ATTACHMENT A - SPECIAL PROVISIONS

Solicitation #: IFB-092023-114

CITY OF SCOTTSDALE
CAPITAL PROJECT MANAGEMENT

SPECIAL PROVISIONS
for

INDIAN BEND WASH PATH AT CHAPARRAL ROAD

Project No. 410-SF01A-05647
TRACS T0255 01C
Federal Project No. SCT-0(235)D

Prepared For:

Prepared By:

August 2023

PROFESSIONAL ENGINEERS SEALS

This book of specifications and related contract documents represents the efforts of the following firms and Owner Agency:

(1) Olsson (Prime Consultant: Civil, Drainage, Structures, Utilities)
(2) Lee Engineering (Lighting, Signals, Signing & Marking)
(3) Logan Simpson (Landscape & Irrigation)

A representative of each firm has affixed his/her professional seal below, which attests that those portions of these specifications which relate to the plans were prepared under his/her direction.

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SPECIAL PROVISIONS
PUBLIC WORKS PROJECTS

PART A: SCOPE OF WORK

1. ***SCOPE OF WORK***

General: This section includes a basic description of the Work covered in detail on the drawings, in the specifications, and elsewhere in this Special Provision.

The Project consists of the construction of a new pedestrian underpass crossing Chaparral Road just east of Hayden Road. The improvements will also include retaining walls, pedestrian pathway and sidewalk connections, landscape and irrigation restoration, park lighting relocation, signing and marking, slope stabilization, and utility relocations.

The Project is located on the east leg of the Hayden Road and Chaparral Road intersection.

The work covered under these special provisions consists of furnishing all labor, equipment, and materials necessary for the construction of the improvements identified in the contract documents. The Contractor should generally anticipate the following primary types of work along with related miscellaneous work to be completed in an acceptable manner for this project:

- Construction survey and as-builts
- Clearing and grubbing
- Demolition and disposal of existing improvements
- Grading and subgrade preparation
- Concrete curb, gutters, and sidewalks
- Concrete structures and railing
- Asphalt concrete paving and saw cutting
- Waterline relocation
- Traffic control
- Pavement striping and markings
- Traffic and site signage
- Traffic signal modifications
- Park lighting
- Salvage and re-installation of site amenities
- Irrigation and sprinkler systems improvements
- Landscaping

The above items of work along with the construction requirements are adequately described and defined in the 2020 “Uniform Standard Specifications for Public Works Construction” sponsored and distributed by the Maricopa Association of Governments (MAG) along with the MAG Uniform Standard Details and the City of Scottsdale Supplements, Arizona Department of Transportation (ADOT) “2008 Standard specifications for Road and Bridge Construction”, City of Phoenix Traffic Barricade Manual, or within these Special Provisions. The latest revisions of the above shall govern the items of work and the construction requirements.

In the event of conflicting information provided by any of the references named above, the following order of resolution shall be enforced: The construction requirements for the Work are in the following documents:

1. These special provisions,

2. City of Scottsdale Supplements to MAG including specifications, details and City of Scottsdale Design Standard and Policy Manual,

3. Construction Plans,

4. 2020 “Uniform Standard Specifications for Public Works Construction” sponsored and distributed by the MAG Arizona along with the MAG Uniform Standard Details,

5. 2021 ADOT Standard specifications for Road and Bridge Construction,

6. Written direction from the City of Scottsdale, the Engineer, or their authorized representative

The information written into these Special Provisions will:

1. Describe any special or unusual conditions.

2. Explain details of the work not covered in the MAG Specifications and Details or the City of Scottsdale supplements thereto.

3. Relate certain work to specific bid items or payment quantities.

4. Contain the specifications and/or requirements of utility companies affected or included within the drawings and specifications of this project.

A geotechnical investigation of the site has been prepared. The Contractor shall be responsible for determining the validity of the investigation along with any conclusions or interpretations drawn from the report. Additional borings or testing may be requested, but shall be arranged and scheduled by, and shall be at the expense of, the Contractor.

A utility pothole investigation log will not be prepared for this project. The Contractor shall be responsible for investigating underground utilities. Borings or testing may be requested, but shall be arranged and scheduled by, and shall be at the expense of the Contractor. A street encroachment permit may be needed to conduct additional borings.

General construction notes for City of Scottsdale Public Works projects are included in the plan set and shall be applicable, unless specifically noted otherwise, to the plan sheets.

A Storm Water Pollution Prevention Plan (SWPPP) shall be developed by the Contractor per Section 107.2.1 of these special provisions and the necessary permit from Arizona Department of Environmental Quality (ADEQ) shall be obtained prior to beginning any construction activity.

PART B: GENERAL INFORMATION

The following items are non-payment items being considered incidental to the project, the costs of which are to be included in project overhead or within a specific bid item.

1. PLANS AND SHOP DRAWINGS (SUBMITTALS)

General: MAG Section 105.2 is modified to add the following:

Materials: The Contractor shall furnish to the City's Construction Admin Supervisor product data, material certificates, mix designs, and shop drawings in sufficient detail to show complete compliance with all specified requirements, including but not necessarily limited to the following:

Product Data:

- Underpass Structure components
- Temporary Shoring components
- Pipes and appurtenances
- Valves and valve boxes
- Wall components
- Barricade components
- Irrigation components (including electrical components)
- Lighting components
- Traffic signal components
- Traffic sign sheeting
- Preformed pavement markings
- Pavement markers/adhesives

Product data shall include information such as the manufacturer's printed recommendations, compliance with recognized trade association standards, application of testing agency labels and seals, product dimensioning, and notation of coordination requirements.

Certificates:

- Piping materials
- Signing and striping materials
- Cement
- Gaskets
- Steel

Contractor shall not commence work on any scope items unless proper material certifications have been submitted, reviewed, and approved by the City. Buy America certificates must accompany all steel and iron materials. Refer to title 23 of the latest edition of the Code of Federal Regulations Section 635.410, Buy America requirements. All material certificates and product certificates of compliance shall be prepared by the manufacturer or testing agency thereof and shall include technical specifications compliance with industry trade associations and testing agency standards, and asphalt concrete compliance with approved East Valley Asphalt Committee list. Material testing as required for certificates by this contract shall be by City approved testing consultant.

Mix Designs:

- Asphaltic concrete pavement
- Portland cement concrete pavement
- Subgrade – base course

The mix designs shall directly compare the proposed mix components and properties with those of the referenced standard mix or as modified within the special provisions. Design mix testing as required by this contract shall be by a City approved testing consultant.

Shop Drawings:

- Sequence of construction details
- Traffic control plans-haul routes
- Utility protection plans
- Concrete sidewalk and path jointing plan
- Reinforcing steel bending and layout
- Details of structures if non-standardized
- Falsework
- Steel fabrication details
- Temporary Shoring
- Anchors/connections for salvaged and relocated bench/tables, gym equipment, and monument sign
- All irrigation/landscaping components
- Stormwater Pollution Prevention Plan

Each shop drawing submittal shall bear the approval stamp and signature of the General Contractor and shall include a cover/transmittal cover sheet from the General Contractor. Shop drawings shall be on sheets in standard size increments of 8-1/2” x 11”, 11” x 17” and 24” x 36”. Shop drawings shall include the name of the project, project number, federal project numbers, date prepared, and name of Preparer, Contractor, and Subcontractor, if applicable, and the date of approval by the Contractor. All dimensions and identification of products and materials included, along with notation of any coordination requirements and established field dimensions/measurement/verifications shall be clearly shown or noted. All other data, certificates or mix design reports shall be presented on 8-1/2” x 11” format. English units shall be used.

Drawings of minor or incidental fabricated material and/or equipment may not be required by the City of Scottsdale. The Contractor shall furnish the City tabulated lists of such fabrications, showing the names of the manufacturers and catalog numbers, together with samples of general data as may be required to permit determination by the City as to their acceptability for incorporation into the work.

Samples:

- Plant materials
- Decomposed granite
- Riprap
- Integral color for concrete

Samples shall be representative of the materials to be incorporated into the project and submitted in sufficient quantity to permit evaluation and/or comparison.

Distribution and Review: The Contractor shall anticipate and schedule for a two-week review period by the City of Scottsdale and/or its designee during which time will either approve, disapprove, or request modifications. The latter two will require resubmittal of the material and a subsequent additional review period. This process shall be repeated until all submitted materials have been approved, including materials/product certifications.

The Contractor shall first review all submitted data for compliance with specification and job requirements. An electronic copy (.pdf format) of the Contractor approved submittal along with a letter of transmittal shall be delivered to the City's Construction Admin Supervisor. Any Contractor comments, recommendations, etc. shall be clearly noted on the submitted data. The Contractor shall provide all submittals far enough in advance of scheduled need to allow for the specified City review time, including any resubmittals. The City will not consider time extension requests or delays, damages, inefficiency claims, etc. resulting from the Contractor failing to properly schedule and deliver complete and compliant submittals.

If the submittal is acceptable, an electronic copy (.pdf format) will be stamped “no exception”, dated, and initialed by the Reviewer, and returned to the Contractor.

If the submittal requires corrections or is rejected, an electronic copy (.pdf format) along with an explanation of the outstanding concerns will be returned to the Contractor for revision and the subsequent resubmittal as described above.

Resubmittal of any required corrections shall be made within ten (10) working days.

Contract Documents: Approved drawings, data, mixes, and certificates returned to the Contractor will become a portion of the Contract Documents.

2. COOPERATION WITH UTILITIES

General: MAG Section 105.6 is modified to add the following:

Contractor is advised that the location, number, and type of utilities shown on the plans are based on information made available by public utilities, owners, and users at the time the plans were prepared. Underground utilities may be present on this project which were not disclosed to the Engineer. No representation is made that the utility locations indicated on these plans are accurate, complete, or exclusive. It shall be the Contractor's responsibility to field verify all utility locations and to coordinate in a timely manner with the pertinent utility companies so that any obstructing utility installation may be adjusted without delay to the Contractor's project schedule.

The City will not consider additional compensation requests from the Contractor to perform any potholing, utility company coordination, etc. needed to locate or verify utility location, to adjust contract work items as necessary to avoid utility line conflict, to cooperate with utilities in adjusting schedule as needed to allow for utility company work, relocations, etc. The Contractor's bid shall include the above coordination, work, and adjustments.

The Contactor shall be responsible for obtaining all Arizona 811 (Blue Stake) utility location information, and for performing all requirements as prescribed in A.R.S. 40-360.21 through A.R.S. 40-360.29, for all underground facilities, including those that have been installed on the current project, until the project is accepted by the City

At least two (2) working days prior to commencing any excavation, the Contractor shall call the Blue Stake Center, between the hours of 7:00 a.m. and 4:30 p.m., Monday through Friday, for information relative to the location of buried utilities. The number to be called is as follows: Maricopa County (602) 263-1100.

Failure to contact the Blue Stake Center may result in violation of A.R.S. SS 40-360.21 and A.R.S. SS 40-360.22A

Contacts: The following information is provided for the Contractor to contact the appropriate personnel:

Utility	Contact	Phone Number	Email
City of Scottsdale (Water, Sewer, Storm, Traffic, Lighting	Eric Waldo	(480) 312-7245	ewaldo@scottsdaleaz.gov
Cox Communications	Ryan Kann	(623) 328-2202	Ryan.kann@cox.com
Salt River Project	Luis Corrales	(602) 236-5569	Luis.corrales@srpnet.com
Southwest Gas	Zach Stevenson	(480) 730-3855	Zach.stevenson@swgas.com
Lumen	Kevin Wagner	(815) 245-9640	kwagner@terratechllc.com

Coordination: Construction activities shall be coordinated and scheduled to incorporate applicable utility construction or adjustment activities. Payment will not be made to the Contractor for delays to the Contractor's schedule due to delays resulting from utility relocations.

Construction activities shall be coordinated and scheduled to incorporate the following applicable Utility construction activities:

The following agencies and utility companies have no facilities in the area and are not anticipated to be in conflict:

Lumen:

Lumen™ has no facilities within the project limits.

Should the Contractor locate or expose an unknown Lumen™ facility, please contact Lumen™ as soon as possible.

Cox Communications:

Cox Communications (Cox) has facilities within the project area, consisting of aerial strands and power poles that are not anticipated to conflict with the proposed improvements and are to be protected in place including temporary pole bracing. It is advised that construction completed near Cox facilities should proceed with caution.

Throughout the duration of the Project, should construction activities occur outside the identified area and near other Cox Facilities, it shall be the Contractor's responsibility to notify Cox and to assure such Cox Facilities are supported, protected, or otherwise remain undisturbed by

construction activity.

Southwest Gas:

Southwest Gas has facilities within the project area consisting of a steel gas line along Hayden Road that is not anticipated to conflict with the proposed improvements.

Prior to beginning construction, the Contractor shall call the Blue Stake Center at 1-800-782-5348 for field locations of all utility facilities, pursuant to the "Blue Stake Law" (ARIZONA REVISED STATUTES (State Law), Chapter 2, Article 6.3, Sections 40-360.21 through 40-360.32).

Please be aware that there may be abandoned steel gas lines within the project limits that are potentially coated or wrapped with unidentified materials. Southwest Gas treats all steel gas pipe with unidentified coating/wrapping materials as potentially containing asbestos. Accordingly, whenever such pipe is in direct conflict and requires removal, it must only be done so by a Southwest Gas NESHAP certified Contractor. Care must also be taken when working near and exposing these lines. The costs associated with such removal will be the responsibility of the developer. Please contact Southwest Gas in advance to coordinate any removals.

The following utility company has facilities in conflict with the proposed construction, and anticipates relocating before construction commences:

Salt River Project:

SRP has facilities within the project limits as described herein.

There is no conflict with the 69kV transmission line on the northwest corner of the intersection of Hayden Road and Chaparral Road.

There are overhead distribution lines on the northeast corner of the intersection of Hayden Road and Chaparral Road located within the project limits. The Contractor shall protect these lines in place and adhere to any SRP clearance requirements at all times during construction.

There is a power pole located on the north side of Chaparral Road within the project area. The Contractor shall protect this pole in place including any temporary bracing required by SRP.

There is a conflict with the underground distribution line on the northeast corner of the intersection of Hayden Road and Chaparral Road and the proposed underpass structure. Relocation of the underground distribution line will be completed by SRP prior to construction of this project.

Project modifications to the existing traffic signal and lighting will require additional coordination with SRP to schedule temporary shutdowns, temporary power routing, and feeds to relocated/reinstalled City signal facilities. The Contractor shall coordinate with SRP as needed to re-power facilities that will need to be temporarily shut down during construction.

3. PERMITS

General: MAG Section 107.2 is replaced in its entirety as follows:

It shall be the responsibility of the Contractor to obtain and provide payment for all required

permits for construction, dust control, relocation of native plants, erection of signs, etc.

The Contractor shall be responsible for securing and payment for the encroachment permit. Water and sewer development, resource and meter fees will be paid by the Contractor.

The Contractor shall be responsible for securing and payment for any necessary hydrant meters including deposits and all fees for water usage.

The Contractor shall be responsible for payment of any City fees associated with water main shutdowns or miscellaneous charges for optional City provided services. Contact the City's One-Stop Shop for a schedule of the available services and associated fees.

All haul routes for removals; excavation and dirt moving must be approved by the City prior to commencement of operations.

The Contractor shall be responsible for payment of any fees associated with the City for work within their right-of-way and for adjusting or relocating their facilities.

This project is subject to the Maricopa County Air Pollution Control Regulations. The Contractor shall comply with the provisions of the City of Scottsdale MAG Supplemental Specification Subsection 107.2.2.

This project is subject to Arizona Pollutant Discharge Elimination System (AZPDES) requirements under the Arizona General Permit for construction Activities including the preparation of a Stormwater Pollution Prevention Plan. The City of Scottsdale Supplemental MAG Specification Subsection 107.2.1 shall apply. A copy of the permit can be downloaded from ADEQ's website at http://www.azdeq.gov/environ/water/permits/azpdes.html

Measurement and Payment: Permits shall be measured as a single complete item of work and paid at the lump sum price indicated on the Bid Schedule, which price shall be full compensation for the work as described herein.

4. SEQUENCE OF WORK/CONSTRUCTION SCHEDULE

The Contractor shall complete all project work within **240** total calendar days from notice to proceed. Substantial completion shall be attained no later than **30** calendar days prior to the completion date.

General: MAG Section 108.4 is modified to add the following:

The Contractor shall be responsible for planning, scheduling, and reporting the progress of the work as to ensure timely completion of the work called in the contract. Refer to the construction documents for general phasing plans.

Notice to Proceed is contingent on an approved complete computer software generated baseline critical path schedule that is due by the Contractor within 30 calendar days from award. The Contractor shall also submit a critical path schedule to the Contract Administrator at the preconstruction meeting. This schedule shall include a complete critical path schedule to cover the Contractor's anticipated time schedule. Monthly updates to this schedule must be submitted with each invoice and are incidental to other work. The schedule shall include a detailed network

diagram acceptable to the Contract Administrator with the following features:

1. The schedule shall be time-scaled in calendar days. All activities shall be plotted on their early start and finish dates. Activities shall not exceed 10 calendar days in length of time when detailed in each critical path schedule.

2. The schedule shall show the order and interdependence of activities and the sequence of work as reflected in the schedule report as described below. The critical activities shall be prominently distinguished.

3. The schedule shall include, in addition to all construction activities, such tasks as mobilization, demobilization, submittal and approval of samples of materials and shop drawings, procurement of significant materials and equipment, and fabrication of special items, as well as installation and testing; and interfacing with other projects/contractors/utility companies/etc.

4. The schedule activities shall be sufficiently detailed so that the City's Construction Admin Supervisor can follow the sequence. For example, the activities shall show forming, reinforcing, and placement of concrete on the calendar days they are scheduled to be performed.

5. The schedule diagram shall show for each activity the preceding and following event numbers and the description and duration of the activity in calendar days.

6. The activities shall be organized and described to conform to the contract bid items.

7. The diagram shall be accompanied by a schedule report of the network with a tabulation of the following data for each activity:

    a. Preceding and following event numbers;
    b. Activity description;
    c. Activity duration;
    d. Earliest start date;
    e. Earliest finish date;
    f. Latest start date;
    g. Latest finish date;
    h. Total float times;
    i. Responsibility for activity (for example, Contractor, subcontractor, supplier, etc.);
    j. Resource summary for each activity listing personnel, equipment, and anticipated revenue.

The Contractor shall make three copies and submit updated schedules and reports in two-week increments commencing from notice to proceed in conformance with the following:

1. The City's Construction Admin Supervisor shall determine if the detailed network diagram and/or report requires revision in whole or in part and shall so inform the Contractor of noncompliance with contract schedule within five (5) working days.

2. The report shall show the activities or portion of activities completed during the two-

week period and the portion completed on the project to date; actual start and finish dates shall be shown plus future activities for the next 2-week period.

3. The report shall state the percentage of revenue actually earned as of the report date.

4. The report shall be accompanied by a narrative description of job progress, problem areas, current and anticipated delaying factors and their anticipated effect, and any corrective actions proposed or taken. This report shall identify departures from earlier schedules or changes in logical sequence or logical ties.

5. The monthly report shall include a summary of all activities scheduled to begin in the next 2-week period that are critical path, those activities whose float has changed and those activities with less than ten-day float. The activities shall be sequenced by critical path activities, by least total float and by greatest float respectively.

Acceptance of the Contractor's schedules by the City's Construction Admin Supervisor is not to be construed as relieving the Contractor of his obligation to complete the contract work within the contract time; construed as granting or rejecting Contractor requests for adjustments to the contract completion date; or construed as acceptance of claims for additional compensation. Any time extension requests shall be processed in strict compliance with other relevant provisions of the contract.

No direct measurement or direct payment will be made of Contractor costs relating to preparation and submission of schedules and reports and revisions thereto.

Failure of the Contractor to comply with the requirements of this section will be grounds for withholding an additional 10 percent of the monthly progress payment. Additional money withheld will be paid upon compliance to the Contractor on the next scheduled monthly progress payment.

General: MAG Section 108.5 is modified to add the following:

Construction Schedule Restrictions: The Contractor shall not commence construction activities until one-half hour before sunrise nor continue after sundown, Monday through Friday. The record of the National Weather Service will be used to determine the official time of these occurrences. Construction activity will include any work requiring the use of manually operated or power assisted tools or equipment and vehicles used to excavate, erect or deliver materials associated with construction.

Work outside these hours and days is permissible provided a construction schedule has been prepared, submitted to, and approved by the City in advance. The schedule shall identify the work to be performed, including the location and duration of planned activities. Submittals shall be made a minimum of five (5) calendar days prior to the planned work to allow sufficient time for the City to review the request and schedule any necessary inspections.

Any traffic disruption shall be first coordinated with the City of Scottsdale Events Department for their approval.

The Contractor shall maintain access to businesses within the project limits at all times during the construction.

Sequence: All underground work must be completed to the satisfaction of the Contract Administrator prior to the start of any roadway work, unless the Contractor can provide a sequence of work schedule and traffic control plan which will demonstrate, to the satisfaction of the City, that neither traffic safety nor Contractor operations will be adversely impacted. The Contract Administrator shall have total discretion and authority to accept or reject the Contractor's proposed sequence of work schedule and traffic control plan.

5. SALES AND USE TAXES

The Contractor shall not include sales or use taxes on certain materials and equipment to be installed on this project as described in Arizona Revised Statutes 42-1316 and 42-1409. The Contractor shall furnish the City with a list of suppliers including materials and equipment furnished by each which are applicable to this exemption.

6. EXECUTION AND APPROVAL OF CONTRACT

MAG Section 103.7 (a) is hereby replaced with the following:

Budget projects within five working days after the date of Notice of Award of contract from the City.

MAG Section 103.7, fourth paragraph is hereby replaced with the following:

The City will approve and execute the contract within five (5) working days following receipt of signed contract and acceptable bonds and certificates of insurance.

7. PRECONSTRUCTION CONFERENCE/ WEEKLY MEETINGS

Preconstruction Conference: The Contractor and all subcontractors shall attend a preconstruction conference meeting at a time and location designated by the Contract Administrator. The Contractor shall be prepared and ready to present to the Contract Administrator all required schedules, plans, etc. as described elsewhere in these special provisions and within the MAG Standard Specifications. The Contractor shall advise the owner's representative of discrepancies with drawings or special provisions.

The Contractor shall have Construction Schedule approved by the City prior to scheduling the Preconstruction Meeting.

Weekly Meetings: The Contractor shall plan for and attend weekly meetings with the City at a location and designated time determined by the Contract Administrator. The Contractor shall include in the construction schedule adequate time for weekly construction progress meetings. The Contractor shall prepare and provide at each of the weekly meetings, a three-week schedule of construction activities planned for the current and subsequent two-week period.

Meeting Notes: The Contractor shall take notes at the meetings. The notes shall be furnished to the Contract Administrator in the form of minutes within two (2) working days. The minutes shall address action items and the responsible parties. The Contract Administrator shall review and approve all minutes.

8. EARTHWORK, TRENCHING AND DEWATERING

General: MAG Specification 205.8 is hereby clarified to include the following:

Potholing, dewatering, dust control, noise control, disposal of waste or excess materials, protection or replacement of damaged utilities, trench bedding, importation of backfill (unless specified in the construction drawings), backfilling and compactions will not be measured. Payment for these tasks shall be included in the cost of items of work they are most closely associated.

The Contractor shall restore all damaged/contaminated vegetation and/or landscaping features, including irrigation, resulting from any construction activities that occur within the work area (including stockpiling of excavation spoilage and/or backfill materials) at no additional cost to the City.

If the Contractor believes that a change of condition has been encountered, the Contractor shall bring it to the attention of the Engineer in writing. If the City determines that the Contractor should have been able to identify the condition changes prior to proposing on this project, no further consideration shall be given. There will be no compensation for hard dig conditions.

9. TEMPORARY UTILITY SERVICES

Payment for potable water, sanitary disposal, telephone, and power to be furnished by the Contractor in the performance of construction this project shall be included in the appropriate bid items to which it is appurtenant.

10. TEMPORARY SIGNAGE AND COMMERCIAL ACCESS COORDINATION

The Contractor shall maintain access to commercial businesses within the project limits at all times during construction improvements. The Contractor shall also coordinate with local commercial businesses as to the best times for access disruption. The Contractor shall provide ample signage to indicate the temporary access points to all commercial business during the entire time entrances are not maintained in any other state other than existing condition. It is understood by the Contractor that no payment will be made for delays to the Contractor's schedule due to delays resulting from commercial access needs or coordination. Temporary signage and commercial access coordination tasks are considered incidental to existing bid items and will not be reimbursed.

11. SAFETY AND SECURITY

Security Program:

The Contractor shall:

1. Protect the work, including the field office trailer and their contents from theft, vandalism, and unauthorized entry.

2. Initiate a security program at job mobilization.

3. Maintain the security program throughout the Contract duration.

4. The Contractor and Subcontractor are wholly responsible for the security of their storage compound and lay down area, and for all their plant, material, equipment, and tools at all times.

5. Provide the City Inspector with a list of 24-hour emergency phone numbers.

Entry Control:

The Contractor shall:

1. Make appropriate inquires of persons on-site not recognized as employees of the Contractor.

2. Maintain an Employee Log. Make the log available to the City Inspector upon request.

3. Require all employees to sign the Acknowledgement of Program Rules forms.

4. Provide all employees, subcontractor employees and lower tier Contractor employees new employee orientation.

5. Restrict employee personal vehicles to the designated parking areas on the job site. Designated parking areas shall be approved by the City.

Contractor's Safety Plan:

Plan Required: Prior to the performance of any work, the Contractor shall submit to the City two copies of a contract specific Safety/Health and Security Plan for review.

Plan Contents: As a minimum, the plan shall:

1. Identify the person(s) responsible for implementation and enforcement of Safety/Health and Security rules and regulations for this project.

2. Generally address safe work procedures for the activities within the Contractor's scope of work.

3. Include a new employee orientation program that address job and site-specific rules, regulations, and hazards.

4. Include the Contractor's Drug Free Work Place Policy.

5. Include provisions to protect all the Contractor's employees, other persons and organizations that may be affected by the work from injury damage or loss.

6. Comply with OSHA, the Project Safety and Health manual and locally accepted safety codes and regulations.

7. Assign a qualified, experienced site safety person. This person's resume shall be submitted to the City for review and acceptance.

8. Include a site-specific emergency action plan.

9. Include Hazard Communication/Right to Know Program

10. Include security provisions for the Contractor's work, tools, and equipment.

11. Include the capability of providing the City with documentation to show compliance with the plan, plus accidents and investigation reports

12. Address any other contract specific requirements.

Job Safety Analysis: The Contractor shall provide a Job Safety Analysis (JSA) for the scope of work, prior to the start of work.

Safety Plan Review: Review of the Contractor's Safety Plan by the City shall not impose any duty to responsibility upon the City or Design Engineer for the Contractor's performance of the work in a safe manner. However, if the plan is found not to meet the requirements established by OSHA, Arizona OSHA, or the Project Safety Manual, it will be returned to the Contractor for revision. Acceptance of this plan by the City is required prior to the start of any site activity.

Responsibility for Safety: The Contractor shall be fully responsible for the safety and health of its employees, its Subcontractors and lower tier Contractors during performance of its work.

Records Required: The Contractor shall provide the City with all safety reports, training records, competent person list, and accident reports prepared in compliance with Arizona OSHA and the Project Health and Safety Plan.

Contractor Site Safety Requirements:

The Contractor shall assign safety responsibilities to an OSHA defined competent person(s). This (These) person(s) shall be experienced in heavy construction safety and health procedures and must be able to control work activities, identify hazards, and stop work when conditions require. This person's duties and responsibilities will include hazard recognition, accident prevention, new employee orientation (including Subcontractors) and implementing, maintaining, and supervising safety precautions and the safety program. This person may perform other duties and should be on site at all times while work is on-going.

Qualifications of this person must be submitted to the City for review. Acceptance of this person's qualifications is required prior to the start of any activity on the project.

Hazardous Substances and the Right to Know:

The Contractor shall:

1. Provide a list of all hazardous substances the Contractor anticipated bringing on site.

2. Submit a Safety Data Sheet (SDS) prior to arrival of any hazardous substance on the project.

3. Submit a Spill Control Plan.

4. Obtain approval of all storage, staging and parking areas.

Job Safety Analysis (JSA): The Contractor shall outline the sequence of the work, equipment to be used, identify hazards that may exist or may be created and what procedures and/or safety equipment will be used to eliminate or reduce these hazards. A JSA scope of work shall be prepared and submitted prior to the start of activities on the project. The name of the competent person assigned to this activity will be included on the JSA. The Contractor shall also complete a JSA for any activity that may be of an unusual nature or involve unique hazards.

Notifications and Reports:

Requirements: The Contractor shall provide immediate notification to the City of any accident, cooperate fully with accident investigators, and conduct weekly safety inspections.

Reporting: The Contractor shall provide the City copies of Contractor's and Subcontractor's:

1. First aid log (monthly).

2. OSHA 200 injury log (monthly).

3. Certification of new employee orientation (monthly).

4. Safety meeting reports and topic.

5. List of competent persons as required by OSHA and the Project Health and Safety Manual.

6. Deficiency reports, including indicating corrective actions taken, within 48-hours.

7. Injury and accident reports within 24-hours of any incident. Injury and accidents shall be reported to the City immediately.

8. Records of employee and supervisor safety training, including subcontractors.

Audits:

An audit of the Contractor's safety records, and performance may be conducted by the City. Contractor's failure to comply with any required corrective measures will result in a delay approval of the monthly pay application by the Superintendent of Streets.

Construction Program Safety and Health Plan:

The City will review the Contractor's safety and health plan. The purpose of the plan is to set forth basic responsibilities, guidelines, rules, and regulations for all personnel involved in the construction of this project. The plan does not intend to cover the full spectrum of published safety and health standards that are mandated by law.

In the event of a conflict between the provisions of the Contractor's plan and applicable local,

state of federal safety and health laws, regulations and/or standards, or the contract documents, the more stringent shall apply.

Safety and Security Pre-Construction Meeting:

Preconstruction Meeting: The Superintendent of Streets will conduct a pre-construction meeting described elsewhere in the contract documents and shall include general safety issues. Following this meeting and prior to the start of work a specific safety meeting will be scheduled by the Contractor. The purpose of this meeting will be to familiarize the Contractor with the site-specific hazards, requirements, and operations that could affect or be affected by construction operations.

Hazards:

Imminent Danger: When presented with situations of imminent danger, i.e., activities which could result in death or serious physical injury to the employees or involve the general public, the City has the authority to stop the work until corrective action is tasked to eliminate the hazard. In such event, the Contractor shall have no recourse against either the owner or the City for any damages that may arise as a result of such stoppage. Established work schedules will not be automatically extended to accommodate the period of any such stoppage.

Unsafe Workers: The City shall have the authority to remove from the site any person who is a frequent violator of safe work practices, or who fails to ensure persons working under their supervision or in a work place they control are not exposed to serious work hazards. The City will issue a safety notice of noncompliance for repeat violations that will be addressed to the offending employee, his/her supervisor, and their employer. Subsequent violations may result in the removal of both the violating employee and his/her supervisor, if deemed necessary, from the project site.

Non-imminent Danger: When confronted with a non-imminent danger violation, the City will advise the responsible Contractor of the condition and obtain a date from that Contractor by which the non-imminent danger condition will be abated. In addition, the responsible Contractor will erect a temporary barrier or adopt other means to prevent the exposure of its employees and others to the non-imminent danger condition. If the responsible Contractor fails to take corrective action by the agreed upon abatement date, the Superintendent of Streets has authority to retain the necessary craftsmen to perform, the work with the costs for all such labor, equipment and materials being back charged against the Contractor. In exercising this authority, the Contractor shall have no recourse against either the owner or the City for any damages that may arise as a result of such stoppage. Established work schedules will not be automatically extended to accommodate the period of any stoppage occasioned by such corrective work.

Assistance to the Owner: The City will notify the affected Contractor of any violations and date for corrective action. If a Contractor fails to correct the violations in the time allotted, a safety notice of non-compliance will be issued giving the Contractor 24-hours to comply. Failure to correct these violations may result in the Superintendent of Streets retaining services from others to correct the violations and back charging the Contractor.

12. QUALITY CONTROL & QUALITY ASSURANCE

Description: The work under this section shall include the furnishing of all materials, personnel, and equipment necessary to provide acceptable quality control in the production, handling, and

placement of all materials per MAG Uniform Standard Specifications Section 106 and these special provisions. Contractor shall make arrangements to accommodate up to 3 testing agencies for any given sample/test taken to correlate results. City will, when necessary, provide Quality Assurance and/or Independent Assurance testing agencies to supplement Contractor Quality Control testing agency.

Measurement and Payment: Contractor Quality Control shall be measured as a single complete item of work and paid at the lump sum price indicated on the Bid Schedule, which price shall be full compensation for the work as described herein. Contractor shall be required to provide an approved Quality Control Sample Checklist outlining the required testing and percentage of the Contractor quality control work, in which this checklist shall be the basis on which monthly progress payments shall be made. The Quality Control Sample Checklist shall be subject to periodic review, at the request of either party. If the actual progress lags or accelerates, the percentage may be revised to reflect changes of the overall progress of the project. When approved, the revised Checklist will become the basis for payment for subsequent monthly progress payments.

Section 106 – Control of Materials:

106.2 General: the second, third, and fourth paragraphs of the MAG Uniform Standard Specifications Section 106 are revised to read:

Any laboratory performing quality control sampling and testing for the City of Scottsdale project shall be open to unrestricted access for inspection and review by the Engineer. The laboratory shall provide an adequate amount of enclosed space and be supplied with the proper equipment, facilities, and utilities so the that required testing procedures can be performed. It shall have adequate lighting, ventilation, and means of ingress and egress. The laboratory shall be equipped with heating and cooling equipment capable of maintaining an ambient air temperature of 68 to 78 degrees F. The laboratory and all equipment and facilities therein shall be kept clean and maintained in good working order.

Sampling and testing of materials shall be in accordance with the requirements of:

- The ADOT Materials Testing Manual.
- The ADOT Materials Policy and Procedures Directives Manual.
- Applicable Federal, AASHTO, or ASTM specifications or test designations.
- Applicable specifications or test designations of other nationally recognized organizations.

Whenever a reference is made to an Arizona Test Method or an ADOT Materials Policy and Procedure Directive, it shall mean the test method or policy and procedure directive in effect on the bid opening date.

Unless otherwise specified, whenever a reference is made to a Federal, AASHTO, or ASTM specification or test designation or to a specification or test designation or other nationally recognized organizations, it shall mean the specification or test designation in effect on the bid opening date.

106.2 General: of the MAG Uniform Standard Specifications is modified to add:

106.2 (B) Contractor Quality Control:
The Contractor is responsible for quality control measures necessary to provide acceptable quality in the production, handling, and placement of all materials. Specific contractor quality control requirements will be described in the applicable construction items. The Contractor shall develop a Quality Control Sample Checklist to be submitted at the Pre-Construction Meeting for review by the Engineer. The Checklist shall outline the anticipated total number of tests required for each bid item and/or each material type
(concrete class, asphalt pavement, aggregate type, etc.), for approval by the Engineer. The Checklist shall also be coordinated with the contractor's schedule so as to outline the anticipated number of tests to be performed each month and summarized as an estimated monthly percentage of the lump sum item. The Contractor shall not commence any work until the Quality Control Checklist has been reviewed and approved by the City

This Checklist will form the basis of payment as described below.

106.2(C) (1) Quality Control Laboratory:
All field and laboratory sampling and testing shall be personnel for a laboratory or laboratories approved by the City. The requirements for approval of laboratories are specified in the ADOT System for the Evaluation of Testing Laboratories. Approved laboratories and the test methods for which they are approved to perform, are listed in the ADOT Directory of Approved Materials Testing Laboratories. Approved test methods listed in the ADOT Directory of Approved Materials Testing Laboratories do not include field sampling and testing procedures. When field sampling and testing procedures are
performed, the appropriate valid Arizona Technical Testing Institute (ATTI) and/or American Concrete Institute (ACI) certification(s) are required. The ADOT System for the Evaluation of Testing Laboratories and the ADOT Directory of Approved Materials Testing Laboratories may be obtained from the ADOT Materials Group, Quality Assurance Section, 1221 North 21st Avenue, Phoenix, Arizona 85009.

The Engineer will promptly advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or sampling and testing personnel and procedures.

106.2(C) (2) Quality Sampling and Testing Supervisor:
The Contractor shall designate a Quality Sampling and Testing Supervisor(s) who is responsible to supervise the sampling and testing and who meets the requirements given in Table 106-1 for the specific material on which sampling and testing is being performed. The Quality Sampling and Testing Supervisor(s) shall be an employee of the Contractor to a consultant engaged by the Contractor and may be responsible for supervising the sampling and testing on more than one project. The Quality Sampling and Testing Supervisor(s) shall be able to be at the job site within 24 hours from any point in time. Additional information regarding Quality Sampling and Testing Supervisor certification can be obtained from the ADOT Materials Group, Quality Assurance Section, 1221 North 21st Avenue, Phoenix, Arizona 85009.

Table 106-1 Quality Sampling and Testing Supervisor Requirements	
Soils and Aggregate	
Field	**Laboratory**
Arizona Technical Testing Institute (ATTI) "Field" Certification plus one of (a) through (g) below.	Arizona Technical Testing Institute (ATTI) "Laboratory Soils/Aggregate" Certification plus one of (a) through (g) below.
Asphaltic Concrete	
Field	**Laboratory**
Arizona Concrete Institute (ACI) "Concrete Field-Testing Technician Grade I" Certification plus one of (a) through (g) below.	Arizona Concrete Institute (ACI) "Concrete Strength Testing Technician" Certification plus one of (a) through (g) below.
(a) Professional Engineer, registered in the State of Arizona, with one year of highway materials sampling and testing experience acceptable to the Department.	
(b) Engineer-In-Training, certified by the State of Arizona, with two years of highway materials sampling and testing experience acceptable to the Department.	
(c) Obtained a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology, Construction, or related field acceptable to the Department; and with three years of highway materials sampling and testing experience acceptable to the Department.	
(d) Certified by the National Institute for Certification in Engineering Technologies (NICET) in the Construction Materials Testing field as an Engineering Technician (Level III) or higher in the appropriate subfield in which sampling and testing is being performed.	
(e) Certified by NICET in the Transportation Engineering Technology field as an Engineering Technician (Level III) or higher in the Highway Materials subfield.	
(f) Certified by NICET as an Engineering Technician, or higher, in Civil Engineering Technology with five years of highway materials sampling and testing experience acceptable to the Department.	
(g) An individual with eight years of highway materials sampling and testing and construction experience acceptable to the Department.	

106.2(C) (3) Quality Sampling and Testing Technician:
Quality Sampling and Testing Technicians who perform the actual sampling and testing shall meet the requirements given in Table 106-2 for the specific material on which sampling and testing is being performed. Quality Sampling and Testing Technicians shall be employees of the Quality Control Laboratory and be supervised by a qualified Quality Sampling and Testing Supervisor for the specific material on which sampling and testing is being performed. Additional information regarding Quality Sampling and Testing Technician certification can be obtained from the ADOT Materials Group, Quality Assurance Section, 1221 North 21st Avenue, Phoenix, Arizona 85009.

Table 106-2 Quality Sampling and Testing Technician Requirements	
Soils and Aggregate	
Field	**Laboratory**
Arizona Technical Testing Institute (ATTI) "Field" Certification	Arizona Technical Testing Institute (ATTI) "Laboratory Soils/Aggregate"
Asphaltic Concrete	
Field	**Laboratory**
Arizona Concrete Institute (ACI) "Concrete Field-Testing Technician Grade I" Certification	Arizona Concrete Institute (ACI) "Concrete Strength Testing Technician" Certification

106.2(C) (4) Records:
The Quality Control Laboratory shall maintain all sampling and testing records and supporting documentation used in the preparation of the Weekly Quality Control Report. The Contractor shall review those records and shall make those records and supporting documentation available to the City of review and copying as desired.

106.2(C) (5) Weekly Quality Control Reports:
The Contractor shall submit Weekly Quality Control Reports to the Engineer and the Engineers Quality Assurance representatives. The weekly reports shall state the types of work, such as earthwork, subgrade Portland cement concrete, or asphaltic concrete, which have been performed during the report period, and shall also include the process control measures taken to assure quality. The weekly report shall provide sample identification information for materials tested during the report period, including sample number, date sampled, sample location, person obtaining sample, and original source of material. The report shall also provide the results for all required tests and any retests, corrective actions, and any other information relevant to quality control. Although hand-written documentation can be included, the quality control report narrative, sample identification information, results for tests and any retests and corrective actions shall be typed to ensure the City can make clear reproductions of the documents. The report shall end at midnight of each Friday, and the report shall be submitted to the Engineer no later than 5:00 p.m. of the following Wednesday. Reports not submitted by the above-referenced deadline shall be considered delinquent and may result in monies deducted from the Contractor's monthly estimate, at the discretion of the Engineer, at a rate of $500.00 per occurrence.

Section 107 – Legal Relations and Responsibility to Public:

107.2.1 General: of the MAG Uniform Standard Specifications is modified to add:

107.2.1 (A) General requirements:
The Contractor shall prepare and finalize the SWPPP before submitting a Notice of Intent (NOI) to ADEQ. Except for the NOI, all signatures required of the Contractor by the AZPDES Construction General Permit (CGP), including those required for the NOT, SWPPP, and inspection reports, shall be provided by a duly authorized representative of the Contractor, as defined in Part VIII.J.2 of said permit. Signature of the NOI shall be by a responsible corporate officer, as defined in Part VIII.J.1 of the CGP.

The Contractor may elect to apply for an Erosivity Waiver using ADEQ's Smart NOI system. The Contractor is responsible for all associated costs with the waiver unless otherwise noted in the contract documents.

If the project qualifies for an Erosivity Waiver, proof must be provided to the contract administrator, and filing an NOI and development of a SWPPP is not required, however, the Contractor shall manage the construction site in a manner that minimizes pollutants in discharges including implementing control measures that are protective of water quality in accordance with the requirements of the CGP.

If the project does not qualify for an Erosivity Waiver, or the Contractor elects to acquire coverage under the CGP, all requirements of the CGP and these Special Provisions shall apply.

107.2.1 (B) Submittals:

The Contractor shall submit two copies of the SWPPP, including all information specified herein, to the Construction Coordinator at the pre-construction conference, if possible, for approval. The SWPPP shall contain an executed letter of delegation which delegates the responsibilities for compliance with the Arizona Construction General Permit and Site Stormwater Pollution Prevention Plan to the Contractor.

Submission of the Contractor's NOI shall certify that the Contractor and its subcontractors have read and will comply with all provisions of the project specific SWPPP and the (current) ADEQ Arizona Pollutant Discharge Elimination System Construction General Permit (CGP).

Within 10 calendar days from the SWPPP submittal, the Construction Coordinator will review the Contractor's SWPPP; the Contractor will include any additional revisions directed by the Construction Coordinator. The finalized SWPPP shall meet the terms and conditions of the CGP and be compatible with construction. Upon approval of the SWPPP, the Contractor shall file an NOI.

The Contract Administrator shall withhold the Notice to Proceed until an Authorization to Discharge from ADEQ has been issued to the Contractor, and a copy has been provided to the Contract Administrator.

107.2.1 (C) Contractor's Responsibilities:

The Contractor shall review the preliminary information, including erosion control features and phasing, evaluate all SWPPP requirements for adequacy in addressing pollution prevention during construction, and prepare a SWPPP for review by the Construction Coordinator.

The Contractor shall designate the erosion control coordinator as an authorized representative of the Contractor in accordance with Part VIII.J.2 of the CGP. The erosion control coordinator shall be responsible for finalization and implementation of the SWPPP as well as all other applicable requirements of the CGP.

The SWPPP shall include all information required in the CGP, including, but not limited to, a site map; identification of receiving waters and wetlands impacted by the project; a list of potential pollutant sources; inspection schedule; inspection form; any onsite or off-site material storage sites; additional or modified stormwater, erosion, and sediment controls; procedures for maintaining temporary and permanent erosion control measures; a list of the Contractor's "good housekeeping practices"; and other permit requirements as stipulated in the CGP as well as other applicable state or local programs.

The Contractor shall give installation of permanent erosion control measures priority over reliance on temporary measures. Permanent erosion control measures and drainage structures shall be installed as soon as possible in the construction sequencing of the project, preferably concurrent with construction of the related sub-area or drainage device. However, except as specified in Part IV, Section B.2 of the CGP and approved by the Engineer, erosion control measures shall be installed no later than 14 calendar days after construction activity has temporarily or permanently ceased for the affected sub-area.

The SWPPP shall identify and address erosion and pollution control at on-site fueling operations, waste piles, material storage sites, concrete washout areas, and off-site dedicated asphalt and concrete plants, Contractor-use areas, storage areas, and support activity locations which are

used solely for the project and are covered by the CGP. The SWPPP shall accommodate all requirements for the Contractor's "good housekeeping" procedures. In addition, the SWPPP shall specifically identify the erosion control measures proposed by the Contractor during any vegetation removal and salvaging phases of the project.

The SWPPP shall specify the mechanism whereby revisions may be proposed throughout the project and incorporated into the plan, including review and approval procedure. The Construction Coordinator and Contractor shall jointly approve and sign each revision to the SWPPP before implementation. Any subsequent submittals required by the Contractor to revise or update the SWPPP may require at least 48 hours for review.

Contractors and subcontractors responsible for implementing all or portions of the SWPPP shall be identified, with contact information, in the SWPPP, along with the measures for which they are responsible.

No clearing, grubbing, earthwork, or other work elements affected by the erosion control requirements in the SWPPP, shall be started until the SWPPP has been approved, the NOI completed and filed, copies of the NOI and Authorization to Discharge from ADEQ provided to the Contract Administrator, and the SWPPP implemented. The Contractor shall post the ADEQ Authorization Number in a conspicuous location, near the construction entrance or construction yard, whichever is more visible to the public.

The Contractor shall give attention to the effect of the Contractor's operations upon the landscape and shall take care to maintain natural surroundings undamaged and keep all operations within the project limits as defined on the plans.

The Contractor shall maintain all related erosion control elements in proper working order throughout the project. Work under this section also includes inspections, record-keeping, and implementation of "good housekeeping". If existing erosion and sediment control measures (BMPs) need to be repaired, modified, or increased, implementation shall be completed within 7 calendar days or before the next rain event (whichever is sooner).

The approved SWPPP shall be updated whenever a change in design, construction method, operation, maintenance procedure, or other activity may cause a significant effect on the discharge of pollutants to surface waters, or when a change is proposed to the personnel responsible for implementing any portion of the SWPPP. The SWPPP shall also be amended if inspections indicate that the SWPPP is ineffective in eliminating or significantly reducing pollutants in the discharges from the construction site. All necessary modifications to the SWPPP shall be made within seven calendar days following the inspection that revealed the deficiency.

The Contractor's erosion control coordinator shall maintain two copies of the SWPPP, in two separate binders, including amendments, completed inspection records, and all data used to complete the NOI, Notice of Termination (NOT) and any other AZPDES records in a three-ring binder. The SWPPP shall remain at the job site, or at the location identified in the SWPPP, from the time construction begins until completion of the project. The SWPPP shall be available for public inspection, and to all City representatives upon demand.

Upon acceptance of the project, and after the Contractor has filed their NOT, the Contractor shall submit one complete copy of the SWPPP binder along with the as-built plans to the Construction Coordinator and retain its own records for a period of at least three years from the filing of the

Contractor's NOT.

No condition of the CGP or the SWPPP shall release the Contractor from any responsibilities or requirements under other environmental statutes or regulations.

13. WATER LINES

All classes and sizes of fittings installed in conjunction with the connecting or extending potable water distribution lines and service will not be measured. These include tees, bends, caps, plugs, flanges, gaskets, nuts, bolts, washers, supports, cutting of pipe, welding, thrust restraints, etc. either temporary or permanent. Payment shall be included in the cost for pipe and/or service line items they are associated with.

Disinfecting of potable water facilities shall be included in the contract prices for the items of work requiring disinfection. Contractor shall contact Water Resource Department for all requirements prior to attempting to perform testing.

Any PVC or ACP water line exposed for more than 3 feet across an open trench shall be removed and replaced with ductile iron pipe (swabbed) (minimum class 350) with mechanical joints or flanged to 3 feet past the sides of the exposed crossing per City of Scottsdale Design Standards and Policy Manual.

14. ENVIRONMENTAL MITIGATION MEASURES

The Contractor shall comply with the environmental mitigation measures indicated below under "Contractor Responsibilities". The Contractor is also responsible for coordination with the City in advance, including any requested services or other accommodations needed, sufficient as to avoid delays or claims of any kind. The cost of complying with the environmental mitigation measures shall be considered incidental to other project bid items. The full environmental report is available upon request.

The project mitigation measures are not subject to change without written approval from ADOT Environmental Planning. The Contractor shall follow all the requirements of the permits specified herein and comply with the project special provisions as well as the MAG Uniform Standard Specifications for Public Works as well as all applicable local environmental requirements.

Contractor Responsibilities:

- If vegetation clearing will occur during the migratory bird breeding season (March 1- August 31), the contractor shall avoid any active bird nests. If the active nests cannot be avoided, the contractor shall notify the Engineer to evaluate the situation. During the non-breeding season (September 1- February 28) vegetation removal is not subject to this restriction.
- To prevent the introduction of invasive species seeds, all earthmoving and hauling equipment shall be washed prior to entering the construction site and the contractor shall inspect all construction equipment and remove all attached debris, including plant parts, soil, and mud, prior to the equipment entering the construction site.
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction and hauling equipment and remove all debris, including plant parts, soil, and mud, prior to leaving the construction site

City of Scottsdale Responsibilities:

- If any active bird nests cannot be avoided by vegetation clearing or construction activities, the Engineer will contact Eric Waldo, Senior Project Manager for the City of Scottsdale (480.312.7245) to evaluate the situation.
- Protected native plants within the project limits will be impacted by this project; therefore, the City of Scottsdale will determine if Arizona Department of Agriculture notification is needed. If notification is needed, the City of Scottsdale will send the notification at least 60 (sixty) calendar days prior to the start of construction.

PART C: BID ITEMS

The following bid items are numbered to correspond to the Schedule of Bid Items and are included to explain details of work not covered by applicable Standard Specifications and Details as outlined in **PART A**, and to relate work and pay quantities to the specific bid item.

Any work shown on the plans implied or specified in the special provisions by not listed in the bid item shall be included in the cost of the project.

ITEM 104250 PROJECT HOTLINE

General: Contractor shall maintain a 24-hour project hotline to receive calls from concerned motorists or property owners that relate to job site conditions. Contractor shall respond to inquiries or complaints, maintain a call log and coordinate with the project team, as needed, to respond to calls. The project hotline will be manned by a responsible representative of the Contractor who has authority to take immediate action to correct potentially dangerous conditions. The Contractor shall provide the Inspector with records of all calls received and the response or action taken each day.

"Project Hotline, (XXX) XXX-XXXX" signs shall be installed at one-quarter mile intervals on each side of the road throughout the length of the project. The signs shall contain the telephone number of a Contractor representative, or their agent, that will be manned at all times (24 hours per day, 7 days per week) during the construction period.

The project will require two (2) project hotline signs. The location will be approved by the City prior to installation. The sign is expected to be posted within the adjacent right-of-way or, with permission of the land owner on adjacent property.

Materials: Details for signs shall conform to the requirements for traffic management signs.

Measurement and Payment: Project Hotline will be measured as a single complete item of work and will be paid at the lump sum price indicated on the Schedule of Bid Items, which shall be considered full compensation for the work as described and specified herein.

ITEM 105801 CONSTRUCTION SURVEYING

MAG Section 105.8, Construction Stakes, Lines and Grades is deleted and the following inserted:

General: The Contractor shall furnish all materials, personnel, and equipment necessary to perform all surveying, staking, laying out of control lines and verifications of the accuracy of all existing control points which are delineated in the Contract Documents. The work shall be done under the direction of a Registered Land Surveyor licensed to practice in the State of Arizona.

Staking Outline: Prior to beginning any survey operations, the Contractor shall furnish to the City's Construction Admin Supervisor for approval, a written outline detailing the method of staking, interval of stakes, marking of stakes, grade control for various courses of materials, referencing, structure control, and any other procedures and controls necessary for survey completion. A part of this outline shall also be a schedule which will show the sequencing of the survey and layout work, throughout the course of the contract, listing a percentage of completion for each month.

Field Books: The Contractor shall furnish field books to be used for recording survey data and field notes. These books shall be available for inspection by the City at any time and shall become the property of the City upon completion of the work.

Survey Control Verification:

1. Control Points (horizontal and vertical): The existence and location of all survey monuments, bench marks, and control points shall be verified prior to demolition or construction activity. Immediately notify the City's Construction Admin Supervisor when location discrepancies greater than two-hundredths (0.02) foot horizontal or one-hundredth (0.01) foot vertical are found. All datum shall be City of Scottsdale.

2. Control Lines: Construction control lines with grade breaks, transition points, horizontal and vertical curves, etc., shall be established and referenced prior to construction.

3. Temporary Benchmarks: Temporary benchmarks shall be established and referenced.

Pre-Construction Location Survey: All existing features which are located prior to construction shall be referenced to survey monuments along control lines by stationing in accordance with the construction documents and by offset distance from the control lines. All features shall be relocatable after construction. Distances measured shall be within one-hundredth (0.01) foot.

1. Survey monuments: All survey monuments that lie within the construction area that may be disturbed shall be referenced to a specific point on at least four (4) stable objects by distance measurement. Reference objects shall be located no greater than three hundred (300) feet from the survey monument being referenced.

2. Water and Sewer line appurtenances: Water and sewer line surface appurtenances such as manholes, valves, and cleanouts that lie within the construction area shall be located and compared to the location shown on the Contractor's approved construction documents. Deviations shall be noted on Contractor's As-Built set and relayed to Engineer and City's Construction Admin Supervisor prior to any demolition or excavation.

3. Match Points and Removals: Verify the location (horizontal and vertical) of existing facilities to which the project connects. Immediately notify the City's Construction Admin Supervisor when location discrepancies of connecting facilities greater than one- tenth (0.10) foot horizontal or two-hundredths (0.02) foot vertical are found.

Construction Stakes: The Contractor shall set construction stakes and marks establishing lines and grades for road work, curbs, gutters, sidewalks, structures, buildings, centerlines for utilities, and necessary appurtenances and other work as indicated in the Contract Documents and shall be responsible for their conformance with the plans and specifications.

The stakes shall be established in accordance with the following guidelines which represent the minimum standard and the Contractor shall provide additional stakes and controls necessary to perform the work. The Contractor shall be held responsible for the preservation of all stakes and marks and will replace, at no additional cost to the City, any construction stakes or marks which have been carelessly or willfully destroyed by any party.

1. Curbs, Curb and Gutter, Valley Gutter:

    a. Curb and gutter shall be staked and installed prior to attached sidewalk construction.

    b. Cut/fill stakes for rough grade shall be set at one hundred (100) feet intervals with cuts to the top of curb.

    c. Finish grade stakes shall be set to curb grade at twenty-five (25) feet intervals, at grade brakes, angle points, transitions, returns, driveways, alley entrances, sidewalk ramps, and other curb control points. The stakes shall be tacked for line on a two (2) foot offset to the back of curb.

    d. Face of curb forms shall be checked for grade at flow line prior to placing concrete where longitudinal grades are one- tenth (0.10) percent or less.

    e. Face of curb forms shall be checked for grade at gutter line prior to placing concrete for transitions from or to MAG 220 Type “A” and City of Scottsdale 2220 Type “A” curb and gutter at 30-foot intervals.

2. Roadway:

    a. Subgrade stakes shall be set to subgrade elevation at twenty-five (25) feet intervals on straight sections, twenty-five (25) feet intervals through vertical curves, on horizontal curves with radius of six hundred (600) feet, or less, and/or slopes of less than four-tenths of one percent (0.4%), the beginning and end of horizontal and vertical curves and grade breaks. Stakes shall be set at crown lines, at grade break lines and at edges of pavement which do not abut concrete curb and gutter or at the edge of pavement abutting vertical curbs or other structures whose surface grade will not be flush with the finished pavement grade. Quarter lines will be staked where the distance between the crown line stakes, and the curb and gutter face exceeds twenty (20) feet.

    b. Select Material shall be staked the same as subgrade.

    c. ABC stakes shall be set to ABC elevation at twenty-five (25) feet intervals on straight sections, twenty-five (25) feet intervals through vertical curves, on horizontal curves with radius of six hundred (600) feet, or less, and/or slopes of less than four-tenths of one percent (0.4%), the beginning and end of horizontal and vertical curves and grade breaks. Stakes shall be set at crown lines, at grade breaks and at edges of pavement which do not abut concrete curb and gutter or at the edge of pavement abutting vertical curbs or other structures whose surface grade will not be flush with the finished pavement grade. Quarter lines will be staked where the distance between the crown line stakes, and the curb and gutter face exceeds twenty (20) feet.

    d. Pavement edges shall be controlled by utilizing a wire control mechanism or screeding along a concrete gutter or other structure whose surface grade is flush with the finished pavement grade. Stakes shall be set to finished elevation at thirty-

three (33) feet intervals on straight sections, twenty- five (25) feet intervals on curves with radius of six hundred (600) feet, or less, and/or slopes of less than four-tenths of one percent (0.4%), the beginning and end of horizontal and vertical curves and grade breaks.

3. Sidewalk and Bike Paths:

    a. Stakes are not required for sidewalks five (5) feet or less in width which are adjoining existing curb and gutter.

    b. Sidewalk and pathway stakes shall be set to grade on an offset. The intervals for sidewalk and pathway stakes shall be determined by the Contractor to ensure that grades do not exceed 2% for cross slope and 5% for longitudinal slope, except at designated ramps. Additional stakes and field verification/adjustments may be required to meet these requirements at the Contractor's discretion. At a minimum, the sidewalk and pathway stakes shall be tacked for line at twenty-five (25) feet intervals and at the beginning and end of horizontal and vertical curves and grade breaks.

    c. Sidewalk and pathway shall be constructed to the 2010 ADA Standards for Accessible Design requirements at all locations as show in the Plans, unless noted otherwise.

4. Storm Sewer and Drainage: All cuts will be to the invert of the pipe, given to the nearest one-hundredth (0.01) of a foot.

    a. Stakes for storm sewer will be driven flush with the existing ground, set on an offset at fifty (50) feet intervals. Stakes will be marked with the offset and indicated cut.

    b. Wyes for laterals will be marked with a line only stake.

    c. Manholes shall be marked with the offset and indicated cut to top of manhole grade and inverts.

    d. Stakes for storm water inlets, two (2) per inlet, will be set on a line normal to the roadway at the center line of the inlet five (5) and ten (10) feet from the face of curb. The stakes will be marked with the offset to the face of curb and the cut or fill to the top of curb and inverts.

    e. Cut sheets shall be supplied to the Contractor and City Inspector.

5. Traffic Signing, Striping and Detector Loops: The Contractor shall delineate the procedures and controls to be utilized in the Staking Outline.

6. Landscaping: The Contractor shall delineate the procedures and controls to be utilized in the Staking Outline.

Re-establishment Survey:

1. Monument locations will be marked with "straddlers" (four (4) nails with metal "shiners") driven into the pavement, placed in pairs approximately six feet apart and opposite to each other. Lines connecting opposing pairs shall form a ninety (90) degree cross with three-foot legs. The center of the cross will signify the exact location of the center of the monument to be set. Monuments will be drilled or punched after they have been set.

2. Manhole, valve box and cleanout locations shall be painted on the pavement.

Inspection and Acceptance of Work: The City reserves the right to make inspections and random checks of any portion of the staking and layout work. If, in the City's opinion, the work is not being performed in a manner that will assure proper control and accuracy of the work, the City will order any or all the staking and layout work redone at no additional cost.

Measurement and Payment: Construction surveying will be measured as a single complete item of work and paid at the lump sum price indicated on the Schedule of Bid Items, which shall be considered full compensation for the work as described herein and required to provide all necessary survey stakes and control. The approved schedule showing the sequencing and percentage of the survey and layout work shall be the basis on which monthly progress payments shall be made. This schedule shall be subject to periodic review, at the request of either party, if the survey and layout work lags or accelerates. If necessary, the schedule will be revised to reflect changes in survey and layout progress. When approved, the revised schedule will become the basis for payment.

ITEM 105820 AS-BUILTS

General: The as-built work shall conform to the City of Phoenix Survey Section Standard Requirements for: Staking, As-Builts, Quantity Calculations; dated January 1, 1980 and the As Built Plan Requirements for Work Within Flood Control District of Maricopa County Right-of-Way; dated July 9, 2015.

A full-size set of project drawings shall be kept on-site and updated on a weekly basis with a red pencil or red ink to reflect any field adjustments, changes, omissions, additions, etc. as they occur on the project. The City Inspector will check site as-builts on a weekly basis to ensure all modified project elements have been properly recorded on the field plan set. The City will be the sole judge in determining whether the as-builts are acceptable.

All work included in the contract documents as well as changes to the contract shall be noted as correct or modified by either checking off the information if it is correct, or by drawing a neat line through the original data and writing in the correct information in red opaque ink if the information is incorrect. Unless noted otherwise below in the minimum as-built requirement section, station/offset measurements will be from construction centerline/ monument line both parallel and transverse to roadway; added items or location changes shall be physically drawn at revised or new locations on the as-builts; and all measurements and stations should be to the nearest tenth of a foot.

The minimum requirements for as-built acceptance are as follows:

1. Project Drawing Quantity Notations: Any project drawing or quantity summary sheet that

shows a quantity on it that is incorrect shall be corrected by drawing a neat line through the original quantity and writing in the correct information. When space on the drawing does not allow room to indicate the corrections, a separate table may be drawn on a separate sheet with reference on both plan sheets to the plan sheet that the table refers to or to the sheet where the table is located.

2. Existing/New Utilities: All underground infrastructure utilities, whether depicted on the project plans or not, shall be verified, corrected, or added to the as-builts noting the beginning and ending station/offset location and elevation of utility relative to finished roadway grade or other identifiable ground or permanent roadway/project features. Any electrical installation work for street lighting or power connection shall be located relative to construction centerline/monument line or relative to back of curb and gutter (whichever is closer) including the depth of the facility.

3. Removals: Dimensions and/or other volumetric descriptions and station/offset location of all removed items.

4. Curb/Gutter/Valley Gutter: Beginning and ending station/offset location of straight curb/gutter/valley gutter runs relative to construction centerline/monument line; flow line elevation; and station/offset location of PC's and PT's.

5. Driveway/Alley Entrances: Beginning and ending station/offset including driveway wings.

6. Sidewalk: Beginning and ending station/offset and any other modification necessary to incorporate or avoid existing facility conflicts.

7. Sidewalk Ramp: Curvilinear distance deviations measured along gutter flow line from curb and gutter PC/PT or other shifts/adjustments to properly align with pedestrian crosswalks or other modifications necessary to incorporate/avoid existing facility conflicts.

8. Median Island: Beginning and ending station/offset of median and straight run median widths measured from back of curbs; beginning and ending station/offset of decorative median paving; bullnose radiuses; and measured widths of median in transition sections from back of curbs in 25-foot minimum increments or to bullnose radius PT/PC (whichever is less).

9. Roadway Pavement: Beginning/ending station and measured completed roadway width from edge of pavement to edge of pavement in straight roadway sections; measured completed roadway width perpendicular to construction centerline/monument line from both edges of pavement to construction centerline/monument line in curved roadway sections; and actual sawcut removal/tie-in to existing pavement locations.

10. Pipelines: When a pipeline parallels the construction centerline/monument line, verify, or correct the perpendicular distance between the two. When a pipeline angles relative to the construction centerline/monument line or is in a curved roadway section, as-built measured straight pipe run distances, angle points, changes in size, fitting/tee locations tied- in with practical known construction centerline/monument line location or other easily verifiable permanent point. Distances between fittings are from fitting centerline. Fire hydrant and catch basin branch lines are to be shown in profile including pipeline bends and collars. All project drawing pipeline cross sections and profiles are to be corrected to

reflect modified pipeline locations/alignments. Station and offset locations for sewer line laterals are from main line to ROW line with beginning/ending line location tied to a monument or to a property corner. Locations where waterlines cross curb and gutter are to be noted by station. Where waterlines run parallel to curb and gutter, note locations relative to back of curb or construction centerline/monument line (whichever is closer) including angle points and elevation.

11. Manhole/Catch Basin/Valve/Cleanout/Tee: Beginning/ending station and offset. Stationing is to commence at the downstream manhole (or as depicted on drawings) with location of tap/wye/tee/lateral locations clearly noted.

12. Landscaping and Irrigation: Note beginning and ending station/ offset/ elevation including size of PVC; sleeve/pull-box/electrical-valve/water-service/tap/meter/bubbler/drip- line locations.

13. Traffic Signal: Signal pole station/offset; electrical conduit, sleeve, controller, meter pedestal and pull box station/offset with distances of electrical conduit runs noted and tied in with known point.

14. Roadway Striping/Signage: Any relocated sign shall be located by station and offset from construction centerline/monument line. Any change in roadway marking is to be noted on as-builts.

15. Bridges, Box Culverts, and Other Structures: Station/offset distances/centerline- bearing line/finished elevations of all bridge or structure elements. Bridge deck and girder elevations must reflect before and after concrete placement elevations.

16. Roadway Street Lighting: Street light poles are to be located by station and offset from construction centerline/monument line.

17. Linear Items: Fences, walls, ditches, etc. should be located by station/offset and tied in with a permanent point.

18. See Flood Control District (FCD) of Maricopa County As Built requirements in Appendix E.

The as-built drawings shall be certified and sealed by an Arizona Registered Land Surveyor. As-built drawings shall be delivered to the City's Construction Admin Supervisor within thirty (30) calendar days from the date of final inspection and acceptance by the City of the work completed under this contract. Work under this bid item includes transfer of all information noted by the Contractor during Construction Surveying as described under Bid Item number 105801, to the on-site as-built drawing set. Final payment will be made only after submitted as-builts are accepted by the City (see "Measurement and Payment" below).

Measurement and Payment: As-Builts will be measured as a single complete item of work and paid at the lump sum price indicated on the Schedule of Bid Items, which shall be considered full compensation for the work as described herein and required to clearly indicate all specific as-built information.

Payment for survey work under this bid item will be made when the City accepts the final as-built

drawings. Should the Contractor fail to submit acceptable as-builts within the maximum 30 calendar day period noted above, the City will execute a deduct change order for 10% of the Construction Survey As-Built bid item total from the contract (or $2,500.00, whichever is greater) for every 5 working day period that the Contractor fails to provide acceptable as-builts (not including City review time). If the Contractor fails to submit acceptable as-builts after the 3rd submittal, the City will deduct 50% from the Construction Survey As-Built bid item total from the contract (or $10,000.00, whichever is greater) and execute a final change order noting the City's justification for imposing liquidated damages upon the Contractor for unacceptable as-built preparation

ITEM 105901 FORCE ACCOUNT EXTRA WORK

This force account item is a general contract contingency allowance item for the purpose of providing funds to cover the costs of additional work as a result of unforeseen conditions. This allowance item provides an estimated funding to cover unforeseen changes that may be encountered, and corresponding extra work needed to complete the contract per plan. It shall be understood that this allowance is an estimate only and is based on the history of similar projects. The amount of the allowance item is determined by the Engineer and is not subject to individual bid pricing. It is further understood that work under this item, if any, may be less than the allowance item. This item shall not be utilized or drawn on unless authorized in writing by the City's Construction Administrator.

All bidders shall incorporate the amount pre-entered in the bid schedule and shall reflect the same in the total amount bid for this project.

Work under this section shall be accomplished only after receiving written authorization by the City's Construction Administrator. Unforeseen extra work, if any, shall be as approved by the Engineer, for example, negotiated price, or time and material in accordance with MAG Uniform Standard Specifications section 109.4 and 109.5.

ITEM 201005 CLEAR & GRUBB

Description: The work under this item shall include the removal of objectional material from all disturbed areas other than within the limits of the new pavement, roadside shoulders, and driveways.

General: The work under this item shall comply entirely with Section 201 of the MAG Standard Specifications for Public Works Construction and City of Scottsdale Supplement to MAG.

Measurement & Payment: Text in MAG Sections 201.5 and 201.7 is deleted and the following inserted:

Clear & Grubb will be measured as a single complete unit of work and paid for at the contract unit lump sum price, which price will be full compensation for the work, complete in place, including disposal of materials.

Removals for areas within the limits of new pavement, roadside shoulders, and driveways shall be included under Item 301201 Subgrade Preparation.

ITEM 206001 STRUCTURAL EXCAVATION

General: The work under this item shall comply entirely with Section 206 of the MAG Standard Specifications for Public Works Construction and City of Scottsdale Supplement to MAG.

Measurement:

Structural Excavation shall be measured by the cubic yard in accordance with the applicable details shown on the current ADOT Standard Drawings SD 5.02 and/or SD 601-4.

Payment:

Structural Excavation, measured as provided above, will be paid for at the contract unit price per cubic yard, which price will be full compensation for the work, complete in place.

ITEM 206101 STRUCTURAL BACKFILL

General: The work under this item shall comply entirely with Section 206 of the MAG Standard Specifications for Public Works Construction and City of Scottsdale Supplement to MAG.

Measurement:

Structural Backfill shall be measured by the cubic yard in accordance with the applicable details shown on the current ADOT Standard Drawings SD 5.02 and/or SD 601-4.

Payment:

Structural Backfill, measured as provided above, will be paid for at the contract unit price per cubic yard, which price will be full compensation for the work, complete in place.

ITEM 210001 BORROW

Description: The under this item shall include excavation required for the grading and construction of the proposed improvements to the elevations and grades specified on the plans.

General: The work under these items shall entirely comply with Section 210 of the MAG Standard Specifications for Public Works Construction and City of Scottsdale Supplement to MAG.

Measurement:

Borrow shall be measured by the cubic yard.

Payment:
Borrow, measured as provided above, will be paid for at the contract unit price per cubic yard, which price will be full compensation for the work, complete in place.

ITEM 211001 FILL

Description: The under this item shall include placing suitable local or imported material in fill locations required for the grading and construction of the proposed improvements to the

elevations and grades specified on the plans.

General: The work under this item shall entirely comply with Section 211 of the MAG Standard Specifications for Public Works Construction and City of Scottsdale Supplement to MAG.

Measurement:

Fill shall be measured by the cubic yard.

Payment:

Fill, measured as provided above, will be paid for at the contract unit price per cubic yard, which price will be full compensation for the work, complete in place.

ITEM 220401 PLAIN RIPRAP
ITEM 220501 GROUTED RIPRAP

General: This item is supplementary to the applicable portions of MAG Section 220, Riprap Construction.

Materials: MAG Section 220.2 is supplemented by the following:

The riprap and grouting shall match the existing riprap as best as possible including color, size, and installation, as approved by the City.

Preparation of Ground Surfaces: Text in MAG Section 220.3 is deleted and the following inserted:

Areas of riprap placement shall be excavated and compacted to the lines, grades, and densities indicated by the plans.

Grouted Riprap: MAG Section 220.6 is supplemented by the following:

Riprap to be exposed at the surface shall be hand placed to securely embed the bottom two-thirds of the material in mortar. The top one-third shall be uniform, tight, and natural in appearance. Immediately after completion of placement, all excess mortar shall be removed from the exposed faces by brushing or other methods approved by the City of Scottsdale Inspector.

Prior to acceptance, all exposed rock shall be final cleaned by brushing or sandblasting to a natural and uniform appearance. The finished surface shall be uniform and shall not vary from the finish grades depicted on the plans.

Coloring agents acceptable to the City of Scottsdale Inspector shall be added to the mortar to blend with the surrounding ground.

Proposed edges of riprap shall be placed as a natural edge and no cuts shall be made to riprap rocks.

Measurement: Text in MAG Section 220.7 is deleted and the following inserted:

Measurement of riprap shall be made at the ground surface and shall be the number of cubic yards covered, measured along the top surface of the riprap.

Payment: Text in MAG Section 220.8 is deleted and the following inserted:

Payment for riprap shall be at the unit price bid per cubic yard as indicated on the Schedule of Bid Items and shall be full compensation for completing the item in place, as described herein and on the plans.

ITEM 301201 SUBGRADE PREPARATION

General: Conform to MAG Section 301.

Measurement and Payment: Per MAG Section 301 and as indicated on the Schedule of Bid Items.

ITEM 321261 PAVEMENT SECTION NO. 1 (7.5" AC ON 11" ABC)
ITEM 321263 PAVEMENT SECTION NO. 2 (3" AC ON ABC, VARIED THICKNESS)

General: The work under this item shall comply with Sections 301 and 321 of the MAG Standard Specifications for Public Works Construction and City of Scottsdale Supplement to MAG except as modified herein.

Text in MAG Sections 315.4, 315.5, 329.6, and 329.7 regarding measurement and payment for bituminous prime and tack coats is deleted.

The applicable portions of MAG Section 321, Asphalt Concrete Pavement, are amended as follows:

Materials and Manufacture: All asphaltic concrete used in the project shall conform to MAG Section 710 & 711 except as herein described. Paving asphalt shall comply with the provisions set forth by the East Valley Asphalt Committee in "Hot Asphalt Mix Design Criteria", revised September 2014.

A mix design shall be submitted to the City's Construction Admin Supervisor by the Contractor and be approved before any mix is placed. The mix design shall be prepared by a Professional Engineer or Certified Lab Technician experienced in the design and testing of asphaltic concrete mixes. The submittal shall be signed by a responsible representative of the Contractor.

Recycled Asphaltic Concrete (RAC) containing Reclaimed Asphalt Pavement (RAP) may be used subject to the approval by the City's Construction Admin Supervisor of the mix design submitted by the Contractor. The submittal shall include all test data required by MAG Sections 709 and 719. Mixing and placing of the RAC shall conform to MAG Sections 710 and 719.

Placing, Spreading, and Finishing: No pavement construction shall start until conflicting underground utility construction is completed or as directed by the City's Construction Admin Supervisor. The base course shall not be placed on prepared subgrade until compaction tests have been completed and accepted by the City of Scottsdale Inspector.

When new pavement is to meet existing pavement, the edges of the existing pavement shall be

sawcut to a true and visually neat horizontal alignment and a regular vertical line, cleaned of all foreign material, and painted with emulsified asphalt before the new pavement is placed adjacent to the existing pavement.

The exact point of matching termination and overlay, if necessary, shall be determined in the field by the City of Scottsdale Inspector.

Measurement: Text in Section 321.12 shall be deleted and the following inserted:

Measurement of asphaltic concrete pavement will be made to the nearest square yard for each thickness of pavement, as indicated in the Schedule of Bid Items, and within the designated limits of paving shown on the plans.

Payment: Text in Sections 310.5 and 321.13 shall be deleted and the following inserted:

Asphalt concrete pavement and base course materials will be paid at the unit price bid per square yard of indicated thickness as shown on the Schedule of Bid Items, which amount will be considered full compensation for the work complete and in place including any specified tack and/or prime coats.

ITEM 336301 PAVEMENT REPLACEMENT, COS 2220

General: Conform to MAG Section 336 and City of Scottsdale supplement to MAG.

Measurement and Payment: Per MAG Section 336 and as indicated on the Schedule of Bid Items.

ITEM 340001 VERTICAL CURB & GUTTER, MAG 220 TYPE "A"
ITEM 340005 CURB & GUTTER (TRANSITION VERTICAL CURB & GUTTER TO RIBBON CURB)
ITEM 340021 RIBBON CURB, MAG 220 TYPE "B"
ITEM 340050 CURB OPENING W/CONCRETE APRON
ITEM 340071 LANDSCAPE HEADER CURB (COS 2622)
ITEM 340122 CONC TURN DOWN EDGE (D=2.5')

General: The work under these items will comply entirely with Section 340 of the MAG Standard Specifications for Public Works Construction and City of Scottsdale Supplement to MAG except as modified herein.

Measurement: Add the following paragraph to MAG Section 340.5:

Curb Opening w/Concrete Apron shall be measured as a complete installed unit including curb located at the edge of the apron.

Landscape Header Curb shall be measured by the linear foot.

Conc Turn Down Edge shall be measured by the linear foot.

Payment: Add the following paragraph to MAG Section 340.6:

Curb Opening w/Concrete Apron, measured as provided above, will be paid for at the contract

unit price per each, which price will be full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing the curb opening and concrete apron, including excavation and backfilling, furnishing, placing, and curing concrete; placement of forms, and joint materials, complete in place as shown on the plans, as specified herein and as approved by the Engineer.

Payment for the Landscape Header Curb and Conc Turn Down Edge will be made at the contract price per linear foot and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing the curb, including excavation and backfilling, furnishing, placing, and curing concrete; placement of forms, and joint materials, complete in place as shown on the plans, as specified herein and as approved by the Engineer.

ITEM 340205 CONCRETE SIDEWALK, MAG 230 (5" THICK)
ITEM 340217 CONCRETE MULTI-USE PATH, COS 2283 (MOD, 6" THICK)
ITEM 340218 CONC MULTI-USE PATH, COS 2283 (4" THICK)
ITEM 340276 SIDEWALK RAMP (COS 2241)
ITEM 340277 SIDEWALK RAMP (DETAIL PER PLANS)

General: The work under these items shall comply with Sections 340 of the MAG Standard Specifications for Public Works Construction and City of Scottsdale Supplement to MAG except as modified herein.

Measurement: Add the following paragraph to MAG Section 340.5:

Sidewalk Ramp (COS 2241) shall be measured to the nearest square foot of concrete complete in place and is to be included in Item 340205 – Concrete Sidewalk, MAG 230 (5" Thick). The additional work required in forming, shaping, and detailing the ramp will be measured by the number of each type of sidewalk ramp indicated on the plans.

Sidewalk Ramp (Detail Per Plans) shall be measured to the nearest square foot of concrete complete in place and is to be included in Item 340217 – Concrete Multi-Use Path, COS 2283 (6" Thick). The additional work required in forming, shaping, and detailing the ramp will be measured by the number of each type of sidewalk ramp indicated on the plans.

Payment: Add the following paragraph to MAG Section 340.6:

Payment for the concrete used in constructing Sidewalk Ramp (COS 2241) will be provided in Item 340205 – Concrete Sidewalk, MAG 230 (5" Thick) as measured above.

Payment for the concrete used in constructing Sidewalk Ramp (Detail Per Plans) will be provided in Item 340217 – Concrete Multi-Use Path, COS 2283 (6" Thick) as measured above.

Payment for the additional work in forming, shaping, and detailing the sidewalk ramps will be per each as indicated in the Schedule of Bid Items, which payment will be considered full compensation for the work complete and in place.

ITEM 345002 ADJUST VALVE FRAME, COVER PER 2270 & FRAME PER MAG 391

General: Conform to MAG Section 345 except as modified herein. The Contractor shall reference

City of Scottsdale Supplemental Specification Section 345. The Contractor shall verify the type of existing water valve boxes and covers within the limits of the project and shall adjust or remove and replace as required.

Water Meter Boxes: The Contractor shall adjust existing water meter boxes to finish grade after completion of final grading behind the curb or sidewalk. The conditions of existing water meter boxes will be recorded by the Contractor in the presence of the City Inspector prior to beginning construction. Replacement boxes will be provided by the City, at no cost to the Contractor, for any previously damaged. Should any boxes become damaged during construction, the Contractor shall replace them with new boxes at no additional cost to the City.

Measurement: The quantities measured will be the actual number of frames, covers and valve boxes of each type, adjusted and accepted including the removal and replacement of non-complying valve box and covers as described herein

ITEM 350041 REMOVE CURB & GUTTER
ITEM 350042 REMOVE CURB, RIBBON CURB
ITEM 350061 REMOVE CONCRETE SIDEWALK, DRIVEWAYS & SLABS
ITEM 350321 REMOVE GROUTED RIPRAP/GUNITE
ITEM 350501 REMOVE TREES (12" DIA. TO 24" DIA.)
ITEM 350713 REMOVE (ACP WATER LINE)
ITEM 350801 MISC. REMOVALS AND OTHER WORK

General: Comply with MAG Section 350 except as modified herein. Miscellaneous Removal and Other Work: Modify Section 350.3 as follows:

The work under this section shall consist of removing and disposing of any obstacles to construction that are not included in any other bid item, whether shown on the plans or not, unless specifically called out on the plans to be removed or relocated by other agencies.

This work shall also include, but not be limited to, the following:

- The removal of existing water services to be abandoned and providing capping taps at the main as shown on the plans.

- All existing pipe to be abandoned in place shall be filled with slurry, the cost of which shall be included in this item, unless specifically shown to be paid for under other bid items.

- The removal of asbestos cement pipe (ACP) either at locations where it is exposed during other work, called out for removal on the plans, or noted for replacement with ductile iron pipe as part of vertical or horizontal realignments of waterlines.

- ACP shall be removed and disposed of in accordance with all applicable federal, state, and local requirements. Manifest copies shall be provided to the City for all ACP removed and disposed of under this or any other bid item.

- The removal of the existing asphalt concrete pavement and base material necessary to construct the landscaping improvements and the removal of temporary pavement and base materials.

- The removal of existing abandoned traffic signal foundations to at least 36 inches below grade or as directed by the City Inspector.

- The removal of existing trees with diameters between 12 and 24 inches, as shown on the plans, shall be fully removed, including trunks, root balls, or other major roots that may be exposed or in conflict with project improvements.

- The removal of existing landscape sprinkler systems, bubblers, faucets, control wires and backflow preventers within those areas identified for removal of landscaping and irrigation. This work shall include coordination with property owners to identify and coordinate modifications to keep their existing system layout operational or restore it to a properly operational system. The Contractor shall notify the property owner of any impact to their irrigation system. The irrigation system shall not be out of order for more than 48 hours.

- The removal, salvage/storage, and reinstallation of plaques for memorial trees in the landscape near the bus stop shall be salvaged and re-installed as shown in the plans.

- The removal, salvage/storage, and reinstallation of trash receptacles as shown on the plans.

- The removal, salvage/storage, and reinstallation of exercise equipment bars and posts per approved shop drawings at locations shown on the plans.

- The removal, salvage/storage, and reinstallation of the park monument signs for Chaparral Park and Camelback Park on new concrete pads with anchor bolts per approved shop drawings at the location shown on the plans.

- The removal, salvage, and reinstallation of benches and/or picnic tables anchored to the finished ground per approved shop drawings at locations shown on the plans. The Contractor shall inspect and record in the field how the existing benches and/or picnic tables have been installed and submit their findings with the shop drawings.

Salvage and Disposal: The City shall determine which items are to be salvaged. Salvaged items shall be removed with care and delivered at no additional cost, by the Contractor, to the City's North Corporation Yard, 9191 San Salvador Drive, Scottsdale, Arizona.

Items identified for salvage include existing traffic signs and signalization hardware.

All other items shall become the property of the Contractor, unless stated otherwise herein these Special Provisions, and shall be legally disposed of by the Contractor. The disposal of all waste materials removed under this item shall be the responsibility of the Contractor. The disposal site shall be approved by the City. Remove tree and landscape debris from the site the same day as demolition.

Measurement: Removal of grouted riprap/gunite, and or other paved surfaces will be measured parallel to the surface, by the square yard, regardless of depth, to the nearest square yard, including any temporary pavement placed by the Contractor.

Removal of miscellaneous items not described herein will be measured in a lump sum basis and shall include removing and disposing of any obstacle to construction that is not included in any other

bid item, whether it is shown on the plans or not, unless specifically called out on the plans to be removed or relocated by otheragencies.

Payment: Delete text in Section 350.4 and insert the following:

Payment for itemized removals will be per the bid prices indicated on the Schedule of Bid Items, which will be considered full compensation for that work complete as described herein and shown on the plans.

Payment for Miscellaneous Removal and Other Work shall be paid at the lump sum amount indicated on the Schedule of Bid Items and shall be considered full compensation for that work complete as described herein.

ITEM 350600 REMOVE TRAFFIC MARKING (ARROW, SYMBOL OR LEGEND)
ITEM 350601 REMOVE TRAFFIC MARKINGS
ITEM 350604 REMOVE SIGN, POST & POST BASE
ITEM 350606 RELOCATE SIGN PANEL/MUTT MITT DISPENSER
ITEM 350608 REMOVE SIGN PANEL

General: The work under these items shall comply with the City of Scottsdale Supplement to MAG Uniform Standard Specifications for Public Works Construction, current edition, Section 402, Section 5-5 of the City of Scottsdale Design Standards & Policies Manual (2018), current City of Scottsdale Standard Details, the current edition of the MUTCD, and referenced ADOT details and Standard Specifications, except as modified herein and on the project plans. Refer to the General Notes for Signing & Pavement Markings on the construction plans for additional information.

The removed sign post and base shall become the property of the Contractor and shall be legally disposed of by the Contractor. The disposal of all waste materials removed under this item shall be the responsibility of the Contractor. The disposal site shall be approved by the City.

Removed sign panels shall be salvaged to the City of Scottsdale.

Measurement: Price bid shall include all labor, material, and equipment associated with each bid items unit of measurement, complete in place in accordance with the plans, details, and these Special Provisions.

Traffic marking stripe removals shall be converted to 4-inch equivalent.

Relocated signs and relocated Mutt Mitt dispensers shall be measured and paid under Item 350606. New post and base are paid under separate items.

Relocated signs attached to lighting poles shall include all hardware necessary to mount signs, as part of this item. Relocated lighting poles with existing signs that are to remain shall be relocated with signs attached, and re-aimed, if necessary, for optimum target value to users at no cost to the project.

Payment: Payment for itemized removals will be per the bid prices indicated on the Schedule of Bid Items, which will be considered full compensation for that work complete as described herein and shown on the plans.

ITEM 401001 TRAFFIC CONTROL
ITEM 401101 OFF-DUTY POLICE OFFICER
ITEM 401120 VARIABLE MESSAGE SIGN

General: Conform to MAG Section 401, City of Scottsdale Supplement to MAG Uniform Standard Specifications for Public Works Construction, current edition, Section 401, City of Phoenix Traffic Barricade Manual, and the Manual of Uniform Traffic Control Devices, except as modified herein.

Description: Delete text in MAG Section 401.1 and insert the following:

These bid items are for all barricades, signs, lights, off-duty police officers, flagmen, shoring, etc. needed to maintain traffic during construction as follows:

- Chaparral Road:
  - Work in Chaparral Road is subject to an approved traffic control plan.
  - Contractor is allowed a full road closure of Chaparral Road for a maximum of 12 consecutive weeks between the months of April 16th, 2023, through August 1st, 2023, for the construction of the underpass.
  - Maintain a minimum of one 11-foot thru lane in each direction at all other times.

- Hayden Road:
  - Work in Haydon Road is subject to an approved traffic control plan.
  - No 24-hour setups are allowed.
  - For approved day-time work:
    - Work hours shall be during off-peak times.
    - Maintain a minimum of two 11-foot thru lanes in each direction.
  - For approved night-time work:
    - Work hours shall be 10:00 PM to 5:00 AM. At the City Traffic Engineer's discretion, work hours may change to allow additional work time if determined necessary and approved as part of the traffic control plans.
    - Maintain a minimum of one 11-foot thru lane in northbound direction.
    - Maintain a minimum of two 11-foot thru lanes in southbound direction.

All traffic control signing, haul routes, and barricading plans will be developed by the Contractor and submitted to the Inspector for approval prior to starting the work, and all Contractor changes to the plans will be approved by the City prior to implementation.

The Contractor shall notify the Inspector seven days in advance of the time work will be started in areas affecting traffic, traffic lane striping, and removal of any traffic signs. The foregoing shall apply to progressive modifications of traffic routing within an area in which work is in progress. No traffic closures are permitted between November and March, unless given approval by the City.

The Contractor shall develop routes for haul trucks on public streets which shall be submitted in writing through the City of Scottsdale Development Services for review and approval. The submittal shall include, but not be limited to, the proposed travel direction, turn movements, hours of use, street sweeping, watering, and clean-up. Presently established truck routes must be used.

Traffic Control Devices:

Append MAG Section 401.2 with the following:

All existing signs in conflict with the construction signs shall be removed, covered with plywood, or relocated.

Existing traffic signals shall be covered, relocated, or disconnected any time that they are nonfunctional or in conflict with construction signs or temporary traffic control scheme.

Roadside sign mounting height shall be 7 feet. The measurement shall be from the bottom of the sign to the top of curb or ground if no curb.

All regulatory and warning signs shall have flags and lights displayed.

All Type II Barricades, Type III Barricades, and vertical panels shall be equipped with steady burning lights.

All orange construction signs shall use high reflectivity sheeting. All other signs shall use standard reflective sheeting. All signs to be used on the job during periods of darkness shall be reflectorized.

Pavement marking for temporary lane striping shall be 4 inch wide by 10-foot length strips of either temporary pavement marking tape or paint placed at 30-foot intervals except as otherwise approved by the city. The pavement temperature must be 60 degrees Fahrenheit or above when tape is applied.

Temporary lane striping shall be removed by sandblasting or other approved means when the construction phase is complete if they are not covered by asphaltic concrete.

Flagmen or Pilot Cars:

Append MAG Section 401.3 with the following:

City of Scottsdale uniformed off-duty law enforcement officers shall be provided by the Contractor when construction activities occur within 300 feet of a signalized intersection. If Scottsdale officers are not available, law enforcement officers from other local agencies may be used in their place.

