

VOLUME 2

MASTER PLAN  
FINAL REPORT  
APPENDIX A - D

2



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*Appendix A*

*Glossary of Terms*

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# APPENDIX A -

## GLOSSARY OF TERMS

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This glossary includes industry standard terms, definitions, and acronyms and is intended to serve as a reference for this master plan.

<b>A</b>	
<b>AAA</b>	<i>Arizona Antiquities Act: Blanket or project permit from the Arizona State Museum provided before conducting survey or excavation on state owned land.</i>
<b>AAC</b>	<i>Aircraft Approach Category: An FAA classification based on how fast an aircraft approaches the runway on landing. Used to determine airfield design characteristics.</i>
<b>AC</b>	<i>Advisory Circular: FAA standards and guidelines on a variety of airport characteristics. Also Asphalt Concrete (in Pavement Condition Index): A composite material commonly used to surface roads, parking lots, and airports. It consists of mineral aggregate bound together with asphalt, laid in layers, and compacted.</i>
<b>ACIP</b>	<i>Airport Capital Improvement Plan: The planning program used by the Federal Aviation Administration to identify, prioritize, and distribute funds for airport development and the needs of the National Airspace System to meet specified national goals and objectives.</i>
<b>ACRP</b>	<i>Airport Cooperative Research Program: An industry-driven, applied research program that develops near-term, practical solutions to problems faced by airport operators. ACRP is managed by the Transportation Research Board of the National Academies and sponsored by the Federal Aviation Administration. The research is conducted by contractors who are selected on the basis of competitive proposals. (Transportation Research Board, 2014).</i>
<b>ADA</b>	<i>Arizona Department of Agriculture</i>
<b>ADEQ</b>	<i>Arizona State Department of Environmental Quality</i>
<b>ADG</b>	<i>Aircraft Design Group: An FAA classification based on the wingspan and tail height of aircraft used to determine airfield design characteristics:</i> <i>Group I: Up to but not including 49 feet.</i> <i>Group II: 49 feet up to but not including 79 feet.</i> <i>Group III: 79 feet up to but not including 118 feet.</i> <i>Group IV: 118 feet up to but not including 171 feet.</i> <i>Group V: 171 feet up to but not including 214 feet.</i> <i>Group VI: 214 feet or greater.</i>
<b>ADO</b>	<i>FAA Airports District Office: The local ADO is located in Phoenix, Arizona. Staff in the ADO oversee airport planning, permitting, and design projects, manage capital improvement programs, and allocate federal funding.</i>
<b>ADOT</b>	<i>Arizona Department of Transportation</i>

## Appendix A - Glossary of Terms

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<b>FFF</b>	<i>Aqueous Film Forming Foam: A highly efficient type of fire suppressant agent, used to attack flammable liquid pool fires.</i>
<b>AFSS</b>	<i>Automated Flight Service Station.</i>
<b>AGIS</b>	<i>Airport Geographic Information Systems: A framework for gathering and analyzing airport data.</i>
<b>AGL</b>	<i>Above Ground Level: The elevation of a point or surface above the ground.</i>
<b>AIP</b>	<i>Airport Improvement Program: The FAA AIP provides grants to public agencies — and, in some cases, to private owners and entities -- for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (NPIAS). Airports receive regular funding each year called “entitlement” and may compete against other airports nationwide for additional “discretionary” funding. (Federal Aviation Administration, 2014)</i>
<b>Aircraft</b>	<i>The terms aircraft and airplane are synonymous, referring to all types of fixed-wing airplanes, including gliders. A fixed-wing aircraft is heavier than air, and is supported in flight by the dynamic reaction of the air against its wings</i>
<b>Aircraft Approach Category</b>	<i>A grouping of aircraft based on 1.3 times the stall speed in their landing configuration at their maximum certificated landing weight. The categories are as follows:</i> <i>Category A: Speed less than 91 knots.</i> <i>Category B: Speed 91 knots or more, but less than 121 knots.</i> <i>Category C: Speed 121 knots or more, but less than 141 knots.</i> <i>Category D: Speed 141 knots or more, but less than 166 knots.</i> <i>Category E: Speed greater than 166 knots.</i>
<b>Aircraft Operation</b>	<i>The landing, takeoff, or touch-and go procedure by an aircraft on a runway at an airport.</i>
<b>Aircraft Owners and Pilots Association (AOPA)</b>	<i>A private organization serving the interests and needs of general aviation pilots and aircraft owners.</i>
<b>Airfield</b>	<i>The portion of an airport which contains the facilities necessary for the operation of aircraft.</i>
<b>Airport Authority</b>	<i>A quasi-governmental public organization responsible for setting the policies governing the management and operation of an airport or system of airports under its jurisdiction.</i>
<b>Airport Beacon</b>	<i>A navigational aid located at an airport which displays a rotating light beam to identify whether an airport is lighted.</i>
<b>Airport Capital Improvement Plan</b>	<i>The planning program used by the Federal Aviation Administration to identify, prioritize, and distribute funds for airport development and the needs of the National Airspace System to meet specified national goals and objectives.</i>
<b>Airport Elevation</b>	<i>The highest point on an airport's usable runways expressed in feet above mean sea level (MSL).</i>
<b>Airport Master Plan</b>	<i>The planner's concept of the long-term development of an airport.</i>
<b>Airport Movement Area Safety System</b>	<i>A system that provides automated alerts and warnings of potential runway incursions or other hazardous aircraft movement events.</i>
<b>Airport Obstruction Chart</b>	<i>A system that provides automated alerts and warnings of potential runway incursions or other hazardous aircraft movement events.</i>

<b>Airport Sponsor</b>	<i>The entity that is legally responsible for the management and operation of an airport, including the fulfillment of the requirements of laws and regulations related thereto.</i>
<b>Airport Surface Detection Equipment</b>	<i>A radar system that provides air traffic controllers with a visual representation of the movement of aircraft and other vehicles on the ground on the airfield at an airport.</i>
<b>Airport Surveillance Radar (ASR)</b>	<i>The primary radar located at an airport or in an air traffic control terminal area that receives a signal at an antenna and transmits the signal to air traffic control display equipment defining the location of aircraft in the air. The signal provides only the azimuth and range of aircraft from the location of the antenna.</i>
<b>Airside</b>	<i>A collective term for those areas of the Airport that are accessible to aircraft including runways, taxiways, aprons, and hangar areas.</i>
<b>Airspace</b>	<i>The volume of space above the surface of the ground that is provided for the operation of aircraft.</i>
<b>Air Traffic Control</b>	<i>A service operated by an appropriate organization for the purpose of providing for the safe, orderly, and expeditious flow of air traffic.</i>
<b>Air Traffic Control System Command Center</b>	<i>A facility operated by the FAA, which is responsible for the central flow control, the central altitude reservation system, the airport reservation position system, and the air traffic service contingency command for the air traffic control system.</i>
<b>ALD</b>	<i>Airport Layout Drawing: The drawing of the airport showing the layout of existing and proposed airport facilities.</i>
<b>ALP</b>	<i>Airport Layout Plan: A scaled graphic representation of existing and proposed airport facilities, indicating their location on the airport and pertinent clearance and dimensional information required to show conformance with applicable standards.</i>
<b>Airport Layout Plan Drawing Set</b>	<i>A set of technical drawings depicting the current and future airport conditions. The individual sheets comprising the set can vary with the complexities of the airport, but the FAA-required drawings include the Airport Layout Plan (sometimes referred to as the Airport Layout Drawing (ALD), the Airport Airspace Drawing, and the Inner Portion of the Approach Surface Drawing, On-Airport Land Use Drawing, and Property Map).</i>
<b>ALS</b>	<i>Approach Lighting System: A series of lights before the runway end that guide aircraft landing in the dark and during periods of low visibility.</i>
<b>ALSA</b>	<i>Adjacent Lands Study Area: A general land use study of property adjacent to another parcel that may inventory variable features (acreage, values, zoning, etc.).</i>
<b>ALSF-1</b>	<i>Standard 2,400-foot high intensity approach lighting system with sequenced flashers. Also see Category-I (CAT I) configuration.</i>
<b>ALSF-2</b>	<i>Standard 2,400-foot high intensity approach lighting system with sequenced flashers. Also see Category-II (CAT II) configuration.</i>
<b>Altitude</b>	<i>The vertical distance measured in feet above mean sea level.</i>
<b>AOA</b>	<i>Aircraft Operations Area: A restricted and secure area on the airport property designed to protect all aspects related to aircraft operations.</i>

## Appendix A - Glossary of Terms

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<b>AOA</b>	<i>Airport Overflight Area: Land use regulations within the AOAs are established to minimize the potential of aircraft accidents or incidents and risk to the public. Interference within this area with aircraft operations or movement or creation of a wildlife hazard is prohibited. No uses within the district may interfere, obstruct, or impair navigable airspace or signals, radio communications, or visibility in the vicinity of the Airport.</i>
<b>Approach Minimums</b>	<i>The altitude below which an aircraft may not descend while on an IFR approach unless the pilot has the runway in sight.</i>
<b>Approach Surface</b>	<i>An imaginary obstruction limiting surface defined in FAR Part 77 which is longitudinally centered on an extended runway centerline and extends outward and upward from the primary surface at each end of a runway at a designated slope and distance based upon the type of available or planned approach by aircraft to a runway.</i>
<b>Apron</b>	<i>A specified portion of the airfield used for passenger, cargo or freight loading and unloading, aircraft parking, and the refueling, maintenance and servicing of aircraft.</i>
<b>APV</b>	<i>Instrument approach procedure with vertical guidance.</i>
<b>ARC</b>	<i>Airport Reference Code: A combination of the AAC and ADG. These two elements combined set the design standards, setbacks, and dimensions of safety critical airport facilities, such as pavement to pavement separation, pavement width, safety areas, object free areas, and runway protection zones.</i>
<b>Area Navigation</b>	<i>The air navigation procedure that provides the capability to establish and maintain a flight path on an arbitrary course that remains within the coverage area of navigational sources being used.</i>
<b>ARFF</b>	<i>Aircraft Rescue Fire and Fighting: A special category of firefighting that involves the response, hazard mitigation, evacuation and possible rescue of passengers and crew of an aircraft involved in (typically) an airport ground emergency.</i>
<b>ARP</b>	<i>Airport Reference Point: The latitude and longitude of the approximate center of the airport.</i>
<b>ARTCC</b>	<i>Air Route Traffic Control Center: In air traffic control an air route control center, also known as a center, is a facility responsible for controlling aircraft en route in a particular volume of airspace at high altitudes between airport approaches and departures.</i>
<b>ASDA</b>	<i>Accelerate-Stop Distance Available: The runway plus stopway length declared available and suitable for the acceleration and deceleration of an aircraft aborting a takeoff. Also see Declared Distances.</i>
<b>ASDE</b>	<i>Airport Surface Detection Equipment: A radar system that provides air traffic controllers with a visual representation of the movement of aircraft and other vehicles on the ground on the airfield at an airport. Also see Declared Distances.</i>
<b>ASM</b>	<i>Arizona State Museum: The oldest and largest research museum in the southwest region of the United States.</i>
<b>ASOS</b>	<i>Automated Surface Observation System: A reporting system that provides frequent airport ground surface weather observation data through digitized voice broadcasts and printed reports.</i>
<b>ASV</b>	<i>Annual Service Volume: The ASV is a reasonable estimate of an airport's annual capacity that accounts for differences in runway use, aircraft mix, weather conditions, and other variables encountered over a year's time.</i>

<b>ATC</b>	<i>Air Traffic Control: Service provided by ground-based controllers who direct aircraft departing and arriving at the airport.</i>
<b>ATCT</b>	<i>Airport Traffic Control Tower: A manned observation tower in charge of managing ground traffic and air traffic in an airport's airspace. The ATCT staff help maintain safe separation between aircraft in the air, and aircraft and vehicles on the ground.</i>
<b>ATIS</b>	<i>Automated Terminal Information Service: The continuous broadcast of recorded non-control information at towered airports. Information typically includes wind speed, direction, and runway in use.</i>
<b>AVGAS</b>	<i>Aviation Gasoline (also referred to as 100 low lead, LL): Leaded gasoline used in piston powered aircraft.</i>
<b>Avigation Easement</b>	<i>A contractual right or a property interest in land over which a right of unobstructed flight in the airspace is established.</i>
<b>AWOS</b>	<i>Automated Weather Observation System: The AWOS provides general reports that include temperature, dew point, sky condition, visibility, cloud heights, current weather, precipitation accumulations, icing conditions and sea level pressure.</i>
<b>Azimuth</b>	<i>Horizontal direction expressed as the angular distance between true north and the direction of a fixed point (as the observer's heading).</i>

**B**

<b>Base Leg</b>	<i>A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline. Also see Traffic Pattern.</i>
<b>Based Aircraft</b>	<i>Aircraft that hangar or tie-down at an airport. These aircraft indicate that they are based at an airport on their registration form, and the owners typically live or work in the area.</i>
<b>Bearing</b>	<i>The horizontal direction to or from any point, usually measured clockwise from true north or magnetic north.</i>
<b>Blast Fence</b>	<i>A barrier used to divert or dissipate jet blast or propeller wash.</i>
<b>Blast Pad</b>	<i>A prepared surface adjacent to the end of a runway for the purpose of eliminating the erosion of the ground surface by the wind forces produced by airplanes at the initiation of takeoff operations.</i>
<b>BLM</b>	<i>Bureau of Land Management</i>
<b>BRL</b>	<i>Building Restriction Line: Identifies areas on an airport where structures can be located to be compatible with airfield operations. Buildings should not conflict with the recommended airport design standards defined for a particular runway-taxiway system or the protected airspace associated with the runway. The location of the BRL is measured from the runway centerline outward in a perpendicular direction.</i>
<b>BTS</b>	<i>Bureau of Transportation Statistics: The statistical arm of the U.S. Department of Transportation. The BTS mission is to create, manage, and share transportation statistical knowledge with public and private transportation communities and the Nation. (U.S. Department of Transportation, 2014).</i>

**C**

<b>CAGR</b>	<i>Compound Annual Growth Rates: The average, annual rate of growth (or loss) over a period of multiple years.</i>
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<b>Catchment Area</b>	<i>The geographic boundary from which an airport draws its users, and airport activity is primarily influenced by the movement of people and products to and from the catchment area. Catchment areas are defined by the types of services offered at an airport, proximity of competitor airports, and the tendency of the local population to use the airport.</i>
<b>CatEx</b>	<i>Categorical Exclusion: category of actions which do not individually or cumulatively have a significant effect on the human environment</i>
<b>Category-1 (CAT-I)</b>	<i>An instrument approach or approach and landing with a Height Above Threshold (HATH) or minimum descent altitude not lower than 200 ft (60 m) and with either a visibility not less than ½ statute mile (800m), or a runway visual range not less than 1800 ft (550m).</i>
<b>Category-2 (CAT-II)</b>	<i>An instrument approach or approach and landing with a Height Above Threshold (HATH) lower than 200 ft (60 m) but not lower than 100 ft (30 m) and a runway visual range not less than 1200 ft (350m).</i>
<b>Category-3 (CAT-III)</b>	<i>An instrument approach or approach and landing with a Height Above Threshold (HATH) lower than 100 ft (30m), or no HATH, or a runway visual range less than 1200 ft (350m).</i>
<b>Ceiling</b>	<i>The height above the ground surface to the location of the lowest layer of clouds which is reported as either broken or overcast.</i>
<b>CEQ</b>	<i>The Council on Environmental Quality</i>
<b>CFR</b>	<i>Code of Federal Regulations: The CFR annual edition is the codification of the general and permanent rules published in the Federal Register by the departments and agencies of the Federal Government. (U.S. Government Printing Office, 2014).</i>
<b>CIP</b>	<i>Capital Improvement Plan: An airport's list of planned capital expenditures over the next five years, on file with the state and the FAA. The CIP is used by federal and state agencies to plan and allocate funding and use by airport sponsors to plan the local share of capital expenditures.</i>
<b>Circling Approach</b>	<i>A maneuver initiated by the pilot to align the aircraft with a runway for landing when a straight-in landing from an instrument approach is not possible or is not desirable.</i>
<b>City of Tucson</b>	<i>Government body in Pima County, the second largest metropolitan population in the state of Arizona.</i>
<b>Class A Airspace</b>	<i>See Controlled Airspace.</i>
<b>Class B Airspace</b>	<i>See Controlled Airspace.</i>
<b>Class C Airspace</b>	<i>See Controlled Airspace.</i>
<b>Class D Airspace</b>	<i>See Controlled Airspace.</i>
<b>Class E Airspace</b>	<i>See Controlled Airspace.</i>
<b>Class G Airspace</b>	<i>See Controlled Airspace.</i>
<b>Clearway</b>	<i>A defined rectangular area beyond the end of a runway cleared or suitable for use in lieu of runway to satisfy takeoff distance requirements. See Takeoff Distance Available (TODA).</i>
<b>Clear Zone</b>	<i>See Runway Protection Zone (RPZ).</i>
<b>CLOMR</b>	<i>Conditional Letter of Map Revision</i>
<b>Compass Rose</b>	<i>Marking painted on the airfield so aircraft may calibrate the magnetic compass within the cockpit.</i>

