>
<td>Location: TRS, Lat/Long or UTM:</td>
<td>see attached data sheet</td>
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<table>
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<th>Identify (Estimate) Amount of Waters in the Review Area:</th>
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<td>Non-Wetland Waters:</td>
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<td>Linear ft</td>
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<td>Wetlands:</td>
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<tr>
<td>0</td>
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<td>Cowardin Class:</td>
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<table>
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<tr>
<th>Name/ Address of Person Requesting PJD:</th>
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<tbody>
<tr>
<td>Ralph Ellis</td>
</tr>
<tr>
<td>Environmental Planning Group</td>
</tr>
<tr>
<td>1611 Jackson Street, MD EM02</td>
</tr>
<tr>
<td>Phoenix, AZ 85007</td>
</tr>
</tbody>
</table>

| Name of Any Water Bodies on the Site Identified as Section 10 Waters: |
| Tidal: | N/A |
| Non-Tidal: | N/A |
| Office (Desk) Determination: |
| Field Determination: |
| Date of Field Trip: |

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Arizona Department of Transportation
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- Office concurs with data sheets/delineation report.
- Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
- USGS NHD data.
- USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey maps: Cite quad name: Guadalupe, Lone Butte, Laveen, Fowler
- USDA Natural Resources Conservation Service Soil Survey. Cite: |
- National wetlands inventory maps: Cite name: |
- State/Local wetland inventory map(s): |
- FEMA/FIRM maps: see attached FEMA/FIRM Map List
- 100-year Floodplain Elevation is: |
- Photographs: Aerial (Name & Date): Landsce, June 2013
- Other (Name & Date): Ground photographs, July, September 2013
- Previous determination(s), File no. and date of response letter: |
- Other information (please specify): |

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED) | Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:
1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a professed individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, if an approved JD, a professed individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.
This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

<table>
<thead>
<tr>
<th>Site Number</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Cowardin Class</th>
<th>Est. Amount of Aquatic Resource in Review Area</th>
<th>Class of Aquatic Resource</th>
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Notes:

See attached Data Sheet for all drainages within project limits
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<th>Waters_Name</th>
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**PRELIMINARY (RGL 08-02)**

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District

Application No. SPL-2003-00035-EXT

---

**Boundary of area surveyed for jurisdictional waters of the United States**

- Ordinary High Water Mark
- Waters of the United States

Wetlands (If legend is blank no wetlands occur with survey area.)

1" = 200' Scale

Date of Photograph

Site Visit by Corps (Y/N) Date: 11-19-13

Date Delineation issued by Corps

Corps Project Manager

Sheet 24 of 50

Aerial of area surveyed

South Mountain Transportation Corridor

---

Figure Location

- Arrow indicates flow direction
- Watercourse number
- Wash width (feet)
- Ground photo number and direction

---

Aerial Imagery: Landiscor July 2013
Prepared by: Kurt Watzek, HDR Engineering, Inc., September 2013

USGS 7.5' Quadrangle boundary: Laveen, AZ (1973)
Projection: NAD 1983 State Plane Arizona Central FIPS 0202 Feet
Township 1S, Range 2E; Sections 20 and 21

---

202L MA 054 HS764 OIL
NH-202-D(ADY)

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* * * * P R E L I M I N A R Y (RGL 08-02)* * * *

(61.90 acres)
Service Layer Credits:
irrigation ditch
irrigation canal
No drainage features

59th Avenue
San Juan Ave
Elliot Rd

Aerial imagery:
Landiscor July 2013
Prepared by:
Kurt Watzek, HDR Engineering, Inc., September 2013

USGS 7.5' Quadrangle boundary: Laveen, AZ (1973)
Projection: NAD 1983 State Plane Arizona Central FIPS 0202 Feet
Township 1S, Range 2E; Sections 7 and 8

202L MA 054 H5764 01L
NH-202-D(ADY)
South Mountain Transportation Corridor

Figure Location
1 inch = 200 feet

Arrow indicates flow direction
XX Watercourse number
XX' Wash width (feet)
Ground photo number and direction

* * * * P R E L I M I N A R Y (RGL 08-02) * * * *
SECTION 404 JURISDICTIONAL DELINEATION
U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2012-00006-MAT

Boundary of area surveyed for jurisdictional waters of the United States
Ordinary High Water Mark
Waters of the United States
Wetlands (If legend is blank no wetlands occur with survey area.)