The officers shall be knowledgeable of City traffic control systems and their manual use. Contact the Inspector for a key for the traffic control cabinet along with any special instructions.

Traffic Control Measures:

Append Section 401.4 as follows:

Whenever construction operations create a condition hazardous to the public, the Contractor shall furnish such flagmen and guards as are necessary to give adequate warning to the public of any dangerous conditions.

Flagmen, guards, and safety devices shall conform to applicable City, County, and State requirements. It is the Contractor's responsibility to inform the City Inspector of hazardous conditions immediately.

The Inspector may direct attention to the existence of hazards and the necessary warning and

protective measures shall be furnished and installed by the Contractor without additional cost to the City.

Failure of the Inspector to identify hazards or point out the inadequacy of warning and protective measures shall not relieve the Contractor from any responsibility for public safety or abrogate his obligation to furnish and pay for those devices. The installation of any general illumination shall not relieve the Contractor of his responsibility for furnishing and maintaining any protective facility.

General Traffic Regulations:

Contractor shall comply with MAG Section 401.5 as supplemented by City of Scottsdale Section 401 and appended herein.

Contractor will develop routes for haul trucks on public streets which will be submitted in writing through the City of Scottsdale Development Services for review and approval. The submittal shall include, but not be limited to, the proposed travel direction, turn movements, hours of use, street sweeping, watering, and clean-up. Presently established truck routes must be used.

Approach speed limits and speed limits within the construction area shall be determined by the City of Scottsdale Traffic Engineering Department.

Measurement: Delete text of MAG Section 401.6 and insert the following:

Measurement of all Traffic Control work as described herein and as required for the project will be measured on a lump sum basis.

Measurement for Off-duty Police Officers will be on an hourly basis.

Measurement for Variable Message Signs shall be on a per day basis.

Payment: Delete text of MAG Section 401.7 and insert the following:

Payment for all traffic control materials and labor, including the use of variable message signs and off-duty uniformed police officers as described above will be paid for per the bid prices indicated on the Schedule of Bid Items, which will be considered full compensation for the work complete as described herein and, on the plans, and as modified or instructed on-site by City staff. Adjustments to approved traffic control plans, barricading or signing to accommodate specific on-site needs at the sole discretion of the City is included in the lump sum bid item payment.

ITEM 402104 WHITE STRIPE 90MIL THERMO PLASTIC 4" EQUIV
ITEM 402106 YELLOW STRIPE 90MIL THERMO PLASTIC 4" EQUIV
ITEM 402111 WHITE STRIPE PAINT 4" EQUIV
ITEM 402112 YELLOW STRIPE PAINT 4" EQUIV
ITEM 402120 PAVEMENT LEGEND PREFORMED
ITEM 402121 PAVEMENT SYMBOLS PREFORMED
ITEM 402122 BIKE LANE MARKING SET (ARROW & SYMBOL) PREFORMED
ITEM 402131 PAVEMENT LEGEND AND SYMBOL (PAINT)
ITEM 402141 RAISED PAVEMENT MARKERS, TYPE "D" (COS 2132, ADOT M-19)
ITEM 402142 RAISED PAVEMENT MARKERS, TYPE "G" (COS 2132, ADOT M-19)
ITEM 402401 REFLECTIVE TRAFFIC SIGN PANEL

ITEM 402411 TELESPAR SIGN POST, COS 2131
ITEM 402412 TELESPAR SIGN POST BASE ASSEMBLY (SLEEVE & ANCHOR), COS 2131

General: The work under these items shall comply with the City of Scottsdale Supplement to MAG Uniform Standard Specifications for Public Works Construction, current edition, Section 402, Section 5-5 of the City of Scottsdale Design Standards & Policies Manual (2018), current City of Scottsdale Standard Details, the current edition of the MUTCD, and referenced ADOT details and Standard Specifications, except as modified herein and on the project plans. Refer to the General Notes for Signing & Pavement Markings on the construction plans for additional information.

All pavement arrows and legends shall be ADOT Type I preformed tape, unless otherwise noted on the plans.

All longitudinal and transverse striping shall be 90 mil hot-spray thermoplastic per ADOT specification section 704, unless otherwise noted on the plans.

All signs to be provided and installed by the Contractor unless otherwise noted on the plans. Blank signs will not be fabricated by the City of Scottsdale.

Measurement: Price bid shall include all labor, material, and equipment associated with each bid items unit of measurement, complete in place in accordance with the plans, details, and these Special Provisions.

Traffic marking strip lines shall be converted to 4-inch equivalent.

Signs attached to lighting poles shall include all hardware necessary to mount signs, as part of this item.

Payment: Payment will be per the bid prices indicated on the Schedule of Bid Items, which will be considered full compensation for that work complete as described herein and shown on the plans.

ITEM 403709 MISCELLANEOUS WORK (TRAFFIC SIGNAL POWER PROVISIONS)

General: The work shall consist of furnishing and installing electrical conduit, removing, reinstalling and reterminating existing conductors and cables between the existing service meter pedestal, existing UPS cabinet and existing traffic signal pull box on the NE corner, as shown on the plans and described herein.

All electrical equipment and construction shall conform to applicable MAG Uniform Standard Specifications and Details for Public Works Construction, the City of Scottsdale Supplement to MAG Uniform Standard Specifications for Public Works Construction, current edition, Section 400, Section 5-11 of the City of Scottsdale Design Standards & Policies Manual (2018), current City of Scottsdale Standard Details, the City of Scottsdale Qualified Product List (Appendix 5-4B of the Design Standards & Policies Manual), and any referenced ADOT details and Standard Specifications, except as modified herein and on the project plans.

All electrical construction shall be accomplished by a certified minimum IMSA Level II Traffic Signal Technician. At the start of construction, the Contractor shall contact the City of Scottsdale ITS Manager at (480) 312-5637 to coordinate inspection requirements and conduct a preconstruction meeting.

The modification involves two existing parallel conduits, originating in an existing pull box adjacent to the existing meter pedestal east of the NE corner of the intersection. One conduit runs to the existing UPS cabinet and contains two traffic signal power conductors and bare bond, presently terminated in the meter pedestal and in the UPS cabinet. The other conduit runs to the existing No. 7 traffic signal pull box on the NE corner of the intersection, at Hayden Road, and contains two street light power conductors, a 3-conductor radio power cable and bare bond, presently terminated in the meter pedestal.

The Contractor shall develop a procedure for effecting temporary provisions for power during excavation and construction of the underpass tunnel. Subject plan shall indicate the steps planned for the coordination between affected parties, schedule and process intended for keeping the existing traffic signal, street lighting on the signal poles and radio operational while the tunnel construction is ongoing and be submitted to the City of Scottsdale for review, comment, and ultimate approval prior to conducting this work in the field.

It is anticipated that the existing UPS cabinet may conflict with the tunnel excavation, and may need to be temporarily removed, then reinstalled at its existing location on a new foundation, as part of this item. Efforts should be made to protect the existing No. 7 pull box east of the tunnel, as that is where the power from the meter pedestal branches into separate routes to the UPS cabinet and the NE corner. If the box is temporarily removed, a new No. 7 pull box and new stone sump will be required as part of this item.

The new conduit shall originate in the meter pedestal pull box and extend through and be installed in the tunnel structure, as shown on the structure plans. The new conduit will be extended beyond the tunnel, extend to, and be connected to the remaining extension of the previously existing conduit into the UPS cabinet and into the No. 7 traffic signal pull box.

Conductors shall then be reinstalled in the new conduit route, reterminated in the meter pedestal and UPS cabinet. Existing conductors may be reused if in good condition and adequate length exists. The radio cable shall be unspliced.

Measurement: Measurement of all traffic signal power modifications work, as described herein and as shown on the project plans and required for executing the work will be measured on a lump sum basis.

The lump sum price shall include all labor, material, and equipment associated with planning, coordinating, and executing provisions for temporary power during construction and reestablishment of power on a permanent basis after the new conduit route has been established, including any temporary and permanent conduit, conduit in the tunnel structure, new UPS cabinet foundation, potential new No. 7 pull box and any new conductors in the event existing conductors are not reused, complete in place in accordance with the plans, details, and these Special Provisions.

Payment: Payment will be per the lump sum price indicated on the Schedule of Bid Items, which will be considered full compensation for that work complete as described herein and shown on the plans.

ITEM 403710 MISCELLANEOUS WORK (PARK LIGHTING MODIFICATIONS)

General: The work shall consist of furnishing and installing electrical conduit, pull boxes, foundations, relocating load center, lighting underpass fixtures, and conductors to relocate

existing park lighting poles, as shown on the plans and described herein. Contractor shall coordinate load center relocation with the City.

All electrical equipment and construction shall conform to applicable MAG Uniform Standard Specifications and Details for Public Works Construction, the City of Scottsdale Supplement to MAG Uniform Standard Specifications for Public Works Construction, current edition, Section 400, Section 5-11 of the City of Scottsdale Design Standards & Policies Manual (2018), current City of Scottsdale Standard Details, the City of Scottsdale Qualified Product List (Appendix 5-4B of the Design Standards & Policies Manual), and any referenced ADOT details and Standard Specifications, except as modified herein and on the project plans.

All electrical construction shall be accomplished by a certified minimum IMSA Level II Traffic Signal Technician. At the start of construction, the Contractor shall contact the City of Scottsdale to coordinate inspection requirements and conduct a preconstruction meeting. Installations and relocations shall be scheduled with the City and stage to minimize lighting down time.

Measurement: Measurement of all park lighting modifications work, as described herein and as shown on the project plans and required for executing the work will be measured on a lump sum basis.

Payment: Payment will be per the lump sum price indicated on the Schedule of Bid Items, which will be considered full compensation for that work complete as described herein and shown on the plans.

ITEM 403711 MISCELLANEOUS WORK (TEMPORARY POWER)

General: The work under this item shall include the coordination and installation of temporary power in accordance with the plans as needed for the construction of the proposed improvements.

Payment: Payment for temporary power as shown on the project plans shall be paid at the contract unit price per Lump Sum including, but not limited to, all required coordination, development, shut-downs, installation, operation, maintenance, and removals for temporary power needed throughout the duration of the project.

ITEM 430001 DECOMPOSED GRANITE:

General: The work under this section includes placement of 2” minimum depth of ¼” minus decomposed granite, color to match existing decomposed granite, at the locations and in accordance with the project plans and as specified herein.

Decomposed granite shall conform to MAG Section 430 except as modified herein.

Payment: Quantities of decomposed granite will be paid for at the contract unit price per square yard. Such price shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing decomposed granite complete in place as shown on the plans, as specified herein and as approved by the Engineer

ITEM 430005 ANGULAR ROCK:

General: The work under this section includes placement of 4” to 6” diameter angular rock, color to match existing decomposed granite, at the locations and in accordance with the project plans

and as specified herein.

Angular rock shall conform to MAG Section 220 except as modified herein.

Filter fabric shall not be required below the angular rock.

Payment: Quantities of angular rock will be paid for at the contract unit price per square yard. Such price shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing angular rock complete in place as shown on the plans, as specified herein and as approved by the Engineer

ITEM 430007 RESODDING
ITEM 430202 SHRUBS, 5 GAL. (COS 2620)
ITEM 430204 ACCENT/CACTI (5 GAL.)
ITEM 430205 ACCENT/CACTI (3 GAL.)
ITEM 430302 TREES, 15 GAL. (COS 2620)
ITEM 430303 TREES, 24" BOX (COS 2600 & 2620)
ITEM 430900 LANDSCAPING ESTABLISHMENT

General: Landscaping shall conform to MAG Section 430 as supplemented by City of Scottsdale Section 430 and appended as follows:

Description: Add the following to Section 430.1:

The work under this section shall consist of furnishing all labor, materials, and equipment to install trees, shrubs, and sod.

Measurement: Contractor shall comply with MAG Section 430.10 and append as follows:

Measurement for sod shall be made on a square foot basis.

Measurement for trees and shrubs (regardless of size and species) shall be made on a per each basis.

Measurement for landscaping establishment shall be made on a per month basis.

Payment: Contractor shall comply with MAG Section 430.10 and append as follows:

Payment for sod shall be made at the contract unit price bid per square yard of accepted sod installation which price shall include soil preparation, compaction, providing and installing sod materials, watering, fertilizing, and any incidentals thereto. There will be no separate measurement and payment for the Turf Maintenance Period, the cost shall be considered included in the unit price bid for the item. Ten (10) percent of the bid item amount will be withheld until the completion and acceptance at the completion of the Turf Maintenance Period, at which time payment of these remaining monies will be paid to the Contractor.

Payment shall be considered full compensation for all labor, materials, equipment, and all other items necessary and incidental to the installation of landscape plant materials, complete in place including but not limited to layout, excavation, backfill and soil preparation according to the plans and these specifications and the Plant Maintenance Period. Payment for trees and shrubs

(regardless of size and species) shall be made based on the contract unit price bid per each.

Payment for landscaping establishment shall be made on a per month basis.

ITEM 440202 IRRIGATION PIPING MAINLINE
ITEM 440203 IRRIGATION PIPING LATERAL
ITEM 440261 IRRIGATION SLEEVING
ITEM 440301 IRRIGATION CONTROL VALVES
ITEM 440341 IRRIGATION ISOLATION GATE VALVES
ITEM 440501 IRRIGATION EMITTERS
ITEM 440541 IRRIGATION SPRAY HEADS
ITEM 440701 IRRIGATION WIRING
ITEM 440805 IRRIGATION FLUSH CAP ASSEMBLY

General: Sprinkler Irrigation system installation shall conform to MAG Section 440 as supplemented by City of Scottsdale Section 440 and appended as follows:

Description: Add the following to Section 440.1:

The irrigation system layout as shown on the plans replaces an existing system that will be disrupted by construction activities. The new system shall tie into the existing system, utilizing the existing meter, backflow preventer, controller, and mainline. All new pipe and fittings shall be purple (reclaimed water).

COS acceptable Irrigation Control Valves (and ancillary components) or approved equal:

1. Control Valve: Hunter, Rain Bird, and Irritrol
    a. Valves shall be fully compatible with the use of reclaimed water.
2. Ball Valve: Wilkins, Febco, and Landscape Products
    a. Full-port bronze valve with stainless steel handle and chrome-plated brass ball.
3. Valve Identification Tag:
    a. Tags shall be purple in color with bilingual warning of reclaimed water being utilized for irrigation purposes; do not drink.
    b. Printed with valve number or able to be written on.
4. Valve Box: Carson, Hunter, and Landscape Products (Purple/Reclaimed Water)
    a. Jumbo valve box with bolt-down lid
5. Pressure Regulator: Senninger, Netafin, and Orbit
    a. 40psi regulator, in-line spin-clean filter with 150 mesh stainless steel screen, install within jumbo valve box (see Item 4 above *Valve Box*)

COS acceptable Irrigation Ball Valve manufacturers:

1. Isolation Ball Valve: Nibco, American Flow, and Mueller
    a. Lead-free full-port bronze valve with stainless steel handle and chrome plated brass ball.
2. Valve Box: Carson, Hunter, and Landscape Products (Purple/Reclaimed Water)
    a. 10” round valve box with bolt-down lid

COS acceptable Irrigation Emitter manufacturers or approved equal:

1. Irrigation Emitters: Bowsmith, Rain Bird, and Hunter
    a. Multi-port and single port
    b. Purple caps for non-potable water

COS acceptable Spray Head manufacturers or approved equal:

1. Spray Heads: Rain Bird, Hunter, and Toro
    a. Pressure regulating stem, 4” pop-up riser, purple non-potable cap, swing joint mounted

Measurement and Payment: MAG Section 440.11 shall be deleted and replace it with the following:

Measurement:

Irrigation Piping Mainline: Measurement for irrigation piping mainline shall be made on a linear foot basis.

Irrigation Piping Lateral: Measurement for irrigation piping lateral shall be made on a linear foot basis.

Irrigation Sleeving: Measurement for irrigation piping sleeving shall be made on a linear foot basis.

Irrigation Control Valves: Measurement for irrigation control valves shall be made on a per each basis.

Irrigation Isolation Gate Valves: Measurement for irrigation isolation gate valves shall be made on a per each basis.

Irrigation Emitters: Measurement for irrigation emitters shall be made on a per each basis.

Irrigation Spray Heads: Measurement for irrigation spray heads shall be made on a per each basis.

Irrigation Wiring: Measurement for irrigation wiring shall be made on a linear foot basis.

Irrigation Flush Cap Assembly: Measurement for irrigation flush cap assembly shall be made on a per each basis.

Payment:

Irrigation Piping Mainline: Payment for irrigation piping mainline shall be made on a linear foot basis.

Irrigation Piping Lateral: Payment for irrigation piping lateral shall be made on a linear foot basis.

Irrigation Sleeving: Payment for irrigation piping sleeving shall be made on a linear foot basis.

Irrigation Control Valves: Payment for irrigation control valves shall be made on a per each basis.

Irrigation Emitters: Payment for irrigation emitters shall be made on a per each basis.

Irrigation Spray Heads: Payment for irrigation spray heads shall be made on a per each basis.

Irrigation Wiring: Payment for irrigation wiring shall be made on a linear foot basis.

Irrigation Flush Cap Assembly: Payment for irrigation flush cap assembly shall be made on a per each basis.

ITEM 505045 CATCH BASIN, MAG 535; (COS 2535 GRATE)
ITEM 505501 REINFORCING STEEL
ITEM 505606 STRUCTURAL CONCRETE CL A 3000 PSI
ITEM 505608 STRUCTURAL CONCRETE CL AA 4000 PSI

General: The work under these items shall entirely comply with Section 505 of the MAG Standard Specifications for Public Works Construction and City of Scottsdale Supplement to MAG.

Description: The first paragraph of Sub-Section 505.1 shall be modified to read:

Concrete bridges, culverts, underpass structures, catch basins, manholes, retaining walls, abutments, piers, footings, foundations, and similar structures shall be constructed in conformity with the plans and specifications. Concrete for use in work constructed under this specification and testing thereof shall conform to the requirements of Section 725. Reinforcing shall conform to the requirements of Section 727.

Measurement & Payment:

Per MAG Sections 505 and as indicated on the Schedule of Bid Items.

ITEM 505822 CONCRETE RETAINING WALL, ADOT SD 7.01 & ADOT SPEC. 914

General: The work under this section consists of furnishing all materials and constructing cast-in-place reinforced concrete retaining walls at the locations and in accordance with the details shown on the project plans and as specified herein. Proprietary retaining wall systems are not allowed to be substituted for these retaining walls.

Cast-in-Place Reinforced Concrete Retaining Walls: Cast-in-place reinforced concrete retaining walls shall be constructed in accordance with the details shown on the plans, Section 601 and Section 914, of the ADOT Standard Specifications for concrete structures and as specified herein.

All concrete used in cast-in-place reinforced concrete earth retaining structures shall be placed in conformance with the details shown on the plans and these provisions.

The concrete shall be integrally colored, Davis Colors “Sandstone” color number 5237 or approved equal. The colorant shall be installed according to the manufacturer’s specifications.

Wall drainage shall be provided in accordance with the details shown on the plans for all cast-in-place retaining walls.

Steel handrails are not included in this item and are paid for separately.

Measurement: The concrete retaining wall will be measured by the square foot. The square foot area for payment will be based on the vertical height and length of the retaining wall shown on

the plans. The vertical height will be taken as the difference in elevation measured from top of footing to top of wall.

Payment: Payment for the concrete retaining wall will be made at the contract price per square foot and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing the earth retaining structures, including excavation and backfilling, furnishing and placing reinforcing steel; furnishing, placing and curing concrete; furnishing and installing geocomposite drains complete in place; transporting and erecting falsework and forms; shoring and lagging as necessary to control caving; paint, joint materials, complete in place as shown on the plans, as specified herein and as approved by the Engineer.

No separate measurement or payment will be made for structural excavation, structure backfill, and pipe openings associated with retaining walls, the cost of such work is being considered is included in the contract price paid for the retaining walls.

ITEM 520009 HANDRAIL (COS 2508, 42")
ITEM 520010 HANDRAIL (COS 2508, 56")

General: Comply with Section 520 of the MAG Standard Specifications for Public Works Construction and City of Scottsdale Supplement to MAG.

Measurement & Payment:

Per MAG Sections 520 and as indicated on the Schedule of Bid Items.

ITEM 610308 8" DIP WATER LINE
ITEM 610831 CONNECT WATER LINE TO MAIN

General: Conform to MAG and City of Scottsdale Section 610 except as modified herein.

Materials: Delete text in Section 610.3 and insert the following:

Unless a specific material is noted on the plans, water distribution lines with nominal diameter of six (6) inches through twelve (12) inches may be constructed of ductile iron (DIP). Minimum pressure classes shall be as follows: DIP- class 150.

Construction Methods: Modify Section 610.4 as follows:

Trenching, backfilling, and compaction shall be in accordance with this Section as modified by City of Scottsdale Detail No. 2201. All compaction within public right-of-way will be Type I per Table 601.2 unless otherwise noted. Compaction testing will be as required by the City of Scottsdale Inspector or his authorized representative.

Connection to Existing Mains: Append MAG Section 610.11 with the following:

Taps into existing City owned water lines will be made as shown on the plans. Tapping sleeves shall conform to City of Scottsdale Specification 630. Wet taps into existing City mains will only be made by City of Scottsdale approved vendors at the Contractor's expense. Contact Water and Wastewater Operations by coordinating with the City's Construction Admin Supervisor.

For water service connection taps, see the applicable special provision.

Measurement and Payment: Modify MAG Section 610.16 as follows:

The costs of all pipe fittings are to be included in the unit cost per linear foot of pipe installed as indicated on the Schedule of Bid Items.

The costs of taps to City mains will be made at the bid price for each size of tapping sleeve and valve as indicated on the Schedule of Bid Items, which shall be considered full compensation for work complete and in place, including all costs for subcontracting the tapping service.

ITEM 610841 CURB STOP, MAG 390, TYPE A

General: Conform to MAG and City of Scottsdale Section 610 except as modified herein.

The work under this item will consist of furnishing all materials, labor, and equipment necessary to furnish and install a curb stop, box, and cover for existing water pipes to be plugged and capped at all locations as specified in the project plans and as specified herein.

Materials: All materials will conform to MAG Detail 390, Type A and MAG Sections 610 & 630. All materials for frame and cover will conform to MAG Detail 319 and MAG Sections 610, 630, & 631.

Construction Requirements: Comply with MAG Detail 390, Type A in its entirety, except as modified herein. For the frame and cover comply with MAG Detail 319 in its entirety, except as modified herein.

Measurement and Payment: The curb stop, frame, and cover will be measured as a unit for each and will be paid for at the contract unit price each, which price will be full compensation for the work, complete in place.

ITEM 618052 15" HDPE

General: Conform to MAG and City of Scottsdale Sections 618 and 738 except as modified herein.

The Contractor shall install high density polyethylene pipe (HPDE) or approved equal.

Plans Reference: The design is based upon the materials indicated by the Design Engineer on the plan and profile sheets. The Schedule of Bid Items indicates diameters of pipes based upon the design plan and profile sheets. This diameter is to be considered equivalent as a basis of costs for other required diameters of piping materials indicated on the pipe summary sheet.

Alternate conduit materials will be reviewed by the City, provided the Contractor provides the City with supporting documentation indicating the alternate material is in compliance with the design as shown on the plans. All tests required to comply with these specifications will be at Contractor's expense.

Conduit materials other than those referenced for design may require changes in details or profiles.

It shall be the responsibility of the Contractor, at no cost to the City, to prepare detailed shop drawings should the conduit material proposed by the Contractor require modifications of design or details shown on the plans. The shop drawings shall be submitted to the City's Construction Admin Supervisor for approval at the preconstruction conference or two weeks prior to the start of constructionof the pipelines.

Materials:

(A) HDPE:

(1) Pipes, collars, and fittings shall be comprised of HDPE or approved equals.

(B) Coupling Bands:

(1) All coupling bands shall be annular corrugated or hugger type metalbands.

(2) Fabricated coupling bands shall meet the requirements of AASHTO M-36, except as modified herein. Metal bands may be manufactured of material two gages lighter thanthat gage specified for the pipe to a minimum thickness of 0.064 inch (16gage).

(3) Coupling bands shall be one-piece for all pipe diameters up to 48 inches. Pipe diameters larger than 48 inches shall use two-piece coupling bands. Coupling bands shall be a minimum 10 1/2 inches wide, formed with a minimum of two annular corrugations that are spaced to provide nesting of the second annular corrugation of eachpipe.

(C) Coatings:

(1) Bituminous coatings will not be allowed.

Construction Methods:

(A) HDPE:

(1) Pipe trenching and bedding shall conform to the requirements of City of Phoenix Supplement to MAG Section 601.2.3 and City of Scottsdale Supplement to MAG Sections 601.4.2 and 601.4.6.

(2) Existing utility lines shall be protected and/or supported, when necessary, as required by MAG Section 601.3. Cost for this work will be included in the unit price cost of the storm sewer lines.

(3) Prefabricated fittings shall be used for lateral pipe connections unless shown and detailed otherwise on the plans.

(4) Backfill for all pipes shall be in accordance with City of Scottsdale Detail No. 2201.

(5) All other construction methods and testing shall be in accordance with MAG Specification Section 618.

Equalizing Gasket Stresses: Stresses in all ring type gaskets shall be equalized around the

perimeter of the pipe by raising the gasket material off the pipe using a screw driver or similar tool and smoothly revolving around the pipe perimeter a minimum of two passes.

Backfill: Shall be per City of Scottsdale Detail No. 2201.

Measurement and Payment: Per MAG Sections 618 and City of Scottsdale Section 738 for each size and type of pipe as indicated on the Schedule of Bid Items, except as modified herein.

No separate payment will be made for prefabricated tees, fittings and/or lateral pipe connections, unless noted otherwise, the costs of which shall be included in the price per linear foot of storm drain line as indicated on the Schedule of Bid Items.

ITEM 630308 8" GATE VALVE, B & C, MAG 391, TYPE C
ITEM 630312 12" GATE VALVE, B & C, MAGE 391, TYPE D
ITEM 630602 2" AIR RELEASE/VACUUM VALVE, COS 2348

General: Conform to MAG and City of Scottsdale Section 630.

Measurement and Payment: Per MAG Section 630 and as indicated on the Schedule of Bid Items.

APPENDIX A

Environmental Clearance

Environmental Planning

BIOLOGICAL EVALUATION SHORT FORM

Form Date: 1/29/2019

ADOT Approval Signature

Audrey Navarro — Digitally signed by Audrey Navarro Date: 2020.12.17 16:28:18 -07'00'

1. PROJECT INFORMATION

Project Name	Indian Bend Wash Path at Chaparral Road				
Federal Project Number	SCT-0(235)D		**TRACS Number**	0000 MA SCT T0255 01C	
Lead Federal Agency	ADOT		**LPA/Tribe Name**	City of Scottsdale	
Submittal Date	12/11/20	**ADOT District**	Central	**Admin by:**	CA Community
Land Ownership	City of Scottsdale				

USFWS IPaC /Consultation Code	02EAAZ00-2020-E-03058	**Date**	12/17/2020
AGFD Online Review ID	HGIS-11953	**Date**	9/1/2020

2. LOCATION INFORMATION

Route and Mileposts	Intersection of Hayden Road and Chaparral Road
Town/City and County	Scottsdale, Maricopa County
Date of Site Visit (If conducted)	04/07/2020
Biotic Community (per Brown 1994)	Urban
Elevation (feet above mean sea level)	1,250
PLSS (if on BLM land)	N/A

Describe Dominant Vegetation:

The project is located east of Hayden Road in two landscaped parks, Chaparral Park and Camelback Park, which are located north and south of Chaparral Road, respectively. Both parks are relatively similar with landscaped foliage present in open, grassy areas and decomposed granite rock mulch. Open, grassy areas are dominated by Bermudagrass (*Cynodon dactylon*) with scattered trees consisting of Arizona sycamore (*Platanus wrightii*) and Chinese elm (*Ulmus parvifolia*). Where ground cover is comprised of decomposed granite rock mulch, vegetation is comparatively more dense with additional tree species (ash varieties [*Fraxinus* spp.], mesquite [*Prosopis* spp.], and Japanese privet [*Ligustrum japonicum*]); shrubs including Texas barometer bush (*Leucophyllum frutescens*), baja ruellia (*Ruellia peninsularis*), and lantana (*Lantana camara*); and succulents including yucca (*Yucca* spp.), redflower false yucca (*Hesperaloe parviflora*), and agave (*Agave* spp.). Concrete sidewalk separates these two zones, as well as grouted riprap present in Camelback Park.

. PROJECT/ACTIVITY DESCRIPTION

Does the Project/Activity Require:	**Yes**	**No**
Work outside of existing ROW or easement?	**X**	
New ROW?		**X**
New Easement(s)?		**X**
Temporary Construction Easement(s)?	**X**	

Acronyms Used in This Form

- ac. – acre
- ADOT – Arizona Department of Transportation
- AGFD – Arizona Game and Fish Department
- AWLW – Arizona Wildlife Linkages Workgroup
- BE – Biological Evaluation
- BESF – BE Short Form
- BGEPA – Bald and Golden Eagle Protection Act
- BLM – US Bureau of Land Management
- CA – Certification Acceptance
- CH – critical habitat
- City – City of Scottsdale
- E – endangered
- ESA – Endangered Species Act
- FHWA – Federal Highway Administration
- ID – identification number
- IPaC – Information, Planning, and Conservation system
- LPA – Local Public Agency
- MBTA – Migratory Bird Treaty Act
- MP – milepost

- NA – Not applicable
- P - proposed
- PLSS – Public Land Survey System
- ROW – Right-of-Way
- SGCN – Species of Greatest Conservation Need
- T – threatened
- TRACS – Transportation Accounting System
- USFS – US Forest Service
- USFWS – US Fish and Wildlife Service

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3. PROJECT/ACTIVITY DESCRIPTION (Continued)

The City, in cooperation with ADOT, is planning a pedestrian improvement project at the intersection of Hayden Road and Chaparral Road in Scottsdale, Maricopa County, Arizona (Figure 1). A new underpass structure crossing Chaparral Road just east of the intersection will be constructed (Figures 2 and 3). There are existing pedestrian underpass structures on the west leg (under Chaparral Road) and south leg (under Hayden Road) of the intersection. The purpose of the project is to provide a safe, grade-separated crossing for pedestrians and bicyclists accessing the adjacent park facilities.

The project scope of work includes:

- Constructing a concrete underpass structure
    - Constructing reinforced concrete box underpass structure crossing Chaparral Road
    - Constructing reinforced concrete wing walls with pedestrian railings at the north and south ends of the underpass
    - Constructing new retaining walls at the north and south ends of the underpass
    - Constructing concrete stairs on the north side of Chaparral Road to allow a separate access from the underpass to the sidewalk on the east side of Hayden Road
- Removing and replacing existing portions of roadway as needed to construct the underpass
- Removing, replacing, reconstructing, and installing new portions of sidewalk, access ramps, and shared-use paths (trails) to provide connections to the new underpass structure and access to adjacent sidewalks
- Slope stabilization including removing and reconstructing riprap on the north and south sides of Chaparral Road
- Removing, replacing, and installing new trees and other landscaping improvements
- Replacing storm drains and catch basins
- Removing, replacing, or installing new signage
- Relocating the Chaparral Park sign, bench, and exercise equipment
- Removing, replacing, and installing concrete curbing and valley gutters
- New portions of pavement, striping and markings
- Relocating lighting and installing new underpass lighting
- Conducting potholing investigations for utilities and relocating utilities within the project limits, where appropriate
    - Relocating traffic signals, as needed
    - Installing new conduit for future fiber cable supporting the traffic signal system
- Installing temporary embedded advance warning signage adjacent to the roadway within the project vicinity

Two methods of construction are being considered for the project. One method would require the full closure of a portion of Chaparral Road, east of Hayden Road and traffic would be detoured to Camelback Road and/or McDonald Drive via Granite Reef Road. The second method of construction being considered involves a phased approach in which construction of the underpass would be completed in two phases, one half at a time, resulting in the closure of one side of Chaparral Road at a time. Traffic would be shifted from one side of the roadway while work occurs on the other side. As part of this method, in order to provide sufficient width of

through lanes, southbound traffic may be temporarily prohibited from making a left-turn onto Hayden Road. An alternate route for traffic may include Granite Reef Road, Camelback Road, 76th Street, and Jackrabbit Road.

The project will be constructed within the existing City owned ROW and on adjacent City owned lands. No new ROW is anticipated to be needed; temporary construction easements may be needed for improvements outside the ROW from adjacent private landowners. Construction staging is anticipated to occur within the project limits and local property access will remain open during construction. Portions of sidewalks and trails, including the Indian Bend Shared-Use Path, will be temporarily closed during construction. Full access to the Indian Bend Shared-Use Path within the project limits will be restored following completion of construction. The existing bus stop along Chaparral Road, located east of the intersection of Hayden and Chaparral may be temporarily relocated during construction activities. Night work may be necessary and noise levels may increase temporarily during construction but are expected to return to pre-construction levels upon project completion. A traffic control plan will be prepared for the project. Construction is anticipated to begin in fall 2021 and take approximately 9 months to complete.

4. GENERAL IMPACTS

Does the Project/Activity:	Yes	No	NA
Involve ground disturbance?	X		
Involve vegetation removal?	X		
Include potential for use of herbicide?		X	
Include work in actively flowing or intermittent watercourse?		X	
Include impacts to Riparian Vegetation or Wetland Habitat?		X	
Occur within identified wildlife linkage(s)? (per 2006 AWLW map on ADOT website)		X	
If yes, enter AWLW wildlife linkage number/name:			
Does the project have the potential to affect the wildlife linkage(s)?			X

Description of ground disturbance and/or vegetation removal

Approximately 1.09 acres of ground disturbance is anticipated from the construction of this project. Of the 1.09 acres, approximately 0.16 acre is anticipated to be permanent ground disturbance from new sidewalks, stairs, and the underpass. The remaining 0.93 acre is temporary ground disturbance from excavating and grading activities; relocating light poles, signs, exercise equipment, and benches; removing sidewalks, curbing, and riprap; removing, replacing, and installing trees and other landscaping elements; and from construction equipment traversing on permeable surfaces. Approximately 0.12 acre of the calculated temporary ground disturbance would be converted from a non-permeable surface (i.e., sidewalk or riprap) to permeable surfaces after construction is complete. The remaining scope of work items would occur on existing paved surfaces within the roadway prism and would not result in new ground disturbance. The landscaped trees, shrubs, and succulents listed in Section 2 would be impacted by this project. The majority of these plants would be salvaged and replanted in the project limits and both parks would be re-landscaped with the appropriate ground cover materials per the proposed landscape design plan.

5. ESA-PROTECTED SPECIES & HABITAT	Yes	No
Are any threatened, endangered or proposed species likely present in the project area?		X
Is any designated or proposed critical habitat present in the project area?		X
Is suitable habitat for threatened, endangered or proposed species present in the project area?		X
If a "Yes" answer is given for any of the questions above, include a brief additional evaluation summary for each applicable species along with a determination of effects for each species addressed.		
Additional ESA Species Evaluation included in Section 10?		X

5. ESA-PROTECTED SPECIES & HABITAT (Continued)	
Determination of Effects	**Mark One**
1. No effect to species or critical habitat.	**X**
2. May affect, but is not likely to adversely affect species or critical habitat.	
3. May affect, and is likely to adversely affect species or critical habitat.	
Coordinate with the ADOT biologist if any commitments are required to protect ESA species or habitat, or if any "may affect" determinations are anticipated, as a Biological Evaluation may be required.	

6. OTHER SPECIAL STATUS SPECIES/RESOURCES			
Does the project have the potential to impact:	**Yes**	**No**	**NA**
ESA Candidate Species or other species under review for ESA listing?		**X**	
ESA Candidate Conservation Agreement species?		**X**	
Bald and/or golden eagles as protected by the BGEPA?		**X**	
Agency special status or sensitive species (USFS, BLM, Tribal, etc.)? *(Only applies if the project is on the agency's land and the agency requested evaluation of those species)*			**X**
USFS only: Management Indicator Species – Change in population or trend?			**X**
Migratory birds, nests, or eggs as protected by the MBTA?	**X**		
Native plants protected by the Arizona Native Plant Law? *(Non-tribal lands only)*	**X**		
Potential for Bat Roosts? __Day, __Night, __Maternity?		**X**	
Are commitments included to protect other state sensitive species (*e.g.* SGCN Tier 1a)?		**X**	
Are invasive species from the ADOT list found in the project area?		**X**	
If a "Yes" answer is given for any of the questions above, include a brief additional evaluation summary and determination of impacts (as applicable) for each species/resource. Include any necessary commitments in the Environmental Commitments section.			
Additional Special Status Species Evaluation included in Section 10?	**X**		

7. ENVIRONMENTAL COMMITMENTS

The following environmental commitments will be implemented to avoid impacts to birds protected by the Migratory Bird Treaty Act, prevent the spread or introduction of invasive plant species, and protect plants listed under the Arizona Native Plant Law:

Contractor Responsibilities

- If vegetation clearing will occur during the migratory bird breeding season (March 1- August 31), the contractor shall avoid any active bird nests. If the active nests cannot be avoided, the contractor shall notify the Engineer to evaluate the situation. During the non-breeding season (September 1- February 28) vegetation removal is not subject to this restriction.
- To prevent the introduction of invasive species seeds, all earthmoving and hauling equipment shall be washed prior to entering the construction site and the contractor shall inspect all construction equipment and remove all attached debris, including plant parts, soil and mud, prior to the equipment entering the construction site.
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction and hauling equipment and remove all debris, including plant parts, soil and mud, prior to leaving the construction site.

City of Scottsdale Responsibilities

- If any active bird nests cannot be avoided by vegetation clearing or construction activities, the Engineer will contact Eric Waldo, Senior Project Manager for the City of Scottsdale (480.312.7245) to evaluate the situation.
- Protected native plants within the project limits will be impacted by this project; therefore, the City of Scottsdale will determine if Arizona Department of Agriculture notification is needed. If notification is needed, the City of Scottsdale will send the notification at least 60 (sixty) calendar days prior to the start of construction.

8. SIGNATURES

Prepared By

Signature _____ 12/11/20 Date

Typed Name: Angela Muszynski

Title, Firm: Wildlife Biologist, Logan Simpson

Reviewed By

Signature _____ 12/11/20 Date

Typed Name: Ian Tackett

Title, Firm: Senior Biologist, Logan Simpson

9. ATTACHMENTS (Mark all that apply)

X	State, Project Location, and Project Area Maps
X	USFWS IPaC Results
X	AGFD On-Line Environmental Review Tool Results
X	Agency Correspondence (Letters, E-mails, Phone Records, etc.)
X	Other (List): Project Area Photographs

10. ADDITIONAL TEXT (Only if needed; specify the section it applies to; continue to extra page if needed)

6. OTHER SPECIAL STATUS SPECIES/RESOURCES

Migratory Birds

Migratory birds are protected by the federal Migratory Bird Treaty Act of 1918, as amended, which prohibits injury or death to migratory birds and their active nests, eggs, and young. Ground disturbance and removal of trees and shrubs will occur as part of this project. No nest structures of migratory bird species were identified in the project area during the April 2020 site visit, but may become present once construction begins. As identified in the Environmental Commitments section above, the project will include measures to ensure construction activities do not impact migratory birds.

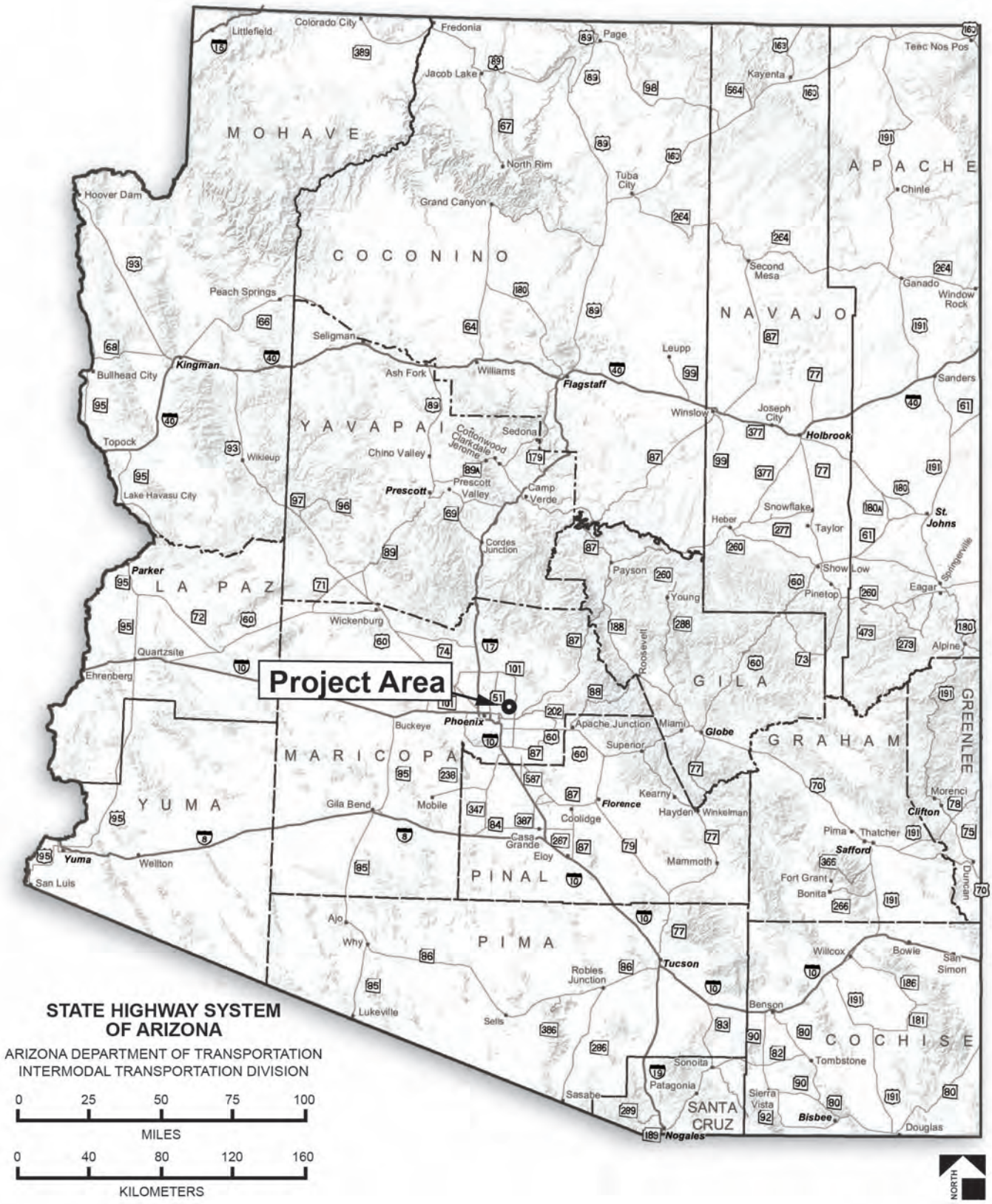
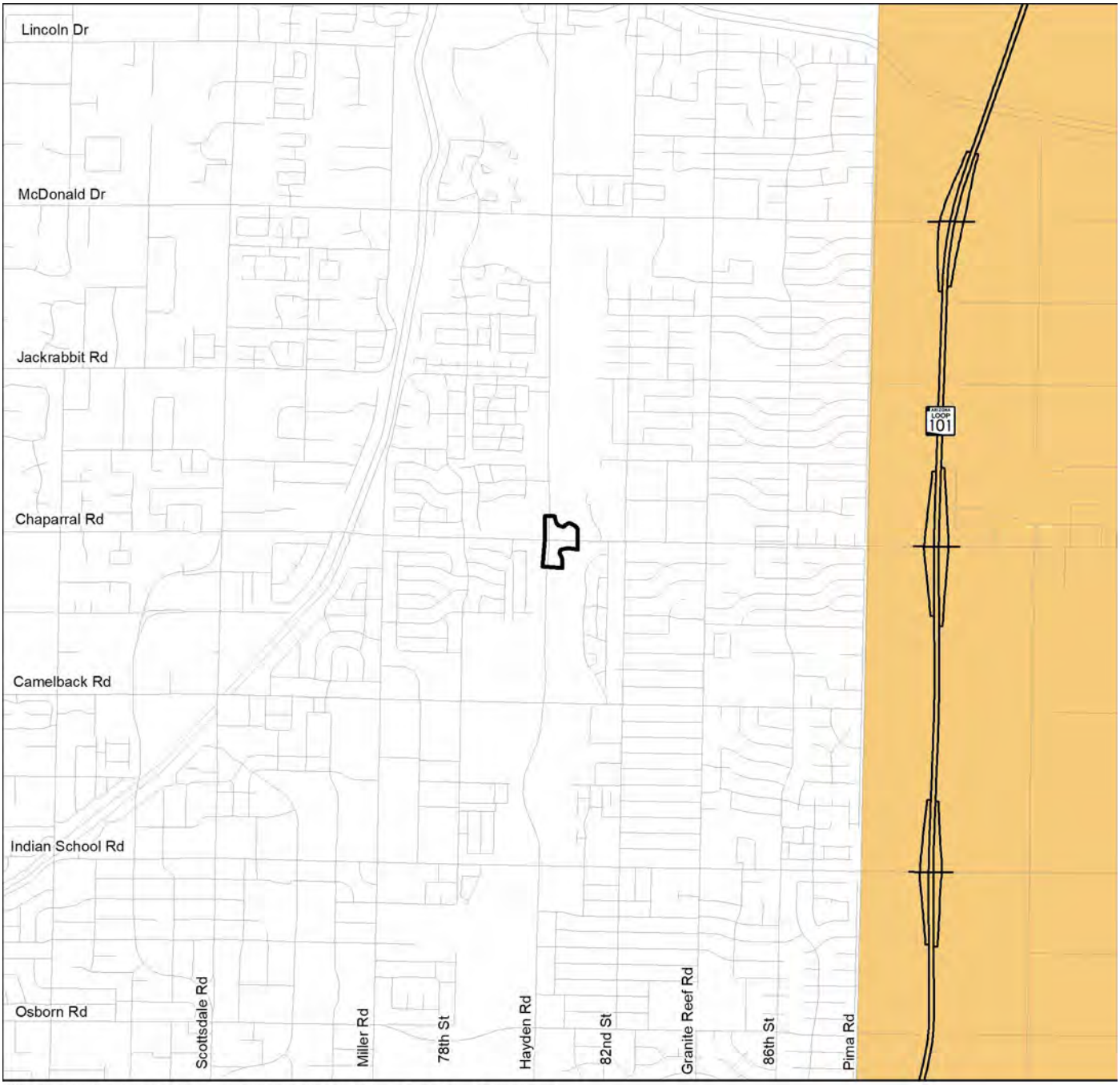


Figure 1. State location
Indian Bend Wash Path at Chaparral Road
SCT-0(235)D; ADOT Project No.: 0000 MA SCT T0255 01C



Source: Land ownership GIS coverage provided by Arizona State Land Department; Arizona Transportation Information System GIS Coverage (2007)

Key

- Project Area
- Private Land
- Salt River Indian Res.

Miles

0 1

NORTH

Figure 2. Project location
Indian Bend Wash Path at Chaparral Road
SCT-0(235)D; ADOT Project No.: 0000 MA SCT T0255 01C

Source: Aerial Coverage from Digital Globe (11/17/2018)

Key

Project Area

Feet

0 1,000

NORTH

Figure 3. Project area
Indian Bend Wash Path at Chaparral Road
SCT-0(235)D; ADOT Project No.: 0000 MA SCT T0255 01C

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: December 17, 2020
Consultation Code: 02EAAZ00-2020-SLI-1381
Event Code: 02EAAZ00-2021-E-00809
Project Name: SCT-0(235)D; 0000 MA SCT T0255 01C, Indian Bend Wash Path at Chaparral Road

Subject: Updated 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. In some cases, a species does not currently occur within a quadrangle but occurs nearby and could be affected by a project. Please refer to the species information links found at:
http://www.fws.gov/southwest/es/arizona/Docs_Species.htm
http://www.fws.gov/southwest/es/arizona/Documents/MiscDocs/AZSpeciesReference.pdf .

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 consult with us if their 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, we recommend preparing a biological evaluation similar to a Biological Assessment 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. You should request consultation with us 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." For example, projects that involve streams and river systems should consider downstream effects. 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 considering them 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.

We also 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 (Eagle Act) (16 U.S.C. 668 et seq.). The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when authorized by the Service. The Eagle Act prohibits anyone, without a permit, from taking (including disturbing) eagles, and their parts, nests, or eggs. Currently 1026 species of birds are protected by the MBTA, including species such as the western burrowing owl (Athene cunicularia hypugea). Protected western burrowing owls are often found in urban areas and may use their nest/burrows year-round; destruction of the burrow may result in the unpermitted take of the owl or their eggs.

If a bald eagle (or golden eagle) nest occurs in or near the proposed project area, you should evaluate your project to determine whether it is likely to disturb or harm eagles. The National Bald Eagle Management Guidelines provide recommendations to minimize potential project impacts to bald eagles:
https://www.fws.gov/migratorybirds/pdf/management/nationalbaldeaglenanagementguidelines.pdf
https://www.fws.gov/birds/management/managed-species/eagle-management.php.

The Division of Migratory Birds (505/248-7882) administers and issues permits under the MBTA and Eagle Act, while our office can provide guidance and Technical Assistance. For more information regarding the MBTA, BGEPA, and permitting processes, please visit the following: https://www.fws.gov/birds/policies-and-regulations/incidental-take.php. Guidance for minimizing impacts to migratory birds for communication tower projects (e.g. cellular, digital television, radio, and emergency broadcast) can be found at:

https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/communication-towers.php.

Activities that involve streams (including intermittent 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 tribal 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.

We also recommend you seek additional information and coordinate your project with the Arizona Game and Fish Department. Information on known species detections, special status species, and Arizona species of greatest conservation need, such as the western burrowing owl and the Sonoran desert tortoise (Gopherus morafkai) can be found by using their Online Environmental Review Tool, administered through the Heritage Data Management System and Project Evaluation Program https://www.azgfd.com/Wildlife/HeritageFund/.

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 our following offices for projects in these areas:

Northern Arizona: Flagstaff Office 928/556-2001
Central Arizona: Phoenix office 602/242-0210
Southern Arizona: Tucson Office 520/670-6144

Sincerely,
/s/ Jeff Humphrey Field Supervisor

Attachment

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: 02EAAZ00-2020-SLI-1381

Event Code: 02EAAZ00-2021-E-00809

Project Name: SCT-0(235)D; 0000 MA SCT T0255 01C, Indian Bend Wash Path at Chaparral Road

Project Type: TRANSPORTATION

Project Description: The City of Scottsdale (City), in cooperation with the Arizona Department of Transportation (ADOT) is planning a pedestrian improvement project at the intersection of Hayden Road and Chaparral Road in Scottsdale, Maricopa County, Arizona. A new underpass structure crossing Chaparral Road just east of the intersection will be constructed to provide a safe, grade-separated crossing for pedestrians accessing the adjacent park facilities.

The project scope of work includes:
• Constructing a concrete underpass structure
o Constructing reinforced concrete box underpass structure crossing Chaparral Road
o Constructing reinforced concrete wing walls with pedestrian railings at the north and south ends of the underpass
o Constructing new retaining walls at the north and south ends of the underpass
o Constructing concrete stairs on the north side of Chaparral Rd to allow a separate access from the underpass to the sidewalk on the east side of Hayden Rd
• Removing and replacing existing portions of roadway as needed to construct the underpass
• Removing, replacing, reconstructing, and installing new portions of sidewalk, access ramps, and shared-use paths (trails) to provide connections to the new underpass structure and access to adjacent sidewalks
• Slope stabilization including removing and reconstructing riprap on the north and south sides of Chaparral Road
• Removing, replacing, and installing new trees and other landscaping improvements
• Replacing storm drains and catch basins
• Removing, replacing, or installing new signage
• Relocating the Chaparral Park sign, bench, and exercise equipment
• Removing, replacing, and installing concrete curbing and valley gutters
• New portions of pavement, striping and markings

• Relocating lighting and installing new underpass lighting
• Conducting potholing investigations for utilities and relocating utilities within the project limits, where appropriate
o Relocating traffic signals, as needed
o Installing new conduit for future fiber cable supporting the traffic signal system
• Installing temporary embedded advance warning signage adjacent to the roadway within the project vicinity

Two methods of construction are being considered for the project. One method would require the full closure of a portion of Chaparral Rd, east of Hayden and traffic would be detoured to Camelback Rd and/or McDonald Dr via Granite Reef Rd. Another method of construction being considered involves a phased approach in which construction of the underpass would be completed in two phases, one half at a time, resulting in the closure of one side of Chaparral Road at a time. Traffic would be shifted from one side of the roadway while work occurs on the other side. As part of this method, in order to provide sufficient width of through lanes, southbound traffic may be temporarily prohibited from making a left-turn onto Hayden Rd. An alternate route for traffic may include Granite Reef Rd, Camelback Rd, 76th St, and Jackrabbit Rd.

The project will be constructed within the existing City owned right-of-way (ROW) and on adjacent City owned lands. No new ROW is anticipated to be needed; temporary construction easements may be needed for improvements outside the ROW. Construction staging is anticipated to occur within the project limits and local property access will remain open during construction. Portions of sidewalks and trails, including the Indian Bend Shared-Use Path, will be temporarily closed during construction. Full access to the Indian Bend Shared-Use Path within the project limits will be restored following completion of construction. The existing bus stop along Chaparral Rd, located east of the intersection of Hayden and Chaparral may be temporarily relocated during construction activities. Night work may be necessary. Construction is anticipated to begin in fall 2021 and take approximately 9 months to complete.

Project Location:
Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/33.50936340674016N111.90790540247127W

Counties: Maricopa, AZ

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened
Yuma Ridgways (clapper) Rail *Rallus obsoletus [=longirostris] yumanensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3505	Endangered

Reptiles

NAME	STATUS
Sonoran Desert Tortoise *Gopherus morafkai* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9289	Candidate

Fishes

NAME	STATUS
Desert Pupfish *Cyprinodon macularius* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7003	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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:
0000 MA SCT T0255 01C; SCOTTSDALE, Indian Bend Wash Undercrossing Ped/Bike Path at Chaparral Rd

User Project Number:
T0255 01C; Undercrossing Ped/Bike Path

Project Description:
The City of Scottsdale (City), in cooperation with the Arizona Department of Transportation (ADOT) is planning a pedestrian improvement project at the intersection of Hayden Road and Chaparral Road in Scottsdale, Maricopa County, Arizona. A new underpass structure crossing Chaparral Road just east of the intersection will be constructed to provide a safe, grade-separated crossing for pedestrians accessing the adjacent park facilities. The project scope of work includes: • Constructing a concrete underpass structure o Constructing reinforced concrete box underpass structure crossing Chaparral Road o Constructing reinforced concrete wing walls with pedestrian railings at the north and south ends of the underpass o Constructing new retaining walls at the north and south ends of the underpass o Constructing concrete stairs on the north side of Chaparral Road to allow a separate access from the underpass to the sidewalk on the east side of Hayden Road • Removing and replacing existing portions of roadway as needed to construct the underpass • Removing, replacing, reconstructing, and installing new portions of sidewalk, access ramps, and shared-use paths (trails) to provide connections to the new underpass structure and access to adjacent sidewalks • Slope stabilization including removing and reconstructing riprap on the north and south sides of Chaparral Road • Removing, replacing, and installing new trees and other landscaping improvements • Replacing storm drains and catch basins • Removing, replacing, or installing new signage • Relocating the Chaparral Park sign, bench, and exercise equipment • Removing, replacing, and installing concrete curbing and valley gutters • New portions of pavement, striping and markings • Relocating lighting and installing new underpass lighting • Conducting potholing investigations for utilities and relocating utilities within the project limits, where appropriate o Relocating traffic signals, as needed o Installing new conduit for future fiber cable supporting the traffic signal system •

Installing temporary embedded advance warning signage adjacent to the roadway within the project vicinity Two methods of construction are being considered for the project. One method would require the full closure of a portion of Chaparral Road, east of Hayden and traffic would be detoured to Camelback Road and/or McDonald Drive via Granite Reef Road. Another method of construction being considered involves a phased approach in which construction of the underpass would be completed in two phases, one half at a time, resulting in the closure of one side of Chaparral Road at a time. Traffic would be shifted from one side of the roadway while work occurs on the other side. As part of this method, in order to provide sufficient width of through lanes, southbound traffic may be temporarily prohibited from making a left-turn onto Hayden Road. An alternate route for traffic may include Granite Reef Road, Camelback Road, 76th Street, and Jackrabbit Road. The project will be constructed within the existing City owned right-of-way (ROW) and on adjacent City owned lands. No new ROW is anticipated to be needed; temporary construction easements may be needed for improvements outside the ROW. Construction staging is anticipated to occur within the project limits and local property access will remain open during construction. Portions of sidewalks and trails, including the Indian Bend Shared-Use Path, will be temporarily closed during construction. Full access to the Indian Bend Shared-Use Path within the project limits will be restored following completion of construction. The existing bus stop along Chaparral Road, located east of the intersection of Hayden and Chaparral may be temporarily relocated during construction activities. Night work may be necessary and noise levels may increase temporarily during construction but are expected to return to pre-construction levels upon project completion. A traffic control plan will be prepared for the project. Construction is anticipated to begin in fall 2021 and take approximately 9 months to complete.

Project Type:
Transportation & Infrastructure, Road Improvements, Pedestrian enhancements (curbs, sidewalks, bike lanes, etc.)

Contact Person:
audrey navarro

Organization:
Arizona Department of Transportation

On Behalf Of:
CITY

Project ID:
HGIS-11953

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.

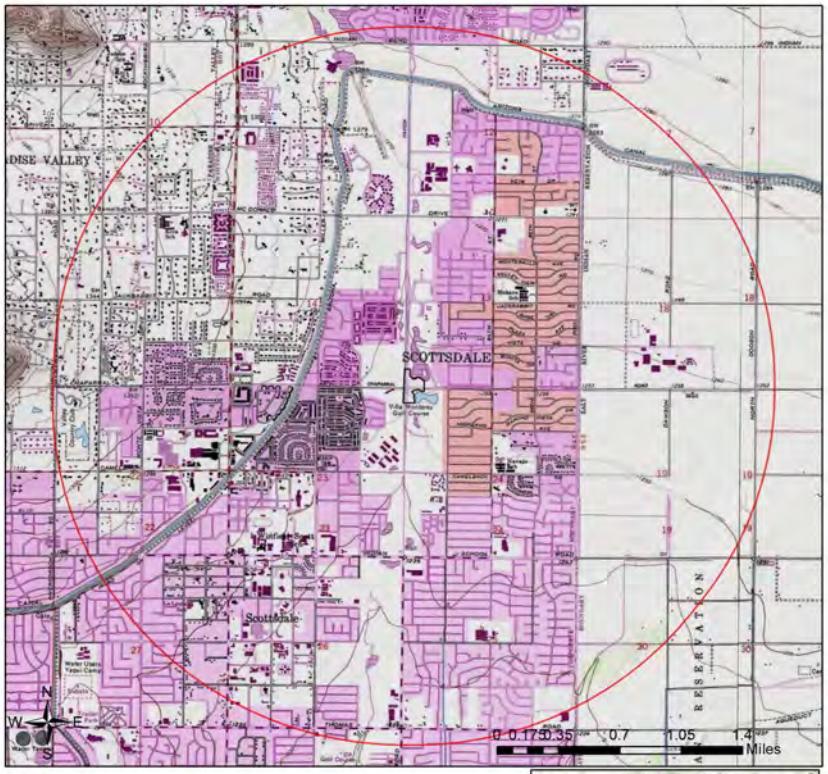
Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

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

CT T0255 01C; SCOTTSDALE, Indian Bend Wash Undercrossing Ped/Bike Path at Cl

USA Topo Basemap With Locator Map



Project Boundary

Buffered Project Boundary

Project Size (acres): 9.01

Lat/Long (DD): 33.5093 / -111.9082

County(s): Maricopa

AGFD Region(s): Mesa

Township/Range(s): T2N, R4E

USGS Quad(s): PARADISE VALLEY

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

Arizona Game and Fish Department
Project ID: HGIS-11953
project_report_0000_ma_sct_t0255_01c_38559_39799_FINAL.pdf
Review Date: 9/1/2020 07:06:23 PM

CT T0255 01C; SCOTTSDALE, Indian Bend Wash Undercrossing Ped/Bike Path at Cl

Web Map As Submitted By User

Project Boundary

Buffered Project Boundary

Project Size (acres): 9.01

Lat/Long (DD): 33.5093 / -111.9082

County(s): Maricopa

AGFD Region(s): Mesa

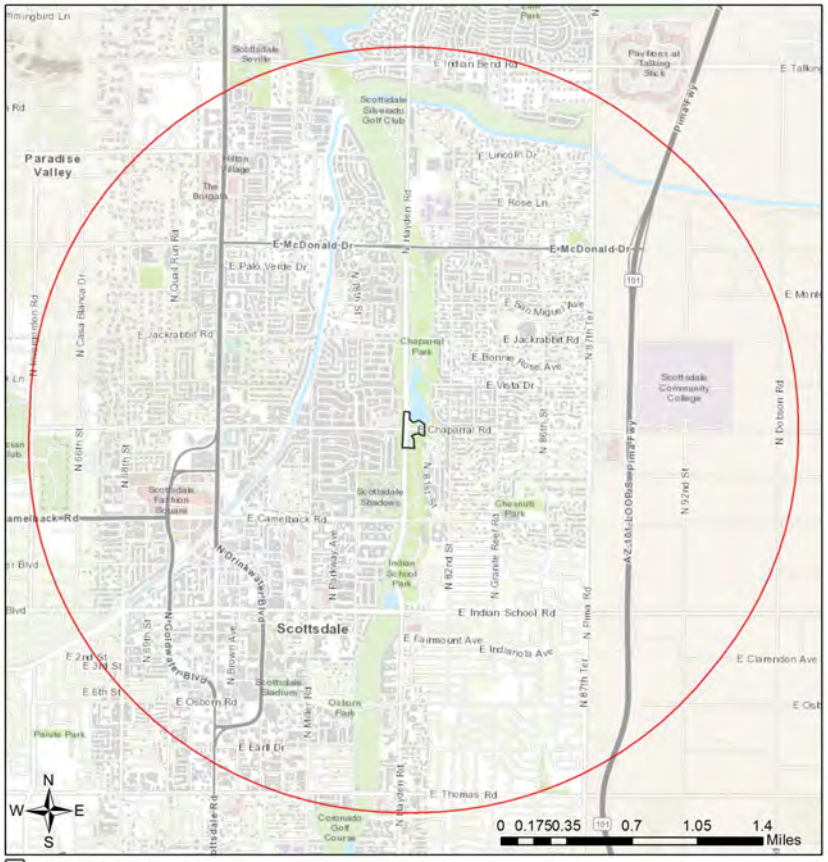
Township/Range(s): T2N, R4E

USGS Quad(s): PARADISE VALLEY

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

CT T0255 01C; SCOTTSDALE, Indian Bend Wash Undercrossing Ped/Bike Path at CI

Important Areas



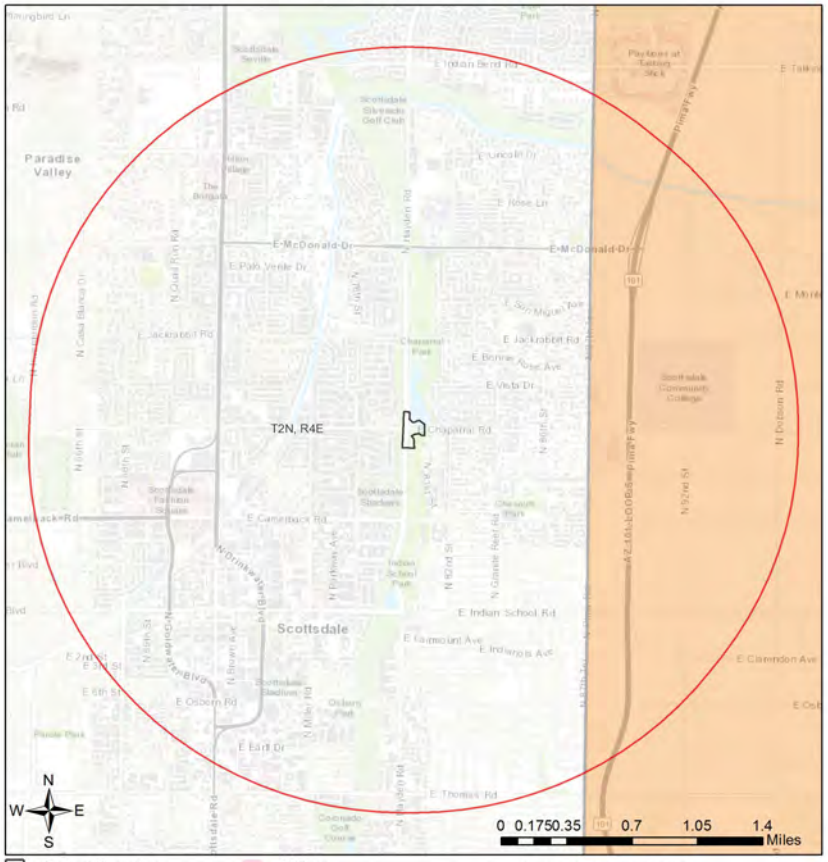
- Project Boundary
- Buffered Project Boundary
- Wildlife Connectivity
- Important Connectivity Zones
- Pinal County Riparian
- Critical Habitat
- Important Bird Areas

Project Size (acres): 9.01
Lat/Long (DD): 33.5093 / -111.9082
County(s): Maricopa
AGFD Region(s): Mesa
Township/Range(s): T2N, R4E
USGS Quad(s): PARADISE VALLEY

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

CT T0255 01C; SCOTTSDALE, Indian Bend Wash Undercrossing Ped/Bike Path at CI

Township/Ranges and Land Ownership



- Project Boundary
- Buffered Project Boundary
- Township/Ranges

Land Ownership

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

Project Size (acres): 9.01
Lat/Long (DD): 33.5093 / -111.9082
County(s): Maricopa
AGFD Region(s): Mesa
Township/Range(s): T2N, R4E
USGS Quad(s): PARADISE VALLEY

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

No Documented Occurrences of Special Status Species
No special status species were documented as occurring within the project vicinity; however, further field investigations of the project area are highly recommended. Site visits may reveal previously unrecorded resources of special concern in locations where they are currently undocumented.

Special Areas Documented within the Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Indian Bend Wash	Maricopa County Wildlife Movement Area - Riparian/Wash					

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

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

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Aix sponsa	Wood Duck					1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Botaurus lentiginosus	American Bittern					1B
Castor canadensis	American Beaver					1B
Chilomeniscus stramineus	Variable Sandsnake					1B
Chionactis occipitalis klauberi	Tucson Shovel-nosed Snake	SC				1A
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A
Haliaeetus leucocephalus	Bald Eagle	SC, BGA	S	S		1A
Incilius alvarius	Sonoran Desert Toad					1B
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		1B
Lasiurus xanthinus	Western Yellow Bat		S			1B
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1A
Melanerpes uropygialis	Gila Woodpecker					1B
Melospiza lincolnii	Lincoln's Sparrow					1B
Melozone aberti	Abert's Towhee		S			1B
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myotis yumanensis	Yuma Myotis	SC				1B
Panthera onca	Jaguar	LE				1A
Setophaga petechia	Yellow Warbler					1B
Sphyrapicus nuchalis	Red-naped Sapsucker					1C
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B

Species of Economic and Recreation Importance Predicted within the Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					

Species of Economic and Recreation Importance Predicted within the Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Transportation & Infrastructure, Road Improvements, Pedestrian enhancements (curbs, sidewalks, bike lanes, etc.)

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/.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

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, https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/water/quality/?cid=stelprdb1044769 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.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

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

Design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Reduce/minimize barriers to allow movement of amphibians or fish (e.g., eliminate falls). Also for terrestrial wildlife, washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found on the home page of this application at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Project Location and/or Species Recommendations:
Analysis indicates that your project is located in the vicinity of an identified ***wildlife habitat connectivity feature***. The **County-level Stakeholder Assessments** contain five categories of data (Barrier/Development, Wildlife Crossing Area, Wildlife Movement Area- Diffuse, Wildlife movement Area- Landscape, Wildlife Movement Area- Riparian/Washes) that provide a context of select anthropogenic barriers, and potential connectivity. The reports provide recommendations for opportunities to preserve or enhance permeability. Project planning and implementation efforts should focus on maintaining and improving opportunities for wildlife permeability. For information pertaining to the linkage assessment and wildlife species that may be affected, please refer
to: https://www.azgfd.com/wildlife/planning/habitatconnectivity/identifying-corridors/.
Please contact the Project Evaluation Program (pep@azgfd.gov) for specific project recommendations.

November 5, 2020

Arizona Department of Transportation
% Marshall Hayes
Logan Simpson
51 W. 3rd St., Ste. 450
Tempe, AZ 85281

Electronically submitted to: Mhayes@logansimpson.com

Re: Review of the Tracs No. 000 MA SCT T0255 01C Indian Bend Wash Path at Chaparral Road Pedestrian Improvement Project

Dear Mr. Hayes:

The Arizona Game and Fish Department (Department) reviewed your Project Evaluation Request dated September 17, 2020, regarding the City of Scottsdale, in cooperation with the Arizona Department of Transportation (ADOT) pedestrian improvement project at the intersection of Hayden Road and Chaparral Road in Scottsdale, Maricopa County, Arizona. The project includes constructing a concrete underpass, removal and replacement of the roadway, removing and replacing trees, drainage and slope stabilization and other associated improvements in the Indian Bend Wash Greenbelt corridor. As seen on the Department's Arizona Online Environmental Tool report you created on September 1, 2020, the project is within the Indian Bend Wash, Maricopa County Wildlife Movement Area - Riparian/Wash.

Based on the information provided the Department has the following recommendations:

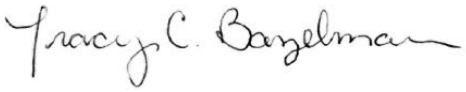
- Artificial lighting could impair the ability of nocturnal animals to navigate (e.g., owls, migratory birds, bats, and other nocturnal mammals), and may negatively affect reptile populations. The Department recommends using only the minimum amount of light needed for safety, especially in areas immediately adjacent to open space or undeveloped lands. Motion sensing lighting and narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

The Department understands that ADOT will comply with the Arizona Native Plant Law for any ground disturbing activities, efforts will be made to minimize ground disturbance, and all temporarily disturbed land will be re-seeded to minimize erosion. In addition, the Department understands that, in accordance with ADOT Environmental Planning Group's (EPG's) guidelines, invasive species and the Migratory Bird Treaty Act (MBTA) will be addressed within the proposed project's biological report, if applicable.

GOVERNOR: DOUGLAS A. DUCEY **COMMISSIONERS:** CHAIRMAN KURT R. DAVIS, PHOENIX | LELAND S. "BILL" BRAKE, ELGIN
JAMES E. GOUGHNOUR, PAYSON | TODD G. GEILER, PRESCOTT | ERIC S. SPARKS, TUCSON **DIRECTOR:** TY E. GRAY **DEPUTY DIRECTOR:** TOM P. FINLEY

The Department appreciates the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with the Indian Bend Wash Path at Chaparral Road Pedestrian Improvement Project. If you have any questions regarding this letter, please contact me at (623) 236-7513, and visit our website for additional guidelines at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Sincerely,



Tracy C. Bazelman
Project Evaluation Program Specialist, Habitat Branch
Arizona Game and Fish Department

cc: Ginger Ritter, Project Evaluation Program Supervisor
Kelly Wolff, Habitat Program Manager, Region VI

AGFD# M20-09183642

Project Area Photographs

Photo 1. Overview of Camelback Park. Photo taken from the southeast corner of the intersection of Hayden Road and Chaparral Road, facing southeast.

Photo 2. Overview of Camelback Park. Photo taken from the southern limits of the project area, facing northwest. The proposed underpass would be constructed in the area circled in red.

Photo 3. Overview of Chaparral Park. Photo taken near the northern limits of the project area, facing south. The proposed underpass would be constructed in the area depicted in red.

Photo 4. Bus stop in Chaparral Park. Photo taken near the northern limits of the project area, facing west. The vegetation in this area would be removed.

Arizona Department of Transportation Categorical Exclusion (CE) Checklist for Actions Approved Under 23 CFR 771.117(c) & (d)

Project Information:

Project Name: Indian Bend Wash Path at Chaparral Road

ADOT Project Number: 0000 MA SCT T0255 01C

Federal-Aid Number: SCT-0(235)D

Estimated Project Construction Cost: $1,239,602

Planning Requirements:

☑ **STIP/Line Item**

☐ **ADOT Sub-program**

CE Start Date: 9/2/2020

Construction Project Administration

ADOT ☐ **CA Agency** ☑

Categorical Exclusion Approval for FMIS

2A - (c) Listed ☑

2B - (d) Listed ☐

2C - (d) Unlisted ☐

Re-evaluation:

☐ This project has been re-evaluated pursuant to 23 CFR 771.129 due to a change in the project scope, location, or termini or because of the need to evaluate new impacts not previously considered, or because five years have passed since the date of the CE Approval. The information on this form reflects all updates to the project information.

Location and Limits:

The City of Scottsdale is planning a pedestrian improvement project at the intersection of Hayden Road and Chaparral Road within Scottsdale, Maricopa County, Arizona. The project will be constructed within the existing City owned right-of-way (ROW) and on adjacent City owned lands. No new ROW or permanent easement would be required.

Purpose and Description (scope of work):

The purpose of the project is to provide a safe, grade-separated crossing for pedestrians and bicyclists accessing the adjacent park facilities.

The project scope of work includes:

- Constructing a concrete underpass structure
  - Constructing reinforced concrete box underpass structure crossing Chaparral Road
  - Constructing reinforced concrete wing walls with pedestrian railings at the north and south ends of the underpass
  - Constructing new retaining walls at the north and south ends of the underpass
  - Constructing concrete stairs on the north side of Chaparral Road to allow a separate access from the underpass to the sidewalk on the east side of Hayden Road
- Removing and replacing existing portions of roadway as needed to construct the underpass
- Removing, replacing, reconstructing, and installing new portions of sidewalk, access ramps, and shared-use

Purpose and Description (scope of work):

paths (trails) to provide connections to the new underpass structure and access to adjacent sidewalks

- Slope stabilization including removing and reconstructing riprap on the north and south sides of Chaparral Road
- Removing, replacing, and installing new trees and other landscaping improvements
- Replacing storm drains and catch basins
- Removing, replacing, or installing new signage
- Relocating the Chaparral Park sign, bench, and exercise equipment
- Removing, replacing, and installing concrete curbing and valley gutters
- New portions of pavement, striping and markings
- Relocating lighting and installing new underpass lighting
- Conducting potholing investigations for utilities and relocating utilities within the project limits, where appropriate
  - Relocating traffic signals, as needed
  - Installing new conduit for future fiber cable supporting the traffic signal system
- Installing temporary embedded advance warning signage adjacent to the roadway within the project vicinity

No new ROW or permanent easement would be needed. Temporary construction easements may be needed for improvements outside the ROW from adjacent private landowners.

A portion(s) of the project area may need full closure(s) of city roads or partial closure(s) of one lane; both construction/traffic control methods would require detours within city limits.

Type of CE - Choose *one* from (c) *or* (d) or Appendix A drop-down lists:

(c) - list: (c)(3) Construction of bicycle and pedestrian lanes, paths, and facilities.	(d) - list:

☐ **(c)(1) Non-Construction**

If the project qualifies for a (c)(1) CE then no Technical Sections review is required and the CE is complete. Proceed to NEPA Certification and Determination and Categorical Exclusion Approval.

Environmental Review Section

Each category below will be reviewed and a determination from a drop-down menu will be selected for each. The checkbox will indicate review has been completed and the appropriate documentation placed in the Project File as applicable.

Air Quality – Clean Air Act	
☑	326 conformity documentation is located in the project file

Noise – 23 CFR 772	
☑	This project is not a Type I project as defined in 23 CFR 772.5

Biological Resources – Endangered Species Act	
☑	Project Determination: No Effect under Section 7 of the Endangered Species Act

Cultural Resources – Section 106	
☑	Section 106 Determination: Screened Undertaking - Attachment 3

Section 4(f)	
☑	No Section 4(f) use

Section 404 – Clean Water Act	
☑	There are no potential impacts to Waters of the US

Section 401 – Clean Water Act	
☑	There are no potential impacts to Waters of the US

Hazardous Materials	
☑	A Preliminary Initial Site Assessment (PISA) has been completed and documented in the project file

Environmental Justice	
☑	This project has no potential Environmental Justice impacts

Public Involvement	
☑	Public involvement for the project has been conducted consistent with 23 CFR 771.111

Other Considerations	
☑	Other potential environmental impacts such as Prime and Unique Farmlands, Sole Source Aquifers, Wild and Scenic Rivers, visual resources, etc. have been considered if needed. Additional documentation as applicable is contained in the Project File.
Briefly cite *if* there are other applicable considerations and reference the appropriate file documentation:	
n/a	

Complete this section *only* for CEs determined under 23 CFR 771.117(c)(26), (c)(27) and (c)(28) for evaluation of the constraints under 23 CFR 771.117(e):

*If the answer to all questions 1 through 11 below is **No** then the project can be approved as a (c)(26), (c)(27) or (c)(28) CE.*

*If the answer to any question 1through 11 for a project listed under (c)(26), (c)(27) or (c)(28) is **Yes** then the project exceeds the constraints listed under 23 CFR 771.117(e) and must be processed under (d)(13). Additional information regarding any constraint exceeded is included below.*

Constraints:	Yes	No
1. Does the project involve the permanent acquisition of more than a minor amount of right-of-way?	○	○
2. Does the project involve any residential or non-residential displacements?	○	○
3. Does the project require a bridge permit from the U.S. Coast Guard?	○	○
4. Does the project require an Individual Permit under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act?	○	○
5. Does the project have a finding of "Adverse Effect" on historic properties protected by Section 106 of the NHPA by FHWA?	○	○
6. Does the project involve the use of a resource protected under Section 4(f) except for actions resulting in de minimis impacts?	○	○
7. Does the project have a finding of "may affect, likely to adversely affect" threatened or endangered species or critical habitat under the Endangered Species Act?	○	○
8. Does the project involve construction of temporary access, or the closure of an existing road, bridge, or ramp, that would result in major traffic disruptions?	○	○
9. Does the project involve a change in access control on a controlled access highway?	○	○
10. Does the project involve a floodplain encroachment for other than functionally dependent uses (e.g. bridges, wetlands) or actions that facilitate open space use (e.g. recreational trails, bicycle and pedestrian paths)?	○	○
11. Does the project involve construction activities in, across, or adjacent to a river component designated or proposed for inclusion in the National System of Wild and Scenic Rivers?	○	○

23 CFR 771.117(e) – Constraints Exceeded (If any "Yes" on Checklist)

Certification and Determination by ADOT	
☑	The State has determined that this project has no significant impact(s) on the environment and that there are no unusual circumstances as described in 23 CFR 771.117(b). As such, the project is categorically excluded from the requirements to prepare an environmental assessment or environmental impact statement under NEPA. The action complies with NEPA requirements relating to connected actions and segmentation [23 CFR 771.111(f)]. The State has been assigned, and hereby certifies that it has carried out, the responsibility to make this determination pursuant to 23 U.S.C. **326** and a Memorandum of Understanding dated January 4, 2021, executed between FHWA and the State.
☐	The State has determined that this project has no significant impact(s) on the environment and that there are no unusual circumstances as described in 23 CFR 771.117(b). As such, the project is categorically excluded from the requirements to prepare an environmental assessment or environmental impact statement under NEPA. The action complies with NEPA requirements relating to connected actions and segmentation [23 CFR 771.111(f)]. The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by ADOT pursuant to 23 U.S.C. **327** and a Memorandum of Understanding dated April 16, 2019 and executed by FHWA and ADOT.

Environmental Commitments	
☑	Environmental commitments are included with this project and will be incorporated into the project plans, specifications and estimates as required.

Categorical Exclusion Approval	
DocuSigned by: Taylor Gustafson F295D1BA54364CF... 2/1/2021 Prepared By: Taylor Gustafson, Environmental Planner — Date:	DocuSigned by: Paul O'Brien 69D3A817999345F... 2/1/2021 Approved By: Paul O'Brien, PE, Administrator, Environmental Planning — Date:

DocuSign Envelope ID: B5828ECE-BBED-4282-8FFD-C492C1E2AF2C

0000 MA SCT T0255 01C
SCT-0(235)D
Indian Bend Wash Path at Chaparral Road

ENVIRONMENTAL COMMITMENTS

The following shall be included in the project special provisions:

I. **"The project mitigation measures are not subject to change without written approval from ADOT Environmental Planning. The Contractor shall follow all the requirements of the permits specified herein and comply with the project special provisions as well as the MAG Uniform Standard Specifications for Public Works as well as all applicable local environmental requirements."**

The following contractor's mitigation measures, permits and guidelines (as applicable) shall be included in the project special provisions:

II. Project Mitigation Measures:

Contractor Responsibilities:

• If vegetation clearing will occur during the migratory bird breeding season (March 1- August 31), the contractor shall avoid any active bird nests. If the active nests cannot be avoided, the contractor shall notify the Engineer to evaluate the situation. During the non-breeding season (September 1- February 28) vegetation removal is not subject to this restriction.

• To prevent the introduction of invasive species seeds, all earthmoving and hauling equipment shall be washed prior to entering the construction site and the contractor shall inspect all construction equipment and remove all attached debris, including plant parts, soil and mud, prior to the equipment entering the construction site.

• To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction and hauling equipment and remove all debris, including plant parts, soil and mud, prior to leaving the construction site

LPA Responsibilities:

• If any active bird nests cannot be avoided by vegetation clearing or construction activities, the Engineer will contact Eric Waldo, Senior Project Manager for the City of Scottsdale (480.312.7245) to evaluate the situation.

• Protected native plants within the project limits will be impacted by this project; therefore, the City of Scottsdale will determine if Arizona Department of Agriculture notification is needed. If notification is needed, the City of Scottsdale will send the notification at least 60 (sixty) calendar days prior to the start of construction.

DocuSign Envelope ID: B5828ECE-BBED-4282-8FFD-C492C1E2AF2C

III . Permits:

AZPDES 402 Coverage under the ADEQ Construction General Permit Required

LOGAN SIMPSON

51 West Third Street Suite 450 Tempe, Arizona 85281
Phone: 480.967.1343 Fax: 480.966.9232 www.logansimpson.com

MEMORANDUM

To:	Taylor Gustafson, ADOT Environmental Planning
Copy:	Eric Waldo, City of Scottsdale
	Kim Boyd, Premier Engineering Corporation
From:	Marshall Hayes, Logan Simpson
Date:	October 9, 2020
LS Project No.:	185324
Project Name:	Indian Bend Wash Path at Chaparral Road
	Federal Aid No.: SCT-0(235)D
	ADOT TRACS No.: 0000 MA SCT T0255 01C
Subject:	Section 4(f) Resources Memorandum
Attachments	Section 4(f) Summary Table
	Figures 1 – 3

Project Background

The City of Scottsdale (City), in cooperation with the Arizona Department of Transportation (ADOT) is planning a pedestrian improvement project at the intersection of Hayden Road and Chaparral Road in Scottsdale, Maricopa County, Arizona (Figure 1). A new underpass structure crossing Chaparral Road just east of the intersection will be constructed (Figures 2 and 3). The purpose of the project is to provide a safe, grade-separated crossing for pedestrians and bicyclists accessing the adjacent park facilities.

Potential Section 4(f) Resources

As part of the environmental clearance process, an analysis of properties afforded protection under Section 4(f) of the Department of Transportation Act of 1966 (23 Code of Federal Regulations 774) is required. Section 4(f) properties include publicly owned parks, recreation areas (including trails and multiuse paths), waterfowl and wildlife refuges, and historic sites of national, state, or local significance. Logan Simpson identified and reviewed potential Section 4(f) resources within 0.25 mile of the project area. Four resources were reviewed and were all determined to not meet conditions for Section 4(f) protection. No potential historic Section 4(f) resources are present were found.

Please see the attached table for a Section 4(f) resource summary. If you have any questions, please contact me at (480) 967-1343 or email **mhayes@logansimpson.com**.

References

1. City of Scottsdale General Plan. 2001. **https://www.scottsdaleaz.gov/general-plan**. Site accessed February 26, 2020.
2. City of Scottsdale. Camelback Park. 2020. **https://www.scottsdaleaz.gov/parks/camelback-park**. Site accessed February 26, 2020.
3. City of Scottsdale. Chaparral Park. 2020. **https://www.scottsdaleaz.gov/parks/chaparral-park**. Site accessed February 26, 2020.
4. Maricopa Association of Governments. Regional Bike Map. **https://geo.azmag.gov/maps/bikemap/**. Site accessed February 26, 2020.
5. City of Scottsdale. Indian Bend Wash Greenbelt. 2020. **https://www.scottsdaleaz.gov/parks/greenbelt**. Site accessed February 26, 2020.

Resource	Location and General Information	Distance from Project (Miles)	Section 4(f) Determination and Justification	Anticipated Use
Indian Bend Wash Greenbelt	The City General Plan (2001) identifies developed parks/green open space along the Indian Bench Wash within the project area. The Indian Bend Wash Greenbelt is an oasis of parks, lakes, paths and golf courses traversing 11 miles through Scottsdale. The greenbelt features more than 24 grade-separated crossings allowing users to avoid major cross traffic.	Within project area	According to the City of Scottsdale, the Indian Bend Wash Greenbelt's primary purpose is flood control, therefore, the Indian Bend Wash Trail Greenbelt would not be subject to protection under Section 4(f) since its primary purpose is not for recreation.	Not applicable.
Indian Bend Wash Trail System	According to the City of Scottsdale (City) Trail Project Locations map (April 2003), a shared-use path trail system extends along Indian Bend Wash within the project area. Additionally, the City General Plan (2001) Bikeways and Crossings map shows shared-use path along Indian Bend Wash within the project area.	Within project area	The Indian Bend Wash Trail System is a component of and located within the boundary of the Indian Bend Wash Greenbelt. According to the City of Scottsdale, the Indian Bend Wash Greenbelt's primary purpose is flood control. Therefore, the Indian Bend Wash Trail System would not be subject to protection under Section 4(f) since it is located within an area in which the primary purpose is for flood control rather than recreation.	Not applicable.
Chaparral Park	According to the City General Plan (2001) Parks and Recreation Facilities map, Chaparral Park is located northeast of the intersection of Hayden and Chaparral and extends north to McDonald Drive. This park includes 100 acres and features greenbelt multi-use path, dog park, community center, pool, lake, playground, ramadas, and additional recreational amenities.	Within project area	Chaparral Park is a component of and located within the boundary of the Indian Bend Wash Greenbelt. According to the City of Scottsdale, the Indian Bend Wash Greenbelt's primary purpose is flood control, therefore, Chaparral Park would not be subject to protection under Section 4(f) since it is located within an area in which the primary purpose is for flood control rather than recreation.	Not applicable.
Camelback Park	According to the City General Plan (2001) Parks and Recreation Facilities map, Camelback Park is located southeast of the intersection of Hayden and Chaparral, within the project area. Camelback Park is a 32 acre park featuring a multi-use path and lake.	Within project area	Camelback Park is a component of and located within the boundary of the Indian Bend Wash Greenbelt. According to the City of Scottsdale, the Indian Bend Wash Greenbelt's primary purpose is flood control, therefore, Camelback Park would not be subject to protection under Section 4(f) since it is located within an area in which the primary purpose is for flood control rather than recreation.	Not applicable.