<b>Conical Surface</b>	<i>An imaginary obstruction-limiting surface defined in FAR Part 77 that extends from the edge of the horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 4,000 feet.</i>
<b>Controlled Airport</b>	<i>An airport that has an operating airport traffic control tower.</i>
<b>Controlled Airspace</b>	<i>Airspace of defined dimensions within which air traffic control services are provided to instrument flight rules (IFR) and visual flight rules (VFR) flights in accordance with the airspace classification. Controlled airspace in the United States is designated as follows:</i> <p><i>CLASS A: Generally, the airspace from 18,000 feet mean sea level (MSL) up to but not including flight level FL600. All persons must operate their aircraft under IFR.</i></p> <p><i>CLASS B: Generally, the airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports. The configuration of Class B airspace is unique to each airport, but typically consists of two or more layers of air space and is designed to contain all published instrument approach procedures to the airport. An air traffic control clearance is required for all aircraft to operate in the area.</i></p> <p><i>CLASS C: Generally, the airspace from the surface to 4,000 feet above the airport elevation (charted as MSL) surrounding those airports that have an operational control tower and radar approach control and are served by a qualifying number of IFR operations or passenger enplanements. Although individually tailored for each airport, Class C airspace typically consists of a surface area with a five nautical mile (nm) radius and an outer area with a 10 nautical mile radius that extends from 1,200 feet to 4,000 feet above the airport elevation. Two-way radio communication is required for all aircraft.</i></p> <p><i>CLASS D: Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted as MSL) surrounding those airports that have an operational control tower. Class D airspace is individually tailored and configured to encompass published instrument approach procedure. Unless otherwise authorized, all persons must establish two-way radio communication.</i></p> <p><i>CLASS E: Generally, controlled airspace that is not classified as Class A, B, C, or D. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. When designated as a surface area, the airspace will be configured to contain all instrument procedures. Class E airspace encompasses all Victor Airways. Only aircraft following instrument flight rules are required to establish two-way radio communication with air traffic control.</i></p> <p><i>CLASS G: Generally, that airspace not classified as Class A, B, C, D, or E. Class G airspace is uncontrolled for all aircraft. Class G airspace extends from the surface to the overlying Class E airspace.</i></p>
<b>Controlled Firing Area</b>	<i>See Special-Use Airspace.</i>
<b>Critical Aircraft</b>	<i>The most demanding aircraft or grouping of aircraft with similar characteristics that make regular use of the airport. Facility design standards and dimensions are set to accommodate the critical aircraft. For projects requiring FAA-funding, the critical aircraft must have regular use operations over 500 operations per year excluding touch and go operations.</i>
<b>Crosswind</b>	<i>A wind that is not parallel to a runway centerline or to the intended flight path of an aircraft.</i>
<b>Crosswind Component</b>	<i>The component of wind that is at a right angle to the runway centerline or the intended flight path of an aircraft.</i>

<b>Crosswind Leg</b>	<i>A flight path at right angles to the landing runway off its upwind end. Also see Traffic Pattern.</i>
<b>CTAF</b>	<i>Common Traffic Advisory Frequency: A radio frequency used by pilots to communicate with each other at non-towered airports, or when the tower is closed at night. The CTAF may also be used to coordinate arrivals and departures and control airfield lighting systems.</i>
<b>D</b>	
<b>Decision Height</b>	<i>The height above the end of the runway surface at which a decision must be made by a pilot during the ILS or Precision Approach Radar approach to either continue the approach or to execute a missed approach.</i>
<b>Declared Distances</b>	<i>The distances the airport owner declares available for a turbine powered aircraft's takeoff run, takeoff distance, accelerate-stop distance, and landing distance requirements. The distances are:</i> <i>TAKEOFF RUNWAY AVAILABLE (TORA): The runway length declared available and suitable for the ground run of an airplane taking off.</i> <i>TAKEOFF DISTANCE AVAILABLE (TODA): The TORA plus the length of any remaining runway and/or clear way beyond the far end of the TORA.</i> <i>ACCELERATE-STOP DISTANCE AVAILABLE (ASDA): The runway plus stopway length declared available for the acceleration and deceleration of an aircraft aborting a takeoff.</i> <i>LANDING DISTANCE AVAILABLE (LDA): The runway length declared available and suitable for landing.</i>
<b>Department of Transportation</b>	<i>The cabinet level federal government organization consisting of modal operating agencies, such as the Federal Aviation Administration (FAA), which was established to promote the coordination of federal transportation programs and to act as a focal point for research and development efforts in transportation.</i>
<b>Discretionary Funds</b>	<i>Federal grant funds that may be appropriated to an airport based upon designation by the Secretary of Transportation or Congress to meet a specified national priority such as enhancing capacity, safety, and security, or mitigating noise.</i>
<b>Displaced Threshold</b>	<i>A threshold that is located at a point on the runway beyond the beginning of the runway surface.</i>
<b>DME</b>	<i>Distance Measuring Equipment: A transponder-based radio navigation technology that measures slant range distance by timing the propagation delay of Very-High Frequencies (VHF) or Ultra-High Frequencies (UHF) radio signals.</i>
<b>DNL</b>	<i>Day/Night Average Sound Level: The standard metric used to measure noise from aircraft is the Day-Night Noise Level, which measures the cumulative noise levels of all aircraft operations. DNL includes penalties for night operations (10pm-7am), when ambient noise levels tend to be lower and aircraft noise may be viewed as more disruptive.</i>
<b>Downwind Leg</b>	<i>A flight path parallel to the landing runway in the direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg. Also see Traffic Pattern.</i>
<b>DTWL</b>	<i>Dual-Tandem Wheel Landing Gear: Runway weight bearing capacity of aircraft with dual-tandem type landing gear.</i>
<b>DWL</b>	<i>Dual-Wheel Landing Gear: Runway weight bearing capacity of aircraft with dual-wheel type landing gear.</i>

**E**

<b>EA</b>	<i>Environmental Assessment: A concise document that takes a thorough look at expected environmental effects of a proposed action. Projects that receive federal funding are subject to the National Environmental Policy Act and other applicable regulations. Should significant environmental impact be expected as part of a proposed action, then an environmental impact statement may be warranted. (Federal Aviation Administration, 2006).</i>
<b>Easement</b>	<i>The legal right of one party to use a portion of the total rights in real estate owned by another party. This may include the right of passage over, on, or below the property; certain air rights above the property, including view rights; and the rights to any specified form of development or activity, as well as any other legal rights in the property that may be specified in the easement document.</i>
<b>EIS</b>	<i>Environmental Impact Statement: If the EA indicates the proposed action's impacts would meet or exceed a significance threshold(s) for the affected resource(s), or that mitigation would not reduce the significant impact(s) below the applicable threshold(s), FAA must prepare an EIS. An EIS provides additional, detailed evaluations of the proposed action and its alternatives, including the No Action alternative. (Federal Aviation Administration, 2006).</i>
<b>Elevation</b>	<i>The vertical distance measured in feet above mean sea level.</i>
<b>Entitlement</b>	<i>Federal funds for which a commercial service airport may be eligible based upon its annual passenger enplanements.</i>
<b>Environmental Audit</b>	<i>An assessment of the current status of a party's compliance with applicable environmental requirements of a party's environmental compliance policies, practices, and controls.</i>
<b>EPA</b>	<i>Environmental Protection Agency: The purpose of the EPA is to ensure that Americans are protected from significant risks to health and the environment; that national efforts to reduce environmental risk are based on the best available scientific information; and that federal laws protecting health and the environment are enforced; that environmental protection is an integral consideration in U.S. policies concerning natural resources, human health, economic growth, energy, transportation, agriculture, industry, and international trade, and these factors are similarly considered in establishing environmental policy. (U.S. Environmental Protection Agency, 2014).</i>
<b>ESA</b>	<i>Endangered Species Act: The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service and the Commerce Department's National Marine Fisheries Service.</i>
<b>ETMSC</b>	<i>Enhanced Traffic Management System Counts: Provides information on traffic counts by airport or by city pair for various data groupings such as aircraft type or by hour of the day. Data are created when pilots file flight plans and/or when flights are detected by the National Airspace System.</i>
<b>Exit Taxiway</b>	<i>A taxiway designed to be used by an aircraft only to exit a runway: Acute-Angled Exit Taxiway – A taxiway forming an angle less than 90 degrees from the runway centerline; High Speed Exit Taxiway – An acute-angled exit taxiway forming a 30-degree angle with the runway centerline, designed to allow an aircraft to exit a runway without having to decelerate to typical taxi speed.</i>

## F

<b>FAA</b>	<p><i>Federal Aviation Administration: The FAA's continuing mission is to provide the safest, most efficient aerospace system in the world. (Federal Aviation Administration, 2010). They are the regulatory authority on airports, airspace, aircraft, and pilots in the U.S. FAA policy is created in Washington D.C. and administered by local, regional, and district offices.</i></p>
<b>FAR</b>	<p><i>Federal Aviation Regulations: The general and permanent rules established by the executive departments and agencies of the Federal Government for aviation, which are published in the Federal Register. These are the aviation subset of the Code of Federal Regulations.</i></p>
<b>FAR Part 77</b>	<p><i>Federal Aviation Regulation Part 77: Establishes standards and notification requirements for objects affecting navigable airspace.</i></p>
<b>FBO</b>	<p><i>Fixed Base Operator: Airport businesses that provide a variety of general aviation services including aircraft parking, fuel, maintenance, charter and aircraft rental, pilot lounge, flight instruction and sales.</i></p>
<b>Federal Inspection Services</b>	<p><i>The provision of customs and immigration services including passport inspection, inspection of baggage, the collection of duties on certain imported items, and the inspections for agricultural products, illegal drugs, or other restricted items.</i></p>
<b>FEMA</b>	<p><i>Federal Emergency Management Agency: FEMA coordinates the federal government's role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror. (Federal Emergency Management Agency, 2014).</i></p>
<b>Final Approach</b>	<p><i>A flight path in the direction of landing along the extended runway centerline. The final approach normally extends from the base leg to the runway. Also see Traffic Pattern.</i></p>
<b>Final Approach Fix</b>	<p><i>The designated point at which the final approach segment for an aircraft landing on a runway begins for a non-precision approach.</i></p>
<b>Flight Level</b>	<p><i>A designation for altitude within controlled airspace.</i></p>
<b>Flight Service Station</b>	<p><i>An operations facility in the national flight advisory system which utilizes data interchange facilities for the collection and dissemination of Notices to Airmen, weather, and administrative data and which provides pre-flight and in-flight advisory services to pilots through air and ground-based communication facilities.</i></p>
<b>FMRA</b>	<p><i>The FAA Modernization and Reform Act of 2012</i></p>
<b>FONSI</b>	<p><i>Finding of No Significant Impact: A federal agency's record of decision on an environmental assessment declaring that the proposed action poses no significant impact on natural and human resources included in the National Environmental Policy Act.</i></p>
<b>FPO</b>	<p><i>FAA Flight Procedures Office: The FPO is responsible for establishing instrument procedure (departure, en route, arrival, approach) design and obstacle clearance standards, criteria, and policy for the existing National Airspace System flight procedure structure and to accommodate emerging technologies and flight operation capabilities. The FPO develops and establishes criteria for terminal instrument procedures for issuance in the current edition of United States Standard for Terminal Instrument Procedures and related 8260-series orders. (Federal Aviation Administration, 2014).</i></p>
<b>FPPA</b>	<p><i>The Farmland Protection Policy Act</i></p>

<b>Frangible</b>	<i>Retains its structural integrity and stiffness up to a designated maximum load, but on impact from a greater load, breaks, distorts, or yields in such a manner as to present the minimum hazard to aircraft.</i>
<b>Frangible NAVAID</b>	<i>A navigational aid which retains its structural integrity and stiffness up to a designated maximum load, but on impact from a greater load, breaks, distorts, or yields in such a manner as to present the minimum hazard to aircraft.</i>
<b>FSDO</b>	<i>FAA Flight Standards District Office: A regulatory agency in charge of low-flying aircraft, accident reporting, air carrier certification and operations, aircraft maintenance, aircraft operational issues, aircraft permits, airmen certification (licensing) for pilots, mechanics, repairmen, dispatchers, and parachute riggers, certification and modification issues, enforcement of airmen &amp; aircraft regulations. (Federal Aviation Administration, 2013).</i>
<b>FTO</b>	<i>Foreign Trade Zone: Designated areas intended to promote international trade and offer companies and importers a way to gain a financial edge in the global marketplace through reduction, deferral, or elimination of U.S. Customs duties</i>
<b>FY</b>	<i>Fiscal Year.</i>
<b>G</b>	
<b>GA</b>	<i>General Aviation: Aircraft activity that is not scheduled for commercial purposes (e.g. airlines and cargo carriers) or conducted by the military. GA operations include charter and on-demand air transport, flight instruction, recreational flying, pipeline inspection, and emergency response.</i>
<b>General Aviation Airport</b>	<i>An airport that provides air service to only general aviation.</i>
<b>GIS</b>	<i>Geographic Information System: A computer system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data.</i>
<b>Glideslope (GS)</b>	<i>Glide Slope: The vertical component of the instrument landing system (ILS) for the glide path guidance when combined with the lateral guidance of the localizer. The glideslope consists of the following:</i> <ul style="list-style-type: none"> <li>• Electronic components emitting signals which provide vertical guidance by reference to airborne instruments during instrument approaches such as ILS; or</li> <li>• Visual ground aids, such as VASI, which provide vertical guidance for VFR approach or for the visual portion of an instrument approach and landing.</li> </ul>
<b>GPA</b>	<i>Glide Path Angle: The angle of the final approach descent path relative to the approach surface baseline.</i>
<b>GPS</b>	<i>Global Positioning System: A system of 24 satellites used as reference points to enable navigators equipped with GPS receivers to determine their latitude, longitude, and altitude.</i>
<b>GQS</b>	<i>Glide Path Qualification Surface: An imaginary surface extending from the runway threshold along the runway centerline extended to the Decision Altitude (DA) point.</i>
<b>Green Valley</b>	<i>Town/Community in Pima County</i>
<b>Ground Access</b>	<i>The transportation system on and around the airport that provides access to and from the airport by ground transportation vehicles for passengers, employees, cargo, freight, and airport services.</i>