1" = 200' Scale 2013 Date of Photograph
Site Visit by Corps(Y/N) Date 11.19.13
Date Delineation issued by Corps

Sheet 29 of 30

SECTION 404 JURISDICTIONAL DELINEATION
U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2012-00006-MAT

Boundary of area surveyed for jurisdictional waters of the United States
Ordinary High Water Mark
Waters of the United States
Wetlands (If legend is blank no wetlands occur with survey area.)

1" = 200' Scale 2013 Date of Photograph
Site Visit by Corps(Y/N) Date 11.19.13
Date Delineation issued by Corps

Sheet 29 of 30

SECTION 404 JURISDICTIONAL DELINEATION
U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2012-00006-MAT

Boundary of area surveyed for jurisdictional waters of the United States
Ordinary High Water Mark
Waters of the United States
Wetlands (If legend is blank no wetlands occur with survey area.)

1" = 200' Scale 2013 Date of Photograph
Site Visit by Corps(Y/N) Date 11.19.13
Date Delineation issued by Corps

Sheet 29 of 30
Service Layer Credits:

irrigation ditch
irrigation canal

No drainage features

59th Avenue

Aerial imagery:
Landiscor July 2013

Prepared by:
Kurt Watzek, HDR Engineering, Inc., September 2013

USGS 7.5’ Quadrangle boundary: Laveen, AZ (1973)
Projection: NAD 1983 State Plane Arizona Central FIPS 0202 Feet
Township 1S, Range 2E; Sections 7 and 8

Figure Location
1 inch = 200 feet

Aerial of area surveyed

USGS 7.5’ Quadrangle boundary: Laveen, AZ (1973)
Projection: NAD 1983 State Plane Arizona Central FIPS 0202 Feet
Township 1S, Range 2E; Sections 7 and 8
SECTION 404 JURISDICTIONAL DELINEATION

Boundary of area surveyed for jurisdictional waters of the United States (33.25 acres)

Ordinary High Water Mark

Waters of the United States (0.79 acres)

Wetlands (if legend is blank no wetlands occur with survey area.)

Figure Location

Arrow indicates flow direction

Watercourse number

Wash width (feet)

Ground photo number and direction

Aerial of area surveyed

202L MA 054 HS764 OIL
NH-202-D(ADY)
South Mountain Transportation Corridor
****PRELIMINARY (RGL 08-02)****

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District

Application No. SPL - 2002 - 00535 - 61A

Boundary of area surveyed for
jurisdictional waters of the United States

(Waters of the United States)

Ordinary High Water Mark

Wetlands (If legend is blank, no
wetlands occur with survey area.)

1" = 200' Scale 2013 Date of Photograph

Site Visit by Corps (Y/N) Date: 11.19.13

Date Delineation issued by Corps

Corps Project Manager

Sheet 41 of 60

SCALE 1" = 200'
Boundary of area surveyed for jurisdictional waters of the United States (24.17 acres)

Ordinary High Water Mark

Waters of the United States

Wetlands (If legend is blank no wetlands occur with survey area.)