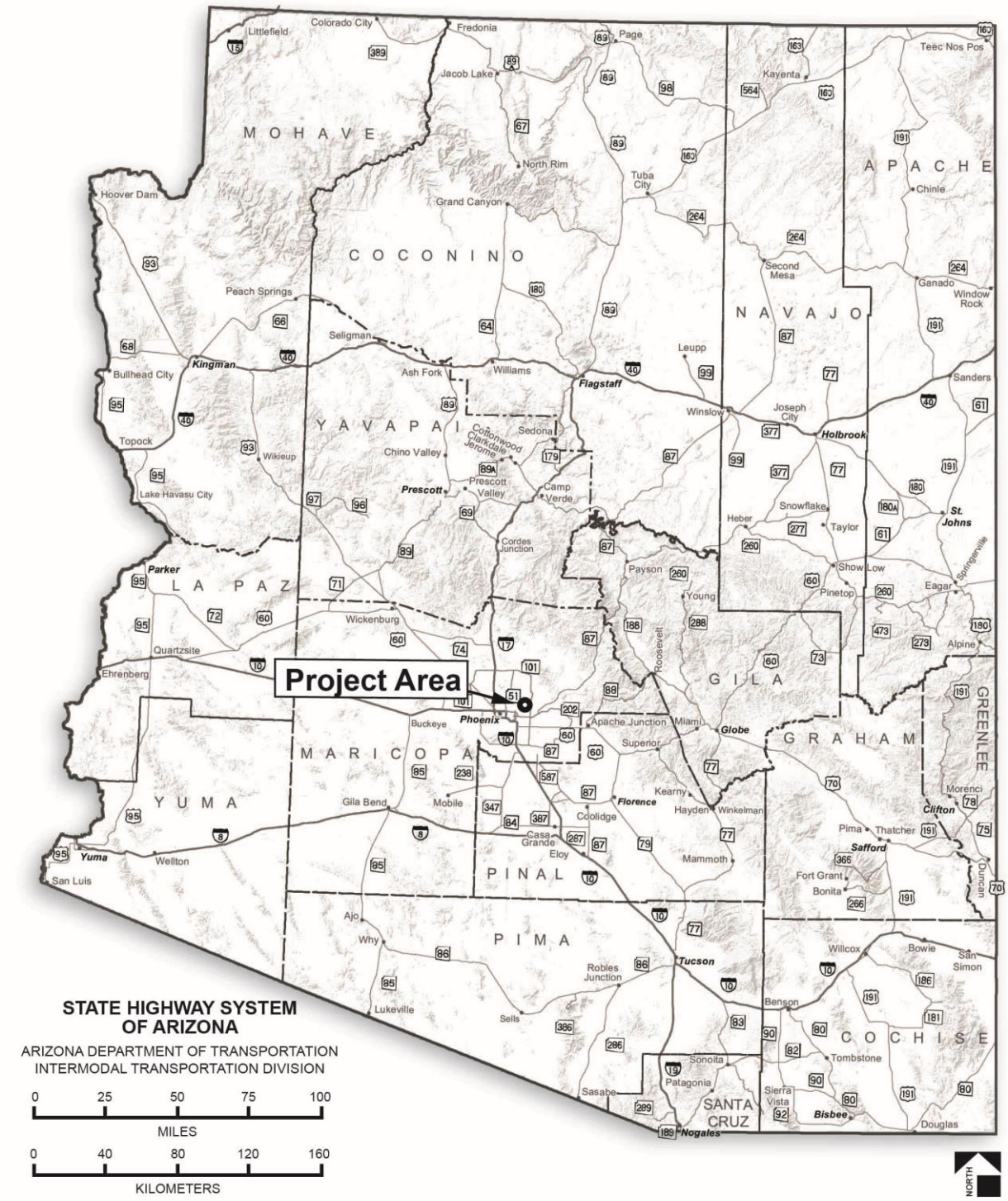


Figure 1. State Location Map
Federal Aid No. SCT-0(235)D
ADOT Tracs No. 0000 MA SCT T0255 01C
Indian Bend Wash Path at Chaparral Road

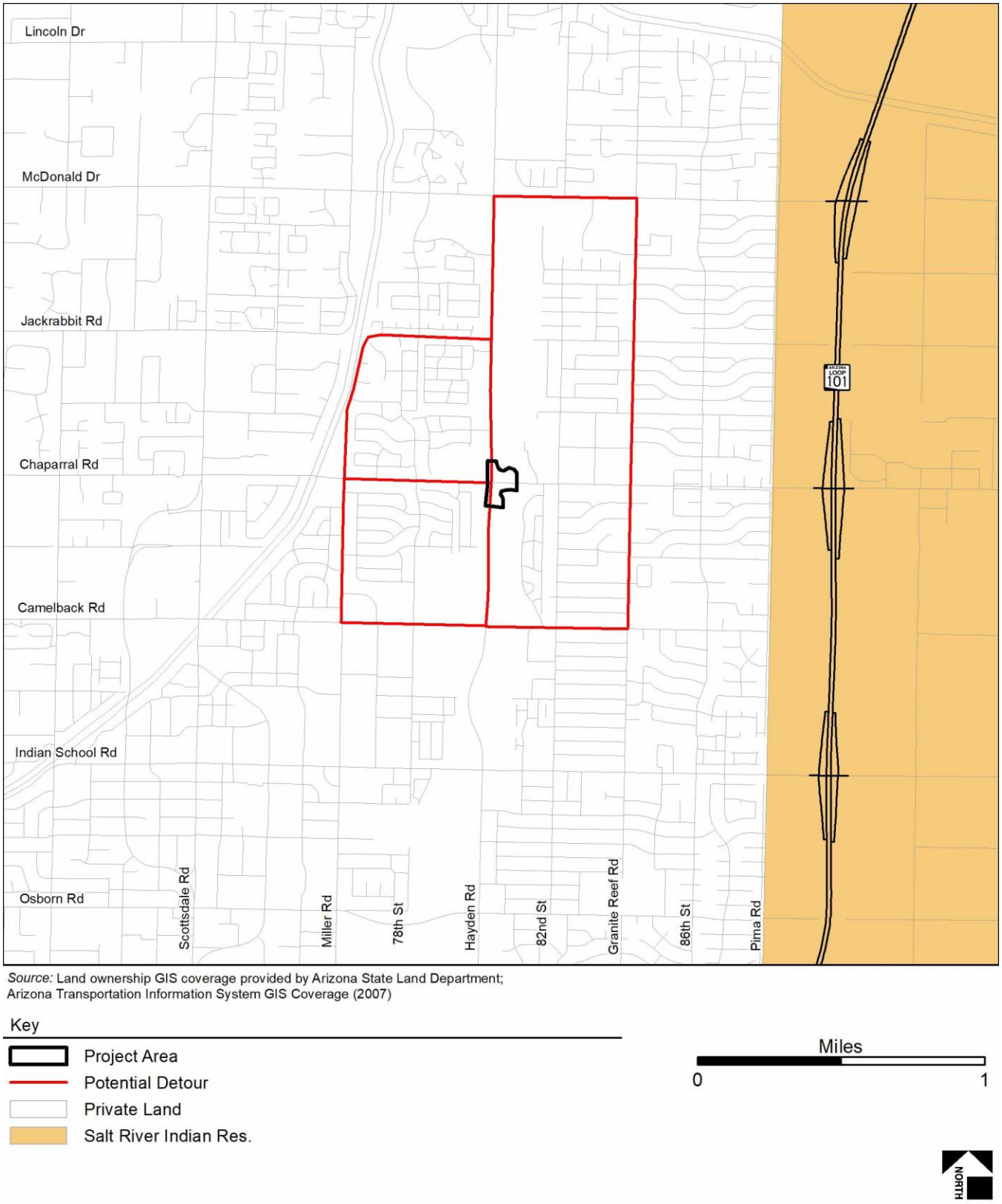
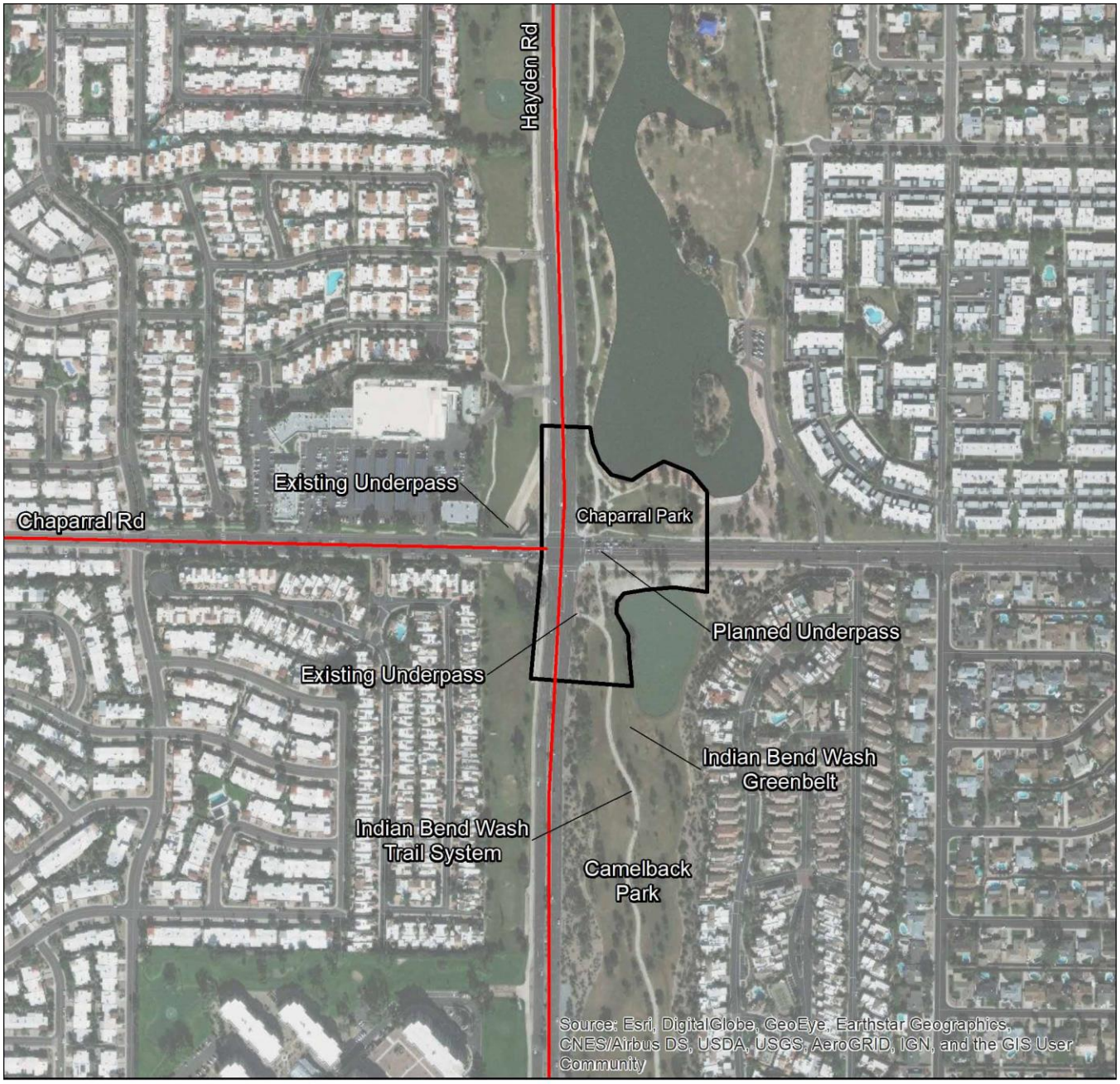


Figure 2. Project Vicinity Map
Federal Aid No. SCT-0(235)D
ADOT Tracs No. 0000 MA SCT T0255 01C
Indian Bend Wash Path at Chaparral Road



Source: Aerial Coverage from Digital Globe (11/17/2018)

Key

Project Area

Potential Detour

Feet

0 1,000

NORTH

Figure 3. Project Area Map
Federal Aid No. SCT-0(235)D
ADOT Tracs No. 0000 MA SCT T0255 01C
Indian Bend Wash Path at Chaparral Road

MEMORANDUM

FROM: Matt Mallery, Historic Preservation Specialist

CC: David Jacobs, State Historic Preservation Office

DATE: October 5, 2020

RE: Project Number: CMAQ SCT-0(235)D
TRACS Number: 0000 MA SCT T0255 01C
Project Name: Indian Bend Wash at Chaparral Road
Finding: Stipulation VIII.F.1.a

The Arizona Department of Transportation (ADOT) is assisting the City of Scottsdale in planning a pedestrian improvement project at the intersection of Hayden Road and Chaparral Road in Scottsdale, Maricopa County, Arizona. The project will take place on land owned by the City of Scottsdale.

The project is funded through the Federal-Aid Highway Program, and is thus an undertaking subject to Section 106 review. The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by ADOT pursuant to 23 U.S.C. 326 and a Memorandum of Understanding dated January 3, 2018, and executed by the Federal Highway Administration and ADOT.

The scope of work consists of:

- Constructing a concrete underpass structure
  - Constructing reinforced concrete box underpass structure crossing Chaparral Road
  - Constructing reinforced concrete wing walls with pedestrian railings at the north and south ends of the underpass
  - Constructing new retaining walls at the north and south ends of the underpass
  - Constructing concrete stairs on the north side of Chaparral Road to allow a separate access from the underpass to the sidewalk on the east side of Hayden Road
- Removing and replacing existing portions of roadway as needed to construct the underpass
- Removing, replacing, reconstructing, and installing new portions of sidewalk, access ramps, and shared-use paths (trails) to provide connections to the new underpass structure and access to adjacent sidewalks
- Slope stabilization including removing and reconstructing riprap on the north and south sides of Chaparral Road
- Removing, replacing, and installing new trees and other landscaping improvements
- Replacing storm drains and catch basins
- Removing, replacing, or installing new signage
- Relocating the Chaparral Park sign, bench, and exercise equipment
- Removing, replacing, and installing concrete curbing and valley gutters
- New portions of pavement, striping and markings
- Relocating lighting and installing new underpass lighting
- Conducting potholing investigations for utilities and relocating utilities within the project limits, where appropriate

    - Relocating traffic signals, as needed
    - Installing new conduit for future fiber cable supporting the traffic signal system
- Installing temporary embedded advance warning signage adjacent to the roadway within the project vicinity

The Area of Potential Effects (APE) was defined as the existing City right of way (ROW) along Hayden Road between 1,500 feet north and south of Chaparral Road, the existing City ROW along Chaparral Road between 125 feet west and 530 feet east of Hayden Road, an irregularly shaped portion of City-owned land encompassing approximately 2.2 acres located immediately northeast of the intersection of Hayden Road and Chaparral Road, and an irregularly shaped portion of City-owned land measuring approximately 2.5 acres located immediately southeast of the intersection of Hayden Road and Chaparral Road. No new ROW or Temporary Construction Easements will be needed for this project.

Although the APE has not been surveyed for cultural resources, it is heavily disturbed and urbanized and a survey would not be productive.

Based on this information, I find that Stipulation VIII.F.1 under the PA is appropriate for this project. Documentation supporting this finding will be included in the Quarterly Report for July 1 through September 30, 2020 to SHPO as required under Stipulation XVII.B of the PA.

No additional cultural resource studies or consultation are required at this time. Additional studies or consultation may be required if project plans change. If there are any questions about the content of this memo or if the project scope of work changes please contact Matt Mallery, Historic Preservation Specialist, at your (928) 779-7595 or Kris Powell, Cultural Resources Program Manager, at (602) 712-2343 or kpowell@azdot.gov.

Clean Water Act Section 404 Technical Memorandum

To:	Israel Garcia, Arizona Department of Transportation
Copy:	Taylor Gustafson, ADOT Environmental Planning
	Eric Waldo, City of Scottsdale
	Kim Boyd, Premier Engineering Corporation
	Marshall Hayes, Logan Simpson
From:	Angela Muszynski, Logan Simpson
	Wayne Colebank, Logan Simpson
Date:	September 21, 2020
Project Name:	SCT-0(235)D
	0000 MA SCT T0255 01C
	Indian Bend Wash Path at Chaparral Road
Subject:	Clean Water Act Section 404 Technical Memorandum

Introduction

The City of Scottsdale (City), in cooperation with the Arizona Department of Transportation (ADOT), is planning a pedestrian improvement project at the intersection of Hayden Road and Chaparral Road in Scottsdale, Maricopa County, Arizona (Figure 1). A new underpass structure crossing Chaparral Road just east of the intersection will be constructed (Figure 2).

The scope of work is as follows:

- Constructing a concrete underpass structure
    - Constructing reinforced concrete box underpass structure crossing Chaparral Road
    - Constructing reinforced concrete wing walls with pedestrian railings at the north and south ends of the underpass
    - Constructing new retaining walls at the north and south ends of the underpass
    - Constructing concrete stairs on the north side of Chaparral Road to allow a separate access from the underpass to the sidewalk on the east side of Hayden Road
- Removing and replacing existing portions of roadway as needed to construct the underpass
- Removing, replacing, reconstructing, and installing new portions of sidewalk, access ramps, and shared-use paths (trails) to provide connections to the new underpass structure and access to adjacent sidewalks
- Slope stabilization including removing and reconstructing riprap on the north and south sides of Chaparral Road
- Removing, replacing, and installing new trees and other landscaping improvements
- Replacing storm drains and catch basins
- Removing, replacing, or installing new signage

- Relocating the Chaparral Park sign, bench, and exercise equipment
- Removing, replacing, and installing concrete curbing and valley gutters
- New portions of pavement, striping and markings
- Relocating lighting and installing new underpass lighting
- Conducting potholing investigations for utilities and relocating utilities within the project limits, where appropriate
    - Relocating traffic signals, as needed
    - Installing new conduit for future fiber cable supporting the traffic signal system
- Installing temporary embedded advance warning signage adjacent to the roadway within the project vicinity

The project will be constructed within the existing City owned right-of-way (ROW) and on adjacent City owned lands. No new ROW is anticipated to be needed; temporary construction easements may be needed for improvements outside the ROW. Construction staging is anticipated to occur within the project limits and local property access will remain open during construction. Portions of sidewalks and trails, including the Indian Bend Shared-Use Path, will be temporarily closed during construction. Full access to the Indian Bend Shared-Use Path within the project limits will be restored following completion of construction. The existing bus stop along Chaparral Road, located east of the intersection of Hayden and Chaparral may be temporarily relocated during construction activities. Night work may be necessary and noise levels may increase temporarily during construction but are expected to return to pre-construction levels upon project completion. A traffic control plan will be prepared for the project. Construction is anticipated to begin in fall 2021 and take approximately 9 months to complete.

As part of the project environmental clearance, the project limits were investigated for potential waters of the US (Waters) under Section 404 of the Clean Water Act. This technical memorandum provides the survey methods used to determine potential Waters in the project limits, a summary of findings, and final recommendations.

SURVEY METHODS

To assess whether potential Waters are present in the project limits, available historical and present-day aerial imagery, topographic maps (Figure 3), Federal Emergency Management Agency (FEMA) Floodplain Insurance Rate Maps (FIRMs) (Figure 4), and National Wetland Inventory maps were reviewed (see attached). In addition, representative photographs were taken on April 7, 2020 during a biological site visit to capture the current condition of potential features within the project limits.

RESULTS

The project limits are located in the 100-year floodplain and is within the boundaries of a Regulatory Floodway (FIRM Panel 04013C1770L) due to the presence of Indian Bend Wash west of Hayden Road. Indian Bend Wash, Chaparral Lake to the north, and an unnamed lake to the south, are present immediately adjacent to, but outside of the project (Figure 5). Based on the April 7, 2020 site visit, one potential feature was observed, but it is a man-made earthen ditch that is armored with river rocks along its sides (see attached photographs). Its exact function is unclear, but it likely conveys stormwater from Chaparral Road and/or extraneous irrigation water into Chaparral Lake. The project limits do not contain any intermittent or perennial streams, special aquatic sites, or broadleaf riparian vegetation. The lakes present north and south of the project limits are constructed, man-made lakes, created for aesthetic reasons as part of the Indian Bend Wash Greenbelt/City park system. They are not impoundments of Waters, and under the Navigable Waters Protection Rule (effective June 22, 2020), these lakes are not considered jurisdictional.

As a result, this ephemeral ditch does not act as a relocated or excavated tributary to a jurisdictional Water (i.e., a traditional navigable water, interstate water, or territorial sea). Therefore, there are no jurisdictional Waters in the project limits.

FINAL RECOMMENDATIONS

Based on the current scope of work, a Section 404 permit under the Clean Water Act is not required due to a lack of Waters in the survey area as defined by the Navigable Waters Protection Rule. Additionally, the ditch, lakes, and Indian Bend Wash west of the project limits would be avoided by construction activities (Figure 5). Should the limits of the project be extended to include Indian Bend Wash west of the current project limits, a re-evaluation of Waters in the project limits would need to occur.

The results of this evaluation have not been reviewed by the US Army Corps of Engineers (Corps). If review and acceptance from the Corps is desired, a preliminary or approved jurisdictional delineation request would need to be prepared and submitted to the Corps. If you have any questions, please call me at (480) 967-1343 or email me at **amuszynski@logansimpson.com**.

Thank you.

Angela Muszynski
Biologist/Permitting Specialist

Enclosures:
- Figure 1. State Location Map
- Figure 2. Project Vicinity Map
- Figure 3. Topographic Map
- Figure 4. Floodplain Map
- Figure 5. Potential Waters of the US
- Ground Photographs
- National Wetlands Inventory Map

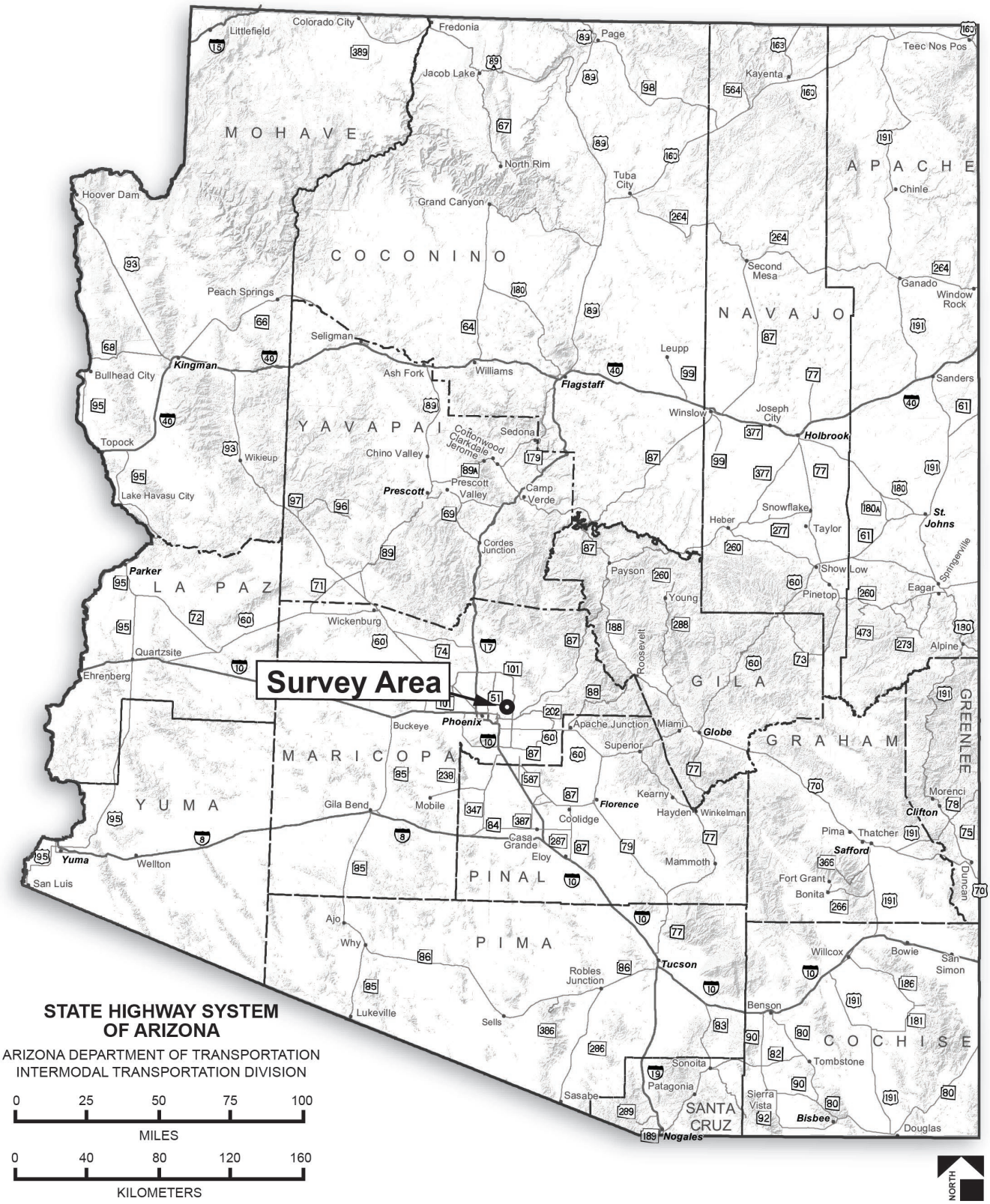
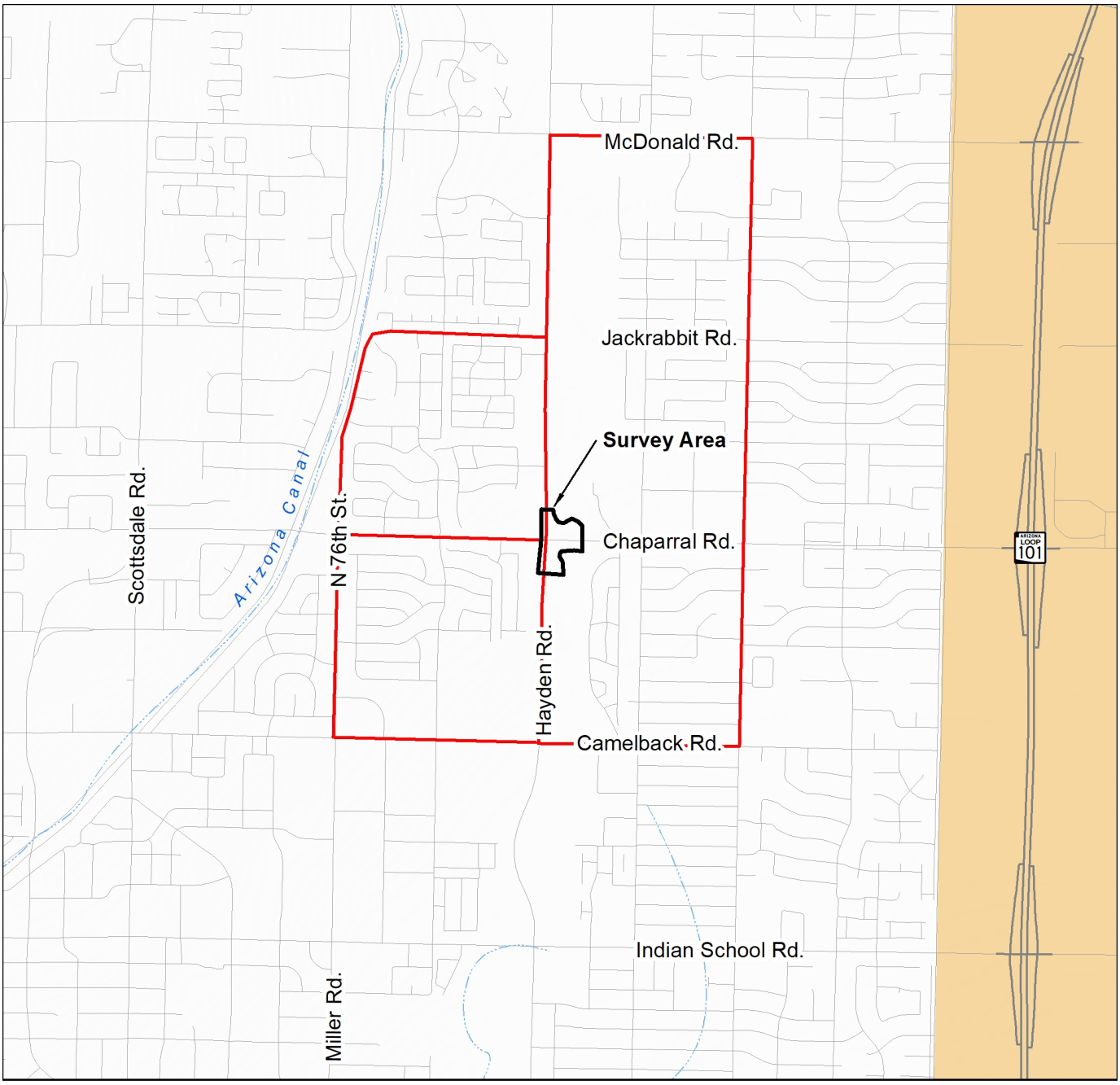


Figure 1. State Location Map



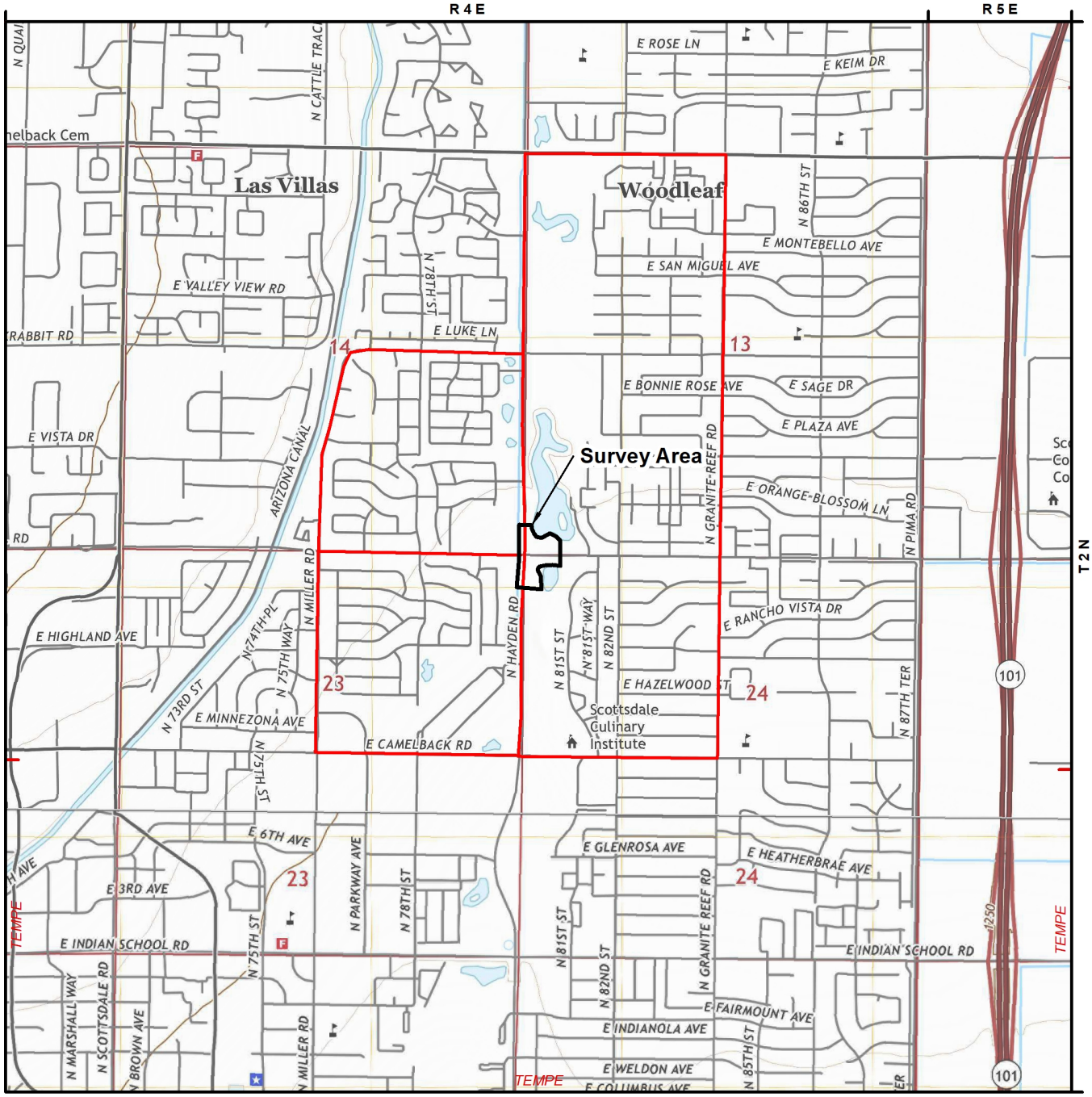
Source: Land ownership GIS coverage provided by Arizona State Land Department; Arizona Transportation Information System GIS Coverage (2013)

Key	Land Ownership
Survey Area	Private Land
Potential Detour	Salt River Pima-Maricopa Indian Community

Miles
0 0.5

NORTH

Figure 2. Project Vicinity Map



Source: USGS 7.5' Quadrangles:
Paradise Valley, Ariz. (2018)
Tempe, Ariz. (2018)

Key

Survey Area

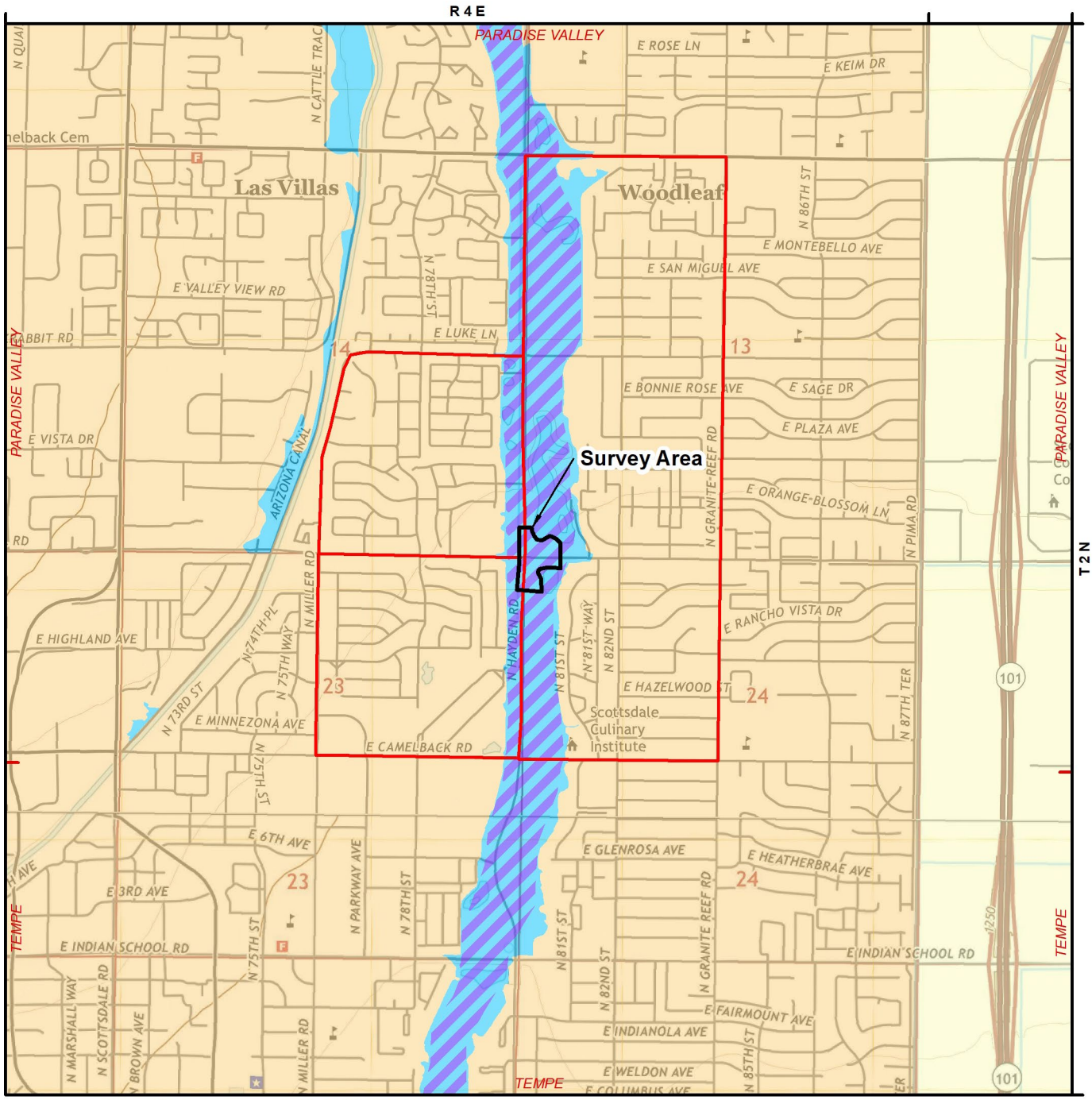
Potential Detour

Mile

0 1

NORTH

Figure 3. Topographic Map



Source: Floodplain GIS Coverage provided by FEMA (2016)
USGS 7.5' Quadrangles:
Paradise Valley, Ariz. (2018)
Tempe, Ariz. (2018)

Key

- Survey Area
- Potential Detour
- Regulatory Floodway
- 100-year Floodplain
- 500-year Floodplain
- Area of Undetermined but Possible Flood Hazards

Mile
0 1

NORTH

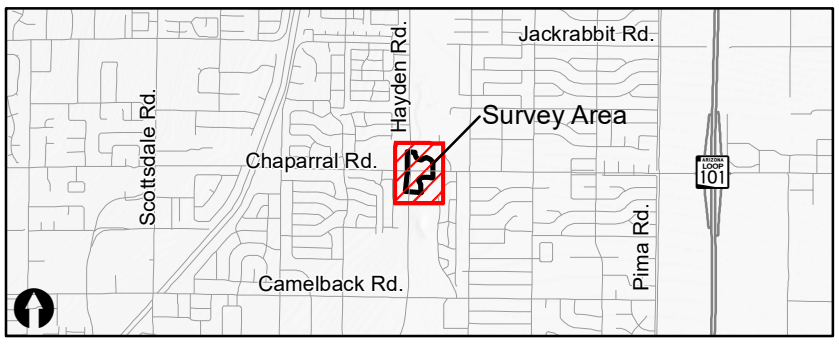
Figure 4. Floodplain Map

Aerial Date: October-December 2019
Source: Maricopa County

Prepared by: A. Muszysnki of Logan Simpson September 2020

Key

#	Feature Number		Survey Area (7.38 acres)
#	Photograph location		Construction Limits
	Flow direction		



Section 404 Technical Memorandum
Indian Bend Wash Path at Chaparral Road

Source: USGS 7.5' Quadrangles
Paradise Valley, Ariz (2018;
Tempe, Ariz. (2018);
T2N, R4E, Sec. 13,14,23,24;
UTM 1983 Zone 12S;
415661.42m E, 3708112.73m N

Feet
0 100
1" = 100'
NORTH

September 2020

Figure 5

Photo No. 1 (Feature 1)

Downstream view facing northwest

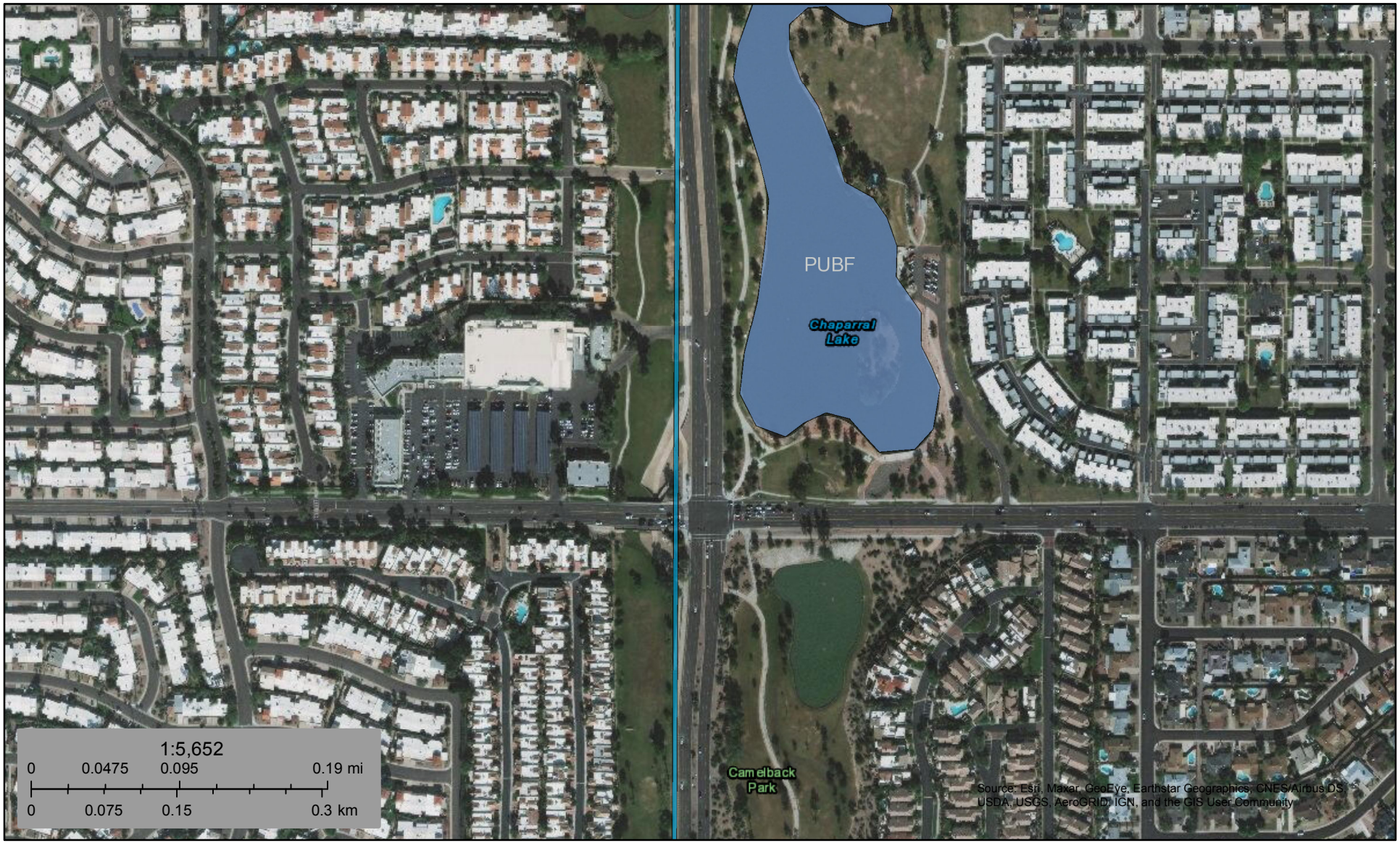
Photo No. 2 (Feature 1)

Upstream view facing southeast

U.S. Fish and Wildlife Service

National Wetlands Inventory

T0255, Indian Bend Wash @ Chap. Rd



September 2, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Limited Asbestos & Lead-Based Paint Sampling

Indian Bend Wash Path at Chaparral Road

Scottsdale, Arizona

Federal Project No. SCT-0(235)D

ADOT TRACS No. 000 MA SCT T0255 01C

Approved
Ed Green
08 Oct 20

October 1, 2020

Terracon Project No. 65187352

No ACM detected

Lead dected >detection limit < HUD-EPA level.

Concur with OSHA recommendation on pdf page 9

Prepared for:

Logan Simpson

Tempe, Arizona

Prepared by:

Terracon Consultants, Inc.

Tempe, Arizona

October 1, 2020

Mr. Marshall Hayes
Environmental Planner
Logan Simpson
51 West Third Street, Suite 450
Tempe, Arizona 85281

Re: Limited Asbestos and Lead Paint Sampling
Indian Bend Wash Path at Chaparral Road
Scottsdale, Maricopa County, Arizona 85257
ADOT TRACS No. 000 MA SCT T0255 01C
Federal No. SCT-0(235)D
Terracon Project No. 65187352

Dear Mr. Hayes:

This report presents the results of the limited asbestos and lead-based paint (LBP) sampling performed on September 15, 2020, at the intersection of Hayden and Chaparral Roads, Scottsdale, Arizona. The sampling was conducted in general accordance with our proposal dated July 3, 2018 (Terracon Proposal Number P65187352). We understand that this limited sampling was requested due to the planned improvements at this location.

Asbestos was not identified in the samples collected from the site. Lead-based paint was not identified, however lead-containing paint was identified on the white signal lights, light poles, and on the grey electrical poles at the site. Please refer to the attached report for details.

Terracon appreciates the opportunity to provide this service to Logan Simpson. If you have any questions regarding this report, please contact the undersigned at 480-897-8200.

Sincerely,
Terracon Consultants, Inc.

Prepared By:

Sophie M. Hall
Assistant Scientist

Reviewed By:

David M. Matson, CHMM
Authorized Project Reviewer
Principal

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LIMITED ASBESTOS AND LEAD-BASED PAINT SAMPLING
INDIAN BEND WASH PATH AT CHAPARRAL ROAD
SCOTTSDALE, ARIZONA

Terracon Project No. 65187352
October 1, 2020

1.0 INTRODUCTION

Terracon conducted limited asbestos and lead-based paint (LBP) sampling of select areas at the intersection of Hayden and Chaparral Roads, Scottsdale, Arizona. The sampling was conducted on September 15, 2020 in general accordance with our proposal dated July 3, 2018 by an Asbestos Hazard Emergency Response Act (AHERA) accredited asbestos inspector and EPA certified lead paint inspector. Based on client-provided information, the limited asbestos and LBP sampling was performed due to planned improvements at this location.

Asbestos
Intersection, park and road components associated with the project area were sampled and homogeneous areas of suspect asbestos-containing materials (ACM) were visually identified and documented. Suspect ACM samples were collected in general accordance with the sampling protocols outlined in EPA regulation 40 CFR 763, AHERA. Samples were delivered to a National Voluntary Laboratory Accreditation Program (NVLAP) - accredited laboratory for analysis by Polarized Light Microscopy (PLM).

Lead Paint
Terracon collected paint chip samples to test for the presence of LBP or pigment. Surfaces that were assessed included white and yellow paint striping associated with pavements and other paints associated with utility poles and a bus stop.

1.1 Project Objective

We understand this limited ACM and LBP sampling was requested due to planned intersection improvement project at Hayden and Chaparral Roads, Scottsdale, Arizona. We understand the purpose of this sampling was to identify and quantify ACM and LBP. EPA regulation 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP), prohibits the release of asbestos fibers to the atmosphere during renovation or demolition activities. The asbestos NESHAP requires that potentially regulated asbestos-containing materials be identified, classified and quantified prior to planned disturbances or demolition activities.

2.0 SUSPECT MATERIAL DESCRIPTION

Based on information provided by Logan Simpson, the suspect ACM within the proposed work area included the following: various types of concrete and paint striping.

3.0 FIELD ACTIVITIES

The limited asbestos sampling and paint chip sampling were conducted by Mr. Matthew Fogerson, and Ms. Sophie Hall both AHERA-accredited asbestos Building Inspectors. Mr. Fogerson is also an EPA certified Lead Paint Inspector. Copies of their certifications are included in Appendix C. The asbestos sampling was conducted in general accordance with the sample collection protocols established in EPA regulation 40 CFR 763, AHERA. A summary of sampling activities is provided below.

3.1 Visual Assessment

Our limited sampling activities began with visual observation of the proposed work areas to identify homogeneous areas of suspect ACM. A homogeneous area consists of building materials that appear similar throughout in terms of color, texture and date of application. Assessment was conducted throughout visually accessible areas of the identified work areas.

Building materials identified as glass, wood, metal, or rubber were not considered suspect ACM.

3.2 Physical Assessment

Asbestos
A physical assessment of each homogeneous area of suspect ACM was conducted to assess the friability and condition of the materials. A friable material is defined by the EPA as a material that can be crumbled, pulverized, or reduced to powder by hand pressure when dry. Friability was assessed by physically touching suspect materials.

Lead
A physical assessment of each selected painted surface was conducted to assess its condition. The painted surfaces were assessed as good, fair or poor condition depending on degree of cracking, peeling or chipping.

3.3 Sample Collection

Asbestos
Based on results of the visual observation, bulk samples of suspect ACM were collected in general accordance with AHERA sampling protocols. Random samples of suspect materials were collected in each homogeneous area. Sample team members collected bulk samples using wet methods as

applicable to reduce the potential for fiber release. Samples were placed in sealable containers and labeled with unique sample numbers using an indelible marker.

Forty-eight (48) bulk samples were collected from sixteen (16) homogeneous areas (HAs) of suspect ACM. A summary of suspect ACM samples collected during the limited sampling is listed in Appendix A.

Lead

Terracon collected seven (7) paint chip samples to submit for laboratory analysis to detect the presence of LBP or lead-containing paint (LCP). Prepared surfaces were tested to characterize the presence of lead-based paint or pigment. Surfaces that were assessed included striping associated with the roadway and coatings on steel beams and light post. A summary of paint chip samples collected at the site is included in Appendix A.

3.4 Sample Analysis

Asbestos

Bulk samples were submitted under chain of custody to Cates Laboratories in Dallas, Texas for analysis by polarized light microscopy with dispersion staining techniques per USEPA methodology 600/R-93/116. The percentage of asbestos, where applicable, was determined by microscopic visual estimation. Cates Laboratories is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP) Accreditation No. 500031-0. A copy of Cates Laboratories certification is attached to this report.

Lead

The paint chip samples were submitted under chain of custody to Fiberquant Analytical Services (Fiberquant), in Phoenix, Arizona for analysis by Flame Atomic Absorption (FAA) modified EPA method, Solid Waste (SW) 846 and/or modified SW 846 3050b/7420. Fiberquant is accredited by the AIHA® Laboratory Accreditation Programs, LLC for lead analysis. A copy of Fiberquant' s AIHA accreditation is attached to this report.

4.0 REGULATORY OVERVIEW

Asbestos

The Asbestos NESHAP program in Arizona is enforced by federal, state, and county Asbestos NESHAP Coordinators. For projects occurring in Maricopa County, the County has been delegated authority from the EPA to enforce the Asbestos NESHAP within its respective jurisdictional boundaries, excluding tribal lands.

The asbestos NESHAP (40 CFR Part 61, Subpart M) regulates asbestos fiber emissions and asbestos waste disposal practices. The asbestos NESHAP regulation also requires the identification and classification of existing ACM according to friability prior to demolition or renovation activity. Friable ACM is a material containing more than 1% asbestos that, when dry,

can be crumbled, pulverized or reduced to powder by hand pressure. All friable ACM is considered regulated asbestos containing material (RACM).

The asbestos NESHAP regulation classifies ACM as either RACM, Category I non-friable ACM or Category II non-friable ACM. RACM includes all friable ACM, along with Category I and Category II non-friable ACM that has become friable, will be or has been subjected to sanding, grinding, cutting or abrading, or ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder in the course of renovation or demolition activity. Category I non-friable ACM are exclusively asbestos-containing packings, gaskets, resilient floor coverings, resilient floor covering mastics and asphalt roofing products that contain more than 1% asbestos. Category II non-friable ACM are all other non-friable materials other than Category I non-friable ACM that contain more than 1% asbestos. Category II non-friable ACM generally includes but is not limited to cementitious material such as: cement pipes, cement siding, cement panels, glazing, mortar and grouts.

For all demolitions (even when no asbestos is present), the Asbestos NESHAP agency overseeing the project site must be provided with a written NESHAP notification at least 10 working days prior to the commencement of asbestos abatement activities related to the demolition. Some counties have fees for their notification process. Some cities may have separate permit fees as well. RACM must be removed by a licensed asbestos abatement contractor prior to renovation or demolition activities which will disturb the materials.

The United States Occupational Safety and Health Administration (USOSHA) asbestos standard for construction (29 CFR 1926.1101) regulates workplace exposure to asbestos. The USOSHA standard requires that employee exposure to airborne asbestos must not exceed 0.1 fibers per cubic centimeter of air (0.1 f/cc) as an eight hour time weighted average (TWA) and not exceed 1.0 fibers per cubic centimeter of air (1.0 f/cc) over a 30 minute time period known as an excursion limit (EL). The TWA and EL are known as USOSHA's asbestos permissible exposure limits (PELs). The USOSHA standard classifies construction and maintenance activities which could disturb ACM, and specifies work practices and precautions which employers must follow when engaging in each class of regulated work.

Lead

Lead is regulated by the EPA and OSHA. The Resource Conservation and Recovery Act (RCRA) provides the EPA with the authority to regulate the waste status of demolition or renovation debris, including lead-containing materials. Specific notification and testing requirements must be addressed prior to transporting, treating, storing, or disposing of hazardous wastes. Lead-containing wastes are considered hazardous waste under RCRA if Toxicity Characteristic Leaching Procedure (TCLP) results exceed 5 milligrams per liter (mg/L). EPA exempts from most RCRA requirements those generators whose combined hazardous waste generation is less than 100 kilograms (kg) per month.

The US EPA has established an action level for lead-based paint of 1.0 milligram per square centimeter (mg/cm^2), 5,000 parts per million (ppm) or 0.5% by weight. If a reading is equal to or greater than 1.0 mg/cm^2, the prepared surface is considered to contain lead-based paint per EPA.

Detectable lead quantities may constitute a lead dust hazard during renovation/demolition activities. Personnel performing renovation/demolition activities that may disturb painted components with concentrations of lead above the designated analytical detection limit should comply with all current OSHA regulations in order to minimize employee exposure. OSHA defines lead paint as a paint, which contains lead, regardless of the concentration. Currently, any proposed renovation/demolition is subject to the OSHA regulations (29 CFR 1926.62 – Lead Exposure in Construction). The OSHA regulation defines specific training requirements, engineering controls and working practices for construction personnel subject to this standard. Occupational exposure to lead occurring in the course of construction work, including maintenance activities, painting, alteration and repairs is subject to the OSHA "Interim" Lead Exposure in Construction standard.

Construction work covered by 29 CFR 1926.62 includes any repair, renovation or other activities that disturb in-place, lead-containing materials, but does not include routine cleaning and repainting where there is insignificant damage, wear, or corrosion of existing lead-containing coatings or substrates. Employers must assure that no employee will be exposed to lead at concentrations greater than 50 micrograms per cubic meter ($\mu g/m^3$) averaged over an eight-hour period without adequate protection. The OSHA standard also establishes an action level of 30 $\mu g/m^3$ which if exceeded triggers the requirement for medical monitoring.

The above overview is not intended to be inclusive of all potentially pertinent regulatory information. The relevant EPA and OSHA standards should be consulted prior to undertaking activities involving the demolition, renovation, or maintenance of surfaces coated with lead-based paint or materials that contain lead.

5.0 FINDINGS AND RECOMMENDATIONS

Asbestos

Asbestos was not identified by laboratory analysis in samples collected from the site.

A summary of materials sampled, and their locations is presented in Appendix A. The analytical laboratory report is included in Appendix B.

Lead

Two of the seven paint chip samples collected from the site contained lead in concentrations above laboratory detection limits. As such, the white paint on signal/light pole and grey paint on electric pole are considered LCP. Painted materials with detectable concentrations of lead are regulated by OSHA.

A summary of materials sampled, and their locations is presented in Appendix A. The analytical laboratory report is included in Appendix B.

As detectable lead quantities may constitute a lead dust hazard during construction, personnel performing activities that may disturb painted components with concentrations of lead above the designated analytical detection limit should comply with all current OSHA regulations (29 CFR 1926.62 – Lead Exposure in Construction) in order to minimize employee exposure. The OSHA regulation defines specific training requirements, engineering controls and working practices for construction personnel subject to this standard. Occupational exposure to lead occurring in the course of construction work, including maintenance activities, painting, alteration and repairs is subject to the OSHA "Interim" Lead Exposure in Construction standard.

Construction work covered by 29 CFR 1926.62 includes any repair or renovation activities or other activities that disturb in-place lead-containing materials but does not include routine cleaning and repainting where there is insignificant damage, wear, or corrosion of existing lead-containing coatings or substrates. Employers must assure that no employee will be exposed to airborne lead at concentrations greater than 50 micrograms per cubic meter (µg/m^3) averaged over an eight-hour period without adequate protection. The OSHA Standard also establishes an action level of 30 µg/m^3 which, if exceeded, triggers the requirement for medical monitoring.

6.0 GENERAL COMMENTS

This limited asbestos and lead-based paint survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our limited survey activities at the site. The information contained in this report is relevant to the date on which this limited sampling was performed, and should not be relied upon to represent conditions at a later date. This report has been prepared on behalf of and exclusively for use by Logan Simpson and ADOT for specific application to their project as discussed. This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. Terracon does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report. No warranty, express or implied, is made.

APPENDIX A
SAMPLING SAMPLE SUMMARY
INDIAN BEND WASH PATH AT CHAPARRAL ROAD
SCOTTSDALE, ARIZONA
Terracon Project No. 65187352

Asbestos Sampling

Homogeneous Area	Sample No.	Description	Sample Location	Lab Results
1	1A, 1B, 1C	Concrete Wall, Grey	Chaparral West	Non-Detect
2	2A, 2B, 2C	Concrete Columns & Deck, Grey	Throughout Area	Non-Detect
3	3A, 3B, 3C	Concrete Sidewalk, Grey	Throughout Area	Non-Detect
4	4A, 4B, 4C	Concrete Riprap, Grey	All Four Corners of Intersection	Non-Detect
5	5A, 5B, 5C	Concrete Apron, Grey	All Four Corners of Intersection	Non-Detect
6	6A, 6B, 6C	Paint, Grey	Power Line at NW Corner of Intersection	Non-Detect
7	7A, 7B, 7C	Paint, Yellow	Street & Bike Path	Non-Detect
8	8A, 8B, 8C	Paint, White	Street & Bike Path	Non-Detect
9	9A, 9B, 9C	Paint, White	Light Post	Non-Detect
10	10A,10B,10C	Concrete, Grey	Power Line Post Columns	Non-Detect
11	11A,11B,11C	Paint, Red	Bus Station	Non-Detect
12	12A,12B, 2C	Paint, Tan	Bus Station Benches & Bike Rack	Non-Detect
13	13A,13B,13C	Intersection Crosswalk Grid, Yellow	Crosswalk Intersection	Non-Detect
14	14A,14B,14C	CMU, Grey	NW Corner of Hayden South Bound	Non-Detect
15	15A,15B,15C	Paint, Blue	Pull Up Bars	Non-Detect

16	16A,16B,16C	Concrete Tunnel, Grey	South Under Hayden Road	Non-Detect

Paint Chip Sampling

Sample Number	Component Location	Color/Condition	Results (ppm)
PC-1	Striping	White/Intact	ND (<43)
PC-2	Striping	Yellow/Intact	ND (<39)
PC-3	**Signal Light and Light Pole**	**White/Intact**	**47**
PC-4	**Electrical Pole**	**Grey/Intact**	**3,000**
PC-5	Bus Station	Red/Brown/Intact	ND (<71)
PC-6	Bus Station Seating and Bike Rack	Tan/Intact	ND (<43)
PC-7	Pull Up Bar	Blue/Intact	ND (<87)

ND = non-detect

APPENDIX B

LABORATORY ANALYTICAL DATA

PLM REPORT SUMMARY

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client:	Terracon	Lab Job No.:	PLM-23991
Project (Line 1):	PISA Hayden and Chaparral Intersection	Set No.:	35400
Project (Line 2):		Report Date:	9/23/2020
Project No:	65187352	Sample Date:	9/15/20
Identification:	Asbestos, Bulk Sample Analysis		
Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116		

On 9/16/2020, forty-eight (48) bulk samples were submitted by Ms. Sophie Hall of Terracon for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL853445	01A	Concrete Walls, Grey	None Detected
CL853446	01B	Concrete Walls, Grey	None Detected
CL853447	01C	Concrete Walls, Grey	None Detected
CL853448	02A	Concrete Columns & Deck, Grey	None Detected
CL853449	02B	Concrete Columns & Deck, Grey	None Detected
CL853450	02C	Concrete Columns & Deck, Grey	None Detected
CL853451	03A	Concrete Sidewalk, Grey	None Detected
CL853452	03B	Concrete Sidewalk, Grey	None Detected
CL853453	03C	Concrete Sidewalk, Grey	None Detected
CL853454	04A	Concrete Riprap, Grey	None Detected
CL853455	04B	Concrete Riprap, Grey	None Detected
CL853456	04C	Concrete Riprap, Grey	None Detected
CL853457	05A	Concrete Apron, Grey	None Detected
CL853458	05B	Concrete Apron, Grey	None Detected
CL853459	05C	Concrete Apron, Grey	None Detected
CL853460	06A	Paint, Grey	None Detected
CL853461	06B	Paint, Grey	None Detected
CL853462	06C	Paint, Grey	None Detected
CL853463	07A	Paint, Yellow	None Detected
CL853464	07B	Paint, Yellow	None Detected
CL853465	07C	Paint, Yellow	None Detected

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

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1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client:	Terracon	Lab Job No.:	PLM-23991
Project (Line 1):	PISA Hayden and Chaparral Intersection	Set No.:	35400
Project (Line 2):		Report Date:	9/23/2020
Project No:	65187352	Sample Date:	9/15/20
Identification:	Asbestos, Bulk Sample Analysis		
Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116		

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Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL853466	08A	Paint, White	None Detected
CL853467	08B	Paint, White	None Detected
CL853468	08C	Paint, White	None Detected
CL853469	09A	Paint, White	None Detected
CL853470	09B	Paint, White	None Detected
CL853471	09C	Paint, White	None Detected
CL853472	10A	Concrete, Grey	None Detected
CL853473	10B	Concrete, Grey	None Detected
CL853474	10C	Concrete, Grey	None Detected
CL853475	11A	Paint, Red	None Detected
CL853476	11B	Paint, Red	None Detected
CL853477	11C	Paint, Red	None Detected
CL853478	12A	Paint, Tan	None Detected
CL853479	12B	Paint, Tan	None Detected
CL853480	12C	Paint, Tan	None Detected
CL853481	13A	Intersection Crosswalk Grid, Yellow	None Detected
CL853482	13B	Intersection Crosswalk Grid, Yellow	None Detected
CL853483	13C	Intersection Crosswalk Grid, Yellow	None Detected
CL853484	14A	Decorative CMU, Grey	None Detected
CL853485	14B	Decorative CMU, Grey	None Detected
CL853486	14C	Decorative CMU, Grey	None Detected

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

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Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116		

On 9/16/2020, forty-eight (48) bulk samples were submitted by Ms. Sophie Hall of Terracon for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL853487	15A	Paint, Blue	None Detected
CL853488	15B	Paint, Blue	None Detected
CL853489	15C	Paint, Blue	None Detected
CL853490	16A	Concrete Tunnel, Grey	None Detected
CL853491	16B	Concrete Tunnel, Grey	None Detected
CL853492	16C	Concrete Tunnel, Grey	None Detected

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

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1339 Motor Circle
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Identification:	Asbestos, Bulk Sample Analysis		
Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116		

On 9/16/2020, forty-eight (48) bulk samples were submitted by Ms. Sophie Hall of Terracon for asbestos analysis by PLM/DS.
Copies of the lab data sheets are attached; additional information may be found therein.

STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency EPA 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: Curtis Grigg

Laboratory Director: John R. Cates, P.G.

Approved Signatory:

NVLAP LAB CODE 200569-0

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **01A**
Sample Description: **Concrete Walls, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853445**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853445**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **01B**
Sample Description: **Concrete Walls, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853446**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853446**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **01C**
Sample Description: **Concrete Walls, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853447**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853447**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **02A**
Sample Description: **Concrete Columns & Deck, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853448**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853448**

Bulk Asbestos Analysis Sheet

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EPA Method 600/R-93/116

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **02B**
Sample Description: **Concrete Columns & Deck, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853449**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853449**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **02C**
Sample Description: **Concrete Columns & Deck, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853450**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853450**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **03A**
Sample Description: **Concrete Sidewalk, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853451**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853451**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **03B**
Sample Description: **Concrete Sidewalk, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853452**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853452**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **03C**
Sample Description: **Concrete Sidewalk, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853453**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853453**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **04A**
Sample Description: **Concrete Riprap, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853454**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853454**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **04B**
Sample Description: **Concrete Riprap, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853455**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853455**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **04C**
Sample Description: **Concrete Riprap, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853456**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853456**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **05A**
Sample Description: **Concrete Apron, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853457**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853457**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **05B**
Sample Description: **Concrete Apron, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853458**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853458**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **05C**
Sample Description: **Concrete Apron, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853459**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853459**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **06A**
Sample Description: **Paint, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853460**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853460**

Bulk Asbestos Analysis Sheet

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **06B**
Sample Description: **Paint, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853461**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853461**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **06C**
Sample Description: **Paint, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853462**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853462**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **07A**
Sample Description: **Paint, Yellow**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853463**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Yellow	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853463**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **07B**
Sample Description: **Paint, Yellow**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853464**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Yellow	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853464**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **07C**
Sample Description: **Paint, Yellow**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853465**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Yellow	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853465**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **08A**
Sample Description: **Paint, White**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853466**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853466**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **08B**
Sample Description: **Paint, White**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853467**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853467**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **08C**
Sample Description: **Paint, White**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853468**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853468**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **09A**
Sample Description: **Paint, White**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853469**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853469**

Bulk Asbestos Analysis Sheet

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EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **09B**
Sample Description: **Paint, White**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853470**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853470**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **09C**
Sample Description: **Paint, White**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853471**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853471**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **10A**
Sample Description: **Concrete, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853472**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853472**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **10B**
Sample Description: **Concrete, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853473**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853473**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **10C**
Sample Description: **Concrete, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853474**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853474**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **11A**
Sample Description: **Paint, Red**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853475**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Red	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853475**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **11B**
Sample Description: **Paint, Red**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853476**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Red	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853476**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **11C**
Sample Description: **Paint, Red**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853477**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Red	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853477**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **12A**
Sample Description: **Paint, Tan**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853478**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853478**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **12B**
Sample Description: **Paint, Tan**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853479**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853479**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **12C**
Sample Description: **Paint, Tan**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853480**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/22/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853480**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **13A**
Sample Description: **Intersection Crosswalk Grid, Yellow**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853481**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Yellow	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853481**

Bulk Asbestos Analysis Sheet

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **13B**
Sample Description: **Intersection Crosswalk Grid, Yellow**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853482**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Yellow	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853482**

Bulk Asbestos Analysis Sheet

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **13C**
Sample Description: **Intersection Crosswalk Grid, Yellow**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853483**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Yellow	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853483**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **14A**
Sample Description: **Decorative CMU, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853484**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853484**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **14B**
Sample Description: **Decorative CMU, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853485**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853485**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **14C**
Sample Description: **Decorative CMU, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853486**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853486**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **15A**
Sample Description: **Paint, Blue**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853487**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Blue	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853487**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **15B**
Sample Description: **Paint, Blue**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853488**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Blue	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853488**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **15C**
Sample Description: **Paint, Blue**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853489**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Blue	**Hard**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	**100**								

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853489**

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Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **16A**
Sample Description: **Concrete Tunnel, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853490**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853490**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **16B**
Sample Description: **Concrete Tunnel, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853491**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853491**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **Terracon**
Project (Line 1): **PISA Hayden and Chaparral Intersection**
Project (Line 2):
Project #: **65187352**
Field ID #: **16C**
Sample Description: **Concrete Tunnel, Grey**

Lab Proj #: **PLM-23991**
Set #: **35400**
Sample #: **CL853492**

Layer 1 **Concrete**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Grey	**Cementitious**	**Yes**	**ND**	**ND**	**100**

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**60**		**Non-fibrous**						
Cement Binders	**40**		**Non-fibrous**						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Curtis Grigg**
Date Analyzed: **9/23/2020**

Lab Job #: **PLM-23991**
Sample #: **CL853492**

CATES LABORATORIES

CHAIN OF CUSTODY

CL Project No. PLM - 23991
(Lab Only) SET - 35400

Company: Terracon

Contact/Results to Matt Valenti, Matthew Fogerson, Sophie Hall Verbal ☐ Email ■ Fax ☐ (check all that apply)

Email(s): Matt.Valenti@terracon.com Matthew.Fogerson@terracon.com

Sophie.hall@terracon.com

Telephone No.: Fax No.:

Project Information

Project: PISA Hayden and Chaparral Intersection Project No.: 65187352

Address: P.O. No.:

Turnaround (check one)

RUSH ASAP ☐ RUSH 24HR ☐ 2 DAY (standard) ☐ 3-4 DAY ☐ 5 DAY ■

Testing Services (check all that apply)

Asbestos		IAQ - Mold (Non-Viable)
PLM-BULK EPA 600/R-93/116 ■ Point Count (400) ☐	PCM-AIR NIOSH 7400 ☐ OSHA TWA ☐	AIR (spore trap) - Standard Profile (count/genus identification) ☐ AIR (spore trap) - Expanded Profile (w/insect parts/pollen/skin) ☐ BULK (tape lift, swab) - Standard Profile (genus identification) ☐

CatesLab No. Range (Lab Only)	Sample Date	
853445 - 853492	9/15/20	No. of Samples 48 Positive Stop: Yes ☐ No ■

Sample No.	Sample Description/Location	Volume (air only)
01A	Concrete Walls, Grey	
B	Concrete Walls, Grey	
C	Concrete Walls, Grey	
02A	Concrete Columns & Deck, Grey	
B	Concrete Columns & Deck, Grey	
C	Concrete Columns & Deck, Grey	
03A	Concrete Sidewalk, Grey	
B	Concrete Sidewalk, Grey	
C	Concrete Sidewalk, Grey	
04A	Concrete Riprap, Grey	
B	Concrete Riprap, Grey	
C	Concrete Riprap, Grey	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	9/15/2020	[signature] 9/16/20	0951

AF72017-09 - issued 4/3/2017 Walk-In ☐ D-Drop ☐ F-Drop ☐ FedEx ☒ UPS ☐ Lonestar ☐ USPS ☐

1339 Motor Circle, Dallas, TX 75207 * (214) 920-5006, Fax 1-972-767-0167
NVLAP Code 200569-0, TDSHS-Asbestos 30-0287, TDSHS-Mold LAB1034, AZ Lab Cert. AZ0948

CATES LABORATORIES

CHAIN OF CUSTODY

CL Project No PLM-23991
(Lab Only) SET-35400

Additional Sample Page

Project Name PISA Hayden and Chaparral Intersection Project No : 65187352

Sample No.	Sample Description/Location	Volume (air only)
05A	Concrete Apron, Grey	
B	Concrete Apron, Grey	
C	Concrete Apron, Grey	
06A	Paint, Grey	
B	Paint, Grey	
C	Paint, Grey	
07A	Paint, Yellow	
B	Paint, Yellow	
C	Paint, Yellow	
08A	Paint, White	
B	Paint, White	
C	Paint, White	
09A	Paint, White	
B	Paint, White	
C	Paint, White	
10A	Concrete, Grey	
B	Concrete, Grey	
C	Concrete, Grey	
11A	Paint, Red	
B	Paint, Red	
C	Paint, Red	
12A	Paint, Tan	
B	Paint, Tan	
C	Paint, Tan	

Relinquished By:	Date/Time	Received By:	Date/Time.
[illegible]	09/15/2020	[illegible] Cates 9/16/20	0951

AF72017-09 - issued 4/3/2017

1339 Motor Circle, Dallas, TX 75207 * (214) 920-5006, Fax 1-972-767-0167
NVLAP Code 200569-0, TDSHS-Asbestos 30-0287, TDSHS-Mold LAB1034, AZ Lab Cert. AZ0948

CATES LABORATORIES

Additional Sample Page

CHAIN OF CUSTODY

CL Project No. PLM-23991
(Lab Only) SLT - 35400

Project Name: PISA Hayden and Chaparral Intersection Project No. 65187352

Sample No.	Sample Description/Location	Volume (air only)
13A	Intersection Cross Walk Grid, Yellow	
B	Intersection Cross Walk Grid, Yellow	
C	Intersection Cross Walk Grid, Yellow	
14A	Decretive CMU, Grey	
B	Decretive CMU, Grey	
C	Decretive CMU, Grey	
15A	Paint, Blue	
B	Paint, Blue	
C	Paint, Blue	
16A	Concrete Tunnel, Grey	
B	Concrete Tunnel, Grey	
C	Concrete Tunnel, Grey	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	09/15/2020	[signature] Cates 09/16/20	0951

AF72017-09 - issued 4/3/2017

1339 Motor Circle, Dallas, TX 75207 * (214) 920-5006, Fax 1-972-767-0167
NVLAP Code 200569-0, TDSHS-Asbestos. 30-0287, TDSHS-Mold LAB1034, AZ Lab Cert AZ0948

FIBERQUANT ANALYTICAL SERVICES

Atomic Absorption Spectrometer (AAS) Analysis of Paint

JobNumber: **202008483**

Client: **TERRACON INC**

4685 S ASH AVE #H-4

TEMPE, AZ 85282-0000

Office Phone: (480) 897-8200
FAX: (480) 897-1133

 # Samples: 7 AA **Rec:** 9/15/2020 **Method:** Modified SW 846 3050b/7420 Pb in paint by weight AA Analysis

Client Job: Hayden & Chaparral **PO Number:** 65187352

Report Date: 9/16/2020 **Date Analyzed:** 9/16/2020 **Routing Number:** -

Method and Analysis Information: **Fiberquant Internal SOP:** AApw

The received samples were analyzed for Pb (total) using "Test Methods for Evaluating Solid Waste" (SW 846, December 1996 updates). The extraction/digestion method was SW 3050b. The analytical method is "flame atomic absorption, direct aspiration", SW 7420.. Briefly the procedures are as follows. The incoming paint samples are first homogenized by mixing and crushing. A sub-sample is weighed to 0.0001 gm into a 50ml centrifuge tube. To the run stream are added the quality assurance samples described below. Six mls of concentrated HNO3 and one ml of 30% H2O2 are added to each container. The tubes are caped and heated for 1 hour at 95 deg. C. After cooling, the contents of the centrifuge tube are brought up to exactly 25 mls, completing the digestion/extraction.

The sample and quality assurance extractions are then analyzed on a Thermo M5 flame atomic absorption spectrometer or a Perkin Elmer Aanalyst 200. The wavelengths and other instrumental settings are set according to the manufacturer's recommendations, or as otherwise specified in the published method. Absorptions are recorded from sample and standard solutions. A calibration curve is fitted to at least three standard solutions, and the concentrations of the sample extracts are calculated from the curve. The ppm (ug/gm) and weight percent for each sample is calculated from the sub-sample weight, extract volume, and extract concentration.

The results from this analysis is generally compared to either the HUD guidelines, in which a sample is positive if it contains >0.5% (5000 ppm) Pb, or the Consumer Products Safety Commission (CPSC) limit, in which a paint or surface coating containing greater than 90 ppm is defined as lead-containing. The expected coefficient of variation for this method is approximately 20-30%. The results are reported to two significant figures. The Sample Reporting Limit (RL) listed below is twice the Sample Detection Limit, which is calculated for each sample from the experimentally determined Method Detection Limit. The limit of reliable quantitatiion is generally regarded as five to ten times the limit of detection. Therefore, samples smaller than 0.1 gm may give results too near the CPSC standard to be reliable. Problems in analysis or other information is provided in the "Analytical Notes" below. Blanks, if analyzed, are treated the same as samples and are not used for correcting non-blank results.

The following on-going quality assurance program was followed to ensure reproducible and dependable results: All analysts are degreed chemists trained extensively in-house for at least six months prior to un-supervised runs. Blank matrix samples are analyzed at a rate of 5% (at least one per run). Reference standards are analyzed at a rate of 5% (at least one per run), and compared to statistical records via control charts. Spiked matrix samples are analyzed at a rate of 5% (at least one per run), and compared to statistical records via control charts. Duplicate samples are analyzed at a rate of 5% (at least one per run), and compared to statistical records via control charts. For each instrumental run, the spectrometer is checked for sensitivity and stability. The calibration standards are made fresh weekly, and checked each run against a calibration verification standard from another source. All calculations are performed twice - once in a calibration spreadsheet, and once during the report generation, and also checked by hand. All quality checks performed for these samples were in control except as detailed in the "Analytical Notes" below. Fiberquant participates in the Environmental Lead Proficiency Analytical Testing (ELPAT) program, is accredited by AIHA-LAP, LLC for environmental lead in paint (Lab # 101593), and is recognized by the National Lead Laboratory Accreditation Program (NLLAP) for the analysis of Pb in paint. Accreditation does not imply endorsement by the EPA, any other United States governmental agency or any private agency or association. Each lab analysis refers only to the sample tested, and may not, due to the sampling process, be representative of the material sampled. This report may not be reproduced except in full, without the approval of Fiberquant Analytical Services.

Some results may have been calculated using client supplied data, such as volume or area sampled, for which Fiberquant assumes no liability for accuracy.

Job Analysis Notes:

Calibration Curve:

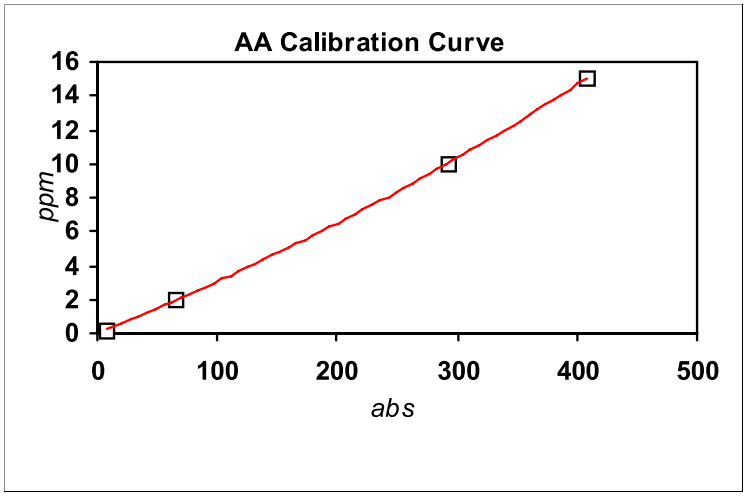
Pb

Run # ***14818*** ***9/16/2020***

Instrument: *AA200*

Standards:	ppm	avg. mAbs.
1	0.2	7
2	2	65
3	10	292
4	15	408

ax2	0.00002086
bx	0.0281364
c	0.03484241
R2	0.9999693



Analysis Results:

Job Number:	202008483

AApw

Lab Number	Client Number	Date	Condition	Weight (gm)	ug/ml	ml	Dil	Analyte	wt %	ppm	RL(ppm)
2020-08483- 1	PC-01	9/15/2020	acceptable	0.1151	0.0348	25	1	Pb	<0.0043	<43	43
2020-08483- 2	PC-02	9/15/2020	acceptable	0.1268	0.063	25	1	Pb	<0.0039	<39	39
2020-08483- 3	PC-03	9/15/2020	acceptable	0.1548	0.2898	25	1	Pb	0.0047	47	32
2020-08483- 4	PC-04	9/15/2020	acceptable	0.1996	2.3878	25	10	Pb	0.3	3000	25
2020-08483- 5	PC-05	9/15/2020	acceptable	0.0706	0.0348	25	1	Pb	<0.0071	<71	71
2020-08483- 6	PC-06	9/15/2020	acceptable	0.1173	0.0348	25	1	Pb	<0.0043	<43	43
2020-08483- 7	PC-07	9/15/2020	acceptable	0.0572	0.0348	25	1	Pb	<0.0087	<87	87

Martin Esquer

Analyst: MARTIN A. ESQUER

Printed: 16-Sep-20

Original Print Date: 16-Sep-20

Larry S. Pierce

Larry S. Pierce, Approved Accreditation Signatory

FIBERQUANT ANALYTICAL SERVICES

Fiberquant Analytical Services 5025 S. 33rd St.; Phoenix, AZ 85040; Phone: 602-276-6139; FAX: 602-276-4558; info@fiberquant.com

Analysis Request/Chain-of-Custody Form

Submitted by (Company) Terracon	
Address	
City, State, Zip Code	
Phone	FAX
Email	

Invoice to (Company) Terracon	
Address	
City, State, Zip Code	
Phone	FAX

Contact (print) Matthew Fogerson
Sampled by (signature)
Job Number or Project Name Hayden & Chaparral
PO Number 65187352

<Analysis Method Requested> ONLY ONE METHOD per COC		Turn-around-time (choose one) Rush		Norm	Ext.
Asbestos by **PLM**	Method > Improved ☐ or Interim ☐ Analyze > All ☐ or ATPF ☐ If ATPF then > by Layer ☐ or by Sample ☐ Single Layer Protocol > Yes ☐ or No ☐	Urg. Rush <3 hrs ☐	<6 hrs ☐	1-3 days ☐	15-30 days ☐
Fibers by **PCM**	Method > 7400(Area) ☐ ORM (Personal) ☐	<4 hr ☐		24hr ☐	-
Asbestos by **TEM**	in Air > AHERA ☐ Mod. AHERA ☐ ISO ☐	<6hr ☐		24 hr ☐	3-5d ☐
	in Water* > Water ☐ Sludge ☐	1-2d ☐		3-5d ☐	N/A
	in Bulk (Annex2) > Chatfield ☐ Full Quant ☐				
	in Dust > Vacuum Dust (ASTM D-5755) ☐	3-5d ☐		5-10d ☐	N/A
Pb by **FLAA**	Analyte > Pb ☒ Other ☐ Matrix > Filter > MCE ☐ Paint > by Area (mg/cm2) ☐ by Weight (ppm) ☒ Soil > ☐ Wipe > ☐ Check here certifying wipes used are ASTM E1792 compliant ☐	<6 hrs ☐		2-3 days ☒	N/A
Fungi	Air Sample > Zef ☐ Aller ☐ Oth ☐ Bulk > Sample ☐ Swab ☐ Tape Lift > Qualitative (%& type) ☐ or Quantitative (type/cm2) ☐	<6 hrs ☐		1-2 days ☐	N/A
Soot	ASTM D6602-03B — Optical	<6 hrs ☐		1-2 days ☐	N/A
	ASTM D6602-03B — Optical & TEM	1-2 days ☐		3-5days ☐	N/A
Other		Call		Call	

Sample # (1 per line)	Description/Location	Sample Date	Sample Time	Vol. or Area
1) PC-01	White Striping	09/15/2020		
2) PC-02	Yellow Striping	09/15/2020		
3) PC-03	White Signal Light and Light Pole	09/15/2020		
4) PC-04	Grey Electric Pole	09/15/2020		
5) PC-05	Red/Brown Bus Station	09/15/2020		
6) PC-06	Tan Bus Station Seating and Bicycle Rack	09/15/2020		
7) PC-07	Blue Pull Up Bar	09/15/2020		
8)				
9)				
10)				
11)				
12)				
13)				
14)				
15)				
16)				
17)				
18)				
19)				
20)				

1)Relinquished by:	Date: 9/15/20	Time: 1440	3)Relinquished by:	Date: 9/15/20	Time: 16:31
2)Received by:	Date: 9/15/20	Time: 14:40	4)Received by:	Date: 9/15/20	Time: 1634
* TEM Water: Sampler's name Required by State of Arizona	Print Name			Fiberquant assigned Job Number>	
Review of Analysis Request (Initials): KM				Page of	

Note: Data completed by client (including number and identity of samples) is assumed to be correct until it is verified at time of sample preparation.

APPENDIX C

LICENSES AND CERTIFICATIONS

THE ASBESTOS INSTITUTE

Certifies that

Matthew Fogerson

has attended and received instruction in the EPA approved course

AHERA Building Inspector Refresher

on

December 24, 2019

and successfully completed and passed the competency exam.

ON-4644-967-122419

Date of Examination:
24-Dec-2019

Date of Expiration:
24-Dec-2020

William T. Cavness
Director

Approved Instructor

THE ASBESTOS INSTITUTE
20033 N. 19th Ave, Building 6, Phoenix, AZ 85027
602-864-6564 – www.theasbestosinstitute.com

This training meets all requirements for asbestos certification under Toxic Substance Control Act Title II.

United States Environmental Protection Agency

This is to certify that

Matthew R Fogerson

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Inspector

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires February 02, 2023

LBP-I-I172116-2

Certification #

December 10, 2019

Issued On

Adrienne Priselac, Manager, Toxics Office

Land Division

THE ASBESTOS INSTITUTE

Certifies that

Sophie Hall

has attended and received instruction in the EPA approved course

AHERA Building Inspector Initial

on

June 8-10 2020

and successfully completed and passed the competency exam.

Certificate:
4380-9897-061020

Date of Examination:
10-Jun-2020
Date of Expiration:
10-Jun-2021

William T. Cavness
Director

Approved Instructor

THE ASBESTOS INSTITUTE
20033 N. 19th Ave, Building 6, Phoenix, AZ 85027
602-864-6564 – www.theasbestosinstitute.com

This training meets all requirements for asbestos certification under Toxic Substance Control Act Title II.

United States Environmental Protection Agency

This is to certify that

Terracon Consultants, Inc.

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires May 24, 2023

LBP-2606-3

Certification #

May 26, 2020

Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 200569-0

Cates Laboratories, Inc.

Dallas, TX

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2020-04-01 through 2021-03-31

Effective Dates

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Cates Laboratories, Inc.
1339 Motor Circle
Dallas, TX 75207
Mr. John R. Cates
Phone: 214-920-5006 Fax: 1-972-767-0167
Email: jrcates@cateslab.com
http://www.cateslab.com

ASBESTOS FIBER ANALYSIS **NVLAP LAB CODE 200569-0**

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

For the National Voluntary Laboratory Accreditation Program

Effective 2020-04-01 through 2021-03-31

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

Fiberquant Analytical Services

5025 S. 33rd Street, Phoenix, AZ 85040

Laboratory ID: 101593

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	**INDUSTRIAL HYGIENE**	Accreditation Expires: May 01, 2021
✓	**ENVIRONMENTAL LEAD**	Accreditation Expires: May 01, 2021
✓	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: May 01, 2021
☐	**FOOD**	Accreditation Expires:
☐	**UNIQUE SCOPES**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Beth Bair

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Cheryl O. Morton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 17 – 09/11/2018

Date Issued: 04/30/2019

AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Fiberquant Analytical Services
5025 S. 33rd Street, Phoenix, AZ 85040

Laboratory ID: **101593**
Issue Date: 04/30/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air and composited wipes analyses are not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 01/18/1995

Field of Testing (FoT)	Technology sub-type/ Detector	Method	Method Description *(for internal methods only)*
Paint		EPA SW-846 3050B (Modified)	
		EPA SW-846 7420 (Modified)	
Soil		EPA SW-846 3050B (Modified)	
		EPA SW-846 7420 (Modified)	
Settled Dust by Wipe		NIOSH 7082 (Modified)	
Airborne Dust		NIOSH 7082 (Modified)	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

United States Environmental Protection Agency

This is to certify that

Fiberquant Analytical Services

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires February 25, 2021

LBP-2033-1

Certification #

August 17, 2017

Issued On

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch

Preliminary Initial Site Assessment

Indian Bend Wash Path at Chaparral Road

Scottsdale, Arizona

Federal Project No. SCT-0(235)D

ADOT TRACS No. 000 MA SCT T0255 01C

Approved
Ed Green
08 Oct 20

October 1, 2020

Terracon Project No. 65187352

No addtional assessment for Hazardous Material recommended under current project scope.

No MM recommended based on PISA.

Prepared for:

Logan Simpson

Tempe, Arizona

Prepared by:

Terracon Consultants, Inc.

Tempe, Arizona

terracon.com

Terracon

Environmental ■ Facilities ■ Geotechnical ■ Materials

October 1, 2020

Mr. Marshall Hayes
Environmental Planner
Logan Simpson
51 West Third Street, Suite 450
Tempe, Arizona 85281

Re: Preliminary Initial Site Assessment
Indian Bend Wash Path at Chaparral Road
Scottsdale, Maricopa County, Arizona 85257
Logan Simpson Project No. TBA
ADOT TRACS No. 000 MA SCT T0255 01C
Federal No. SCT-0(235)D
Terracon Proposal No. P65187352

Dear Mr. Hayes:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Preliminary Initial Site Assessment (PISA report for the above-referenced Site Area located at the intersection of Hayden and Chaparral Roads, Scottsdale, Arizona. This assessment was performed in accordance with our proposal dated July 3, 2018 (Terracon Proposal Number P65187352).

We appreciate the opportunity to be of service to you on this project. If there are any questions regarding this report or if we may be of further assistance, please do not hesitate to contact us.

Sincerely,
Terracon Consultants, Inc.

Matthew Fogerson
Project Manager

David M. Matson, CHMM
Authorized Project Reviewer
Principal

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- **1.2** Background 1
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	Exhibit 2, Site Diagram
APPENDIX B	Description of Terms and Acronyms
APPENDIX C	Environmental Database Information
APPENDIX D	Site Photographs
APPENDIX E	Credentials
APPENDIX F	PISA Form

Common Acronyms[1]

ACM.....Asbestos containing material
AST.....Aboveground storage tank
ASTM.....American Society for Testing and Materials
AUL.....Activity and use limitation
BGS.....Below ground surface
BTEX.....Benzene, toluene, ethylbenzene, and xylenes
CERCLA.....Comprehensive Environmental Response, Compensation, and Liability Act
CFR.....Code of Federal Regulations
DOT.....United States Department of Transportation
EPA.....United States Environmental Protection Agency
HREC.....Historical recognized environmental condition
LUST.....Leaking underground storage tank
MCL.....Maximum contaminant level
MSDS.....Material safety data sheet
NGVD.....National Geodetic Vertical Datum
NOV.....Notice of violation
NPL.....National Priority List
NRCS.....USDA Natural Resources Conservation Service
OSHA.....Occupational Safety and Health Administration
PCB.....Poly-chlorinated biphenyl
RCRA.....Resource Conservation and Recovery Act
REC.....Recognized environmental condition
SPCC.....Spill Prevention, Control and Countermeasure
SWPPP.....Stormwater pollution prevention plan
TEPH.....Total extractable petroleum hydrocarbons
TPH.....Total petroleum hydrocarbons
TVPH.....Total volatile petroleum hydrocarbons
TRI.....Toxic release inventory
TSCA.....Toxic Substances Control Act
USGS.....United States Geological Survey
UST.....Underground storage tank
VCP.....Voluntary cleanup program
VOC.....Volatile organic compound

Units of measure

sq ft or ft^2.....square feet
mg/kg.....milligrams per kilogram
mg/l.....milligrams per liter
ug/l.....micrograms per liter
ppb.....parts per billion
ppm……..parts per million

[1] An additional list of acronyms and definitions is included in Appendix B.