## H

<b>HAA</b>	<i>Height Above Airport: The height of the circling approach descent altitude (MDA) above the airport elevation.</i>
<b>HABS</b>	<i>Historical American Building Survey</i>
<b>HAER</b>	<i>Historical American Engineering Record</i>
<b>HAZMAT</b>	<i>Hazardous Materials: Materials that pose a risk to human health and safety, and the environment. Transport, storage, and disposal of these materials are regulated by state and federal environmental and transportation agencies.</i>
<b>Helipad</b>	<i>A designated area for the takeoff, landing, and parking of helicopters.</i>
<b>High-Speed Exit Taxiway</b>	<i>A long radius taxiway designed to expedite aircraft turning off the runway after landing (at speeds to 60 knots), thus reducing runway occupancy time.</i>
<b>HIRL</b>	<i>High Intensity Runway Lights: The highest classification in terms of intensity or brightness for lights designated for use in delineating the sides of a runway.</i>
<b>Holding Aprons</b>	<i>Aprons that allow for pilots to conduct final flight checks, wait for takeoff clearance, and use the provided area as a bypass space.</i>
<b>Horizontal Surface</b>	<i>An imaginary obstruction-limiting surface defined in FAR Part 77 that is specified as a portion of a horizontal plane surrounding a runway located 150 feet above the established airport elevation. The specific horizontal dimensions of this surface are a function of the types of approaches existing or planned for the runway.</i>
<b>Hot Spot</b>	<i>A location on an airport movement area with a history of potential risk of collision or runway incursion, and where heightened attention by pilots and drivers is necessary.</i>

## I

<b>IAP</b>	<i>Instrument Approach Procedure: Consists of a series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight rules (IFR) conditions from the beginning of the initial approach to a landing, or to a point from which the landing can be made visually. IAPs are classified as precision instrument, with both horizontal and vertical guidance; non-precision instrument, with only horizontal guidance; and visual, without positional guidance.</i>
<b>ICAO</b>	<i>International Civil Aviation Organization: A United Nations specialized agency that works with Member States and global aviation organizations to develop international Standards and Recommended Practices (SARPs) which States reference when developing their legally enforceable national civil aviation regulations. (International Civil Aviation Organization, 2014).</i>
<b>IFR</b>	<i>Instrument Flight Rules: They govern flight procedures when there is cloud ceiling less than 1,000 feet and/or visibility less than three miles. These rules require pilots to be specially licensed to navigate using instruments and air traffic control instruction, without visual reference. (FAR Part 91).</i>

<b>ILS</b>	<i>Instrument Landing System: An instrument landing system operates as a ground-based instrument approach system that provides precision lateral and vertical guidance to an aircraft approaching and landing on a runway, using a combination of radio signals and, in many cases, high-intensity lighting arrays to enable a safe landing during instrument meteorological conditions (IMC), such as low ceilings or reduced visibility due to fog, rain, or blowing snow. The system normally consists of the following electronic components and visual aids:</i>
	<ul style="list-style-type: none"> <li>• Localizer.</li> <li>• Glide Slope.</li> <li>• Outer Marker.</li> <li>• Middle Marker.</li> <li>• Approach Lights.</li> </ul>
<b>IM</b>	<i>Inner Marker.</i>
<b>IMC</b>	<i>Instrument Meteorological Conditions: An aviation flight category that describes weather conditions that require pilots to fly primarily by reference to instruments, and therefore under instrument flight rules (IFR), rather than by outside visual references under visual flight rules (VFR).</i>
<b>Initial Approach Fix</b>	<i>The designated point at which the initial approach segment begins for an instrument approach to a runway.</i>
<b>Instrument Procedures</b>	<i>A series of predetermine maneuvers consisting of navigational waypoints, headings, and minimum altitudes, intended to guide aircraft between the terminal (airport area) phase of flight and the en route phase of flight.</i>
<b>ISA</b>	<i>International Standard Atmosphere: This mathematical model describes how the earth's atmosphere, or air pressure and density, changes depending on altitude.</i>
<b>Itinerant Aircraft</b>	<i>An aircraft that is proceeding to or arriving from another location; or leaves the aerodrome traffic circuit but will be returning to land.</i>
<b>Itinerant Operations</b>	<i>Operations by aircraft that are not based at a specified airport.</i>
<b>J</b>	
<b>Jet</b>	<i>Jet aircraft are characterized for having a turbine engine instead of a piston engine. Jet aircraft range in size from small four-passenger business jets to the largest airliners.</i>
<b>Jet A</b>	<i>Jet A is gasoline used in turbine engine powered aircraft. These include jets and propeller aircraft with turbine engines. Jet A is essentially kerosene, refined to meet aviation specifications.</i>
<b>Jurisdictional Delineation</b>	<i>Report conducted to determine the presence of potential jurisdictional waters in the United States, within the limits of a proposed project.</i>
<b>K</b>	
<b>Knots</b>	<i>A unit of speed length used in navigation that is equivalent to the number of nautical miles traveled in one hour.</i>
<b>L</b>	
<b>Landside</b>	<i>The portion of an airport that provides the facilities necessary for the processing of passengers, cargo, freight, and ground transportation vehicles.</i>

## Appendix A - Glossary of Terms

<b>Large Aircraft</b>	<i>An aircraft with a maximum certificated takeoff weight of more than 12,500 lbs.</i>
<b>LDA</b>	<i>Landing Distance Available: The runway length declared available and suitable for landing an aircraft. Also see Declared Distances.</i>
<b>LDA</b>	<i>Localizer Type Directional Aid</i>
<b>LIRL</b>	<i>Low Intensity Runway Lighting.</i>
<b>LL</b>	<i>Low-Lead: Referring to 100 low-lead gas for small GA aircraft</i>
<b>LMM</b>	<i>Compass Locator at ILS Outer Marker.</i>
<b>LOC</b>	<i>Localizer: The lateral guidance component of the instrument landing system (ILS) for the runway center line when combined with the vertical guidance of the glide slope.</i>
<b>Local Area Augmentation System</b>	<i>A differential GPS system that provides localized measurement correction signals to the basic GPS signals to improve navigational accuracy integrity, continuity, and availability.</i>
<b>Local Operations</b>	<i>Aircraft operations performed by aircraft that are based at the airport and that operate in the local traffic pattern or within sight of the airport, that are known to be departing for or arriving from flights in local practice areas within a prescribed distance from the airport, or that execute simulated instrument approaches at the airport.</i>
<b>Locator Outer-Marker</b>	<i>A low power, low/medium frequency radio-beacon installed in conjunction with the instrument landing system at one or two of the marker sites.</i>
<b>Local Traffic</b>	<i>Aircraft operating in the traffic pattern or within sight of the tower, or aircraft known to be departing or arriving from the local practice areas, or aircraft executing practice instrument approach procedures. Typically, this includes touch-and-go training operations.</i>
<b>Localizer Type Directional Aid</b>	<i>A facility of comparable utility and accuracy to a localizer but is not part of a complete ILS and is not aligned with the runway.</i>
<b>LOMR</b>	<i>Letter of Map Revision</i>
<b>LORAN</b>	<i>Long Range Navigation: An electronic navigational aid, or system, which determines aircraft position and speed by measuring the difference in the time of reception of synchronized pulse signals from two fixed transmitters. LORAN is used for en route navigation.</i>
<b>Low Intensity Runway Lights</b>	<i>Low Intensity Runway Lights: The lowest classification in terms of intensity or brightness for lights designated for use in delineating the sides of a runway.</i>
<b>LUST</b>	<i>Leaking Underground Storage Tank</i>
<b>M</b>	
<b>MAC</b>	<i>Missed Approach Course: The flight route to be followed if, after an instrument approach, a landing is not affected, and occurring normally:</i> <ul style="list-style-type: none"><li>• When the aircraft has descended to the decision height and has not established visual contact; or</li><li>• When directed by air traffic control to pull up or to go around again.</li></ul>
<b>Magnetic Bearing</b>	<i>This determines the numbering scheme of runways. Runways are measured based on their orientation to the magnetic north pole (not the true North Pole, located at 90 degrees north latitude).</i>
<b>MALS</b>	<i>Medium Intensity Approach Lighting System with Indicator Lights.</i>

<b>MALSR</b>	<i>Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights: A medium approach intensity lighting system (ALS) installed in airport runway approach zones along the extended centerline of the runway. MALSR consists of a combination of threshold lamps, steady burning light bars and flashers, provides visual information to pilots on runway alignment, height perception, roll guidance, and horizontal references for Category I Precision Approaches.</i>
<b>MDA</b>	<i>Minimum Decent Altitude: The lowest authorized altitude on an approach that does not have vertical guidance. MDA is referenced to mean sea level (MSL).</i>
<b>MEP</b>	<i>Multi-Engine Piston: Aircraft with two or more engines and are typically larger than Single Engine Piston (SEP) aircraft.</i>
<b>Military Operations</b>	<i>Aircraft operations that are performed in military aircraft.</i>
<b>Military Training Route</b>	<i>An air route depicted on aeronautical charts for the conduct of military flight training at speeds above 250 knots.</i>
<b>MIRL</b>	<i>Medium Intensity Runway Lights: Runway lights located along the edge of the runway and used by pilots at night and in low visibility to land and take-off from the runway.</i>
<b>MITL</b>	<i>Medium Intensity Taxiway Lights: Taxiway lights located along the edge of the taxiway and used by pilots at night and in low visibility to navigate on taxiways.</i>
<b>MLS</b>	<i>Microwave Landing System: An instrument approach and landing system that provides precision guidance in azimuth, elevation, and distance measurement.</i>
<b>MM</b>	<i>Middle Marker.</i>
<b>MOA</b>	<i>Military Operations Area: See Special-Use Airspace.</i>
<b>Modification to Standards</b>	<i>Any approved nonconformance to FAA standards, other than dimensional standards for Runway Safety Areas (RSAs), applicable to an airport design, construction, or equipment procurement project that is necessary to accommodate an unusual local condition for a specific project on a case-by-case basis while maintaining an acceptable level of safety.</i>
<b>Monte Carlo Simulation</b>	<i>Monte Carlo simulations are used to model the probability of different outcomes in a process that cannot easily be predicted due to the intervention of random variables. It is a technique used to understand the impact of risk and uncertainty in prediction and forecasting models.</i>
<b>Movement Area</b>	<i>The runways, taxiways, and other areas of an airport that are used for taxiing or hover taxiing, air taxiing, takeoff, and landing of aircraft including helicopters and tiltrotors, exclusive of loading aprons and aircraft parking areas.</i>
<b>MSA</b>	<i>Metropolitan/Micropolitan Statistical Area: Metropolitan and micropolitan statistical areas (also referred to as metro and micro areas) are delineated by the Office of Management and Budget for the production and dissemination of federal statistical data. Each metro or micro area consists of one or more whole counties, and includes the counties containing a core urban area and any adjacent counties with a high degree of social and economic integration (measured by commuting to work) with the urban core.</i>

**MSL**

*Mean Sea Level: An average level of the surface of one or more of Earth's oceans from which heights such as elevations may be measured. MSL is a type of vertical datum – a standardized geodetic reference point – that is used, for example, as a chart datum in cartography and marine navigation or, in aviation, as the standard sea level at which atmospheric pressure is measured to calibrate altitude and, consequently, aircraft flight levels.*

**Multivariate time series regression analysis**

*Time series regression is a statistical method for predicting a future response based on the response history (known as autoregressive dynamics) and the transfer of dynamics from relevant predictors. ... Time series regression is commonly used for modeling and forecasting of economic, financial, and biological systems.*

**N**

**NAAQS**

*National Ambient Air Quality Standards: The Clean Air Act requires the Environmental Protection Agency to set National Ambient Air Quality Standards for pollutants considered harmful to public health and the environment. The Clean Air Act identifies two types of national ambient air quality standards. Primary standards provide public health protection, including protecting the health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. (U.S. Environmental Protection Agency, 2011).*

**NAS**

*National Airspace System: The airspace, navigation facilities and airports of the United States along with their associated information, services, rules, regulations, policies, procedures, personnel, and equipment.*

**National Transportation Safety Board**

*A federal government organization established to investigate and determine the probable cause of transportation accidents, to recommend equipment and procedures to enhance transportation safety, and to review on appeal the suspension or revocation of any certificates or licenses issued by the Secretary of Transportation.*

**Nautical Mile**

*A unit of length used in navigation, which is equivalent to the distance spanned by one minute of arc in latitude, that is, 1,852 meters or 6,076 feet. It is equivalent to approximately 1.15 statute mile.*

**NAVAID**

*Navigational Aid: An electronic or visual guidance system that allows pilots to maintain situational and locational awareness during periods of low visibility. NAVAIDs include airfield lights and radio beacons that convey positional information to pilots.*

**NRCS**

*Natural Resources Conservation Service: U.S. Department of Agriculture's principal agency for providing conservation technical assistance to private landowners, conservation districts, tribes, and other organizations.*

**NDB**

*Non-Directional (Radio) Beacon: A radio transmitter at a known location, used as an aviation or marine navigational aid. A NAVAID that broadcasts its location in all directions. These NAVAIDs are typically coupled with automatic direction finders, which convey their relative direction to aircraft.*

**NEPA**

*National Environmental Policy Act: The NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. To meet NEPA requirements federal agencies prepare a detailed statement known as an Environmental Assessments and Environmental Impact Statements (EIS). EPA reviews and comments on EISs prepared by other federal agencies, maintains a national filing system for all EISs, and assures that its own actions comply with NEPA. (U.S Environmental Protection Agency, 2014).*

<b>NGS</b>	<i>National Geodetic Survey</i>
<b>NM</b>	<i>Nautical Mile: 6,076.1 feet.</i>
<b>NOAA</b>	<i>National Oceanic and Atmospheric Administration: An American scientific agency within the United States Department of Commerce that focuses on the conditions of the oceans, major waterways, and the atmosphere.</i>
<b>Noise Contour</b>	<i>A continuous line on a map of the airport vicinity connecting all points of the same noise exposure level.</i>
<b>Non-Movement Area</b>	<i>The areas of an airport that are used for taxiing or hover taxiing, or air taxiing aircraft including helicopters and tiltrotors, but are not part of the movement area (i.e., the loading aprons and aircraft parking areas).</i>
<b>Non-Precision Instrument</b>	<i>NAVAIDs and instrument procedures enabling only lateral guidance of aircraft, compared to precision instrument, which provides lateral and vertical guidance. During periods of visibility below three statute miles, and when the cloud ceiling is below 1,000 feet above ground level, aircraft, airports, and pilots must be equipped and trained to fly non-precision instrument procedures, otherwise the airport must close until visibility improves.</i>
<b>NOTAM</b>	<i>Notice to Airmen: Federally issued notice pertaining to deviations from standard operating procedures in the national airspace system. NOTAMs typically pertain to airspace and runway closures, and special events, such as air shows. Pilots are responsible for reviewing applicable NOTAMs in the airspace and airports within which they operate.</i>
<b>NPA</b>	<i>Non-Precision Approach: A straight-in instrument approach procedure that provides course guidance, with or without vertical path guidance, with visibility minimums not lower than 3/4 mile (4000 RVR).</i>
<b>NPDES</b>	<i>National Pollutant Discharge Elimination System.</i>
<b>NPIAS</b>	<i>National Plan of Integrated Airport Systems: The NPIAS identifies nearly 3,400 existing and proposed airports that are significant to national air transportation and thus eligible to receive Federal grants under the Airport Improvement Program (AIP). It also includes estimates of the amount of AIP money needed to fund infrastructure development projects that will bring these airports up to current design standards and add capacity to congested airports. The FAA is required to provide Congress with a 5-year estimate of AIP eligible development every two years. The NPIAS contains all commercial service airports, all reliever airports, and selected general aviation airports. (Federal Aviation Administration, 2014).</i>
<b>NPRM</b>	<i>Notice of Proposed Rulemaking.</i>
<b>NRHP</b>	<i>National Register of Historic Places</i>
<b>NRI</b>	<i>Natural Resource Inventory: A statistical survey of land use and natural resource conditions and trends on U.S. non-Federal lands, maintained by the US Department of Agriculture.</i>