1" = 200' Scale

Date of Photograph

Site Visit by Corps (Y/N): Date: 11-15-13

Date Delineation issued by Corps

Corps Project Manager

Sheet 44 of 50

Aerial Imagery: Landiscor July 2013
Prepared by: Kurt Watzek, HDR Engineering, Inc., September 2013

USGS 7.5' Quadrangle boundary: Fowler, AZ (1972)
Projection: NAD 1983 State Plane Arizona Central Feet

Township 1N, Range 2E; Sections 17 and 18

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-_______-_________-_________
**PRELIMINARY (RGL 08-02)**

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL - 2013 - 0000 - 0111 - AAT

*Figure Location*

- Arrow indicates flow direction
- Watercourse number
- Wash width (feet)
- Ground photo number and direction

Aerial imagery: Landstar July 2013
Prepared by: Kurt Watzek, HDR Engineering, Inc., September 2013

USGS 7.5' Quadrangle boundary: Fowler, AZ (1972)
Projection: NAD 1983 State Plane Arizona Central FIPS 0202 Feet
Township 1N, Range 2E; Sections 17 and 18

*Figure Location*

- Arrow indicates flow direction
- Watercourse number
- Wash width (feet)
- Ground photo number and direction

Aerial of area surveyed

- Arrow indicates flow direction
- Watercourse number
- Wash width (feet)
- Ground photo number and direction

202L MA 054 H5764 01L
NH-202-D(ADY)
South Mountain Transportation Corridor

*Figure Location*

- Arrow indicates flow direction
- Watercourse number
- Wash width (feet)
- Ground photo number and direction
Photo 1. Wash (W1) facing north (upstream); 4-foot-long scale

Photo 2. Wash 1 (W1) facing south (downstream) toward Pecos Road; 4-foot-long scale

Photo 3. Wash 1 (W1) facing north (upstream); rip-rap lined channel near homes; 4-foot-long scale

Photo 4. Wash 1 (W1) facing south (downstream); 4-foot-long scale
Photo 5. Constructed channel 1 (C1) facing south (downstream) toward Pecos Road; OHWM at the break of slope; 4-foot-long scale

Photo 6. Constructed channel 1 (C1) facing north (upstream); OHWM at the break of slope; 4-foot-long scale

Photo 7. Constructed channel 2 (C2) along 32nd Street facing south (downstream) toward Pecos Road; provides stormwater drainage for development

Photo 8. Constructed channel 2 (C2) along 32nd Street facing north (upstream); provides stormwater drainage for development
Photo 9. Constructed channel 3 (C3) facing northwest (upstream); rip-rapped segment; 4-foot-long scale

Photo 10. Constructed channel 3 (C3) facing southeast (downstream); rip-rapped segment; 4-foot-long scale

Photo 11. Constructed channel 3 (C3) facing northwest (upstream); 4-foot-long scale

Photo 12. Constructed channel 3 (C3) facing south (downstream); 4-foot-long scale
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Photo 14. Constructed channel 4 (C4) facing southeast (downstream); 4-foot-long scale

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Photo 16. Constructed channel 4 (C4) facing east (downstream); 4-foot-long scale
Photo 17. Constructed channel 4 (C4) facing west (upstream); 4-foot-long scale

Photo 18. Constructed channel 4 (C4) facing east (downstream); 4-foot-long scale

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Photo 20. Wash 2 (W2) facing west (upstream) near storm drain inlet; 4-foot-long scale
Photo 21. Wash 2 (W2) facing east (downstream); 4-foot-long scale

Photo 22. Wash 2 (W2) at culvert inlet

Photo 23. Wash 2 (W2) facing west (upstream); 4-foot-long scale

Photo 24. Wash 2 (W2) facing east (downstream); 4-foot-long scale
Photo 25. Wash 2 (W2) facing west (upstream); 4-foot-long scale.