PRELIMINARY INITIAL SITE ASSESSMENT
ADOT TRACS No. 000 MA SCT T0255 01C
Indian Bend Wash Path at Chaparral Road
Scottsdale, Arizona
Federal Project No. SCT-0(235)D
Terracon Project Number: 65187352
October 1, 2020

1.0 INTRODUCTION

1.1 Scope of Services

Terracon was retained by Logan Simpson to conduct a Preliminary Initial Site Assessment (PISA) for an intersection improvement replacement project at Hayden and Chaparral Roads, Scottsdale, Arizona. The PISA was conducted to review land use practices and sampling for the purpose of identifying areas along the transportation intersection that may have potential hazardous materials.

This PISA was performed in accordance with Terracon's proposal dated July 3, 2018 (Terracon Proposal No. P65187352). The purpose of this PISA was to help determine whether the study area appears "clean" or whether potential hazardous material is present and further study is needed. A ranking system of *Low, Moderate,* or *High,* was assigned to locations within the study area with a potential for recognized environmental conditions (RECs). This PISA was undertaken through user-provided information, a regulatory database review, and a visual review of the site. The PISA is not intended to cover all aspects of a Phase I Environmental Site Assessment as required in the American Society for Testing and Materials (ASTM) Standard E1527-13.

1.2 Background

At the request of the Arizona Department of Transportation (ADOT), Logan Simpson has initiated an environmental investigation to provide environmental clearance for the project.

ADOT is planning a pedestrian improvement project at the intersection of Hayden Road and Chaparral Road in Scottsdale, Maricopa County, Arizona. A new underpass structure crossing Chaparral Road just east of the intersection will be constructed.

Within the vicinity, Hayden Road consists of 6 lanes (three northbound and three southbound lanes) and a raised center median. Chaparral Road consists of 4 lanes (two eastbound and two westbound lanes), a dedicated center turn-lane, and bicycle lanes in each direction. The intersection of Hayden and Chaparral Road is one of the City's major arterial roadway intersections located within the Indian Bend Wash Greenbelt corridor. The intersection is well developed with asphalt pavement, curb and gutter, concrete sidewalks, streetlights, pedestrian ramps, and traffic signals. All four quadrants adjacent to the intersection are also developed as part of the Indian Bend Wash Greenbelt with lakes on the north east and south east corners, meandering paved multiuse trails (Indian Bend Wash Trail System), landscaping, pedestrian lighting, parking, and related site amenities. There are existing pedestrian underpass structures on the west leg (under Chaparral Road) and south leg (under Hayden Road) of the intersection.

The purpose of the project is to provide a safe, grade-separated crossing for pedestrians and bicyclists accessing the adjacent park facilities.

The project scope of work includes:

- Constructing a concrete underpass structure
    - Constructing reinforced concrete box underpass structure crossing Chaparral Road
    - Constructing reinforced concrete wing walls with pedestrian railings at the north and south ends of the underpass
    - Constructing new retaining walls at the north and south ends of the underpass
    - Constructing concrete stairs on the north side of Chaparral Road to allow a separate access from the underpass to the sidewalk on the east side of Hayden Road
- Removing and replacing existing portions of roadway as needed to construct the underpass
- Removing, replacing, reconstructing, and installing new portions of sidewalk, access ramps, and shared-use paths (trails) to provide connections to the new underpass structure and access to adjacent sidewalks
- Slope stabilization including removing and reconstructing riprap on the north and south sides of Chaparral Road
- Removing, replacing, and installing new trees and other landscaping improvements
- Replacing storm drains and catch basins
- Removing, replacing, or installing new signage
- Relocating the Chaparral Park sign, bench, and exercise equipment
- Removing, replacing, and installing concrete curbing and valley gutters
- New portions of pavement, striping and markings
- Relocating lighting and installing new underpass lighting
- Conducting potholing investigations for utilities and relocating utilities within the project limits, where appropriate
    - Relocating traffic signals, as needed
    - Installing new conduit for future fiber cable supporting the traffic signal system
- Installing temporary embedded advance warning signage adjacent to the roadway within the project vicinity

Two methods of construction are being considered for the project. One method would require the full closure of a portion of Chaparral Road, east of Hayden and traffic would be detoured to Camelback Road and/or McDonald Drive via Granite Reef Road.

Another method of construction being considered involves a phased approach in which construction of the underpass would be completed in two phases, one half at a time, resulting in the closure of one side of Chaparral Road at a time. Traffic would be shifted from one side of the roadway while work occurs on the other side. As part of this method, in order to provide sufficient width of through lanes, southbound traffic may be temporarily prohibited from making a left-turn onto Hayden Road. An alternate route for traffic may include Granite Reef Road, Camelback Road, 76th Street, and Jackrabbit Road.

The project will be constructed within the existing City owned right-of-way (ROW) and on adjacent City owned lands. No new ROW is anticipated to be needed; temporary construction easements may be needed for improvements outside the ROW. Construction staging is anticipated to occur within the project limits and local property access will remain open during construction. Portions of sidewalks and trails, including the Indian Bend Shared-Use Path, will be temporarily closed during construction. Full access to the Indian Bend Shared-Use Path within the project limits will be restored following completion of construction. The existing bus stop along Chaparral Road, located east of the intersection of Hayden and Chaparral may be temporarily relocated during construction activities. Night work may be necessary and noise levels may increase temporarily during construction but are expected to return to pre-construction levels upon project completion. A traffic control plan will be prepared for the project. Construction is anticipated to begin in fall 2021 and take approximately 9 months to complete.

1.3 Standard of Care

This PISA was performed in accordance with generally accepted practices of this profession, undertaken in similar studies at the same time and in the same geographical area. We have endeavored to meet this standard of care, but may be limited by conditions encountered during performance, a client-driven scope of work, or inability to review information not received by the report date. When appropriate, these limitations are discussed in the text of the report, and an evaluation of their significance with respect to our findings has been conducted.

PISAs, such as the one performed at this site, are of limited scope, are noninvasive and cannot eliminate the potential that hazardous, toxic, or petroleum substances are present or have been released at the site beyond what is identified by the limited scope of this PISA. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. It should be recognized that environmental concerns may be documented in public records that were not reviewed. No PISA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Performance of this PISA is to help assess if further study during final design is needed. No warranties, express or implied, are intended or made. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the site or otherwise uses the report for any other purpose. These risks may be further evaluated - but not eliminated - through additional research or assessment. We will, upon request, advise you of additional research or assessment options that may be available and associated costs.

1.4 Additional Scope Limitations and Significant Data Gaps

Based upon the agreed-on scope of services, this PISA did not include subsurface or other invasive assessments, business environmental risk evaluations, or other services not particularly identified and discussed herein. Reasonable attempts were made to obtain information within the

scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Consideration of such information is beyond the scope of this assessment. Information obtained for this PISA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder. An evaluation of the significance of these limitations and missing information with respect to our findings has been conducted, and where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services, regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to information that has not been provided by the client.

This report represents our service to you as of the report date and its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after site renovation or development). Further, these services are not to be construed as legal interpretation or advice.

1.5 Reliance

This PISA report is prepared for the exclusive use and reliance of Logan Simpson, ADOT, and its subconsultants. Use or reliance by any other party is prohibited without the written authorization of Logan Simpson and Terracon Consultants, Inc. (Terracon).

1.6 Site Description

Site Description

Site Name	Indian Bend Wash Path at Chaparral Road
Site Location	**Project Area:** Intersection of North Hayden Road and East Chaparral Road in Scottsdale, Arizona (Township 2 North, Range 4 East, Sections 13 & 14, 23 & 24)

The site location is depicted on Exhibit 1 and an aerial photograph of the study area is provided as Exhibit 2 (Appendix A).

The study area is located at the intersection of North Hayden Road and East Chaparral Road in Scottsdale, Maricopa County, Arizona.

2.0 PHYSICAL SETTING

Physical Setting

PHYSICAL SETTING INFORMATION FOR SITE AND SURROUNDING AREA		SOURCE
Topography (Refer to Appendix A for an excerpt of the Topographic Map)		
Site Elevation	Approximately 1,260 feet (NGVD)	USGS Topographic Maps, Paradise Valley and Tempe, Arizona 2018
Surface Runoff/ Topographic Gradient	Primarily to the southeast	
Geology		
Formation	Qm – Late and Middle Pleistocene Surficial Deposits (10-750 ka)	Geologic Map of Arizona, Arizona Geological Survey Map 35, 2000
Description	Unconsolidated to weakly consolidated alluvial-fan, terrace, and basin-floor deposits with moderate to strong soil development. Fan and terrace deposits are primarily poorly sorted, moderately bedded gravel and sand, and basin-floor deposits are primarily sand, silt, and clay.	
Hydrogeology		
**Estimated Depth to First Occurrence of Groundwater*	Estimated in excess of 140 feet below ground surface (bgs)	Arizona Department of Water Resources (ADWR), Groundwater Site Inventory (GWSI)
**Hydrogeologic Gradient:*	Estimated to be toward the south-southeast (however, see discussion below)	

* The groundwater flow direction and the depth to shallow, unconfined groundwater, if present, would likely vary depending upon seasonal variations in rainfall and other hydrogeological features. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

3.0 RECORDS REVIEW

Regulatory database information was provided by Environmental Data Resources, Inc. (EDR), a contract information services company. The purpose of the records review was to identify RECs in connection with the site. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated, and the scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases.

In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the topographic gradient in relation to the site. As stated previously, the groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and the depth to the soil/bedrock interface. Without the benefit of

on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the site cannot be directly ascertained.

3.1 Federal and State/Tribal Databases

Listed below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate site boundaries. Database definitions, descriptions, and the database search report are included in Appendix C.

Federal and State Databases

Database	Description	Radius (miles)	Listings
Federal			
NPL	The NPL is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.	1.0	2
NPL (Delisted)	The NPL (Delisted) refers to facilities that have been removed from the NPL.	0.5	0
CERCLIS	The CERCLIS database is a compilation of facilities which the EPA has investigated or is currently investigating for a release or threatened release of hazardous substances pursuant to the CERCLA of 1980.	0.5	0
CERCLIS / NFRAP	CERCLIS/NFRAP refers to facilities that have been removed and archived from EPA's inventory of CERCLA sites.	0.5	0
RCRA CORRACTS/ TSD	The EPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous waste that are undergoing "corrective action." A "corrective action" order is issued when there has been a release of hazardous waste or constituents into the environment from a RCRA facility.	1.0	0
RCRA Non-CORRACTS/ TSD	The RCRA Non-CORRACTS/TSD Database is a compilation by the EPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.	0.5	0

Database	Description	Radius (miles)	Listings
RCRA Generators	The RCRA Generators database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as either large (LQG), small (SQG), or conditionally exempt (CESQG). LQG produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQG produce 100-1000 kg/month of non-acutely hazardous waste. CESQG are those that generate less than 100 kg/month of non-acutely hazardous waste.	Site and adjoining properties	0
IC / EC	A listing of sites with institutional and/or engineering controls in place. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.	Site	1
ERNS	The Emergency Response Notification System (ERNS) is a listing compiled by the EPA on reported releases of petroleum and hazardous substances to the air, soil and/or water.	Site	0
State			
SPL	The Arizona Department of Environmental Quality (ADEQ) maintains a database representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight. State equivalent to CERCLIS.	1.0	1
WQARF	The ADEQ maintains a database of sites that may have an actual or potential impact upon the waters of the State, caused by hazardous substances. The Water Quality Assurance Revolving Funds (WQARF) program provides matching funds to political subdivisions and other State agencies for clean-up activities. State equivalent to NPL.	1.0	0
SHWS	The ADEQ Zip Acids List (state equivalent to CERCLIS) contains locations subject to investigations concerning possible contamination of soil, surface water, or groundwater. Inclusion of any facility or site on this list does not mean that the location is contaminated, is causing contamination, or is in violation of State or Federal statutes or regulations. The list has been archived and will no longer be distributed or updated.	0.5	0
SWF/LF	State and/or Tribal database of solid waste facilities located within Arizona. The database information may include the facility name, class, operation type, area, estimated operational life, and owner.	0.5	0
SPILLS	The ADEQ maintains a logbook of chemical spills and incidents referred to the Emergency Response Unit.	Site	1

Database	Description	Radius (miles)	Listings
LUST	State and/or Tribal database of leaking underground storage tanks in the state of Arizona.	0.5	0
UST	State and/or Tribal database of registered storage tanks in the State of Arizona which may include the owner and location of the tanks.	Site and adjoining properties	0
AUL	Activity and use limitations include both engineering controls and institutional controls. DEUR: Declaration of Environmental Use Restriction. A restrictive land use covenant that is required when a property owner elects to use an institutional (i.e., administrative) control or engineering (i.e., physical) control as a means to meet remediation goals. The DEUR runs with and burdens the land, and requires maintenance of any institutional or engineering controls	Site	0
VCP	State and/or Tribal facilities included as Voluntary Cleanup Program sites.	0.5	0
Brownfields	State and/or Tribal listing of Brownfield properties addressed by Cooperative Agreement Recipients or Targeted Brownfields Assessments.	0.5	0

In addition to the above ASTM-required listings, Terracon reviewed other federal, state, local and proprietary databases provided by the database firm. A list of the additional reviewed databases is included in the regulatory database report included in Appendix C.

The following table summarizes the site-specific information provided by the database and/or gathered by this office for identified facilities adjoining the site. Facilities are listed in order of priority to the site. Additional discussion for selected facilities follows the summary table.

Listed Facilities

Facility Name and Location	Estimated Distance/Direction	Database Listings
Indian Bend Wash	Regional Area which includes the site	NPL, SPL, SEMS, US ENG CONTROLS, US INST CONTROLS

<u>Indian Bend Wash</u>
The site is located within the North Indian Bend Wash (NIBW) Area. This area is the northern portion of the area designated as the Indian Bend Wash (IBW) Area Superfund Site. The NIBW Area is located in Scottsdale, Arizona, and is bounded by McDonald Drive to the north, Pima Road to the east, 68th Street to the west, and the Salt River to the south. This area was listed on EPA's NPL in September 1983 after the City of Scottsdale detected volatile organic compounds (VOCs), including the solvents trichloroethylene (TCE) and perchloroethylene (PCE) in municipal wells in the Scottsdale area in 1981. Up until the late 1970s, industrial solvents containing VOCs

were typically disposed of directly into the ground or in drywells. These disposal practices, along with other releases, resulted in the present conditions at the North Indian Bend Wash Area.

According to the available regulatory information, the groundwater plume extends beneath the site. However, groundwater beneath the site is estimated to be at or greater than 140 feet below ground surface, and is not used for drinking purposes. The City of Scottsdale provides municipal water to the site from other sources which meet federal and state drinking water standards. The Responsible Parties have been identified and are cooperating in the cleanup. Furthermore, due to the depth to groundwater vapor intrusion is not a concern for the site. This regional groundwater contamination represents a REC for the site, but Terracon does not recommend any further investigation of groundwater and/or vapor intrusion. And since the redevelopment of the site is expected to have shallow soil disturbance and no expectation of contact with groundwater, the Indian Bend Wash does not appear to pose a high priority for further study for the site at this time.

The remaining facilities listed in the database report do not appear to pose a high priority for further study for the site at this time based upon regulatory status, apparent topographic gradient, depth to groundwater, and/or distance from the site.

Unmapped facilities are those that do not contain sufficient address or location information to evaluate the facility listing locations relative to the site. The report listed 4 facilities in the unmapped section. Determining the location of unmapped facilities is beyond the scope of this assessment; however, only one of these facilities were identified as the site or adjacent properties (Indian Bend Wash, discussed above). These facilities are listed in the database report in Appendix C.

Additionally, Terracon was provided with an ADOT Hazardous Materials Section Note-to-File Form for a spill which occurred within close proximity to the site. The Form is attached to the report. Terracon did not observe indications of a spill occurring at the site. If impacted soils are encountered during sub-grade activities, an Environmental Professional should be contacted to assess the condition.

4.0 SITE REVIEW

4.1 General Site Information

Information contained in this section is based on a visual reconnaissance of the site area. An aerial photograph of the study area is provided as Exhibit 2 (Appendix A). Site photographs are included in Appendix D. Credentials of Terracon personnel are included in Appendix E. A completed ADOT PISA form is included in Appendix F.

General Site Information

Site Reconnaissance	
Field Personnel	Matthew Fogerson, Environmental Professional
Reconnaissance Date	September 15, 2020
Weather Conditions	Sunny, approximately 100ºF
Site Contact/Title	Not applicable

4.2 Site Observations

The following table summarizes site observations. Affirmative responses are designated by an "X", as discussed in more detail following the table.

Site Characteristics

Category	Item or Feature	Observed
Site Operations, Processes, and Equipment	Emergency generators	
	Elevators	
	Air compressors	
	Hydraulic lifts	
	Dry cleaning	
	Photo processing	
	Laboratory hoods and/or incinerators	
	Waste treatment systems and/or water treatment systems	
	Heating and/or cooling systems	
	Automobile Repair Facilities	
	Overhead Utility Lines	X
	Other processes or equipment	
Aboveground Chemical or Waste Storage	Aboveground storage tanks	
	Drums, barrels and/or containers ≥ 5 gallons	
	MSDS	
Underground Chemical or Waste Storage, Drainage or Collection Systems	Underground storage tanks or ancillary UST equipment	
	Sumps, cisterns, catch basins and/or dry wells	X
	Grease traps	
	Septic tanks and/or leach fields	
	Oil/water separators	
	Pipeline markers	
	Interior floor drains	
Electrical Transformers/ PCBs	Pad or pole mounted transformers and/or capacitors	
	Other equipment	

Category	Item or Feature	Observed
Releases or Potential Releases	Stressed vegetation	
	Stained soil	
	Stained pavement or similar surface	
	Leachate and/or waste seeps	
	Trash, debris and/or other waste materials	
	Dumping or disposal areas	
	Construction/demolition debris and/or dumped fill dirt	
	Surface water discoloration, odor, sheen, and/or free floating product	
	Strong, pungent or noxious odors	
	Exterior pipe discharges and/or other effluent discharges	
Other Notable Site Features	Surface water bodies	
	Quarries or pits	
	Wells	

The study area is located at the intersection of North Hayden Road and East Chaparral Road in Scottsdale, Arizona. The area surrounding the study area mainly consists of roadway, Chaparral Park and lake, residential, bike trails, and general commercial retail.

Overhead power lines were observed on the northwest corner of North Hayden Road and traversing south-southeast across the intersection and farther south on the east side of North Hayden Road. Additional overhead power lines are in place in an east/west orientation on the north side of East Chaparral Road.

During Terracon's site visit, a long, singular catch basin was observed on the northwest corner and southwest corner of the site intersection traversing the bridge underpass on East Chaparral Road west of the intersection. Staining and/or noxious odors were not observed in the vicinity of the catch basin.

Based upon the results of the regulatory database review and site review, the Site Area has been given a *"Low Priority"* ranking for further study.

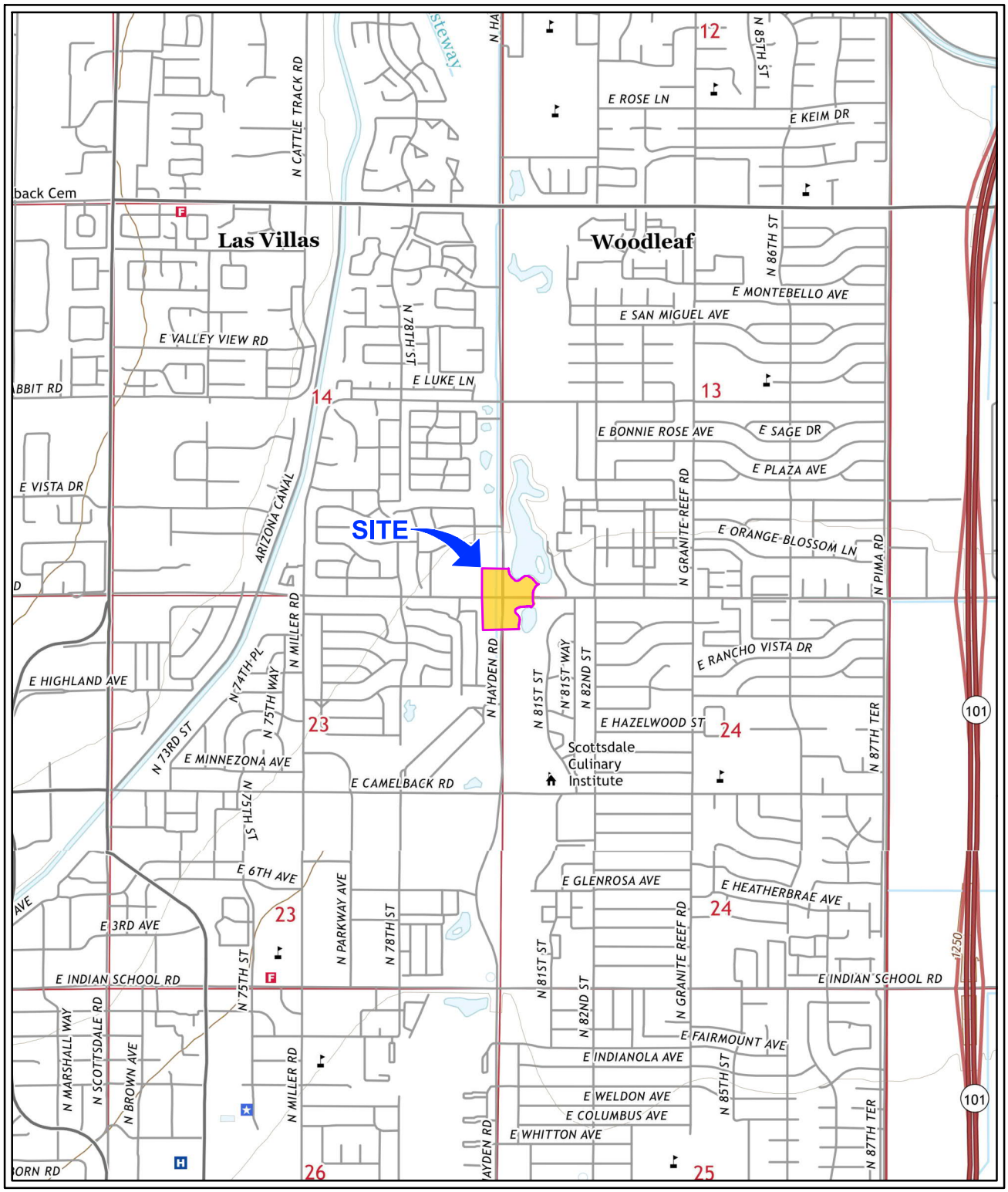
5.0 FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Terracon conducted a PISA under the guidelines provided by the ADOT. Based upon the site reconnaissance and regulatory database review, the Indian Bend Wash Path at Chaparral Road project has been given a *"Low Priority"* for further hazardous materials study. Additional assessment for hazardous materials is not recommended at this time. However, if suspected hazardous materials are encountered during construction, work should cease at that location and arrangements made for proper assessment, treatment, and/or disposal of those materials.

Appendix A

Exhibit 1 – Topographic Map
Exhibit 2 – Site Diagram

UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY – 7.5 MINUTE SERIES



PARADISE VALLEY, AZ
DATED 2018

TEMPE, AZ
DATED 2018

0 1000' 2000'
APPROXIMATE SCALE

N

Project Mngr: MRF	Project No.: 65187352	Terracon Consulting Engineers and Scientists	SITE LOCATION MAP
Drawn By: KLJ	Scale: as shown	4685 South Ash Avenue, Suite H-4 Tempe, AZ 85282	Hayden and Chaparral Intersection Improvements
Checked By: DMM	File No.: 65187352	PH. (480) 897-8200 FAX. (480) 897-1133	Intersection of Hayden & Chaparral Roads Scottsdale, Arizona
Approved By: DMM	Date: 09/28/2020		EXHIBIT 1

c:\users\kljohnson3\downloads\65187352\diagrams-drawings-figures\cad\65187352.dwg / tab: EXH 1 LOCATION

c:\users\kljohnson3\downloads\65187352\diagrams-drawings-figures\cad\65187352.dwg / tab: EXH 2 SITE DIAGRAM

Project Mngr:	MRF	Project No.:	65187352
Drawn By:	KLJ	Scale:	as shown
Checked By:	DMM	File No.:	65187352
Approved By:	DMM	Date:	09/28/2020

Terracon
Consulting Engineers and Scientists
4685 South Ash Avenue, Suite H-4 Tempe, AZ 85282
PH. (480) 897-8200 FAX. (480) 897-1133

SITE DIAGRAM

Hayden and Chaparral
Intersection Improvements

Intersection of Hayden & Chaparral Roads Scottsdale, Arizona

EXHIBIT

2

Appendix B

Description of Terms and Acronyms

Description of Selected General Terms and Acronyms

Term/Acronym	*Description*
ACM	Asbestos Containing Material. Asbestos is a naturally occurring mineral, three varieties of which (chrysotile, amosite, crocidolite) have been commonly used as fireproofing or binding agents in construction materials. Exposure to asbestos, as well as ACM, has been documented to cause lung diseases including asbestosis (scarring of the lung), lung cancer and mesothelioma (a cancer of the lung lining). Regulatory agencies have generally defined ACM as a material containing greater that one (1) percent asbestos, however some states (e.g. California) define ACM as materials having 0.1% asbestos. In order to define a homogenous material as non-ACM, a minimum number of samples must be collected from the material dependent upon its type and quantity. Homogenous materials defined as non-ACM must either have 1) no asbestos identified in all of its samples or 2) an identified asbestos concentration below the appropriate regulatory threshold. Asbestos concentrations are generally determined using polarized light microscopy or transmission electron microscopy. Point counting is an analytical method to statistically quantify the percentage of asbestos in a sample. The asbestos component of ACM may either be friable or non-friable. Friable materials, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and have a higher potential for a fiber release than non-friable ACM. Non-friable ACM are materials that are firmly bound in a matrix by plastic, cement, etc. and, if handled carefully, will not become friable. Federal and state regulations require that either all suspect building materials be presumed ACM or that an asbestos survey be performed prior to renovation, dismantling, demolition, or other activities that may disturb potential ACM. Notifications are required prior to demolition and/or renovation activities that may impact the condition of ACM in a building. ACM removal may be required if the ACM is likely to be disturbed or damaged during the demolition or renovation. Abatement of friable or potentially friable ACM must be performed by a licensed abatement contractor in accordance with state rules and NESHAP. Additionally, OSHA regulations for work classification, worker training and worker protection will apply.
AHERA	Asbestos Hazard Emergency Response Act
AST	Aboveground Storage Tanks. ASTs are generally described as storage tanks less than 10% of which are below ground (i.e., buried). Tanks located in a basement, but not buried, are also considered ASTs. Whether, and the extent to which, an AST is regulated, is determined on a case-by-case basis and depends upon tank size, its contents and the jurisdiction of its location.
BGS	Below Ground Surface
Brownfields	State and/or tribal listing of Brownfield properties addressed by Cooperative Agreement Recipients or Targeted Brownfields Assessments.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes. BTEX are VOC components found in gasoline and commonly used as analytical indicators of a petroleum hydrocarbon release.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (a.k.a. Superfund). CERCLA is the federal act that regulates abandoned or uncontrolled hazardous waste sites. Under this Act, joint and several liability may be imposed on potentially responsible parties for cleanup-related costs.
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System. An EPA compilation of sites having suspected or actual releases of hazardous substances to the environment. CERCLIS also contains information on site inspections, preliminary assessments and remediation of hazardous waste sites. These sites are typically reported to EPA by states and municipalities or by third parties pursuant to CERCLA Section 103.
CESQG	Conditionally exempt small quantity generators.
CFR	Code of Federal Regulations

Description of Selected General Terms and Acronyms (cont.)

Term/Acronym	*Description*
CREC	Controlled Recognized Environmental Condition is defined in ASTM E1527-13 as "a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority) , with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition considered by the environmental professional to be a controlled recognized environmental condition shall be listed in the findings section of the Phase I Environmental Site Assessment report, and as a recognized environmental condition in the conclusions section of the Phase I Environmental Site Assessment report."
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ERNS	Emergency Response Notification System. An EPA-maintained federal database which stores information on notifications of oil discharges and hazardous substance releases in quantities greater than the applicable reportable quantity under CERCLA. ERNS is a cooperative data-sharing effort between EPA, DOT, and the National Response Center.
ESA	Environmental Site Assessment
FRP	Fiberglass Reinforced Plastic
Hazardous Substance	As defined under CERCLA, this is (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to section 9602 of this title; (C) any hazardous waste having characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (with some exclusions); (D) any toxic pollutant listed under section 1317(a) of Title 33; (E) any hazardous air pollutant listed under section 112 of the Clean Air Act; and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action under section 2606 of Title 15. This term does not include petroleum, including crude oil or any fraction thereof which is not otherwise listed as a hazardous substance under subparagraphs (A) through (F) above, and the term include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).
Hazardous Waste	This is defined as having characteristics identified or listed under section 3001 of the Solid Waste Disposal Act (with some exceptions). RCRA, as amended by the Solid Waste Disposal Act of 1980, defines this term as a "solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."
HREC	Historical Recognized Environmental Condition is defined in ASTM E1527-13 as "a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the environmental professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria). If the EP considers the past release to be a recognized environmental condition at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as a recognized environmental condition."

IC/EC	A listing of sites with institutional and/or engineering controls in place. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.
ILP	Innocent Landowner/Operator Program
LQG	Large quantity generators.
LUST	Leaking Underground Storage Tank. This is a federal term set forth under RCRA for leaking USTs. Some states also utilize this term.
MCL	Maximum Contaminant Level. This Safe Drinking Water concept (and also used by many states as a ground water cleanup criteria) refers to the limit on drinking water contamination that determines whether a supplier can deliver water from a specific source without treatment.
MSDS	Material Safety Data Sheets. Written/printed forms prepared by chemical manufacturers, importers and employers which identify the physical and chemical traits of hazardous chemicals under OSHA's Hazard Communication Standard.
NESHAP	National Emissions Standard for Hazardous Air Pollutants (Federal Clean Air Act). This part of the Clean Air Act regulates emissions of hazardous air pollutants.
NFRAP	Facilities where there is "No Further Remedial Action Planned," as more particularly described under the Records Review section of this report.
NOV	Notice of Violation. A notice of violation or similar citation issued to an entity, company or individual by a state or federal regulatory body indicating a violation of applicable rule or regulations has been identified.
NPDES	National Pollutant Discharge Elimination System (Clean Water Act). The federal permit system for discharges of polluted water.
NPL	The NPL is the EPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.
OSHA	Occupational Safety and Health Administration or Occupational Safety and Health Act
PACM	Presumed Asbestos-Containing Material. A material that is suspected of containing or presumed to contain asbestos but which has not been analyzed to confirm the presence or absence of asbestos.

Description of Selected General Terms and Acronyms (cont.)

Term/Acronym	*Description*
PCB	Polychlorinated Biphenyl. A halogenated organic compound commonly in the form of a viscous liquid or resin, a flowing yellow oil, or a waxy solid. This compound was historically used as dielectric fluid in electrical equipment (such as electrical transformers and capacitors, electrical ballasts, hydraulic and heat transfer fluids), and for numerous heat and fire sensitive applications. PCB was preferred due to its durability, stability (even at high temperatures), good chemical resistance, low volatility, flammability, and conductivity. PCBs, however, do not break down in the environment and are classified by the EPA as a suspected carcinogen. 1978 regulations, under the Toxic Substances Control Act, prohibit manufacturing of PCB-containing equipment; however, some of this equipment may still be in use today.
pCi/L	Pico Curies per Liter of Air. Unit of measurement for Radon and similar radioactive materials.
PLM	Polarized Light Microscopy (see ACM section of the report, if included in the scope of services)
PST	Petroleum Storage Tank. An AST or UST that contains a petroleum product.
Radon	A radioactive gas resulting from radioactive decay of naturally-occurring radioactive materials in rocks and soils containing uranium, granite, shale, phosphate, and pitchblende. Radon concentrations are measured in Pico Curies per Liter of Air. Exposure to elevated levels of radon creates a risk of lung cancer; this risk generally increases as the level of radon and the duration of exposure increases. Outdoors, radon is diluted to such low concentrations that it usually does not present a health concern. However, radon can accumulate in building basements or similar enclosed spaces to levels that can pose a risk to human health. Indoor radon concentrations depend primarily upon the building's construction, design and the concentration of radon in the underlying soil and ground water. The EPA recommended annual average indoor "action level" concentration for residential structures is 4.0 pCi/l.
RCRA	Resource Conservation and Recovery Act. Federal act regulating solid and hazardous wastes from point of generation to time of disposal ('cradle to grave"). 42 U.S.C. 6901 et seq.
RCRA Generators	The RCRA Generators database, maintained by the EPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as either large (LQG), small (SQG), or conditionally exempt (CESQG). LQG produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. SQG produce 100-1000 kg/month of non-acutely hazardous waste. CESQG are those that generate less than 100 kg/month of non-acutely hazardous waste.
RCRA CORRACTS/TSDs	The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials which are undergoing "corrective action". A "corrective action" order is issued when there is a release of hazardous waste or constituents into the environment from a RCRA facility.
RCRA Non-CORRACTS/TSDs	The RCRA Non-CORRACTS/TSD Database is a compilation by the USEPA of facilities which report storage, transportation, treatment, or disposal of hazardous waste. Unlike the RCRA CORRACTS/TSD database, the RCRA Non-CORRACTS/TSD database does not include RCRA facilities where corrective action is required.
RCRA Violators List	RAATS. RCRA Administrative Actions Taken. RAATS information is now contained in the RCRIS database and includes records of administrative enforcement actions against facilities for noncompliance.
RCRIS	Resource Conservation and Recovery Information System, as defined in the Records Review section of this report.
REC	Recognized Environmental Conditions are defined by ASTM E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1)due to any release to the environment; 2) under conditions indicative of a release to the environment. *De minimis* conditions are not recognized environmental conditions."
SCL	State "CERCLIS" List (see SPL /State Priority List, below).

Description of Selected General Terms and Acronyms (cont.)

Term/Acronym	*Description*
SPCC	Spill Prevention, Control and Countermeasures. SPCC plans are required under federal law (Clean Water Act and Oil Pollution Act) for any facility storing petroleum in tanks and/or containers of 55-gallons or more that when taken in aggregate exceed 1,320 gallons. SPCC plans are also required for facilities with underground petroleum storage tanks with capacities of over 42,000 gallons. Many states have similar spill prevention programs, which may have additional requirements.
SPL	State Priority List. State list of confirmed sites having contamination in which the state is actively involved in clean up activities or is actively pursuing potentially responsible parties for clean up. Sometimes referred to as a State "CERCLIS" List.
SQG	Small quantity generator.
SWF/LF	State and/or Tribal database of solid waste/Landfill facilities. The database information may include the facility name, class, operation type, area, estimated operational life, and owner.
TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory. Routine EPA report on releases of toxic chemicals to the environment based upon information submitted by entities subject to reporting under the Emergency Planning and Community Right to Know Act.
TSCA	Toxic Substances Control Act. A federal law regulating manufacture, import, processing and distribution of chemical substances not specifically regulated by other federal laws (such as asbestos, PCBs, lead-based paint and radon). 15 U.S.C 2601 et seq.
USACE	United States Army Corps of Engineers
USC	United States Code
USGS	United States Geological Survey
USNRCS	United States Department of Agriculture-Natural Resource Conservation Service
UST	Underground Storage Tank. Most federal and state regulations, as well as ASTM E1527-13, define this as any tank, incl., underground piping connected to the tank, that is or has been used to contain hazardous substances or petroleum products and the volume of which is 10% or more beneath the surface of the ground (i.e., buried).
VCP	State and/or Tribal facilities included as Voluntary Cleanup Program sites.
VOC	Volatile Organic Compound
Wetlands	Areas that are typically saturated with surface or ground water that creates an environment supportive of wetland vegetation (i.e., swamps, marshes, bogs). The Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) defines wetlands as areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. For an area to be considered a jurisdictional wetland, it must meet the following criteria: more than 50 percent of the dominant plant species must be categorized as Obligate, Facultative Wetland, or Facultative on lists of plant species that occur in wetlands; the soil must be hydric; and, wetland hydrology must be present. The federal Clean Water Act which regulates "waters of the US," also regulates wetlands, a program jointly administered by the USACE and the EPA. Waters of the U.S. are defined as: (1) waters used in interstate or foreign commerce, including all waters subject to the ebb and flow of tides; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, etc., which the use, degradation, or destruction could affect interstate/ foreign commerce; (4) all impoundments of waters otherwise defined as waters of the U. S., (5) tributaries of waters identified in 1 through 4 above; (6) the territorial seas; and (7) wetlands adjacent to waters identified in 1 through 6 above. Only the USACE has the authority to make a final wetlands jurisdictional determination.

Appendix C

Environmental Database Report

Hayden and Chaparral
North Hayden Road & East Chaparral Road
Scottsdale, AZ 85250

Inquiry Number: 6185716.2s
September 09, 2020

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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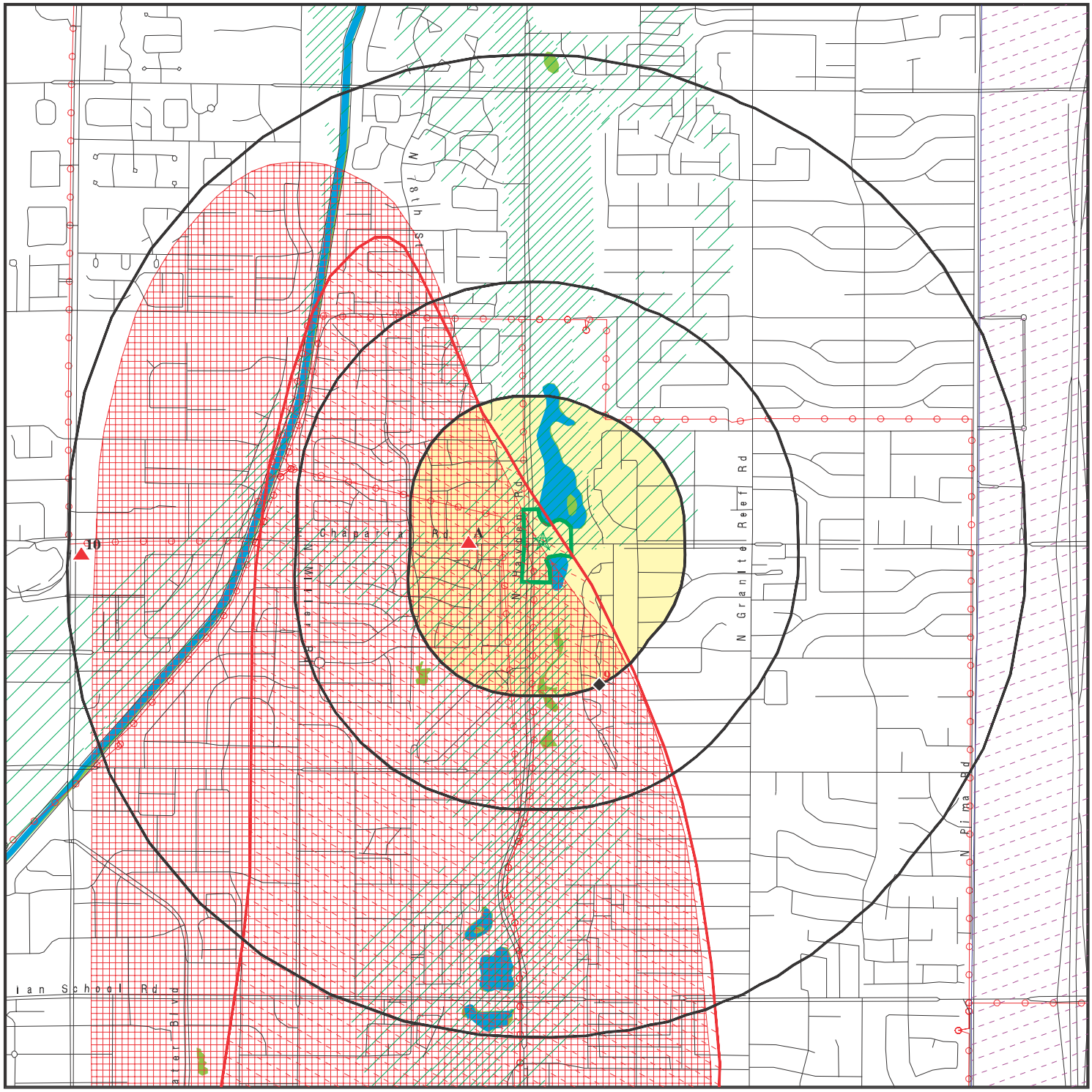
MAPPED SITES SUMMARY

Target Property Address:
NORTH HAYDEN ROAD & EAST CHAPARRAL ROAD
SCOTTSDALE, AZ 85250

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
Reg	SALT RIVER RESERVATI		INDIAN RESERV	Same	4724, 0.895, East
Reg	INDIAN BEND WASH - N		AZ NPL, SPL	Same	1 ft.
Reg	INDIAN BEND WASH ARE	MCDOWELL RD & HAYDEN	NPL, SEMS, US ENG CONTROLS, US INST CONTROLS,...	Same	1 ft.
A1	SAFEWAY #1491	7920 E CHAPARRAL RD	RCRA-VSQG, MANIFEST	Lower	532, 0.101, West
A2	SAGUARO 66 MERCHANDI	7904 E CHAPARRAL RD	EDR Hist Auto	Higher	639, 0.121, West
A3	DAVID'S DRY CLEANING	7904 E CHAPARRAL RD	DRYCLEANERS	Higher	639, 0.121, West
A4	CELEBRITY CLEANERS	7904 E CHAPARRAL RD	RCRA-VSQG, FINDS, ECHO, MANIFEST	Higher	639, 0.121, West
A5	AMERICAN DRY CLEANIN	7904 E CHAPPARAL 104	EDR Hist Cleaner	Higher	639, 0.121, West
A6	CELEBRITY CLEANERS	7904 E CHAPARRAL RD	DRYCLEANERS	Higher	639, 0.121, West
A7	CELEBRITY CLEANERS	7904 E CHAPARRAL RD	DRYCLEANERS, EMAP	Higher	639, 0.121, West
A8	CELEBRITY DRY CLEANI	7904 E CHAPARRAL RD	DRYCLEANERS	Higher	639, 0.121, West
9	VILLA MONTEREY	8100 E CAMELBACK RD	UST	Lower	1314, 0.249, SSE
10	INDIAN BEND WASH	SCOTTSDALE AND CHAPP	SHWS	Higher	5124, 0.970, West

OVERVIEW MAP - 6185716.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

DOD Sites: AZ DEQ

Water Quality Assurance Revolving Fund Areas

AZ NPL

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Hayden and Chaparral	CLIENT:	Terracon
ADDRESS:	North Hayden Road & East Chaparral Road Scottsdale AZ 85250	CONTACT:	Matthew Fogerson
		INQUIRY #:	6185716.2s
LAT/LONG:	33.509447 / 111.908149	DATE:	September 09, 2020 5:53 pm

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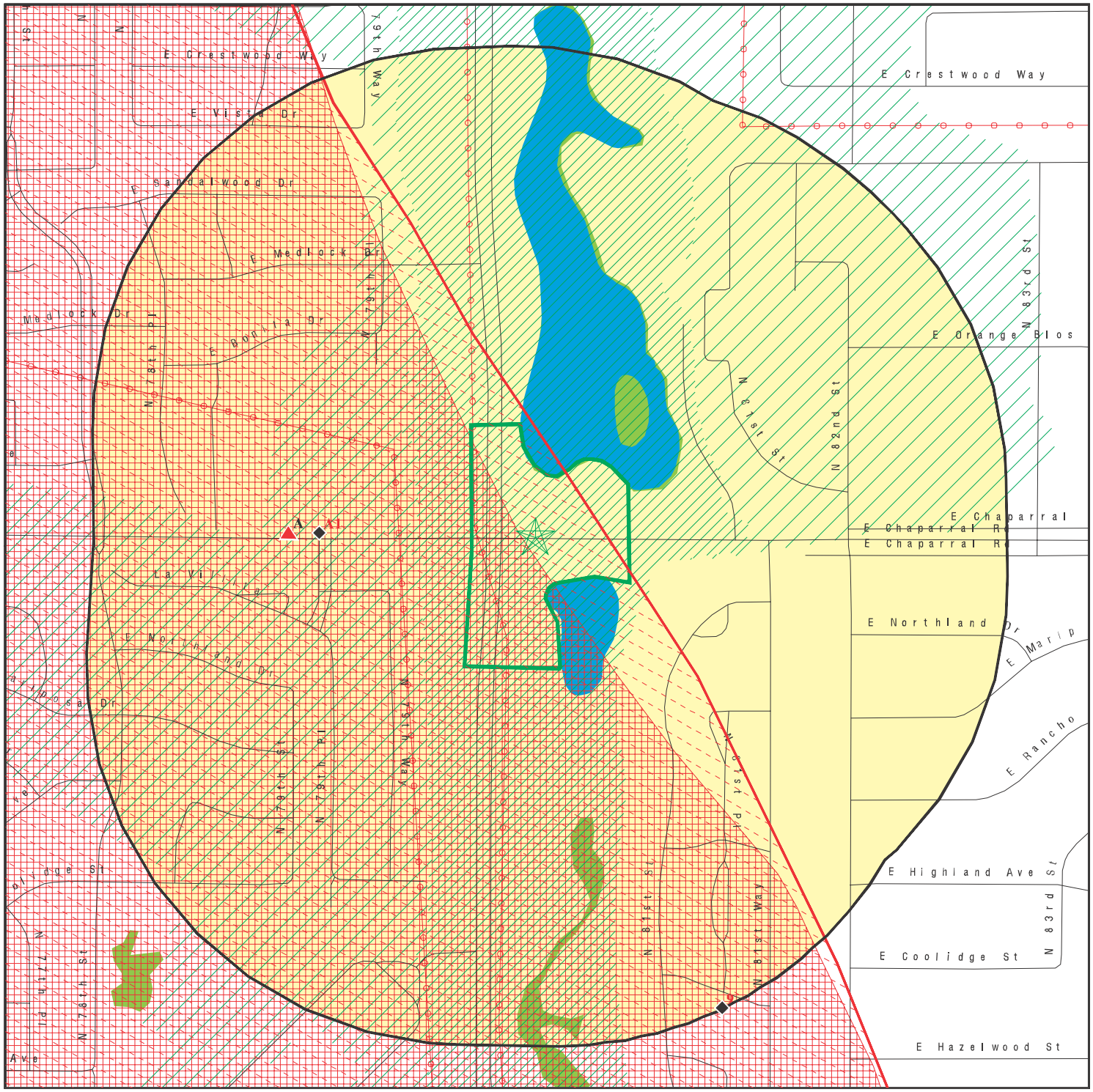
DETAIL MAP - 6185716.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- DOD Sites: AZ DEQ
- Water Quality Assurance Revolving Fund Areas
- AZ NPL

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Hayden and Chaparral	CLIENT: Terracon
ADDRESS: North Hayden Road & East Chaparral Road Scottsdale AZ 85250	CONTACT: Matthew Fogerson INQUIRY #: 6185716.2s
LAT/LONG: 33.509447 / 111.908149	DATE: September 09, 2020 5:56 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		1	0	0	0	NR	1
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		1	0	0	NR	NR	1
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		2	0	NR	NR	NR	2
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		1	0	0	NR	NR	1
US INST CONTROLS	0.500		1	0	0	NR	NR	1
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
AZ NPL	1.000		1	0	0	0	NR	1
AZ WQARF	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
SPL	1.000		1	0	0	0	NR	1
SHWS	1.000		1	0	0	1	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	1	NR	NR	NR	1
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AZURITE	0.500		0	0	0	NR	NR	0
AUL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWTIRE	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		1	0	0	0	NR	1
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	1	NR	1
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
Aquifer	TP		NR	NR	NR	NR	NR	0
AZ DOD	0.500		0	0	0	NR	NR	0
Dry Wells	TP		NR	NR	NR	NR	NR	0
DRYCLEANERS	0.250		4	0	NR	NR	NR	4
EMAP	TP		NR	NR	NR	NR	NR	0
Enforcement	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
MANIFEST	0.250		2	0	NR	NR	NR	2
SPDES	TP		NR	NR	NR	NR	NR	0
VAPOR	0.500		0	0	0	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
WWFAC	0.500		0	0	0	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR Hist Auto	0.125		1	NR	NR	NR	NR	1
EDR Hist Cleaner	0.125		1	NR	NR	NR	NR	1
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	18	1	0	2	0	21

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

IND RES **SALT RIVER RESERVATION** **INDIAN RESERV** **CIND200746**
Region **N/A**
East **, AZ**
1/2-1
4724 ft.

INDIAN RESERV:

Feature:	Indian Reservation
Name:	Salt River Reservation
Agency:	BIA

SPL **INDIAN BEND WASH - NORTH** **AZ NPL** **S111026380**
Region **SPL** **N/A**
SCOTTSDALE, AZ
< 1/8
1 ft.

AZ NPL:

Name:	NORTH INDIAN BEND WASH
City,State,Zip:	AZ
NPL Status:	National Priorities List Sites
AZ NPL Contaminants:	The current contaminants of concern (COCs) in groundwater include volatile organic compounds (VOCs). VOCs were used as degreasing agents and solvents at various industrial facilities located in the study area. Contaminants of concern at the site may change as new data become available. Six City of Scottsdale wells are affected by VOCs including TCE and lower levels of tetrachloroethene (PCE), 1,1-dichloroethene (1,1- DCE) and chloroform. TCE is the only VOC quantified in samples from these wells at levels that exceed primary drinking water standards. As mentioned earlier, six of the seven affected wells are not currently operating and the seventh (City of Scottsdale No. 6) is equipped with a VOC treatment system.
Contact Name A:	ADEQ Project Manager
Contact Phone A:	602-771-4121
Contact Email A:	miller.wayne@azdeq.gov
Contact Name B:	EPA Project Manager
Contact Phone B:	415-972-3150
Contact Email B:	dalmeida.carolyn@epa.gov
Contact Name C:	EPA Community Involvement Coordinator
Contact Phone C:	213-244-1814
Contact Email C:	hafiz.carlin@epa.gov
Information Repository:	The complete official site file can be reviewed at: EPA Region IX Records Center Mail Stop SFD-7C 95 Hawthorne Street Room 403 San Francisco, CA 94105 P: 415-536-2000 Local repository: Scottsdale Civic Center Library 3839 Drinkwater Boulevard Scottsdale, AZ 85251 P: 480-312-2474 or Interested parties can review site information in person at the ADEQ Record Center
Site Hydrogeology:	The site is underlain by alluvial sediments which can be divided into three hydrostratigraphic units. These units consist of the UAU, the MAU, and the LAU. The UAU varies in thickness; however, in the vicinity of the study area, the thickness of the UAU is approximately 120 to 160 feet. The UAU consists primarily of sand, coarse gravel, cobbles, and boulders in this area. Groundwater occurs at depths ranging from approximately 90 feet to approximately 130 feet, with up to 40 feet of saturated thickness. The saturated thickness of the unit changes with the time of year, but generally decreases to the north. Groundwater in the UAU appears to be flowing in a west-northwest direction. The MAU primarily consists of silt, clay,

INDIAN BEND WASH - NORTH (Continued) **S111026380**

and interbedded fine sands. Relatively thin layers of coarser deposits are scattered throughout the unit. The thickness of the MAU ranges from approximately 360 to 660 feet. Groundwater flow in the MAU appears to be toward the north-northwest in the study area. Water levels in wells perforated in the MAU occur at depths of 140 to 180 feet. The LAU is less well defined. Samples collected during monitor well installation indicate the unit consists of moderately to well-cemented sands and gravel. The depth of the unit is not well defined; however, it is known that the LAU is underlain by the red unit which consists primarily of fanglomerate, conglomerate, and sandstone. The direction of ground water flow in the LAU is thought to be similar to that of the MAU. Water level data indicate that there is a downward-directed, vertical hydraulic gradient between the UAU and the MAU, and between the MAU and the LAU. Groundwater quality data indicate contamination at NIBW has occurred from various organic solvents, particularly TCE, PCE, 1,1- DCE, and 1,1,1-trichloroethane (1,1,1-TCA). All of these chemicals have been found in monitor wells at concentrations exceeding state action levels. TCE is the most widespread contaminant with a maximum reported concentration of 2,500 parts per billion (ppb) from a UAU monitor well. The maximum concentration reported from a MAU or LAU monitor well is 700 ppb. TCE has been detected in several municipal wells at concentrations up to 390 ppb and from depths as great as 1,100 feet below land surface.

Public Health Impact: Groundwater at the site is used to irrigate various crops and feed livestock. In addition, contaminated groundwater is being treated at the CGTF to drinking water standards and supplied to the City of Scottsdale's municipal water supply. Water from the MRTF well PCX-1 is currently treated to remove TCE and is then discharged to the SRP canal for irrigation use.

Site History: 1981 - 1983: The IBW site was listed on EPA's NPL on September 8, 1983 after the City of Scottsdale detected volatile organic compounds in municipal wells in the Scottsdale area in 1981. 1984 - 1991: The EPA began a remedial investigation (RI) of the site in two phases, referred to as operable units (OU). The RI and the feasibility study (FS) for OU1 (middle and lower aquifers) began in July 1984 and were completed in April 1988. The RI/FS for OU2 (shallow aquifer and soil contamination) was completed in 1991. 1988: In September, a Record of Decision (ROD) selected a remedy for the middle and lower alluvial units of the groundwater. The OU1, also designated the Scottsdale Operable Unit, involved operation of a groundwater treatment facility located at Pima Park (Thomas Road and 88th Street), and known as the City of Scottsdale Central Groundwater Treatment Facility (CGTF). The facility treats groundwater from four City of Scottsdale production wells by air-stripping. The treated water is added to Scottsdale's public water distribution system. 1991: In September, EPA issued a ROD for OU2 to address contamination in the upper alluvial unit (UAU) of groundwater and contaminated soils. This ROD required soil vapor extraction (SVE) and groundwater treatment systems at several source areas, particularly Areas 7 and 12. The OU1 remedy failed to contain the lower alluvial unit (LAU) groundwater plume. Hydrogeologic data indicated that the plume was migrating to the north and would threaten the Paradise Valley well field. 1994: The PCs, in cooperation with the Paradise Valley Water Company, constructed the Miller Road Treatment Facility (MRTF) at the northern end of the groundwater plume. The MRTF pumps and treats groundwater, and

INDIAN BEND WASH - NORTH (Continued) **S111026380**

supplies treated water to the Salt River Project (SRP) Arizona Canal and to the Paradise Valley distribution system. Additionally, Motorola and Siemens voluntarily installed on-site groundwater treatment systems at both areas 7 and 12 to treat middle alluvial unit (MAU) groundwater at the source areas. 1995 - 2000: The OU1 Consent Decree (CD) required the PCs to conduct a feasibility study addendum (FSA) to determine the effectiveness of the OU1 remedy and to recommend a final remedy. In 1995, the PCs initiated the FSA process including the completion of a site-wide groundwater flow and transport model. The final FSA was received in November 2000. 2001: In April, the EPA issued a proposed plan. The proposed plan announced the required public meeting, which took place on May 9th. EPA formally selected a remedy in the amended ROD which was received by Arizona Department of Environmental Quality (ADEQ) in July. ADEQ concurred with the remedy as described in the amended ROD, and the EPA signed the ROD in September. 2001 - 2003: The Amended Consent Decree (ACD) became final with the approval of the federal court on June 5, 2003. The ACD was the result of an Amended Record of Decision (AROD) which was prescribed during 2001. The AROD resulted in EPA, ADEQ and the PCs negotiating the ACD. The purpose of the ACD was to include treatment facilities which were constructed by Motorola outside of the authority of the RODs (MRTF, Area 7 & Area 12). The ACD serves as the implementation vehicle of the ROD. 2002: In October, negotiation and approval of the final ACD were completed. All of the parties signed the ACD for the final groundwater remedy. The ACD was lodged with the district court in Phoenix, Arizona on October 31st. On November 19 and 20th, EPA and ADEQ conducted inspections of the MRTF, CGTF, Area 7 and Area 12 remediation sites. The inspections were conducted in order to certify the treatment facilities are operational and functional. 2004: In February, the PCs and the EPA and ADEQ entered an informal dispute relating to the requirements to maintain air emission control systems at the NIBW ground water treatment facilities. 2006: EPA announced that all physical construction of cleanup systems was complete. Soil cleanup is expected to be complete in the next five years and groundwater cleanup an additional 30 years. EPA and the PCs independently conducted risk assessments to determine the relative risk associated with the possibility of removing the air emission controls that are part of the current groundwater treatment systems. EPA and ADEQ determined that the air emission control systems must remain in service at that time, and agreed to look at the air emission data in March 2007. 2007: The City of Scottsdale began demolition of buildings at the former Rolamech facility at Area 7 and completed by the end of 2007. EPA and ADEQ worked with Maricopa County Air Quality Department (MCAQD) to determine if air emission controls for the air stripping groundwater treatment systems could be removed and still be protective for human health and the environment. ADEQ and MCAQD issued letters stating that the air emission controls cannot be removed. In early 2007, the Agency for Toxic Substances and Disease Registry (ATSDR) agreed to conduct a public health evaluation of potential past exposures to contaminants in the municipal drinking water system in the site that may have occurred before the system s contaminated wells were closed in 1981. ATSDR completed a public health assessment of the site in 1989 in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended. ATSDR gathered additional relevant and applicable data about the site s groundwater and municipal water to

INDIAN BEND WASH - NORTH (Continued) **S111026380**

further evaluate the past exposures. ATSDR issued a report called a public health consultation which described whether the exposures have any public health implications. The lead environmental health scientist for this site was Dr. Jane Zhu. If you have a question or need more information, please contact her at 800-CDC-INFO, or visit the ATSDR website. In October, water treated at the MRTF from Well PCX-1 was directed to Tower 2 for nine days while the normally used Tower 3 was under inspection. On October 16th a trichloroethene (TCE) exceedance occurred from the MRTF. On this date, samples were taken which contained 14 parts per billion (ppb) of TCE exiting the treatment facility. Due to laboratory communications and equipment failures, this was not reported to the EPA or ADEQ until November 9th. Samples taken of the water leaving the MRTF on October 8th, and October 22nd showed no detection of TCE. Water from the treatment facility was mixed with water coming from the Arizona American Water Company s (AAWC) arsenic treatment facility, and so it was calculated that the contamination entering the drinking water system met safe drinking water standards. EPA and ADEQ directed the NIBW PCs to conduct a thorough third-party review of the plant and its operations. 2008: On January 16th, an operator returning to the MRTF found that the blower operating in the treatment tower was not operating. The operator re-started the blower but the plant was shut down at approximately 9:00 A.M. It was found that the plant had been running without the blower operating since approximately 2:30 P.M. on January 15th. Between the times that the blower turned off and the time the plant was shut down, approximately 3,639,000 gallons of water was delivered from the MRTF to the AAWC. Water with up to 22 ppb of TCE was delivered to the Paradise Valley customers of AAWC. In agreement with the EPA, ADEQ, and Maricopa County, the MRTF was shut down pending an investigation and modifications to the plant. The plant was examined by a third-party consultant who re-evaluated both the plant infrastructure and its operating methods. The plant was re-started on April 25th with the following important modifications to the plant and its operations: The PCX-1 Well and its treatment train were totally isolated from the drinking water system using physical separations. Water from Well PCX-1 is treated and placed in the Arizona Canal and is sampled on a daily basis during the initial start-up phases. The MRTF is now manned on a 24-hour per day, 7-day per week basis when operating. Malfunctioning electrical equipment including instrumentation and alarms was repaired or replaced. Sampling frequency was expanded. A complete third-party engineering evaluation of the MRTF was conducted. The Arizona Department of Health Services stated that there was no public health hazard because of the low rate of exposure to the tap water. In July, a study was conducted at the Hohokam Elementary School to determine if past irrigation had resulted in contamination to the school grounds. Two separate sampling events occurred; one on July 3rd, and the other on October 10th. Sampling was conducted by the NIBW PCs through a contractor with oversight by ADEQ and consultants for the EPA. Sampling was done of both soil and soil gas at the site. No threat to public health was found in a review completed by ATSDR. Also in July, the NIBW PCs presented a draft Long-Term Operations Work Plan. A revised work plan was submitted in November. A complete third-party engineering review and rehabilitation of the CGTF was completed. No significant concerns were found and modifications to the plant operating system were completed to bring the technology up to current levels. 2009: On April 20th the NIBW PCs, working with EPCOR

INDIAN BEND WASH - NORTH (Continued) **S111026380**

(formerly AAWC), EPA and ADEQ, began a rehabilitation of the MRTF. 2010: Rehabilitation of the MRTF was completed by the NIBW PCs. The five Year Review (FYR) process began which includes interviews with stakeholders and community members as well as site inspections to aid in the assessment of the remedy effectiveness. 2011: FYR report was approved in the fall. The FYR summarized the remedies at the IBW site are currently protective of human health and the environment, and exposure pathways that could result in unacceptable risks are being controlled. The agencies and NIBW PC s are negotiating a final long-term remedy for the Miller Road Treatment Facility which is expected to be selected by the end of calendar year. 2012: A final long term remedy for PCX-1 was approved. PCX-1 is currently treated at the MRTF and under the Long-Term Operating Plan has been conditionally approved to discharge to the adjacent SRP canal. A treatment facility is currently under construction with an expected completion date of 2013. The NIBW PC s continue site monitoring and sampling and have submitted a request to reduce the monitoring well network in the UAU due to the reduction in contamination and comprehensive monitoring of data. 2013: The NIBW Granular Activated Carbon Treatment Facility (NGTF) was completed. A pipeline is currently under construction which will connect the NGTF to the Chapparal Water Treatment Plant, allowing the City of Scottsdale beneficial use of the treated water. 30 UAU monitoring wells were abandoned.

Boundaries: The North Indian Bend Wash (NIBW) site is the northern portion of the area designated as the Indian Bend Wash (IBW) Superfund site. The site is located in Scottsdale, Arizona, and the site is bounded by McDonald Drive to the north, Pima Road to the east, 68th Street to the west, and the Salt River to the south. The plume boundary varies and may extend beyond the site boundary but remains part of the Superfund site in its entirety.

AZ NPL Status: Vapor intrusion work is currently underway at the NIBW Superfund Site, lead by the U.S. EPA. For more information on vapor intrusion, please contact the U.S. EPA. An amended FYR will be released after the vapor intrusion work has been completed and evaluated.

SPL:

Program:	CERCLA
Program Status:	ON NPL
Status Date:	01-SEP-83
State Comment:	STATUS DATE ESTIMATED
Former Name:	INDIAN BEND WASH
Lat:	33.47986603
Long:	-111.90824127

NPL **Region** **< 1/8** **1 ft.**	**INDIAN BEND WASH AREA** **MCDOWELL RD & HAYDEN** **SCOTTSDALE, AZ 85253**	**NPL** **SEMS** **US ENG CONTROLS** **US INST CONTROLS** **SHWS** **ROD** **PRP** **ICIS** **FINDS** **ECHO**	**1000245609** **AZD980695969**

NPL:

Name:	INDIAN BEND WASH AREA
Address:	MCDOWELL RD & HAYDEN
City,State,Zip:	SCOTTSDALE, AZ 85253
EPA ID:	AZD980695969
EPA Region:	9
Federal:	N
Final Date:	1983-09-08 00:00:00
Site ID:	900673
Latitude:	33.466669000000003
Site Score:	42.240000000000002
Longitude:	-111.9083

NPL:

EPA ID:	AZD980695969
NPL Status:	Currently on the Final NPL
Category Description:	Depth To Aquifer-> 100 Feet
Category Value:	120
EPA ID:	AZD980695969
NPL Status:	Currently on the Final NPL
Category Description:	Distance To Nearest Population-> 0 And <= 1/4 Mile
Category Value:	10

NPL:

EPA ID:	AZD980695969
Site ID:	0900673
Site Status:	F
Federal Site:	N
EPA Region:	09
Date Proposed:	12/30/82
Date Finalized:	09/08/83

NPL:

EPA ID:	AZD980695969
NPL Status:	Currently on the Final NPL
EPA ID:	AZD980695969
NPL Status:	Currently on the Final NPL
Substance ID:	A020
Substance:	CHROMIUM AND COMPOUNDS
Pathway:	GROUND WATER PATHWAY
Scoring:	3
EPA ID:	AZD980695969
NPL Status:	Currently on the Final NPL
Substance ID:	U228
Substance:	TRICHLOROETHYLENE (TCE)

INDIAN BEND WASH AREA (Continued) **1000245609**

CAS #: 79-01-6
Pathway: GROUND WATER PATHWAY
Scoring: 2

NPL:
EPA ID: AZD980695969
Summary: Conditions at listing December 1982): The Indian Bend Wash Area encompasses about 12 square miles in parts of Scottsdale, Tempe, and Phoenix, Ari ona. Ground water, which supplies more than 350,000 people in the area, is contaminated with t

EPA ID: AZD980695969
Summary: richloroethylene TCE) and other chlorinated solvents. Six municipal wells have been shut down as a result of the contamination.
Status July 1983): An Indian Bend Wash Task Force comprised of EPA, State, county, and municipal represent

EPA ID: AZD980695969
Summary: atives is seeking to identify the extent, magnitude, and sources of the contamination. EPA is developing a Remedial Action Master Plan outlining the investigations needed to determine the full extent of cleanup required at the site.

NPL:
EPA ID: AZD980695969
NPL Status: Final
Proposed Date: 12/30/1982
Final Date: 09/08/1983

NPL:
EPA ID: AZD980695969
NPL Name: INDIAN BEND WASH AREA

SEMS:
Site ID: 0900673
EPA ID: AZD980695969
Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
City,State,Zip: SCOTTSDALE, AZ 85253
Cong District: 01,09
FIPS Code: 04013
Latitude: 33.466669
Longitude: -111.908300
FF: N
NPL: Currently on the Final NPL

SEMS Detail:
Region: 09
Site ID: 0900673
EPA ID: AZD980695969
Site Name: INDIAN BEND WASH AREA
NPL: F
FF: N
OU: 01
Action Code: TV

INDIAN BEND WASH AREA (Continued) **1000245609**

Action Name:	Partial Del
SEQ:	1
Start Date:	2003-02-28 05:00:00
Finish Date:	2/28/2003 5:00:00 AM
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	01
Action Code:	RO
Action Name:	ROD
SEQ:	2
Start Date:	1991-09-12 04:00:00
Finish Date:	9/12/1991 4:00:00 AM
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	02
Action Code:	RO
Action Name:	ROD
SEQ:	1
Start Date:	1988-09-21 04:00:00
Finish Date:	9/21/1988 4:00:00 AM
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	03
Action Code:	RA
Action Name:	RA
SEQ:	7
Start Date:	2005-09-27 04:00:00
Finish Date:	6/20/2006 4:00:00 AM
Qual:	IR
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	07
Action Code:	FS

INDIAN BEND WASH AREA (Continued) **1000245609**

Action Name:	FS
SEQ:	2
Start Date:	1992-06-01 04:00:00
Finish Date:	9/27/1993 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	03
Action Code:	AR
Action Name:	ADMIN REC
SEQ:	4
Start Date:	2003-04-30 04:00:00
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	GR
Action Name:	PART DEL
SEQ:	1
Start Date:	2003-05-01 04:00:00
Finish Date:	5/1/2003 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	TA
Action Name:	TECH ASSIST
SEQ:	1
Start Date:	2000-12-22 05:00:00
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	CM
Action Name:	PCOR
SEQ:	1
Start Date:	2006-09-28 04:00:00

INDIAN BEND WASH AREA (Continued) **1000245609**

Finish Date:	9/28/2006 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	08
Action Code:	RO
Action Name:	ROD
SEQ:	8
Start Date:	2001-09-27 04:00:00
Finish Date:	9/27/2001 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	RS
Action Name:	RV ASSESS
SEQ:	2
Start Date:	1991-02-26 05:00:00
Finish Date:	2/26/1991 5:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	FE
Action Name:	5 YEAR
SEQ:	1
Start Date:	2010-04-15 04:00:00
Finish Date:	9/23/2011 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	MA
Action Name:	ST COOP
SEQ:	3
Start Date:	2010-05-17 05:00:00
Current Action Lead:	EPA Perf

INDIAN BEND WASH AREA (Continued) **1000245609**

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	08
Action Code:	AR
Action Name:	ADMIN REC
SEQ:	5
Start Date:	2012-03-30 04:00:00
Finish Date:	3/30/2012 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	FE
Action Name:	5 YEAR
SEQ:	2
Start Date:	2015-10-26 04:00:00
Finish Date:	9/29/2016 5:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	03
Action Code:	LR
Action Name:	LT RESP
SEQ:	1
Start Date:	2006-06-20 04:00:00
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	06
Action Code:	CO
Action Name:	RI/FS
SEQ:	2
Start Date:	1989-07-08 04:00:00
Finish Date:	9/12/1991 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673

INDIAN BEND WASH AREA (Continued) **1000245609**

EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	05
Action Code:	CO
Action Name:	RI/FS
SEQ:	4
Start Date:	1984-02-22 05:00:00
Finish Date:	9/12/1991 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	06
Action Code:	RO
Action Name:	ROD
SEQ:	5
Start Date:	1991-09-12 04:00:00
Finish Date:	9/12/1991 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	CR
Action Name:	CI
SEQ:	3
Start Date:	1985-02-15 06:00:00
Finish Date:	9/30/2005 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	SI
Action Name:	SI
SEQ:	1
Start Date:	1980-06-01 04:00:00
Finish Date:	12/1/1982 5:00:00 AM
Qual:	H
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673

INDIAN BEND WASH AREA (Continued) **1000245609**

EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	01
Action Code:	FS
Action Name:	FS
SEQ:	1
Start Date:	1989-06-30 04:00:00
Finish Date:	9/12/1991 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	03
Action Code:	CO
Action Name:	RI/FS
SEQ:	6
Start Date:	1988-03-14 05:00:00
Finish Date:	9/30/1998 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1979-12-01 05:00:00
Finish Date:	12/1/1979 5:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	07
Action Code:	RA
Action Name:	RA
SEQ:	1
Start Date:	1995-05-31 04:00:00
Finish Date:	7/18/2019 5:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969

INDIAN BEND WASH AREA (Continued) **1000245609**

Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	AR
Action Name:	ADMIN REC
SEQ:	3
Start Date:	2000-06-16 04:00:00
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	1980-06-01 04:00:00
Finish Date:	6/1/1980 4:00:00 AM
Qual:	H
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	05
Action Code:	RO
Action Name:	ROD
SEQ:	4
Start Date:	1991-09-12 04:00:00
Finish Date:	9/12/1991 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	HR
Action Name:	HAZRANK
SEQ:	1
Start Date:	1982-12-01 05:00:00
Finish Date:	12/1/1982 5:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA

INDIAN BEND WASH AREA (Continued) **1000245609**

NPL:	F
FF:	N
OU:	03
Action Code:	RD
Action Name:	RD
SEQ:	6
Start Date:	2005-03-08 05:00:00
Finish Date:	9/28/2005 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	07
Action Code:	RI
Action Name:	RI
SEQ:	3
Start Date:	1990-09-26 04:00:00
Finish Date:	9/27/2006 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	04
Action Code:	RO
Action Name:	ROD
SEQ:	3
Start Date:	1991-09-12 04:00:00
Finish Date:	9/12/1991 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	CR
Action Name:	CI
SEQ:	1
Start Date:	1984-02-22 05:00:00
Finish Date:	9/30/1996 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F

INDIAN BEND WASH AREA (Continued) **1000245609**

FF:	N
OU:	04
Action Code:	CO
Action Name:	RI/FS
SEQ:	3
Start Date:	1984-02-22 05:00:00
Finish Date:	9/12/1991 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	02
Action Code:	RD
Action Name:	RD
SEQ:	1
Start Date:	1988-10-03 04:00:00
Finish Date:	7/27/1989 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	RS
Action Name:	RV ASSESS
SEQ:	1
Start Date:	1990-09-06 04:00:00
Finish Date:	9/6/1990 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	07
Action Code:	RD
Action Name:	RD
SEQ:	2
Start Date:	1994-05-31 04:00:00
Finish Date:	5/19/1995 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N

INDIAN BEND WASH AREA (Continued) **1000245609**

OU:	00
Action Code:	MA
Action Name:	ST COOP
SEQ:	1
Start Date:	1985-02-13 06:00:00
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	MA
Action Name:	ST COOP
SEQ:	2
Start Date:	1998-02-13 05:00:00
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	NF
Action Name:	NPL FINL
SEQ:	1
Start Date:	1983-09-08 04:00:00
Finish Date:	9/8/1983 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	RV
Action Name:	RMVL
SEQ:	1
Start Date:	1994-04-26 04:00:00
Finish Date:	6/15/1994 4:00:00 AM
Qual:	C
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	CR

INDIAN BEND WASH AREA (Continued) **1000245609**

Action Name:	CI
SEQ:	2
Start Date:	1990-12-01 05:00:00
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	NP
Action Name:	PROPOSED
SEQ:	1
Start Date:	1982-12-30 05:00:00
Finish Date:	12/30/1982 5:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	01
Action Code:	CO
Action Name:	RI/FS
SEQ:	1
Start Date:	1984-02-22 05:00:00
Finish Date:	9/12/1991 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	03
Action Code:	RI
Action Name:	RI
SEQ:	2
Start Date:	1988-03-14 05:00:00
Finish Date:	9/15/1997 4:00:00 AM
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	07
Action Code:	RO
Action Name:	ROD
SEQ:	6

INDIAN BEND WASH AREA (Continued) **1000245609**

Start Date:	1993-09-27 04:00:00
Finish Date:	9/27/1993 4:00:00 AM
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	03
Action Code:	RO
Action Name:	ROD
SEQ:	7
Start Date:	1998-09-30 04:00:00
Finish Date:	9/30/1998 4:00:00 AM
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	08
Action Code:	MA
Action Name:	ST COOP
SEQ:	4
Start Date:	2018-04-24 05:00:00
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	01
Action Code:	BE
Action Name:	PRP RD
SEQ:	2
Start Date:	1992-01-08 05:00:00
Finish Date:	2/20/1992 5:00:00 AM
Current Action Lead:	EPA Ovrsght
Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	08
Action Code:	BE
Action Name:	PRP RD
SEQ:	13
Start Date:	2002-10-07 04:00:00
Finish Date:	6/26/2006 4:00:00 AM

INDIAN BEND WASH AREA (Continued) **1000245609**

Current Action Lead: EPA Ovrsght

Region: 09
Site ID: 0900673
EPA ID: AZD980695969
Site Name: INDIAN BEND WASH AREA
NPL: F
FF: N
OU: 08
Action Code: BF
Action Name: PRP RA
SEQ: 12
Start Date: 2006-06-26 04:00:00
Finish Date: 7/11/2007 4:00:00 AM
Qual: IR
Current Action Lead: EPA Ovrsght

Region: 09
Site ID: 0900673
EPA ID: AZD980695969
Site Name: INDIAN BEND WASH AREA
NPL: F
FF: N
OU: 03
Action Code: BE
Action Name: PRP RD
SEQ: 12
Start Date: 2000-09-27 04:00:00
Finish Date: 6/29/2004 4:00:00 AM
Current Action Lead: EPA Ovrsght

Region: 09
Site ID: 0900673
EPA ID: AZD980695969
Site Name: INDIAN BEND WASH AREA
NPL: F
FF: N
OU: 08
Action Code: NK
Action Name: PRP FS
SEQ: 1
Start Date: 1997-06-27 04:00:00
Finish Date: 9/27/2001 4:00:00 AM
Current Action Lead: EPA Ovrsght

Region: 09
Site ID: 0900673
EPA ID: AZD980695969
Site Name: INDIAN BEND WASH AREA
NPL: F
FF: N
OU: 02
Action Code: AR
Action Name: ADMIN REC
SEQ: 1
Start Date: 1988-09-21 04:00:00
Finish Date: 12/30/1992 5:00:00 AM

INDIAN BEND WASH AREA (Continued) **1000245609**

Qual:	E
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	00
Action Code:	CR
Action Name:	CI
SEQ:	4
Start Date:	2006-11-15 05:00:00
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	08
Action Code:	BF
Action Name:	PRP RA
SEQ:	13
Start Date:	2012-10-04 04:00:00
Finish Date:	9/17/2014 5:00:00 AM
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	08
Action Code:	BE
Action Name:	PRP RD
SEQ:	14
Start Date:	2012-03-27 04:00:00
Finish Date:	10/4/2012 4:00:00 AM
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	05
Action Code:	BF
Action Name:	PRP RA
SEQ:	7
Start Date:	1996-03-29 05:00:00
Finish Date:	11/9/2000 5:00:00 AM
Qual:	IR

INDIAN BEND WASH AREA (Continued) **1000245609**

Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	06
Action Code:	BF
Action Name:	PRP RA
SEQ:	4
Start Date:	1994-02-08 05:00:00
Finish Date:	3/3/2016 5:00:00 AM
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	06
Action Code:	BF
Action Name:	PRP RA
SEQ:	5
Start Date:	1994-07-11 04:00:00
Finish Date:	8/4/2000 4:00:00 AM
Qual:	IR
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	05
Action Code:	BF
Action Name:	PRP RA
SEQ:	8
Start Date:	1998-09-02 04:00:00
Finish Date:	11/3/2000 5:00:00 AM
Qual:	IR
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	01
Action Code:	BF
Action Name:	PRP RA
SEQ:	2
Start Date:	1992-02-20 05:00:00

INDIAN BEND WASH AREA (Continued) **1000245609**

Finish Date:	9/30/1996 4:00:00 AM
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	05
Action Code:	BE
Action Name:	PRP RD
SEQ:	5
Start Date:	1994-07-15 04:00:00
Finish Date:	3/29/1996 5:00:00 AM
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	06
Action Code:	BE
Action Name:	PRP RD
SEQ:	4
Start Date:	1994-03-10 05:00:00
Finish Date:	7/11/1994 4:00:00 AM
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	02
Action Code:	BF
Action Name:	PRP RA
SEQ:	3
Start Date:	1992-06-30 04:00:00
Finish Date:	7/11/2007 4:00:00 AM
Qual:	IR
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	02
Action Code:	BF
Action Name:	PRP RA
SEQ:	1
Start Date:	1990-01-15 05:00:00

INDIAN BEND WASH AREA (Continued) **1000245609**

Finish Date:	12/31/1990 5:00:00 AM
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	01
Action Code:	NA
Action Name:	PRP RI
SEQ:	1
Start Date:	1984-02-22 05:00:00
Finish Date:	9/12/1991 4:00:00 AM
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	01
Action Code:	AR
Action Name:	ADMIN REC
SEQ:	2
Start Date:	1991-03-23 05:00:00
Finish Date:	10/8/1991 4:00:00 AM
Qual:	E
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	02
Action Code:	BE
Action Name:	PRP RD
SEQ:	1
Start Date:	1989-07-27 04:00:00
Finish Date:	6/30/1992 4:00:00 AM
Current Action Lead:	EPA Ovrsght

Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	06
Action Code:	BE
Action Name:	PRP RD
SEQ:	3
Start Date:	1993-10-14 04:00:00

INDIAN BEND WASH AREA (Continued) **1000245609**

Finish Date:	2/8/1994 5:00:00 AM
Current Action Lead:	EPA Ovrsght
Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	07
Action Code:	BE
Action Name:	PRP RD
SEQ:	8
Start Date:	1996-11-05 05:00:00
Finish Date:	9/4/1997 4:00:00 AM
Current Action Lead:	EPA Ovrsght
Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	08
Action Code:	ME
Action Name:	PRP LR
SEQ:	1
Start Date:	2003-02-23 05:00:00
Current Action Lead:	EPA Ovrsght
Region:	09
Site ID:	0900673
EPA ID:	AZD980695969
Site Name:	INDIAN BEND WASH AREA
NPL:	F
FF:	N
OU:	02
Action Code:	CO
Action Name:	RI/FS
SEQ:	5
Start Date:	1985-02-15 06:00:00
Finish Date:	9/21/1988 4:00:00 AM
Current Action Lead:	St Perf

SIte:

Name:	INDIAN BEND WASH AREA
Address:	MCDOWELL RD & HAYDEN
City,State,Zip:	SCOTTSDALE, AZ 85253
Action Taken Date:	03/27/2012
EPA ID:	AZD980695969
Site ID:	0900673
Action Name:	GOVT ESD
Action ID:	1
Operable Unit:	08
Action Completion Date:	04/02/2012
Contaminated Media:	Groundwater

INDIAN BEND WASH AREA (Continued) **1000245609**

Media:

EPA ID:	AZD980695969
Contaminated Media:	Groundwater
Site ID:	0900673
Action ID:	7
Action Completion Date:	09/30/1998
Operable Unit:	03
Action Name:	GOVT Decision Document (ROD)
Action Taken Date:	09/30/1998

EPA ID:	AZD980695969
Contaminated Media:	Groundwater
Site ID:	0900673
Action ID:	1
Action Completion Date:	09/30/2004
Operable Unit:	03
Action Name:	GOVT ROD Amendment
Action Taken Date:	06/24/2004

EPA ID:	AZD980695969
Contaminated Media:	Groundwater
Site ID:	0900673
Action ID:	5
Action Completion Date:	09/30/1991
Operable Unit:	06
Action Name:	GOVT Decision Document (ROD)
Action Taken Date:	09/12/1991

EPA ID:	AZD980695969
Contaminated Media:	Soil
Site ID:	0900673
Action ID:	5
Action Completion Date:	09/30/1991
Operable Unit:	06
Action Name:	GOVT Decision Document (ROD)
Action Taken Date:	09/12/1991

EPA ID:	AZD980695969
Contaminated Media:	Groundwater
Site ID:	0900673
Action ID:	1
Action Completion Date:	04/02/2012
Operable Unit:	08
Action Name:	GOVT ESD
Action Taken Date:	03/27/2012

EPA ID:	AZD980695969
Contaminated Media:	Groundwater
Site ID:	0900673
Action ID:	8
Action Completion Date:	09/30/2001
Operable Unit:	08
Action Name:	GOVT ROD for PRP Remedy
Action Taken Date:	09/27/2001

EPA ID:	AZD980695969
Contaminated Media:	Groundwater

INDIAN BEND WASH AREA (Continued) **1000245609**

Site ID: 0900673
Action ID: 8
Action Completion Date: 09/30/2001
Operable Unit: 08
Action Name: GOVT ROD for PRP Remedy
Action Taken Date: 09/27/2001

EPA ID: AZD980695969
Contaminated Media: Soil
Site ID: 0900673
Action ID: 2
Action Completion Date: 09/30/1991
Operable Unit: 01
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/12/1991

EPA ID: AZD980695969
Contaminated Media: Soil
Site ID: 0900673
Action ID: 2
Action Completion Date: 09/30/1991
Operable Unit: 01
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/12/1991

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 3
Action Completion Date: 09/30/1991
Operable Unit: 04
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/12/1991

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 7
Action Completion Date: 09/30/1998
Operable Unit: 03
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/30/1998

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 8
Action Completion Date: 09/30/2001
Operable Unit: 08
Action Name: GOVT ROD for PRP Remedy
Action Taken Date: 09/27/2001

EPA ID: AZD980695969
Contaminated Media: Soil
Site ID: 0900673
Action ID: 4
Action Completion Date: 09/30/1991

INDIAN BEND WASH AREA (Continued) **1000245609**

Operable Unit: 05
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/12/1991

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 8
Action Completion Date: 09/30/2001
Operable Unit: 08
Action Name: GOVT ROD for PRP Remedy
Action Taken Date: 09/27/2001

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 7
Action Completion Date: 09/30/1998
Operable Unit: 03
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/30/1998

EPA ID: AZD980695969
Contaminated Media: Soil Gas
Site ID: 0900673
Action ID: 2
Action Completion Date: 09/30/1991
Operable Unit: 01
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/12/1991

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 1
Action Completion Date: 09/30/2004
Operable Unit: 03
Action Name: GOVT ROD Amendment
Action Taken Date: 06/24/2004

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 7
Action Completion Date: 09/30/1998
Operable Unit: 03
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/30/1998

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 1
Action Completion Date: 09/30/2004
Operable Unit: 03
Action Name: GOVT ROD Amendment
Action Taken Date: 06/24/2004

INDIAN BEND WASH AREA (Continued) **1000245609**

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 8
Action Completion Date: 09/30/2001
Operable Unit: 08
Action Name: GOVT ROD for PRP Remedy
Action Taken Date: 09/27/2001

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 2
Action Completion Date: 09/30/1991
Operable Unit: 01
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/12/1991

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 1
Action Completion Date: 09/30/1989
Operable Unit: 02
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/21/1988

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 1
Action Completion Date: 09/30/1989
Operable Unit: 02
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/21/1988

EPA ID: AZD980695969
Contaminated Media: Soil Gas
Site ID: 0900673
Action ID: 3
Action Completion Date: 09/30/1991
Operable Unit: 04
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/12/1991

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 4
Action Completion Date: 09/30/1991
Operable Unit: 05
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/12/1991

EPA ID: AZD980695969
Contaminated Media: Soil Gas

INDIAN BEND WASH AREA (Continued) **1000245609**

Site ID: 0900673
Action ID: 5
Action Completion Date: 09/30/1991
Operable Unit: 06
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/12/1991

EPA ID: AZD980695969
Contaminated Media: Soil
Site ID: 0900673
Action ID: 6
Action Completion Date: 09/30/1993
Operable Unit: 07
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/27/1993

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 7
Action Completion Date: 09/30/1998
Operable Unit: 03
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/30/1998

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 7
Action Completion Date: 09/30/1998
Operable Unit: 03
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/30/1998

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 7
Action Completion Date: 09/30/1998
Operable Unit: 03
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/30/1998

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 7
Action Completion Date: 09/30/1998
Operable Unit: 03
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/30/1998

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 1
Action Completion Date: 09/30/2004

INDIAN BEND WASH AREA (Continued) **1000245609**

Operable Unit: 03
Action Name: GOVT ROD Amendment
Action Taken Date: 06/24/2004

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 1
Action Completion Date: 09/30/2004
Operable Unit: 03
Action Name: GOVT ROD Amendment
Action Taken Date: 06/24/2004

EPA ID: AZD980695969
Contaminated Media: Soil
Site ID: 0900673
Action ID: 3
Action Completion Date: 09/30/1991
Operable Unit: 04
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/12/1991

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 1
Action Completion Date: 09/30/1989
Operable Unit: 02
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/21/1988

EPA ID: AZD980695969
Contaminated Media: Groundwater
Site ID: 0900673
Action ID: 1
Action Completion Date: 09/30/2004
Operable Unit: 03
Action Name: GOVT ROD Amendment
Action Taken Date: 06/24/2004

EPA ID: AZD980695969
Contaminated Media: Soil Gas
Site ID: 0900673
Action ID: 4
Action Completion Date: 09/30/1991
Operable Unit: 05
Action Name: GOVT Decision Document (ROD)
Action Taken Date: 09/12/1991

US INST CONTROLS:
Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
City,State,Zip: SCOTTSDALE, AZ 85253
EPA ID: AZD980695969
Site ID: 0900673
Action Name: GOVT Decision Document (ROD)

INDIAN BEND WASH AREA (Continued) **1000245609**

Action ID:	7
Operable Unit:	03
Action Completion Date:	09/30/1998
Actual Date:	09/30/1998
Contaminated Media:	Groundwater

SHWS:

EPA ID:	AZD980695969
Program:	PA/SI
Site Code:	Not reported
Facility Id:	161
Discovery Date:	12/01/1979
Source:	Not reported
Operable Unit:	Not reported
QWARF Area:	NIBW
Lat:	Not reported
Long:	Not reported
Lat/Long Method:	99
Comments:	Not reported

ROD:

Name:	INDIAN BEND WASH AREA
Address:	MCDOWELL RD & HAYDEN
City,State,Zip:	SCOTTSDALE, AZ 85253
EPA ID:	AZD980695969
RG:	9
Site ID:	900673
Action:	GOVT Decision Document (ROD)
Operable Unit Number:	SCOTTSDALE OU
SEQ ID:	1
Action Completion:	1988-09-21 00:00:00
NPL Status:	Final

Name:	INDIAN BEND WASH AREA
Address:	MCDOWELL RD & HAYDEN
City,State,Zip:	SCOTTSDALE, AZ 85253
EPA ID:	AZD980695969
RG:	9
Site ID:	900673
Action:	GOVT Decision Document (ROD)
Operable Unit Number:	NORTH AREA
SEQ ID:	2
Action Completion:	1991-09-12 00:00:00
NPL Status:	Final

Name:	INDIAN BEND WASH AREA
Address:	MCDOWELL RD & HAYDEN
City,State,Zip:	SCOTTSDALE, AZ 85253
EPA ID:	AZD980695969
RG:	9
Site ID:	900673
Action:	GOVT Decision Document (ROD)
Operable Unit Number:	BECKMAN INSTRUMENTS
SEQ ID:	3
Action Completion:	1991-09-12 00:00:00
NPL Status:	Final

INDIAN BEND WASH AREA (Continued) **1000245609**

Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
City,State,Zip: SCOTTSDALE, AZ 85253
EPA ID: AZD980695969
RG: 9
Site ID: 900673
Action: GOVT Decision Document (ROD)
Operable Unit Number: MOTOROLA
SEQ ID: 4
Action Completion: 1991-09-12 00:00:00
NPL Status: Final

Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
City,State,Zip: SCOTTSDALE, AZ 85253
EPA ID: AZD980695969
RG: 9
Site ID: 900673
Action: GOVT Decision Document (ROD)
Operable Unit Number: SIEMENS
SEQ ID: 5
Action Completion: 1991-09-12 00:00:00
NPL Status: Final

Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
City,State,Zip: SCOTTSDALE, AZ 85253
EPA ID: AZD980695969
RG: 9
Site ID: 900673
Action: GOVT Decision Document (ROD)
Operable Unit Number: SOUTH AREA -SOILS
SEQ ID: 6
Action Completion: 1993-09-27 00:00:00
NPL Status: Final

Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
City,State,Zip: SCOTTSDALE, AZ 85253
EPA ID: AZD980695969
RG: 9
Site ID: 900673
Action: GOVT Decision Document (ROD)
Operable Unit Number: SOUTH AREA-GROUNDWATER
SEQ ID: 7
Action Completion: 1998-09-30 00:00:00
NPL Status: Final

Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
City,State,Zip: SCOTTSDALE, AZ 85253
EPA ID: AZD980695969
RG: 9
Site ID: 900673
Action: GOVT ESD
Operable Unit Number: NORTH-FINAL GW & SOIL REMEDY

INDIAN BEND WASH AREA (Continued) **1000245609**

SEQ ID: 1
Action Completion: 2012-03-27 00:00:00
NPL Status: Final

Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
City,State,Zip: SCOTTSDALE, AZ 85253
EPA ID: AZD980695969
RG: 9
Site ID: 900673
Action: GOVT ROD Amendment
Operable Unit Number: SOUTH AREA-GROUNDWATER
SEQ ID: 1
Action Completion: 2004-06-24 00:00:00
NPL Status: Final

Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
City,State,Zip: SCOTTSDALE, AZ 85253
EPA ID: AZD980695969
RG: 9
Site ID: 900673
Action: GOVT ROD for PRP Remedy
Operable Unit Number: NORTH-FINAL GW & SOIL REMEDY
SEQ ID: 8
Action Completion: 2001-09-27 00:00:00
NPL Status: Final

PRP:
PRP Name: A&B ENTERPRISES (FORMER)
ADVANCED AUTO SUPPLY
ADVANCED AUTO SUPPLY
ALL STATE MINE
ARDEN PROPERTIES
ARDEN PROPERTIES
ARDEN PROPERTIES
ARDEN PROPERTIES
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ARDEN PROPERTIES
ARDEN PROPERTIES
ARIZONA CASTINGS, INC.
ARIZONA PUBLIC SERVICE
B & P INTERNATIONAL LAND, TITLE & INVESTMENTS
B & P INTERNATIONAL LAND, TITLE & INVESTMENTS

INDIAN BEND WASH AREA (Continued) **1000245609**

B & P INTERNATIONAL LAND, TITLE & INVESTMENTS
BECKMAN INSTRUMENTS
BECKMAN INSTRUMENTS
BECKMAN INSTRUMENTS
BECKMAN INSTRUMENTS
BECKMAN INSTRUMENTS, INC
CIRCUIT EXPRESS
CITY OF SCOTTSDALE
CITY OF SCOTTSDALE
CITY OF SCOTTSDALE, AZ
CITY OF SCOTTSDALE, AZ
CRAVENS MARTIN DESIGNS
CRAVENS MARTIN DESIGNS
DCE CIRCUITS
DCE CIRCUITS
DCE CIRCUITS
DCE CIRCUITS (FORMER)
DESERT SPORTSWEAR
DICKSON ELECTRONICS
DICKSON ELECTRONICS
DON E. FRYE, SR.
DONALD TAYLOR STREETS
ED KOPP
EDWARD H. JOHNSON
EDWARD H. JOHNSON
ELDON DRAPERY CLEANERS
ELDON DRAPERY CLEANERS
GENESIS II ELECTRONICS INC
GERALD S. GLASSMAN
GORTON, MR. & MS. JOHN AND LINDA
GREAT WESTERN REFINING CORP. (FORMER)
HAROLD WEDELL

Click this hyperlink while viewing on your computer to access
102 additional PRP: record(s) in the EDR Site Report.