**O**

<b>Obstacle</b>	<i>An existing object at a fixed geographical location, or which may be expected at a fixed location within a prescribed area with reference to which vertical clearance is or must be provided during flight operation.</i>
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## Appendix A - Glossary of Terms

<b>OCS</b>	<i>Obstacle Clearance Surface: An evaluation surface that defines the minimum required obstruction clearance for approach or departure procedures.</i>
<b>ODALS</b>	<i>Omni-Directional Approach Lighting System.</i>
<b>OE/AAA</b>	<i>Obstacle Evaluation / Airport Airspace Analysis: FAA OE/AAA evaluates cases related to airspace in the U.S. Structures built within 20,000 feet of public airports, or exceeding 200 feet above ground level, must go through OE/AAA review. OE/AAA issues a determination on whether the proposed construction is or is not a hazard to air navigation.</i>
<b>OFA</b>	<i>Object Free Area: The area centered about the runway or taxiway centerline. The OFA clearing standard requires clearing the OFA of above-ground objects protruding above the nearest point of the safety area, except those fixed by function. Buildings and parked aircraft are not permitted in the OFA. (Federal Aviation Administration, 2012).</i>
<b>OFZ</b>	<i>Obstacle Free Zone: The OFZ clearing standard precludes aircraft and other object penetrations, except for frangible NAVAIDs that need to be located in the OFZ because of their function. Its shape is dependent on the approach minimums for the runway end and the aircraft on approach and, thus, the OFZ for a particular operation may not be the same shape as that used for design purposes. (Federal Aviation Administration, 2012).</i>
<b>OM</b>	<i>Outer Marker: An ILS navigation facility in the terminal area navigation system located four to seven miles from the runway edge on the extended centerline, indicating to the pilot that he/she is passing over the facility and can begin final approach.</i>
<b>One-Engine Inoperable Surface</b>	<i>A surface emanating from the runway end at a slope ratio of 62.5:1. Air carrier airports are required to maintain a technical drawing of this surface depicting any object penetrations by January 1, 2010.</i>
<b>Operation</b>	<i>Data showing how many times aircraft have taken off, landed, or performed a touch-and-go at an airport. One visit to an airport counts as two operations (landing and takeoff).</i>

## P

<b>PAPI</b>	<i>Precision Approach Path Indicator: A series of lights that indicate to a pilot whether they are on, above, or below the prescribed glide path to a runway end. These devices have either two or four lights that alternate between white and red to indicate the pilot's position.</i>
<b>Pascua Yaqui Native American Reservation</b>	<i>Federally recognized tribe of Yaqui Native Americans in southern Arizona.</i>
<b>PCI</b>	<i>Pavement Condition Index: A numerical index used in transportation civil engineering between 0 and 100, which is used to indicate the general condition of a pavement.</i>
<b>PCRWRD</b>	<i>Pima County Wastewater Reclamation Department</i>
<b>PDC</b>	<i>Planned Development Community</i>
<b>Pilot Controlled Lighting</b>	<i>Runway lighting systems at an airport that are controlled by activating the microphone of a pilot on a specified radio frequency.</i>
<b>Pima County</b>	<i>The second most populous county in the state of Arizona, located in the southern region of the state.</i>
<b>PLASI</b>	<i>Pulsating Visual Approach Slope Indicator.</i>

<b>POFA</b>	<i>Precision Object Free Area: An area centered on the extended runway centerline, beginning at the runway threshold and extending behind the runway threshold that is 200 feet long by 800 feet wide. The POFA is a clearing standard, which requires the POFA to be kept clear of above ground objects protruding above the runway safety area edge elevation (except for frangible NAVAIDS). The POFA applies to all new authorized instrument approach procedures with less than <math>\frac{3}{4}</math> mile visibility.</i>
<b>PPC</b>	<i>Pima Pineapple Cactus</i>
<b>Precision Approach</b>	<i>A standard instrument approach procedure, which provides runway alignment and glide slope (descent) information. It is categorized as follows:</i> <ul style="list-style-type: none"> <li>• <b>CATEGORY I (CAT I):</b> A precision approach which provides for approaches with a decision height of not less than 200 feet and visibility not less than 1/2 mile or Runway Visual Range (RVR) 2400 (RVR 1800) with operative touchdown zone and runway centerline lights.</li> <li>• <b>CATEGORY II (CAT II):</b> A precision approach which provides for approaches with a decision height of not less than 100 feet and visibility not less than 1200 feet RVR.</li> <li>• <b>CATEGORY III (CAT III):</b> A precision approach which provides for approaches with minima less than Category II.</li> </ul>
<b>Precision Approach Radar</b>	<i>A radar facility in the terminal air traffic control system used to detect and display with a high degree of accuracy the direction, range, and elevation of an aircraft on the final approach to a runway.</i>
<b>Precision Instrument</b>	<i>NAVAIDs and instrument procedures enabling both lateral and vertical guidance of aircraft. During periods of visibility below 1/2 a statute mile, and when the cloud ceiling is below 200 feet above ground level, aircraft, airports, and pilots must be equipped and trained to fly precision instrument procedures, otherwise the airport must close until visibility improves.</i>
<b>Primary Airport</b>	<i>A commercial service airport that enplanes at least 10,000 annual passengers.</i>
<b>Primary Surface</b>	<i>An imaginary obstruction limiting surface defined in FAR Part 77 that is specified as a rectangular surface longitudinally centered about a runway. The specific dimensions of this surface are a function of the types of approaches existing or planned for the runway.</i>
<b>Prohibited Area</b>	<i>See Special-Use Airspace.</i>
<b>PVACI</b>	<i>Pulsating   Steady Visual Approach Slope Indicator.</i>
<b>PVC</b>	<i>Poor Visibility and Ceiling: Used in determining Annual Service Volume. PVC conditions exist when the cloud ceiling is less than 500 feet and visibility is less than one statute mile.</i>
<b>Q</b>	
<b>R</b>	
<b>Radial</b>	<i>A navigational signal generated by a Very High Frequency Omni-directional Range or VORTAC station that is measured as an azimuth from the station.</i>

## Appendix A - Glossary of Terms

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<b>RCO</b>	<i>Remote Communications Outlet: An unstaffed transmitter receiver/facility remotely controlled by air traffic personnel. RCOs serve flight service stations (FSSs). RCOs were established to provide ground-to-ground communications between air traffic control specialists and pilots at satellite airports for delivering en route clearances, issuing departure authorizations, and acknowledging instrument flight rules cancellations or departure/landing times.</i>
<b>RDC</b>	<i>Runway Design Code: A combination of the AAC and ADG. These two elements combined set the design standards, setbacks, and dimensions, pavement width, safety areas, object free areas, and runway protection zones for a single runway. (Federal Aviation Administration, 2012).</i>
<b>RDG</b>	<i>Runway Design Group</i>
<b>Real GDP</b>	<i>Real Gross Domestic Product: GDP measures the value of all goods and services produced within a geographic area. Real GDP measures economic output in inflation-adjusted dollars.</i>
<b>Real GRP</b>	<i>Real Gross Regional Product: The value of goods and services produced in the region that serves as a health index for the overall economy.</i>
<b>Regression Analysis</b>	<i>Using projected change of one variable to forecast the change of another. Regression analysis typically identifies correlation between two variables historically, indicating whether these variables change in a similar fashion to each other, or inversely. Correlation and regression do not determine causation.</i>
<b>REIL</b>	<i>Runway End Identifier Lights: Lights that provide rapid and positive identification of the approach end of a runway. The system consists of a pair of synchronized flashing lights located laterally on each side of the runway threshold.</i>
<b>Reliever Airport</b>	<i>An airport to serve general aviation aircraft which might otherwise use a congested air-carrier served airport.</i>
<b>Remain Overnight Apron (RON)</b>	<i>Apron area where air carriers can park aircraft overnight.</i>
<b>Restricted Area</b>	<i>See Special-Use Airspace.</i>
<b>RNAV</b>	<i>Area Navigation: A method of instrument flight rules (IFR) navigation that allows an aircraft to choose any course within a network of navigation beacons, rather than navigate directly to and from the beacons. Typically, GPS system navigation.</i>
<b>ROFA</b>	<i>Runway Object Free Area: This is an object free area centered on the runway. Also see the definition of OFA.</i>
<b>RPZ</b>	<i>Runway Protection Zone: A trapezoidal feature whose function is to enhance the protection of people and property on the ground by keeping the area clear of incompatible land uses. These land uses generally include noise sensitive land uses, land uses that are characterized by high concentrations of people, and fuel and hazardous material storage.</i>
<b>RSA</b>	<i>Runway Safety Area: A safety area that is centered longitudinally on the runway. It must be clear of all objects, graded, drained, and capable of supporting snow removal equipment, firefighting equipment, and the passage of aircraft without damage to the aircraft. (Federal Aviation Administration, 2012).</i>
<b>RTR</b>	<i>Remote Transmitter/Receiver: RTRs serve ARTCCs. Also see Remote Communications Outlet (RCO).</i>

<b>Runway</b>	A defined rectangular surface on an airport prepared or suitable for the landing or takeoff of aircraft. Runways are normally numbered in relation to their magnetic direction, rounded off to the nearest 10 degrees. For example, a runway with a magnetic heading of 180 would be designated Runway 18. The runway heading on the opposite end of the runway is 180 degrees from that runway end. For example, the opposite runway heading for Runway 18 would be Runway 36 (magnetic heading of 360). Aircraft can takeoff or land from either end of a runway, depending upon wind direction.
<b>Runway Alignment Indicator Light</b>	A series of high intensity sequentially flashing lights installed on the extended centerline of the runway usually in conjunction with an approach lighting system.
<b>Runway Gradient</b>	The average slope, measured in percent, between the two ends of a runway.
<b>Runway Incursion</b>	Any occurrence at an airport involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and takeoff of aircraft.
<b>RVR</b>	<i>Runway Visual Range: The distance at which a pilot of an aircraft on the centerline of the runway can see runway markings.</i>
<b>RVZ</b>	<i>Runway Visibility Zone: An area on the airport to be kept clear of permanent objects so that there is an unobstructed line of site from any point five feet above the runway centerline to any point five feet above an intersecting runway centerline.</i>
<b>RYN</b>	Ryan Airfield's three letter airport reference code.
<b>S</b>	
<b>SALS</b>	<i>Short Approach Lighting System.</i>
<b>SASO</b>	<i>Specialized Aviation Service Operator: A single-service provider, or special Fixed Based Operator, performing less than full services.</i>
<b>SASP</b>	<i>State Aviation System Plan.</i>
<b>Segmented Circle</b>	<i>A system of visual indicators designed to provide traffic pattern information at airports without operating control towers.</i>
<b>SEL</b>	<i>Sound Exposure Level.</i>
<b>SEMS</b>	<i>Superfund Enterprise Management System</i>
<b>SEP</b>	<i>Single Engine Piston: SEP have one piston-powered engine. These aircraft are generally smaller and are often used for flight training and recreational flying.</i>
<b>Shoulder</b>	<i>An area adjacent to the defined edge of paved runways, taxiways, or aprons providing a transition between the pavement and the adjacent surface; support for aircraft and emergency vehicles deviating from the full-strength pavement; enhanced drainage; and blast protection.</i>
<b>SID</b>	<i>Standard Instrument Departure: A preplanned coded air traffic control IFR departure routing, preprinted for pilot use in graphic and textual form only.</i>
<b>Slant-Range Distance</b>	<i>The distance between an aircraft and a point on the ground.</i>
<b>SM</b>	<i>Statute Mile: 5,280 feet.</i>
<b>Small Aircraft</b>	<i>An aircraft with a maximum certificated takeoff weight of 12,500 lbs. (5670 kg) or less.</i>

<b>Special-Use Airspace</b>	<p><i>Airspace of defined dimensions identified by a surface area wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. Special-use airspace classifications include:</i></p> <ul style="list-style-type: none"><li>• <b>ALERT AREA:</b> <i>Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft.</i></li><li>• <b>CONTROLLED FIRING AREA:</b> <i>Airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to nonparticipating aircraft and to ensure the safety of persons or property on the ground.</i></li><li>• <b>MILITARY OPERATIONS AREA (MOA):</b> <i>Designated airspace with defined vertical and lateral dimensions established outside Class A airspace to separate/segregate certain military activities from instrument flight rule (IFR) traffic and to identify for visual flight rule (VFR) traffic where these activities are conducted.</i></li><li>• <b>PROHIBITED AREA:</b> <i>Designated airspace within which the flight of aircraft is prohibited.</i></li><li>• <b>RESTRICTED AREA:</b> <i>Airspace designated under Federal Aviation Regulation (FAR) 73, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Most restricted areas are designated joint use. When not in use by the using agency, IFR/VFR operations can be authorized by the controlling air traffic control facility.</i></li><li>• <b>WARNING AREA:</b> <i>Airspace which may contain hazards to nonparticipating aircraft.</i></li></ul>
<b>SSALF</b>	<p><i>Simplified Short Approach Lighting System with Runway Alignment Indicator Lights.</i></p>
<b>Stakeholder Working Group (SWG)</b>	<p><i>The SWG is made up of community stakeholders, including airport tenants, land use planning bodies, and economic development agencies. SWG members are tasked with reviewing Master Plan materials and providing comment from the perspective of the organizations of which they are a member.</i></p>
<b>Standard Instrument Departure Procedures</b>	<p><i>A published standard flight procedure to be utilized following takeoff to provide a transition between the airport and the terminal area or en route airspace.</i></p>
<b>STAR</b>	<p><i>Standard Terminal Arrival Route: A preplanned coded air traffic control IFR arrival routing, preprinted for pilot use in graphic and textual or textual form only.</i></p>
<b>Stop-and-Go</b>	<p><i>A procedure wherein an aircraft will land, make a complete stop on the runway, and then commence a takeoff from that point. A Stop-and-Go is recorded as two operations: one operation for the landing and one operation for the takeoff.</i></p>
<b>Stopway</b>	<p><i>An area beyond the takeoff runway, no less wide than the runway and centered upon the extended centerline of the runway, able to support the airplane during an aborted takeoff, without causing structural damage to the airplane, and designated by the airport authorities for use in decelerating the airplane during an aborted takeoff. A blast pad is not a stopway.</i></p>
<b>Straight-in Landing/Approach</b>	<p><i>A landing made on a runway aligned within 30 degrees of the final approach course following completion of an instrument approach.</i></p>
<b>SWL</b>	<p><i>Single-Wheel Landing Gear: Runway Weight Bearing Capacity for Aircraft with Single-Wheel Tandem Type Landing Gear.</i></p>