Photo 26. Wash 2 (W2) facing east (downstream); 4-foot-long scale

Photo 27. Constructed channel 5 (C5) facing northwest (upstream); rip-rapped; 4-foot-long scale

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Photo 30. Stormwater drainage channel (S1) outlet; facing south (downstream)

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Photo 36. Wash 3 (W3) facing south (downstream) to Pecos Road; 4-foot-long scale near culvert
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Photo 38. Wash 4 (W4) facing south (downstream); 4-foot-long scale

Photo 39. Wash 5 (W5) facing north (upstream); 4-foot-long scale

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Photo 42. Wash 5 (W5) facing south (downstream); 4-foot-long scale

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Photo 48. Constructed channel 6 (C6) facing north (upstream); 4-foot-long scale
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Photo 50. Constructed channel 6 (C6) facing north (upstream); 4-foot-long scale

Photo 51. Constructed channel 6 (C6) facing south (downstream) to Pecos Road; 4-foot-long scale

Photo 52. Truncated wash (T1) east of 17th Avenue facing northeast (upstream); 4-foot-long scale
Photo 53. Truncated wash (T1) east of 17th Avenue facing southwest (downstream); 4-foot-long scale

Photo 54. Truncated wash (T1) east of 17th Avenue facing northeast (upstream); 4-foot-long scale

Photo 55. Truncated wash (T1) east of 17th Avenue facing southwest (downstream) to Pecos Road; 4-foot-long scale

Photo 56. Truncated wash (T2) west of 17th Avenue facing northeast (upstream); 4-foot-long scale
Photo 57. Truncated wash (T2) west of 17th Avenue facing southwest (downstream); 4-foot-long scale

Photo 58. Truncated wash (T2) west of 17th Avenue facing northeast (upstream); 4-foot-long scale

Photo 59. Truncated wash (T2) west of 17th Avenue facing southwest (downstream); 4-foot-long scale

Photo 60. Wash 6 (W6) facing northeast (upstream); 4-foot-long scale
Photo 61. Wash 6 (W6) facing southwest (downstream); 4-foot-long scale

Photo 62. Wash 6 (W6) facing northeast (upstream); 4-foot-long scale

Photo 63. Wash 6 (W6) facing southwest (downstream); 4-foot-long scale

Photo 64. Wash 7 (W7) facing north (upstream); 4-foot-long scale
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Photo 66. Wash 7 (W7) facing north (upstream); 4-foot-long scale

Photo 67. Wash 7 (W7) facing south (downstream) to Pecos Road; 4-foot-long scale

Photo 68. Wash 8 (W8) near Pecos Road facing north (upstream); 4-foot-long scale
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Photo 70. Wash 8 (W8) near Pecos Road facing north (upstream); 4-foot-long scale

Photo 71. Wash 8 (W8) near Pecos Road facing south (downstream); 4-foot-long scale

Photo 72. Wash 8 (W8) near Chandler Blvd. facing north (upstream); 4-foot-long scale
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Photo 74. Wash 8 (W8) near Chandler Blvd. facing north (upstream); 4-foot-long scale

Photo 75. Wash 8 (W8) near Chandler Blvd. facing south (downstream); 4-foot-long scale

Photo 76. Wash 9 (W9) east tributary facing north (upstream); 4-foot-long scale
Photo 77 Wash 9 (W9) east tributary facing south (downstream); 4-foot-long scale

Photo 78. Wash 9 (W9) west tributary facing north (upstream); 4-foot-long scale

Photo 79. Wash 9 (W9) west tributary facing south (downstream); 4-foot-long scale

Photo 80. Wash 9 (W9) facing north (upstream); 4-foot-long scale
Photo 81. Wash 9 (W9) facing south (downstream); 4-foot-long scale

Photo 82. Wash 10 (W10) facing north (upstream); 4-foot-long scale

Photo 83. Wash 10 (W10) facing south (downstream); 4-foot-long scale

Photo 84. Wash 10 (W10) facing north (upstream); 4-foot-long scale
Photo 85. Wash 10 (W10) facing south (downstream); 4-foot-long scale

Photo 86. Wash 11 (W11) facing north (upstream); 4-foot-long scale

Photo 87. Wash 11 (W11) facing south (downstream); 4-foot-long scale

Photo 88. Wash 11 (W11) facing north (upstream); 4-foot-long scale
Photo 89. Wash 11 (W11) facing south (downstream); 4-foot-long scale