ICIS:

Enforcement Action ID:	09-2008-2513
FRS ID:	110009265892
Action Name:	North IBW Order for Noncompliance
Facility Name:	INDIAN BEND WASH AREA
Facility Address:	MCDOWELL RD & HAYDEN SCOTTSDALE, AZ 85253
Enforcement Action Type:	Civil Judicial Action
Facility County:	MARICOPA
Program System Acronym:	CERCLIS
Enforcement Action Forum Desc:	Judicial
EA Type Code:	CIV
Latitude in Decimal Degrees:	33.46666
Longitude in Decimal Degrees:	-111.9083
Program System Acronym:	AZD980695969

Enforcement Action ID:	09-1999-0015
FRS ID:	110009265892
Action Name:	INDIAN BEND WASH - ARDEN PROPERTIES BANKRUPTCY
Facility Name:	INDIAN BEND WASH AREA
Facility Address:	MCDOWELL RD & HAYDEN

INDIAN BEND WASH AREA (Continued) **1000245609**

	SCOTTSDALE, AZ 85253
Enforcement Action Type:	Bankruptcy
Facility County:	MARICOPA
Program System Acronym:	ICIS
Enforcement Action Forum Desc:	Judicial
EA Type Code:	BNK
Facility SIC Code:	3672
Latitude in Decimal Degrees:	33.46666
Longitude in Decimal Degrees:	-111.9083
Program System Acronym:	36923

Enforcement Action ID:	09-1996-0006
FRS ID:	110009265892
Action Name:	VAFADARI, RUDI
Facility Name:	INDIAN BEND WASH AREA
Facility Address:	MCDOWELL RD & HAYDEN
	SCOTTSDALE, AZ 85253
Enforcement Action Type:	Civil Judicial Action
Facility County:	MARICOPA
Program System Acronym:	ICIS
Enforcement Action Forum Desc:	Judicial
EA Type Code:	CIV
Facility SIC Code:	3672
Latitude in Decimal Degrees:	33.46666
Longitude in Decimal Degrees:	-111.9083
Program System Acronym:	36923

Facility Name:	INDIAN BEND WASH AREA
Address:	MCDOWELL RD & HAYDEN
Tribal Indicator:	N
Fed Facility:	No

Facility Name:	INDIAN BEND WASH AREA
Address:	MCDOWELL RD & HAYDEN
Tribal Indicator:	N
Fed Facility:	No

Facility Name:	INDIAN BEND WASH AREA
Address:	MCDOWELL RD & HAYDEN
Tribal Indicator:	N
Fed Facility:	No

Facility Name:	INDIAN BEND WASH AREA
Address:	MCDOWELL RD & HAYDEN
Tribal Indicator:	N
Fed Facility:	No
SIC Code:	3672

Facility Name:	INDIAN BEND WASH AREA
Address:	MCDOWELL RD & HAYDEN
Tribal Indicator:	N
Fed Facility:	No
SIC Code:	3672

Facility Name:	INDIAN BEND WASH AREA
Address:	MCDOWELL RD & HAYDEN

INDIAN BEND WASH AREA (Continued) **1000245609**

Tribal Indicator: N
Fed Facility: No
SIC Code: 3672

Facility Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
Tribal Indicator: N
Fed Facility: No
SIC Code: 3672

Facility Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
Tribal Indicator: N
Fed Facility: No
SIC Code: 3672

Facility Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
Tribal Indicator: N
Fed Facility: No
SIC Code: 3672

FINDS:
Registry ID: 110009265892

Click Here:

Environmental Interest/Information System:
SUPERFUND NPL
ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

~~Click this hyperlink~~ while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000245609
Registry ID: 110009265892
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110009265892
Name: INDIAN BEND WASH AREA
Address: MCDOWELL RD & HAYDEN
City,State,Zip: SCOTTSDALE, AZ 85253

A1 West < 1/8 0.101 mi. 532 ft. | **SAFEWAY #1491**
7920 E CHAPARRAL RD
SCOTTSDALE, AZ 85250 | **RCRA-VSQG**
MANIFEST | **1018154871**
AZR000515148

Site 1 of 8 in cluster A

Relative: Lower

Actual: 1256 ft.

RCRA-VSQG:

Date form received by agency:	2016-04-10 00:00:00.0
Facility name:	SAFEWAY #1491
Facility address:	7920 E CHAPARRAL RD SCOTTSDALE, AZ 85250-7244
EPA ID:	AZR000515148
Mailing address:	5918 STONERIDGE MALL RD PLEASANTON, CA 94588-3229
Contact:	KEITH B POWERS
Contact address:	5918 STONERIDGE MALL RD PLEASANTON, CA 94588-3229
Contact telephone:	701-261-5153
Contact email:	KEITH.POWERS@SAFEWAY.COM
EPA Region:	09
Classification:	Conditionally Exempt Small Quantity Generator
Description:	Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:

Owner/operator name:	SAFEWAY INC.
Owner/operator address:	5918 STONERIDGE MALL RD PLEASANTON, CA 94588
Owner/operator telephone:	925-467-3000
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	1995-11-03 00:00:00.

Owner/operator name:	SAFEWAY INC.
Owner/operator address:	5918 STONERIDGE MALL RD PLEASANTON, CA 94588
Owner/operator telephone:	925-467-3000
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	1998-01-20 00:00:00.

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No

SAFEWAY #1491 (Continued) **1018154871**

Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 2015-02-12 00:00:00.0
Site name: SAFEWAY #1491
Classification: Large Quantity Generator

Date form received by agency: 2014-11-18 00:00:00.0
Site name: SAFEWAY #1491
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 2014-11-14 00:00:00.0
Site name: SAFEWAY #1491
Classification: Large Quantity Generator

Date form received by agency: 2014-08-19 00:00:00.0
Site name: SAFEWAY #1491
Classification: Conditionally Exempt Small Quantity Generator

Hazardous Waste Summary:

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D005
. Waste name: BARIUM

. Waste code: D018
. Waste name: BENZENE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Violation Status: No violations found

AZ MANIFEST:
Report Year: 2016
EPA Id: AZR000515148
Management Methods: H141
DOT Id Number: UN3266

SAFEWAY #1491 (Continued) **1018154871**

Quantity: 15
Waste Code 1: D002

Report Year: 2016
EPA Id: AZR000515148
Management Methods: H141
DOT Id Number: UN3249
Quantity: 1
Waste Code 1: P001

Report Year: 2017
EPA Id: AZR000515148
Management Methods: H141
DOT Id Number: UN3249
Quantity: 45
Waste Code 1: D006,D007,D010,

Report Year: 2017
EPA Id: AZR000515148
Management Methods: H141
DOT Id Number: UN3249
Quantity: 1
Waste Code 1: D006,D007,D010,

Report Year: 2016
EPA Id: AZR000515148
Management Methods: H141
DOT Id Number: UN1950
Quantity: 30
Waste Code 1: D001

Report Year: 2016
EPA Id: AZR000515148
Management Methods: H141
DOT Id Number: UN2811
Quantity: 1
Waste Code 1: D006,D007,D010,

Report Year: 2017
EPA Id: AZR000515148
Management Methods: H141
DOT Id Number: UN3249
Quantity: 1
Waste Code 1: D006,D007,D010,

Report Year: 2017
EPA Id: AZR000515148
Management Methods: H141
DOT Id Number: UN3249
Quantity: 1
Waste Code 1: P001

Report Year: 2017
EPA Id: AZR000515148
Management Methods: H141
DOT Id Number: UN1950
Quantity: 26

SAFEWAY #1491 (Continued) **1018154871**

Waste Code 1: D001

Report Year: 2017
EPA Id: AZR000515148
Management Methods: H141
DOT Id Number: UN1950
Quantity: 15
Waste Code 1: D001

Click this hyperlink while viewing on your computer to access
6 additional AZ MANIFEST: record(s) in the EDR Site Report.

A2
West
< 1/8
0.121 mi.
639 ft.

SAGUARO 66 MERCHANDISING LLC
7904 E CHAPARRAL RD STE 1
SCOTTSDALE, AZ 85250

EDR Hist Auto **1021891693**
N/A

Site 2 of 8 in cluster A

Relative:
Higher

Actual:
1257 ft.

EDR Hist Auto

Year:	Name:	Type:
2011	SAGUARO 66 MERCHANDISING LLC	Gasoline Service Stations, NEC
2012	SAGUARO 66 MERCHANDISING LLC	Gasoline Service Stations, NEC
2013	SAGUARO 66 MERCHANDISING LLC	Gasoline Service Stations, NEC
2014	SAGUARO 66 MERCHANDISING LLC	Gasoline Service Stations, NEC

A3
West
< 1/8
0.121 mi.
639 ft.

DAVID'S DRY CLEANING
7904 E CHAPARRAL RD
SCOTTSDALE, AZ

DRYCLEANERS **S113876908**
N/A

Site 3 of 8 in cluster A

Relative:
Higher

Actual:
1257 ft.

DRYCLEANERS:
Date From: 1985
Date To: 1985

A4
West
< 1/8
0.121 mi.
639 ft.

CELEBRITY CLEANERS
7904 E CHAPARRAL RD
SCOTTSDALE, AZ 85250

RCRA-VSQG **1004673772**
FINDS **AZD982052060**
ECHO
MANIFEST

Site 4 of 8 in cluster A

Relative:
Higher

Actual:
1257 ft.

RCRA-VSQG:
Date form received by agency: 2020-02-06 00:00:00.0
Facility name: CELEBRITY CLEANERS
Facility address: 7904 E CHAPARRAL RD
STE 104
SCOTTSDALE, AZ 85250
EPA ID: AZD982052060
Contact: KYEONGSHIN NAM
Contact address: 7904 E CHAPARRAL RD STE 104
SCOTTSDALE, AZ 85250
Contact country: US
Contact telephone: 480-634-3379
Contact email: NKS1931@DAUM.NET

CELEBRITY CLEANERS (Continued) **1004673772**

EPA Region: 09
Classification: Conditionally Exempt Small Quantity Generator
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Historical Generators:

Date form received by agency: 2019-02-19 00:00:00.0
Site name: CELEBRITY CLEANERS
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 2016-04-18 00:00:00.0
Site name: CELEBRITY CLEANERS
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 2015-05-08 00:00:00.0
Site name: CELEBRITY CLEANERS
Classification: Small Quantity Generator

Date form received by agency: 2015-01-29 00:00:00.0
Site name: CELEBRITY CLEANERS
Classification: Small Quantity Generator

Date form received by agency: 2012-02-13 00:00:00.0
Site name: CELEBRITY CLEANERS
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 2010-01-27 00:00:00.0
Site name: CELEBRITY CLEANERS

CELEBRITY CLEANERS (Continued) **1004673772**

Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 2009-02-04 00:00:00.0
Site name: CELEBRITY CLEANERS
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 1997-09-11 00:00:00.0
Site name: CELEBRITY CLEANERS
Classification: Conditionally Exempt Small Quantity Generator

Violation Status: No violations found

FINDS:
Registry ID: 110002577168

Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.
AZURITE (Arizona Unified Repository For Informational Tracking Of The Environment is the Arizona Department of Environmental Quality (ADEQ) database that is used for environmental enforcement and compliance reporting to the Permit and Compliance (PCS) system and to the Air Facility System Universal Interface (AFS-UI).

~~Click this hyperlink~~ while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1004673772
Registry ID: 110002577168
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002577168
Name: CELEBRITY CLEANERS
Address: 7904 E CHAPARRAL RD
City,State,Zip: SCOTTSDALE, AZ 85250

AZ MANIFEST:
Report Year: 2016
EPA Id: AZD982052060
Management Methods: H061
DOT Id Number: NA3082
Quantity: 581
Waste Code 1: D039,F002

EPA Id: AZD982052060
Business Type: O
Mailing Address: 7904 E CHAPARRAL RD #104
Mailing State: AZ
Contact Name: ALAN DAHMS
Contact Phone: (480) 949-1218
Date Generator Signed The Manifest: 07/21/2005
Transporter EPA Id Number: TXR000050930
Date Transporter Signed The Manifest: 07/21/2005

CELEBRITY CLEANERS (Continued) **1004673772**

Volume:	P
Date TSD Signed Manifest:	07/21/2005
DOT Id Number:	UN2810
Quantity:	350.00
Waste Code 1:	D007
Waste Code 2:	D039
Waste Code 3:	D040
Waste Code 4:	F002

EPA Id:	AZD982052060
Business Type:	O
Mailing Address:	7904 E CHAPARRAL RD #104
Mailing State:	AZ
Contact Name:	ALAN DAHMS
Contact Phone:	(480) 949-1218
Date Generator Signed The Manifest:	03/11/2005
Transporter EPA Id Number:	TXR000050930
Date Transporter Signed The Manifest:	03/11/2005
Volume:	P
Date TSD Signed Manifest:	03/11/2005
DOT Id Number:	UN2810
Quantity:	150.00
Waste Code 1:	F002
Waste Code 2:	D007
Waste Code 3:	D039
Waste Code 4:	D040

EPA Id:	AZD982052060
Business Type:	O
Mailing Address:	7904 E CHAPARRAL RD #104
Mailing State:	AZ
Contact Name:	ALAN DAHMS
Contact Phone:	(480) 949-1218
Date Generator Signed The Manifest:	04/07/2004
Transporter EPA Id Number:	TXR000050930
Date Transporter Signed The Manifest:	04/07/2004
TSD EPA Id Number:	AZD981969504
Volume:	P
Date TSD Signed Manifest:	04/07/2004
DOT Id Number:	UN2810
Quantity:	152.00
Waste Code 1:	F002
Waste Code 2:	D007
Waste Code 3:	D039
Waste Code 4:	D040

EPA Id:	AZD982052060
Business Type:	O
Mailing Address:	7904 E CHAPARRAL RD #104
Mailing State:	AZ
Contact Name:	ALAN DAHMS
Contact Phone:	(480) 949-1218
Date Generator Signed The Manifest:	11/15/2005
Transporter EPA Id Number:	TXR000050930
Date Transporter Signed The Manifest:	11/15/2005
Volume:	P
Date TSD Signed Manifest:	11/15/2005

CELEBRITY CLEANERS (Continued) **1004673772**

DOT Id Number:	UN2810
Quantity:	170.00
Waste Code 1:	F002
Waste Code 2:	D007
Waste Code 3:	D039
Waste Code 4:	D040

EPA Id:	AZD982052060
Business Type:	O
Mailing Address:	7904 E CHAPARRAL RD #104
Mailing State:	AZ
Contact Name:	ALAN DAHMS
Contact Phone:	(480) 949-1218
Date Generator Signed The Manifest:	01/11/2005
Transporter EPA Id Number:	TXR000050930
Date Transporter Signed The Manifest:	01/11/2005
Volume:	P
Date TSD Signed Manifest:	01/11/2005
DOT Id Number:	UN2810
Quantity:	160.00
Waste Code 1:	F002
Waste Code 2:	D007
Waste Code 3:	D039
Waste Code 4:	D040

EPA Id:	AZD982052060
Business Type:	O
Mailing Address:	7904 E CHAPARRAL RD #104
Mailing State:	AZ
Contact Name:	ALAN DAHMS
Contact Phone:	(480) 949-1218
Date Generator Signed The Manifest:	09/21/2004
Transporter EPA Id Number:	TXR000050930
Date Transporter Signed The Manifest:	09/21/2004
TSD EPA Id Number:	AZD981969504
Volume:	P
Date TSD Signed Manifest:	09/21/2004
DOT Id Number:	UN2810
Quantity:	145.00
Waste Code 1:	F002
Waste Code 2:	D007
Waste Code 3:	D039
Waste Code 4:	D040

EPA Id:	AZD982052060
Business Type:	O
Mailing Address:	7904 E CHAPARRAL RD #104
Mailing State:	AZ
Contact Name:	ALAN DAHMS
Contact Phone:	(480) 949-1218
Date Generator Signed The Manifest:	02/10/2004
Transporter EPA Id Number:	TXR000050930
Date Transporter Signed The Manifest:	02/10/2004
TSD EPA Id Number:	AZD981969504
Volume:	P
Date TSD Signed Manifest:	02/10/2004
DOT Id Number:	UN2810

CELEBRITY CLEANERS (Continued) **1004673772**

Quantity:	337.00
Waste Code 1:	F002
Waste Code 2:	D007
Waste Code 3:	D039
Waste Code 4:	D040

EPA Id:	AZD982052060
Business Type:	O
Mailing Address:	7904 E CHAPARRAL RD #104
Mailing State:	AZ
Contact Name:	ALAN DAHMS
Contact Phone:	(480) 949-1218
Date Generator Signed The Manifest:	07/29/2004
Transporter EPA Id Number:	TXR000050930
Date Transporter Signed The Manifest:	07/29/2004
TSD EPA Id Number:	AZD981969504
Volume:	P
Date TSD Signed Manifest:	07/29/2004
DOT Id Number:	UN2810
Quantity:	150.00
Waste Code 1:	F002
Waste Code 2:	D007
Waste Code 3:	D039
Waste Code 4:	D040

EPA Id:	AZD982052060
Business Type:	O
Mailing Address:	7904 E CHAPARRAL RD #104
Mailing State:	AZ
Contact Name:	ALAN DAHMS
Contact Phone:	(480) 949-1218
Date Generator Signed The Manifest:	06/01/2004
Transporter EPA Id Number:	TXR000050930
Date Transporter Signed The Manifest:	06/01/2004
TSD EPA Id Number:	AZD981969504
Volume:	P
Date TSD Signed Manifest:	06/01/2004
DOT Id Number:	UN2810
Quantity:	136.00
Waste Code 1:	F002
Waste Code 2:	D007
Waste Code 3:	D039
Waste Code 4:	D040

Click this hyperlink while viewing on your computer to access additional AZ MANIFEST: detail in the EDR Site Report.

A5 **AMERICAN DRY CLEANING** **EDR Hist Cleaner** **1018524799**
West **7904 E CHAPPARAL 104** **N/A**
< 1/8 **SCOTTSDALE, AZ 85253**
0.121 mi.
639 ft. **Site 5 of 8 in cluster A**

Relative: EDR Hist Cleaner
Higher

Actual:
1257 ft.

Year:	Name:	Type:
1983	DAVIDS DRY CLEANING	Garment Pressing And Cleaners' Agents
1985	DAVIDS DRY CLEANING	Garment Pressing And Cleaners' Agents

AMERICAN DRY CLEANING (Continued) **1018524799**

1986	DAVIDS DRY CLEANING	Garment Pressing And Cleaners' Agents
1987	DAVIDS DRY CLEANING	Garment Pressing And Cleaners' Agents
1988	DAVIDS DRY CLEANING	Garment Pressing And Cleaners' Agents
1989	AMERICAN DRY CLEANING	Drycleaning Plants, Except Rugs
1990	AMERICAN DRY CLEANING	Drycleaning Plants, Except Rugs
1991	CELEBRITY ENTERPRISES INC	Drycleaning Plants, Except Rugs
1992	CELEBRITY ENTERPRISES INC	Drycleaning Plants, Except Rugs
1993	CELEBRITY ENTERPRISES INC	Drycleaning Plants, Except Rugs
1994	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
1995	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
1996	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
1997	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
1998	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
1999	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
1999	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2000	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2000	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2001	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2001	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2002	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2002	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2003	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2003	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2004	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2004	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2005	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2005	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2006	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2006	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2007	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2007	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2008	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2008	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2009	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2009	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2010	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2010	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2011	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2011	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2012	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2012	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2013	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2013	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs
2014	MC GEORGE BR CHEM-DRY CRPT CLG	Carpet And Upholstery Cleaning
2014	CELEBRITY CLEANERS	Drycleaning Plants, Except Rugs

A6 **CELEBRITY CLEANERS** **DRYCLEANERS** **S106600241**
West **7904 E CHAPARRAL RD #104** **N/A**
< 1/8 **SCOTTSDALE, AZ**
0.121 mi.
639 ft. **Site 6 of 8 in cluster A**

Relative: DRYCLEANERS:
Higher
File Number: AZD982052060
Actual: Facility Status: Open
1257 ft. Date From: 0
Date To: 0

A7 West < 1/8 0.121 mi. 639 ft. | **CELEBRITY CLEANERS 7904 E CHAPARRAL RD SCOTTSDALE, AZ 85250** | **DRYCLEANERS EMAP** | **S113876679 N/A**

Site 7 of 8 in cluster A

Relative: Higher
Actual: 1257 ft.

DRYCLEANERS:

Date From:	1990
Date To:	2005

EMAP:

Name:	CELEBRITY CLEANERS
Address:	7904 E CHAPARRAL RD
City,State,Zip:	SCOTTSDALE, AZ 85250
ID Number:	116378
Latitude:	33.510097
Longitude:	-111.911543
Collection Method:	DIGITAL IMAGERY
Place Type:	DRY CLEANERS/LAUNDRY
Place Type Code:	DCLNR
Place C Code:	PP
Facility Status:	ACTIVE
Verified:	Y

A8 West < 1/8 0.121 mi. 639 ft. | **CELEBRITY DRY CLEANING 7904 E CHAPARRAL RD # 104 SCOTTSDALE, AZ** | **DRYCLEANERS** | **S113876678 N/A**

Site 8 of 8 in cluster A

Relative: Higher
Actual: 1257 ft.

DRYCLEANERS:

Date From:	2005
Date To:	2005

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9 SSE 1/8-1/4 0.249 mi. 1314 ft. | **VILLA MONTEREY 8100 E CAMELBACK RD SCOTTSDALE, AZ 85251** | **UST** | **U003052298 N/A**

Relative: Lower
Actual: 1254 ft.

UST:

Name:	VILLA MONTEREY
Address:	8100 E CAMELBACK RD
City,State,Zip:	SCOTTSDALE, AZ 85251
Facility ID:	0-008758
Owner:	TAMAY REALTY AZ INC
Latitude:	33.503193
Longitude:	111.907615
Tank ID:	1
Date Closed:	11/05/1995
Tank Status:	**Perm Closure**
Closure Type:	**Removal**
Capacity:	**1000**
Substance:	**Gasoline**
Compartment:	**COMPARTMENT A**
Tank Const Type:	**Double Walled**
Tank Mtrl Type:	**Asphalt coated or Bare Steel**

VILLA MONTEREY (Continued) **U003052298**

Tank ID:	2
Date Closed:	11/05/1995
Tank Status:	**Perm Closure**
Closure Type:	**Removal**
Capacity:	**1000**
Substance:	**Gasoline**
Compartment:	**COMPARTMENT A**
Tank Const Type:	**Double Walled**
Tank Mtrl Type:	**Asphalt coated or Bare Steel**

10
West
1/2-1
0.970 mi.
5124 ft.

INDIAN BEND WASH
SCOTTSDALE AND CHAPPARRAL ROAD
SCOTTSDALE, AZ 85257

SHWS **S100412114**
N/A

Relative:
Higher

Actual:
1289 ft.

SHWS:

EPA ID:	Not reported
Program:	NPL SITE - NIBW
Site Code:	400000
Facility Id:	804
Discovery Date:	01/01/1900
Source:	Not reported
Operable Unit:	Not reported
QWARF Area:	NIBW
Lat:	Not reported
Long:	Not reported
Lat/Long Method:	10
Comments:	Not reported

Count: 4 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MARICOPA	S101570554	TRI-CITY LANDFILL	SALT RIV INDIAN RESV	85256	SHWS
SCOTTSDALE	S113877474	K-MART DRY CLEANERS	HAYDEN & MCDOWELL		DRYCLEANERS
SCOTTSDALE	S113877475	K-MART DRY CLEANERS	HAYDEN&MCDOWELL		DRYCLEANERS
SCOTTSDALE	S120820731	NORTH INDIAN BEND WASH	SCOTTSDALE RD, CHAPARRAL RD, 1	85251	VAPOR

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
AZ	AIRS	Arizona Airs Database	Department of Environmental Quality	01/13/2020	01/15/2020	03/10/2020
AZ	AQUIFER	Waste Water Treatment Facilities	Department of Environmental Quality	03/02/2020	03/04/2020	03/10/2020
AZ	AST	List of Aboveground Storage Tanks	Department of Building & Fire Safety	12/05/2019	12/06/2019	01/31/2020
AZ	AST 2	Aboveground Storage Tank Listing	Department of Environmental Quality	12/05/2019	01/15/2020	03/10/2020
AZ	AUL	DEUR Database	Department of Environmental Quality	10/03/2019	10/04/2019	12/12/2019
AZ	AZ MANIFEST	Manifest Information	Department of Environmental Quality	12/31/2017	07/17/2018	09/05/2018
AZ	AZ NPL	NPL Detail Listing	Department of Environmental Quality	03/31/2020	06/16/2020	09/01/2020
AZ	AZURITE	Remediation and DEUR/VEMUR Tracking System	Department of Environmental Quality	11/19/2018	11/19/2018	11/30/2018
AZ	BROWNFIELDS	Brownfields Tracking System	Department of Environmental Quality	09/01/2019	03/31/2020	06/09/2020
AZ	CDL	Clandestine Drug Labs	Board of Technical Registration	10/28/2019	10/30/2019	12/12/2019
AZ	DOD	Department of Defense Sites	Department of Environmental Quality	03/31/2020	06/16/2020	09/01/2020
AZ	DRY WELLS	Drywell Registration	Department of Environmental Quality	06/10/2019	06/13/2019	08/20/2019
AZ	DRYCLEANERS	Drycleaner Facility Listing	Department of Environmental Quality	04/11/2014	04/15/2014	05/12/2014
AZ	EMAP	All Places of Interest Listing	Department of Environmental Quality	03/23/2020	03/25/2020	06/09/2020
AZ	ENF	Enforcement and Violation Listing	Department of Environmental Quality	02/14/2020	02/18/2020	03/10/2020
AZ	Financial Assurance 1	Financial Assurance Information Listing	Department of Environmental Quality	01/17/2020	01/22/2020	03/10/2020
AZ	LUST	Leaking Underground Storage Tank Listing	Department of Environmental Quality	01/16/2020	01/22/2020	03/10/2020
AZ	NPDES	Notice of Intent Construction Stormwater General Permits Dat	Department of Environmental Quality	01/31/2020	01/31/2020	04/13/2020
AZ	PFAS	PFAS Contamination Site Listing	Department of Environmental Quality	11/01/2018	02/07/2020	04/22/2020
AZ	RGA HWS	Recovered Government Archive State Hazardous Waste Facilitie	Department of Environmental Quality		07/01/2013	01/02/2014
AZ	RGA LF	Recovered Government Archive Solid Waste Facilities List	Department of Environmental Quality		07/01/2013	01/15/2014
AZ	RGA LUST	Recovered Government Archive Leaking Underground Storage Tan	Department of Environmental Quality		07/01/2013	01/02/2014
AZ	SHWS	ZipAcids List	Department of Environmental Quality	01/03/2000	04/11/2000	05/16/2000
AZ	SPILLS	Hazardous Material Logbook	Department of Environmental Quality	11/15/2001	06/28/2007	07/24/2007
AZ	SPILLS 90	SPILLS90 data from FirstSearch	FirstSearch	12/11/2001	01/03/2013	02/11/2013
AZ	SPL	Superfund Program List	Department of Environmental Quality	08/25/2004	04/04/2018	05/17/2018
AZ	SWF/LF	Directory of Solid Waste Facilities	Department of Environmental Quality	12/31/2019	02/11/2020	04/29/2020
AZ	SWTIRE	Solid Waste Tire Facilities	Department of Environmental Quality	03/20/2020	03/24/2020	06/09/2020
AZ	UIC	Underground Injection Control Wells	Arizona Geological Survey	09/30/2015	02/05/2016	04/05/2016
AZ	UST	Underground Storage Tank Listing	Department of Environmental Quality	01/16/2020	01/22/2020	03/10/2020
AZ	VAPOR	Vapor Intrusion	Department of Environmental Quality	10/17/2019	10/22/2019	12/13/2019
AZ	VCP	Voluntary Remediation Program Sites	Department of Environmental Quality	09/01/2019	03/31/2020	06/09/2020
AZ	WQARF	Water Quality Assurance Revolving Fund Sites	Department of Environmental Quality	03/31/2020	06/16/2020	09/01/2020
AZ	WWFAC	Waste Water Treatment Facilities	Department of Environmental Quality	07/09/2012	07/23/2012	09/06/2012
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	09/30/2017	05/08/2018	07/20/2018
US	ABANDONED MINES	Abandoned Mines	Department of Interior	03/05/2020	03/06/2020	05/29/2020
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2015	02/22/2017	09/28/2017
US	COAL ASH DOE	Steam-Electric Plant Operation Data	Department of Energy	12/31/2018	12/04/2019	01/15/2020
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	01/12/2017	03/05/2019	11/11/2019
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	06/30/2020	07/15/2020	07/21/2020
US	CORRACTS	Corrective Action Report	EPA	03/23/2020	03/25/2020	05/21/2020
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
US	DOCKET HWC	Hazardous Waste Compliance Docket Listing	Environmental Protection Agency	05/31/2018	07/26/2018	10/05/2018
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	01/02/2020	01/28/2020	04/17/2020
US	Delisted NPL	National Priority List Deletions	EPA	07/29/2020	08/03/2020	08/25/2020
US	ECHO	Enforcement & Compliance History Information	Environmental Protection Agency	04/04/2020	04/07/2020	06/26/2020

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	EDR Hist Auto	EDR Exclusive Historical Auto Stations	EDR, Inc.			
US	EDR Hist Cleaner	EDR Exclusive Historical Cleaners	EDR, Inc.			
US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	08/30/2013	03/21/2014	06/17/2014
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	03/22/2020	03/24/2020	06/18/2020
US	FEDERAL FACILITY	Federal Facility Site Information listing	Environmental Protection Agency	04/03/2019	04/05/2019	05/14/2019
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	04/02/2018	04/11/2018	11/06/2019
US	FEMA UST	Underground Storage Tank Listing	FEMA	02/01/2020	03/19/2020	06/09/2020
US	FINDS	Facility Index System/Facility Registry System	EPA	02/03/2020	03/03/2020	05/28/2020
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	05/13/2020	05/18/2020	08/12/2020
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	05/18/2020	05/19/2020	08/03/2020
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	08/08/2017	09/11/2018	09/14/2018
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	02/27/2020	03/24/2020	06/18/2020
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Serivces, Indian	04/01/2014	08/06/2014	01/29/2015
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	04/29/2020	05/20/2020	08/12/2020
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	04/14/2020	05/20/2020	08/12/2020
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	04/14/2020	05/26/2020	08/12/2020
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	04/14/2020	05/20/2020	08/12/2020
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	04/08/2020	05/20/2020	08/12/2020
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	04/15/2020	05/20/2020	08/12/2020
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	04/14/2020	05/20/2020	08/12/2020
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	04/08/2020	05/20/2020	08/12/2020
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	04/29/2020	05/20/2020	08/12/2020
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	04/14/2020	05/20/2020	08/12/2020
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	04/14/2020	05/26/2020	08/12/2020
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	04/14/2020	05/20/2020	08/12/2020
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	04/08/2020	05/20/2020	08/12/2020
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	04/03/2020	05/20/2020	08/12/2020
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	04/14/2020	05/20/2020	08/13/2020
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	04/08/2020	05/20/2020	08/12/2020
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	07/29/2020	08/03/2020	08/25/2020
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	07/29/2020	08/03/2020	08/25/2020
US	LUCIS	Land Use Control Information System	Department of the Navy	05/15/2020	05/19/2020	06/18/2020
US	MINES MRDS	Mineral Resources Data System	USGS	04/06/2018	10/21/2019	10/24/2019
US	MINES VIOLATIONS	MSHA Violation Assessment Data	DOL, Mine Safety & Health Admi	05/28/2020	05/28/2020	08/13/2020
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	10/25/2019	10/25/2019	01/15/2020
US	NPL	National Priority List	EPA	07/29/2020	08/03/2020	08/25/2020

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	PADS	PCB Activity Database System	EPA	10/09/2019	10/11/2019	12/20/2019
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	09/13/2019	11/06/2019	02/10/2020
US	PCS	Permit Compliance System	EPA, Office of Water	07/14/2011	08/05/2011	09/29/2011
US	PCS ENF	Enforcement data	EPA	12/31/2014	02/05/2015	03/06/2015
US	PCS INACTIVE	Listing of Inactive PCS Permits	EPA	11/05/2014	01/06/2015	05/06/2015
US	PRP	Potentially Responsible Parties	EPA	04/27/2020	05/06/2020	06/09/2020
US	Proposed NPL	Proposed National Priority List Sites	EPA	07/29/2020	08/03/2020	08/25/2020
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RADINFO	Radiation Information Database	Environmental Protection Agency	07/01/2019	07/01/2019	09/23/2019
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	03/23/2020	03/25/2020	05/21/2020
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	03/23/2020	03/25/2020	05/21/2020
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	03/23/2020	03/25/2020	05/21/2020
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	03/23/2020	03/25/2020	05/21/2020
US	RCRA-VSQG	RCRA - Very Small Quantity Generators (Formerly Conditionall	Environmental Protection Agency	03/23/2020	03/25/2020	05/21/2020
US	RMP	Risk Management Plans	Environmental Protection Agency	01/31/2020	05/13/2020	08/03/2020
US	ROD	Records Of Decision	EPA	07/29/2020	08/03/2020	08/25/2020
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	01/01/2017	02/03/2017	04/07/2017
US	SEMS	Superfund Enterprise Management System	EPA	07/29/2020	08/03/2020	08/25/2020
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	07/29/2020	08/03/2020	08/25/2020
US	SSTS	Section 7 Tracking Systems	EPA	03/01/2020	04/21/2020	07/15/2020
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2018	02/05/2020	04/24/2020
US	TSCA	Toxic Substances Control Act	EPA	12/31/2016	06/21/2017	01/05/2018
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	08/30/2019	11/15/2019	01/28/2020
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	10/12/2016	10/26/2016	02/03/2017
US	US AIRS MINOR	Air Facility System Data	EPA	10/12/2016	10/26/2016	02/03/2017
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	06/01/2020	06/02/2020	06/09/2020
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	03/18/2020	03/19/2020	06/09/2020
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	02/13/2020	02/20/2020	05/15/2020
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	03/23/2020	03/24/2020	06/18/2020
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	03/18/2020	03/19/2020	06/09/2020
US	US INST CONTROLS	Institutional Controls Sites List	Environmental Protection Agency	02/13/2020	02/20/2020	05/15/2020
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	05/01/2020	05/21/2020	08/13/2020
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	05/06/2020	05/27/2020	08/13/2020
US	US MINES 3	Active Mines & Mineral Plants Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	UXO	Unexploded Ordnance Sites	Department of Defense	12/31/2017	01/17/2019	04/01/2019

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CT	CT MANIFEST	Hazardous Waste Manifest Data	Department of Energy & Environmental Protecti	05/12/2020	05/12/2020	07/27/2020
NY	NY MANIFEST	Facility and Manifest Data	Department of Environmental Conservation	01/01/2019	04/29/2020	07/10/2020
RI	RI MANIFEST	Manifest information	Department of Environmental Management	12/31/2018	10/02/2019	12/10/2019
WI	WI MANIFEST	Manifest Information	Department of Natural Resources	05/31/2018	06/19/2019	09/03/2019
US	AHA Hospitals	Sensitive Receptor: AHA Hospitals	American Hospital Association, Inc.			
US	Medical Centers	Sensitive Receptor: Medical Centers	Centers for Medicare & Medicaid Services			
US	Nursing Homes	Sensitive Receptor: Nursing Homes	National Institutes of Health			
US	Public Schools	Sensitive Receptor: Public Schools	National Center for Education Statistics			
US	Private Schools	Sensitive Receptor: Private Schools	National Center for Education Statistics			
AZ	Daycare Centers	Sensitive Receptor: Child Care Facilities & Group Homes	Department of Health Services			
US	Flood Zones	100-year and 500-year flood zones	Emergency Management Agency (FEMA)			
US	NWI	National Wetlands Inventory	U.S. Fish and Wildlife Service			
AZ	State Wetlands	Riparian Vegetation Associated with Perennial Waters	State Land Department			
US	Topographic Map	Current USGS 7.5 Minute Topographic Map	U.S. Geological Survey			
US	Oil/Gas Pipelines		Endeavor Business Media			
US	Electric Power Transmission Line Data		Endeavor Business Media			

STREET AND ADDRESS INFORMATION

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GEOCHECK - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

HAYDEN AND CHAPARRAL
NORTH HAYDEN ROAD & EAST CHAPARRAL ROAD
SCOTTSDALE, AZ 85250

TARGET PROPERTY COORDINATES

Latitude (North):	33.509447 - 33˚ 30' 34.01''
Longitude (West):	111.908149 - 111˚ 54' 29.34''
Universal Tranverse Mercator:	Zone 12
UTM X (Meters):	415652.1
UTM Y (Meters):	3707942.8
Elevation:	1257 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	6718059 PARADISE VALLEY, AZ
Version Date:	2014
South Map:	6718081 TEMPE, AZ
Version Date:	2014

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

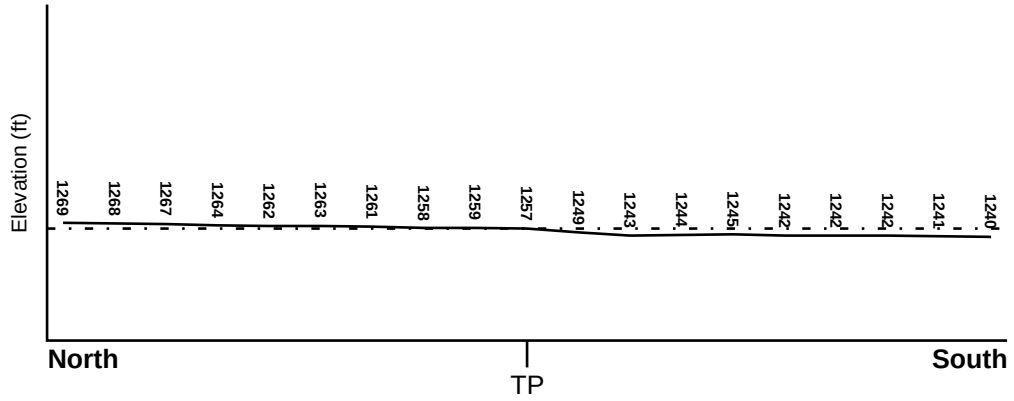
TOPOGRAPHIC INFORMATION

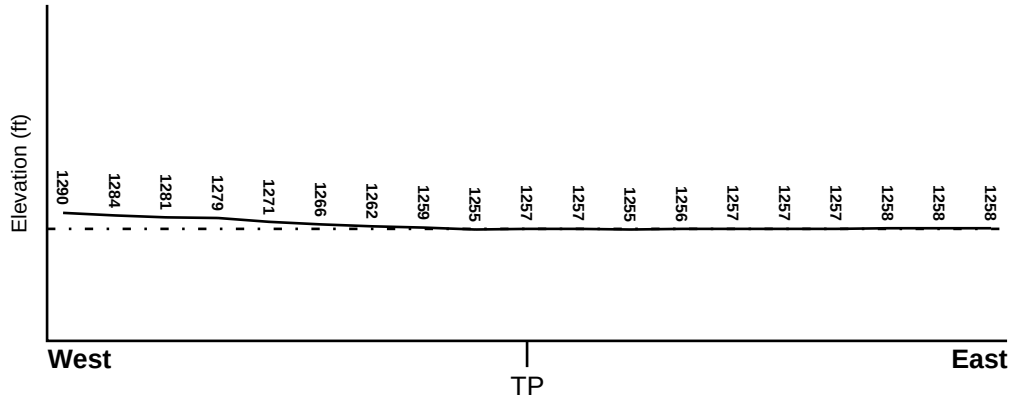
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 1257 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
04013C1770L	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
04013C2235L	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
NOT AVAILABLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
62	1/2 - 1 Mile SW	Not Reported
1G	1/2 - 1 Mile SW	Not Reported

For additional site information, refer to Physical Setting Source Map Findings.

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

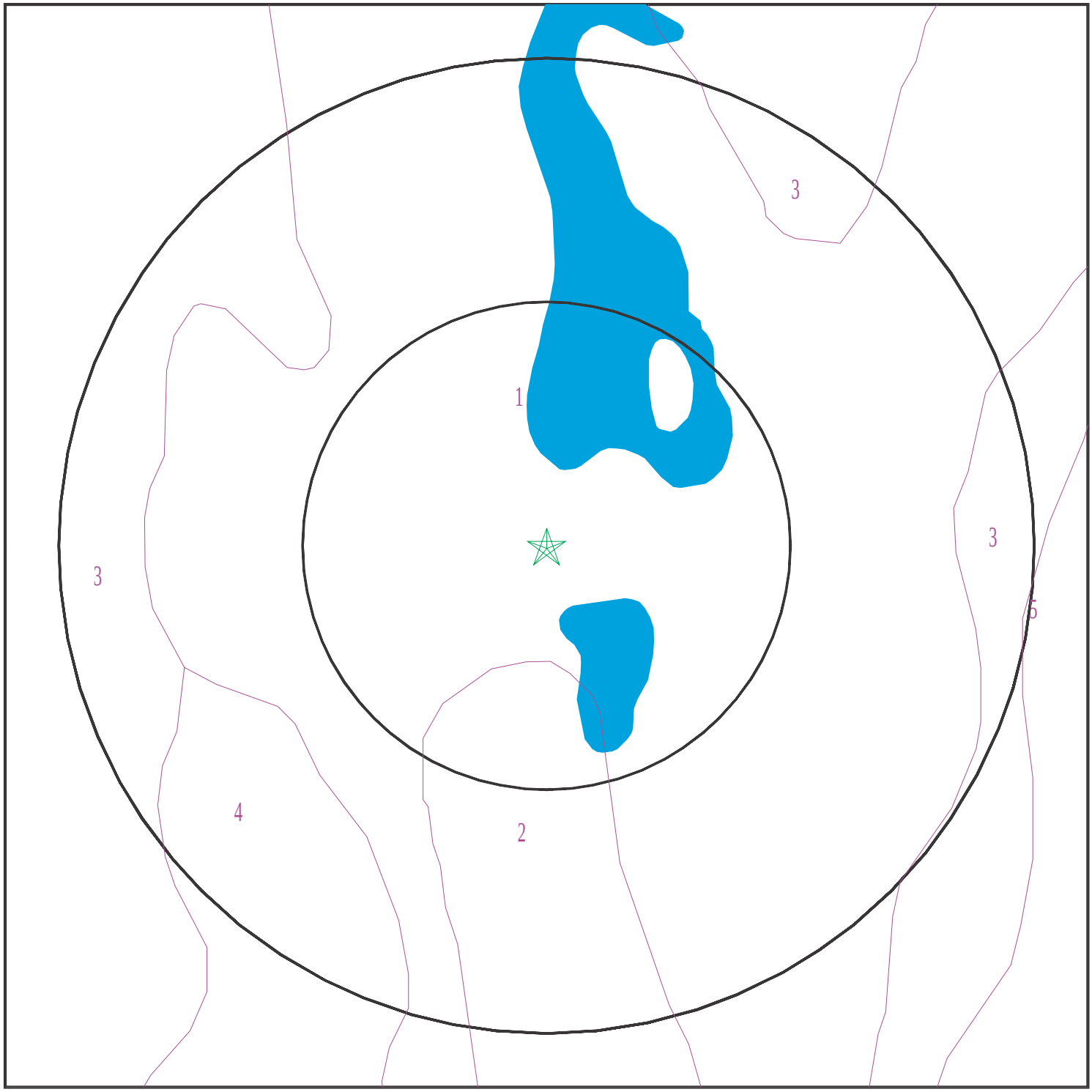
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 6185716.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Hayden and Chaparral	CLIENT:	Terracon
ADDRESS:	North Hayden Road & East Chaparral Road Scottsdale AZ 85250	CONTACT:	Matthew Fogerson
		INQUIRY #:	6185716.2s
LAT/LONG:	33.509447 / 111.908149	DATE:	September 09, 2020 5:57 pm

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GEOCHECK - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: GILMAN

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	12 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9
2	12 inches	59 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: GLENBAR

Soil Surface Texture: clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	14 inches	46 inches	clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
3	46 inches	59 inches	silt loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9

Soil Map ID: 3

Soil Component Name: LAVEEN

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	14 inches	59 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9

Soil Map ID: 4

Soil Component Name: MOHALL

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	14 inches	40 inches	sandy clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
3	40 inches	59 inches	loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9

Soil Map ID: 5

Soil Component Name: LAVEEN

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

GEOCHECK - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9
2	14 inches	59 inches	loam	Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B7	USGS40000055064	1/4 - 1/2 Mile East
D18	USGS40000055020	1/2 - 1 Mile ESE
G23	USGS40000054986	1/2 - 1 Mile SSE
F24	USGS40000055085	1/2 - 1 Mile West
35	USGS40000055086	1/2 - 1 Mile West
I41	USGS40000055116	1/2 - 1 Mile ENE
L47	USGS40000055150	1/2 - 1 Mile NE
O53	USGS40000055074	1/2 - 1 Mile West
P59	USGS40000055153	1/2 - 1 Mile NW
Q60	USGS40000055160	1/2 - 1 Mile NW
R61	USGS40000055098	1/2 - 1 Mile East
S69	USGS40000054935	1/2 - 1 Mile SE

GEOCHECK - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
W88	USGS40000054910	1/2 - 1 Mile South
V89	USGS40000055181	1/2 - 1 Mile NNW
X91	USGS40000055070	1/2 - 1 Mile West

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
22	090400109	1/2 - 1 Mile East

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

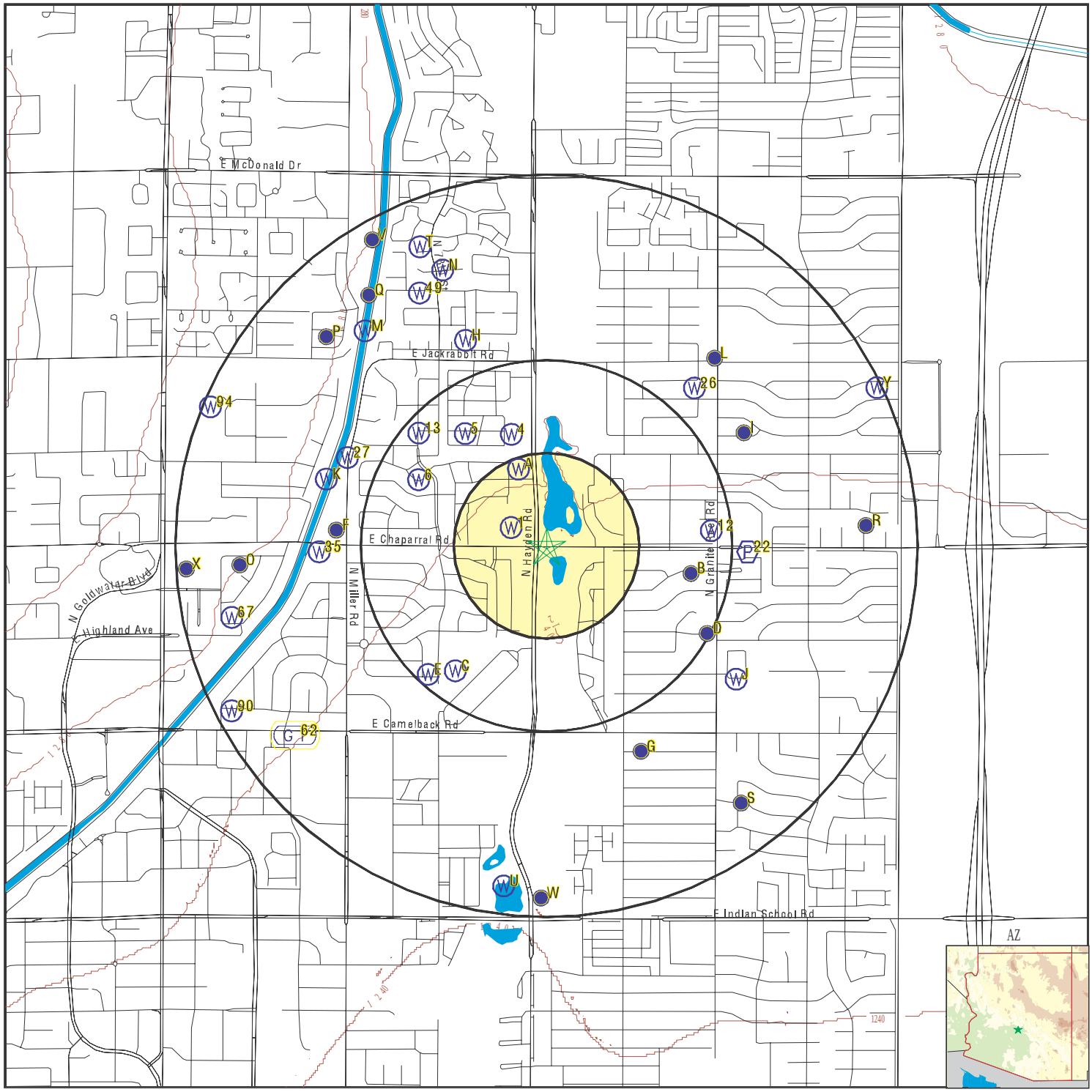
MAP ID	WELL ID	LOCATION FROM TP
1	AZ9000000090237	0 - 1/8 Mile WNW
A2	AZ9000000065426	1/8 - 1/4 Mile NNW
A3	AZDEQ1000048972	1/8 - 1/4 Mile NNW
4	AZ9000000090241	1/4 - 1/2 Mile NNW
5	AZ9000000090234	1/4 - 1/2 Mile NW
6	AZ9000000090233	1/4 - 1/2 Mile WNW
C8	AZ9000000059830	1/4 - 1/2 Mile SW
C9	AZ9000000059831	1/4 - 1/2 Mile SW
B10	AZDEQ1000001293	1/4 - 1/2 Mile East
D11	AZ9000000131698	1/4 - 1/2 Mile ESE
12	AZDEQ1000035919	1/4 - 1/2 Mile East
13	AZ9000000090240	1/4 - 1/2 Mile NW
C14	AZDEQ1000048959	1/4 - 1/2 Mile SW
E15	AZDEQ1000048958	1/4 - 1/2 Mile SW
E16	AZ9000000085042	1/4 - 1/2 Mile SW
D17	AZDEQ1000035918	1/2 - 1 Mile ESE
D19	AZDEQ1000001294	1/2 - 1 Mile ESE
F20	AZDEQ1000035938	1/2 - 1 Mile West
F21	AZDEQ1000035939	1/2 - 1 Mile West
F25	AZDEQ1000035951	1/2 - 1 Mile West
26	AZ9000000132506	1/2 - 1 Mile NE
27	AZDEQ1000048984	1/2 - 1 Mile WNW
H28	AZ9000000075851	1/2 - 1 Mile NNW
H29	AZ9000000085050	1/2 - 1 Mile NNW
F30	AZDEQ1000059068	1/2 - 1 Mile West
F31	AZDEQ1000059069	1/2 - 1 Mile West
I32	AZDEQ1000059057	1/2 - 1 Mile ENE
J33	AZ9000000059838	1/2 - 1 Mile ESE
J34	AZ9000000059839	1/2 - 1 Mile ESE
K36	AZDEQ1000046748	1/2 - 1 Mile WNW
K37	AZ9000000033065	1/2 - 1 Mile WNW
K38	AZ9000000065425	1/2 - 1 Mile WNW
K39	AZ9000000094378	1/2 - 1 Mile WNW
K40	AZDEQ1000036212	1/2 - 1 Mile WNW

GEOCHECK - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
G42	AZ9000000166864	1/2 - 1 Mile SSE
G43	AZDEQ1000001295	1/2 - 1 Mile SSE
J44	AZDEQ1000048955	1/2 - 1 Mile SE
J45	AZDEQ1000048954	1/2 - 1 Mile SE
L46	AZDEQ1000059055	1/2 - 1 Mile NE
M48	AZ9000000082488	1/2 - 1 Mile NW
49	AZ9000000139526	1/2 - 1 Mile NNW
M50	AZDEQ1000049000	1/2 - 1 Mile NW
N51	AZ9000000134670	1/2 - 1 Mile NNW
N52	AZ9000000157576	1/2 - 1 Mile NNW
P54	AZDEQ1000059066	1/2 - 1 Mile NW
P55	AZ9000000075649	1/2 - 1 Mile NW
Q56	AZ9000000192040	1/2 - 1 Mile NW
Q57	AZDEQ1000059063	1/2 - 1 Mile NW
Q58	AZDEQ1000059064	1/2 - 1 Mile NW
O63	AZDEQ1000001287	1/2 - 1 Mile West
S64	AZDEQ1000001296	1/2 - 1 Mile SE
S65	AZ9000000023187	1/2 - 1 Mile SE
S66	AZ9000000167293	1/2 - 1 Mile SE
67	AZ9000000024095	1/2 - 1 Mile WSW
T68	AZDEQ1000059062	1/2 - 1 Mile NNW
T70	AZ9000000031389	1/2 - 1 Mile NNW
U71	AZDEQ1000048957	1/2 - 1 Mile South
U72	AZDEQ1000048956	1/2 - 1 Mile South
U73	AZDEQ1000048894	1/2 - 1 Mile South
R74	AZDEQ1000059058	1/2 - 1 Mile East
U75	AZDEQ1000001292	1/2 - 1 Mile South
U76	AZ9000000084286	1/2 - 1 Mile South
V77	AZ9000000147720	1/2 - 1 Mile NNW
V78	AZDEQ1000059060	1/2 - 1 Mile NNW
V79	AZDEQ1000059061	1/2 - 1 Mile NNW
W80	AZ9000000094559	1/2 - 1 Mile South
U81	AZDEQ1000001291	1/2 - 1 Mile South
U82	AZ9000000077210	1/2 - 1 Mile South
U83	AZ9000000059837	1/2 - 1 Mile South
U84	AZ9000000059836	1/2 - 1 Mile South
U85	AZ9000000143241	1/2 - 1 Mile South
U86	AZ9000000088675	1/2 - 1 Mile South
U87	AZ9000000087364	1/2 - 1 Mile South
90	AZ9000000021430	1/2 - 1 Mile WSW
X92	AZ9000000078614	1/2 - 1 Mile West
X93	AZDEQ1000001288	1/2 - 1 Mile West
94	AZ9000000137845	1/2 - 1 Mile WNW
V95	AZDEQ1000059059	1/2 - 1 Mile NNW
Y96	AZ9000000166865	1/2 - 1 Mile ENE
Y97	AZDEQ1000059056	1/2 - 1 Mile ENE

PHYSICAL SETTING SOURCE MAP - 6185716.2s



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Closest Hydrogeological Data
Oil, gas or related wells

0 1/4 1/2 1 Miles

N

SITE NAME:	Hayden and Chaparral	CLIENT:	Terracon
ADDRESS:	North Hayden Road & East Chaparral Road Scottsdale AZ 85250	CONTACT:	Matthew Fogerson
		INQUIRY #:	6185716.2s
LAT/LONG:	33.509447 / 111.908149	DATE:	September 09, 2020 5:57 pm

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GEOCHECK - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
1 **WNW** **0 - 1/8 Mile** **Higher**	**AZ WELLS**	**AZ9000000090237**

Database:	Arizona Well Registration Database	Registry ID:	560298
Well Type:	MONITOR	Owner Name:	APS,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	473
Installed:	19961211	Well Depth:	111
Water Level:	35	Casing Depth:	105
Casing Diameter:	4	Casing Type:	PLASTIC OR PVC
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	X	Approved:	0
Completion:	N	Cadastral:	A02004014DDD
Well Cancelled:	Not Reported		

A2 **NNW** **1/8 - 1/4 Mile** **Higher**	**AZ WELLS**	**AZ9000000065426**

Database:	Arizona Well Registration Database	Registry ID:	533846
Well Type:	MONITOR	Owner Name:	MOTOROLA INC GEG,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	25
Installed:	1992 4 2	Well Depth:	810
Water Level:	0	Casing Depth:	810
Casing Diameter:	0	Casing Type:	NO CASING CODE LISTED
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	X	Approved:	0
Completion:	N	Cadastral:	A02004014DDA
Well Cancelled:	Not Reported		

A3 **NNW** **1/8 - 1/4 Mile** **Higher**	**AZ WELLS**	**AZDEQ1000048972**

Database:	Water Well Information	DWR #:	55-533846
DEQ Well #:	62548	Agency:	ADEQ
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	PG-1LA	Well Depth:	0
Drill Depth:	810	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	J	Aquifer Type:	Not Reported
Water Use:	M	Watershed:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
4 **NNW** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZ9000000090241**

Database:	Arizona Well Registration Database	Registry ID:	560302
Well Type:	MONITOR	Owner Name:	APS,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	473
Installed:	0	Well Depth:	0
Water Level:	0	Casing Depth:	0
Casing Diameter:	0	Casing Type:	NO CASING CODE LISTED
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	N	Cadastral:	A02004014DAD
Well Cancelled:	Not Reported		

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5 **NW** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZ9000000090234**

Database:	Arizona Well Registration Database	Registry ID:	560295
Well Type:	MONITOR	Owner Name:	APS,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	473
Installed:	19961217	Well Depth:	111
Water Level:	35	Casing Depth:	105
Casing Diameter:	4	Casing Type:	PLASTIC OR PVC
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	X	Approved:	0
Completion:	N	Cadastral:	A02004014DAC
Well Cancelled:	Not Reported		

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6 **WNW** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZ9000000090233**

Database:	Arizona Well Registration Database	Registry ID:	560294
Well Type:	MONITOR	Owner Name:	APS,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	473
Installed:	19961218	Well Depth:	105
Water Level:	35	Casing Depth:	105
Casing Diameter:	4	Casing Type:	PLASTIC OR PVC
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0

Drill Log:	X	Approved:	0
Completion:	N	Cadastral:	A02004014DCA
Well Cancelled:	Not Reported		

B7
East
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000055064**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 24BAA	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	192508
Well Depth:	161	Well Depth Units:	ft
Well Hole Depth:	161	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	4	Level reading date:	1959-01-13
Feet below surface:	138.90	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1958-01-16	Feet below surface:	130.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-02-18	Feet below surface:	123.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-01-16	Feet below surface:	119.35
Feet to sea level:	Not Reported	Note:	Not Reported

C8
SW
1/4 - 1/2 Mile
Lower

AZ WELLS **AZ9000000059830**

Database:	Arizona Well Registration Database	Registry ID:	526948
Well Type:	MONITOR	Owner Name:	MOTOROLA INC GEG,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	25
Installed:	1990 511	Well Depth:	302
Water Level:	216	Casing Depth:	302
Casing Diameter:	10	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	SUBMERSIBLE
Pump Power:	ELECTRIC MOTOR < 1 HP	Pump Rate:	6
Tested Rate:	3	Draw Down:	50
Drill Log:	X	Approved:	0
Completion:	X	Cadastral:	A02004023ADB
Well Cancelled:	Not Reported		

Map ID Direction Distance Elevation	Database	EDR ID Number
C9 **SW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZ9000000059831**

Database:	Arizona Well Registration Database	Registry ID:	526949
Well Type:	MONITOR	Owner Name:	MOTOROLA INC GEG,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	25
Installed:	1990 5 7	Well Depth:	770
Water Level:	359	Casing Depth:	770
Casing Diameter:	10	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	SUBMERSIBLE
Pump Power:	ELECTRIC MOTOR 1 - 5 HP	Pump Rate:	11
Tested Rate:	35	Draw Down:	8
Drill Log:	X	Approved:	0
Completion:	X	Cadastral:	A02004023ADB
Well Cancelled:	Not Reported		

B10 **East** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZDEQ1000001293**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	10033	Agency:	ADEQ
Agency Well #:	10033	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 24BAA	Well Depth:	161
Drill Depth:	161	Start Date:	1925 8 1
Basin:	PHX	Notes:	Destroyed.
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

D11 **ESE** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZ9000000131698**

Database:	Arizona Well Registration Database	Registry ID:	607687
Well Type:	NON-EXEMPT	Owner Name:	SALT RIVER PROJECT,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	0
Installed:	1953 810	Well Depth:	1300
Water Level:	307	Casing Depth:	1300
Casing Diameter:	24	Casing Type:	OTHER - BLACK STEEL - IRON - SEAMLESS
RGR Pump Data:	YES	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	1594
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	Not Reported	Cadastral:	A02004024BAD
Well Cancelled:	Not Reported		

GEOCHECK - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
12 **East** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZDEQ1000035919**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	44857	Agency:	ADEQ
Agency Well #:	44857	Location Descrip:	Not Reported
Station Alt Name:	PV23.5E9N	Well Depth:	0
Drill Depth:	161	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	U	Watershed:	MIDDLE GILA

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13 **NW** **1/4 - 1/2 Mile** **Higher**	**AZ WELLS**	**AZ9000000090240**

Database:	Arizona Well Registration Database	Registry ID:	560301
Well Type:	MONITOR	Owner Name:	APS,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	473
Installed:	0	Well Depth:	0
Water Level:	0	Casing Depth:	0
Casing Diameter:	0	Casing Type:	NO CASING CODE LISTED
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	N	Cadastral:	A02004014DBD
Well Cancelled:	Not Reported		

C14 **SW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZDEQ1000048959**

Database:	Water Well Information	DWR #:	55-526948
DEQ Well #:	62535	Agency:	ADEQ
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	PA-7MA	Well Depth:	0
Drill Depth:	302	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	J	Aquifer Type:	Not Reported
Water Use:	M	Watershed:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
E15 **SW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZDEQ1000048958**

Database:	Water Well Information	DWR #:	55-526949
DEQ Well #:	62534	Agency:	ADEQ
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	PA-6LA	Well Depth:	0
Drill Depth:	770	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	J	Aquifer Type:	Not Reported
Water Use:	M	Watershed:	Not Reported

E16 **SW** **1/4 - 1/2 Mile** **Lower**	**AZ WELLS**	**AZ9000000085042**

Database:	Arizona Well Registration Database	Registry ID:	556192
Well Type:	MONITOR	Owner Name:	CITY OF SCOTTSDALE
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	473
Installed:	1996 829	Well Depth:	681
Water Level:	140	Casing Depth:	570
Casing Diameter:	4	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	X	Approved:	0
Completion:	N	Cadastral:	A02004023ACA
Well Cancelled:	Not Reported		

D17 **ESE** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZDEQ1000035918**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	44855	Agency:	ADEQ
Agency Well #:	44855	Location Descrip:	Not Reported
Station Alt Name:	PV23.5E8.8NZ1	Well Depth:	0
Drill Depth:	497	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

Map ID Direction Distance Elevation	Database	EDR ID Number
D18 **ESE** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000055020**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 24BAD	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19490128
Well Depth:	1300	Well Depth Units:	ft
Well Hole Depth:	1300	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	18	Level reading date:	1991-11-11
Feet below surface:	272.80	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1988-01-11	Feet below surface:	233.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-11-28	Feet below surface:	285.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-12-30	Feet below surface:	297.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-12-01	Feet below surface:	298.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1981-01	Feet below surface:	296
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-12	Feet below surface:	304
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-12-20	Feet below surface:	311
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-16	Feet below surface:	309
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-11	Feet below surface:	307
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-01	Feet below surface:	327
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-02	Feet below surface:	340
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1975-12-26	Feet below surface:	315.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-04	Feet below surface:	318.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-01	Feet below surface:	329

Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-01-11	Feet below surface:	343.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-07-21	Feet below surface:	327.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-02-19	Feet below surface:	273.80
Feet to sea level:	Not Reported	Note:	Not Reported

D19
ESE
1/2 - 1 Mile
Lower

AZ WELLS **AZDEQ1000001294**

Database:	Water Well Information	DWR #:	55-607687
DEQ Well #:	10034	Agency:	ADEQ
Agency Well #:	10034	Location Descrip:	Not Reported
Station Alt Name:	SRP 23.5E-08.8N	Well Depth:	1300
Drill Depth:	1300	Start Date:	1949 128
Basin:	PHX	Notes:	Deq #44854 Duplicate (Deleted).
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	I	Watershed:	MIDDLE GILA

F20
West
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000035938**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	44885	Agency:	ADEQ
Agency Well #:	44885	Location Descrip:	Not Reported
Station Alt Name:	PV22.5E9N	Well Depth:	0
Drill Depth:	960	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	U	Watershed:	MIDDLE GILA

F21
West
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000035939**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	44886	Agency:	ADEQ
Agency Well #:	44886	Location Descrip:	Not Reported
Station Alt Name:	PV22.5E9NZ1	Well Depth:	0
Drill Depth:	174	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

Map ID Direction Distance Elevation		Database	EDR ID Number
22 **East** **1/2 - 1 Mile** **Higher**		**FRDS PWS**	**090400109**

Epa region:	09	State:	09
Pwsid:	090400109	Pwsname:	Salt River Public Works
Cityserved:	Not Reported	Stateserved:	09
Zipserved:	Not Reported	Fipscounty:	Not Reported
Status:	Active	Retpopsrvd:	35470
Pwssvcconn:	1341	Psource longname:	Groundwater
Pwstype:	CWS	Owner:	Native_Am
Contact:	Diane G. Enos		
Contactorgname:	Salt River Pima-Maricopa Indian Community		
Contactphone:	4803627400	Contactaddress1:	10005 East Osborne Road
Contactaddress2:	Not Reported	Contactcity:	Scottsdale
Contactstate:	AZ	Contactzip:	85256
Pwsactivitycode:	A		

Pwsid:	090400109	Facid:	0400109TP001
Facname:	Site 6 Well Chlorine Injection		
Factype:	Treatment_plant	Facactivitycode:	I
Trtobjective:	disinfection	Trtprocess:	hypochlorination, post
Factypecode:	TP		

Pwsid:	090400109	Facid:	0400109TP002
Facname:	EDA Wellsite Chlorine Injection		
Factype:	Treatment_plant	Facactivitycode:	A
Trtobjective:	disinfection	Trtprocess:	hypochlorination, post
Factypecode:	TP		

Pwsid:	090400109	Facid:	0400109TP003
Facname:	Montebello Well Chlorine Injection		
Factype:	Treatment_plant	Facactivitycode:	A
Trtobjective:	disinfection	Trtprocess:	gaseous chlorination, pre
Factypecode:	TP		

Pwsid:	090400109	Facid:	0400109TP004
Facname:	Stand Pipe Well Chlorine Injection		
Factype:	Treatment_plant	Facactivitycode:	A
Trtobjective:	disinfection	Trtprocess:	hypochlorination, post
Factypecode:	TP		

Pwsid:	090400109	Facid:	0400109TP005
Facname:	Montebello Well Arsenic Treatment		
Factype:	Treatment_plant	Facactivitycode:	A
Trtobjective:	disinfection	Trtprocess:	hypochlorination, post
Factypecode:	TP		

Pwsid:	090400109	Facid:	0400109TP005
Facname:	Montebello Well Arsenic Treatment		
Factype:	Treatment_plant	Facactivitycode:	A
Trtobjective:	disinfection	Trtprocess:	hypochlorination, pre
Factypecode:	TP		

Pwsid:	090400109	Facid:	0400109TP005
Facname:	Montebello Well Arsenic Treatment		
Factype:	Treatment_plant	Facactivitycode:	A
Trtobjective:	inorganics removal	Trtprocess:	innovative
Factypecode:	TP		

GEOCHECK - PHYSICAL SETTING SOURCE MAP FINDINGS

PWS ID:	090400109	PWS name:	SALT RIVER PUBLIC WORKS
Address:	ROUTE 1 BOX 216	Care of:	ROBERT RONZO
City:	SCOTTSDALE	State:	AZ
Zip:	85256	Owner:	SALT RIVER PUBLIC WORKS
Source code:	Ground water	Population:	4250

PWS ID:	090400109	PWS type:	Not Reported
PWS name:	Not Reported	PWS address:	Not Reported
PWS city:	Not Reported	PWS state:	Not Reported
PWS zip:	Not Reported	PWS name:	Salt River Public Works
PWS type code:	C	Retail population served:	10431
Contact:	Diane G. Enos	Contact address:	10005 E. Osborne
Contact address:	Scottsdale	Contact city:	AZ
Contact state:	85	Contact zip:	4809417277
Contact telephone:	Not Reported		

PWS ID:	090400109	Activity status:	Active
Date system activated:	8105	Date system deactivated:	Not Reported
Retail population:	00002950	System name:	SALT RIVER PUB WKS
System address:	Not Reported	System address:	ROUTE 1 BOX 216
System city:	SCOTTSDALE	System state:	AZ
System zip:	Not Reported		

County FIPS:	Not Reported	City served:	PHOENIX IHS

County FIPS:	013	City served:	PHOENIX IHS

Population served:	3,301 - 5,000 Persons	Treatment:	Not Reported

Latitude:	333033	Longitude:	1115353

Violation id:	0400109011040102011	Orig code:	R
State:	09	Violation Year:	2011
Contamination code:	1040	Contamination Name:	Nitrate
Violation code:	01	Violation name:	MCL, Single Sample
Rule code:	331	Rule name:	Nitrates
Violation measur:	11	Unit of measure:	MG/L
State mcl:	Not Reported	Cmp bdt:	10/01/2011
Cmp edt:	12/31/2011		

Violation id:	040010901104072011	Orig code:	R
State:	09	Violation Year:	2011
Contamination code:	1040	Contamination Name:	Nitrate
Violation code:	01	Violation name:	MCL, Single Sample
Rule code:	331	Rule name:	Nitrates
Violation measur:	11	Unit of measure:	MG/L
State mcl:	Not Reported	Cmp bdt:	07/01/2011
Cmp edt:	09/30/2011		

Violation id:	0400109021005102007	Orig code:	R
State:	09	Violation Year:	2007
Contamination code:	1005	Contamination Name:	Arsenic
Violation code:	02	Violation name:	MCL, Average
Rule code:	332	Rule name:	Arsenic
Violation measur:	0.024	Unit of measure:	MG/L
State mcl:	Not Reported	Cmp bdt:	10/01/2007
Cmp edt:	12/31/2007		

Violation id:	0400109021005102008	Orig code:	R
State:	09	Violation Year:	2008
Contamination code:	1005	Contamination Name:	Arsenic
Violation code:	02	Violation name:	MCL, Average

Rule code:	332	Rule name:	Arsenic
Violation measur:	0.021	Unit of measure:	MG/L
State mcl:	Not Reported	Cmp bdt:	10/01/2008
Cmp edt:	12/31/2008		

Violation id:	040010902100512008	Orig code:	R
State:	09	Violation Year:	2008
Contamination code:	1005	Contamination Name:	Arsenic
Violation code:	02	Violation name:	MCL, Average
Rule code:	332	Rule name:	Arsenic
Violation measur:	0.024	Unit of measure:	MG/L
State mcl:	Not Reported	Cmp bdt:	01/01/2008
Cmp edt:	03/31/2008		

Violation id:	040010902100512009	Orig code:	R
State:	09	Violation Year:	2009
Contamination code:	1005	Contamination Name:	Arsenic
Violation code:	02	Violation name:	MCL, Average
Rule code:	332	Rule name:	Arsenic
Violation measur:	0.021	Unit of measure:	MG/L
State mcl:	Not Reported	Cmp bdt:	01/01/2009
Cmp edt:	03/31/2009		

Violation id:	040010902100542007	Orig code:	R
State:	09	Violation Year:	2007
Contamination code:	1005	Contamination Name:	Arsenic
Violation code:	02	Violation name:	MCL, Average
Rule code:	332	Rule name:	Arsenic
Violation measur:	0.023	Unit of measure:	MG/L
State mcl:	Not Reported	Cmp bdt:	04/01/2007
Cmp edt:	06/30/2007		

Violation id:	040010902100542008	Orig code:	R
State:	09	Violation Year:	2008
Contamination code:	1005	Contamination Name:	Arsenic
Violation code:	02	Violation name:	MCL, Average
Rule code:	332	Rule name:	Arsenic
Violation measur:	0.024	Unit of measure:	MG/L
State mcl:	Not Reported	Cmp bdt:	04/01/2008
Cmp edt:	06/30/2008		

Violation id:	040010902100542009	Orig code:	R
State:	09	Violation Year:	2009
Contamination code:	1005	Contamination Name:	Arsenic
Violation code:	02	Violation name:	MCL, Average
Rule code:	332	Rule name:	Arsenic
Violation measur:	0.02275	Unit of measure:	MG/L
State mcl:	Not Reported	Cmp bdt:	04/01/2009
Cmp edt:	06/30/2009		

Violation id:	040010902100572007	Orig code:	R
State:	09	Violation Year:	2007
Contamination code:	1005	Contamination Name:	Arsenic
Violation code:	02	Violation name:	MCL, Average
Rule code:	332	Rule name:	Arsenic
Violation measur:	0.023	Unit of measure:	MG/L
State mcl:	Not Reported	Cmp bdt:	07/01/2007
Cmp edt:	09/30/2007		

Violation id:	040010902100572008	Orig code:	R
State:	09	Violation Year:	2008
Contamination code:	1005	Contamination Name:	Arsenic

Violation code:	02	Violation name:	MCL, Average
Rule code:	332	Rule name:	Arsenic
Violation measur:	0.024	Unit of measure:	MG/L
State mcl:	Not Reported	Cmp bdt:	07/01/2008
Cmp edt:	09/30/2008		

Violation id:	040010903100512001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	1005	Contamination Name:	Arsenic
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	332	Rule name:	Arsenic
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903100572008	Orig code:	R
State:	09	Violation Year:	2008
Contamination code:	1005	Contamination Name:	Arsenic
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	332	Rule name:	Arsenic
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	07/01/2008
Cmp edt:	09/30/2008		

Violation id:	040010903101012001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	1010	Contamination Name:	Barium
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903101512001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	1015	Contamination Name:	Cadmium
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903102012001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	1020	Contamination Name:	Chromium
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903102412001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	1024	Contamination Name:	CYANIDE
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903102512001	Orig code:	R
State:	09	Violation Year:	2001

Contamination code:	1025	Contamination Name:	Fluoride
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903103512001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	1035	Contamination Name:	Mercury
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903104012000	Orig code:	R
State:	09	Violation Year:	2000
Contamination code:	1040	Contamination Name:	Nitrate
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	331	Rule name:	Nitrates
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2000
Cmp edt:	12/31/2000		

Violation id:	040010903104012001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	1040	Contamination Name:	Nitrate
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	331	Rule name:	Nitrates
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903104012002	Orig code:	R
State:	09	Violation Year:	2002
Contamination code:	1040	Contamination Name:	Nitrate
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	331	Rule name:	Nitrates
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2002
Cmp edt:	12/31/2002		

Violation id:	040010903107412001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	1074	Contamination Name:	Antimony, Total
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903107512001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	1075	Contamination Name:	Beryllium, Total
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903108512001	Orig code:	R

State:	09	Violation Year:	2001
Contamination code:	1085	Contamination Name:	Thallium, Total
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903109412001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	1094	Contamination Name:	Asbestos
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	333	Rule name:	Other IOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903200512001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2005	Contamination Name:	Endrin
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903201012001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2010	Contamination Name:	BHC-GAMMA
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903201512001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2015	Contamination Name:	Methoxychlor
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903202012001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2020	Contamination Name:	Toxaphene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903203112001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2031	Contamination Name:	Dalapon
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903203212001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2032	Contamination Name:	Diquat
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903203312001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2033	Contamination Name:	Endothall
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903203412001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2034	Contamination Name:	Glyphosate
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903203512001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2035	Contamination Name:	Di(2-ethylhexyl) adipate
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903203612001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2036	Contamination Name:	OXAMYL
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903203712001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2037	Contamination Name:	Simazine
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903203912001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2039	Contamination Name:	Di(2-ethylhexyl) phthalate
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903204012001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2040	Contamination Name:	Picloram
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903204112001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2041	Contamination Name:	Dinoseb
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903204212001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2042	Contamination Name:	Hexachlorocyclopentadiene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903204612001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2046	Contamination Name:	Carbofuran
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903205012001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2050	Contamination Name:	Atrazine
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903205112001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2051	Contamination Name:	LASSO
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903206312001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2063	Contamination Name:	2,3,7,8-TCDD
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903206312004	Orig code:	R
State:	09	Violation Year:	2004
Contamination code:	2063	Contamination Name:	2,3,7,8-TCDD
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2004
Cmp edt:	12/31/2004		

Violation id:	040010903206512001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2065	Contamination Name:	Heptachlor
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903206712001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2067	Contamination Name:	Heptachlor epoxide
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903210512001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2105	Contamination Name:	2,4-D
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903211012001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2110	Contamination Name:	2,4,5-TP
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903227412001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2274	Contamination Name:	HEXACHLOROBENZENE
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903230612001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2306	Contamination Name:	Benzo(a)pyrene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903232612001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2326	Contamination Name:	Pentachlorophenol
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903237812001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2378	Contamination Name:	1,2,4-Trichlorobenzene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903238012001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2380	Contamination Name:	cis-1,2-Dichloroethylene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903238312001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2383		
Contamination Name:	Total Polychlorinated Biphenyls (PCB)		
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903293112001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2931	Contamination Name:	1,2-DIBROMO-3-CHLOROPROPANE
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903294612001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2946	Contamination Name:	ETHYLENE DIBROMIDE
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903295512001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2955	Contamination Name:	Xylenes, Total
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001

Cmp edt:	12/31/2001		
Violation id:	040010903295912001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2959	Contamination Name:	Chlordane
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	320	Rule name:	SOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		
Violation id:	040010903296412001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2964	Contamination Name:	DICHLOROMETHANE
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		
Violation id:	040010903296812001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2968	Contamination Name:	o-Dichlorobenzene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		
Violation id:	040010903296912001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2969	Contamination Name:	p-Dichlorobenzene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		
Violation id:	040010903297612001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2976	Contamination Name:	Vinyl chloride
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		
Violation id:	040010903297712001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2977	Contamination Name:	1,1-Dichloroethylene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		
Violation id:	040010903297912001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2979	Contamination Name:	trans-1,2-Dichloroethylene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported

State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903298012001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2980	Contamination Name:	1,2-Dichloroethane
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903298112001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2981	Contamination Name:	1,1,1-Trichloroethane
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903298212001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2982	Contamination Name:	Carbon tetrachloride
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903298312001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2983	Contamination Name:	1,2-Dichloropropane
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903298412001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2984	Contamination Name:	Trichloroethylene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903298512001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2985	Contamination Name:	1,1,2-Trichloroethane
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903298712001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2987	Contamination Name:	Tetrachloroethylene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC

Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903298912001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2989	Contamination Name:	CHLOROBENZENE
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903299012001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2990	Contamination Name:	Benzene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903299112001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2991	Contamination Name:	Toluene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903299212001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2992	Contamination Name:	Ethylbenzene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903299612001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	2996	Contamination Name:	Styrene
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	310	Rule name:	VOC
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010903402012003	Orig code:	R
State:	09	Violation Year:	2003
Contamination code:	4020	Contamination Name:	Radium-226
Violation code:	03	Violation name:	Monitoring, Regular
Rule code:	340	Rule name:	Rads
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2003
Cmp edt:	12/31/2003		

Violation id:	040010903410912001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	4109	Contamination Name:	Gross Alpha Particle Activity
Violation code:	03	Violation name:	Monitoring, Regular

Rule code:	500	Rule name:	Not Regulated
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010922310012013	Orig code:	R
State:	09	Violation Year:	2013
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	22	Violation name:	MCL, Monthly (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2013
Cmp edt:	01/31/2013		

Violation id:	040010922310042012	Orig code:	R
State:	09	Violation Year:	2012
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	22	Violation name:	MCL, Monthly (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	04/01/2012
Cmp edt:	04/30/2012		

Violation id:	040010922310052001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	22	Violation name:	MCL, Monthly (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	05/01/2001
Cmp edt:	05/31/2001		

Violation id:	040010922310082001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	22	Violation name:	MCL, Monthly (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	08/01/2001
Cmp edt:	08/31/2001		

Violation id:	040010922310082005	Orig code:	R
State:	09	Violation Year:	2005
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	22	Violation name:	MCL, Monthly (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	08/01/2005
Cmp edt:	08/31/2005		

Violation id:	0400109233100122001	Orig code:	R
State:	09	Violation Year:	2001
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	23	Violation name:	Monitoring, Routine Major (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	12/01/2001
Cmp edt:	12/31/2001		

Violation id:	040010923310082003	Orig code:	R
State:	09	Violation Year:	2003
Contamination code:	3100	Contamination Name:	Coliform (TCR)

Violation code:	23	Violation name:	Monitoring, Routine Major (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	08/01/2003
Cmp edt:	08/31/2003		

Violation id:	0400109243100102002	Orig code:	R
State:	09	Violation Year:	2002
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	24	Violation name:	Monitoring, Routine Minor (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	10/01/2002
Cmp edt:	10/31/2002		

Violation id:	0400109243100112002	Orig code:	R
State:	09	Violation Year:	2002
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	24	Violation name:	Monitoring, Routine Minor (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	11/01/2002
Cmp edt:	11/30/2002		

Violation id:	0400109243100112004	Orig code:	R
State:	09	Violation Year:	2004
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	24	Violation name:	Monitoring, Routine Minor (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	11/01/2004
Cmp edt:	11/30/2004		

Violation id:	0400109243100122002	Orig code:	R
State:	09	Violation Year:	2002
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	24	Violation name:	Monitoring, Routine Minor (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	12/01/2002
Cmp edt:	12/31/2002		

Violation id:	0400109243100122004	Orig code:	R
State:	09	Violation Year:	2004
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	24	Violation name:	Monitoring, Routine Minor (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	12/01/2004
Cmp edt:	12/31/2004		

Violation id:	040010924310022000	Orig code:	R
State:	09	Violation Year:	2000
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	24	Violation name:	Monitoring, Routine Minor (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	02/01/2000
Cmp edt:	02/29/2000		

Violation id:	040010924310072000	Orig code:	R
State:	09	Violation Year:	2000

Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	24	Violation name:	Monitoring, Routine Minor (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	07/01/2000
Cmp edt:	07/31/2000		

Violation id:	040010924310072003	Orig code:	R
State:	09	Violation Year:	2003
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	24	Violation name:	Monitoring, Routine Minor (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	07/01/2003
Cmp edt:	07/31/2003		

Violation id:	040010924310092002	Orig code:	R
State:	09	Violation Year:	2002
Contamination code:	3100	Contamination Name:	Coliform (TCR)
Violation code:	24	Violation name:	Monitoring, Routine Minor (TCR)
Rule code:	110	Rule name:	TCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	09/01/2002
Cmp edt:	09/30/2002		

Violation id:	040010927245612005	Orig code:	R
State:	09	Violation Year:	2005
Contamination code:	2456	Contamination Name:	Total Haloacetic Acids (HAA5)
Violation code:	27	Violation name:	Monitoring and Reporting (DBP)
Rule code:	210	Rule name:	St1 DBP
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2005
Cmp edt:	12/31/2005		

Violation id:	040010927295012005	Orig code:	R
State:	09	Violation Year:	2005
Contamination code:	2950	Contamination Name:	TTHM
Violation code:	27	Violation name:	Monitoring and Reporting (DBP)
Rule code:	210	Rule name:	St1 DBP
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	01/01/2005
Cmp edt:	12/31/2005		

Violation id:	040010934301482011	Orig code:	R
State:	09	Violation Year:	2011
Contamination code:	3014	Contamination Name:	E. COLI
Violation code:	34	Violation name:	Monitoring, Source Water (GWR)
Rule code:	140	Rule name:	GWR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	08/01/2011
Cmp edt:	Not Reported		

Violation id:	040010951500071992	Orig code:	R
State:	09	Violation Year:	1992
Contamination code:	5000	Contamination Name:	Lead and Copper Rule
Violation code:	51	Violation name:	Initial Tap Sampling for Pb and Cu
Rule code:	350	Rule name:	LCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	07/01/1992
Cmp edt:	Not Reported		

Violation id:	040010971700072001	Orig code:	R

State:	09	Violation Year:	2001
Contamination code:	7000	Contamination Name:	Consumer Confidence Rule
Violation code:	71	Violation name:	CCR Complete Failure to Report
Rule code:	420	Rule name:	CCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	07/01/2001
Cmp edt:	Not Reported		

Violation id:	040010971700072002	Orig code:	R
State:	09	Violation Year:	2002
Contamination code:	7000	Contamination Name:	Consumer Confidence Rule
Violation code:	71	Violation name:	CCR Complete Failure to Report
Rule code:	420	Rule name:	CCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	07/01/2002
Cmp edt:	Not Reported		

Violation id:	040010971700072004	Orig code:	R
State:	09	Violation Year:	2004
Contamination code:	7000	Contamination Name:	Consumer Confidence Rule
Violation code:	71	Violation name:	CCR Complete Failure to Report
Rule code:	420	Rule name:	CCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	07/01/2004
Cmp edt:	Not Reported		

Violation id:	040010971700072005	Orig code:	R
State:	09	Violation Year:	2005
Contamination code:	7000	Contamination Name:	Consumer Confidence Rule
Violation code:	71	Violation name:	CCR Complete Failure to Report
Rule code:	420	Rule name:	CCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	07/01/2005
Cmp edt:	Not Reported		