**T**

<b>TAA</b>	<i>Tucson Airport Authority: A nonprofit developed by business leaders, focused on economic development and operating safe and efficient transportation in southern Arizona.</i>
<b>TACAN</b>	<i>Tactical Air Navigation: An ultrahigh frequency electronic air navigation system which provides suitably equipped aircraft a continuous indication of bearing and distance to the TACAN station.</i>
<b>TAF</b>	<i>Terminal Area Forecast: The annual FAA forecast of passengers, aircraft operations, and based aircraft for the National airspace system. This is a top down forecast, starting from the FAA national aerospace forecast and being distributed to the different airports. It is used as a basis for comparison for Master Plan generated forecasts.</i>
<b>Taxilane</b>	<i>A taxiway designed for low speed and precise taxiing. Taxilanes are usually, but not always, located outside the movement area, providing access from taxiways (usually an apron taxiway) to aircraft parking positions and other terminal areas.</i>
<b>Taxiway</b>	<i>A defined path established for the taxiing of aircraft from one part of an airport to another.</i>
<b>TDG</b>	<i>Taxiway Design Group: Relates to the undercarriage dimensions of the aircraft. Taxiway/taxilane width and fillet standards, and in some cases, runway to taxiway and taxiway/taxilane separation standards are determined by TDG.</i>
<b>Technical Advisory Committee (TAC)</b>	<i>A Technical Advisory Committee consists of aviation industry professionals who are airport stakeholders that provide a technical perspective on key Master Plan elements. For example, a group like this may have representatives from the airport, airlines, businesses on the airport, military (if serving military operations), etc.</i>
<b>TDZ</b>	<i>Touchdown Zone: The first 3,000 feet of the runway beginning at the threshold.</i>
<b>TDZE</b>	<i>Touchdown Zone Elevation: The highest elevation in the touchdown zone.</i>
<b>TEP</b>	<i>Tucson Electric Power</i>
<b>Terminal Instrument Procedures</b>	<i>Published flight procedures for conducting instrument approaches to runways under instrument meteorological conditions.</i>
<b>Terminal Radar Approach Control</b>	<i>An element of the air traffic control system responsible for monitoring the en route and terminal segment of air traffic in the airspace surrounding airports with moderate to high levels of air traffic.</i>
<b>TESM</b>	<i>Taxiway Edge Safety Margin: The distance between the outer edge of the landing gear of an airplane with its nose gear on the taxiway centerline and the edge of the taxiway pavement.</i>
<b>Tetrahedron</b>	<i>A device used as a landing direction indicator. The small end of the tetrahedron points in the direction of landing.</i>
<b>TFMSC</b>	<i>Traffic Flow Management System Traffic Counts: The data collected from flight plans. These operations are categorized by aircraft type and used to identify trends in the airport fleet mix.</i>
<b>THC</b>	<i>Threshold Crossing Height: The theoretical height above the runway threshold at which the aircraft's glideslope (GS) antenna would be if the aircraft maintains the trajectory established by the Instrument Landing System (ILS) GS, or the height of the pilot's eye above the runway threshold, based on a visual guidance system.</i>

## Appendix A - Glossary of Terms

<b>Threshold</b>	<i>The beginning of that portion of the runway available for landing. In some instances, the threshold may be displaced. Threshold always refers to landing, not the start of takeoff.</i>
<b>Tiedown</b>	<i>Located on aircraft parking aprons and used to secure parked aircraft so that they do not move in high winds.</i>
<b>TODA</b>	<i>Takeoff Distance Available: The Takeoff Run Available (TORA) plus the length of any remaining runway or clearway beyond the far end of the TORA. Also see Declared Distances.</i>
<b>TOFA</b>	<i>Taxiway Object Free Area: This is an object free area centered on the taxiway. Also see the definition of OFA.</i>
<b>Tohono O'dham Native American Reservation</b>	<i>Indian reservation of the Tohono O'dham Nation located in southern Arizona.</i>
<b>TORA</b>	<i>Takeoff Runway Available: The runway length declared available and suitable for the ground run of an aircraft taking off. Also see Declared Distances.</i>
<b>Touch-and-Go</b>	<i>An operation by an aircraft that lands and departs on a runway without stopping or exiting the runway. A Touch-and Go is recorded as two operations: one operation for the landing and one operation for the takeoff.</i>
<b>Touchdown</b>	<i>The point at which a landing aircraft contacts the runway surface.</i>
<b>Touchdown Zone Lighting</b>	<i>Two rows of transverse light bars located symmetrically about the runway centerline normally at 100-foot intervals. The basic system extends 3,000 feet along the runway.</i>
<b>Town of Sahuarita</b>	<i>Town in Pima County, located south of the Tohono O'dham Nation and is north of Green Valley</i>
<b>TRACON</b>	<i>Terminal Radar Approach Control.</i>
<b>Traffic Pattern</b>	<i>The traffic flow that is prescribed for aircraft landing at, or taking off from, an airport. The components of a typical Traffic Pattern are the upwind leg, crosswind leg, downwind leg, base leg, and final approach.</i>
<b>Transitional Surface</b>	<i>A surface extending outward and upward, at right angles to the runway centerline and runway centerline extended, from the sides of the Primary Surface and the Approach Surfaces.</i>
<b>Trico Electric Cooperative, Inc. (TEC)</b>	<i>A non-profit electric distribution cooperative serving more than 43,000 Members in rural areas surrounding the City of Tucson, including portions of Pima, Pinal, and Santa Cruz counties.</i>
<b>TSA</b>	<i>Taxiway Safety Area: A safety area that is centered longitudinally on the taxiway. It must be clear of all objects, graded, drained, and capable of supporting snow removal equipment, firefighting equipment, and the passage of aircraft without damage to the aircraft. (Federal Aviation Administration, 2012).</i>
<b>Turboprop</b>	<i>Aircraft that uses gas turbine engines to drive a propeller. These aircraft tend to be slower than jets. Turboprops are used as small commuter aircraft due to lower fuel and maintenance costs.</i>
<b>TUS</b>	<i>Tucson International Airport's three letter airport reference code.</i>
<b>U</b>	
<b>UAS</b>	<i>Unmanned Aircraft (Aerial) System: The combination of a pilotless vehicle and pilot that flies the vehicle remotely. This acronym is often used interchangeably with Unmanned Aerial Vehicle (UAV); however, UAS refers to the vehicle and the pilot.</i>

<b>UAV</b>	<i>Unmanned Aerial Vehicle: A pilotless vehicle. This acronym is often used interchangeably with Unmanned Aircraft (Aerial) System (UAS); however, UAV refers to the vehicle itself, and not the pilot.</i>
<b>UGB</b>	<i>Urban Growth Boundary: A regional boundary, set by the local jurisdiction by mandating that the area inside the boundary be used for higher density urban development and the area outside be used for lower density development, with the hope of controlling urban sprawl.</i>
<b>Uncontrolled Airport</b>	<i>An airport without an air traffic control tower at which the control of Visual Flight Rules (VFR) traffic is not exercised.</i>
<b>Uncontrolled Airspace</b>	<i>Airspace within which aircraft are not subject to air traffic control.</i>
<b>UNICOM</b>	<i>Universal Communication: A non-government communication facility which may provide airport information at certain airports. Locations and frequencies of UNICOM's are shown on aeronautical charts and publications.</i>
<b>Upwind Leg</b>	<i>A flight path parallel to the landing runway in the direction of landing. Also see Traffic Pattern.</i>
<b>USACE</b>	<i>U.S. Army Corps of Engineers: The USACE has regulatory over navigable waterways in the U.S. They manage river hydrology, flood prevention, and emergency response.</i>
<b>USC</b>	<i>United States Code: A consolidation and codification by subject matter of the general and permanent laws of the United States. It is prepared by the Office of the Law Revision Counsel of the United States House of Representatives. (United States House of Representatives, 2014).</i>
<b>USDA-NRCS</b>	<i>The United States Department of Agriculture, Natural Resource Conservation Service</i>
<b>USEPA</b>	<i>The United States Environmental Protection Agency</i>
<b>USFS</b>	<i>United States Forest Service: An agency of the U.S. Department of Agriculture that administers the nation's national forests and national grasslands.</i>
<b>USFWS</b>	<i>U.S. Fish and Wildlife Service: USFWS is tasked with enforcing federal wildlife laws, protecting endangered birds and species, managing bird migrations and fisheries, restoring wetlands, and collecting excise taxes on fishing and hunting. (U.S. Fish and Wildlife Service, 2014).</i>

**V**

<b>VASI</b>	<i>Visual Approach Slope Indicator: An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that he is on path if he sees red/white, above path if white/white, and below path if red/red. Some airports serving large aircraft have three-bar VASI's which provide two visual guide paths to the same runway.</i>
<b>Vector</b>	<i>A heading issued to an aircraft to provide navigational guidance by radar.</i>
<b>VFR</b>	<i>Visual Flight Rules: Under visual flight rules, pilots must be able to maintain separation from aircraft and objects visually, without the use of navigational aids (NAVAIDS). When weather reduces visibility below three statute miles then pilots may not operate under Visual Flight Rules (VFR) and must instead use Instrument Flight Rules (IFR). (FAR Part 91).</i>
<b>VHF</b>	<i>Very High Frequency.</i>

## Appendix A - Glossary of Terms

<b>Victory Airway</b>	<i>A control area or portion thereof established in the form of a corridor, the centerline of which is defined by radio navigational aids.</i>
<b>Visual Approach</b>	<i>An approach wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of an air traffic control facility and having an air traffic control authorization, may proceed to the airport of destination in VFR conditions.</i>
<b>Visual Meteorological Conditions</b>	<i>Meteorological conditions expressed in terms of specific visibility and ceiling conditions which are equal to or greater than the threshold values for instrument meteorological conditions.</i>
<b>VOR</b>	<i>Very High Frequency (VHF) Omni-Directional Range (VOR): VOR NAVAIDS convey position and course (relative to the VOR) information to aircraft in flight. These NAVAIDS are used to establish airways across the U.S.</i>
<b>VORTAC</b>	<i>Very High Frequency Omni-Directional Range / Tactile Air Navigation: A navigation aid providing VOR azimuth, TACAN azimuth, and TACAN distance-measuring equipment (DME) at one site.</i>

## W

<b>WAAS</b>	<i>Wide Area Augmentation System: A ground-based global positioning system (GPS) signal augmentation service. WAAS antennas boost strength and reliability of satellite GPS signals, enabling aircraft to use GPS to fly instrument approach procedures.</i>
<b>Warning Area</b>	<i>See Special-Use Airspace.</i>
<b>Weight Bearing Capacity</b>	<i>The amount of weight a piece of pavement is capable of bearing under normal circumstances, without resulting in excessive wear. Aircraft that weigh more than a pavement's weight bearing capacity may still use the pavement; however, frequent use by such aircraft will cause premature wear of the pavement, requiring earlier replacement.</i>
<b>WHMP</b>	<i>A Wildlife Hazard Management Plan is a strategy document created after risk assessment of wildlife hazards at an airport. The document helps airports plan development to reduce the risk that wildlife hazards present to safe operations.</i>
<b>Wingspan</b>	<i>The maximum horizontal distance from one wingtip to the other wingtip, including the horizontal component of any extensions, such as winglets or raked wingtips.</i>

## X

## Y

## Z



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*Appendix B*  
*Airport Waste and Recycling Plan*

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# APPENDIX B – RECYCLING & SOLID WASTE PLAN

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## SUMMARY

The Tucson Airport Authority (TAA) can reduce waste generation and increase landfill diversion at Ryan Airfield (RYN) by:

- ▶ Implementing an Airport waste diversion program, including recycling collection and an awareness campaign.
- ▶ Tracking and voluntarily reporting waste metrics and diversion progress
- ▶ Improving purchasing practices, reducing disposable items, and reusing supplies

These recommended strategies have the potential to divert at least 6 tons of waste annually.

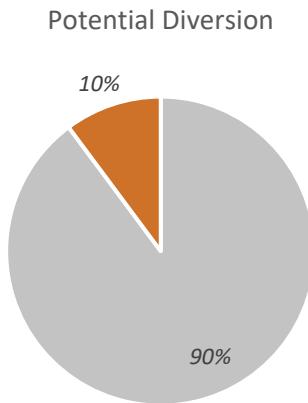
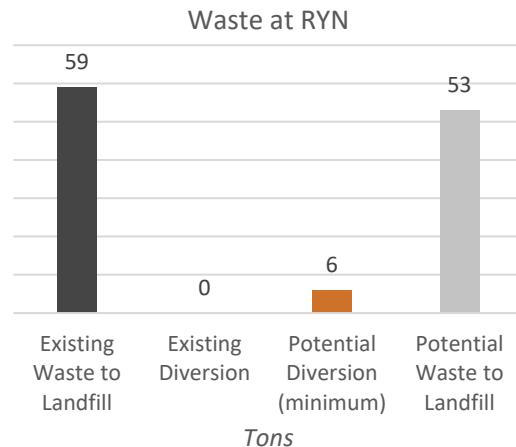
The recommended strategies improve TAA's existing waste management program at RYN. They align with TAA's program at Tucson International Airport (TUS), which includes:

- ▶ Single-stream recycling of paper, cardboard, and aluminum.
- ▶ Recycling receptacles available throughout public areas of the TAA Administration Building.

The existing program at RYN generates approximately 59 tons annually. All the waste generated at RYN is landfilled.

Reducing waste generation and increasing diversion could reduce associated costs in alignment with TAA's fiscal strategy for RYN.

Planning for solid waste and recycling under the on-going master plan fulfills TAA's federal obligation under the Federal Aviation Administration (FAA) Modernization and Reauthorization Act of 2012 and subsequent regulation. #



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## RECOMMENDATIONS

The following recommendations to improve waste management at RYN include waste reduction, reuse, and recycling strategies. Evaluation for each recommendation considered estimated relative cost and diversion potential; the suggested implementation time frame; and noted alignment with best practices or standard programs. **Table B-1** shows the key for quick comparison of the impact of each recommendation on diversion.

**Table B-1: Recommendation Key**

Item	Icons	Significance
Relative Cost	\$ \$ \$	Low cost
	\$ \$ \$	Medium cost
	\$ \$ \$	High cost
Estimated Diversion Potential	trash trash trash	Low diversion potential
	trash trash trash	Medium diversion potential
	trash trash trash	High diversion potential
Suggested Implementation Time Frame	clock clock clock	Short range (<1 year)
	clock clock clock	Medium range (1-3 years)
	clock clock clock	Long range (3+ years)
Alignment	<b>BMP</b>	Best Management Practice
	<b>TRUE</b>	BMP and Total Resource Use and Efficiency (TRUE) Certification program element

## RECOMMENDATION 1: INTEGRATE WASTE DIVERSION INTO AIRPORT OPERATIONS

### Description

Waste diversion is the concept of avoiding and/or managing waste to avoid landfill disposal. Waste diversion strategies include practices such as reduction, reuse, donation, sustainable procurement, recycling, and composting. These strategies offer various levels of fiscal, environmental, and social benefits.

Relative Cost	Time Frame
\$ \$ \$	clock clock clock
trash trash trash	Alignment

### Action

It is recommended that RYN integrate waste diversion concepts and practices into existing Airport policies and operations, for example, in maintenance operations, purchasing practices, and tenant requirements.

## Justification

All municipal solid waste generated at RYN is disposed of at a local landfill (see *Current Waste Management Program*) and there are financial, environmental, and social costs associated with this practice. Waste diversion would reduce the volume of waste sent to the landfill as well as the associated impacts.

## Information Needed

- ▶ Communication tools to reach Airport staff and tenants.
- ▶ Waste diversion information.

## Action Plan

- ▶ Introduce the concept of waste diversion to Airport staff and tenants.
- ▶ Adopt waste diversion policy or integrate in existing guidance documents.
- ▶ Identify sources of waste and promote strategies to avoid, reduce, or divert these materials.
- ▶ Encourage waste diversion in future tenant and project contracts.