Photo 90. Wash 12 (W12) facing north (upstream); 4-foot-long scale

Photo 91. Wash 12 (W12) facing south (downstream); 4-foot-long scale

Photo 92. Wash 12 (W12) facing north (upstream); 4-foot-long scale
Photo 93. Wash 12 (W12) facing south (downstream); 4-foot-long scale

Photo 94. Wash 13 (W13) facing north (upstream); OHWM not visible but flow path could be seen in gravel where overflow from larger wash flows over the gravel road; 4-foot-long scale

Photo 95. Wash 13 (W13) facing south (downstream); OHWM not visible but flow path could be seen in gravel; 4-foot-long scale

Photo 96. Wash 13 (W13) (in roadside ditch) facing north (upstream); 4-foot-long scale
Photo 97. Wash 13 (W13) (in roadside ditch) facing south (downstream); 4-foot-long scale

Photo 98. Wash 13 (W13) (in roadside ditch) facing north (upstream); 4-foot-long scale

Photo 99. Wash 13 (W13) (in roadside ditch) facing south (downstream); 4-foot-long scale

Photo 100. Wash 13 (W13) (in roadside ditch) facing north (upstream); 4-foot-long scale
Photo 101. Wash 13 (W13) (in roadside ditch) facing south (downstream); 4-foot-long scale

Photo 102. Wash 13 (W13) outlet under Pecos Road facing south (downstream); 4-foot-long scale near middle of frame

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Photo 104. Truncated portion of Wash 14 (T14) (Wash 14 starts further downstream); flows blocked by road; 4-foot-long scale
Photo 105. Truncated portion of Wash 14 (T14) (Wash 14 starts further downstream); flows blocked by road; 4-foot-long scale

Photo 106. Wash 15 (W15) facing northeast (upstream); 4-foot-long scale

Photo 107. Constructed channel 7 (C7) facing north (upstream); 4-foot-long scale

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Photo 109. Constructed channel 7 (C7) facing south (downstream) at outlet to detention basin; 4-foot-long scale

Photo 110. Stormwater feature (SF) conveying drainage from housing development facing north (upstream); 4-foot-long scale

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Photo 112. Wash 16 (W16) facing west (downstream) at point where roadway runoff from Chandler Blvd. enters wash; 4-foot-long scale
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Photo 114. Wash 16 (W16) facing west (downstream); 4-foot-long scale

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Photo 116. Wash 17 (W17) east tributary facing north (upstream); 4-foot-long scale
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Photo 118. Wash 17 (W17) west tributary facing north (upstream); 4-foot-long scale

Photo 119. Wash 17 (W17) west tributary facing southwest (downstream); 4-foot-long scale

Photo 120. Wash 17 (W17) facing northeast (upstream); 4-foot-long scale
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Photo 122. Wash 18 (W18) facing north (upstream); 4-foot-long scale

Photo 123. Wash 18 (W18) facing south (downstream); 4-foot-long scale

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Photo 126. Wash 19 (W19) facing northeast (upstream); 4-foot-long scale

Photo 127. Wash 19 (W19) facing southwest (downstream); 4-foot-long scale

Photo 128. Wash 19 (W19) facing northeast (upstream); 4-foot-long scale
Photo 129. Wash 19 (W19) facing southwest (downstream); 4-foot-long scale

Photo 130. Wash 20 (W20) facing northeast (upstream); 4-foot-long scale

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Photo 134. Wash 21 (W21) facing southeast (upstream); 4-foot-long scale

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Photo 142. Wash 22 (W22), left channel facing southwest (downstream); 4-foot-long scale

Photo 143. Wash 22 (W22), right channel facing northeast (upstream); 4-foot-long scale

Photo 144. Wash 22 (W22), right channel facing southwest (downstream); 4-foot-long scale
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Photo 146. Wash 23 (W23) facing south (downstream); 4-foot-long scale