Violation id:	040010971700072006	Orig code:	R
State:	09	Violation Year:	2006
Contamination code:	7000	Contamination Name:	Consumer Confidence Rule
Violation code:	71	Violation name:	CCR Complete Failure to Report
Rule code:	420	Rule name:	CCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	07/01/2006
Cmp edt:	Not Reported		

Violation id:	040010971700072007	Orig code:	R
State:	09	Violation Year:	2007
Contamination code:	7000	Contamination Name:	Consumer Confidence Rule
Violation code:	71	Violation name:	CCR Complete Failure to Report
Rule code:	420	Rule name:	CCR
Violation measur:	Not Reported	Unit of measure:	Not Reported
State mcl:	Not Reported	Cmp bdt:	07/01/2007
Cmp edt:	Not Reported		

PWS currently has or had major violation(s) or enforcement:Yes

Violation ID:	93V0001	Violation source ID:	Not Reported
PWS telephone:	Not Reported	Contaminant:	LEAD & COPPER RULE
Violation type:	Initial Tap Sampling for Pb and Cu		
Violation start date:	070192	Violation end date:	123192
Violation period (months):	006	Violation awareness date:	Not Reported
Major violator:	Not Reported	Maximum contaminant level:	Not Reported
Number of required samples:	Not Reported	Number of samples taken:	Not Reported

Analysis method:	Not Reported	Analysis result:	Not Reported
Violation ID:	0400109011040102011	Orig Code:	R
Enforcemnt FY:	2012	Enforcement Action:	12/22/2011
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010901104072011	Orig Code:	R
Enforcemnt FY:	2012	Enforcement Action:	12/22/2011
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109021005102007	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	08/24/2010
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109021005102007	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	03/12/2009
Enforcement Detail:	Fed BCA signed	Enforcement Category:	Formal
Violation ID:	0400109021005102008	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	08/24/2010
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109021005102008	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	03/12/2009
Enforcement Detail:	Fed BCA signed	Enforcement Category:	Formal
Violation ID:	040010902100512008	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	08/24/2010
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010902100512008	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	03/12/2009
Enforcement Detail:	Fed BCA signed	Enforcement Category:	Formal
Violation ID:	040010902100512009	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	08/24/2010
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010902100542007	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	03/12/2009
Enforcement Detail:	Fed BCA signed	Enforcement Category:	Formal
Violation ID:	040010902100542007	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	08/24/2010
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010902100542008	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	08/24/2010
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010902100542008	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	03/12/2009
Enforcement Detail:	Fed BCA signed	Enforcement Category:	Formal
Violation ID:	040010902100542009	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	08/24/2010
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010902100572007	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	08/24/2010
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving

Violation ID:	040010902100572007	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	03/12/2009
Enforcement Detail:	Fed BCA signed	Enforcement Category:	Formal
Violation ID:	040010902100572008	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	03/12/2009
Enforcement Detail:	Fed BCA signed	Enforcement Category:	Formal
Violation ID:	040010902100572008	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	08/24/2010
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903100512001	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	06/12/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903100572008	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	09/18/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903100572008	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	09/05/2007
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903100572008	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	03/12/2009
Enforcement Detail:	Fed BCA signed	Enforcement Category:	Formal
Violation ID:	040010903101012001	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	06/12/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903101512001	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	06/12/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903102012001	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	06/12/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903102412001	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	06/12/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903102512001	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	08/25/2009
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903103512001	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	08/25/2009
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903104012000	Orig Code:	R
Enforcemnt FY:	2004	Enforcement Action:	02/24/2004
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903104012001	Orig Code:	R
Enforcemnt FY:	2004	Enforcement Action:	02/24/2004
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903104012002	Orig Code:	R
Enforcemnt FY:	2004	Enforcement Action:	02/24/2004

Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903107412001	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	06/12/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903107512001	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	06/12/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903108512001	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	06/12/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903109412001	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	08/25/2009
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903200512001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903201012001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903201512001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903202012001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903203112001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903203212001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903203312001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903203412001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903203512001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903203612001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903203712001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving

Violation ID:	040010903203912001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903204012001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903204112001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903204212001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903204612001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903205012001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903205112001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903206312001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903206312004	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903206312004	Orig Code:	R
Enforcemnt FY:	2005	Enforcement Action:	03/22/2005
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Informal
Violation ID:	040010903206512001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903206712001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903210512001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903211012001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903227412001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903230612001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006

Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903232612001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903237812001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903238012001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903238312001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903293112001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903294612001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903295512001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903295912001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	08/17/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903296412001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903296812001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903296912001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903297612001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903297712001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903297912001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903298012001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving

Violation ID:	040010903298112001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903298212001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903298312001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903298412001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903298512001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903298712001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903298912001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903299012001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903299112001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903299212001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903299612001	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	12/07/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109033000101983	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109033000101985	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109033000121984	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109033000121985	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903300031984	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006

Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903300061985	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903300081984	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903300091985	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903402012003	Orig Code:	R
Enforcemnt FY:	2005	Enforcement Action:	06/08/2005
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010903410912001	Orig Code:	R
Enforcemnt FY:	2005	Enforcement Action:	06/08/2005
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010922310010199 4	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010922310012013	Orig Code:	R
Enforcemnt FY:	2013	Enforcement Action:	05/21/2013
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010922310042012	Orig Code:	R
Enforcemnt FY:	2012	Enforcement Action:	08/21/2012
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010922310051992	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010922310052001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010922310071996	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010922310081996	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010922310082001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010922310082005	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010922310091996	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving

Violation ID:	0400109233100111991	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109233100121991	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109233100122001	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010923310051995	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010923310082003	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109243100102002	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109243100112002	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109243100112004	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109243100112004	Orig Code:	R
Enforcemnt FY:	2005	Enforcement Action:	03/22/2005
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Informal
Violation ID:	0400109243100122002	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	0400109243100122004	Orig Code:	R
Enforcemnt FY:	2005	Enforcement Action:	03/22/2005
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Informal
Violation ID:	0400109243100122004	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010924310022000	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010924310072000	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010924310072003	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010924310092002	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006

Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010925310011993	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010925310012199 7	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010926310010199 4	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010926310021993	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/01/2006
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010927245612005	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	09/05/2007
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010927295012005	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	09/05/2007
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010934301482011	Orig Code:	R
Enforcemnt FY:	2011	Enforcement Action:	02/01/2011
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010951500071992	Orig Code:	R
Enforcemnt FY:	2004	Enforcement Action:	02/24/2004
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010971700072001	Orig Code:	R
Enforcemnt FY:	2005	Enforcement Action:	11/04/2004
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010971700072002	Orig Code:	R
Enforcemnt FY:	2005	Enforcement Action:	11/04/2004
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010971700072004	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	04/18/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010971700072004	Orig Code:	R
Enforcemnt FY:	2005	Enforcement Action:	03/22/2005
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Informal
Violation ID:	040010971700072005	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	04/18/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010971700072006	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	04/18/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving
Violation ID:	040010971700072007	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	04/18/2008
Enforcement Detail:	Fed Compliance achieved	Enforcement Category:	Resolving

Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	01/24/2006
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	11/14/2007
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	08/18/2009
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2005	Enforcement Action:	08/12/2005
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	02/23/2006
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2011	Enforcement Action:	01/20/2011
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	12/04/2007
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2011	Enforcement Action:	11/24/2010
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	04/17/2008
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2011	Enforcement Action:	04/15/2011
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2012	Enforcement Action:	03/29/2012
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	11/28/2006
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	08/20/2008
Enforcement Detail:	Fed Violation/Reminder Notice	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	11/01/2006
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	07/01/2008
Enforcement Detail:	Fed Violation/Reminder Notice	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2006	Enforcement Action:	03/27/2006

Enforcement Detail: Fed Tech Assistance Visit
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2009
Enforcement Action: 03/03/2009
Enforcement Detail: Fed Tech Assistance Visit
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2005
Enforcement Action: 07/14/2005
Enforcement Detail: Fed Tech Assistance Visit
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2009
Enforcement Action: 07/07/2009
Enforcement Detail: Fed Tech Assistance Visit
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2011
Enforcement Action: 03/09/2011
Enforcement Detail: Fed Violation/Reminder Notice
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2010
Enforcement Action: 07/13/2010
Enforcement Detail: Fed Public Notif received
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2013
Enforcement Action: 07/10/2013
Enforcement Detail: Fed Violation/Reminder Notice
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2005
Enforcement Action: 08/17/2005
Enforcement Detail: Fed Tech Assistance Visit
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2010
Enforcement Action: 02/16/2010
Enforcement Detail: Fed Tech Assistance Visit
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2010
Enforcement Action: 02/10/2010
Enforcement Detail: Fed Tech Assistance Visit
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2010
Enforcement Action: 07/28/2010
Enforcement Detail: Fed Tech Assistance Visit
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2008
Enforcement Action: 12/03/2007
Enforcement Detail: Fed Tech Assistance Visit
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2007
Enforcement Action: 02/14/2007
Enforcement Detail: Fed Violation/Reminder Notice
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2010
Enforcement Action: 11/23/2009
Enforcement Detail: Fed Public Notif received
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2011
Enforcement Action: 03/18/2011
Enforcement Detail: Fed Tech Assistance Visit
Enforcement Category: Not Reported

Violation ID: Not Reported
Orig Code: R
Enforcemnt FY: 2004
Enforcement Action: 08/18/2004

Enforcement Detail: Fed Violation/Reminder Notice
Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2005 | Enforcement Action: 08/08/2005
Enforcement Detail: Fed Tech Assistance Visit | Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2011 | Enforcement Action: 11/17/2010
Enforcement Detail: Fed Tech Assistance Visit | Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2008 | Enforcement Action: 12/11/2007
Enforcement Detail: Fed Violation/Reminder Notice
Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2009 | Enforcement Action: 04/09/2009
Enforcement Detail: Fed Tech Assistance Visit | Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2007 | Enforcement Action: 01/16/2007
Enforcement Detail: Fed Tech Assistance Visit | Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2006 | Enforcement Action: 11/28/2005
Enforcement Detail: Fed Tech Assistance Visit | Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2005 | Enforcement Action: 10/19/2004
Enforcement Detail: Fed Violation/Reminder Notice
Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2008 | Enforcement Action: 11/15/2007
Enforcement Detail: Fed Tech Assistance Visit | Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2011 | Enforcement Action: 04/13/2011
Enforcement Detail: Fed Tech Assistance Visit | Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2004 | Enforcement Action: 09/20/2004
Enforcement Detail: Fed Violation/Reminder Notice
Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2009 | Enforcement Action: 03/11/2009
Enforcement Detail: Fed Public Notif received | Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2009 | Enforcement Action: 10/02/2008
Enforcement Detail: Fed Tech Assistance Visit | Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2012 | Enforcement Action: 01/06/2012
Enforcement Detail: Fed Public Notif received | Enforcement Category: Not Reported

Violation ID: Not Reported | Orig Code: R
Enforcemnt FY: 2009 | Enforcement Action: 12/03/2008
Enforcement Detail: Fed Tech Assistance Visit | Enforcement Category: Not Reported

Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	10/12/2006
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	06/10/2008
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2005	Enforcement Action:	08/04/2005
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	05/13/2008
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2007	Enforcement Action:	08/20/2007
Enforcement Detail:	Fed Violation/Reminder Notice		
Enforcement Category:	Not Reported		
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2008	Enforcement Action:	04/18/2008
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	10/22/2008
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2005	Enforcement Action:	07/01/2005
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	05/27/2010
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	11/04/2009
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2009	Enforcement Action:	06/02/2009
Enforcement Detail:	Fed Violation/Reminder Notice		
Enforcement Category:	Not Reported		
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	05/03/2010
Enforcement Detail:	Fed Public Notif received	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2010	Enforcement Action:	10/01/2009
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
Violation ID:	Not Reported	Orig Code:	R
Enforcemnt FY:	2011	Enforcement Action:	04/11/2011
Enforcement Detail:	Fed Tech Assistance Visit	Enforcement Category:	Not Reported
PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370988
Contaminant:	CHROMIUM	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00

Enforcement date:	6/12/2008 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370989
Contaminant:	CYANIDE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	6/12/2008 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370992
Contaminant:	ANTIMONY, TOTAL	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	6/12/2008 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370994
Contaminant:	FLUORIDE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	No Enf Action as of	Enforcement action:	7/8/2009 0:00:00
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0371043
Contaminant:	NITRATE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	2/24/2004 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0371045
Contaminant:	NITRATE	Violation type:	3
Compliance start date:	1/1/2000 0:00:00	Compliance end date:	12/31/2000 0:00:00
Enforcement date:	2/24/2004 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0371671
Contaminant:	7000	Violation type:	71
Compliance start date:	7/1/2002 0:00:00	Compliance end date:	11/4/2004 0:00:00
Enforcement date:	11/4/2004 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0371695
Contaminant:	7000	Violation type:	71
Compliance start date:	7/1/2001 0:00:00	Compliance end date:	11/4/2004 0:00:00
Enforcement date:	11/4/2004 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0371893
Contaminant:	COLIFORM (TCR)	Violation type:	Monitoring, Routine Minor (TCR)
Compliance start date:	10/1/2002 0:00:00	Compliance end date:	10/31/2002 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0371898
Contaminant:	COLIFORM (TCR)	Violation type:	Monitoring, Routine Minor (TCR)

Compliance start date:	11/1/2002 0:00:00	Compliance end date:	11/30/2002 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0371901
Contaminant:	COLIFORM (TCR)	Violation type:	Monitoring, Routine Minor (TCR)
Compliance start date:	12/1/2002 0:00:00	Compliance end date:	12/31/2002 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0371917
Contaminant:	COLIFORM (TCR)	Violation type:	Monitoring, Routine Minor (TCR)
Compliance start date:	9/1/2002 0:00:00	Compliance end date:	9/30/2002 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0371953
Contaminant:	COLIFORM (TCR)	Violation type:	Monitoring, Routine Major (TCR)
Compliance start date:	12/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0371967
Contaminant:	COLIFORM (TCR)		
Violation type:	Max Contaminant Level, Monthly (TCR)		
Compliance start date:	8/1/2001 0:00:00	Compliance end date:	8/31/2001 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0371988
Contaminant:	COLIFORM (TCR)		
Violation type:	Max Contaminant Level, Monthly (TCR)		
Compliance start date:	5/1/2001 0:00:00	Compliance end date:	5/31/2001 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0372031
Contaminant:	COLIFORM (TCR)	Violation type:	Monitoring, Routine Minor (TCR)
Compliance start date:	7/1/2000 0:00:00	Compliance end date:	7/31/2000 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0372049
Contaminant:	COLIFORM (TCR)	Violation type:	Monitoring, Routine Minor (TCR)
Compliance start date:	2/1/2000 0:00:00	Compliance end date:	2/29/2000 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0373015
Contaminant:	COLIFORM (TCR)	Violation type:	Monitoring, Routine Major (TCR)
Compliance start date:	8/1/2003 0:00:00	Compliance end date:	8/31/2003 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0373016
Contaminant:	COLIFORM (TCR)	Violation type:	Monitoring, Routine Minor (TCR)
Compliance start date:	7/1/2003 0:00:00	Compliance end date:	7/31/2003 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0400109021005102007
Contaminant:	ARSENIC	Violation type:	2
Compliance start date:	10/1/2007 0:00:00	Compliance end date:	12/31/2007 0:00:00
Enforcement date:	3/12/2009 0:00:00	Enforcement action:	Fed BCA Signed
Violation measurement:	0.02		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0400109021005102008
Contaminant:	ARSENIC	Violation type:	2
Compliance start date:	10/1/2008 0:00:00	Compliance end date:	12/31/2008 0:00:00
Enforcement date:	3/12/2009 0:00:00	Enforcement action:	Fed BCA Signed
Violation measurement:	0.02		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010902100512008
Contaminant:	ARSENIC	Violation type:	2
Compliance start date:	1/1/2008 0:00:00	Compliance end date:	3/31/2008 0:00:00
Enforcement date:	3/12/2009 0:00:00	Enforcement action:	Fed BCA Signed
Violation measurement:	0.02		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010902100542007
Contaminant:	ARSENIC	Violation type:	2
Compliance start date:	4/1/2007 0:00:00	Compliance end date:	6/30/2007 0:00:00
Enforcement date:	3/12/2009 0:00:00	Enforcement action:	Fed BCA Signed
Violation measurement:	0.02		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010902100542008
Contaminant:	ARSENIC	Violation type:	2
Compliance start date:	4/1/2008 0:00:00	Compliance end date:	6/30/2008 0:00:00
Enforcement date:	3/12/2009 0:00:00	Enforcement action:	Fed BCA Signed
Violation measurement:	0.02		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010902100572007
Contaminant:	ARSENIC	Violation type:	2
Compliance start date:	7/1/2007 0:00:00	Compliance end date:	9/30/2007 0:00:00
Enforcement date:	3/12/2009 0:00:00	Enforcement action:	Fed BCA Signed
Violation measurement:	0.02		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010902100572008
Contaminant:	ARSENIC	Violation type:	2
Compliance start date:	7/1/2008 0:00:00	Compliance end date:	9/30/2008 0:00:00
Enforcement date:	3/12/2009 0:00:00	Enforcement action:	Fed BCA Signed
Violation measurement:	0.02		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010903100572008
Contaminant:	ARSENIC	Violation type:	3
Compliance start date:	7/1/2008 0:00:00	Compliance end date:	9/30/2008 0:00:00
Enforcement date:	3/12/2009 0:00:00	Enforcement action:	Fed BCA Signed
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010903100572008
Contaminant:	ARSENIC	Violation type:	3
Compliance start date:	7/1/2008 0:00:00	Compliance end date:	9/30/2008 0:00:00
Enforcement date:	9/18/2008 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010903100572008
Contaminant:	ARSENIC	Violation type:	3
Compliance start date:	7/1/2008 0:00:00	Compliance end date:	9/30/2008 0:00:00
Enforcement date:	9/5/2007 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010922310082005
Contaminant:	COLIFORM (TCR)		
Violation type:	Max Contaminant Level, Monthly (TCR)		
Compliance start date:	8/1/2005 0:00:00	Compliance end date:	8/31/2005 0:00:00
Enforcement date:	3/1/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010927245612005
Contaminant:	2456	Violation type:	27
Compliance start date:	1/1/2005 0:00:00	Compliance end date:	12/31/2005 0:00:00
Enforcement date:	9/5/2007 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010927295012005
Contaminant:	TTHM	Violation type:	27
Compliance start date:	1/1/2005 0:00:00	Compliance end date:	12/31/2005 0:00:00
Enforcement date:	9/5/2007 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010971700072004
Contaminant:	7000	Violation type:	71
Compliance start date:	7/1/2004 0:00:00	Compliance end date:	4/18/2008 0:00:00
Enforcement date:	3/22/2005 0:00:00	Enforcement action:	Fed Tech Assistance Visit
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010971700072004
Contaminant:	7000	Violation type:	71
Compliance start date:	7/1/2004 0:00:00	Compliance end date:	4/18/2008 0:00:00
Enforcement date:	4/18/2008 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010971700072005
Contaminant:	7000	Violation type:	71
Compliance start date:	7/1/2005 0:00:00	Compliance end date:	4/18/2008 0:00:00
Enforcement date:	4/18/2008 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	040010971700072006
Contaminant:	7000	Violation type:	71
Compliance start date:	7/1/2006 0:00:00	Compliance end date:	4/18/2008 0:00:00
Enforcement date:	4/18/2008 0:00:00	Enforcement action:	Fed Compliance Achieved

Violation measurement: Not Reported

PWS name: Salt River Public Works
PWS type code: C
Contaminant: 7000
Compliance start date: 7/1/2007 0:00:00
Enforcement date: 4/18/2008 0:00:00
Violation measurement: Not Reported
Population served: 10431
Violation ID: 040010971700072007
Violation type: 71
Compliance end date: 4/18/2008 0:00:00
Enforcement action: Fed Compliance Achieved

PWS name: Salt River Public Works
PWS type code: C
Contaminant: COLIFORM (TCR)
Compliance start date: 11/1/2004 0:00:00
Enforcement date: 3/1/2006 0:00:00
Violation measurement: Not Reported
Population served: 10431
Violation ID: 0501013
Violation type: Monitoring, Routine Minor (TCR)
Compliance end date: 11/30/2004 0:00:00
Enforcement action: Fed Compliance Achieved

PWS name: Salt River Public Works
PWS type code: C
Contaminant: COLIFORM (TCR)
Compliance start date: 11/1/2004 0:00:00
Enforcement date: 3/22/2005 0:00:00
Violation measurement: Not Reported
Population served: 10431
Violation ID: 0501013
Violation type: Monitoring, Routine Minor (TCR)
Compliance end date: 11/30/2004 0:00:00
Enforcement action: Fed Tech Assistance Visit

PWS name: Salt River Public Works
PWS type code: C
Contaminant: COLIFORM (TCR)
Compliance start date: 12/1/2004 0:00:00
Enforcement date: 3/1/2006 0:00:00
Violation measurement: Not Reported
Population served: 10431
Violation ID: 0501014
Violation type: Monitoring, Routine Minor (TCR)
Compliance end date: 12/31/2004 0:00:00
Enforcement action: Fed Compliance Achieved

PWS name: Salt River Public Works
PWS type code: C
Contaminant: COLIFORM (TCR)
Compliance start date: 12/1/2004 0:00:00
Enforcement date: 3/22/2005 0:00:00
Violation measurement: Not Reported
Population served: 10431
Violation ID: 0501014
Violation type: Monitoring, Routine Minor (TCR)
Compliance end date: 12/31/2004 0:00:00
Enforcement action: Fed Tech Assistance Visit

PWS name: Salt River Public Works
PWS type code: C
Contaminant: RADIUM-226
Compliance start date: 1/1/2003 0:00:00
Enforcement date: 6/8/2005 0:00:00
Violation measurement: Not Reported
Population served: 10431
Violation ID: 0501015
Violation type: 3
Compliance end date: 12/31/2003 0:00:00
Enforcement action: Fed Compliance Achieved

PWS name: Salt River Public Works
PWS type code: C
Contaminant: 2,3,7,8-TCDD (DIOXIN)
Compliance start date: 1/1/2004 0:00:00
Enforcement date: 3/22/2005 0:00:00
Violation measurement: Not Reported
Population served: 10431
Violation ID: 0501016
Violation type: 3
Compliance end date: 12/31/2004 0:00:00
Enforcement action: Fed Tech Assistance Visit

PWS name: Salt River Public Works
PWS type code: C
Contaminant: 2,3,7,8-TCDD (DIOXIN)
Compliance start date: 1/1/2004 0:00:00
Enforcement date: 8/17/2006 0:00:00
Violation measurement: Not Reported
Population served: 10431
Violation ID: 0501016
Violation type: 3
Compliance end date: 12/31/2004 0:00:00
Enforcement action: Fed Compliance Achieved

PWS name: Salt River Public Works
PWS type code: C
Contaminant: LEAD & COPPER RULE
Compliance start date: 7/1/1992 0:00:00
Population served: 10431
Violation ID: 9300001
Violation type: Initial Tap Sampling for Pb and Cu
Compliance end date: 2/24/2004 0:00:00

Enforcement date:	2/24/2004 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370575
Contaminant:	NITRATE	Violation type:	3
Compliance start date:	1/1/2002 0:00:00	Compliance end date:	12/31/2002 0:00:00
Enforcement date:	2/24/2004 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370586
Contaminant:	ASBESTOS	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	No Enf Action as of	Enforcement action:	7/8/2009 0:00:00
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370595
Contaminant:	GROSS ALPHA PARTICLE ACTIVITY		
Violation type:	3	Compliance start date:	1/1/2001 0:00:00
Compliance end date:	12/31/2001 0:00:00	Enforcement date:	6/8/2005 0:00:00
Enforcement action:	Fed Compliance Achieved	Violation measurement:	Not Reported

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370614
Contaminant:	CIS-1,2-DICHLOROETHYLENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370623
Contaminant:	1,2,4-TRICHLOROBENZENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370667
Contaminant:	STYRENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370682
Contaminant:	ETHYLBENZENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370683
Contaminant:	XYLENES, TOTAL	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370684
Contaminant:	O-DICHLOROBENZENE	Violation type:	3

Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370685
Contaminant:	METHYLENE CHLORIDE (DICHLOROMETHANE)		
Violation type:	3	Compliance start date:	1/1/2001 0:00:00
Compliance end date:	12/31/2001 0:00:00	Enforcement date:	12/7/2006 0:00:00
Enforcement action:	Fed Compliance Achieved	Violation measurement:	Not Reported

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370686
Contaminant:	P-DICHLOROBENZENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370687
Contaminant:	VINYL CHLORIDE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370688
Contaminant:	1,1-DICHLOROETHYLENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370689
Contaminant:	TRANS-1,2-DICHLOROETHYLENE		
Violation type:	3	Compliance start date:	1/1/2001 0:00:00
Compliance end date:	12/31/2001 0:00:00	Enforcement date:	12/7/2006 0:00:00
Enforcement action:	Fed Compliance Achieved	Violation measurement:	Not Reported

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370691
Contaminant:	1,2-DICHLOROETHANE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370693
Contaminant:	1,1,1-TRICHLOROETHANE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370694
Contaminant:	CARBON TETRACHLORIDE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370695

Contaminant:	1,2-DICHLOROPROPANE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370696
Contaminant:	TRICHLOROETHYLENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370697
Contaminant:	1,1,2-TRICHLOROETHANE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370698
Contaminant:	TETRACHLOROETHYLENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370699
Contaminant:	MONOCHLOROBENZENE (CHLOROBENZENE)		
Violation type:	3	Compliance start date:	1/1/2001 0:00:00
Compliance end date:	12/31/2001 0:00:00	Enforcement date:	12/7/2006 0:00:00
Enforcement action:	Fed Compliance Achieved	Violation measurement:	Not Reported

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370700
Contaminant:	BENZENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370701
Contaminant:	TOLUENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	12/7/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370703
Contaminant:	SIMAZINE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370704
Contaminant:	ENDOTHALL	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431

PWS type code:	C	Violation ID:	0370706
Contaminant:	BENZO (A) PYRENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370708
Contaminant:	GLYPHOSATE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370709
Contaminant:	OXAMYL (VYDATE)	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370716
Contaminant:	ENDRIN	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370717
Contaminant:	BHC-GAMMA (LINDANE)	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370718
Contaminant:	HEPTACHLOR	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370719
Contaminant:	TOXAPHENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370720
Contaminant:	DALAPON	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370721
Contaminant:	DIQUAT	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370722
Contaminant:	DI (2-ETHYLHEXYL) ADIPATE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370733
Contaminant:	2,4,5-TP (SILVEX)	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370735
Contaminant:	1,2 DIBROMO-3-CHLOROPROPANE (DBCP)		
Violation type:	3	Compliance start date:	1/1/2001 0:00:00
Compliance end date:	12/31/2001 0:00:00	Enforcement date:	8/17/2006 0:00:00
Enforcement action:	Fed Compliance Achieved	Violation measurement:	Not Reported

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370746
Contaminant:	PENTACHLOROPHENOL	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370748
Contaminant:	PICLORAM	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370749
Contaminant:	DINOSEB	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370750
Contaminant:	HEXACHLOROCYCLOPENTADIENE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370751
Contaminant:	CARBOFURAN	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370752
Contaminant:	ATRAZINE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370753
Contaminant:	ALACHLOR (LASSO)	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370754
Contaminant:	2,3,7,8-TCDD (DIOXIN)	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370756
Contaminant:	CHLORDANE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370757
Contaminant:	2,4-D	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370758
Contaminant:	ETHYLENE DIBROMIDE (EDB)	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370759
Contaminant:	HEXACHLOROBENZENE (HCB)	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370766
Contaminant:	TOTAL POLYCHLORINATED BIPHENYLS (PCB)		
Violation type:	3	Compliance start date:	1/1/2001 0:00:00
Compliance end date:	12/31/2001 0:00:00	Enforcement date:	8/17/2006 0:00:00
Enforcement action:	Fed Compliance Achieved	Violation measurement:	Not Reported

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370767
Contaminant:	DI (2-ETHYLHEXYL) PHTHALATE		
Violation type:	3	Compliance start date:	1/1/2001 0:00:00
Compliance end date:	12/31/2001 0:00:00	Enforcement date:	8/17/2006 0:00:00
Enforcement action:	Fed Compliance Achieved	Violation measurement:	Not Reported

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370768
Contaminant:	HEPTACHLOR EPOXIDE	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	8/17/2006 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370978
Contaminant:	ARSENIC	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	6/12/2008 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370983
Contaminant:	THALLIUM, TOTAL	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	6/12/2008 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370984
Contaminant:	BERYLLIUM, TOTAL	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	6/12/2008 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370985
Contaminant:	MERCURY	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	No Enf Action as of	Enforcement action:	7/8/2009 0:00:00
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370986
Contaminant:	BARIUM	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	6/12/2008 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

PWS name:	Salt River Public Works	Population served:	10431
PWS type code:	C	Violation ID:	0370987
Contaminant:	CADMIUM	Violation type:	3
Compliance start date:	1/1/2001 0:00:00	Compliance end date:	12/31/2001 0:00:00
Enforcement date:	6/12/2008 0:00:00	Enforcement action:	Fed Compliance Achieved
Violation measurement:	Not Reported		

G23
SSE
1/2 - 1 Mile
Lower

FED USGS **USGS40000054986**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 24CAB	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19600208
Well Depth:	1265	Well Depth Units:	ft
Well Hole Depth:	1265	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	4	Level reading date:	1990-04-26
Feet below surface:	409.70	Feet to sea level:	Not Reported
Note:	The site was being pumped.		

Level reading date:	1988-01-11	Feet below surface:	222.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-01-11	Feet below surface:	365.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-02-23	Feet below surface:	285.00
Feet to sea level:	Not Reported	Note:	Not Reported

F24
West
1/2 - 1 Mile
Higher

FED USGS **USGS40000055085**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 14CDD1	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19250811
Well Depth:	174	Well Depth Units:	ft
Well Hole Depth:	174	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	2	Level reading date:	1952-12-02
Feet below surface:	114.10	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1945-12-11	Feet below surface:	105.00
Feet to sea level:	Not Reported	Note:	Not Reported

F25
West
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000035951**

Database:	Water Well Information	DWR #:	55-608416
DEQ Well #:	44904	Agency:	ADEQ
Agency Well #:	44904	Location Descrip:	Not Reported
Station Alt Name:	SRP 22.4E-09.0N	Well Depth:	764
Drill Depth:	960	Start Date:	19561029
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	I	Watershed:	MIDDLE GILA

26
NE
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000132506**

Database:	Arizona Well Registration Database	Registry ID:	607716
Well Type:	NON-EXEMPT	Owner Name:	SALT RIVER PROJECT,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	0
Installed:	1952 4 3	Well Depth:	1020
Water Level:	344	Casing Depth:	1020

Casing Diameter:	20	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	YES	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	2020
Tested Rate:	2020	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	Not Reported	Cadastral:	A02004013CAA
Well Cancelled:	Not Reported		

27
WNW
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000048984**

Database:	Water Well Information	DWR #:	55-533845
DEQ Well #:	62560	Agency:	ADEQ
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	PG-2LA	Well Depth:	0
Drill Depth:	763	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	J	Aquifer Type:	Not Reported
Water Use:	M	Watershed:	Not Reported

H28
NNW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000075851**

Database:	Arizona Well Registration Database	Registry ID:	544435
Well Type:	OTHER	Owner Name:	SCOTTSDALE, CITY OF,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	473
Installed:	1994 7 6	Well Depth:	200
Water Level:	0	Casing Depth:	0
Casing Diameter:	0	Casing Type:	NO CASING CODE LISTED
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	X	Approved:	0
Completion:	N	Cadastral:	A02004014ADC
Well Cancelled:	Y		

H29
NNW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000085050**

Database:	Arizona Well Registration Database	Registry ID:	556200
Well Type:	NON-EXEMPT	Owner Name:	NORTH INDIAN BEN WASH PARTICIPATING CO
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	Not Reported
Installed:	0	Well Depth:	0
Water Level:	0	Casing Depth:	0
Casing Diameter:	0	Casing Type:	Not Reported
RGR Pump Data:	NO	Pump Type:	Not Reported

Pump Power:	Not Reported	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	Not Reported	Cadastral:	A02004014ADC
Well Cancelled:	Y		

F30
West
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000059068**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	9991	Agency:	ADEQ
Agency Well #:	9991	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 14CDD1	Well Depth:	174
Drill Depth:	174	Start Date:	1925 811
Basin:	PHX	Notes:	Destroyed.
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

F31
West
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000059069**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	9992	Agency:	ADEQ
Agency Well #:	9992	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 14CDD2	Well Depth:	960
Drill Depth:	960	Start Date:	1956 9 1
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

I32
ENE
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000059057**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	9980	Agency:	ADEQ
Agency Well #:	9980	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 13DBC	Well Depth:	95
Drill Depth:	95	Start Date:	0
Basin:	PHX	Notes:	Destroyed.
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

Map ID Direction Distance Elevation	Database	EDR ID Number
J33 **ESE** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZ9000000059838**

Database:	Arizona Well Registration Database	Registry ID:	526956
Well Type:	MONITOR	Owner Name:	MOTOROLA INC GEG,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	25
Installed:	1990 410	Well Depth:	300
Water Level:	229	Casing Depth:	300
Casing Diameter:	10	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	SUBMERSIBLE
Pump Power:	ELECTRIC MOTOR < 1 HP	Pump Rate:	6
Tested Rate:	5	Draw Down:	35
Drill Log:	X	Approved:	0
Completion:	X	Cadastral:	A02004024ACB
Well Cancelled:	Not Reported		

J34 **ESE** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZ9000000059839**

Database:	Arizona Well Registration Database	Registry ID:	526957
Well Type:	MONITOR	Owner Name:	MOTOROLA INC GEG,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	25
Installed:	1990 4 4	Well Depth:	898
Water Level:	355	Casing Depth:	898
Casing Diameter:	10	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	SUBMERSIBLE
Pump Power:	ELECTRIC MOTOR 1 - 5 HP	Pump Rate:	11
Tested Rate:	23	Draw Down:	5
Drill Log:	X	Approved:	0
Completion:	X	Cadastral:	A02004024ACB
Well Cancelled:	Not Reported		

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35 **West** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000055086**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 14CDD2	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	195609
Well Depth:	960	Well Depth Units:	ft
Well Hole Depth:	960	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	4	Level reading date:	1973-04-01
Feet below surface:	340.00	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1973-04	Feet below surface:	340
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-12-29	Feet below surface:	312.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-09-23	Feet below surface:	345.60
Feet to sea level:	Not Reported	Note:	Not Reported

K36
WNW
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000046748**

Database:	Water Well Information	DWR #:	55-564426
DEQ Well #:	60322	Agency:	ADEQ
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	SRP 22.5E-09.3N	Well Depth:	1275
Drill Depth:	1350	Start Date:	1995 430
Basin:	PHX	Notes:	Casing 36" Steel
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	I	Watershed:	SAN PEDRO

K37
WNW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000033065**

Database:	Arizona Well Registration Database	Registry ID:	482704
Well Type:	OTHER	Owner Name:	ARIZONA PUBLIC SERVICE COMPANY
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	823
Installed:	0	Well Depth:	0
Water Level:	0	Casing Depth:	0
Casing Diameter:	6	Casing Type:	OTHER - BLACK STEEL - IRON - SEAMLESS
RGR Pump Data:	NO	Pump Type:	Not Reported
Pump Power:	Not Reported	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	Not Reported	Cadastral:	A02004014CDA
Well Cancelled:	Y		

K38
WNW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000065425**

Database:	Arizona Well Registration Database	Registry ID:	533845
Well Type:	MONITOR	Owner Name:	MOTOROLA INC GEG,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	25

Installed:	1992 4 2	Well Depth:	763
Water Level:	0	Casing Depth:	763
Casing Diameter:	0	Casing Type:	NO CASING CODE LISTED
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	X	Approved:	0
Completion:	N	Cadastral:	A02004014CDA
Well Cancelled:	Not Reported		

K39
WNW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000094378**

Database:	Arizona Well Registration Database	Registry ID:	564426
Well Type:	NON-EXEMPT	Owner Name:	SALT RIVER PROJECT
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	7
Installed:	1995 430	Well Depth:	1350
Water Level:	343	Casing Depth:	1275
Casing Diameter:	36	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	YES	Pump Type:	SUBMERSIBLE
Pump Power:	ELECTRIC MOTOR > 100 HP	Pump Rate:	2200
Tested Rate:	2101	Draw Down:	0
Drill Log:	X	Approved:	0
Completion:	X	Cadastral:	A02004014CDA
Well Cancelled:	Not Reported		

K40
WNW
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000036212**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	45846	Agency:	Not Reported
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	N. INDIAN BEND WASH- PG-2	Well Depth:	763
Drill Depth:	0	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

I41
ENE
1/2 - 1 Mile
Higher

FED USGS **USGS40000055116**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 13DBC	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported

Well Depth:	95	Well Depth Units:	ft
Well Hole Depth:	95	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	21	Level reading date:	1945-03-21
Feet below surface:	80.00	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1944-11-01	Feet below surface:	79.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1944-04-14	Feet below surface:	74.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1943-12-16	Feet below surface:	74.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1942-10-26	Feet below surface:	65.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1942-03-19	Feet below surface:	65.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1941-11-03	Feet below surface:	67.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1941-03-31	Feet below surface:	80.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1940-12-03	Feet below surface:	82.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1940-06-14	Feet below surface:	79.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1940-03-29	Feet below surface:	74.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1939-11-16	Feet below surface:	76.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1939-04-13	Feet below surface:	76.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1938-11-15	Feet below surface:	74.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1938-04-14	Feet below surface:	69.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1937-11-08	Feet below surface:	66.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1937-03-23	Feet below surface:	72.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1936-11-03	Feet below surface:	73.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1936-04-02	Feet below surface:	72.10
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1935-10-30	Feet below surface:	71.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1935-05-09	Feet below surface:	73.60
Feet to sea level:	Not Reported	Note:	Not Reported

G42
SSE
1/2 - 1 Mile
Lower

AZ WELLS **AZ9000000166864**

Database:	Arizona Well Registration Database	Registry ID:	626808
Well Type:	NON-EXEMPT	Owner Name:	CITY OF SCOTTSDALE
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	215
Installed:	1959 1 1	Well Depth:	1282
Water Level:	368	Casing Depth:	1282
Casing Diameter:	16	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	YES	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	1200
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	A	Cadastral:	A02004024CAB
Well Cancelled:	Y		

G43
SSE
1/2 - 1 Mile
Lower

AZ WELLS **AZDEQ1000001295**

Database:	Water Well Information	DWR #:	55-626808
DEQ Well #:	10035	Agency:	ADEQ
Agency Well #:	10035	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 24CAB	Well Depth:	1265
Drill Depth:	1265	Start Date:	1960 2 8
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

J44
SE
1/2 - 1 Mile
Lower

AZ WELLS **AZDEQ1000048955**

Database:	Water Well Information	DWR #:	55-526956
DEQ Well #:	62531	Agency:	ADEQ
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	PA-3MA	Well Depth:	0
Drill Depth:	300	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	J	Aquifer Type:	Not Reported
Water Use:	M	Watershed:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
J45 **SE** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZDEQ1000048954**

Database:	Water Well Information	DWR #:	55-526957
DEQ Well #:	62530	Agency:	ADEQ
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	PA-2LA	Well Depth:	0
Drill Depth:	898	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	J	Aquifer Type:	Not Reported
Water Use:	M	Watershed:	Not Reported

L46 **NE** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZDEQ1000059055**

Database:	Water Well Information	DWR #:	55-607716
DEQ Well #:	9978	Agency:	ADEQ
Agency Well #:	9978	Location Descrip:	Not Reported
Station Alt Name:	SRP 23.5E-09.5N	Well Depth:	1020
Drill Depth:	1020	Start Date:	1952 4 3
Basin:	PHX		
Notes:	No Pump As Of 05/10/1990. Deq #44856 Duplicate (Deleted).		
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	I	Watershed:	MIDDLE GILA

L47 **NE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000055150**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 13CAA	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19520403
Well Depth:	1020	Well Depth Units:	ft
Well Hole Depth:	1020	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	14	Level reading date:	1991-11-11
Feet below surface:	273.30	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1981-01	Feet below surface:	314
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1980-05-12	Feet below surface:	314
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-12-20	Feet below surface:	327

Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-05-16	Feet below surface:	323
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04-11	Feet below surface:	324
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-04	Feet below surface:	288.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1979-01	Feet below surface:	344
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1978-02	Feet below surface:	346
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-04-01	Feet below surface:	288.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-08-01	Feet below surface:	338.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-02-01	Feet below surface:	304.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-02	Feet below surface:	304.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-02-19	Feet below surface:	282.10
Feet to sea level:	Not Reported	Note:	Not Reported

M48
NW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000082488**

Database:	Arizona Well Registration Database	Registry ID:	550401
Well Type:	MONITOR	Owner Name:	NIBW PARTICIPATING COMPANIES
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	25
Installed:	0	Well Depth:	900
Water Level:	357	Casing Depth:	900
Casing Diameter:	6	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	X	Approved:	0
Completion:	N	Cadastral:	A02004014ACC
Well Cancelled:	Not Reported		

49
NNW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000139526**

Database:	Arizona Well Registration Database	Registry ID:	600635
Well Type:	EXEMPT	Owner Name:	STARPOINTE TOPAZ LLC.

Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	572
Installed:	1956 5 1	Well Depth:	288
Water Level:	190	Casing Depth:	288
Casing Diameter:	8	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	30
Tested Rate:	30	Draw Down:	0
Drill Log:	N	Approved:	0
Completion:	A	Cadastral:	A02004014ACA
Well Cancelled:	Y		

M50
NW
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000049000**

Database:	Water Well Information	DWR #:	55-544386
DEQ Well #:	62576	Agency:	ADEQ
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	PG-40LA	Well Depth:	0
Drill Depth:	1400	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	J	Aquifer Type:	Not Reported
Water Use:	M	Watershed:	Not Reported

N51
NNW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000134670**

Database:	Arizona Well Registration Database	Registry ID:	602485
Well Type:	EXEMPT	Owner Name:	MILLER, JOHN,H
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	0
Installed:	1930 1 1	Well Depth:	350
Water Level:	180	Casing Depth:	0
Casing Diameter:	6	Casing Type:	NO CASING CODE LISTED
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	30
Tested Rate:	30	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	Not Reported	Cadastral:	A02004014A00
Well Cancelled:	Not Reported		

N52
NNW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000157576**

Database:	Arizona Well Registration Database	Registry ID:	634737
Well Type:	EXEMPT	Owner Name:	BRIM, CARL,F
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX

Program:	55	Driller License #:	0
Installed:	0	Well Depth:	450
Water Level:	0	Casing Depth:	450
Casing Diameter:	6	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	35
Tested Rate:	35	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	Not Reported	Cadastral:	A02004014A00
Well Cancelled:	Not Reported		

O53
West
1/2 - 1 Mile
Higher

FED USGS **USGS40000055074**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 23BBA	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	194603
Well Depth:	223	Well Depth Units:	ft
Well Hole Depth:	223	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	106	Level reading date:	1982-09-22
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	The well was destroyed (no water level is recorded).		
Level reading date:	1975-12-26	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	The site was dry (no water level recorded).		
Level reading date:	1975-01-21	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	The site was dry (no water level recorded).		
Level reading date:	1974-01-21	Feet below surface:	132.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-01-08	Feet below surface:	130.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-04-23	Feet below surface:	131.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-03-23	Feet below surface:	132.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-02-23	Feet below surface:	131.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-01-22	Feet below surface:	129.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-12-22	Feet below surface:	128.16
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1970-10-26	Feet below surface:	126.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-09-25	Feet below surface:	126.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-08-25	Feet below surface:	126.23
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-07-22	Feet below surface:	127.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-06-23	Feet below surface:	128.67
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-05-22	Feet below surface:	129.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-04-24	Feet below surface:	130.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-03-25	Feet below surface:	131.24
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-02-25	Feet below surface:	131.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-01-26	Feet below surface:	128.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-12-24	Feet below surface:	127.48
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-11-26	Feet below surface:	127.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-10-24	Feet below surface:	127.98
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-09-26	Feet below surface:	128.48
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-08-26	Feet below surface:	129.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-07-25	Feet below surface:	130.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-06-26	Feet below surface:	131.42
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-05-25	Feet below surface:	132.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-04-25	Feet below surface:	134.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-03-25	Feet below surface:	134.42
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-02-26	Feet below surface:	133.40
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1969-01-24	Feet below surface:	131.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-12-26	Feet below surface:	130.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-11-27	Feet below surface:	129.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-10-25	Feet below surface:	129.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-09-25	Feet below surface:	129.27
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-08-26	Feet below surface:	129.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-07-26	Feet below surface:	130.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-06-27	Feet below surface:	131.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-05-28	Feet below surface:	133.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-04-26	Feet below surface:	135.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-03-26	Feet below surface:	135.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-02-26	Feet below surface:	134.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-01-26	Feet below surface:	132.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-12-26	Feet below surface:	131.77
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-11-27	Feet below surface:	131.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-25	Feet below surface:	131.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-26	Feet below surface:	131.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-22	Feet below surface:	133.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-25	Feet below surface:	134.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-06-23	Feet below surface:	136.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-05-22	Feet below surface:	137.65
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1967-04-21	Feet below surface:	138.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-03-21	Feet below surface:	138.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-02-21	Feet below surface:	137.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-01-20	Feet below surface:	135.86
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-12-22	Feet below surface:	132.27
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-11-22	Feet below surface:	132.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-10-21	Feet below surface:	132.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-09-21	Feet below surface:	131.82
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-08-18	Feet below surface:	131.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-07-27	Feet below surface:	134.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-06-20	Feet below surface:	134.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-05-23	Feet below surface:	134.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-04-18	Feet below surface:	134.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-03-18	Feet below surface:	134.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-02-15	Feet below surface:	134.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-01-13	Feet below surface:	133.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-12-17	Feet below surface:	132.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-11-23	Feet below surface:	131.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-10-23	Feet below surface:	131.86
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-09-22	Feet below surface:	132.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-08-19	Feet below surface:	133.48
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1965-07-11	Feet below surface:	134.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-06-11	Feet below surface:	135.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-05-10	Feet below surface:	136.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-04-09	Feet below surface:	136.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-03-09	Feet below surface:	134.98
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-02-09	Feet below surface:	132.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1965-01-01	Feet below surface:	131.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-12-08	Feet below surface:	130.79
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-11-10	Feet below surface:	130.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-10-14	Feet below surface:	130.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-09-14	Feet below surface:	130.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-08-18	Feet below surface:	131
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-07-20	Feet below surface:	132.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-06-22	Feet below surface:	134.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-05-27	Feet below surface:	135.39
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-04-28	Feet below surface:	135.96
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-03-30	Feet below surface:	135.98
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-03-02	Feet below surface:	135.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-02-03	Feet below surface:	134.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-01-07	Feet below surface:	132.94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-12-10	Feet below surface:	130.97
Feet to sea level:	Not Reported	Note:	Not Reported

Level reading date:	1963-11-12	Feet below surface:	129.21
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-10-15	Feet below surface:	129.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-09-16	Feet below surface:	129.24
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-08-16	Feet below surface:	128.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-07-31	Feet below surface:	129.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-07-18	Feet below surface:	129.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-06-18	Feet below surface:	130.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-05-17	Feet below surface:	131.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-04-29	Feet below surface:	133.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-04-18	Feet below surface:	132.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-03-05	Feet below surface:	133.42
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-01-01	Feet below surface:	112.00
Feet to sea level:	Not Reported	Note:	Not Reported

P54
NW
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000059066**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	9989	Agency:	ADEQ
Agency Well #:	9989	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 14BDD	Well Depth:	448
Drill Depth:	448	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	U	Watershed:	MIDDLE GILA

P55
NW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000075649**

Database:	Arizona Well Registration Database	Registry ID:	544386
Well Type:	MONITOR	Owner Name:	NIBW PARTICIPATING COMPANIES
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX

Program:	55	Driller License #:	25
Installed:	0	Well Depth:	0
Water Level:	0	Casing Depth:	0
Casing Diameter:	0	Casing Type:	NO CASING CODE LISTED
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	N	Cadastral:	A02004014BDD
Well Cancelled:	Not Reported		

Q56
NW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000192040**

Database:	Arizona Well Registration Database	Registry ID:	804530
Well Type:	EXEMPT	Owner Name:	PRIVADO VILLAGE,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	0
Installed:	1960 618	Well Depth:	726
Water Level:	220	Casing Depth:	713
Casing Diameter:	16	Casing Type:	OTHER - BLACK STEEL - IRON - SEAMLESS
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	Not Reported	Cadastral:	A02004014ACB
Well Cancelled:	Not Reported		

Q57
NW
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000059063**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	9986	Agency:	ADEQ
Agency Well #:	9986	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 14ACB	Well Depth:	0
Drill Depth:	0	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

Q58
NW
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000059064**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	9987	Agency:	ADEQ
Agency Well #:	9987	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 14ACB	Well Depth:	726
Drill Depth:	726	Start Date:	1960 618
Basin:	PHX	Notes:	No Pump As Of 05141990

Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

P59
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000055153**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 14BDD	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	448	Well Depth Units:	ft
Well Hole Depth:	448	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	2	Level reading date:	1988-01-11
Feet below surface:	329.60	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1925-07-23	Feet below surface:	51.00
Feet to sea level:	Not Reported	Note:	Not Reported

Q60
NW
1/2 - 1 Mile
Higher

FED USGS **USGS40000055160**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 14ACB1	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19600618
Well Depth:	726	Well Depth Units:	ft
Well Hole Depth:	726	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	6	Level reading date:	1991-11-14
Feet below surface:	338.50	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1990-05-14	Feet below surface:	330.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1988-01-11	Feet below surface:	371.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-09-09	Feet below surface:	414.71
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1960-10-01	Feet below surface:	300.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-06-18	Feet below surface:	220.00

Feet to sea level:	Not Reported	Note:	Not Reported

R61
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000055098**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 13DDD	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

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62
SW
1/2 - 1 Mile
Higher

AQUIFLOW **48851**

Site ID:	0-002119
Groundwater Flow:	Not Reported
Shallowest Water Table Depth:	150
Deepest Water Table Depth:	200
Average Water Table Depth:	Not Reported
Date:	02/26/1999

O63
West
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000001287**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	10027	Agency:	ADEQ
Agency Well #:	10027	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 23BBA	Well Depth:	223
Drill Depth:	223	Start Date:	1946 3 1
Basin:	PHX	Notes:	Destroyed.
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

S64
SE
1/2 - 1 Mile
Lower

AZ WELLS **AZDEQ1000001296**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	10036	Agency:	ADEQ
Agency Well #:	10036	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 24DBC	Well Depth:	1250
Drill Depth:	1250	Start Date:	19571228
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	U	Watershed:	MIDDLE GILA

Map ID Direction Distance Elevation	Database	EDR ID Number
S65 **SE** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZ9000000023187**

Database:	Arizona Well Registration Database	Registry ID:	222354
Well Type:	OTHER	Owner Name:	SOUTHWEST GAS CORPORATION
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	587
Installed:	0	Well Depth:	0
Water Level:	0	Casing Depth:	0
Casing Diameter:	0	Casing Type:	Not Reported
RGR Pump Data:	NO	Pump Type:	Not Reported
Pump Power:	Not Reported	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	Not Reported	Cadastral:	A02004024DBC
Well Cancelled:	Not Reported		

S66 **SE** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZ9000000167293**

Database:	Arizona Well Registration Database	Registry ID:	626837
Well Type:	EXEMPT	Owner Name:	CITY OF SCOTTSDALE
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	215
Installed:	1958 1 1	Well Depth:	1250
Water Level:	0	Casing Depth:	1250
Casing Diameter:	12	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	A	Cadastral:	A02004024DBC
Well Cancelled:	Y		

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67 **WSW** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZ9000000024095**

Database:	Arizona Well Registration Database	Registry ID:	221620
Well Type:	OTHER	Owner Name:	SOUTHWEST GAS CORPORATION
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	587
Installed:	0	Well Depth:	0
Water Level:	0	Casing Depth:	0
Casing Diameter:	0	Casing Type:	Not Reported
RGR Pump Data:	NO	Pump Type:	Not Reported
Pump Power:	Not Reported	Pump Rate:	0
Tested Rate:	0	Draw Down:	0

Drill Log:	Not Reported	Approved:	0
Completion:	Not Reported	Cadastral:	A02004023BBD
Well Cancelled:	Not Reported		

T68
NNW
1/2 - 1 Mile
Higher

AZ WELLS **AZDEQ1000059062**

Database:	Water Well Information	DWR #:	55-600635
DEQ Well #:	9985	Agency:	ADEQ
Agency Well #:	9985	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 14ABD	Well Depth:	288
Drill Depth:	288	Start Date:	1956 5 1
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

S69
SE
1/2 - 1 Mile
Lower

FED USGS **USGS40000054935**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 24DBC	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19571228
Well Depth:	1250	Well Depth Units:	ft
Well Hole Depth:	1250	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	5	Level reading date:	1991-11-05
Feet below surface:	258.20	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1990-04-26	Feet below surface:	252.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1984-11-29	Feet below surface:	287.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1982-11-30	Feet below surface:	342.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-02-23	Feet below surface:	285.00
Feet to sea level:	Not Reported	Note:	Not Reported

T70
NNW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000031389**

Database:	Arizona Well Registration Database	Registry ID:	482253
Well Type:	EXEMPT	Owner Name:	STARPOINTE TOPAZ LLC.

Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	572
Installed:	0	Well Depth:	0
Water Level:	0	Casing Depth:	0
Casing Diameter:	0	Casing Type:	Not Reported
RGR Pump Data:	NO	Pump Type:	Not Reported
Pump Power:	Not Reported	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	A	Cadastral:	A02004014ABD
Well Cancelled:	Y		

U71
South
1/2 - 1 Mile
Lower

AZ WELLS **AZDEQ1000048957**

Database:	Water Well Information	DWR #:	55-526955
DEQ Well #:	62533	Agency:	ADEQ
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	PA-5LA	Well Depth:	0
Drill Depth:	802	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	J	Aquifer Type:	Not Reported
Water Use:	M	Watershed:	Not Reported

U72
South
1/2 - 1 Mile
Lower

AZ WELLS **AZDEQ1000048956**

Database:	Water Well Information	DWR #:	55-526954
DEQ Well #:	62532	Agency:	ADEQ
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	PA-4MA	Well Depth:	0
Drill Depth:	300	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	J	Aquifer Type:	Not Reported
Water Use:	M	Watershed:	Not Reported

U73
South
1/2 - 1 Mile
Lower

AZ WELLS **AZDEQ1000048894**

Database:	Water Well Information	DWR #:	55-546469
DEQ Well #:	62470	Agency:	ADEQ
Agency Well #:	Not Reported	Location Descrip:	Not Reported
Station Alt Name:	COS-75A	Well Depth:	0
Drill Depth:	1413	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	P	Watershed:	Not Reported

Map ID Direction Distance Elevation	Database	EDR ID Number
R74 **East** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZDEQ1000059058**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	9981	Agency:	ADEQ
Agency Well #:	9981	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 13DDD	Well Depth:	0
Drill Depth:	0	Start Date:	0
Basin:	PHX	Notes:	Destroyed.
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

U75 **South** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZDEQ1000001292**

Database:	Water Well Information	DWR #:	55-626541
DEQ Well #:	10032	Agency:	ADEQ
Agency Well #:	10032	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 23DDD2	Well Depth:	1200
Drill Depth:	1200	Start Date:	1959 1 1
Basin:	PHX	Notes:	No Pump As Of 04181990
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	P	Watershed:	MIDDLE GILA

U76 **South** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZ9000000084286**

Database:	Arizona Well Registration Database	Registry ID:	552960
Well Type:	OTHER	Owner Name:	CHEVRON USA PRODUCTS,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	28
Installed:	0	Well Depth:	0
Water Level:	0	Casing Depth:	0
Casing Diameter:	0	Casing Type:	NO CASING CODE LISTED
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	N	Cadastral:	A02004023DD0
Well Cancelled:	Not Reported		

Map ID Direction Distance Elevation	Database	EDR ID Number
V77 **NNW** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZ9000000147720**

Database:	Arizona Well Registration Database	Registry ID:	624808
Well Type:	NON-EXEMPT	Owner Name:	EPCOR WATER ARIZONA INC.
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	0
Installed:	20071026	Well Depth:	1357
Water Level:	342	Casing Depth:	1357
Casing Diameter:	18	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	YES	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	2500
Tested Rate:	2500	Draw Down:	0
Drill Log:	X	Approved:	2007 829
Completion:	Not Reported	Cadastral:	A02004014ABC
Well Cancelled:	Not Reported		

V78 **NNW** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZDEQ1000059060**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	9983	Agency:	ADEQ
Agency Well #:	9983	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 14ABC	Well Depth:	0
Drill Depth:	0	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

V79 **NNW** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZDEQ1000059061**

Database:	Water Well Information	DWR #:	55-602485
DEQ Well #:	9984	Agency:	ADEQ
Agency Well #:	9984	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 14ABC2	Well Depth:	350
Drill Depth:	350	Start Date:	0
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

Map ID Direction Distance Elevation	Database	EDR ID Number
W80 **South** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZ9000000094559**

Database:	Arizona Well Registration Database	Registry ID:	563572
Well Type:	OTHER	Owner Name:	SOUTHWEST GAS CORP,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	83
Installed:	0	Well Depth:	0
Water Level:	0	Casing Depth:	260
Casing Diameter:	6	Casing Type:	PLASTIC OR PVC
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	N	Cadastral:	A02004024CCC
Well Cancelled:	Y		

U81 **South** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZDEQ1000001291**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	10031	Agency:	ADEQ
Agency Well #:	10031	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 23DDD1	Well Depth:	498
Drill Depth:	498	Start Date:	1951 925
Basin:	PHX	Notes:	Destroyed.
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

U82 **South** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZ9000000077210**

Database:	Arizona Well Registration Database	Registry ID:	546469
Well Type:	NON-EXEMPT	Owner Name:	SCOTTSDALE, CITY OF
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	7
Installed:	0	Well Depth:	1413
Water Level:	0	Casing Depth:	1278
Casing Diameter:	0	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	YES	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	X	Approved:	0
Completion:	Not Reported	Cadastral:	A02004023DDD
Well Cancelled:	Not Reported		

Map ID Direction Distance Elevation	Database	EDR ID Number
U83 **South** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZ9000000059837**

Database:	Arizona Well Registration Database	Registry ID:	526955
Well Type:	MONITOR	Owner Name:	MOTOROLA INC GEG,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	25
Installed:	1990 425	Well Depth:	802
Water Level:	316	Casing Depth:	802
Casing Diameter:	10	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	SUBMERSIBLE
Pump Power:	ELECTRIC MOTOR 1 - 5 HP	Pump Rate:	11
Tested Rate:	32	Draw Down:	21
Drill Log:	X	Approved:	0
Completion:	X	Cadastral:	A02004023DDD
Well Cancelled:	Not Reported		

U84 **South** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZ9000000059836**

Database:	Arizona Well Registration Database	Registry ID:	526954
Well Type:	MONITOR	Owner Name:	MOTOROLA INC GEG,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	25
Installed:	1990 413	Well Depth:	300
Water Level:	211	Casing Depth:	300
Casing Diameter:	10	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	SUBMERSIBLE
Pump Power:	ELECTRIC MOTOR 1 - 5 HP	Pump Rate:	25
Tested Rate:	12	Draw Down:	8
Drill Log:	X	Approved:	0
Completion:	X	Cadastral:	A02004023DDD
Well Cancelled:	Not Reported		

U85 **South** **1/2 - 1 Mile** **Lower**	**AZ WELLS**	**AZ9000000143241**

Database:	Arizona Well Registration Database	Registry ID:	626541
Well Type:	NON-EXEMPT	Owner Name:	CITY OF SCOTTSDALE
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	473
Installed:	1959 4 1	Well Depth:	1200
Water Level:	260	Casing Depth:	1200
Casing Diameter:	20	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	YES	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	1700
Tested Rate:	1700	Draw Down:	0

Drill Log:	Not Reported	Approved:	0
Completion:	A	Cadastral:	A02004023DDD
Well Cancelled:	Y		

U86
South
1/2 - 1 Mile
Lower

AZ WELLS **AZ9000000088675**

Database:	Arizona Well Registration Database	Registry ID:	558618
Well Type:	MONITOR	Owner Name:	SCOTTSDALE, CITY OF,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	473
Installed:	1996 619	Well Depth:	664
Water Level:	150	Casing Depth:	630
Casing Diameter:	4	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	X	Approved:	0
Completion:	N	Cadastral:	A02004023DDD
Well Cancelled:	Not Reported		

U87
South
1/2 - 1 Mile
Lower

AZ WELLS **AZ9000000087364**

Database:	Arizona Well Registration Database	Registry ID:	557414
Well Type:	MONITOR	Owner Name:	SCOTTSDALE, CITY OF
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	218
Installed:	0	Well Depth:	0
Water Level:	0	Casing Depth:	0
Casing Diameter:	0	Casing Type:	NO CASING CODE LISTED
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	N	Cadastral:	A02004023DDD
Well Cancelled:	Not Reported		

W88
South
1/2 - 1 Mile
Lower

FED USGS **USGS40000054910**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 23DDD1	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19510925

Well Depth:	498	Well Depth Units:	ft
Well Hole Depth:	498	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	2	Level reading date:	1982-09-13
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	The well was destroyed (no water level is recorded).		

Level reading date:	1951-09-25	Feet below surface:	90.00
Feet to sea level:	Not Reported	Note:	Not Reported

V89
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000055181**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 14ABC1	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19690211
Well Depth:	1430	Well Depth Units:	ft
Well Hole Depth:	1430	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	2	Level reading date:	1990-05-09
Feet below surface:	376.20	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1983-01-18	Feet below surface:	403.30
Feet to sea level:	Not Reported	Note:	Not Reported

90
WSW
1/2 - 1 Mile
Higher

AZ WELLS **AZ9000000021430**

Database:	Arizona Well Registration Database	Registry ID:	218893
Well Type:	OTHER	Owner Name:	SALT RIVER PROJECT
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	360
Installed:	0	Well Depth:	990
Water Level:	0	Casing Depth:	990
Casing Diameter:	6	Casing Type:	Not Reported
RGR Pump Data:	NO	Pump Type:	Not Reported
Pump Power:	Not Reported	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	X	Approved:	2009 5 7
Completion:	A	Cadastral:	A02004023BCD
Well Cancelled:	Y		

Map ID Direction Distance Elevation	Database	EDR ID Number
X91 **West** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS40000055070**

Organization ID:	USGS-AZ	Organization Name:	USGS Arizona Water Science Center
Monitor Location:	A-02-04 23BBB	Type:	Well
Description:	Not Reported	HUC:	15060106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	1919
Well Depth:	202	Well Depth Units:	ft
Well Hole Depth:	202	Well Hole Depth Units:	ft

Ground water levels,Number of Measurements:	1	Level reading date:	1957-02-12
Feet below surface:	146.31	Feet to sea level:	Not Reported
Note:	Not Reported		

X92 **West** **1/2 - 1 Mile** **Higher**		**AZ WELLS**	**AZ9000000078614**

Database:	Arizona Well Registration Database	Registry ID:	547273
Well Type:	OTHER	Owner Name:	WESTGROUP PARTNERS,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	473
Installed:	1995 117	Well Depth:	120
Water Level:	0	Casing Depth:	0
Casing Diameter:	0	Casing Type:	NO CASING CODE LISTED
RGR Pump Data:	NO	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	0
Tested Rate:	0	Draw Down:	0
Drill Log:	X	Approved:	0
Completion:	N	Cadastral:	A02004023BBB
Well Cancelled:	Not Reported		

X93 **West** **1/2 - 1 Mile** **Higher**		**AZ WELLS**	**AZDEQ1000001288**

Database:	Water Well Information	DWR #:	Not Reported
DEQ Well #:	10028	Agency:	ADEQ
Agency Well #:	10028	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 23BBB	Well Depth:	202
Drill Depth:	202	Start Date:	1919 1 1
Basin:	PHX	Notes:	Destroyed.
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

Map ID Direction Distance Elevation	Database	EDR ID Number
94 **WNW** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZ9000000137845**

Database:	Arizona Well Registration Database	Registry ID:	600523
Well Type:	NON-EXEMPT	Owner Name:	MCDOWELL WATER CO,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	0
Installed:	0	Well Depth:	750
Water Level:	329	Casing Depth:	750
Casing Diameter:	20	Casing Type:	STEEL - PERFORATED OR SLOTTED CASING
RGR Pump Data:	YES	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	1500
Tested Rate:	1500	Draw Down:	0
Drill Log:	N	Approved:	0
Completion:	N	Cadastral:	A02004014CB0
Well Cancelled:	Not Reported		

V95 **NNW** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZDEQ1000059059**

Database:	Water Well Information	DWR #:	55-624808
DEQ Well #:	9982	Agency:	ADEQ
Agency Well #:	9982	Location Descrip:	Not Reported
Station Alt Name:	PARADISE VALLEY #15	Well Depth:	1430
Drill Depth:	1430	Start Date:	1969 211
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	P	Watershed:	MIDDLE GILA

Y96 **ENE** **1/2 - 1 Mile** **Higher**	**AZ WELLS**	**AZ9000000166865**

Database:	Arizona Well Registration Database	Registry ID:	626809
Well Type:	NON-EXEMPT	Owner Name:	SCOTTSDALE, CITY OF,
Basin:	PHOENIX AMA	Subbasin:	EAST SALT RIVER VALLEY
Watershed:	SALT RIVER	AMA or INA:	PHOENIX
Program:	55	Driller License #:	0
Installed:	1961 1 1	Well Depth:	1210
Water Level:	289	Casing Depth:	1210
Casing Diameter:	14	Casing Type:	NO CASING CODE LISTED
RGR Pump Data:	YES	Pump Type:	NO PUMP CODE LISTED
Pump Power:	NO POWER CODE LISTED	Pump Rate:	1400
Tested Rate:	0	Draw Down:	0
Drill Log:	Not Reported	Approved:	0
Completion:	Not Reported	Cadastral:	A02004013DAA
Well Cancelled:	Not Reported		

GEOCHECK - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
Y97 **ENE** **1/2 - 1 Mile** **Higher**		**AZ WELLS**	**AZDEQ1000059056**

Database:	Water Well Information	DWR #:	55-626809
DEQ Well #:	9979	Agency:	ADEQ
Agency Well #:	9979	Location Descrip:	Not Reported
Station Alt Name:	A-02-04 13DAA	Well Depth:	1210
Drill Depth:	1210	Start Date:	1961 1 1
Basin:	PHX	Notes:	Not Reported
Well Type:	W	Aquifer Type:	Not Reported
Water Use:	V	Watershed:	MIDDLE GILA

1G **SW** **1/2 - 1 Mile** **Lower**	Site ID:	0-002119	**AQUIFLOW**	**48851**
	Groundwater Flow:	Not Reported		
	Shallowest Water Table Depth:	150		
	Deepest Water Table Depth:	200		
	Average Water Table Depth:	Not Reported		
	Date:	02/26/1999		

GEOCHECK - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for MARICOPA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MARICOPA COUNTY, AZ

Number of sites tested: 695

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.697 pCi/L	93%	7%	0%
Living Area - 2nd Floor	3.640 pCi/L	80%	20%	0%
Basement	2.242 pCi/L	79%	21%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Riparian Vegetation Associated with Perennial Waters
Source: State Land Department
Telephone: 602-542-4094

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Arizona Well Registration Database
Source: Department of Water Resources
Telephone: 602-771-8535
The Wells database contains all wells registered in the state.

Water Well Information
Agency: Department of Environmental Quality
Telephone: 602-771-2300

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Database
Source: Arizona Geological Survey
Telephone: 520-770-3500
This database contains Oil and Gas wells in the State of Arizona. Includes all wells that have been permitted by the State Oil and Gas Conservation Commission (OGCC). Gas wells include natural gas, helium, and carbon dioxide wells.

RADON

State Database: AZ Radon
Source: Arizona Radiation Regulatory Agency
Telephone: 602-255-4845
State Indoor Radon Survey

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

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Appendix D

Site Photographs

Photo #1 Looking north from Chaparral Rd west of the intersection.

Photo #2 Looking east from Chaparral Rd west of the intersection.

Photo #3 Looking south from Chaparral Rd west of the intersection.

Photo #4 Looking west from Chaparral Rd west of the intersection.

Photo #5 Looking north from Hayden Rd north of the intersection.

Photo #6 Looking east from Hayden Rd north of the intersection.

Photo #7 Looking south from Hayden Rd north of the intersection.

Photo #8 Looking west from Hayden Rd north of the intersection.

Photo #9 Looking north from Chaparral Rd east of the intersection.

Photo #10 Looking east from Chaparral Rd east of the intersection.

Photo #11 Looking south from Chaparral Rd east of the intersection.

Photo #12 Looking west from Chaparral Rd east of the intersection.

Photo #13 Looking north from Hayden Rd south of the intersection.

Photo #14 Looking east from Hayden Rd south of the intersection.

Photo #15 Looking south from Hayden Rd south of the intersection.

Photo #16 Looking west from Hayden Rd south of the intersection.

Photo #17 Looking north from the NWC of the intersection.

Photo #18 Looking east from the NWC of the intersection.

Photo #19 Looking south from the NWC of the intersection.

Photo #20 Looking west from the NWC of the intersection.

Photo #21 View of the Hayden pedestrian underpass south of the intersection.

Photo #22 View of the Chaparral pedestrian underpass west of the intersection.

Photo #23 View of the catch basin on the SWC of the intersection.

Photo #24 View of the retail commercial and catch basin on the NWC of the intersection.

Appendix E

Credentials

MATTHEW FOGERSON

Project Manager

PROFESSIONAL EXPERIENCE

Mr. Fogerson is an Environmental Project Manager in Terracon's Phoenix office and has over six years of experience in the environmental industry. Matthew is responsible for producing client proposals and reports for Phase I Environmental Site Assessments (ESAs), asbestos and lead paint surveys, Phase II Limited Site Investigations (LSIs), along with AutoCAD drafting, water and soil sampling, vapor extractions, mold sampling, erosion inspections and air emission evaluations. He also has experience in utility as-builts, geographical information systems, methane gas regulations, construction and maintenance.

PROJECT EXPERIENCE

City of Phoenix Aviation – Goodyear Airport and Sky Harbor Airport, Arizona
Completed numerous asbestos and lead on-call and rush turnaround inspections for the City of Phoenix Aviation Department. Projects include tenant spaces, airplane hangars, loading docks, cafeterias and warehouses. Matthew has airport clearance.

Arizona Department of Environmental Quality Brownfields Assistance Program
Duncan Valley Gin – Duncan, Arizona
Completed asbestos and lead based paint survey and Phase I ESA on the former cotton gin site. Conducted a Phase II Investigative field sampling and report. Performed oversight of the asbestos abatement.

Phoenix Corporate Tower – Phoenix, Arizona
Managed the completion of a Phase I ESA, Limited Asbestos & Regulated Materials Survey, and Asbestos Operations and Maintenance (O&M) Plan for the Phoenix Corporate High-Rise Tower located in Mid-Town Phoenix. He managed consulting services for the property owner and building engineers in conjunction with continual limited asbestos sampling for renovations and updating the property O&M Plan.

Salt River Pima-Maricopa Indian Community
Old Salt River School Oversight – Scottsdale, Arizona
Managed the environmental consulting services during the abatement of asbestos and lead based paint from a Salt River Pima-Maricopa Indian Community (SRPMIC) owned elementary school. Services included owner representation, competent person supervision and oversight of abatement and worker safety, air monitoring, soil sampling, waste stream sampling, clearances, project updates, and a Close-Out Documentative Report of the abatement.

Ryan Companies' Property Inspections – Phoenix Metropolis, Arizona
Managed numerous Phase I ESAs, Asbestos and Regulated Material Surveys, and Phase II LSIs for Ryan Companies in the greater Phoenix metropolis area. Matthew is Ryan's client representative for Terracon's Tempe office and has built a strong rapport with Ryan Project Managers nationwide.

Asbestos Abatement at the Tulsa International Airport - Tulsa, Oklahoma
Completed asbestos air monitoring inspection and clearances for the removal of thermal system insulation asbestos in utility tunnels and boiler rooms for Tulsa International Airport, on a two-month asbestos abatement. Matthew also completed a five-month asbestos abatement project involving blown-in insulation removal for the Concourse A passenger loading wing.

EDUCATION

Bachelor of Arts, Environmental Studies, California State University San Bernardino, San Bernardino, CA

CERTIFICATIONS

Confined Space Entry Certificate

EPA Lead Paint Inspector Certificate

First Aid/CPR

Urban Planning Certificate

PROFESSIONAL TRAINING

Abnormal Operating Conditions (AOC)

AHERA Building Inspector

AHERA Contractor Supervisor

Asbestos NIOSH 582e

OSHA 40-hour HAZWOPER

OSHA 30-hour Construction

Dave Matson, CHMM

Principal / Office Manager

PROFESSIONAL EXPERIENCE

Mr. Matson is the Office Manager in Terracon's Albuquerque office and has over 26 years of progressive environmental and consulting engineering experience.

Dave is responsible for management of operations, business development, client experience, technical review, and leading and mentoring staff. He has performed a variety of functions including asbestos and lead surveys, project design and abatement oversight, National Environmental Policy Act (NEPA) review for federal undertakings, site investigations, leaking underground storage tank (UST) characterizations and remediation, environmental site assessments, natural resource and Brownfields assessments, and geotechnical investigations.

PROJECT EXPERIENCE

Albuquerque VA Building 41 – Albuquerque, New Mexico
Dave completed technical review of quantification sampling to identify asbestos in interstitial spaces and mechanical areas at this healthcare facility, and the abatement specifications for the proper removal of the asbestos.

CATM Facility Redevelopment – Clovis, New Mexico
Dave managed and provided technical review of hazardous materials surveys at structures related to the Combat Arms Training and Maintenance Facility redevelopment project on Cannon Air Force Base. Scope included asbestos, lead paint, and PCB sampling of suspect building materials. An investigation of the small arms firing range and skeet range on the base was also completed, involving soil sampling and analysis for lead and other potential contaminants.

Prescott VA Steam Tunnels – Prescott, Arizona
Dave managed and completed technical review of the survey to identify asbestos at this healthcare facility, and prepared abatement specifications for the proper removal of the asbestos.

Mead Administration Building Demolition Specifications – Boulder City, Nevada
Dave was Project Manager for a Western Area Power Administration project involving hazardous materials survey, geotechnical investigation, and utilizing the data for development of demolition specifications.

Substation Site Investigation – Tucson, Arizona
Dave provided a Testing Plan for Limited Site Investigation and Hazardous Material Sampling and a project-specific Safety and Health Plan (S&HP) that addressed worker safety issues per OSHA requirements. A multi-incremental sampling strategy was employed to investigate potential releases from a network of subgrade oil piping. Asbestos surveys and abatement oversight were also performed as part of our scope for the project.

ADEQ Tank Projects – Arizona
Dave provided management and technical review for numerous projects under Terracon's on-call contract with Arizona Department of Environmental Quality (ADEQ). Projects have included UST removal and closure assessments, LUST site characterizations, development of conceptual site models and soil gas surveys as part of risk-based closures, and remediation system installation and operations and maintenance to clean up impacted sites for regulatory closure.

EDUCATION
Bachelor of Science, Environmental Science, Northern Arizona University Flagstaff, AZ

American Council of Engineering Companies (ACEC) Leadership in Engineering Administration Program

REGISTRATIONS
Certified Hazardous Materials Manager No. 07987

CERTIFICATIONS
AHERA Building Inspector

AHERA Contractor Supervisor

AHERA Management Planner

AHERA Project Designer

EPA Lead Paint Risk Assessor

Lead Paint XRF Operator (Niton & RMD)

Medic First Aid / CPR

OSHA 40-hour HAZWOPER

AFFILIATIONS
Alliance of Hazardous Materials Professionals (AHMP)

Environmental Information Association (EIA)

Arizona Energy Consortium

Arizona Wireless Association (AZWA)

Appendix F

PISA Form

Preliminary Initial Site Assessment

Project No. SCT-0(235)D TRACS No. 000 MA SCT T0255 01C

Section I: Site Location Information

Assessor Parcel No. N/A ADOT Parcel No. _____

Address/Route & Milepost North Hayden Road and East Chaparral Road in Scottsdale, Arizona

Section 13, 14, 23 & 24 Township 2N Range 4E ¼ ¼ ¼

Latitude 33°30'33.8"N Longitude 111°54'31.0"W

Site Characteristics: Past Land Use

Agriculture X Residential X Commercial X Industrial _____ Natural _____

Vehicle Maintenance: _____ Chemical Storage: _____ UST System: _____

Septic System: _____ Water/Dry Well: _____ Pesticide/Herbicide _____

Other: Unpaved dirt roads and golf course

Section II: Site Surface Conditions

Dimensions: Length 830 feet Width 540 feet

Area: __ Sq. feet or __ Sq. meters or 7.37 Acres

Topography: Approximately 1,260 (NGVD)

Geology: Unconsolidated to weakly consolidated alluvial-fan, terrace, and basin-floor deposits with moderate to strong soil development. Fan and terrace deposits are primarily poorly sorted, moderately bedded gravel and sand, and basin-floor deposits are primarily sand, silt, and clay.

Vegetation: Park and roadside curbing landscaped with natural Arizona vegetation

Structures: Chaparral Park, residential homes, and general commercial retail

Utilities: Overhead power lines were observed on the northwest corner of North Hayden Road traversing south-southeast across the intersection and farther south on the east side of North Hayden Road. Additional overhead power lines in an east/west orientation on the north side of East Chaparral Road.

Section III: Results of Database Review

No concerns on project X Concerns on project (Complete Section IV) _____

Section IV: Environmental Concerns

Observed: _____

Suspected: _____

Unusual Conditions: _____

Section V: Recommendations

High Priority Phase 1: _____ Medium Priority Phase 1: _____ Low Priority Phase 1: _____

No additional survey required: X Aerial Photograph Review: _____

Section VI: Comments

Additional assessment for hazardous materials is not recommended at this time; however, if suspected hazardous materials are encountered during construction or geotechnical investigations, work should cease at that location and arrangements made for proper assessment, treatment, and/or disposal of those materials.

Consultant Name	David Matson Terracon	Signature		Date	10/01/2020
ADOT Name	Ed Green	Signature		Date	08 Oct 20

APPENDIX B

Utility Clearance Letter

April 27, 2022

To: Eric Waldo, PE
Senior Project Manager
City of Scottsdale
Capital Project Management

Re: UTILITY CLEARANCE LETTER
Federal Project No. SCT-0(235)D
ADOT Project No. 0000 MA SCT T0255 01C
City of Scottsdale Project No. 410-SF01A-56047
LOCATION: Hayden Road and Chaparral Road Intersection

Mr. Waldo:

This project includes the construction of a new pedestrian underpass crossing under Chaparral Road just east of the Hayden Road. The improvements will include the installation of an 8-1/2-foot x 14-foot concrete underpass structure, inlet/outlet retaining walls, associated sidewalk and trail improvements, pavement replacement, lighting, signage, pavement marking, landscape, site amenities, and related utility relocations.

The primary purpose of the underpass is to provide a safe, grade-separated crossing for pedestrians accessing the adjacent park facilities and Indian Bend Wash Trail system.

All utilities within the project limits have been addressed, and we expect all conflicts to be resolved prior to or concurrent with construction of this project. Attached are copies of the utility conflict review responses.

****

THE FOLLOWING AGENCIES AND UTILITY COMPANIES HAVE NO FACILITIES IN THE AREA AND ARE NOT ANTICIPATED TO BE IN CONFLICT:

Lumen
Kevin Wagner, Terra Technologies LLC
kwagner@terratechllc.net
relocations@lumen.com
Phoenix, AZ 85005-6457
(815) 245-9640

There are no apparent conflicts with communications facilities owned and operated by Lumen within the project limits.

In accordance with State law Blue Staking for location of Lumen facilities must be completed prior to any construction. When crossing Lumen facilities, you will be required to pothole to determine depth and maintain a minimum of 12 inch vertical and horizontal separation from facilities.

Pursuant to State law, support and protection is required for all Lumen facilities during construction.

Should the Contractor locate or expose an unknown Lumen facility, please contact Lumen as soon as possible.

Arizona Public Service (APS)
Hailey Parks
PO Box 53933, M.S. 4031
Surprise, AZ 85072-3933
Hailey.Parks@APS.com
(602) 493-4401

There are no APS facilities within the limits of this project.

****

THE FOLLOWING AGENCIES AND UTILITY COMPANIES HAVE FACILITIES IN THE AREA BUT ARE NOT ANTICIPATED TO BE IN CONFLICT:

Cox Communications
Ryan Kann
4120 E. Valley Auto Drive
Mesa, AZ 85206
Ryan.Kann@cox.com
(623) 328-2202

Cox Communications (Cox) has facilities within the project area, consisting of aerial strands within the project area that are not anticipated to conflict with the proposed improvements and are to be protected in place. It is advised that construction that is completed near Cox facilities should proceed with caution.

Southwest Gas
Zach Stevenson
Supervisor Engineering
Easy Engineering-M/S 421-586
PO Box 52075
Phoenix, AZ 85072-2075
Zach.Stevenson@swgas.com
(480) 730-3855

It has been determined that there are no apparent conflicts between the Southwest Gas system and the proposed project.

There may be abandoned steel gas lines within the project limits that are potentially coated or wrapped with unidentified materials. If any such pipe exists that is in direct conflict and requires removal, it must

only be done so by a Southwest Gas NESHAP certified contractor. Care must also be taken when working near and exposing these lines. Please contact Southwest Gas in advance to coordinate any removal.

****

THE FOLLOWING UTILITY COMPANY HAS FACILITIES IN CONFLICT WITH THE PROPOSED CONSTRUCTION WITH RELOCATION EXPECTED PRIOR TO CONSTRUCTION:

Salt River Project (SRP)
Joseph Stenberg
P.O. Box 52025
Phoenix, AZ 85072
joseph.stenberg@srpnet.com
(602) 236-0432

SRP has facilities within the project limits that require relocation.

There is no conflict with the 69kV transmission line on the NWC of the intersection of Hayden Road and Chaparral Road. Project work area is close but not adjacent to transmission facilities.

There is a potential conflict during construction activities of the overhead distribution line on the NEC of the intersection of Hayden Road and Chaparral Road. The contractor shall protect this facility in place and always meet SRP clearances requirements during construction. For further questions, contact Tara Keeling at (602) 236-3752.

There is a conflict with an underground distribution line on the NEC of the intersection of Hayden Road and Chaparral Road. Relocation of the distribution line is required due to conflicts with the proposed underpass structure and City waterline improvements. SRP will relocate the underground distribution line prior to construction of the proposed underpass improvements.

****

THE FOLLOWING UTILITY COMPANY HAS FACILITIES IN CONFLICT WITH THE PROPOSED CONSTRUCTION WITH RELOCATIONS TO BE PERFORMED BY THE CITY OF SCOTTSDALE CONTRACTOR

City of Scottsdale
Eric Waldo
7447 E. Indian School Rd.
Scottsdale, AZ 85251
ewaldo@scottsdaleaz.gov
(480) 312-7245

The City of Scottsdale has public water, sewer, streetlight, and traffic signal facilities within the project limits that require relocation.

There is a 12” public sanitary sewer main running east-west along the south side of Chaparral Road that will cross below the underpass structure with approximately 1.8-feet of cover. This sewer line will be protected in place and encased with reinforced concrete by the project contractor per the construction documents.

There is an 8” public water main running east-west along the north side of Chaparral Road that conflicts with the proposed underpass structure and require relocation. The water line will be relocated to the north by the project contractor per the construction documents.

There are City streetlights and traffic signal infrastructure on the east returns of the Hayden Road and Chaparral Road intersection. These facilities will either be protected in place or removed, salvaged, and replaced by the project contractor as needed per the construction documents.

The Contractor is cautioned to use care when operating near these facilities.

****

IT SHALL BE THE CONTRACTOR’S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF THE UTILITIES PRIOR TO ANY CONSTRUCTION OPERATIONS AND TO NOTIFY THE ABOVE-MENTIONED UTILITY COMPANIES AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING ANY WORK ON THE PROJECT.

With respect to utility adjustments, this project may be released for bid.

Please let me know if you have any questions or need additional information.

Sincerely,
Olsson

Kimberly Wheeler, PE
Project Manager

Cc: Dana Cherry, ADOT
Madhav Mundle, PE, ADOT

Lumen Conflict Memorandum

Date: September 16, 2021

To: Michael Schoen (Premier Engineering Corporation)
mschoen@pre-engr.com

From: Kevin Wagner, Terra Technologies LLC

Subject: Lumen – Conflict Memo – Project No. 410-SF01A-56047 –City of Scottsdale – Indian Bend Wash Path at Chaparral Road – 90%

Terra Technologies is in receipt of the 90% plans and a letter dated August 16, 2021. Below you will see an overview of Lumen facilities within the project limits, and a brief project overview along with comments regarding any Lumen facilities with respect to the proposed project.

Inventory of Lumen Facilities
Lumen has no facilities within the project limits. Plan markups have been attached with Lumen comments.

Project Overview
The design intent of this project appears to be a path improvement plan.

Facility Locations and Impacts
Lumen underground facility mapping provided is based on NDS mapping and accuracy of vertical and horizontal location is only a representation of the exact field location. Any additional utility information gathered by Lumen will be promptly coordinated with the City of Scottsdale and/or its representative. Please notify Terra Technologies LLC and Lumen with additional utility locating information if acquired.

Based on Lumen mapping, street view imagery and the construction drawings there appear to be no conflicts.

If relocation is required due to construction activities Terra Technologies will perform a preliminary search for easements along the corridor for reimbursement. Right of Way research will be confirmed by Lumen to see if any easements exist.

Please notify Terra Technologies LLC and Lumen when further milestone coordination or a Preconstruction Meeting will take place so a representative can be in attendance.

Lumen Conflict Memorandum

As previously noted, design appears to be at the 90% stage. Terra Technologies and Lumen request to review the updated plans for any conflicts prior to disbursement for advertising.

In accordance with state law, Blue Staking for location of Lumen facilities must be completed prior to any construction. When crossing Lumen facilities, you will be required to pothole to determine depth and maintain a minimum of 12 inch vertical and horizontal separation from facilities.

Pursuant to state law, support and protection is required for all Lumen facilities during construction.

Should the Contractor locate or expose an unknown Lumen facility, please contact Lumen as soon as possible.

Acquisition of required public Rights-of-Way, and removal of encumbrances from those Rights-of-Way, is the responsibility of the municipality or their agent prior to Lumen excavation in, or relocation to, the newly acquired Rights-of-Way.

In the event Lumen facilities need to be removed or relocated, some or all cost may be at the expense of the sponsoring agency.

If you have any questions or concerns regarding this review feel free to contact me immediately, either by phone or email at the number/address provided below. The contractor is also responsible for contacting Lumen prior to construction around the Lumen facilities.

Notification List

Terra Technologies LLC Kevin Wagner, Project Manager kwagner@terratechllc.net 815-245-9640	**Terra Technologies LLC** Jason Jensen, P.E. jjensen@terratechllc.net 801-735-2464
Lumen (Engineer Project Administrator) Lance Holje William.Holje@lumen.com 5025 N Black Canyon Hwy Phoenix, AZ 85015 Cell: 602-630-2788	

A subsidiary of Pinnacle West Capital Corporation

Station 4031
P.O. Box 53933
Phoenix, AZ 85072-3933
www.aps.com

1/31/2022

Michael Schoen
Olsson
6437 W Chandler Blvd, Suite 1,
Chandler, AZ 85226

Re: Indian Bend Wash Path at Chaparral Road

Dear Michael Schoen,

Thank you for your recent request for utility conflict review. After reviewing the proposed plans and provided documents from your company, we have determined this to be outside of our service territory. Any APS maps would not show facilities in that area. Please contact SRP for an appropriate conflict review at 602-238-8888 or www.srp.net.

If I can be of further assistance, please do not hesitate to call me at 623-975-5757. Further information is also available on the Construction Corner at www.aps.com.

Sincerely,

Hailey Parks

Hailey Parks | Administrative Coordinator – T&D Customer Construction East
Physical: 4612 E Bell Rd.
Mailing: PO Box 53933, M.S. 4031 Surprise, AZ 85072-3933
CCEControlDesk@apsc.com
Hailey.Parks@APS.com
(602) 493-4401 Cell

Date: 11/5/2021

Michael Schoen
Olsson
6437 W Chandler Blvd, Suite 1
Chandler, AZ 85226

To Whom It May Concern,

Reference Number: CR- 24119
Referenced Project: 2015001-10 - Indian Bend Wash Path at Chaparral Road
Response: NO CONFLICTS IDENTIFIED

Cox Communications (Cox) has received and reviewed the 90% design stage plans you submitted for the above-referenced Project. Based on the documentation you submitted, Cox finds that there is no conflict between the proposed Project and Cox infrastructure and/or communication facilities (Facilities) within the identified area of Project construction or development. Cox's NO CONFLICT determination is based entirely on the drawings, plans and other materials you have submitted.