## RECOMMENDATION 2: IMPROVE PURCHASING PRACTICES, REDUCE, & REUSE

### Description

To reduce the facility's volume of waste sent to the landfill, the Airport should reduce waste generation and reuse materials where possible. RYN staff's existing purchasing practices may generate waste in the form of single-use and/or disposable items and supplies and tracking of these items could reveal opportunities for reduction and reuse.

Relative Cost	\$	\$	\$	Time Frame	⌚	⌚	⌚
Estimated Diversion	Trash	Trash	Trash	Alignment	<b>BMP</b>		

### Action

It is recommended that TAA adopt a purchasing policy prioritizing durable (versus disposable) items and supplies that are reusable, recyclable, compostable, and/or made from recycled content. It is also recommended that TAA identify supplies and materials which can be avoided, reused on site, or donated to a third party.

## **Justification**

Waste reduction is the most environmentally preferred waste management strategy as determined by the Environmental Protection Agency (EPA). Reduction and reuse simultaneously lower waste program costs by producing a smaller material stream.

## **Information Needed**

- ▶ Purchasing records.
- ▶ Waste stream information.

## **Action Plan**

- ▶ Adjust practices which generate waste (printing, housekeeping, etc.)
- ▶ Substitute durable alternatives for single use or disposable items in the administration office and staff areas.
- ▶ Reuse items and materials where possible and encourage reuse by passengers, tenants, and contractors.
- ▶ Collect and donate leftover food and ingredients from Richie's Café.

## RECOMMENDATION 3: INTRODUCE RECYCLING

### Description

Recycling is the practice of collecting specific materials, so they can be used in the manufacture of new items. Recyclable materials generated at the Airport likely include office paper, plastic bottles, aluminum cans, and cardboard that can be recycled in the local area with the existing contractor.

Relative Cost	Time Frame
	
Estimated Diversion	Alignment
	<b>BMP</b>

### Action

It is recommended that TAA introduce a simple recycling program at RYN. The program should include designated bins, collection services, and signage.

### Justification

Where waste cannot be avoided or reduced, recycling allows some materials to avoid landfill disposal by incorporating them into new products. Pima County has recycling infrastructure and the Airport's waste collection contractor offers recycling services.

### Information Needed

- ▶ Accepted materials list from hauler.
- ▶ Information about waste-generating activities at Airport.
- ▶ Inventory of existing garbage cans.
- ▶ Estimated costs for recycling service, dumpster rental, and other elements.

### Action Plan

- ▶ Collaborate with waste hauler determine which materials generated at RYN are the best candidates for recycling (based on volume generated).
- ▶ Negotiate recycling services contract for RYN.
- ▶ Convert surplus garbage cans into recycling bins with labeling. Supplement with new bins where needed. Collocate all recycling bins with garbage cans.
- ▶ Train employees and tenants on the recycling program to explain its purpose, requirements, and importance.
- ▶ Monitor and adjust recycling program using feedback from waste hauler.

## RECOMMENDATION 4: TRACKING & REPORTING

### Description

Monitoring waste metrics provides feedback on the efficiency of diversion efforts. Sharing this information with stakeholders has been shown to increase participation in diversion practices.

Relative Cost	Time Frame
  	  
Estimated Diversion	Alignment
  	<b>TRUE</b>

### Action

It is recommended that TAA begin to regularly estimate and track the volume of waste sent to the landfill and diverted through reduction, reuse, donation, recycling, or other strategies as well as the costs associated with these services (paid by City for all facilities). It is also recommended that TAA share this information with program stakeholders (Airport staff and tenants) and the waste hauling contractor.

### Justification

TAA does not currently track metrics associated with its waste. Trends associated with RYN's waste generation, landfill, diversion and associated costs could indicate opportunities for improvement.

### Information Needed

- ▶ Waste generation, disposal, and cost estimates.
- ▶ Simple tracking tool (spreadsheet).
- ▶ Estimates of volume of waste diverted by various strategies and avoided costs.
- ▶ Mechanism for communicating progress to stakeholders.

### Action Plan

- ▶ Collaborate with waste hauler to measure or estimate waste disposal.
- ▶ Obtain estimate of associated costs from City of Tucson.
- ▶ Enter estimates into simple tracking tool.
- ▶ As strategies are implemented, update tracking tool to reflect waste avoided, diverted, and costs.
- ▶ Evaluate data for additional opportunities to set and pursue waste diversion goals.
- ▶ Share and celebrate progress with stakeholders.

## ATTACHMENTS

### ADDITIONAL RECOMMENDATIONS FOR CONSIDERATION

In addition to the primary recommendations stated previously, the Waste Plan Team suggested several other items that could be implemented at RYN. These supplementary recommendations may be found in **Table B-2**.

**Table B-2: Additional Recommendations for RYN Waste Recycling Plan**

Recommendations Summary
Objectives and Targets <ul style="list-style-type: none"><li>▪ Set specific, measurable, achievable, realistic, and time-bound (SMART) goals for TAA and its waste program.</li></ul>
Tenant Requirements <ul style="list-style-type: none"><li>▪ Revise Rules and Regulations and/or Minimum Standards to encourage or require waste diversion among tenants, including recycling.</li></ul>
Additional Facilities and New Development <ul style="list-style-type: none"><li>▪ Consider waste diversion and management in the design and construction process of future Airport projects.</li></ul>
Continuous Improvement <ul style="list-style-type: none"><li>▪ Maintain and improve the recycling and waste program per the <i>Plan Do Check Act</i> cycle.</li></ul>

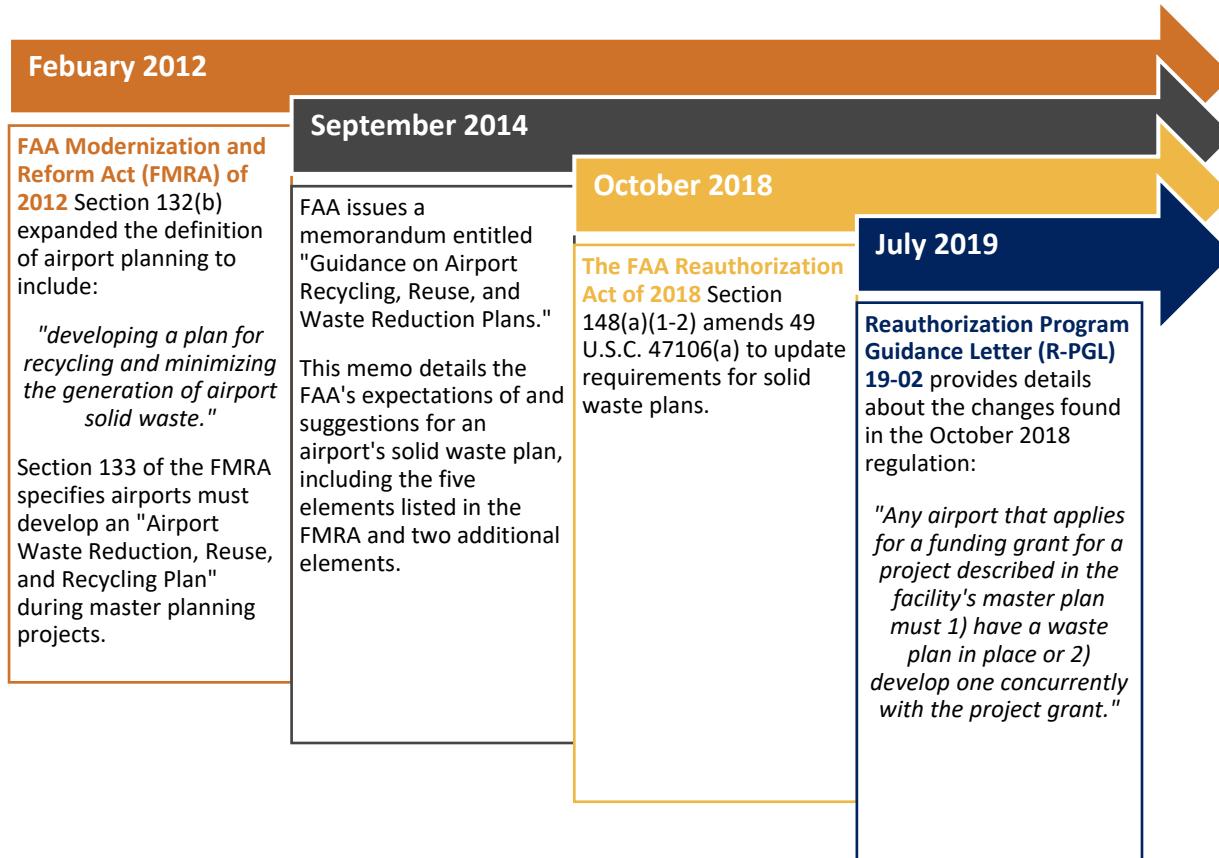
Source: Mead & Hunt

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## REGULATORY BACKGROUND

Figure B-1 outlines the introduction timeline and specifics of FAA's waste planning requirement. The FAA provides content guidance for airport waste plans in the September 2014 memo on the topic (available on the FAA's website).

Figure B-1: FAA Solid Waste Recycling Planning Requirement Timeline and Details



Sources: FAA; Mead & Hunt

## Appendix B - Recycling & Solid Waste Plan

Figure B-2 details the elements which are required for a solid waste recycling plan per the FMRA (marked with an asterisk, \*) or suggested for inclusion in a plan in the FAA Memo (marked with two asterisks, \*\*). Figure B-3 lists the factors influencing the scope and nature of an airport's waste program, as described in the FAA memo.

**Figure B-2: Elements of Airport Solid Waste Management**



Sources: FAA; Mead & Hunt

**Figure B-3: Factors Influencing Airport Solid Waste Management Programs**

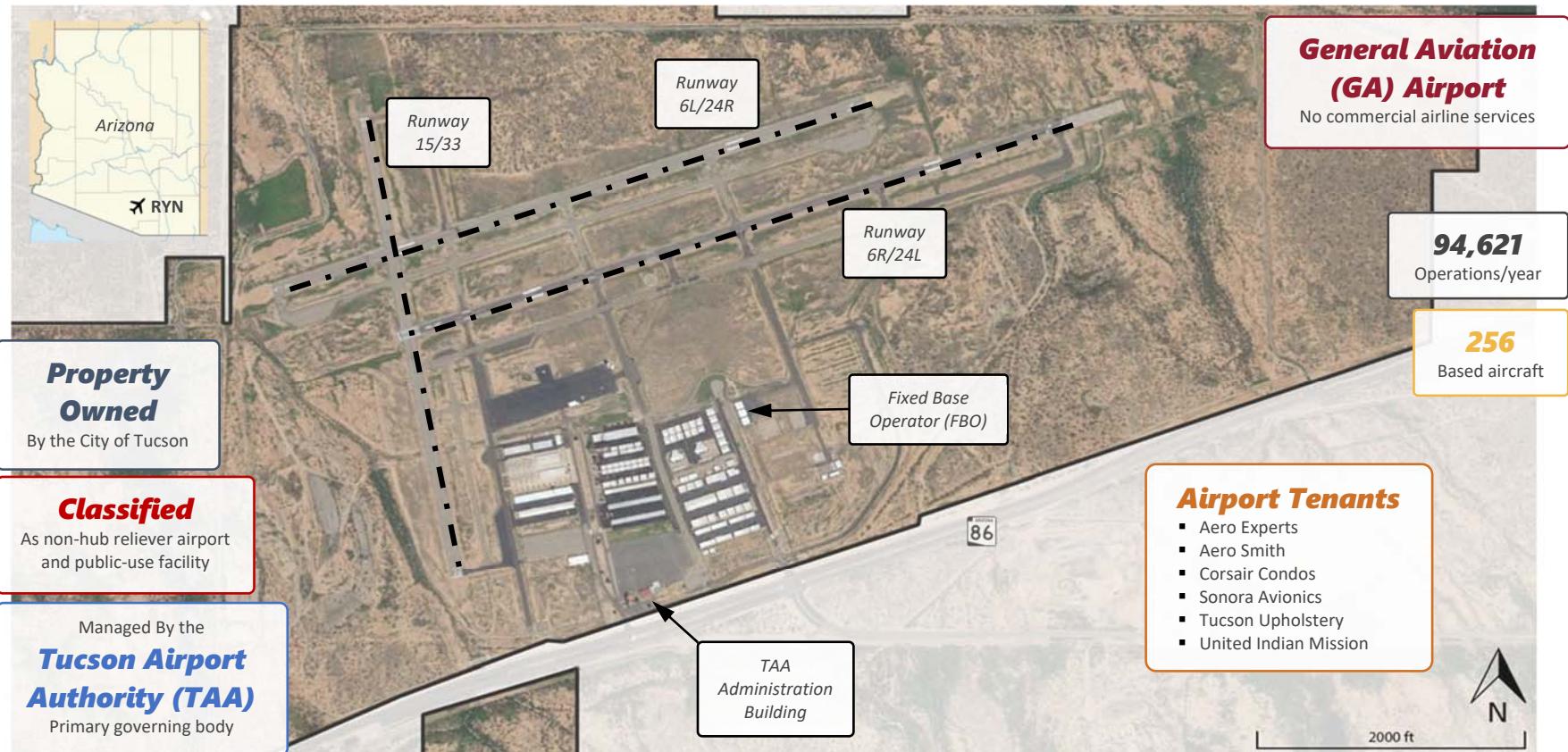


Sources: FAA; Mead & Hunt

## AIRPORT INFORMATION

Figure B-4 shows a summary of background information about RYN, including its location, classification, governance, operations, layout, air carriers, and tenants.

Figure B-4: RYN Background Information



Sources: Ryan Airfield; Mead & Hunt

Google Basemap (Earth n.d.); Arizona County Map (NordNordWest 2009)

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## PLAN SCOPE

Municipal Solid Waste (MSW) consists of everyday items that are used and then discarded. This plan focuses on the management of MSW and other materials that may be recycled or disposed of in a municipal solid waste landfill. There are five primary types of MSW generated at airports: general MSW, food waste, green waste (yard waste), deplaned waste, and construction and demolition (C&D) waste. This plan does not address the management of other waste types regulated by federal, state, or local laws, specifically: hazardous, universal, or industrial waste; waste from international flights, or C&D waste that is subject to special requirements/handling.

Facilities at RYN include buildings and areas over which the TAA has a varying degree of control or influence over waste management practices. Some areas fall under direct control of the TAA and Airport staff, while others the TAA has influence over but not direct control. According to FAA guidance, areas over which the TAA has direct control or influence should be included in the Recycling, Reuse, and Waste Reduction Plan; areas outside airport control or influence may be excluded.