Photo 147. Wash 23 (W23) facing northeast (upstream); 4-foot-long scale

Photo 148. Wash 23 (W23) facing southeast (downstream); 4-foot-long scale
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Photo 150. Wash 24 (W24) facing southeast (downstream); 4-foot-long scale

Photo 151. Wash 25 (W25) facing east (upstream); less than 3-foot-wide; 4-foot-long scale

Photo 152. Wash 25 (W25) facing east (upstream) near start of OHWM; 4-foot-long scale
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Photo 154. Wash 25 (W25) facing northeast (upstream); 4-foot-long scale

Photo 155. Wash 25 (W25) facing southwest (downstream); 4-foot-long scale

Photo 156. Wash 26 (W26) facing north (upstream); 4-foot-long scale
Photo 157. Wash 26 (W26) facing southwest (downstream); 4-foot-long scale

Photo 158. Wash 26 (W26) facing north (upstream); 4-foot-long scale

Photo 159. Wash 26 (W26) facing south (downstream); 4-foot-long scale

Photo 160. Wash 27 (W27) facing northwest (upstream); 4-foot-long scale
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Photo 163. Wash 28 (W28) facing southwest (downstream); 4-foot-long scale

Photo 164. Wash 28 (W28) facing northeast (upstream); 4-foot-long scale
Photo 165. Wash 28 (W28) facing southwest (downstream); 4-foot-long scale

Photo 166. Wash 29 (W29) facing north (upstream); 4-foot-long scale

Photo 167. Wash 29 (W29) facing southwest (downstream); 4-foot-long scale

Photo 168. Wash 29 (W29) facing east (upstream); 4-foot-long scale
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Photo 172. Wash 30 (W30) facing east (upstream); 4-foot-long scale
Photo 173. Wash 30 (W30) facing west (downstream); 4-foot-long scale

Photo 174. Wash 30 (W30) facing northeast (upstream); 4-foot-long scale

Photo 175. Wash 30 (W30) facing southwest (downstream); 4-foot-long scale

Photo 176. Wash 31 (W31) facing east (upstream); 4-foot-long scale
Photo 177. Wash 31 (W31) left channel facing southwest (downstream); 4-foot-long scale

Photo 178. Wash 31 (W31) left channel facing northeast (upstream); 4-foot-long scale

Photo 179. Wash 31 (W31) left channel facing southwest (downstream); 4-foot-long scale

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Photo 194. Wash 37 (W37) facing southeast (upstream) from outside survey boundary; 4-foot-long scale

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Photo 196. Wash 38 (W38) facing southwest (downstream); 4-foot-long scale
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Photo 198. Wash 39 (W39) facing northeast (upstream); 4-foot-long scale

Photo 199. Wash 39 (W39) facing southwest (downstream); 4-foot-long scale

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Photo 206. Wash 40 (W40) facing east (upstream); water flows along road ditch; 4-foot-long scale

Photo 207. Wash 40 (W40) facing west (downstream); water flows along road ditch; 4-foot-long scale

Photo 208. Wash 41 (W41) facing east (upstream); channel in area of bedrock; 4-foot-long scale
Photo 209. Wash 41 (W41) facing west (downstream); channel in area of bedrock; 4-foot-long scale

Photo 210. Wash 41 (W41) facing east (upstream); 4-foot-long scale

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Photo 214. Constructed ditch (CD) facing east (upstream); 4-foot-long scale

Photo 215. Constructed ditch (CD) facing west (downstream); 4-foot-long scale

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Photo 227. Mine pit in the Salt River channel (SRMP) facing east; flow channel is through the pit; dark brown vegetation is carelessweed (*amaranthus palmeri*)

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Photo 231. Old low flow channel (OLF) in Salt River facing east; 4-foot-long scale.

Photo 232. Remnant channel (RC) in Salt River facing southwest.
Photo 233. Remnant channel (RC) in Salt River facing east

Photo 234. Low flood terrace (LFT) in Salt River facing southwest

Photo 235. Low flood terrace (LFT) in Salt River facing northeast

End of Photos