Please note, Cox has made no determination as to the accuracy of the drawings or plans you submitted. You are solely responsible for complying with all utility locate laws (IE., 811 Locate Services, One Call, etc.) to verify the location of all utilities, including Cox Facilities, which may be in the area of the Project. Throughout the duration of the Project, should construction activities occur outside the identified area and near Cox Facilities, it will be your responsibility to assure such Cox Facilities are supported, protected or otherwise remain undisturbed by construction activity.

Should project activities occur in the immediate vicinity of Cox Facilities it will be your responsibility to conduct potholing and to properly protect Cox's Facilities. Cox requests that a minimum of 12 inches of vertical and horizontal separation from existing Cox Facilities be maintained at all times. Should the scope of the Project change, please contact Cox via the below email address. Please understand that relocation of Facilities, including siting appropriate non-conflicted locations, may take at least 90 days from the date agreed on in the relocation plans.
If you have any questions or require additional information, please contact our Corporate Traffic Management center at constructionsupport@cox.com.

Sincerely,

Cox Communications' Construction Engineering Team

SOUTHWEST GAS CORPORATION

Franchise East
August 20, 2021

Olsson
Michael Schoen
6437 W Chandler Blvd, STE 1
Chandler, AZ 85226

SUBJECT: Indian Bend Wash Path at Chaparral Rd
Public Improvement Plans
Hayden Rd & Chaparral Rd, Scottsdale, AZ
Utility Conflict Review

Dear Michael Schoen,

After reviewing the plans for the above referenced project, it has been determined that there are no apparent conflicts between the Southwest Gas system and your proposed project.

Please be aware that there may be abandoned steel gas lines within your project limits that are potentially coated or wrapped with unidentified materials. Southwest Gas treats all steel gas pipe with unidentified coating/wrapping materials as potentially containing asbestos. Accordingly, whenever such pipe is in direct conflict and requires removal, it must only be done so by a Southwest Gas NESHAP certified contractor. Care must also be taken when working near and exposing these lines. The costs associated with such removal will be the responsibility of the developer. Please contact Southwest Gas in advance to coordinate any removal.

Prior to beginning construction, please instruct your contractor to call the Blue Stake Center at 1-800-782-5348 for field locations of all utility facilities, pursuant to the "Blue Stake Law" (ARIZONA REVISED STATUTES (State Law), Chapter 2, Article 6.3, Sections 40-360.21 through 40-360.32).

Thank you for your cooperation on this project. Please contact Andy Saks at (480) 730-3857 (Email: andrew.saks@swgas.com) or myself if you have any questions or require additional information.

Sincerely,

Zach Stevenson
Supervisor, Engineering
Mail Station 42I-586
(480) 730-3855

CC: Andy Saks

Kim Wheeler

From: Kim (Boyd) Wheeler
Sent: Tuesday, September 14, 2021 7:39 AM
To: Karl Rozitis; Michael Schoen
Subject: FW: 3RD RESPONSES from the Plan Review / City of Scottsdale - Indian Bend Wash Path at Chaparral Road / SRP Job #T3326913 / SRP Land Job #LJ85274

FYI

Kim (Boyd) Wheeler, PE
Lead Project Manager / Transportation

D 480.829.6000
C 602.717.0332

6437 West Chandler Boulevard, Suite 1
Chandler, AZ 85226
O 480.829.6000

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View Legal Disclaimer

From: Chubinsky Heather C
Sent: Tuesday, September 14, 2021 7:36 AM
To: Kim (Boyd) Wheeler <kwheeler@olsson.com>; Michael Schoen <mschoen@olsson.com>
Cc: Miles Jessica A <Jessica.Miles@srpnet.com>; Stenberg Joseph T <Joseph.Stenberg@srpnet.com>; Silvestro Vincent <Vincent.Silvestro@srpnet.com>
Subject: 3RD RESPONSES from the Plan Review / City of Scottsdale - Indian Bend Wash Path at Chaparral Road / SRP Job #T3326913 / SRP Land Job #LJ85274

Good Morning,

I am helping your Land Agent, Jessica Miles, out on this job by sending out the latest responses from the plan review. Below are 3rd responses the SRP facility group located within or near the scope of your project.

Response Group	Conflict Type	Comment	Responder
3RD RESPONSES			
Communications Engineering	No Conflict		Troy Damron
Distribution Municipal Unmetered	Potential Conflict	Existing SRP facilities are accurately shown. Work with Distribution Designer Joe Stenberg to resolve relocations. SRP# T3326913. Notified Joe of submittal.	Tara Keeling
Transmission Line Asset Management	No Conflict		Cherilyn Beilman
Vegetation Management	No Conflict		EJ Cochrum
2ND RESPONSES			
Communications Engineering	No Conflict		Troy Damron
Distribution Municipal Unmetered	Potential Conflict	Work with Distribution Designer SRP #T3326913.	Tara Keeling
Land Rights Power	Potential Conflict	Please work with Distribution Design on the relocation of underground electrical facilities located within the project scope.	Heather Chubinsky
Transmission Line Asset Management	No Conflict		Cherilyn Beilman
Vegetation Management	No Conflict		EJ Cochrum
1ST RESPONSES			
Land Rights Power	Potential Conflict	Please work with Distribution Design on the relocation of underground electrical facilities located within the project scope.	Heather Chubinsky
Communications Engineering	No Conflict		Troy Damron
Distribution Municipal Unmetered	Apparent Conflict	Noted relocation of existing SRP Distribution Facilities/addition of street lighting and or traffic signals. Forwarded plans to Project Lead for assignment. Further questions contact Tara Keeling (602)236-3752.	Javier Vasquez
Transmission Line Asset Management	No Conflict	69kV SEC to NWC of intersection of Chaparral and Hayden. Project work area appears to be close but not adjacent to transmission facilities.	Cherilyn Beilman
Vegetation Management	No Conflict		EJ Cochrum

Please continue to submit subsequent plans/revisions through the SRP SharePoint Project Site you initially created for this specific project.

Thank you again for utilizing our plan review process! We look forward to the successful review and approval of your project.

Have a Great Day!

Heather Chubinsky for Jessica Miles,

Heather Chubinsky – Land Agent
Salt River Project | Land Rights Management, Land Department
Mail Station PAB10W | P.O. Box 52025, Phoenix, AZ 85072-2025
Phone: 602-236-3103 | Fax: 602-236-8193 | Heather.Chubinsky@srpnet.com

Construction Services Contract
(Municipal – Distribution)

Customer Improvements
SRP XCT-341
P.O. Box 52025
Phoenix, AZ 85072-2025

Contract #: 4214663
Issue Date: 03/02/2022

ATTN: ERIC WALDO
CITY OF SCOTTSDALE
7447 E INDIAN SCHOOL RD
STE 205
SCOTTSDALE, AZ 85251-3915

SRP Contact: Joseph Stenberg
Contact Phone: 602-236-6267
Contact Fax: 602-236-6171

The Salt River Project Agricultural Improvement and Power District, an agricultural improvement district organized and existing under the laws of the State of Arizona (SRP), and CITY OF SCOTTSDALE, a municipal corporation organized and existing under the laws of the State of Arizona, (Municipality) enter into this contract (Contract) for the construction of electrical facilities for the following Municipality project (Project):

Project:	CUS UE BA INDIAN BEND WASH AT CHAPARRAL RELO	**Work Order #:**	T3326913
Location:	NEC CHAPARRAL AND HAYDEN RD, SCOTTSDALE	**Municipality Job #:**	

Municipality acknowledges that it previously entered into a design services contract with SRP for the Project. Municipality now desires SRP to proceed with construction of the Project in accordance with the design drawings delivered by SRP pursuant to the design services contract.

This Contract includes the attached Terms and Conditions and describes the general obligations of SRP and the Municipality. Except as otherwise specifically provided in this Contract, any changes, amendments or modifications to this Contract shall be in writing and shall be signed by both parties. In consideration of the work to be performed by SRP, Municipality shall pay SRP the following non-refundable fees:

CIAC Fee:	$0.00
Comments:	

SRP shall not be required to perform inspections or begin any construction or installation work on the Project until Municipality (i) signs and returns this Contract, (ii) accepts the completed design drawings by signing them, (iii) pays SRP the fees set forth above, (iv) provides SRP the approved City permit(s) and (v) provides to SRP a copy of a deed or deeds evidencing ownership of all of the real property that is encompassed within or will be affected by the Project or other written documentation acceptable to SRP that establishes Municipality's authority in connection with the Project. If Municipality is unable to provide such documentation, and as a result SRP is required to modify its designs for the Project, Municipality shall be responsible for paying additional costs of the redesign work. If Municipality changes the Project, or if there is any change to the information regarding the Project provided by Municipality and relied upon by SRP, SRP will charge Municipality and Municipality shall pay for any additional costs incurred by SRP, including but not limited to redesign and engineering costs.

SRP's delivery of this Contract to Municipality constitutes an offer to perform the construction services on the terms and conditions set forth in this Contract. Municipality may accept this offer by signing this Contract (with no additions, deletions or modifications) and returning it to SRP. This offer shall expire if Municipality has not signed and returned this Contract to SRP within 120 day of the date first set forth above.

Municipality understands and agrees to the terms and conditions of this Contract. The undersigned represents and warrants that he or she has the authority to sign this Contract on behalf of Municipality.

For Municipality:

Authorized Signature: Eric Waldo Date: 3-3-22

Printed Name: Eric Waldo Title: Senior Project Manager

For SRP:

Authorized Signature: Joseph Stenberg Date: 3-8-22

Printed Name: Joseph Stenberg Title: Designer

APPENDIX C

Drainage Report

INDIAN BEND WASH PATH AT CHAPARRAL ROAD

Project No. 410-SF01A-56047

FINAL DRAINAGE REPORT

Prepared for:

City of Scottsdale
7447 E. Indian School Road, Suite 205
Scottsdale, Arizona 85251

Prepared by:

olsson PREMIER ENGINEERING CORPORATION

6437 West Chandler Boulevard, Suite 1
Chandler, Arizona 85226
480-829-6000

City of Scottsdale Plan Check # 3705-22

Premier Project No. 2015001-10

December 2022

Registered Professional Engineer (Civil)
CERTIFICATE NO.
21560
DENNIS L.
RICHARDS
Date Signed: 12-2-22
ARIZONA, U.S.A.

Dennis L. Richards

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Registered Professional Engineer (Civil)
CERTIFICATE NO.
21560
DENNIS L.
RICHARDS
Date Signed: 12-2-22
ARIZONA, U.S.A.
Dennis L. Richards

1. INTRODUCTION

The City of Scottsdale is planning to construct a new pedestrian underpass crossing under Chaparral Road just east of the intersection with Hayden Road. The primary purpose of the underpass is to provide a safe, grade-separated crossing for pedestrians accessing the adjacent park facilities. The improvements will include access ramps, shared-use path improvement, landscape restoration, and slope stabilization.

2. BACKGROUND

2.1. SITE CONDITIONS

The intersection of Hayden Road and Chaparral Road is located within the Indian Bend Wash and Greenbelt corridor. All four quadrants adjacent to the intersection are developed as part of the Indian Bend Wash Greenbelt with lakes on the northeast and southeast corners, meandering paved multi-use trails (Indian Bend Wash Trail System), landscaping, pedestrian lighting, parking, and related site amenities. There are existing pedestrian underpass structures on the west and south legs of this intersection. **Figure 1** shows the location and vicinity map of the project area.

Figure 1. Project Location

2.2. INDIAN BEND WASH GREENBELT

The Indian Bend Wash Greenbelt is approximately 18 miles long and extends through the cities of Scottsdale and Tempe. The Indian Bend Wash Greenbelt project was a cooperative effort between the U.S. Army Corps of Engineers (COE) and local agencies including the City of Scottsdale (COS) and the Flood Control District of Maricopa County (FCDMC). The project was designed to convey a discharge of 30,000 cubic feet per second (cfs) and was constructed in the late 1970's, early 1980's. The most recent Flood Insurance Study (FIS) of Indian Bend Wash for the reach between the Salt River and 40th Street was completed in 1997. The FIS 100-year discharge for the reach between Indian School Road and Indian Bend Road is 17,000 cfs as documented by FEMA in FIS 04013CV002E.

Per City of Scottsdale ordinance, projects adjacent to the Indian Bend Wash should be designed for the 100-year flow and checked for conditions and regulations associated with the COE flow of 30,000 cfs, as well as obtaining all applicable permits.

The project site is located within Zone AE according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) #04013C1770M with an effective date of September 18, 2020 by FEMA. A FIRMette with the general project location identified is provided in Appendix B. Zone AE is defined as areas subject to inundation by the 1-percent annual-chance flood event (100-year) determined by detailed methods.

3. PROPOSED IMPROVEMENTS

The proposed project improvements includes a pedestrian underpass structure crossing under Chaparral Road which will be located within the regulatory Indian Bend Wash floodplain/floodway. The proposed structure is a cast-in-place reinforced concrete structure 14-feet wide by 8.5-feet high. The structure will be approximately 114-feet long and oriented perpendicular to the Chaparral Road alignment. Reinforced concrete wingwalls with pedestrian railings will be provided on the north and south ends of the underpass.

Hydraulic analyses were performed to determine potential impacts of the proposed improvements on Indian Bend Wash floodplain/floodway. Hydraulic analyses were performed for the FIS 100-year flow rate of 17,000 cfs. In addition, since the COE was a participant in the design and construction of the greenbelt, hydraulic analyses were also performed for the COE design flow rate of 30,000 cfs. The proposed pedestrian underpass is designed to result in a "no rise" in the water surface elevation for the COE design flow rate of 30,000 cfs.

4. HYDRAULIC ANALYSIS

As indicated above, hydraulic analyses were conducted to evaluate potential impacts of the proposed improvements on the Indian Bend Wash floodplain/floodway. The 1997 FIS was completed using the COE HEC-2 computer model. The regulatory HEC-2 floodplain/floodway model for Indian Bend Wash was obtained from the FCDMC and used as the base model to evaluate potential impacts of the proposed improvements. FCDMC provided the electronic model with geometric data referenced to North American Vertical Datum of 1988 (NAVD 88).

The HEC-2 data was imported to HEC-RAS, the current software that replaced HEC-2. This required modifications to the bridge routines which are analyzed differently in HEC-RAS than in HEC-2. HEC-RAS requires a positive distance between the upstream cross section and the face of the bridge whereas in HEC-2 the bridge has an upstream distance of zero. Therefore, a length was added to the upstream distance column in HEC-RAS and an amount greater than that subtracted from the bridge width column for each of the bridge locations. At Chaparral Road, the upstream cross-section is River Station 5.900 and the downstream cross-section is River Station 5.886. **See Figure 2**. The proposed improvements are located within the effective floodway.

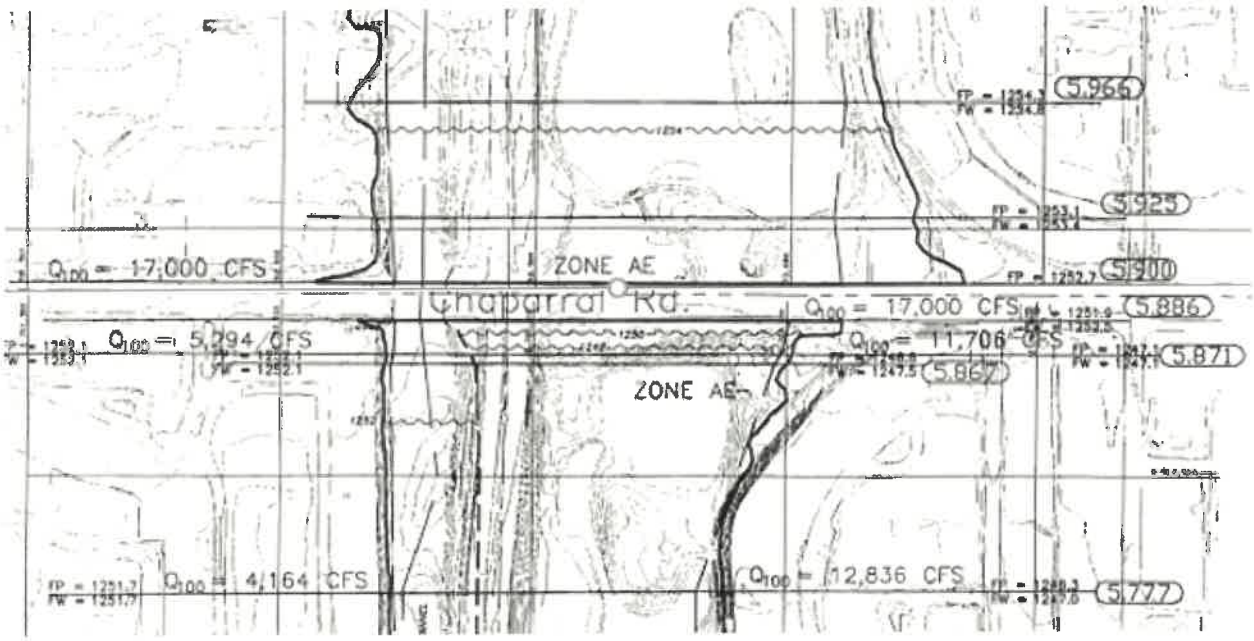


Figure 2. Cross-Section Location

As noted above, hydraulic analyses were conducted for two flow rates, the 100-year regulatory flow rate of 17,000 cfs and the COE design flow rate of 30,000 cfs. Regulations

require the proposed improvements be designed to result in a "no rise" condition for the 100-year flowof 17,000 cfs and the COE design flow.

For base (existing) conditions, flow at Chaparral Road includes flow conveyed by the Chaparral Bridge located on the west side of Hayden Road and flow overtopping Chaparral Road east of Hayen Road. For proposed conditions, the pedestrian underpass provides a third mehtod of conveyance. The underpass was modeled in the proposed conditions model by adding a 14-foot wide by 8.5-foot high box culvert at Chaparral Road. Station limits were identified at River Station (RS) 5.90 and RS 5.886 to establish limits for each of the three methods of conveyance as well as establish stagnation points. The limits for the culvert underpass extended from the west edge of the roadway low point to the east edge of Hayden Road. Although the proposed underpass is 114-feet long, it was modeled with a length of 76 feet. This was necessary since the length between the upstream and downstream cross-sections at Chaparral Road in the HEC-2 model was 80-feet and the length of the other two methods of conveyance, the bridge and roadway overtopping, are both 80 feet. This modeling approach is judged not to have a significant impact on the output.

The 100-year water-surface elevations and other hydraulic conditions were computed for both the base conditions and proposed conditions. Table 1 provides a comparison of proposed conditions (with pedestrian underpass) to the base conditions for the 100-year regulatory flow rate of 17,000 cfs for a reach extending from apprximately 490-feet upstream of Chaparral Road to approximately 563 feet downstream of Chaparral Road. Table 2 provides a comparison for the COE design flow rate of 30,000 cfs.

Tables 1 and 2 show that with the added conveyance provided by the pedestrian underpass, the water surface elevation upstream of Chaparral Road and immediately downstream of Chaparral Road decreases for proposed conditions.

Table 1. Proposed versus Base Conditions – 17,000 cfs

	Water-Surface Elevation (feet)		
River Station	**Proposed Conditions**	**Base Conditions**	**Proposed – Base**
5.966	1254.31	1254.33	-0.02
5.925	1253.19	1253.48	-0.29
5.900	1253.13	1253.36	- 0.23
5.893	Chaparral Road		
5.886	1251.19	1251.79	-0.60
5.871	1247.14	1247.14	0.00
5.867	1246.60	1246.60	0.00
5.777	1246.32	1246.32	0.00

Table 2. Proposed versus Base Conditions – 30,000 cfs

	Water-Surface Elevation (feet)		
River Station	**Proposed Conditions**	**Base Conditions**	**Proposed – Base**
5.966	1255.56	1255.57	-0.01
5.925	1254.34	1254.57	-0.23
5.900	1254.37	1254.53	-0.16
5.893	Chaparral Road		
5.886	1252.61	1253.02	-0.41
5.871	1249.42	1249.42	0.00
5.867	1249.81	1249.81	0.00
5.777	1249.23	1249.23	0.00

5. SCOUR ANALYSIS

Scour analyses were performed to estimate the scour depth for the waterline relocation upstream of the proposed pedestrian underpass, and to estimate the scour conditions at the outlet of the proposed underpass. Scour depths have been estimated for the 100-year flood event.

5.1. WATERLINE CROSSING

The COS Design Standards & Policy Manual (DSPM), Section 6-1.414, addresses wash crossings. It states, "Depth of bury requirements to place water lines under washes or channels shall be based on the 100-year peak discharge in the channel or wash (Q_{100}). The additional depth of bury is in addition to the normal cover requirements described in Section 6-1.413." Section 6-1.413 requires that for lines smaller than 12 inches in diameter, a minimum cover of 36 inches to the top of pipe is to be provided unless otherwise approved by the Water Resources Department.

For 100-year peak discharges of more the 499 cfs the scour depth is to be estimated using Arizona State Standard Attachment (SSA) 5-96, Guideline 2, Level I, as published by the ADWR. The total scour depth, d_s, as given by SSA 5-96, Guideline 2, Level I, is the combination of general degradation and long-term degradation and is computed as follows:

$$d_s = d_{gs} + d_{lts}$$

where:

d_s = Total scour depth, in feet
d_{gs} = General degradation, in feet
d_{lts} = Long term degradation, in feet

The pedestrian underpass and Chaparral Road act as a control point within IBW. Since the control point is located just downstream of the proposed waterline crossing, the long-term degradation component is considered to be zero.

The 100-year discharge and the associated width of flow in IBW are large compared with the discharge and width of flow for the underpass and the waterline crossing. Therefore, it is recommended to use that portion of the 100-year discharge that is directed at and conveyed by the underpass and over Chaparral Road at the underpass to estimate general degradation rather than the full 100-year discharge for IBW. The HEC-RAS results for the proposed conditions show the discharge directed at the underpass, based on the station limits and stagnation points for the opening, to be approximately 1,570 cfs, The HEC-RAS results for the underpass, RS 5.893, are included in Appendix C.

The general degradation is computed as follows:

$$d_{gs} = 0.157(Q_{100})^{0.4}$$

$$d_{gs} = 0.157(1{,}570)^{0.4} = 2.98 \text{ feet}$$

The SSA 5-96 general degradation equation was not intended to be used for design as it was developed to provide a quick and easy scour estimate without performing a detailed engineering analysis. Flow depth, soil gradation, and flow velocity are not variables included in the equation. The estimate is based on one variable, Q_{100}, the 100-year discharge for the wash.

A more detailed analysis was performed to evaluate and or verify the results of the SSA 5-96 procedure. General degradation was estimated using the Blench Equation, which includes flow depth, flow width, and the median bed-material size as input parameters. The equation uses the unit discharge, ($q = Q/W$), rather than the total discharge within the channel as well as the representative grain size of the channel.

The regime equation as presented by Blench is:

$$y_{f0} = q_f^{2/3} / F_{b0}^{1/3}$$

where:
y_{f0} = scoured depth, (ft)
q_f = design discharge per unit width, ($ft^3/s/ft$)
F_{b0} = Blench's "zero bed factor", (ft/s^2)
$F_{b0} = 1.9\ D_m^{0.5}$ $D_m \leq 2.0$ mm
$F_{b0} = 1.75\ D_m^{0.25}$ $D_m > 2.0$ mm
D_m = median bed-material size by weight, (mm)

To calculate the maximum scoured depth for design, D_{max}, the scoured depth is multiplied by a factor that considers the angle of attack on a structure.

$$D_{max} = c\ y_{f0}$$

where:

D_{max} = maximum scoured depth, (ft)
y_{f0} = scoured depth, (ft)
c = 1.0 for straight channel reaches.

The scour depth is computed from the following equation:

$$y_s = D_{max} - y_{max}$$

where:

y_s = scour depth, (ft)
D_{max} = maximum scoured depth, (ft)
y_{max} = maximum water depth, (ft)

Hydraulic parameters required for the Blench Equation are from RS 5.925 of the proposed conditions HEC-RAS model. This is the cross section located immediately upstream of the proposed waterline crossing. Flow conditions are based on the flow within that portion of the cross section east of Hayden Road with a 100-year flow rate of 13,280 cfs (See Appendix C for RS 5.925 output results). The equation also requires the median bed-material size. The project geotechnical report provides the grain size distribution for soil samples obtained at the project site (Grain Size Distribution graph included in Appendix C). Borehole B-4, which is located downstream of Chaparral Road and within the IBW channel, gives the median bed-size material to be approximately 0.15 mm.

Using the hydraulic and soil conditions identified above as input parameters to the Blench Equation, the estimated scour depth is 3.2 feet. Appendix D includes a spreadsheet of the estimated scour depth calculated by both the SSA 5-95 Level I Equation and the Blench Equation.

Based on these estimates it is recommended the total scour depth for the waterline crossing be a minimum of 3.2 feet. Therefore, the top of pipe shall be placed a minimum of 6.2 feet below the finished grade of the channel (minimum cover of 3 feet plus minimum scour depth of 3.2 feet).

6. EROSION PROTECTION

A concrete pathway extends through the pedestrian underpass and for a distance downstream of the underpass. Erosion protection is to be provided along both sides of the pathway. Protection measures evaluated were a riprap basin and a grouted riprap basin with the grouted riprap basin being the City of Scottsdale preferred protection measure.

The FCDMC specified the length and width of the basin be designed in accordance with Section 8.4 of the FCDMC hydraulic design manual. The basin length and width are calculated based on the diameter of a circular culvert (D) or equivalent diameter for a non-circular culvert (D_e). The equivalent diameter for a non-circular culvert is computed from the following:

$$D_e = \sqrt{4 A \pi}$$

where:

D_e = equivalent diameter (ft)
A = cross section for non-circular culvert (ft^2)
π = 3.14159 (Pi)

For a grouted riprap basin, the apron length is to be at least 8 D_e. The apron width at the underpass outlet is to be 3 D_e with the width at the downstream end of the apron at least 3 D_e + 2 L / 3 where L is the apron length.

The equivalent diameter for the 14-ft by 8.5-ft pedestrian underpass is 12.3 feet. Therefore, the design length of the grouted riprap is calculated to be 98.4 feet, the width at the underpass outlet 36.9 feet, and the width at the downstream end of the apron 102.5 feet. The level of protection provided for the 100-year flow rate was checked for the COE flow rate of 30,000 cfs and found to be adequate. The design equations and calculations for length and width of protection are shown in Appendix E.

The design of a riprap was evaluated using two methods for calculating the median stone diameter, d_{50}. One method from the FCDMC hydraulic design manual determines the size of riprap protection for a straight channel reach. The equation, Equation 6.36, is as follows:

$$d_{50} = 0.0191\ V_a^2\ (\gamma_w / \gamma_s - \gamma_w)$$

where:

d_{50} = median diameter (ft)
V_a = average velocity (ft/s)
γ_w = specific weight of stone (lb/ft^3)
γ_s = specific weight of water (lb/ft^3)

For the 100-year flow event, the median stone diameter, d_{50}, is calculated as 0.77 feet. Appendix E includes a spreadsheet that provides the equation and d_{50} calculations.

The second method is from the Mile High Flood District (MHFD) urban storm drainage manual. This equation, Equation 9-17, is for sizing riprap protection at the outlet of a rectangular culvert. The equation is as follows:

$$d_{50} = 0.014\ H^{0.5}\ Q\ /\ (y_t\ B)$$

where:

d_{50} = median diameter (ft)
H = culvert height (ft)
Q = design discharge (cfs)
y_t = tailwater depth (ft)
B = culvert width (ft)

Sizing of the riprap protection was calculated for two tailwater conditions: 1) critical depth; and 2) 0.4 of the underpass height (0.4H). A tailwater depth of 0.4H resulted in the larger median diameter, d_{50}, of 0.83 feet.

Based on the design calculations provided above, the median stone diameter, d_{50}, for the apron is recommended to be 1.0 foot. A recommended riprap gradation table is provided in Appendix E. A The blanket thickness of the grouted riprap apron is determined from Figure 6.17 of the FCDMC hydraulic design manual. Figure 6.17 gives a blanket thickness of approximately 1 foot for the design velocity (8.15 fps). Per Section 8.4.2 of the FCDMC hydraulics design manual, a 1.0-foot wide by 2.5-foot deep concrete turndown is to be provided along the apron perimeter with a 2-foot thick loose riprap around the perimeter of the concrete turndown. The design calculations are provided in Appendix E.

7. SUMMARY AND CONCLUSIONS

Potential impacts of the proposed improvements on the Indian Bend Wash floodplain/floodway were evaluated. Hydraulic analyses were performed for the base (existing) conditions and for proposed conditions (with pedestrian underpass). The regulatory HEC-2 floodplain/floodway data for Indian Bend Wash was imported into a HEC-RAS model and used as the base model. Proposed conditions were modeled by adding a box culvert at Chaparral Road to the base model at a location just east of Hayden Road. Analyses were performed for both the FIS 100-year regulatory flow rate of 17,000 cfs and the COE design flow rate of 30,000 cfs.

A comparison of water-surface elevations between the base conditions model and the proposed conditions model is provided in Tables 1 and 2. From this comparison it can be seen that the proposed pedestrian underpass does not increase the water-surface elevation for either a flow rate of 17,000 cfs or a flow rate of 30,000 cfs, but rather shows a decrease in water surface elevations upstream of Chaparral. Therefore, the proposed pedestrian underpass results in a "no rise" condition for the COE regulatory flow rate of 30,000 cfs. The results show the pedestrian underpass does not cause more runoff onto Chaparral Road than may occur for existing conditions.

Scour analyses were performed to evaluate scour conditions at the waterline relocation proposed upstream of the pedestrian underpass, and scour conditions downstream of the pedestrian underpass. For the waterline relocation, the top of pipe shall be placed a minimum of 6.2 feet below the finished grade of the channel (minimum cover of 3 feet plus minimum scour depth of 3.2 feet).

At the outlet of the pedestrian underpass, a grouted riprap apron is to be constructed. The apron dimensions are to be approximately 98.4 feet in length with a width of 102.5 feet at the downstream end of the apron. The blanket thickness of the grouted riprap is proposed to be 1.5 feet. a 1.0-foot wide by 2.5-foot deep concrete turndown is to be provided along the apron perimeter with a 2-foot thick loose riprap around the perimeter of the concrete turndown.

8. REFERENCES

1. Flood Insurance Study Number 04013CV002E, Volume 2 of 58, Federal Emergency Management Agency, Revised July 20, 2021.

2. Indian Bend Wash Path at Chaparral Road, Project No. 410-SF01A-56047, 60% Design Plans, prepared by Premier Engineering Corporation for City of Scottsdale, November 2018.

3. Indian Bend Wash Floodplain Delineation Study, Salt River to 40th Street, prepared by Simons Li & Associates, Inc. for the Flood Control District of Maricopa County, November 1997.

4. State Standard for Watercourse System Sediment Balance, State Standard 5-96, Arizona Department of Water Resources, September 1996.

5. Mobile-bed Fluviology, Thomas Blench, The Univdrsity of Alberta Press, Edmonton, Alberta, Canada, 1969.

6. Hydraulic Engineering Circular No. 14 (HEC #14), 3rd Edition, "Hydraulic Design of Energy Dissipators for Culverts and Channels," Federal Highway Administration, Washington, D.C., July 2008.

7. Geotechnical Evaluation Report, Indian Bend Wash Pedestrian Underpass at Chaparral Road, prepared by Premier Engineering Corporation for City of Scottsdale, October 22, 2020.

8. Drainage Design Manual for Maricopa County, Arizona, Flood Control District of Maricopa County, Phoenix, Arizona, December 14, 2018.

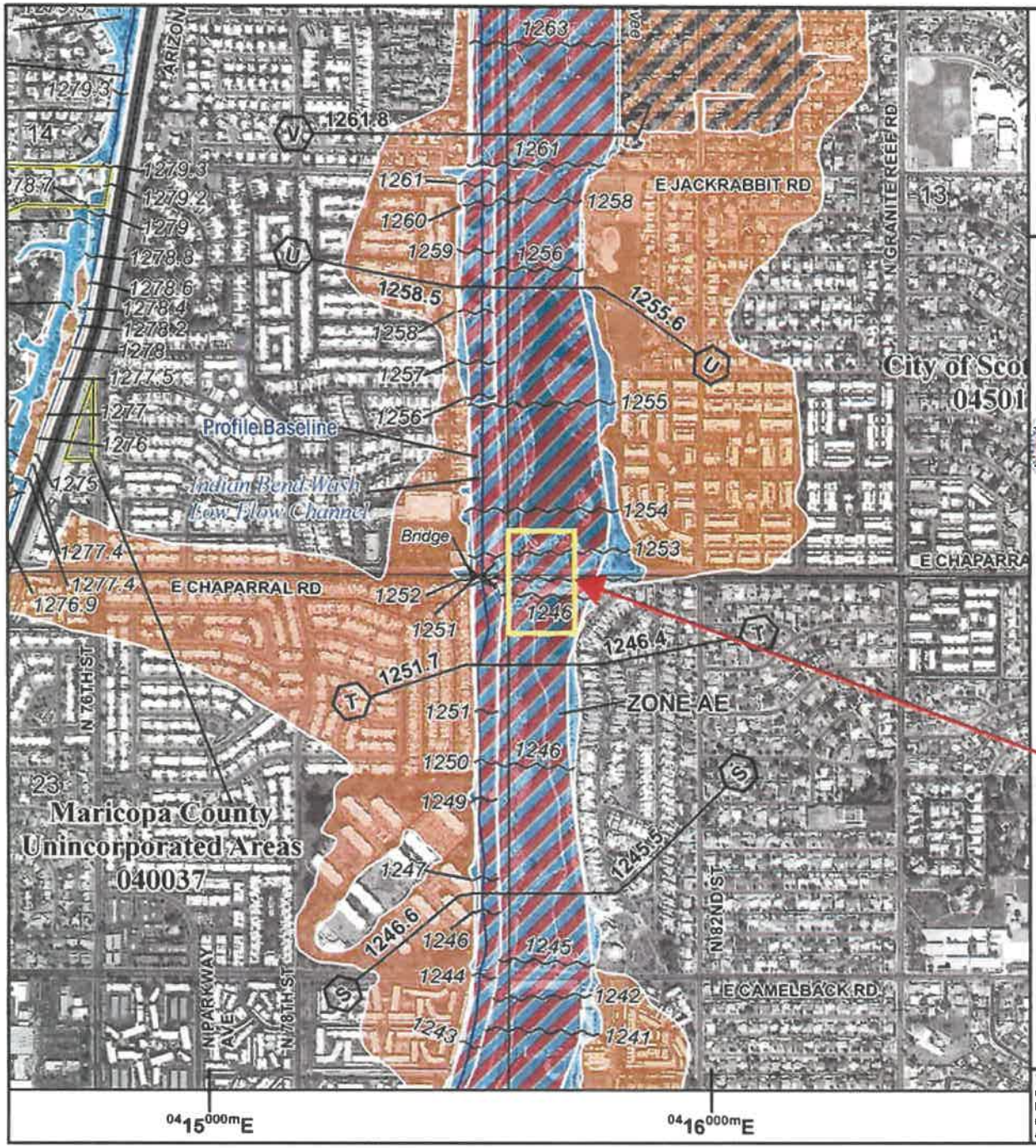
9. Urban Storm Drainage Criteria Manual: Volume 1 Management, Hydrology, and Hydraulics, Mile High Flood District, Denver, Colorado, January 2016.

10. Urban Storm Drainage Criteria Manual: Volume 2 Structures, Storage, and Recreation, Mile High Flood District, Denver, Colorado, January 2016.

11. Hydraulic Engineering Circular No. 15 (HEC #15), 3rd Edition, "Design of Roadside Channels with Flexible Linings," Federal Highway Administration, Washington, D.C., September 2005.

APPENDIX A

FEMA FIRM



Map Projection:
NAD 1983 HARN StatePlane Arizona Central FIPS
Western Hemisphere; Vertical Datum: NAVD88

1 inch = 1,000 feet

0 1,000 2,000

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

MARICOPA COUNTY, ARIZONA
and Incorporated Areas

PANEL 1770 OF 4425

Panel Contains

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1770	M
PARADISE VALLEY, TOWN OF	040049	1770	M
SCOTTSDALE, CITY OF	045012	1770	M

VERSION NUMBER
2.3.3.2

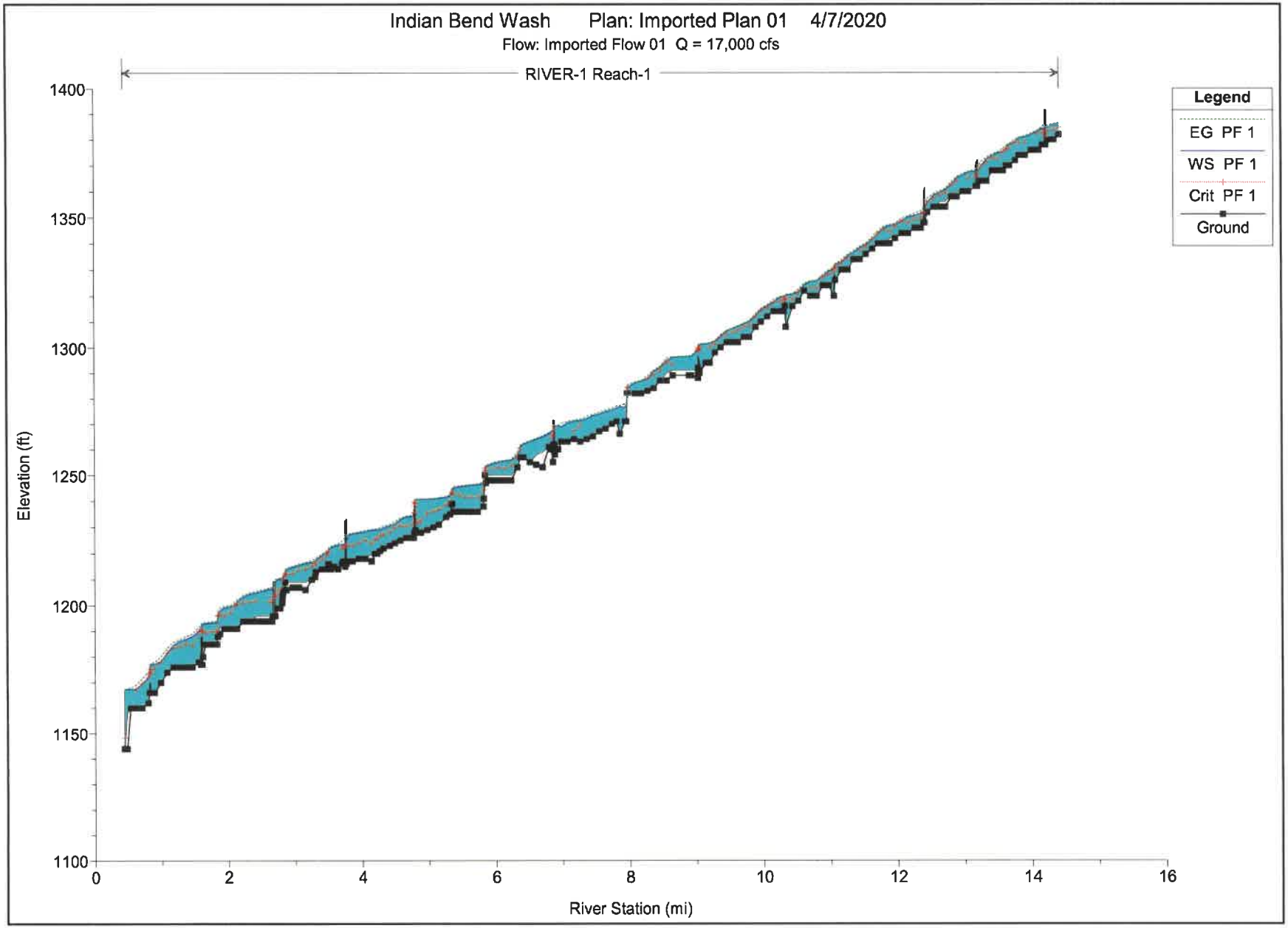
MAP NUMBER
04013C1770M

MAP REVISED
September 18, 2020

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

APPENDIX B

HEC-RAS Results
Existing Condition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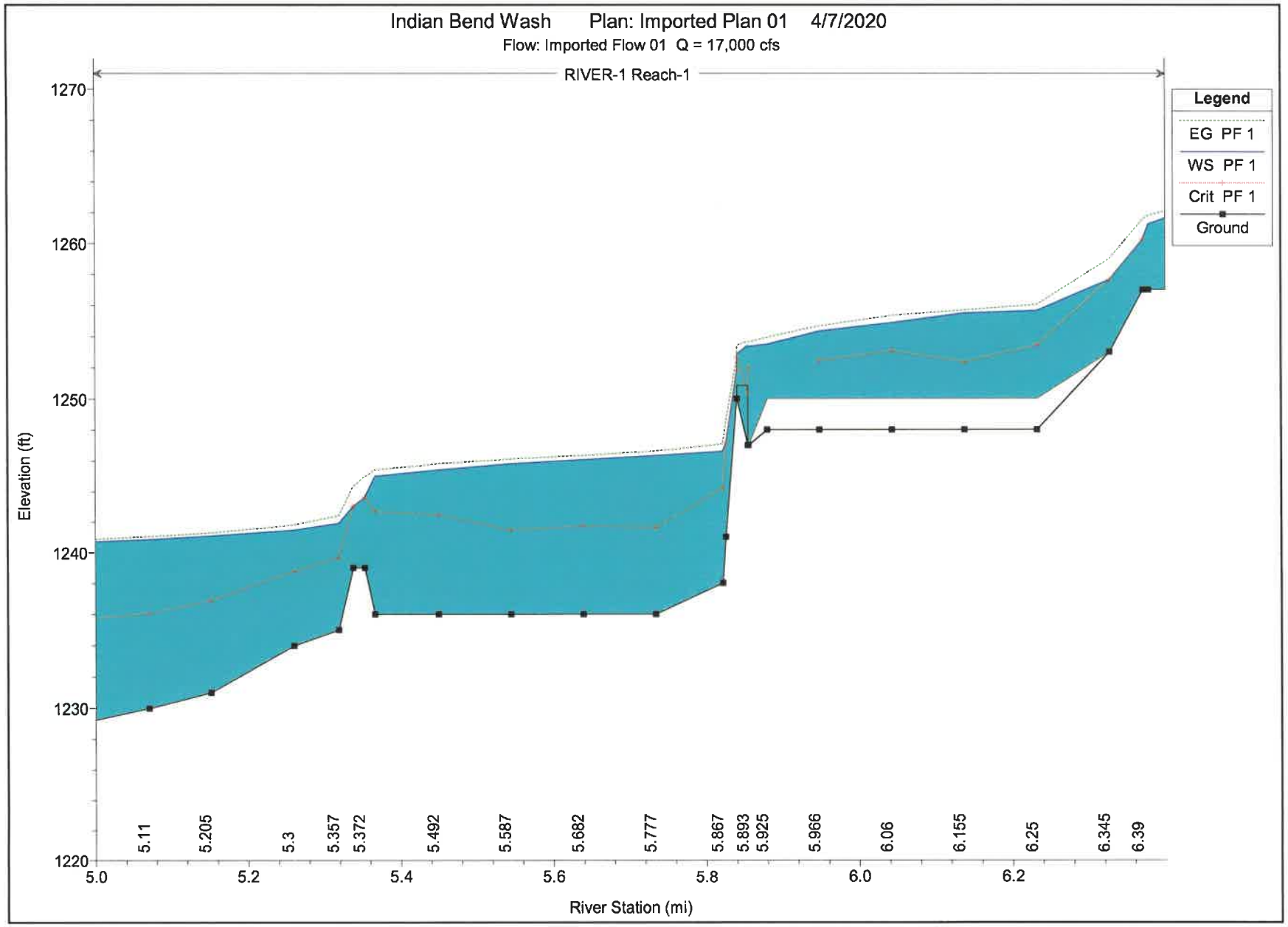
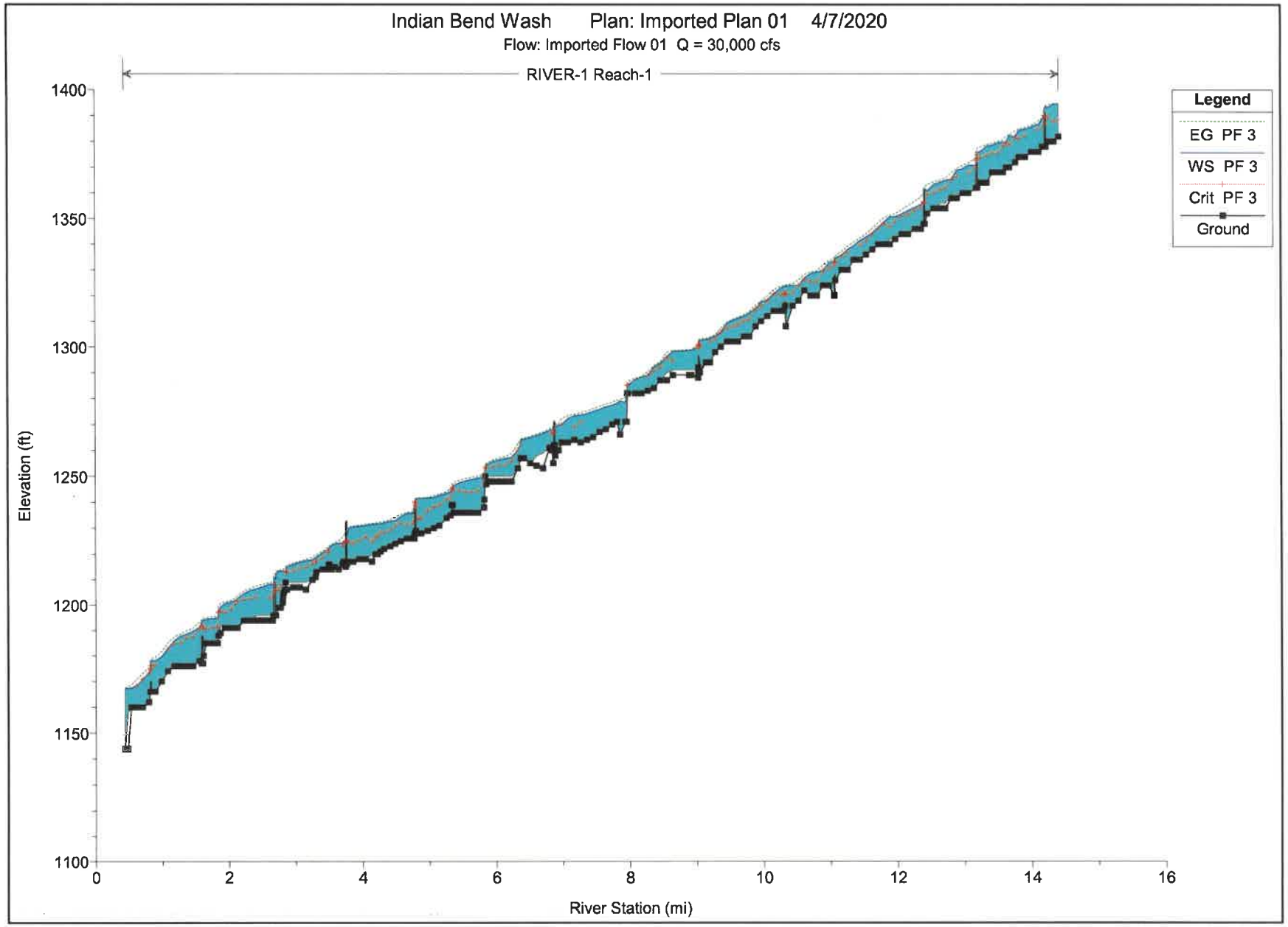
Flow: Imported Flow 01 Q = 17,000 cfs
RIVER-1 Reach-1
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Elevation (ft)
1400
1350
1300
1250
1200
1150
1100
0
2
4
6
8
10
12
14
16
River Station (mi)


Indian Bend Wash Plan: Imported Plan 01 4/7/2020
Flow: Imported Flow 01 Q = 17,000 cfs
RIVER-1 Reach-1
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Elevation (ft)
1270
1260
1250
1240
1230
1220
5.0
5.2
5.4
5.6
5.8
6.0
6.2
River Station (mi)
5.11
5.205
5.3
5.357
5.372
5.492
5.587
5.682
5.777
5.867
5.893
5.925
5.966
6.06
6.155
6.25
6.345
6.39


Indian Bend Wash Plan: Imported Plan 01 4/7/2020
Flow: Imported Flow 01 Q = 30,000 cfs
RIVER-1 Reach-1
Legend
EG PF 3
WS PF 3
Crit PF 3
Ground
Elevation (ft)
1400
1350
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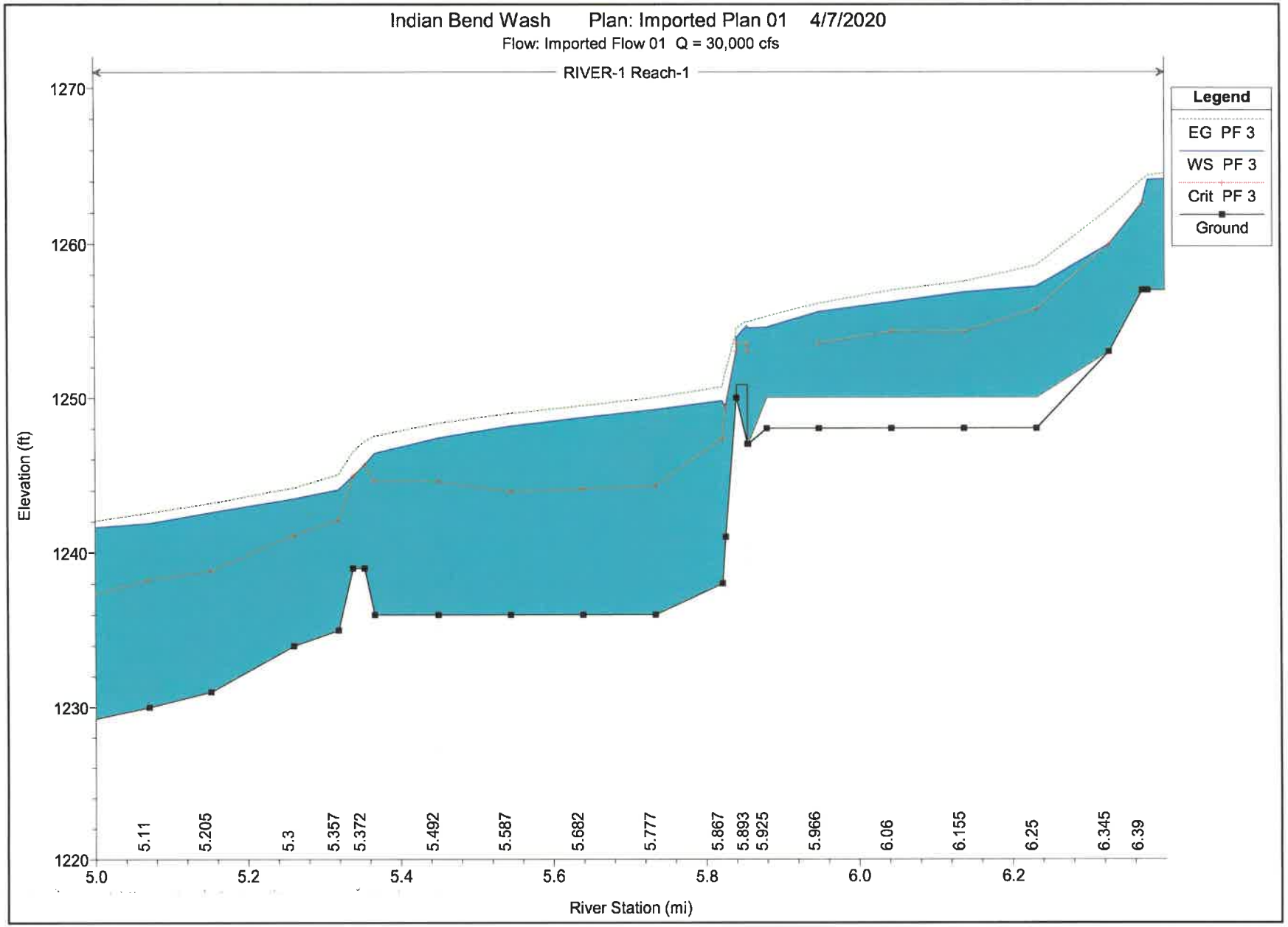
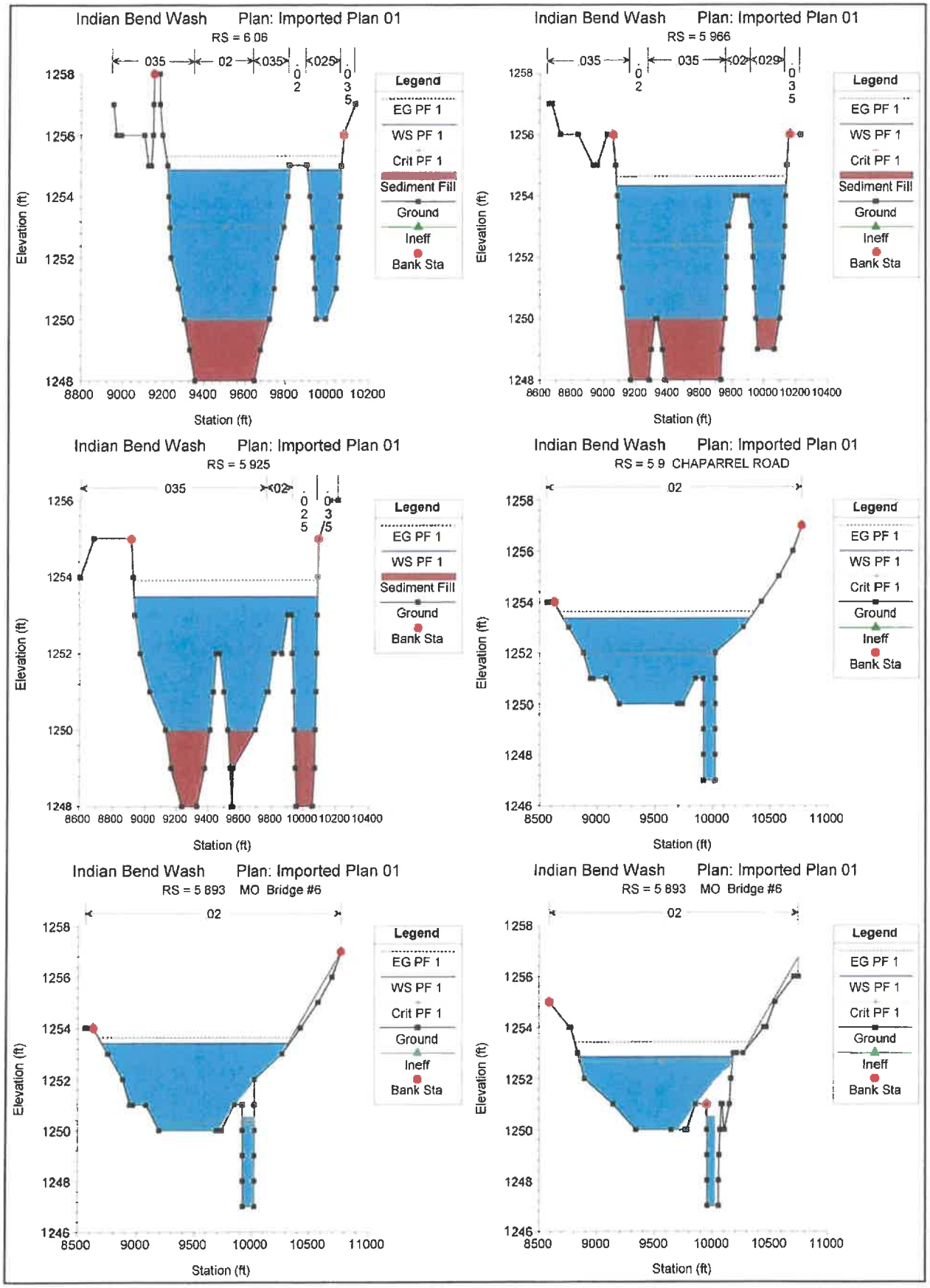
1250
1200
1150
1100
0
2
4
6
8
10
12
14
16
River Station (mi)


Indian Bend Wash Plan: Imported Plan 01 4/7/2020
Flow: Imported Flow 01 Q = 30,000 cfs
RIVER-1 Reach-1
Legend
EG PF 3
WS PF 3
Crit PF 3
Ground
Elevation (ft)
1270
1260
1250
1240
1230
1220
5.11
5.205
5.3
5.357
5.372
5.492
5.587
5.682
5.777
5.867
5.893
5.925
5.966
6.06
6.155
6.25
6.345
6.39
5.0
5.2
5.4
5.6
5.8
6.0
6.2
River Station (mi)

HEC-RAS Plan: Plan p01 River: RIVER-1 Reach: Reach-1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	6.06	PF 1	17000.00	1250.00	1254.86	1253.07	1255.31	0.001152	5.39	3152.99	762.76	0.47
Reach-1	6.06	PF 3	30000.00	1250.00	1256.20	1254.29	1256.96	0.001447	6.96	4311.74	1082.99	0.56
Reach-1	5.966	PF 1	17000.00	1250.00	1254.33	1252.41	1254.64	0.001319	4.49	3786.76	1055.98	0.42
Reach-1	5.966	PF 3	30000.00	1250.00	1255.57	1253.50	1256.11	0.001611	5.87	5114.89	1198.48	0.48
Reach-1	5.925	PF 1	17000.00	1250.00	1253.48		1253.91	0.003217	5.26	3231.31	1153.88	0.55
Reach-1	5.925	PF 3	30000.00	1250.00	1254.57		1255.26	0.003394	6.66	4514.47	1220.24	0.60
Reach-1	5.9	PF 1	17000.00	1247.00	1253.36	1252.00	1253.63	0.000931	4.18	4063.92	1616.61	0.47
Reach-1	5.9	PF 3	30000.00	1247.00	1254.53	1252.99	1254.90	0.000892	4.88	6172.91	1944.47	0.48
Reach-1	5.893		Mult Open									
Reach-1	5.886	PF 1	11500.00	1250.00	1251.79	1251.79	1252.49	0.002995	4.80	1917.76	1213.60	0.75
Reach-1	5.886	PF 3	30000.00	1250.00	1253.02	1253.02	1254.16	0.003963	8.26	3522.98	1438.01	0.95
Reach-1	5.871	PF 1	11706.00	1241.00	1247.14	1247.14	1248.44	0.012882	9.15	1280.01	491.89	1.00
Reach-1	5.871	PF 3	30000.00	1241.00	1249.42	1249.42	1251.54	0.010986	11.69	2565.31	609.25	1.00
Reach-1	5.867	PF 1	11769.00	1238.00	1246.60	1244.19	1247.07	0.001090	5.48	2148.03	491.06	0.46
Reach-1	5.867	PF 3	30000.00	1238.00	1249.81	1247.32	1250.69	0.001465	7.50	3999.61	607.49	0.52
Reach-1	5.777	PF 1	12836.00	1236.00	1246.32	1241.60	1246.60	0.000684	4.22	3040.13	406.33	0.27
Reach-1	5.777	PF 3	30000.00	1236.00	1249.23	1244.29	1250.00	0.001309	7.05	4255.43	440.85	0.40
Reach-1	5.682	PF 1	12928.00	1236.00	1246.06	1241.69	1246.33	0.000428	4.12	3135.39	429.97	0.27
Reach-1	5.682	PF 3	30000.00	1236.00	1248.71	1244.08	1249.47	0.000882	7.01	4281.95	437.68	0.39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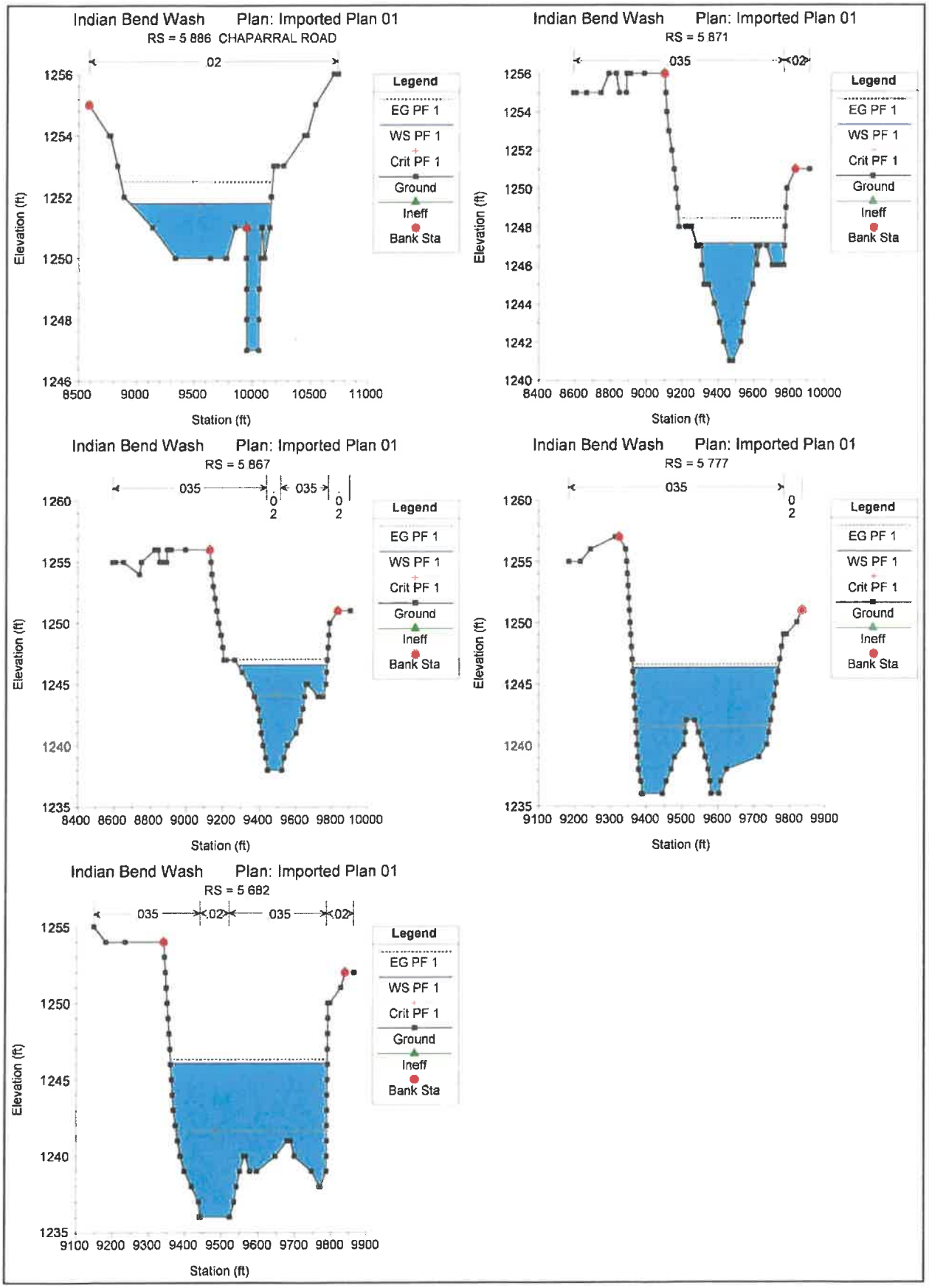
RS = 6 06
Indian Bend Wash Plan: Imported Plan 01
RS = 5 966
Indian Bend Wash Plan: Imported Plan 01
RS = 5 925
Indian Bend Wash Plan: Imported Plan 01
RS = 5 9 CHAPARREL ROAD
Indian Bend Wash Plan: Imported Plan 01
RS = 5 893 MO Bridge #6
Indian Bend Wash Plan: Imported Plan 01
RS = 5 893 MO Bridge #6
Legend
EG PF 1
WS PF 1
Crit PF 1
Sediment Fill
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)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Indian Bend Wash Plan: Imported Plan 01
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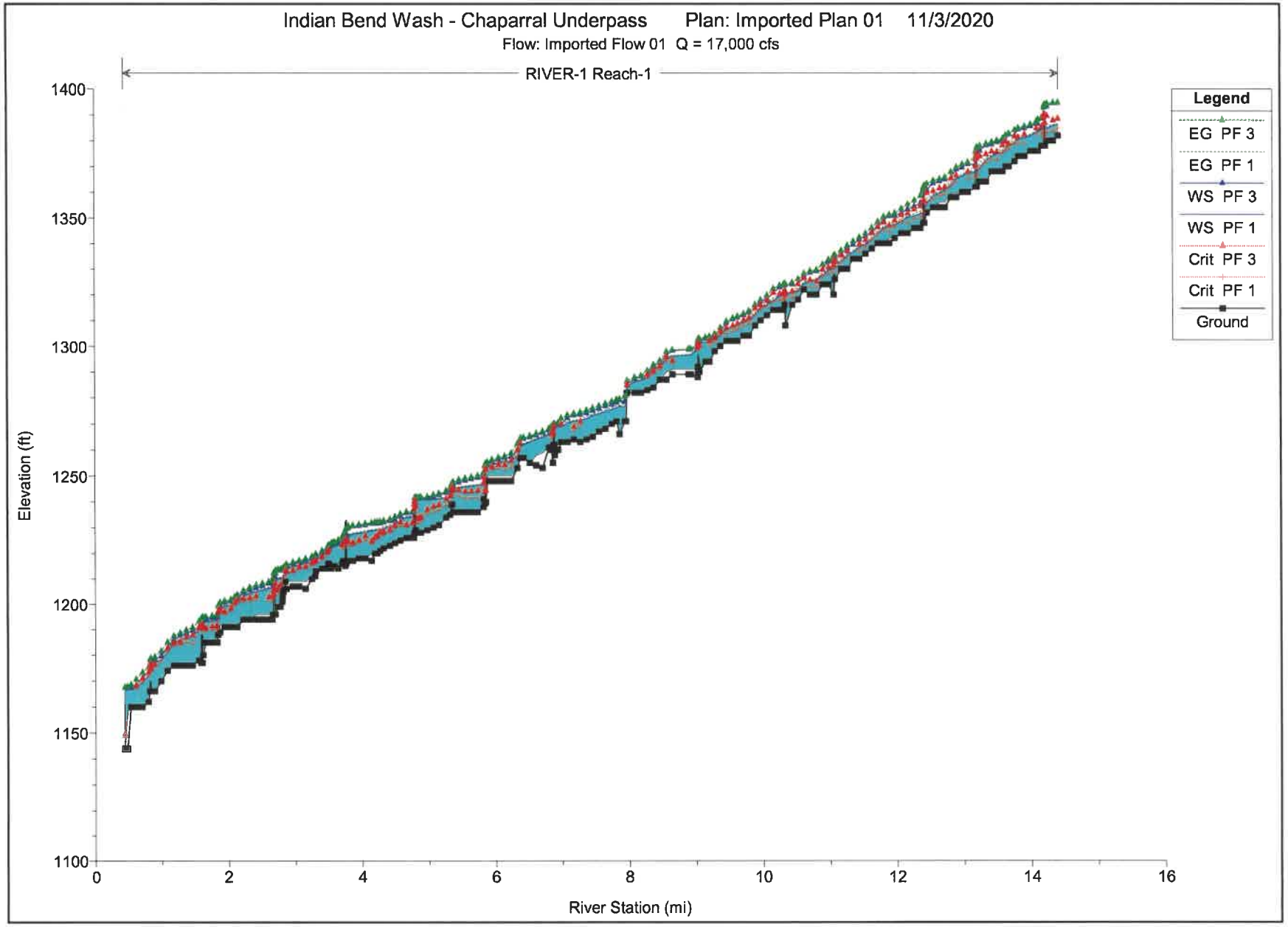
Indian Bend Wash Plan: Imported Plan 01
RS = 5 867
Indian Bend Wash Plan: Imported Plan 01
RS = 5 777
Indian Bend Wash Plan: Imported Plan 01
RS = 5 682
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

APPENDIX C

HEC-RAS Results
Proposed Condition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Flow: Imported Flow 01 Q = 17,000 cfs
RIVER-1 Reach-1
Legend
EG PF 3
EG PF 1
WS PF 3
WS PF 1
Crit PF 3
Crit PF 1
Ground
Elevation (ft)
1400
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1200
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1100
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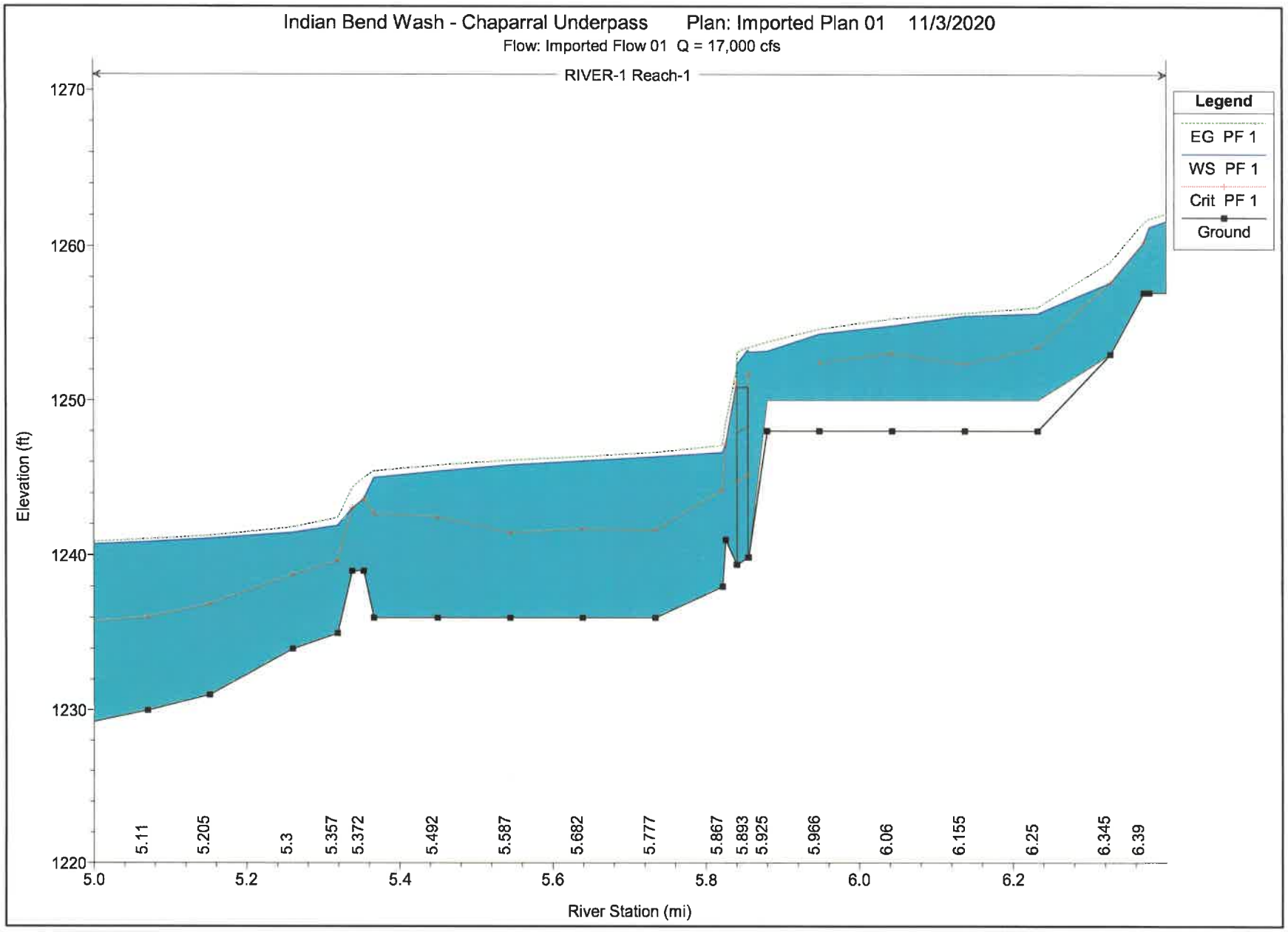
12
14
16
River Station (mi)


Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01 11/3/2020
Flow: Imported Flow 01 Q = 17,000 cfs
RIVER-1 Reach-1
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Elevation (ft)
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6.0
6.2
River Station (mi)
5.11
5.205
5.3
5.357
5.372
5.492
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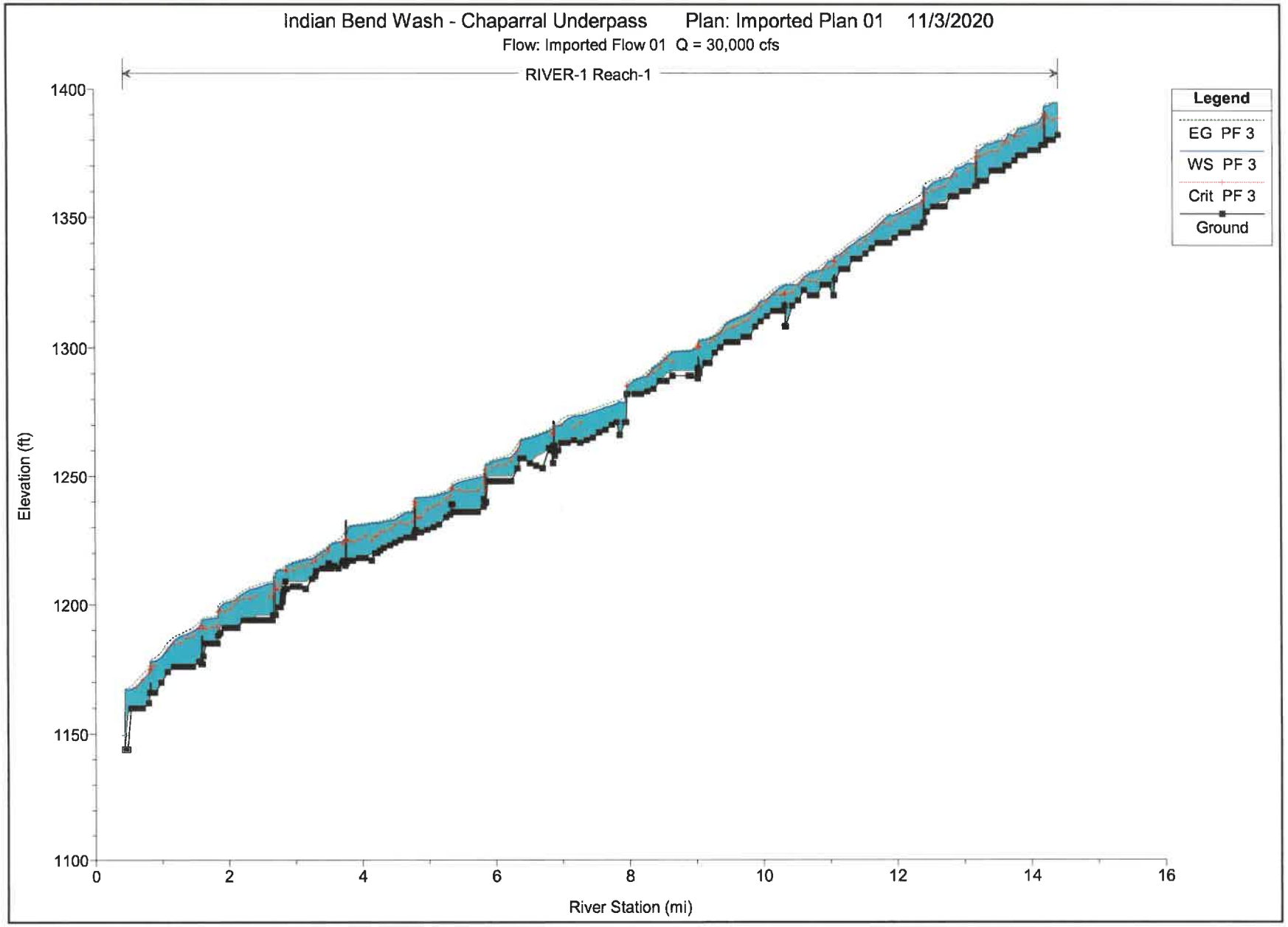
Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01 11/3/2020
Flow: Imported Flow 01 Q = 30,000 cfs
RIVER-1 Reach-1
Legend
EG PF 3
WS PF 3
Crit PF 3
Ground
Elevation (ft)
1400
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1300
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1200
1150
1100
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2
4
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8
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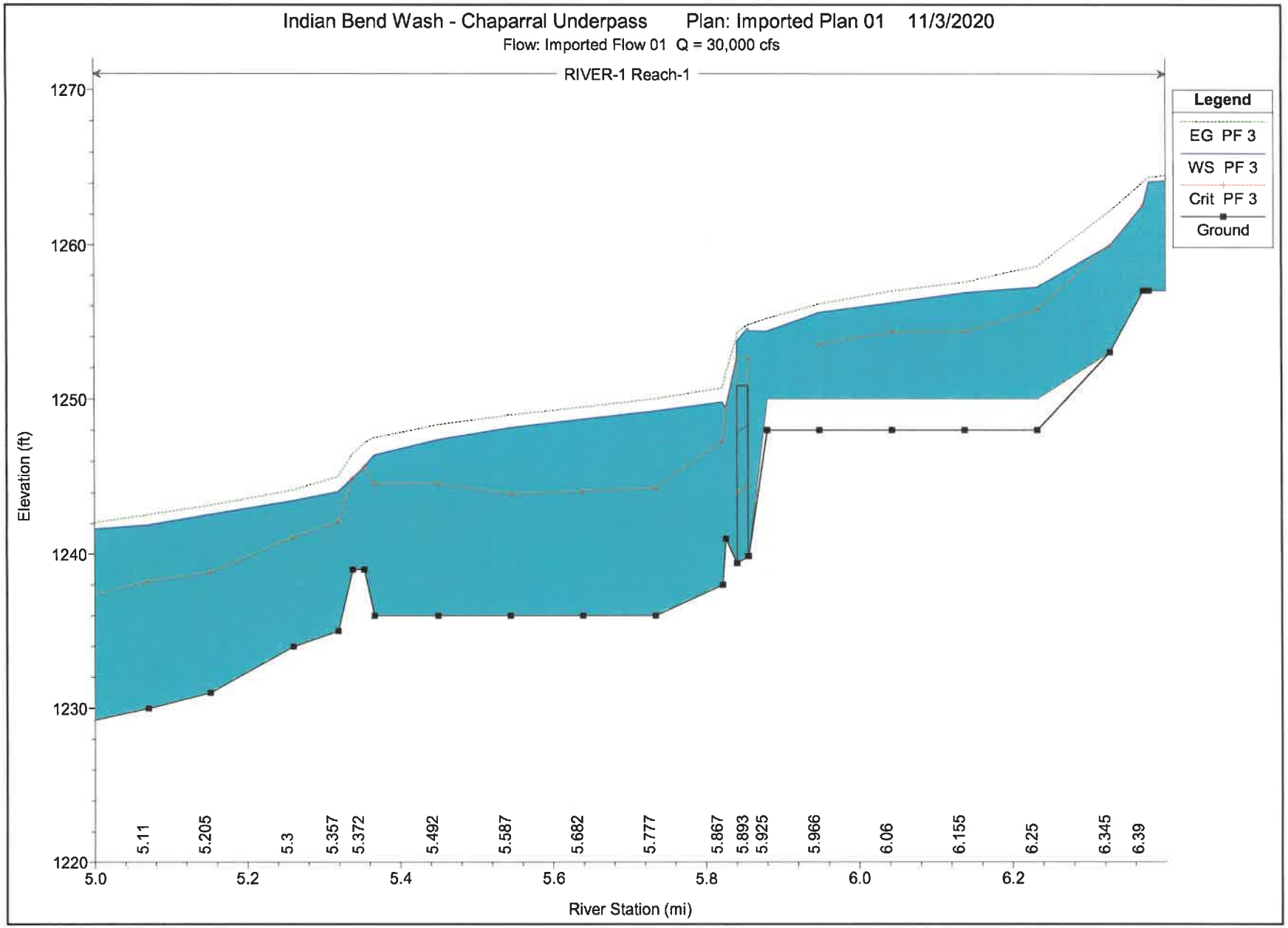
12
14
16
River Station (mi)


Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01 11/3/2020
Flow: Imported Flow 01 Q = 30,000 cfs
RIVER-1 Reach-1
Legend
EG PF 3
WS PF 3
Crit PF 3
Ground
Elevation (ft)
1270
1260
1250
1240
1230
1220
5.0
5.2
5.4
5.6
5.8
6.0
6.2
River Station (mi)
5.11
5.205
5.3
5.357
5.372
5.492
5.587
5.682
5.777
5.867
5.893
5.925
5.966
6.06
6.155
6.25
6.345
6.39

HEC-RAS Plan: Plan p01 River RIVER-1 Reach Reach-1

Reach	River Sta	Profile	Q Total	Min Ch El	W S Elev	Crit W S	E G Elev	E G Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Q Culv	Culv WS Outlet	Culv Vel DS
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(cfs)	(ft)	(ft/s)
Reach-1	6.06	PF 1	17000 00	1250 00	1254 85	1253 07	1255 30	0 001163	5 41	3142 75	762 33	0 47			
Reach-1	6 06	PF 3	30000 00	1250 00	1256 20	1254 29	1256 95	0 001456	6 97	4303 15	1082 17	0 56			
Reach-1	5 966	PF 1	17000 00	1250 00	1254 31	1252 41	1254 62	0 001346	4 52	3762 27	1055 62	0 42			
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Reach-1	5 925	PF 1	17000 00	1250 00	1253 19		1253 77	0 004324	5 46	2899 57	1149 18	0 61			
Reach-1	5 925	PF 3	30000 00	1250 00	1254 34		1255 17	0 003956	6 68	4231 10	1196 55	0 62			
Reach-1	5.9	PF 1	17000 00	1239 86	1253 13	1251 73	1253 41	0 000847	4 32	4106 10	1554 27	0 45			
Reach-1	5 9	PF 3	30000 00	1239 86	1254 37	1252 61	1254 73	0 000814	5 13	6249 64	1919 63	0 46			
Reach-1	5 893 Culv Grp #1	PF 1	1570 76										1570 76	1247 90	8 15
Reach-1	5 893 Culv Grp #1	PF 3	1873 22										1873 22	1247 90	6 45
Reach-1	5 886	PF 1	11500 00	1239 40	1251 19	1251 19	1251 97	0 005059	6 73	1635 02	1057 56	0 98			
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Reach-1	5 871	PF 1	11706 00	1241 00	1247 14	1247 14	1248 44	0 012882	9 15	1280 01	491 89	1 00			
Reach-1	5 871	PF 3	30000 00	1241 00	1249 42	1249 42	1251 54	0 010986	11 69	2565 31	609 25	1 00			
Reach-1	5 867	PF 1	11769 00	1238 00	1246 60	1244 19	1247 07	0 001090	5 48	2148 03	491 06	0 46			
Reach-1	5 867	PF 3	30000 00	1238 00	1249 81	1247 32	1250 69	0 001465	7 50	3999 61	607 49	0 52			
Reach-1	5.777	PF 1	12836 00	1236 00	1246 32	1241 60	1246 60	0 000684	4 22	3040 13	406 33	0 27			
Reach-1	5 777	PF 3	30000 00	1236 00	1249 23	1244 29	1250 00	0 001309	7 05	4255 43	440 85	0 40			
Reach-1	5 682	PF 1	12928 00	1236 00	1246 06	1241 69	1246 33	0 000428	4 12	3135 39	429 97	0 27			
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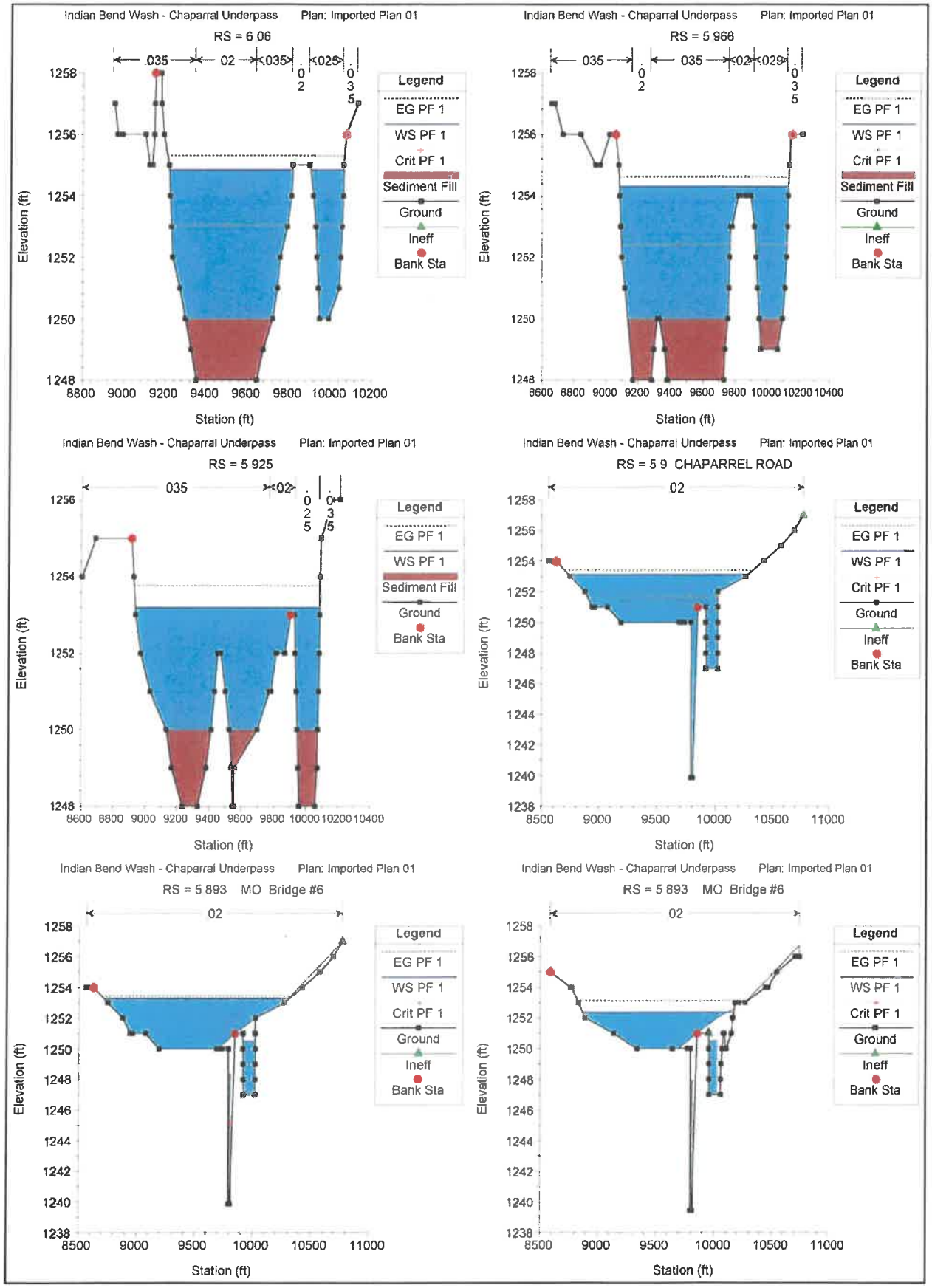
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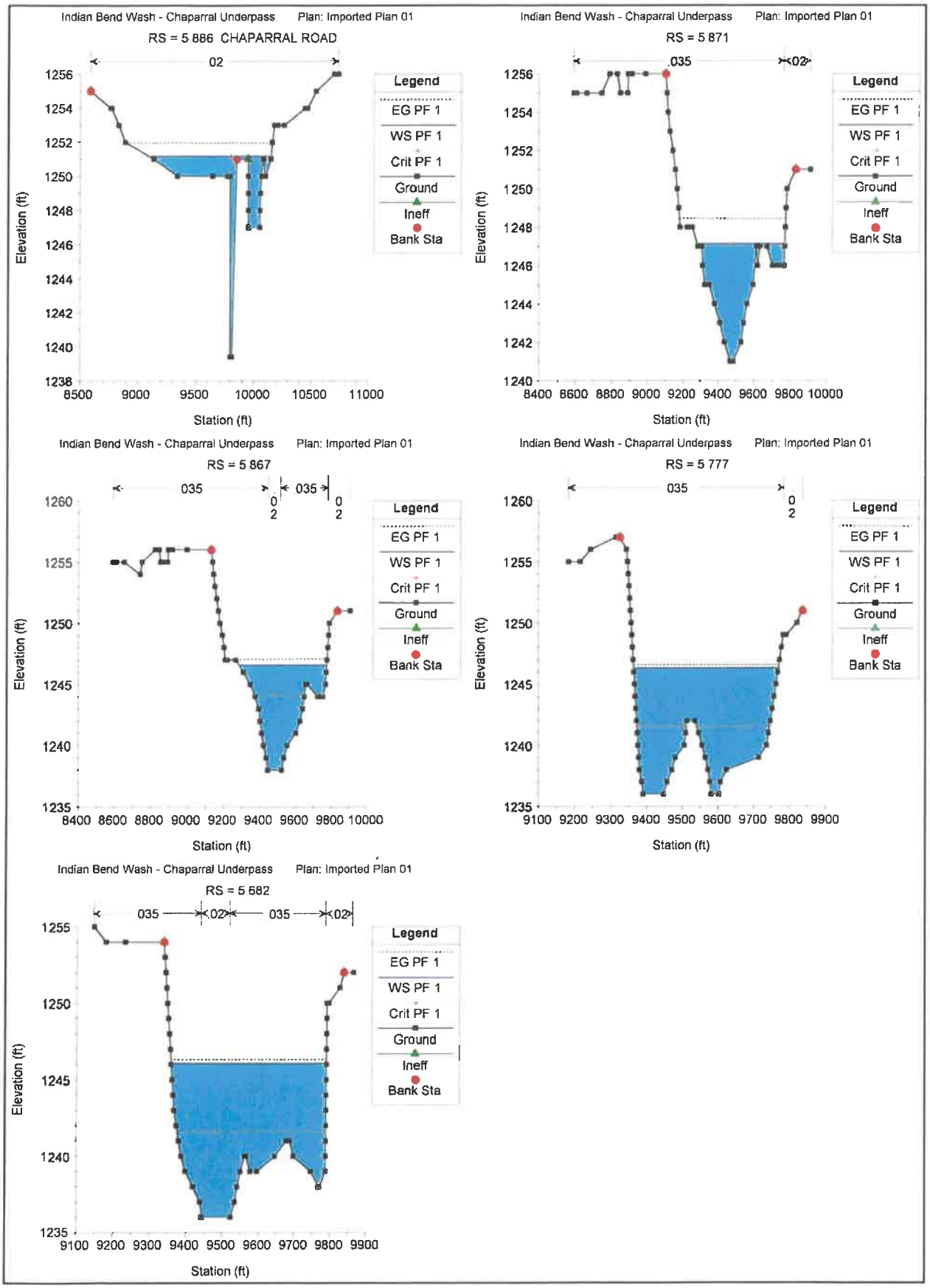
Legend
EG PF 1
WS PF 1
Crit PF 1
Sediment Fill
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01
RS = 5 966
Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01
RS = 5 925
Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01
RS = 5 9 CHAPARREL ROAD
Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01
RS = 5 893 MO Bridge #6
Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01
RS = 5 893 MO Bridge #6


Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01
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02
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01
RS = 5 871
035
02
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01
RS = 5 867
035
035
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01
RS = 5 777
035
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
Indian Bend Wash - Chaparral Underpass Plan: Imported Plan 01
RS = 5 682
035
02
035
02
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)

APPENDIX D

Scour Analysis

GENERAL SCOUR AT WATERLINE CROSSING

SSA 5-96 General Degradation

$d_{gs} = 0.157(Q_{100})^{0.4}$

Q_{100} from River Station 5.893 - HEC-RAS of Proposed Conditions

	Q_{100} (cfs)	dgs (ft)
0.157	1570	2.98

Blench Equation

$y_{f0} = q_f^{2/3} / F_{b0}^{1/3}$ $\quad D_{max} = c\, y_{f0}$ $\quad y_s = D_{max} - y_{max}$

River Station	Q_{100} (cfs)	W (ft)	q_f (cfs/f)	D_{mm} (mm)	F_{b0}	y_{f0} (ft)	c	D_{max} (ft)	y_{max} (ft)	y_{gs} (ft)
5.925	13280	965	13.76	0.15	0.74	6.37	1.00	6.37	3.19	3.18

Q_{100} from River Station 5.925 - HEC-RAS of Proposed Conditions

Cross Section Output

File Type Options Help

River: RIVER-1 Profile: PF 1

Reach Reach-1 RS: 5.925 Plan: Plan p01

Plan: Plan p01 RIVER-1 Reach-1 RS: 5.925 Profile: PF 1

		Element	Left OB	Channel	Right OB
E.G. Elev (ft)	1253.77	Wt. n-Val.		0.034	0.025
Vel Head (ft)	0.58	Reach Len. (ft)	130.00	130.00	130.00
W.S. Elev (ft)	1253.19	Flow Area (sq ft)		2432.81	466.76
Crit W.S. (ft)		Area (sq ft)		2432.81	466.76
E.G. Slope (ft/ft)	0.004324	Flow (cfs)		13280.86	3719.14
Q Total (cfs)	17000.00	Top Width (ft)		965.01	184.17
Top Width (ft)	1149.18	Avg. Vel. (ft/s)		5.46	7.97
Vel Total (ft/s)	5.86	Hydr. Depth (ft)		2.52	2.53
Max Chl Dpth (ft)	3.19	Conv. (cfs)		201966.3	56558.1
Conv. Total (cfs)	258524.3	Wetted Per. (ft)		965.17	184.82
Length Wtd. (ft)	130.00	Shear (lb/sq ft)		0.68	0.68
Min Ch El (ft)	1250.00	Stream Power (lb/ft s)		3.71	5.43
Alpha	1.08	Cum Volume (acre-ft)	16.06	2224.12	48.01
Frctn Loss (ft)	0.21	Cum SA (acres)	14.47	428.42	42.14
C & E Loss (ft)	0.15				

Quality Testing, LLC
175 S. Hamilton Place, Bldg 6, Suite 114
Gilbert, AZ 85233
Telephone: 480-486-2000
Fax: 480-496-2001

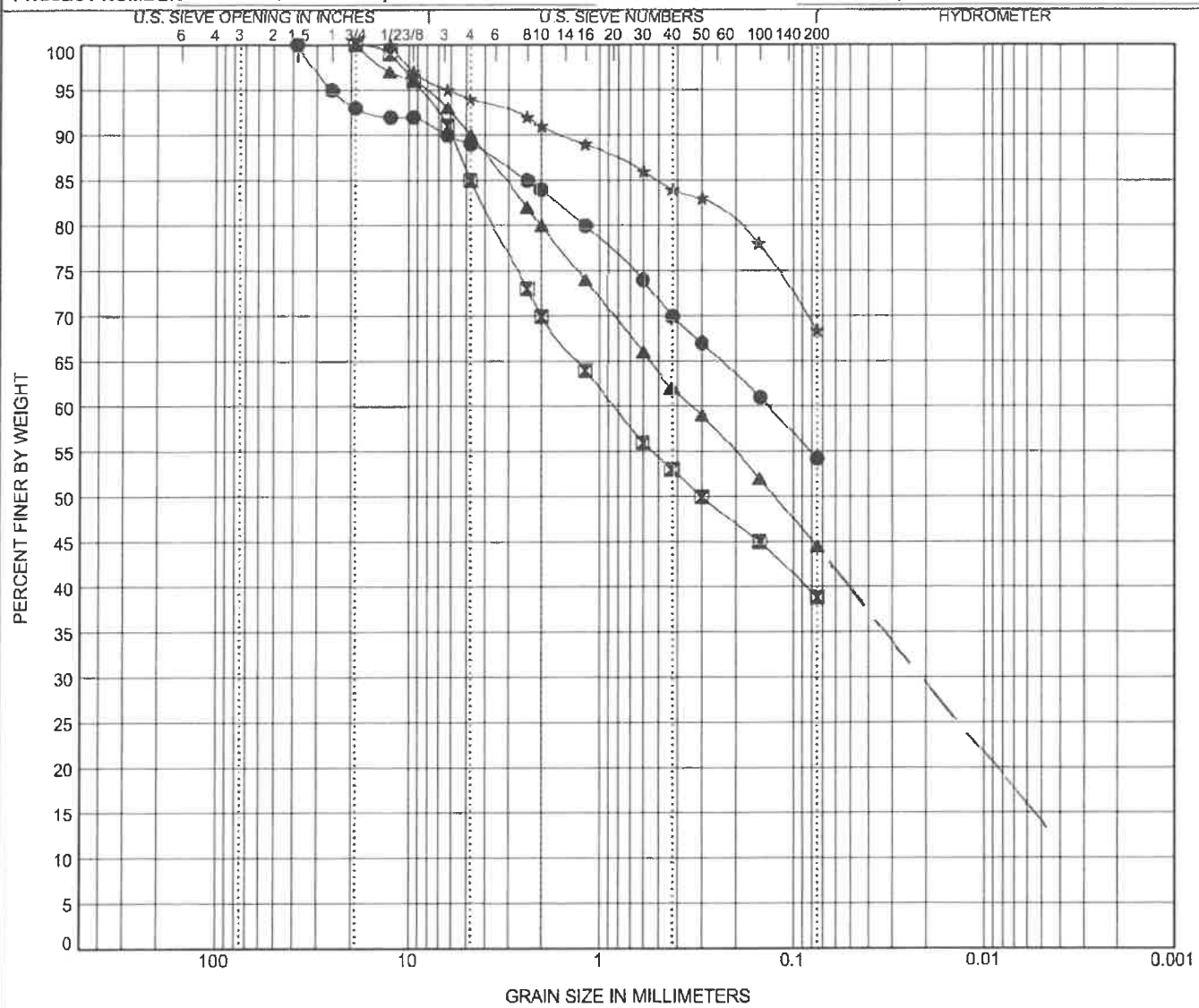
GRAIN SIZE DISTRIBUTION

CLIENT PREMIER Engineering Corporation

PROJECT NAME Hayden and Chaparral Roadway Improvements

PROJECT NUMBER 18026.08, Premier Project # 2015001-09/10

PROJECT LOCATION Scottsdale, AZ



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	B-1, B-2, B-3	0-5	SANDY LEAN CLAY(CL)	33	16	17		
⊠	B-1 & B-3	10-15	CLAYEY SAND with GRAVEL(SC)	34	17	17		
▲	B-4	0-5	CLAYEY SAND(SC)	35	17	18		
★	B-5	0-5	SANDY LEAN CLAY(CL)	36	17	19		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-1, B-2, B-3	0-5	38	0.135			11.0	34.8	54.2	
⊠	B-1 & B-3	10-15	19	0.841			15.0	46.2	38.8	
▲	B-4	0-5	19	0.337			10.0	45.5	44.5	
★	B-5	0-5	12.5				6.0	25.6	68.4	

GRAIN SIZE - GINT STD US LAB.GDT - 20/3/4 14:11 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\18026.08.GPJ

APPENDIX E

Erosion Protection

GROUTED RIPRAP BASIN DESIGN

Channel Bed on Straight Reach

$d_{50} = 0.0191\ V_a^2\ (\gamma_w / \gamma_s - \gamma_w)$

k	V_a (fps)	γ_w (lb/ft^3)	γ_s (lb/ft^3)	d_{50} (ft)	d_{50} (in)
0.0191	8.15	62.4	165	0.77	9.26

Rock Sizing Downstream of Culvert

$d_{50} = 0.014\ H^{0.5}\ Q / (y_t\ B)$

k	H (ft)	Q (cfs)	y_t (ft)	B (ft)	d_{50} (ft)	d_{50} (in)	Tailwater
0.014	8.5	970	5.5	14	0.51	6.17	$y_t = d_c$
0.014	8.5	970	3.4	14	0.83	9.98	$y_t = 0.4H$

Riprap Gradation Table

Stone Size (ft)	Percent Gradation Smaller Than
1.5	100
1.2	85
1.0	50
0.5	15

Equivalent Diameter = $D_e = \sqrt{4\ A / \pi}$

Width (ft)	Height (ft)	Area (ft^2)	D_e (ft)
14.0	8.5	119.0	12.3

From Section 8.4, FCDMC Hydraulics Manual
Grouted Riprap (page 8-59)

D_e (ft)	Length (ft)	Upstream Width (ft)	Dnstream Width (ft)	Thickness (ft)
12.3	98.4	36.9	102.5	1.5

Grouted Riprap Basin Length = 8 D_e

Basin Width at Underpass Outlet = 3 D_e

Basin Width Downstream = 3 D_e + 2 L /3

Thickness (minimum) = FCDMC Hydraulics Manual (fig. 6.17)

APPENDIX D

Geotechnical Report

GEOTECHNICAL EVALUATION REPORT

INDIAN BEND WASH PATH AT CHAPARRAL ROAD

COS Project No. 410-SF01A-56047

Prepared for:

3939 N. Drinkwater Blvd.
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Prepared by:

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Premier Project No. 2015001-10

COS Contract # 2015-041-COS-A3

November 12, 2020

Registered Professional Engineer (Civil)
CERTIFICATE NO. 41051
SHAMEEM A. DEWAN
Date Signed 11/12/20
ARIZONA U.S.A.
EXPIRES 06/30/22

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1.0 INTRODUCTION

Premier Engineering Corporation (Premier) has completed a geotechnical exploration and prepared this geotechnical evaluation report for the proposed Indian Bend Wash Path at Chaparral Road immediately east of the intersection of Hayden Road and Chaparral Road within the City of Scottsdale (City), Arizona. The location of the proposed pedestrian underpass is illustrated in the site location map in Appendix A. The purpose of this geotechnical investigation was to provide information on surface and subsurface materials and geotechnical engineering recommendations with regards to the design and construction of the proposed pedestrian underpass.