**Table B-3** lists a breakdown of the areas RYN controls, influences, and neither controls nor influences.

**Table B-3: Areas of RYN Control on Buildings and/or Uses**

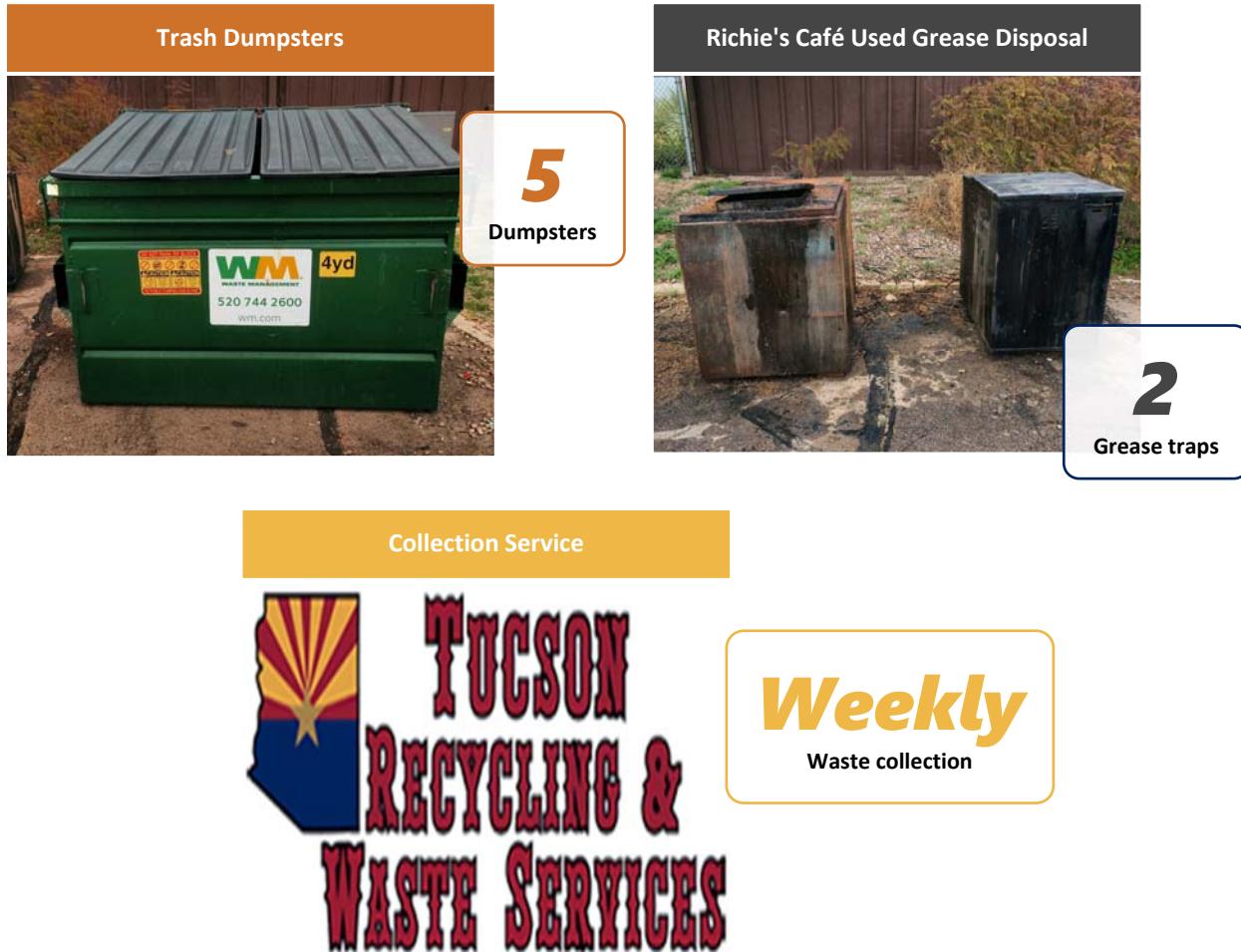
Management Level	Description
Areas under direct control	Airport Administration Building Airport Maintenance
Areas under influence	Richie's Café Building owned by TAA, leased by cafe ATCT Building Building owned by TAA, leased by FAA Fixed-Base Operator (FBO) Building Building owned by TAA, leased by FBO General Aviation (GA) Hangars Hangars owned by TAA, leased by tenants
Areas <u>not</u> under control or influence	Aero Experts Aero Smith Corsair Condos Sonora Avionics Tucson Upholstery United Indian Mission

Source: Ryan Airfield

## CURRENT WASTE MANAGEMENT PROGRAM

The waste program at RYN is maintained by facilities staff. **Figure B-5** details the existing waste infrastructure in place at RYN.

**Figure B-5: Existing RYN infrastructure**



Sources: Ryan Airfield; Mead & Hunt

Tucson Recycling and Waste Services is the waste hauling contractor for RYN. They collect waste from RYN's dumpsters and grease receptacles. RYN's tenants in the outlying buildings (FBO and GA hangars) are responsible for custodial activities in their areas including transferring waste to the appropriate dumpsters.

## WASTE AUDIT

RYN staff provided information about the following categories to assist with this plan:

- ▶ Airport buildings and facilities
- ▶ Areas that generate waste
- ▶ Types of waste generated in each area.

An evaluation of RYN's information and records, as well as aviation industry waste and recycling trends, supported efforts to identify the source, composition, and quantity of waste generated at RYN, including areas under TAA's direct control or influence. This information then served as a foundation to identify opportunities to improve and monitor program effectiveness.

## Quantity

The project team estimated a total of 59 tons of MSW is generated at RYN annually. This volume is based upon the capacity of and frequency of collection service for each of the facility's dumpsters and the EPA's volume-to-weight conversion factors for MSW.

## Sources and Composition

Based on the activities taking place at RYN, a varied waste stream can be expected. **Table B-4** lists each area included in the scope of this plan and the type(s) of waste likely generated there.

A physical waste material sort could provide more detailed information about the specific composition of waste at RYN. This information may include:

- ▶ Types of items included in each general category
- ▶ Contamination rate of the recycling stream (items that are not recyclable in the recycling bins)
- ▶ Recovery rate for recycling (the proportion of recyclable items that are segregated properly)

The data from a sort could also be used to identify opportunities to improve the composition of the waste stream (by item substitution, by improving recycling to reduce the volume of waste, etc.).

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Table B-4: RYN Waste by Area and Material

Area   Material	Office Paper	Newspapers	Magazines	Plastic	Aluminum	Cardboard	Glass	Food Waste	Paper Products	Liquids	Toiletries	Packaging	Styrofoam	Metals	Green / Yard Waste	C & D Waste	Other Waste
<b>TAA Administration Building</b>																	
Public areas Curbs, restrooms, seating area		X	X	X	X		X	X	X	X	X	X					X
Tenant areas Drink/snack machines, restaurant, associated activities	X	X	X	X	X	X	X	X	X	X		X					X
Airport Administration Offices	X	X	X	X	X	X	X	X	X			X					X
<b>Airport Support Buildings</b>																	
Maintenance Building	X	X	X	X	X	X	X	X	X	X		X					X
Airport Maintenance Activities			X	X	X	X				X		X	X	X	X	X	X

Source: Ryan Field; Mead &amp; Hunt.

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## Purchases

RYN staff do not currently track the quantity and type of disposable items and supplies purchased for the facility. This information could provide insight on some of the materials coming into the airport that will go back out as waste (other materials are brought on-site by visitors, employees, and vendors). Identifying and tracking the type and quantity of all disposable items purchased for use at RYN, will allow the TAA to identify opportunities to reduce outgoing waste, including:

- ▶ Items that have reusable or recyclable alternatives
- ▶ Some items that could be eliminated
- ▶ Some that indicate scale of the activity at the airport (for example, paper towel and garbage bags).

## FEASIBILITY ANALYSIS

Many factors impact the feasibility of recycling at RYN; some are universal, and others are specific to the facility. The following sections describe the more influential of these factors.

### Commitment and Support

The willingness of TAA, RYN staff, and the airport's contractors and tenants to support the facility's recycling program are critical to the success of such a program. Without the commitment of resources such as funding, labor and time, space, and access to secure areas, a waste management program could struggle.

### Airport Policy and Contractor Dedication

Based on the resources allocated to recycling programs, the City of Tucson, Pima County, and TAA appear to generally support waste diversion, responsible waste management, and sustainable operations.

RYN's waste management contractor, Tucson Recycling & Waste Services, provides waste and recycling services to the entirety of Pima County. Tucson Recycling & Waste Services operates all of Pima County's landfills and transfer stations. They also offer recycling services in many locations. These services support the efforts of the City, County, and TAA.

## Technical and Economic Factors

### Local Markets and Infrastructure

Markets for recycled materials fluctuate widely based on many factors and interactions. Local waste haulers typically accept materials that can be recycled cost-effectively in the area. Manufacturers purchasing recycled material want it to be predictable and ready for use; therefore, recycling facilities are discriminatory about what materials they accept. They almost unilaterally prefer materials that are of high value, clean, and easy to separate.

## Appendix B - Recycling & Solid Waste Plan

According to the company's website, the materials listed in **Table B-5** are included in the waste hauler's commercial recycling program. (Tucson Recycling & Waste Services, Landfill Locations: Tucson Recycling & Waste Services n.d.) As noted above, inclusion in such programs typically indicates that the market and/or infrastructure for these materials is strong.

**Table B-5: Materials Accepted for Recycling in Pima County**

Acceptable Recyclable Materials	
Metal	Concrete
Cardboard	Drywall
Ceramic Tiles	Paper
Lumber	Block
Aluminum Cans	Asphalt
Dirt	Plastic Bottles

Sources: Tucson Recycling & Waste Services.

Tucson Recycling & Waste Services operates one MSW landfill and three transfer stations in the Tucson area. Each location offers recycling services. It is anticipated that the landfill and transfer stations have adequate capacity to serve RYN and the area for the foreseeable future.

### Logistical Considerations and Constraints

To maintain a recycling program at RYN, certain elements must be in place. These include:

- ▶ A proactive and engaged custodial staff
- ▶ A willing and affordable hauling contractor
- ▶ Space for bins, dumpsters, and compactors
- ▶ Access to secure areas of the facility (including airside ramps and sterile areas)

At present, these elements appear unconstrained. Additional resources including custodial labor, waste hauling services, space, and airport access are anticipated to be available to support the continuation and/or expansion of the recycling program at RYN.

### Contractual Issues

RYN's contractual agreements are not anticipated to pose issues to introducing and improving the facility's waste diversion program. For more information, see *Review of Waste Management Contracts*.

## Recycling, Landfill, and Energy-From-Waste Facility Requirements

The Ajo Landfill is the only landfill facility located in Pima County. Transfer stations act as smaller depositories for local waste before being transferred to the Ajo Landfill. The Ryan Transfer Station is located directly adjacent to RYN; however, it does not currently accept waste from commercial generators, including the Airport. Waste from the Airport is transferred directly to the landfill.

Components that seem recyclable (plastic, glass, or metal parts) may make up some items generated at RYN; however, the recycling facility has specific material standards which should be followed to protect the stream. It is important that non-recyclable items are not included in future recycling efforts at the facility. Waste items that may be generated at RYN but are prohibited at the Ajo Landfill are outlined in **Table B-6**.

**Table B-6: Materials Not Accepted for Landfill Disposal in Pima County**

Unacceptable Recyclable Materials	
Hazardous Waste	Radioactive Waste
Liquid Waste	Mobile Homes, trailers, or vehicles

Sources: Tucson Recycling & Waste Services.

## Costs

TAA strives to be as self-sustaining as is feasible; therefore, it is imperative that programs implemented and maintained at RYN, including recycling, are as cost-effective as possible.

## Guidelines and Policies

To evaluate RYN's existing recycling plan in the context of local, state, and national requirements, the consultant reviewed federal, Arizona State, and local-level waste and recycling regulations, policies, and factors.

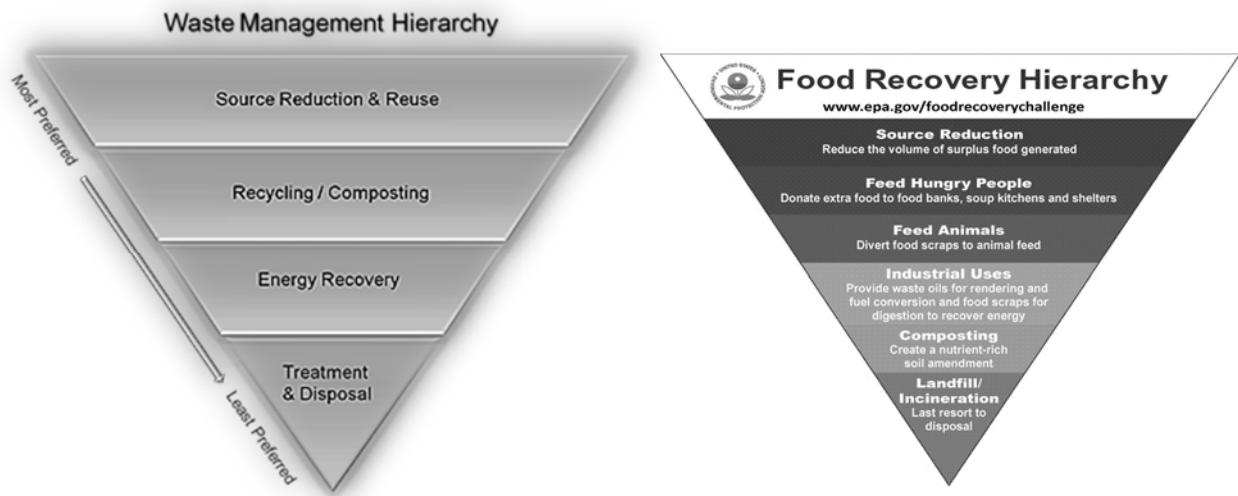
### Federal

As described in *Regulatory Background*, the FAA's definition of airport planning includes planning for recycling and waste minimization.

The United States Environmental Protection Agency (EPA) is responsible for developing a solid waste management program under the Resource Conservation and Recovery Act (RCRA) and related policies and guidance. RCRA provides the framework for management of hazardous and non-hazardous waste. All generators of hazardous waste, including airports, are required to comply with RCRA and all other federal waste laws and regulations.

**Figure B-6** shows a hierarchy of waste management strategies developed by the EPA. This hierarchy on the left ranks these strategies from most- to least-environmentally preferred and places emphasis on reducing, reusing, and recycling. In addition to the general waste management hierarchy, the EPA has also developed a preference ranking of management strategies for food waste, as shown in the figure at the right.

Figure B-6: Waste Management and Food Recovery Hierarchies



Source: United States Environmental Protection Agency, (Waste Management Hierarchy n.d.), (Food Recovery Hierarchy n.d.)

## State

The State of Arizona encourages waste reduction and recycling; however, it does not mandate these strategies. The Arizona Department of Environmental Quality (ADEQ) is responsible for supporting waste diversion in the state. ADEQ works with counties, cities, environmental groups, and private enterprises in an effort to protect the public health and environment of Arizona through responsible waste management.

## Local

Both Pima County and the City of Tucson offer recycling programs for residents and businesses. All waste in Pima County, including within the City of Tucson, is managed by Tucson Recycling and Waste Services.

Residential recycling consists of street side single-stream pickup; items currently accepted by the program include cardboard, paper, cans, #1 & #2 plastic, and glass. Commercial recycling is not specifically mentioned by Tucson Recycling and Waste Services, and likely falls under some form of special arrangement. (Tucson Recycling & Waste Services n.d.)

Based on the availability of residential and commercial recycling, this plan assumes the residents of the communities surrounding the airport, and therefore its employees and visitors, have been exposed to recycling, receive on-going messaging about its importance, and are generally supportive of recycling efforts.

## REVIEW OF WASTE MANAGEMENT CONTRACTS

The FAA memorandum titled “Guidance on Airport Recycling, Reuse, and Waste Reduction Plans” explains that the purpose of reviewing waste management contracts is to “identify opportunities for improving (waste) program scope and efficiency, as well as identify constraints.”

Utilities and maintenance contracts for the FBO, hangar operators, and restaurant were reviewed for provisions related to waste management as part of this study. These contracts detail general housekeeping requirements and related expectations for managing trash; they provide no information about or requirement to reduce waste or recycle. The contracts do not necessarily impede recycling or other waste management strategies, but neither do they explicitly require conformance with or support of any future Airport-related waste efforts.

## FINANCIAL ANALYSIS

According to the FAA memo “Guidance on Airport Recycling, Reuse, and Waste Reduction Plans,” an analysis of the financial aspects of waste management assists airport sponsors in determining the cost versus benefit of all existing and proposed enhancements to an airport’s practices and should include capital costs, physical infrastructure, transport, and labor.