2.0 PROJECT DESCRIPTION

The intersection of Hayden Road and Chaparral Road is one of the City's major arterial roadway intersections located within the Indian Bend Wash and Greenbelt corridor. This roadway intersection is fully developed with asphalt pavement, curb and gutter, concrete sidewalks, street lights, pedestrian ramps, and traffic signals. There are existing pedestrian underpass structures under the south leg of Hayden Road and the west leg of Chaparral Road, which are connected to the existing concrete shared-use pathways. It has been realized that an additional underpass is needed to pass under the east leg of Chaparral Road which will also be connected to the existing pathways.

Hayden Road runs north south and provides three lanes of traffic in each direction whereas Chaparral Road runs east west and provides two lanes of traffic in each direction and includes a central left turning lane. Both roadways include exclusive left-turn lanes at the intersection.

3.0 SCOPE OF GEOTECHNICAL SERVICES

Premier's scope of work for the geotechnical investigation included completion of geotechnical exploration services to support the design and construction of the proposed pedestrian underpass and associated features, such as, retaining walls, pavements, and backfills. In detail, the scope of services performed for this project consisted of a site reconnaissance, boring marking and blue stake coordination for City permits and utility clearances, subsurface field exploration, subsurface materials sampling, field and laboratory testing of materials, engineering analysis, and preparation of the geotechnical report including all collected geotechnical information and recommendations.

Field testing included Standard Penetration Tests (SPT) and laboratory tests on the materials sampled included gradation, Atterberg limits, Proctor compaction, R-value, pH, Resistivity, chloride content, and sulfate content tests.

4.0 SITE CONDITIONS

4.1 SURFACE CONDITIONS

The site for the proposed improvements is developed with paved (asphalt) roadways and miscellaneous roadway features including curb and gutters, traffic signals, street lights, raised medians, handicap accesses,

sidewalks, pedestrian underpass, etc. The pavements are currently in fair conditions. Pavements have significant amount of block cracks and other distresses but the maintenance treatments are in place to keep them in a fair condition for the traffic. The roadway intersection is located within the floodway of the Indian Bend Wash but the site area is developed with lakes on the northeast and southeast corners with landscaped areas between the roadways and the lakes. The site area also includes concrete walking trail on all four corners and pedestrian underpasses on the south and the west of the intersections. The greenbelt corridor along the Indian Bend Wash is developed with lakes, landscaped areas, concrete pathways, concrete slabs, and grass lawns. The properties beyond the lakes and landscaped areas include single family homes on the southwest and southeast, commercial buildings and parking areas on the northwest, and multi-family homes on the northeast corners of the roadway intersection.

4.2 GEOLOGIC CONDITIONS AND HAZARDS

The project site is located within the northern part of the Western Salt River Valley sub-basin within the Sonoran Desert Section of the Basin and Range Physiographic Province of the Western United States. Tectonic stretching of the North American continental crust during the last 25 million years has yielded a broad rift called the Basin and Range province, so named because topographically, it consists of long linear mountain ranges separated from one another by flat plains (basins) of alluvium. The Basin and Range Physiographic Province was created 15 to 17 million years ago by a tectonic process which caused a series of high angle normal faults within this area. The up-thrown parts of the faults formed mountains and the downthrown parts formed valleys. The basins in Arizona are mostly made of unconsolidated basin-filled deposits and consolidated sedimentary. The area is also a home for broad alluvial valleys separated by steep, linear, discontinuous, sub-parallel mountain ranges alternating with wide desert plains. Since its creation, the valleys have received massive amounts of sediment from erosion. The long-term sedimentation process and climatic changes continued contribution to the weathering of rocks. The regional stream systems also introduced sediment from distant areas. Therefore, the landforms within the general area consist of mountains and hills, river deposits, and river valleys.

According to Geologic Map of Arizona prepared by Arizona Geological Survey, the site geology is composed of Holocene Surficial Deposits. These includes unconsolidated to weakly consolidated alluvial fan, terrace, and basin-floor deposits with moderate to strong soil development. Fan and terrace deposits are primarily poorly sorted, moderately bedded gravel and sand, and basin-floor deposits are primarily sand, silt, and clay.

As per the geology of Tempe Quadrangle, Maricopa County, Arizona, the Indian Bend Wash site includes extremely fine alluviums consisting of gray to tan, moderately-well sorted, well stratified sandy silt and clay, few to no clasts, averaging 25 percent sand, 75 percent silt and clay. The materials also include localized strongly calcified silt on Indian Bend Wash.

According to the United States Department of Agriculture and Natural Resources Conservation Service Web Soil Survey (Eastern Maricopa and Northern Pinal Counties Area, Arizona, Version 9, September 29, 2016), the subsurface materials at the project site include mostly Gilman Loam (CL). These soils include loam, silt loam, and very fine sandy loam and have low to medium plasticity.

4.3 GEOLOGIC, OTHER NATURAL, AND MAN MADE HAZARDS

Geologic and other natural hazards generally include flooding, ground settlement, faults, liquefaction, ground fissures and subsidence, and groundwater. The site is not a candidate for major geologic and other natural hazards except it is located on the floodway of the Indian Bend Wash.

According to Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM), Map # 04013C1770M, dated September 18, 2020, the project site is located within Floodway Areas in Zone AE – a floodway zone with Base Flood Elevations determined. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood and the floodway is the channel of a stream plus any adjacent areas that must be kept free of enchroachment so that the 1% annual chance of flood can be carried without substancial increases in flood heights.

This project site is located in a relatively stable tectonic region called the Sonoran Zone. There is no known active fault underlying the subject site or adjacent areas. The closest known Quaternary fault to the site is the Carefree Fault System and Sugarloaf Fault System approximately 21 miles north and northeast, respectively to the site. These fault systems have very low slip-rate (< 0.2 millimeters per year). The project region is geologically inactive with respect to faults. However, a seismic risk map places Maricopa County in Zone 2, which can receive moderate earthquake damage, although no record currently exists.

There was no fissure discovered at or near the site. The closest fissure to the project site is located more than 8 miles northeast to the site. Therefore, the site has very low potential to experience fissures in the ground.

The project site is located within the North Indian Bend Wash Superfund Site. This area is considered to consist of ground water in three different layers – upper, middle, and lower aquifers. Groundwater and soils in certain isolated areas may be contaminated with volatile organic compounds (VOCs) including trichloroethylene (TCE) and tetrachloroethylene (PCE). The project site is within the area where the lower aquifer water is contaminated. Moreover, recent monitoring (April 2017) by EPA did not identify a significant vapor intrusion problem in the shallow soils at the site.

4.4 SUBSURFACE EXPLORATIONS

Subsurface information was gathered by drilling five (5) test borings within the project site, extending to depths from five (5) feet to 20 feet. The drilling was completed utilizing a truck mounted CME 75 drill rig equipped with eight-inch outside diameter continuous flight hollow-stem augers. The drilling was monitored and documented by Premier.

Standard penetration tests (SPT) in conformance with ASTM D 1586 were completed at different depths. Subsurface materials were classified according to the Unified Soil Classification System (USCS). For information regarding soil classifications, refer to Appendix B. Bulk, spoon, and relatively undisturbed ring samples were collected for laboratory tests. At each location, the boreholes were backfilled with drill cuttings at the conclusion of drilling operations and patched with cold-mix asphalt concrete, as needed. The locations of all the test borings and detailed descriptions of the materials encountered at each boring location are provided in Appendix C.

Neither a groundwater table nor a saturated condition was encountered during the soil exploration at any boring location.

4.5 LABORATORY TEST RESULTS

Laboratory tests were performed to complement information on the types and conditions of subsurface materials determined during field exploration and testing at the site. The laboratory tests included gradation, Atterberg limits, Proctor compaction, R-value, pH, resistivity, sulfate and chloride. Gradation and Atterberg limits tests were completed to provide classification of the soils and indicate other physical properties such as strength, compressibility, and potential to change in volume due to exposure to excess water. Proctor compaction test was to determine the compactibility of the soil. R-value tests were completed to evaluate the subgrade resistance (strength) against traffic loads, pH, resistivity, sulfate and chloride tests were completed for evaluating corrosion potential of subsurface materials for buried reinforced concrete and metal features. Laboratory test results are contained in Appendix D and are summarized below.

Premier completed four particle size distribution (gradation) and four Atterberg limits tests. The test results are presented in the following table:

Boring Number	Sample Depth (feet)	Fines Content (% Passing #200 Sieve)	Liquid Limit (%)	Plasticity Index (%)	Soil Classification (USCS)	
					Symbol	Name
B-1, B-2, B-3	0 – 5	54.2	33	17	CL	Sandy Lean CLAY
B-1, B-3	10 – 15	38.8	34	17	SC	Clayey SAND with Gravel
B-4	0 – 5	44.5	35	18	SC	Clayey SAND
B-5	0 –5	68.4	36	19	CL	Sandy Lean CLAY

The above test results indicate that the soils at the site are mostly mixtures of sand and clay (SC, CL) within the upper 10 feet with the upper five feet mostly sandy clay (CL). The percent fines (passing #200 sieve) varied from 38.8 to 68.4. Liquid limit values varied from 33 to 36 and plasticity index values varied from 17 to 19 within the depths included in the tests.

One standard Proctor compaction test was completed on a composite sample from the upper five feet of borings B-1, B-2, and B-3, and the test results indicated an optimum moisture content of 110.8 pounds per cubic foot (pcf) and an optimum moisture content of 15.3 percent.

One R-value test was completed on a composite sample from the upper five feet of borings B-1, B-2, and B-3, and the test results indicated an R-value of 14. This R-value indicates a low to moderate subgrade resistance.

4.6 SUBSURFACE CONDITIONS

Detailed information regarding the subsurface conditions encountered at each boring location is provided in the boring logs contained in Appendix C. In a brief, the subsurface materials within the soil borings consisted mostly of a mixture of sand and clay (CL, SC). The materials are of medium plasticity (PI varies from 17 to 19) with percent fines ranging from 39 to 68 and soft to moderately stiff sandy clay and medium dense to very dense clayey sand.

5.0 DESIGN RECOMMENDATIONS

The recommendations in this report are based on the assumption that the subsurface conditions along/at the proposed improvement elements are similar to those encountered at boring locations and depths. If significant variations are noted during the construction or changes in the design or materials are made, Premier should be notified so that our recommendations can be revised and supplemented, if necessary. The site conditions and the laboratory test results indicate that the soils at the site will support the design and construction of the proposed Pedestrian Underpass and associated features.

5.1 FOUNDATIONS

Premier understands that the construction of the proposed Pedestrian Underpass will require excavation and removal of a portion of the existing roadway and roadway embankment, and construction of the pedestrian underpass structure and associated retaining walls. Based on subsurface conditions, the subsurface materials are suitable as subgrades for structural foundations for the underpass structure and the retaining walls. Shallow foundation system consisting of spread footings should be established in undisturbed native soil, recompacted disturbed native soil or engineered fill. Allowable bearing pressure, in pounds per square foot (psf), under the spread footings depends on the depth of embedment. The following bearing pressures are recommended:

Embedment depth (foot)	Allowable Bearing Pressure (psf)
2.0	2,500
3.0	3,000
4.0	3,500
5.0	4,000

The re-compaction of native or import fill should achieve at least 95 percent relative compaction placed within two percent of its optimum moisture content as determined by a standard Proctor compaction test (ASTM D698). The re-compaction should be extended to the depth of disturbance and three feet beyond the foundation edges.

The design of spread footing should avoid tension under the footing or designed by a structural engineer for the tension loading conditions. The maximum toe pressure for an eccentrically loaded footing may exceed the allowable bearing value by up to 25 percent, provided it is demonstrated that the heel of the footing is not subjected to tension.

5.2 PAVEMENT THICKNESS DESIGN

It is our understanding that the construction The pavement section design analyses were completed using the American Association of State Highway and Transportation Officials (AASHTO) guidelines and Arizona Department of Transportation (ADOT) guidelines. Using these standards, City's Design Standards & Policies Manual 2018 (DSPM) summarizes and provides design procedures.

5.2.1 Design R-Values and Subgrade

Arizona Department of Transportation (ADOT) guidelines were utilized to determine an equivalent mean R-value for the subgrades. According to this model, the mean R-value was calculated based on correlated R-values and measured R-values. The correlated R-values were estimated based on plasticity index and percent passing no. 200 sieve using the procedure described in the ADOT Pavement Design Manual (PDM). The following table shows correlated R-values at different exploration locations.

Boring Location	Depth (feet)	Fines Content (%Passing #200 Sieve)	Plasticity Index	Correlated R-Value
B-1, B-2, B-3	0 – 5	54	17	24
B-1, B-3	10 – 15	39	17	30
B-4	0 – 5	45	18	27
B-5	0 – 5	68	19	18

Based on the correlated and tested R-value, a design and construction R-values of 17 should be utilized for the roadway pavements.

5.2.2 Soil Support Value

Based on the R-Value of 17, a soil support value of 3.348 was selected from DSPM Figure 5-10.5.

5.2.3 Design Traffic

The traffic map available online from the City indicates that the intersection had a total 2018 average daily traffic (ADT) of 15,900. Considering a 50-50 split between the roadways and two through lanes on Chaparral Road and three through lanes on Hayden Road, the design lane on Chaparral Road may carry an estimated ADT of 3,180 on the turn lane.

Both Hayden Road and Chaparral Road are currently classified as urban major Arterials. Considering a 20-year design period, 0.2 overall truck factor, 10 percent truck traffic, and 2.0 percent assumed growth in traffic, a design equivalent single axle load (ESAL) was estimated to be 0.56 million on the design lane.

5.2.4 Structural Number

Based on the procedure for flexible pavement design as described in the DSPM and using the design parameters mentioned above, Premier calculated the required structural number of 3.45 (DSPM Figure 5-10.6).

5.2.5 Pavement Thickness

As per DSPM Figure 5-10.1 and 5-10.3, the minimum thickness of asphalt concrete is 7.0 inches and the minimum thickness for aggregate base is 11 inches. These minimum thicknesses provide a structural number

of 4.05, which is greater than the estimated required value of 3.45. However, it is understood that the existing pavement layer system may dictate the pavement layers of the new pavement areas.

5.2.6 Asphalt Concrete Mixes

The following mixes are recommended for the pavements as per Figure 5-10.1 of DSPM.

> 3" of A-¾" asphalt base 1st lift, 3" of A-¾" asphalt base 2nd lift, and 1" gap graded rubberized asphalt surface course.

5.3 LATERAL EARTH PRESSURE FOR RETAINING STRUCTURES

The lateral earth pressure acting on earth retaining structures including retaining walls and underpass structure walls are dependent on the following factors:

- Backfill properties, including soil type and gradation, unit weight, moisture content, drainage characteristics and creep behavior (if any)
- Soil-structure interaction (wall movement under load)
- Backfill drainage provisions
- Additional pressure from construction compaction and other surcharges
- Earthquake loads

The following design parameters should be utilized for unrestrained retaining walls above free water surface with level backfill and no surcharge load:

• Active Pressure - Unrestrained	36 psf per foot
• Active Pressure – Restrained or At-Rest	56 psf per foot
• Passive Pressure – Continuous or Strip Footing	260 psf per foot
• Passive Pressure - Spread Footing	300 psf per foot
• Coefficient of base friction	0.40

The values are based on a compacted moist unit weight of 110 pcf and an effective (drained) friction angle of 29 degrees for level, free draining structural backfill. The coefficient of base friction should be reduced to 0.38 when passive soil resistance is considered.

Fill against foundations should be compacted to the densities specified in this report. Compaction of each lift behind the walls should be at least 95 percent relative density in relation to standard Proctor compaction tests. During placement and compaction of the backfill behind the walls, heavy construction vehicles should be kept at least a distance of 0.5H (H=retained height) away from the wall. If traffic is anticipated within that distance, a minimum surcharge equivalent to two feet of soil acting on the back slope should be added to the actual thickness of the retained soil in the calculation of lateral pressures.

To minimize the risk of creating excess lateral pressure on the wall, backfill immediately behind the walls should be compacted utilizing light compaction equipment, such as a hand-held compactor. Materials close to the wall can be compacted in 8-inch lifts utilizing a walk behind hand operated vibratory plate compactor.

The use of hammers such as jumping jacks, vibrating sheep foot rollers, or heavy static equipment should be avoided. If temporary bracings are utilized to reduce overstressing the walls, any excavation of utilities or removal of bracings should be performed carefully to prohibit loss of support, which could result in settlement and/or lateral displacements of the walls.

Materials with expansive potential should be avoided in the backfill close to the walls. The backfill materials behind the walls should consist of clean and free-draining granular materials with less than five percent fines. However, since the onsite soils have fines content greater than five percent, these materials can still be utilized as backfill behind the retaining walls with a geotextile fabric attached to the back of the wall to intercept and collect water to a perforated PVC drain pipe. The perforated pipe will discharge the water to a drainage collection feature.

5.4 DESIGN SEISMIC CONSIDERATIONS

For the current project, the seismic site class was evaluated based on the 2015 International Building Code (IBC). The IBC requires the determination of the site soil profile extending to a minimum depth of 100 feet for seismic site classification. The current project scope included the determination of a soil profile extending to 20 feet depth. Based on the subsurface information gathered by Premier and experience in the area, it is understood that the site subsurface materials include generally loose to medium dense sand-silt-clay mixture within the upper layer followed by dense to very dense materials underneath. Therefore, the site structures can be designed by considering the site to be in the seismic **Site Class D** according to the IBC.

Earthquake ground motion parameters were estimated based on the IBC 2015. Design specifications for seismic parameters are provided in the following table.

Parameter	Value	IBC 2015
Site Class	D	Section 1613.3.2
S_S (Mapped spectral acceleration for short periods)	0.187g	Section 1613.3.1
S_1 (Mapped spectral acceleration for 1-second periods)	0.060g	Section 1613.3.1
S_{MS} (Max. spectral response acceleration for short periods)	0.30g	Section 1613.3.2
S_{M1} (Max. spectral response acceleration for 1-second periods)	0.145g	Section 1613.3.2
F_a (Site coefficient, short periods)	1.6	Table 1613.3.3 (1)
F_v (Site coefficient, 1-second periods)	2.4	Table 1613.3.3 (2)
S_{DS} (Design spectral response acceleration for short periods, 5% damped)	0.20g	Section 1613.3.4
S_{D1} (Design spectral response acceleration for 1-sec periods, 5% damped)	0.097g	Section 1613.3.4
PGA (MCE_G Peak Ground Acceleration)	0.076g	-
F_{PGA} (Site amplification factor at PGA)	1.6	-
A_s or PGA_M (Site modified peak ground acceleration, PGA X F_{PGA})	0.122g	-

5.5 DRAINAGE

Moisture that infiltrates into roadway or foundation subgrade could adversely affect these features. Surface and subsurface drainage of water into the subsoil in roadway and foundation areas should be prevented, if possible. The site should be graded such that drainage is directed away from the improvements, and toward storm water conveyance or collection facilities. Therefore, Premier recommends that positive drainage be provided in the final design by providing a slope of 2 percent or more for a distance of 5 feet or more away from the pavements, foundations, or any other features. Surface water should not be allowed to pond on pavement surfaces. Planters and landscaping areas should be placed at sufficient distance or with appropriate barriers to protect the subgrades from moisture intrusions. The maintenance of storm water and subsurface drainage systems should be performed during the entire life of the pavements and structural features.

Based on the information on native materials, it is unlikely that subgrade materials will cause significant swell under lightly loaded structural features such as roadway pavements or sidewalks.

5.6 EARTHWORK FACTORS AND GROUND COMPACTION

Shrinkage factor is defined as the ratio of fill density to excavation (cut) density. A factor lower than unity (one) indicates that compaction or placement density is higher than which exists on borrow site. This might result in importing materials, if the cut volume is equal to or less than the fill volume. Onsite soil excavated from the upper 10 feet of subsurface is anticipated to have a shrinkage factor of 0.85 to 0.90 (10 to 15 percent shrinkage).

The ground compaction factor should be taken into consideration when constructing embankment fill sections outside the existing roadway prism. Premier recommends a ground compaction factor of up to 0.20 feet be used for this project site.

In accordance with ADOT procedures, the recommended earthwork factors should be rounded to the nearest five (5) percent. The earthwork factors represent an average of the materials observed with varying consistencies. Potential bidders should consider this fact in the preparation of estimates and should review the available data to make their own conclusions regarding excavation conditions.

6.0 EARTHWORK RECOMMENDATIONS

6.1 GENERAL

The pedestrian underpass will be constructed under Chaparral Road. The construction will require saw-cutting of Chaparral Road pavements and excavation/grading within the roadway and to the north and south where the pedestrian pathways will be rebuilt. Additional grading will be required at locations of new retaining/wing walls for the underpass and where pedestrian access improvements are reconnected to the existing pedestrian pathways and sidewalk along Chaparral Road. The process also includes soil backfill and compaction. All disturbed areas should be proof-rolled to delineate any soft or uncompacted areas. All backfilling and disturbed soil mass should be compacted as per compaction and moisture requirements specified in this report.

The earthwork at the improvement site should be evaluated by a geotechnical engineer or a qualified representative. The evaluation should include observation and/or testing of site grading, excavation, subgrade preparation, fill placement and compaction, and other geotechnical conditions exposed during construction. The prepared fill and subgrades should not be kept exposed to the environment for more than 24 hours as this can change the moisture and density conditions.

6.2 SUITABILITY OF FILL MATERIALS AND IMPORTS

Clean, on-site native soils removed from excavation and grading or non-swelling import soils may be utilized within the subgrades for pavements and the foundation areas for retaining walls and underpass structure. Fill materials should be clean and free of deleterious matters including large pieces (larger than three inches) within the upper three feet of fill.

If import soils are utilized as subgrade materials, the materials should be evaluated by an on-site geotechnical representative before the material is brought to the site. The maximum swell potential of the compacted (95% of ASTM D698 maximum dry density) import soil should be 1.5 percent as per ASTM D4546 with 100 pounds per square foot (psf) surcharge pressure. The import fill under pavements and foundations should be compacted to at least 95 percent of relative compaction at a moisture content within two percent of the optimum moisture content.

6.3 SUBGRADE PREPARATION

The pavement design provided in this report assumes that the upper six (6) inches of sub-base soil (pavement subgrade) is scarified, moisture conditioned, and re-compacted to proper compaction. The asphalt concrete layers should be constructed of dense-graded mix. Base course and asphalt concrete materials should conform to MAG or the City of Scottsdale requirements.

Some preventive maintenance measures should be taken to enhance the short and long term performance of the pavement structures. Base course or pavement materials should not be placed when the underlying surface is wet. Surface drainage should be provided to keep the storm water away from the pavement areas and minimize water intrusion into the pavement subgrade. Aggregate base course layers should not be allowed to extend to planter areas.

Pavement and foundation subgrades should be free of organics, debris, oversize materials, and any other deleterious matter. Subgrades should be firm and clean. If a subgrade is found to be disturbed or fill materials are to be utilized under pavements or foundations, the subgrade native soils should be scarified to a minimum eight-inch depth or depth of disturbance, whichever is greater, and then moisture treated and re-compacted at 95 percent or more relative compaction at a moisture content within two percent of the optimum moisture content.

After a rough grade has been achieved for pavement subgrades and prior to the placement of fill materials, the exposed subgrade should be checked for the presence of unsuitable materials (debris, organic matter, oversize particles, etc.). Unsuitable materials should be removed from the subgrades. The disturbed subgrade should be backfilled and compacted with engineered fill. Engineered fill should be placed in

horizontal lifts with loose thickness not exceeding eight inches. The upper layer of fill (up to three feet) under roadway areas should consist of select materials free of any pieces of rock or soil particles larger than three inches. The roadway subgrade consisting of import fill shall generate a correlated R-value equal to or greater than the design R-value.

6.4 EXCAVATION AND TRENCHING

The subsurface information indicates that excavations for spread footings, slabs-on-grade, retaining walls, pavements or trenching for utilities can be achieved by using standard duty excavation equipment in good working condition. Additionally, due to the relatively stiff/dense nature of the subsurface fine materials and the presence of no shallow groundwater, unstable excavation bottoms and caving of soils are not expected.

General excavation slopes should be maintained at 1.5 horizontal to 1 vertical (1.5:1) in places where on-site fine soil is encountered. Shallower excavations (up to 4 feet) may utilize steeper slopes up to 1:1. Excavations should not be kept open for long periods, as this may cause spall off and/or shallow slope failure due to the reduction in moisture content of the slope. The moisture in the slope can be preserved by using gunite, shotcrete, or other polymer-based spray.

6.5 SHORING AND BRACED EXCAVATION

Based on the subsurface conditions and type of proposed development, shoring systems may be installed for the site excavations. Appropriate lateral pressures should be utilized in the shoring and braced system designs. All unit pressures provided for lateral Earth Pressure and Retaining Wall section of this report may be utilized. Considerations for surcharge loads and water table, if any, must be included in calculations.

6.6 UTILITY BACKFILLS

Pipelines and underground conduits may be installed as part of the proposed developments. Pipe backfill materials can consist of soils obtained from pipe trench excavations containing no pieces larger than three inches; alternatively, off-site granular import materials can be utilized. The compaction of bedding and backfill should be 95 percent relative density. However, pipes should not be stressed during compaction of materials over or around the pipes. Hand held devices such as power tampers should be used to provide careful compaction of the materials, especially within 12 inches above the pipe. Hard materials larger than three inches in maximum dimensions should not be placed within six (6) inches of the pipes.

Trenches should be excavated to sufficient width and depth to provide working space on both sides of the trench and around the installed pipes as needed for placing, joining, backfilling and compacting. The trench bottom should be inspected for loose or deleterious materials. Unstable materials should be removed and replaced with competent and compacted materials.

6.7 PLACEMENT AND COMPACTION

Native and import fill materials should be placed and compacted in horizontal lifts using equipment and procedures that will produce recommended moisture content and densities. Recommended compaction and moisture content criteria for engineered fill, re-compaction of onsite materials, aggregate base, and asphalt concrete pavements are as follows.

Material and Location (On-site or import materials)	Standard Proctor Compaction (ASTM D 698)	
	Relative Compaction (%)	Moisture Content Relative to Optimum Moisture (%)
Asphalt concrete pavement	95	-
Aggregate base course	100	-
Pavement subgrade	95	0 to +2
Retaining wall backfill	95 or more	-2 to +2
Foundation subgrade	95 or more	-2 to +2
Utility backfill	95 or more	-2 to +2

The fill surface should be adequately maintained during construction in order to achieve an acceptable compaction and interlift bonding. The construction surface should be sloped properly to prevent ponding and provide drainage of runoff water. If precipitation is anticipated during construction, it is recommended that the fill surface be made smooth by rolling with a smooth drum roller.

6.8 QUALITY CONTROL AND QUALITY ASSURANCE TESTING

Subgrade preparation, backfill placement, and re-compaction should be observed, tested, and documented by a qualified representative of the geotechnical engineer. This representative should, at least, observe and document the following:

- Subgrade is compacted, firm, and without deleterious objects.
- Compaction and moisture content of backfill soils meet the specifications.
- If import soils are used, the import soils shall have low swell potential. Import soils should be tested for remolded swell test per batch or one at every 1,000 cubic yard placed, whichever is higher.
- Field density testing should be performed for engineered fill or aggregate base course materials at a rate of one test every 500 feet per lane for the roadway.
- A quality control test report should be prepared documenting all on-site activities, test results, and conclusions.

7.0 DISCLOSURE

This report has been prepared as an aid to the designers for the current project only. The comments, statements, and recommendations set forth reflect the opinions of the author. The opinions are based upon conditions at the location of the specific observations, as well as tests and data developed to satisfy the scope of services. However, due to the inherent natural variations of the soil strata and the nature of geotechnical exploration, it is always possible that the soil conditions between two borings may be different from those encountered at the boring locations. Also, changes at the site by human activities or changes in code or standards due to legislative action may affect the conclusions and recommendations. If variations in materials are encountered or human changes are made, a geotechnical engineer should be contacted to reevaluate the recommendations provided in this report.

Structural/loaded features built on soil and supporting subgrade are subject to risks that cannot be entirely eliminated. Common detrimental hazards include settlement, localized concentrated drainage, hydro-compaction, and soil expansion or collapse due to unidentified geologic or man-made conditions. A geotechnical evaluation with limited boreholes, depths, and laboratory tests may not delineate all the possible hazards. Therefore, the roles of design professionals and contractors, and maintenance of the site play a critical role.

This report has been prepared in accordance with generally accepted geotechnical engineering principles and practices. No warranties are intended or made. It is intended for the exclusive use of our client for specific application to the current project and is valid for the proposed development at the issuance date of this report. It should not be used as a bidding document. The contractors must draw their own conclusions regarding site conditions and specific construction techniques to be used.

8.0 REFERENCES

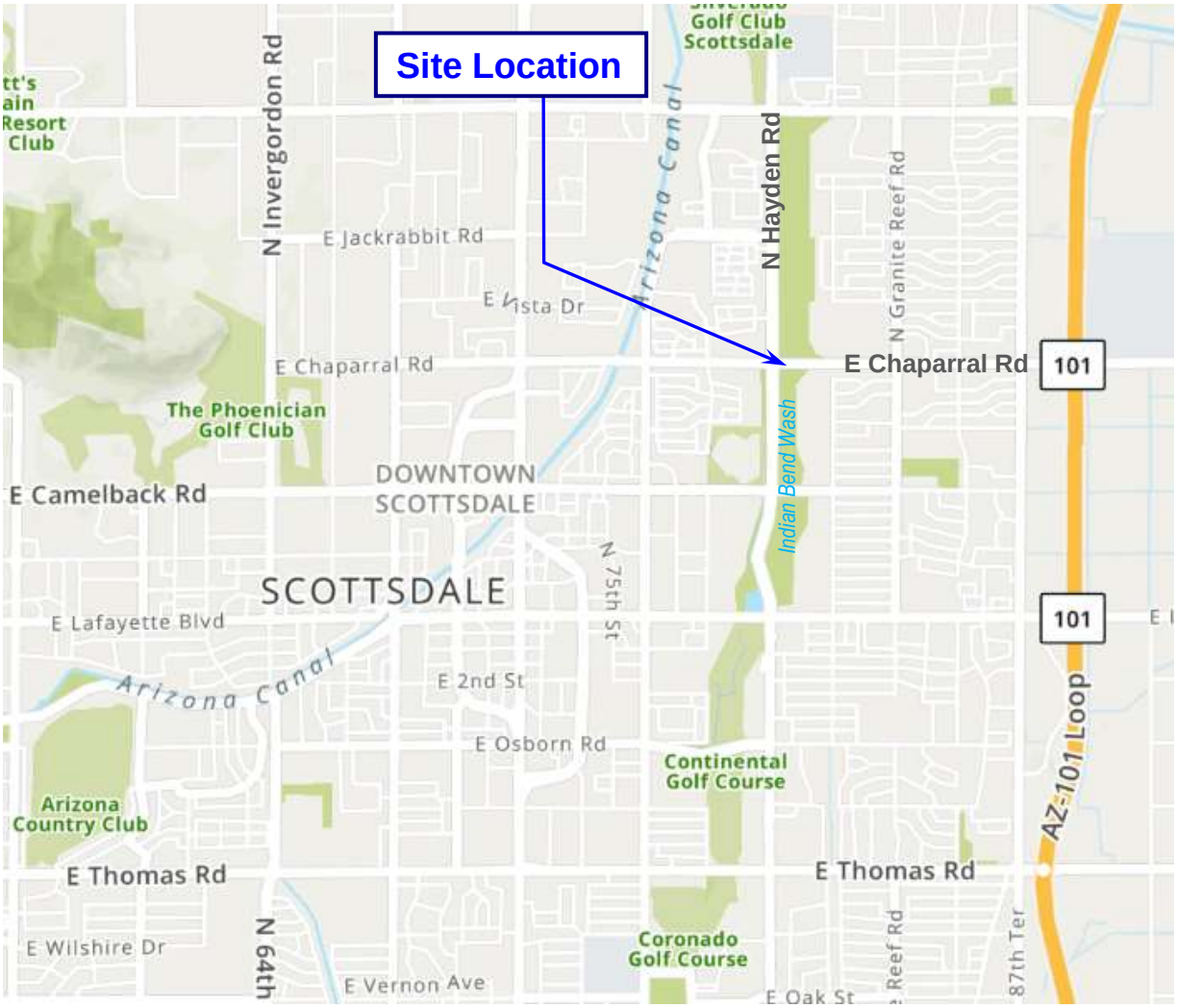
1. City of Scottsdale Design Standards and Policies Manual, 2018.
2. National Cooperative Soil Survey. Natural Resources Conservation Service (NRCS) and U.S. Department of Agriculture, 2015.
3. AASHTO Guide for Design of Pavement Structure, 1993.
4. U.S. Seismic Design Maps (http://earthquake.usgs.gov/designmaps/us/application.php?).
5. Pavement Design Manual, ADOT, 2017.
6. The International Building Code, National Code Council, 2015.
7. Huang, Yang. Pavement Analysis and design.1993.
8. United States Geological Survey Maps. https://gisweb.azwater.gov/waterresourcedata/

Appendices:

Appendix A: Site Location Map
Appendix B: Soil Classification Methods
Appendix C: Boring Location Plan and Boring Logs
Appendix D: Laboratory Test Results
Appendix E: Site Photos

Appendix A

Site Location Map



SITE LOCATION MAP

INDIAN BEND WASH PATH AT CHAPARRAL ROAD

Scottsdale, Arizona

Premier Project # 2015001-10
COS Project No. 410-SF01A-56047

PREMIER
ENGINEERING CORPORATION

Appendix B

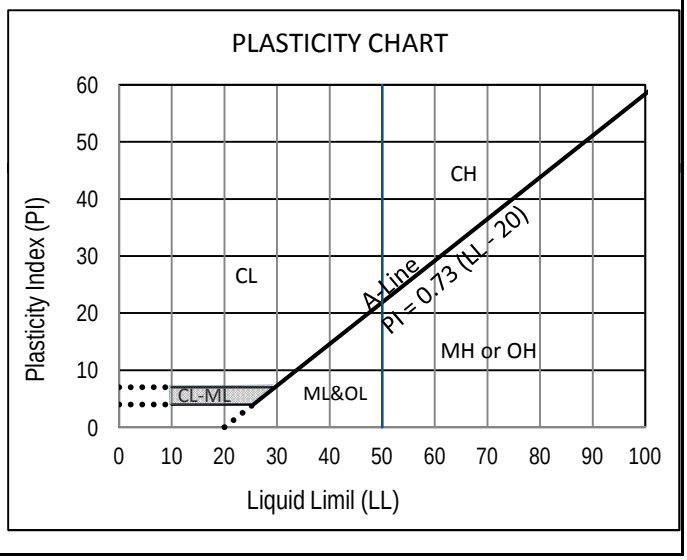
Soil Classification Methods

SOIL CLASSIFICATION, CONSISTENCY, AND PLASTICITY

Unified Soil Classification System

COARSE GRAINED SOILS (more than 50% larger than No. 200 seive size)					
GRAVELS more than 50% larger than N0. 4 sieve size	Clean Gravels (less than 5% fines)				
	GW	Well graded gravels, gravel sand mixtures, little or no fines	GW	$C_u = D_{60}/D_{10} > 4$ and $C_c = D_{30} / (D_{10} X D_{60})$ between 1 and 3	
	GP	Poorly graded gravels, gravel sand mixtures, little or no fines	GP	Not meeting all gradation requirements for GW	
	Gravels with fines (between 5% and 12%)		GW-GM, GW-GC, GP-GM, or GP-GC		
	Gravels with fines (more than 12% fines)				
	GM	Silty gravels, gravel sand silt mixtures	GM	Atterbert limits below "A" Line or PI < 4	GC-GM: Atterberg limits above "A" Line with PI beween 4 and 7
	GC	Clayey gravels, gravel sand clay mixtures	GC	Atterbert limits above "A" Line with PI > 7	
SANDS 50% or more smaller than N0. 4 sieve size	Clean Sands (less than 5% fines)				
	SW	Well graded sands, gravelly sands, little or no fines	SW	$C_u = D_{60}/D_{10} > 4$ and $C_c = D_{30} / (D_{10} X D_{60})$ between 1 and 3	
	SP	Poorly graded sands, gravelly sands, little or no fines	SP	Not meeting all gradation requirements for SW	
	Gravels with fines (between 5% and 12%)		SW-SM, SW-SC, SP-SM, or SP-SC		
	Sands with fines (more than 12% fines)				
	SM	Silty sands, sand silt mixtures	SM	Atterbert limits below "A" Line or PI < 4	SC-SM: Atterberg limits above "A" Line with PI beween 4 and 7
	SC	Clayey sands, sand clay mixtures	SC	Atterbert limits above "A" Line with PI > 7	

FINE GRAINED SOILS (50% or more passing No. 200 seive)		
SILTS AND CLAYS Liquid limit less than 50%	ML	Inorganic silt and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or more	MH	Inorganic silts, micaceous/diatomaceous fine sandy or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils



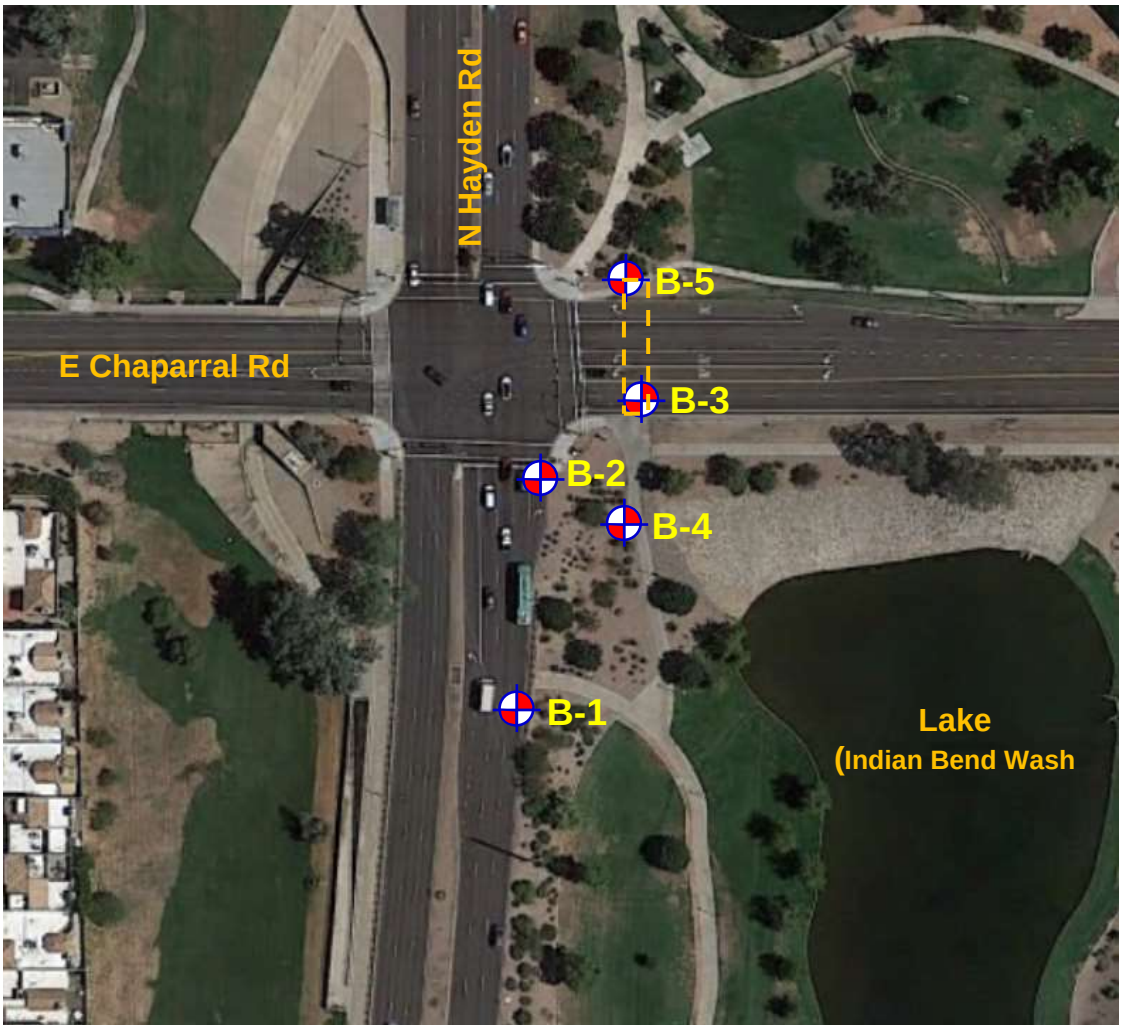
Consistency or relative density

Coase Grained Soils		Fine Grained Soils		
Std Penetration Resistance, N	Relative Density	Std Penetration Resistance, N	Unconfined Compressive Strength, q_u (tsf)	Consistency
0 - 4	Very loose	< 2	< 0.25	Very soft
4 - 1 0	Loose	2 - 4	0.25 - 0.5	Soft
10 - 30	Medium dense	4 - 8	0.50 - 1.00	Medium stiff
30 - 50	Dense	8 - 15	1.00 - 2.00	Stiff
> 50	Very dense	15 - 30	2.00 - 4.00	Very stiff
		> 30	> 4.00	Hard

PREMIER ENGINEERING CORPORATION

Appendix C

Boring Location Plan and Boring Logs



NORTH

Boring Location

BORING LOCATION PLAN

INDIAN BEND WASH PATH AT CHAPARRAL ROAD

Scottsdale, Arizona

Premier Project # 2015001-10
COS Project No. 410-SF01A-56047

PREMIER ENGINEERING CORPORATION
Stanley Consultants
Joint Venture

BORING LOG

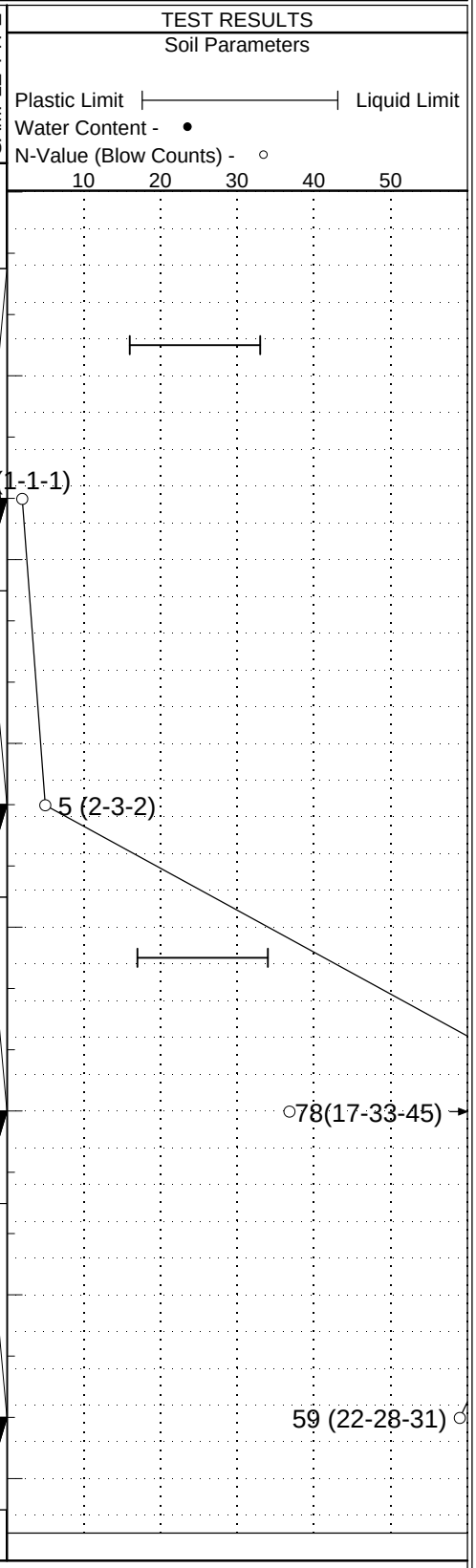
BORING NO. B-1

File: TralLog Date Printed: 11/11/2020

PROJECT: Indian Bend Wash Path at Chaparral Road **PROJECT NO.:** 2015001-10
CLIENT: City of Scottsdale **DATE:** 2/21/20
LOCATION: Hayden Rd and Chaparral Rd, Scottsdale, AZ **ELEVATION:** Not dtrmnd
DRILLER: ACS Services, LLC **LOGGED BY:** Arzhang Naderi
DRILLING METHOD: Truck Mounted CME-75 Drill Rig w/ 8"HSA
DEPTH TO - WATER> INITIAL: None **AFTER 24 HOURS:** NA **CAVING>** None

DEPTH (FEET)	USCS CLASS	Description
0		5" Asphalt Concrete 10" Aggregate Base
	CL	Sandy Lean CLAY. Medium plasticity, soft, damp, brown.
3		
		Caliche in Soil
6		
9		
	SC	Clayey SAND with Gravel. Trace Caliche, medium subangular Gravels, medium plasticity, loose to very dense, dry to damp, brown.
12		
15		
18		
		Boring terminated at 20 feet depth. Borehole was backfilled with drill cuttings and patched with cold-mix asphalt concrete.
21		

SOIL STRATA SAMPLE TYPE



This information pertains only to this boring and should not be interpreted as being indicitive of the site.

BORING LOG

BORING NO. B-2

File: TralLog Date Printed: 11/11/2020

PROJECT: Indian Bend Wash Path at Chaparral Road **PROJECT NO.:** 2015001-10
CLIENT: City of Scottsdale **DATE:** 2/21/20
LOCATION: Hayden Rd and Chaparral Rd, Scottsdale, AZ **ELEVATION:** Not dtrmnd
DRILLER: ACS Services, LLC **LOGGED BY:** Arzhang Naderi
DRILLING METHOD: Truck Mounted CME-75 Drill Rig w/ 8"HSA
DEPTH TO - WATER> INITIAL: None **AFTER 24 HOURS:** NA **CAVING>** None

DEPTH (FEET)	USCS CLASS	Description	SOIL STRATA	SAMPLE TYPE	TEST RESULTS Soil Parameters
0		8" Asphalt Concrete			
	CL	Sandy Lean CLAY. Medium plasticity, soft, damp, brown.			
3					
					9 (2-3-6)
6		Boring terminated at 5 feet depth. Borehole was backfilled with drill cuttings and patched with cold-mix asphalt concrete.			
9					
12					
15					
18					
21					

Plastic Limit ├──┤ Liquid Limit
Water Content - ●
N-Value (Blow Counts) - ○
10 20 30 40 50

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

BORING LOG

BORING NO. B-3

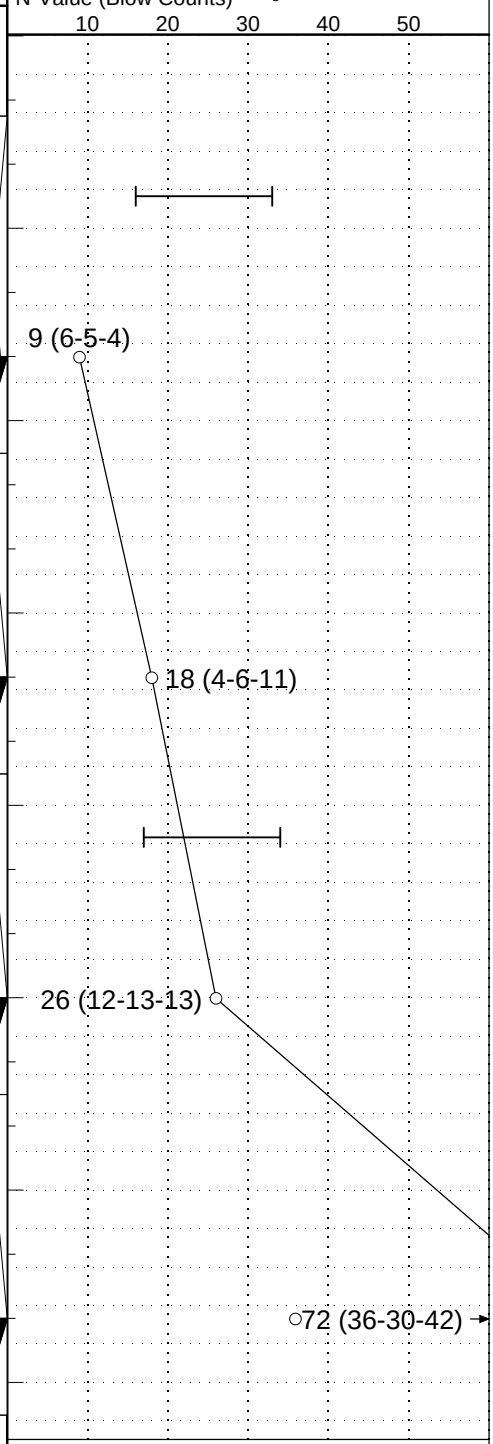
File: TralLog Date Printed: 11/11/2020

PROJECT: Indian Bend Wash Path at Chaparral Road **PROJECT NO.:** 2015001-10
CLIENT: City of Scottsdale **DATE:** 2/21/20
LOCATION: Hayden Rd and Chaparral Rd, Scottsdale, AZ **ELEVATION:** Not dtrmnd
DRILLER: ACS Services, LLC **LOGGED BY:** Arzhang Naderi
DRILLING METHOD: Truck Mounted CME-75 Drill Rig w/ 8"HSA
DEPTH TO - WATER> INITIAL: None **AFTER 24 HOURS:** NA **CAVING>** None

DEPTH (FEET)	USCS CLASS	Description
0		6" Asphalt Concrete 9" Aggregate Base
	CL	Sandy Lean CLAY. Medium plasticity, soft, damp, brown.
3		
		Caliche in mix
6		
9		
	SC	Clayey SAND with Gravel. Trace Caliche, medium subangular Gravels, medium plasticity, loose to dense, damp, brown.
12		
15		
18		
21		Boring terminated at 20 feet depth. Borehole was backfilled with drill cuttings and patched with cold-mix asphalt concrete.

SOIL STRATA SAMPLE TYPE

TEST RESULTS
Soil Parameters
Plastic Limit — Liquid Limit
Water Content - •
N-Value (Blow Counts) - ○



This information pertains only to this boring and should not be interpreted as being indicitive of the site.

BORING LOG

BORING NO. B-4

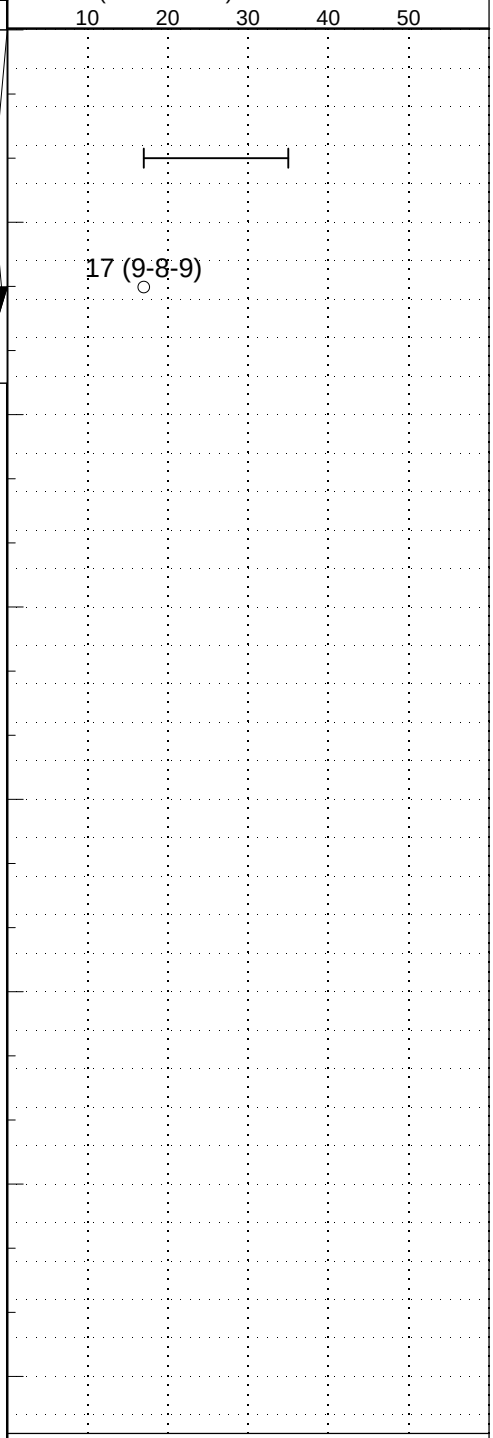
File: TralLog Date Printed: 11/11/2020

PROJECT: Indian Bend Wash Path at Chaparral Road **PROJECT NO.:** 2015001-10
CLIENT: City of Scottsdale **DATE:** 2/21/20
LOCATION: Hayden Rd and Chaparral Rd, Scottsdale, AZ **ELEVATION:** Not dtrmnd
DRILLER: ACS Services, LLC **LOGGED BY:** Arzhang Naderi
DRILLING METHOD: Truck Mounted CME-75 Drill Rig w/ 8"HSA
DEPTH TO - WATER> INITIAL: None **AFTER 24 HOURS:** NA **CAVING>** None

DEPTH (FEET)	USCS CLASS	Description	SOIL STRATA	SAMPLE TYPE
0	SC	Clayey SAND. Medium plasticity, medium dense, damp, brown.		
3				
		Boring terminated at 4 feet depth. Borehole was backfilled with drill cuttings.		
6				
9				
12				
15				
18				
21				

TEST RESULTS
Soil Parameters

Plastic Limit — Liquid Limit
Water Content - •
N-Value (Blow Counts) - ○



This information pertains only to this boring and should not be interpreted as being indicitive of the site.

BORING LOG

BORING NO. B-5

File: TralLog Date Printed: 11/11/2020

PROJECT: Indian Bend Wash Path at Chaparral Road **PROJECT NO.:** 2015001-10
CLIENT: City of Scottsdale **DATE:** 2/21/20
LOCATION: Hayden Rd and Chaparral Rd, Scottsdale, AZ **ELEVATION:** Not dtrmnd
DRILLER: ACS Services, LLC **LOGGED BY:** Arzhang Naderi
DRILLING METHOD: Truck Mounted CME-75 Drill Rig w/ 8"HSA
DEPTH TO - WATER> INITIAL: None **AFTER 24 HOURS:** NA **CAVING>** None

DEPTH (FEET)	USCS CLASS	Description	SOIL STRATA	SAMPLE TYPE	TEST RESULTS Soil Parameters (Plastic Limit — Liquid Limit; Water Content - •; N-Value (Blow Counts) - ○; 10 20 30 40 50)
0	CL	Sandy Lean CLAY. Medium plasticity, soft, damp, brown.			
3					12 (5-12)
6		Boring terminated at 5 feet depth. Borehole was backfilled with drill cuttings.			
9					
12					
15					
18					
21					

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

Appendix D

Laboratory Test Results

Quality Testing, LLC
175 S. Hamilton Place, Bldg 6, Suite 114
Gilbert, AZ 85233
Telephone: 480-486-2000
Fax: 480-496-2001

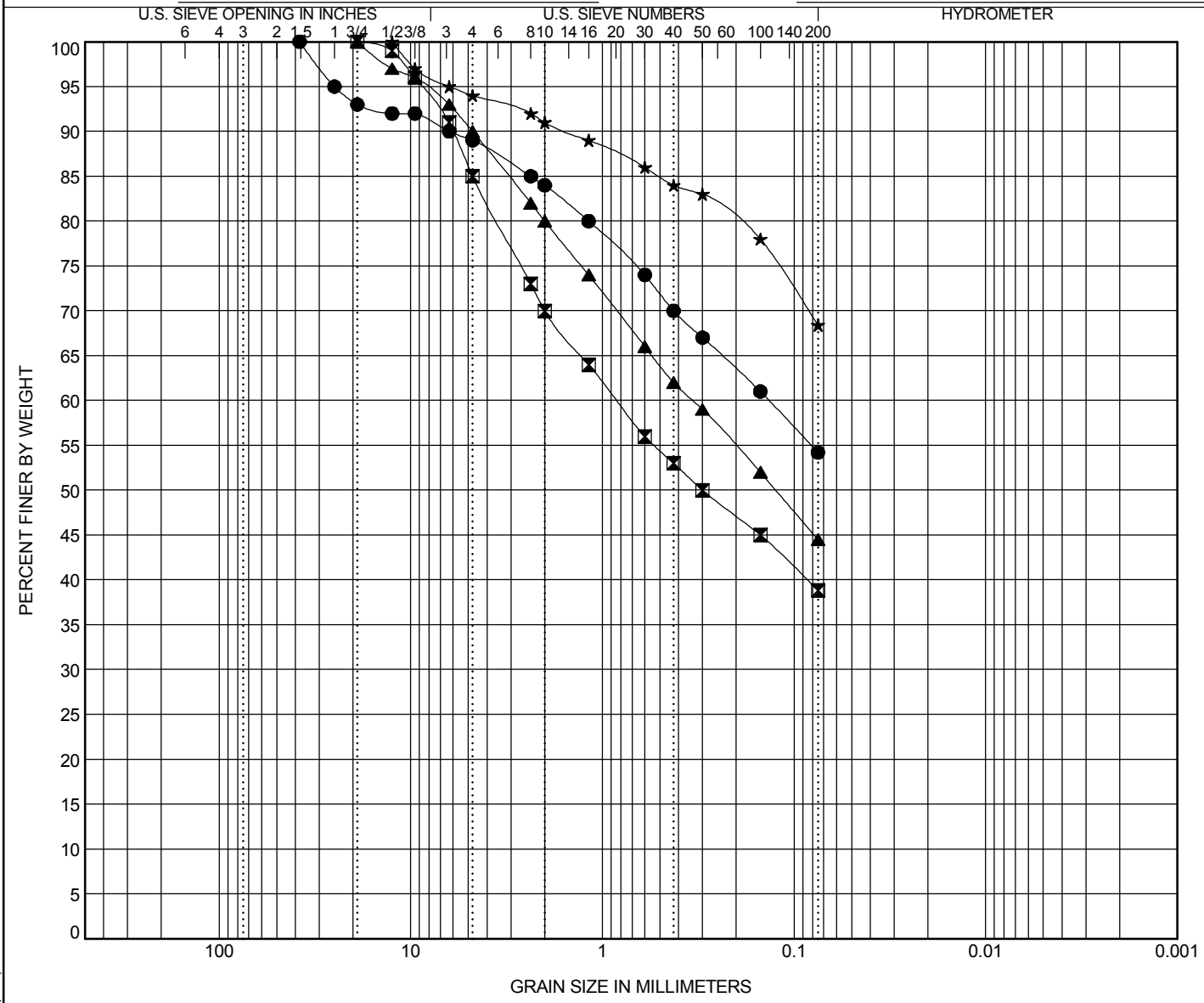
GRAIN SIZE DISTRIBUTION

CLIENT PREMIER Engineering Corporation

PROJECT NAME Hayden and Chaparral Roadway Improvements

PROJECT NUMBER 18026.08, Premier Project # 2015001-09/10

PROJECT LOCATION Scottsdale, AZ



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**B-1, B-2, B-3**	**0-5**	**SANDY LEAN CLAY(CL)**	**33**	**16**	**17**		
⊠	**B-1 & B-3**	**10-15**	**CLAYEY SAND with GRAVEL(SC)**	**34**	**17**	**17**		
▲	**B-4**	**0-5**	**CLAYEY SAND(SC)**	**35**	**17**	**18**		
★	**B-5**	**0-5**	**SANDY LEAN CLAY(CL)**	**36**	**17**	**19**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-1, B-2, B-3**	**0-5**	**38**	**0.135**			**11.0**	**34.8**	**54.2**	
⊠	**B-1 & B-3**	**10-15**	**19**	**0.841**			**15.0**	**46.2**	**38.8**	
▲	**B-4**	**0-5**	**19**	**0.337**			**10.0**	**45.5**	**44.5**	
★	**B-5**	**0-5**	**12.5**				**6.0**	**25.6**	**68.4**	

Quality Testing, LLC
175 S. Hamilton Place, Bldg 6, Suite 114
Gilbert, AZ 85233
Telephone: 480-486-2000
Fax: 480-496-2001

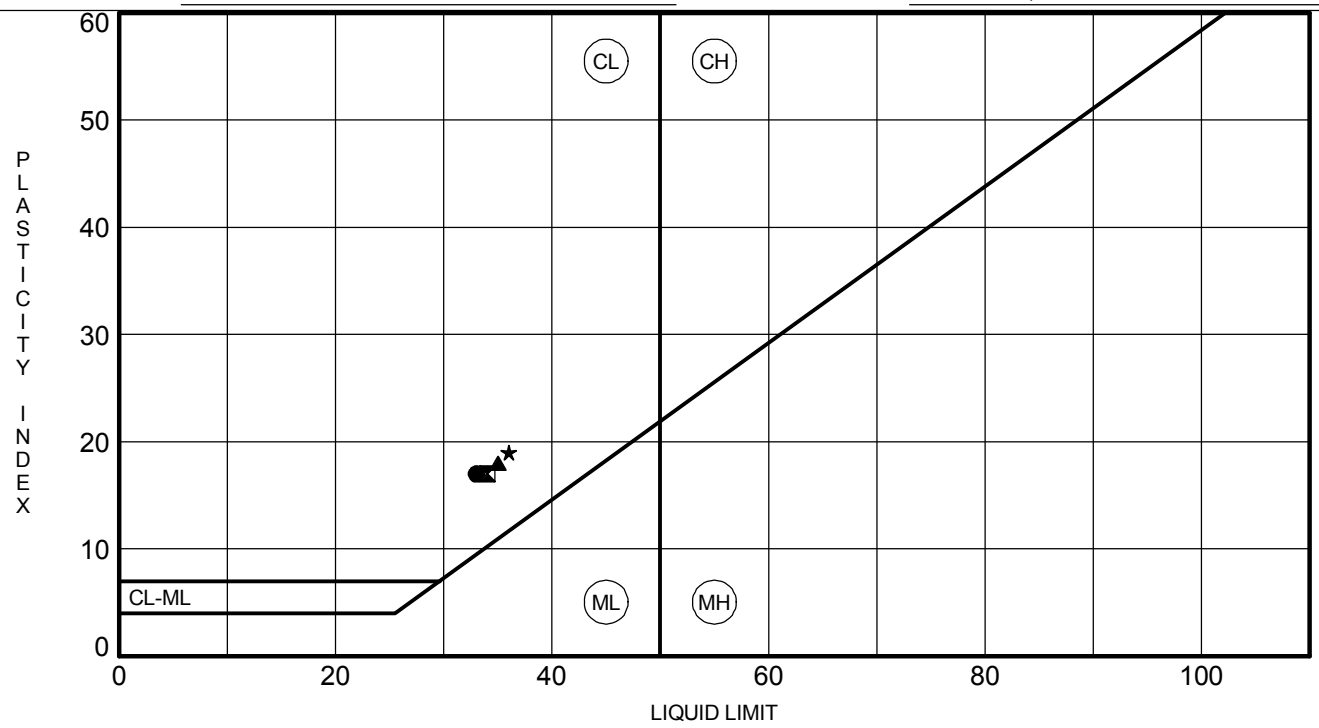
ATTERBERG LIMITS' RESULTS

CLIENT PREMIER Engineering Corporation

PROJECT NAME Hayden and Chaparral Roadway Improvements

PROJECT NUMBER 18026.08, Premier Project # 2015001-09/10

PROJECT LOCATION Scottsdale, AZ



	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-1, B-2, B-3**	**0-5**	**33**	**16**	**17**	**54**	**SANDY LEAN CLAY(CL)**
⧗	**B-1 & B-3**	**10-15**	**34**	**17**	**17**	**39**	**CLAYEY SAND with GRAVEL(SC)**
▲	**B-4**	**0-5**	**35**	**17**	**18**	**45**	**CLAYEY SAND(SC)**
★	**B-5**	**0-5**	**36**	**17**	**19**	**68**	**SANDY LEAN CLAY(CL)**

ATTERBERG LIMITS - GINT STD US LAB.GDT - 20/3/4 14:11 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\18026.08.GPJ

Quality Testing, LLC
175 S. Hamilton Place, Bldg 6, Suite 114
Gilbert, AZ 85233
Telephone: 480-486-2000
Fax: 480-496-2001

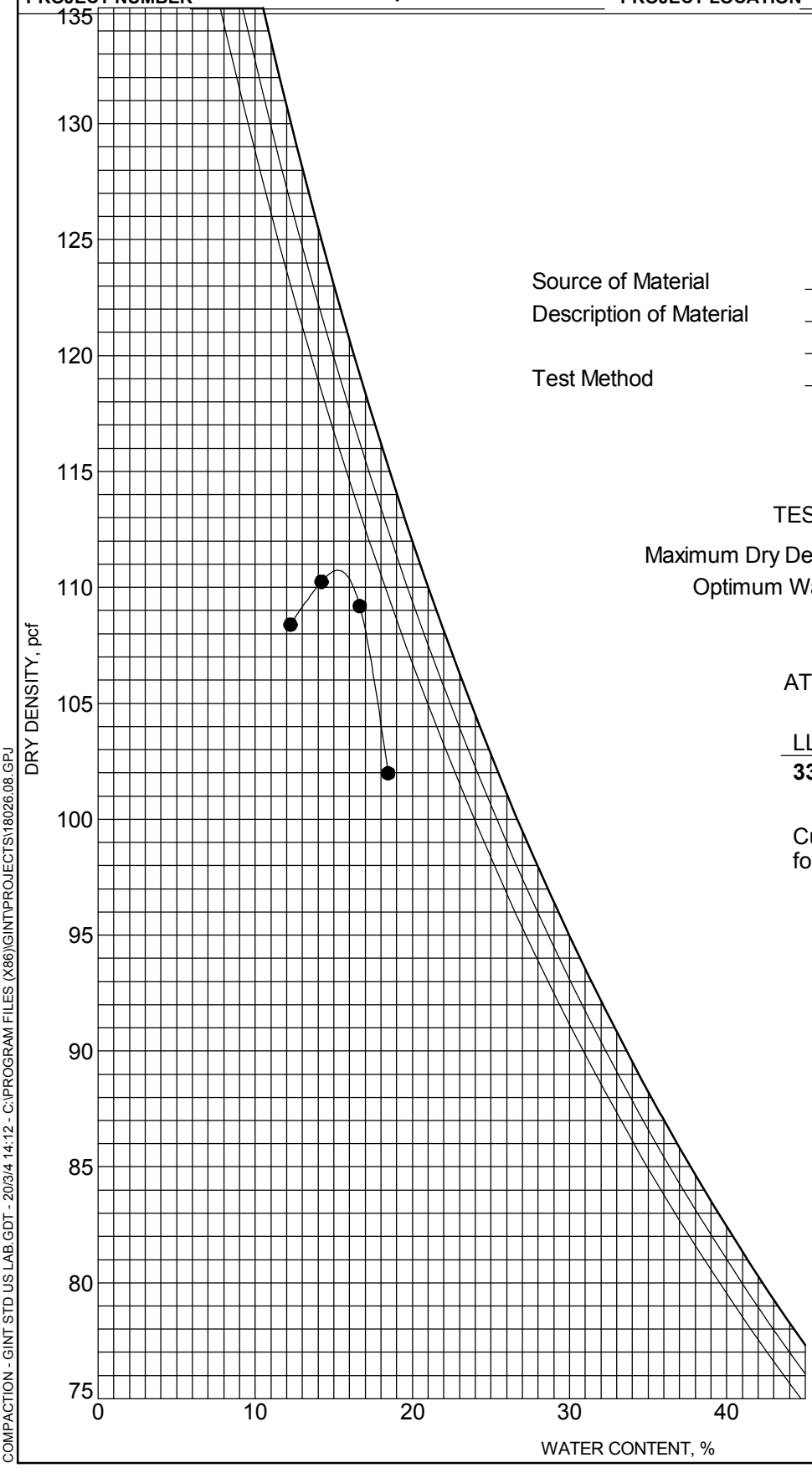
MOISTURE-DENSITY RELATIONSHIP

CLIENT PREMIER Engineering Corporation

PROJECT NAME Hayden and Chaparral Roadway Improvements

PROJECT NUMBER 18026.08, Premier Project # 2015001-09/10

PROJECT LOCATION Scottsdale, AZ



Source of Material **B-1, B-2 & B-3 (0-5)**

Description of Material **SANDY LEAN CLAY(CL)**

Test Method **ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density **110.8** **PCF**

Optimum Water Content **15.3** **%**

ATTERBERG LIMITS

LL	PL	PI
33	**16**	**17**

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

COMPACTION - GINT STD US LAB.GDT - 20/3/4 14:12 - C:\PROGRAM FILES (X86)\GINT\PROJECTS\18026.08.GPJ

Quality Testing, LLC
175 S. Hamilton Place, Bldg 6, Suite 114
Gilbert, AZ 85233
Telephone: 480-486-2000
Fax: 480-496-2001

SUMMARY OF LABORATORY RESULTS

CLIENT PREMIER Engineering Corporation **PROJECT NAME** Hayden and Chaparral Roadway Improvements

PROJECT NUMBER 18026.08, Premier Project # 2015001-09/10 **PROJECT LOCATION** Scottsdale, AZ

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	USCS	pH	Min resistivity (ohm-cm)	Expansion Index	Void Ratio
B-1, B-2, B-3	0-5	33	16	17	38	54	CL				
B-1 & B-3	10-15	34	17	17	19	39	SC	8.1	1635		
B-4	0-5	35	17	18	19	45	SC				
B-5	0-5	36	17	19	12.5	68	CL				

MOTZZ LABORATORY, INC.

Laboratory Analysis Report

Quality Testing
Jaye Richardson
175 S. Hamilton Place
Bldg 6, Ste 114
Gilbert, AZ 85233

Project: 18026.08
Date Received: 2/27/2020
Date Reported: 2/29/2020
PO Number: 476

Lab Number: 931533-1 **B-1 (5-10) & B-3 (5-10), S-5551**

Test Parameter	Method	Result	Units	Levels
Sulfate	ARIZ 733b	54	ppm	
Chloride	ARIZ 736b	19	ppm	

LABORATORY SERVICES REPORT

Report Number: 65191270.0008
Service Date: 03/04/20
Report Date: 03/10/20 Revision 2 - Add Client Client's Project #
Task:

Terracon
4685 S Ash Ave, Ste H-4
Tempe, AZ 85282-6767
480-897-8200

Client

Quality Testing LLC
Attn: Jaye Richardson
175 S. Hamilton Place, Bld 6, Ste 114
Gilbert, AZ 85233

Project

QT Materials Testing QT Testing
4685 S. Ash Ave, Ste H-4
Tempe, AZ 85282

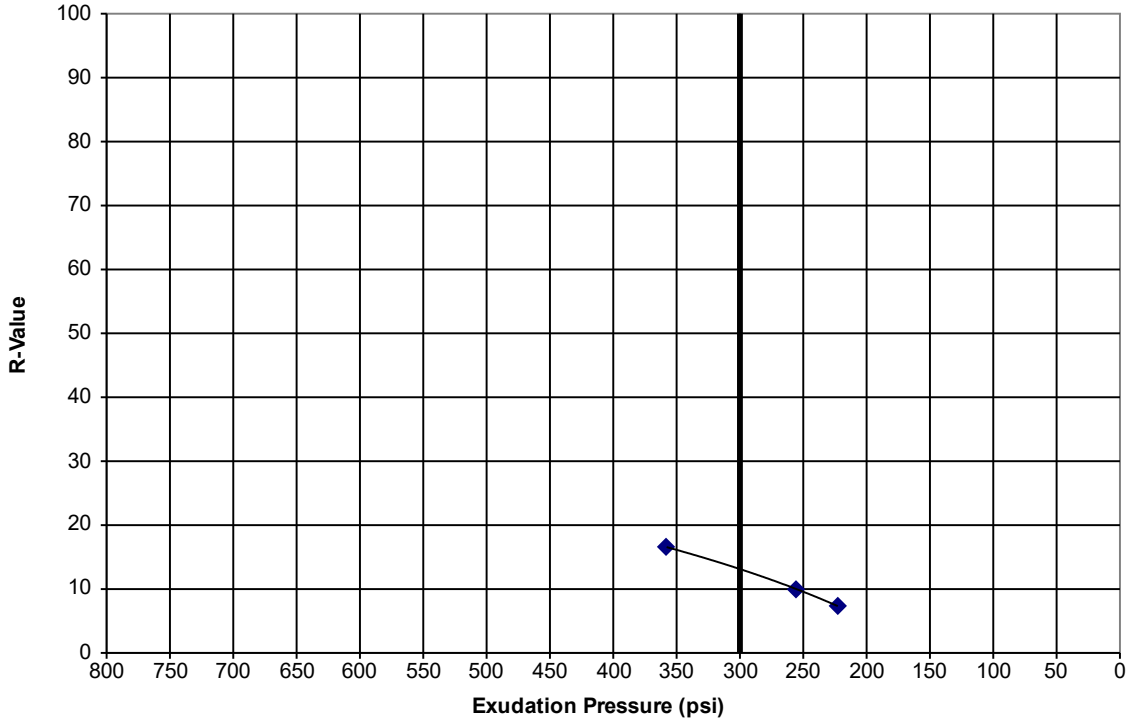
Project No. 65191270

Material Description: Sandy Silty Clay
Sample Location: B-1(5-10) & B-3(5-10) Composite, Sample Log # S-5547
Lab Number: 3499 Sample Source: Project # 2015001-09/10

RESISTANCE R-VALUE AND EXPANSION PRESSURE OF COMPACTED SOILS (ASTM D2844)

SPECIMEN I. D.	A	B	C
Moisture Content	19.6%	17.0%	15.3%
Compaction Pressure (psi)	*	*	75
Specimen Height (inches)	2.48	2.43	2.43
Dry Density (pcf)	109.2	113.6	117.9
Horiz. Pres. @ 1000lbs (psi)	65.0	58.0	49.0
Horiz. Pres. @ 2000lbs (psi)	140.0	134.0	122.0
Displacement	4.49	4.08	3.64
Expansion Pressure (psi)	0.0	0.0	0.0
Exudation Pressure (psi)	223	256	358
R Value	7.4	10.0	16.6

R-Value:
14



Services:
Terracon Rep: Joseph Menezes
Reported To:
Contractor:

Report Distribution

(1) Quality Testing LLC, Jaye

Reviewed By:

Michael Peters
Laboratory Supervisor

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

Appendix E

Site Photos

SITE PHOTOS

February 21, 2020

South end of proposed tunnel, looking west.

North end of proposed tunnel, looking west.

Existing tunnel under south leg (Hayden Road).

Closer look of the existing tunnel, looking west.

South approach path to proposed tunnel, looking south

Gila Bend Wash (lake), looking southeast.

APPENDIX E

As Built Plan Requirements for Work Within Flood Control District of Maricopa County Right-of-Way

Flood Control District
of Maricopa County

Date: July 9, 2015

AS-BUILT PLAN REQUIREMENTS FOR WORK WITHIN FLOOD CONTROL DISTRICT OF MARICOPA COUNTY RIGHT-OF-WAY

1. As-built plans shall be submitted within 60 days of final approval of site work.
2. The as-built Plans will be signed and sealed by a Professional Engineer and/or Surveyor registered in Arizona.
3. For Drainage Pipes and Culverts:
   - Verify as-built information of all inverts and horizontal locations of pipes in inlets, outlets, manholes, drains, and bends.
   - Verify slopes of pipes as shown on plans.
   - If slurry backfill was used provide note as to how much and where.
4. For Concrete Structures:
   - Verify top and bottom elevations and horizontal controls as shown in plans.
   - Provide concrete mix tickets showing minimum concrete requirements.
5. For Pavement:
   - Verify elevations and stationing shown on plans
6. For Surface Grading:
   - Verify elevations and horizontal controls shown on plans
7. For Rip-Rap and Surface Drainage Structures:
   - Verify elevations and horizontal controls shown on plans
   - For grouted rip-rap, provide concrete mix tickets showing minimum concrete requirements.
8. For Underground Utilities:
   - Verify top of pipe elevations and horizontal location of pipe at each bend.
   - Verify locations of valves, valve boxes, and auxiliary connections.
   - If slurry backfill was used provide note as to how much and where.
9. For Changes to Plans:
   - Provide notes and show any changes to plans on the as-built drawings.
10. All backfill within District Right-of-Way must be compacted to 95% of Standard Proctor. Compaction shall be done in lifts of no more than 6-inches thickness with compaction tests every on every other lifts at varies locations. Tests shall be done at a minimum once every 300 feet unless more frequent testing is required as part of the permit. Compaction test results shall be provided with as-builts.
11. Submit original signed full set of plans with one full size copy and electronic copy (PDF or TIF files).
12. As-built any details for project features as required by the District.

2801 West Durango Street Phoenix, Arizona 85009 Phone: 602-506-1501 Fax: 602-506-4601