A financial analysis of the cost of waste management at RYN was not conducted for this plan because the waste service provider, Tucson Recycling & Waste Services, is contracted and funded by the City for all of its facilities, including the Airport. As a result, the Airport does not receive invoices for waste collection services from the service provider and could not provide RYN specific financial information. It is anticipated that reducing and diverting waste generated at RYN would reduce costs through adjustments to the waste collection schedule and size of waste dumpsters required at the facility.

## CITATIONS

### Sources

Tucson Recycling & Waste Services. n.d. "Landfill Locations: Tucson Recycling & Waste Services." *Tucson Recycling & Waste Services*. [http://www.tucsonwasteservices.com/wp-content/uploads/2018/06/TRWS-Brochure\\_2017\\_Revised.pdf](http://www.tucsonwasteservices.com/wp-content/uploads/2018/06/TRWS-Brochure_2017_Revised.pdf)

### Images

Earth, Google. n.d. *Satellite Imagery - 2019*. Google.

Environmental Protection Agency. n.d. *Food Recovery Hierarchy*. Environmental Protection Agency.

—. n.d. *Waste Management Hierarchy*. Environmental Protection Agency.

NordNordWest. 2009. *Arizona County Map*. Wikipedia.

## REFERENCES

Arizona Department of Environmental Quality (ADEQ). 2018. *Recycling: ADEQ*. December 28. <http://azdeq.gov/recycling>

City of Tucson. n.d. *Environmental Services: City of Tucson*. <https://www.tucsonaz.gov/environmental-services>

Federal Aviation Administration. September 30, 2014. *Guidance on Airport Recycling, Reuse, and Waste Reductions Plans*. Memorandum, U.S. Department of Transportation.

Pima County Department of Environmental Quality. 2013. *Waste Reduction - Recycling: Waste at Pima County DEQ*. <http://www.deq.co.pima.az.us/waste/recycle.html>

Pima County. n.d. *Waste and Recycling: Pima County*. [https://webcms.pima.gov/government/environmental\\_quality/waste\\_and\\_recycling](https://webcms.pima.gov/government/environmental_quality/waste_and_recycling)

## ADDITIONAL READING

Environmental Protection Agency. n.d. *Sustainable Materials Management: EPA*. Accessed December 2019. <https://www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy>

Federal Aviation Administration. 2019. *Airport Recycling, Reuse, and Waste Reduction*. February 5. Accessed December 2019. [https://www.faa.gov/airports/environmental/airport\\_recycling/](https://www.faa.gov/airports/environmental/airport_recycling/)

Turner, Morgan E. 2018. *Airport Waste Management and Recycling Practices*. Madison, WI: The National Academies of Sciences, Engineering, and Medicine.

## GLOSSARY

(sorted by chronology)

**Federal Aviation Administration (FAA)** – regulatory body of the US government that regulates all national aviation activities.

**FAA Modernization and Reform Act of 2012 (FMRA)** – legislation that seeks to improve aviation safety and capacity of the national airspace system and provide a stable funding system.

**Environmental Protection Agency (EPA)** – independent agency of the US government that establishes policies that protect the natural environment.

**FAA Reauthorization Act of 2018** – reauthorization of FMRA 2012 to extend funding and administrative authority to the FAA.

**Reauthorization Program Guidance Letter (R-PGL) 19-02** – implements provisions to FAA Reauthorization Act of 2018 that changed project eligibility, scope, or funding under 49 U.S.C., Chapter 471.

**Municipal Solid Waste (MSW)** – everyday items that are used and then discarded. There are five primary types of MSW generated at airports:

- ▶ **General MSW** – common inorganic waste, such as product packaging, disposable utensils, plates and cups, bottles, and newspaper. Less common items, such as furniture and clothing, are also considered general MSW.
- ▶ **Food waste** – either food that is not consumed or the waste generated and discarded during food preparation. Food waste and green waste make up a waste stream known as compostable waste.
- ▶ **Green waste (yard waste)** – tree, shrub and grass clippings, leaves, weeds, small branches, seeds, pods, and similar debris generated by landscape maintenance activities. Food waste and green waste make up a waste stream known as compostable waste.
- ▶ **Deplaned waste** – waste removed from passenger aircraft. These materials include bottles and cans, newspaper and mixed paper, plastic cups, service ware, food waste, food-soiled paper, and paper towels.
- ▶ **Construction and demolition (C&D) waste** – any non-hazardous solid waste from land clearing, excavation, and/or the construction, demolition, renovation or repair of structures, roads, and utilities. C&D waste commonly includes concrete, wood, metals, drywall, carpet, plastic, pipes, land clearing debris, cardboard, and salvaged building components.

**Resource Conservation and Recovery Act (RCRA)** – federal law of the US governing the disposal of solid or hazardous waste.

**Arizona Department of Environmental Quality (ADEQ)** – state body dedicated to protecting the public health and environment of Arizona.

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*Appendix C*

*Archaeological, Historical and Cultural Resource Surveys*

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# APPENDIX C – ENVIRONMENTAL INVESTIGATIONS

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## CONTENTS

- ▶ Limited Environmental Site Assessment
- ▶ Endangered Species
- ▶ Historic Buildings
- ▶ Archaeological Report

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## Technical Memorandum

**To:** Chris Hacker  
Aviation Services  
Mead & Hunt  
8777 East Via de Ventura, Suite 398  
Scottsdale, Arizona 85258

**From:** Steve O'Brien, SWCA Environmental Consultants

**Date:** March 5, 2019

**Re:** **Limited Environmental Site Assessment for the Ryan Airfield Master Plan, Pima County, Arizona / SWCA Project No. 48761**

---

### INTRODUCTION

SWCA Environmental Consultants (SWCA) was contracted to conduct a limited environmental site assessment (LESA) of the area covered by the Ryan Airfield Master Plan. SWCA understands that the purpose of this LESA is to document the presence of existing, past, or potential adverse impacts to the soil, groundwater, or surface water resulting from operations on the site, as well as adjacent and surrounding properties, and that may indicate a need for further investigation to evaluate potential environmental impacts associated with the site. The primary goal of this LESA is to identify potential areas of concern that may cause potential long-term development and/or environmental compliance obligations.

The area covered by this LESA is approximately 1,865 acres of land that includes the roughly 440-acre footprint of the airport and vacant land in all directions.

Because this LESA is a basic study, it does not follow all standards described in the American Society for Testing and Materials (ASTM) Standard E 1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. However, if hazardous materials were identified, a Phase I Environmental Site Assessment would be recommended to meet due diligence requirements under the Comprehensive Environmental Response, Compensation, and Liability Act.

This LESA did not include activities such as inspections or sampling for the presence of wetlands, asbestos-containing materials, radon, other radioactive substances, vapor intrusion, lead-based paint, non-hazardous wastes and materials, mold, or biological and medical wastes. No soil, air, or water samples were collected for this LESA.

To achieve the objective referenced above, SWCA reviewed federal and state agency records to obtain reasonably ascertainable, obtainable, and practically reviewable records in an effort to evaluate current and historic activities associated with the site and to identify potential areas of concern. Following that, SWCA prepared this report summarizing our findings from the environmental records review and SWCA's professional opinion as to the environmental disposition of the site with regard to the presence of potential environmental areas of concern.

## FINDINGS

An environmental database report generated by Environmental Data Resources, Inc. (EDR 2019), on February 22, 2019, was used to access environmental records for the site and the surrounding properties. The EDR database search was run such that the search radius would include at least the ASTM minimum search distance around all areas of the Project Area. The databases searched by EDR include those specified by ASTM Standard E 1527-13, as well as several additional federal and state databases and databases proprietary to EDR. ASTM's standard search distances were followed, as detailed in Table 1.

**Table 1. Approximate Minimum Search Distances**

Record Sources	Approximate Minimum Search Distance (miles)
<b>Federal Databases</b>	
National Priority List (NPL)	1.0
Delisted NPL	0.5
Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)/CERCLIS No Further Remedial Action Planned (NFRAP) sites	0.5
Resource Conservation and Recovery Act (RCRA) Corrective Action Sites (CORRACTS) facilities	1.0
RCRA non-CORRACTS treatment storage and disposal facilities	0.5
RCRA generators list	Property and adjoining
Institutional control/engineering control registries	Property only
Emergency Response Notification System (ERNS)	Property only
<b>State and Tribal Databases</b>	
NPL	1.0
CERCLIS	0.5
Landfill and/or solid waste disposal site lists	0.5
Leaking storage tank lists	0.5
Registered storage tank lists	Property and adjoining
Institutional control/engineering control registries	Property only
Voluntary cleanup sites	0.5
State and tribal Brownfield sites	0.5

Source: ASTM (2013)

SWCA also reviewed supplemental records from state regulatory databases at Arizona Department of Environmental Quality's (ADEQ's) interactive GIS eMaps website (ADEQ 2019a), ADEQ's List of Closed Solid Waste Landfills in Arizona (ADEQ 2019b), and ADEQ's Underground Storage Tank (UST) and Leaking Underground Storage Tank (LUST) Databases (ADEQ 2019c, 2019d). A copy of the EDR report, information from ADEQ, and supporting documents from other sources are included in Attachment A.

Nearby properties are listed in the following databases:

- Aviation Designs of Tucson (Aviones Fumigadores del Sureste), located on-site at 6249 South Aviator Lane is listed as a Superfund Enterprise Management System (SEMS)-Archive site. SEMS-Archive tracks sites that have no further interest under the Federal Superfund Program based on available information. Archived status indicates sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the National Priorities List (NPL), or the contamination was not serious enough to require federal Superfund action or NPL consideration. This site did not qualify for the NPL and was archived in 1992 following a preliminary assessment.

This address is also listed as a State Hazardous Waste Site (SHWS). The SHWS database records were the state's equivalent to Superfund. Priority sites planned for cleanup using state funds were identified, along with sites where cleanup would be paid for by potentially responsible parties. The facility is not listed as an active site by the ADEQ's Water Quality Assurance Revolving Fund (WQARF), which supports hazardous substance cleanup efforts in the state. The state has not updated the SHWS database since 2000. Further information regarding these listings is not readily available, but the old facility name implies a crop dusting operation and therefore potential pesticide contamination. Although no specific concerns are identified in the reviewed listings, SWCA recommends obtaining documentation that cleanup was completed.

- Ryan Airfield had three USTs removed. Two USTs were installed in 1956 and were removed in 1988, and one UST was installed in 1960 and was removed in 1991. Two USTs were installed in 1989 and are not listed as having been removed. These are both 12,000-gallon gasoline USTs.

A LUST was reported at Ryan Airfield in 1995. The case was closed with soils meeting risk-based corrective action (RBCA) Tier 1 levels. A second LUST was reported in 2012 and the case was closed 4 months later with soils meeting RBCA Tier 1 levels. Because the cases were closed to the satisfaction of state agencies, the LUSTs are not considered to be environmental concerns for the site.

- The ESCO facility, located 0.3 mile north of the site at 5200 South Braniff Road, is listed in several databases including SHWS and Resource Conservation and Recovery Act (RCRA) databases. The RCRA databases document the generation, transportation, treatment, storage, and disposal of hazardous waste. This site is listed in RCRA's corrective action database and large-quantity generator database, and as a treatment, storage, and disposal facility. These listings indicate that the facility had numerous violations, and that the facility caused contamination of groundwater. However, migration of contaminated groundwater was under control, human exposures were under control, and the corrective action process was terminated. The facility was given No Further Action status in 1999. Because of its distance from the site and its location downgradient of the site, and because it achieved No Further Action status, this facility is not considered to be an environmental concern for the site.
- Ryan Field is listed as a closed facility in the solid waste facility / landfill database, but no further information is provided. Previous investigation by SWCA found that the landfill is listed in ADEQ's list of closed landfills (ADEQ 2019b), which generally includes old local municipal waste dumps that closed in the 1970s when regulations changed to require geomembrane liners, monitoring, and closure plans, etc. "Closed" usually means covered in dirt and/or clay and forgotten about. They normally only contain general municipal (household) waste but many were not manned or gated, and people could dump whatever they wanted. Normally a landfill by an Army airfield would raise concerns, but this dump

only operated from 1973–77, long after the Army left. History in this area is not industrial or agricultural, so large quantities of hazardous materials or pesticides are unlikely. It is said that this landfill received residential and commercial refuse from the airfield and homes, farms, and businesses located in the surrounding Avra Valley area. The landfill covers 7.3 acres south of the eastern end of Runway 24 L (City of Tucson 2019).

The operator is Pima County, so there is an identified potentially responsible party (PRP). The property is owned by the City of Tucson and is leased to the Tucson Airport Authority. The City of Tucson has been monitoring this facility and has not encountered significant issues. The City currently inspects the landfill annually. There are no shallow landfill gas probes at the site because there are no nearby buildings. Based on a review of historical operational records and soil vapor and groundwater monitoring data collected from 2007 through 2009, this landfill was considered a low future environmental risk. Based on the trends indicated by 7 years of soil vapor data and 3 years of groundwater volatile organic compound data, the probability of impacts to the groundwater from this landfill was determined to be low. Monitoring and inspection reports are available from the City of Tucson website (City of Tucson 2019).

Because the landfill is subject to environmental monitoring and no significant problems have been identified, the landfill is not considered to be a concern to the airport property in general, but is a concern to development or disturbance in the landfill footprint and may be a concern to development or disturbance adjacent to it. Additionally, development in the area may be subject to Tucson Ordinance No. 10037 of Section 1, Chapter 29, Article IX of the Tucson Code, which discusses development near landfills (City of Tucson 2014).

- Other EDR database listings are in databases that do not imply potential contamination.
- Nine unmapped sites (facilities with incomplete locational information) were identified by EDR. Because of their distances from the site, the listings were not further reviewed.

## **CONCLUSIONS AND RECOMMENDATIONS**

Based on the information described above, SWCA is not aware of any off-site concerns that would affect the site. SWCA did not identify specific concerns at the Aviation Designs of Tucson site, but its listing in the SEMS-Archive and SHWS databases suggests past contamination for which cleanup documentation should be obtained and reviewed. The Ryan Landfill is considered by the City of Tucson to be a low environmental risk at this time. However, future development or disturbance on or near the landfill may be an environmental concern, and development in the area may be subject to restrictions on development near landfills.

## **LITERATURE CITED**

American Society for Testing and Materials (ASTM). 2013. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Document No. E 1527-13.

Arizona Department of Environmental Quality (ADEQ). 2019a. Interactive Geographic Information System (GIS) eMaps. Available at: <http://gisweb.azdeq.gov/arcgis/emaps/?topic=places>. Accessed February 2019.

\_\_\_\_\_. 2019b. List of Closed Solid Waste Landfills in Arizona. Available at: [https://www.azdeq.gov/environ/waste/solid/closed\\_test.html](https://www.azdeq.gov/environ/waste/solid/closed_test.html). Accessed February 2019.

\_\_\_\_\_. 2019c. ADEQ Underground Storage Tank Database. Available at: <http://www.azdeq.gov/databases/ustsearch.html>. Accessed February 2019.

\_\_\_\_\_. 2019d. ADEQ Leaking Underground Storage Tank Database. Available at: <http://www.azdeq.gov/databases/lustsearch.html>. Accessed February 2019.

City of Tucson. 2014. Tucson Ordinance No. 10037 of Section 1, Chapter 29, Article IX of the Tucson Code.

\_\_\_\_\_. 2019. Ryan Field Landfill. Available at: <https://www.tucsonaz.gov/es-projects/ryan-field-landfill>. Accessed March 2019.

Environmental Data Resources, Inc. (EDR). 2019. EDR Area / Corridor Report, Inquiry Number: 5570385.3s, February 22, 2019.

## **ATTACHMENTS**

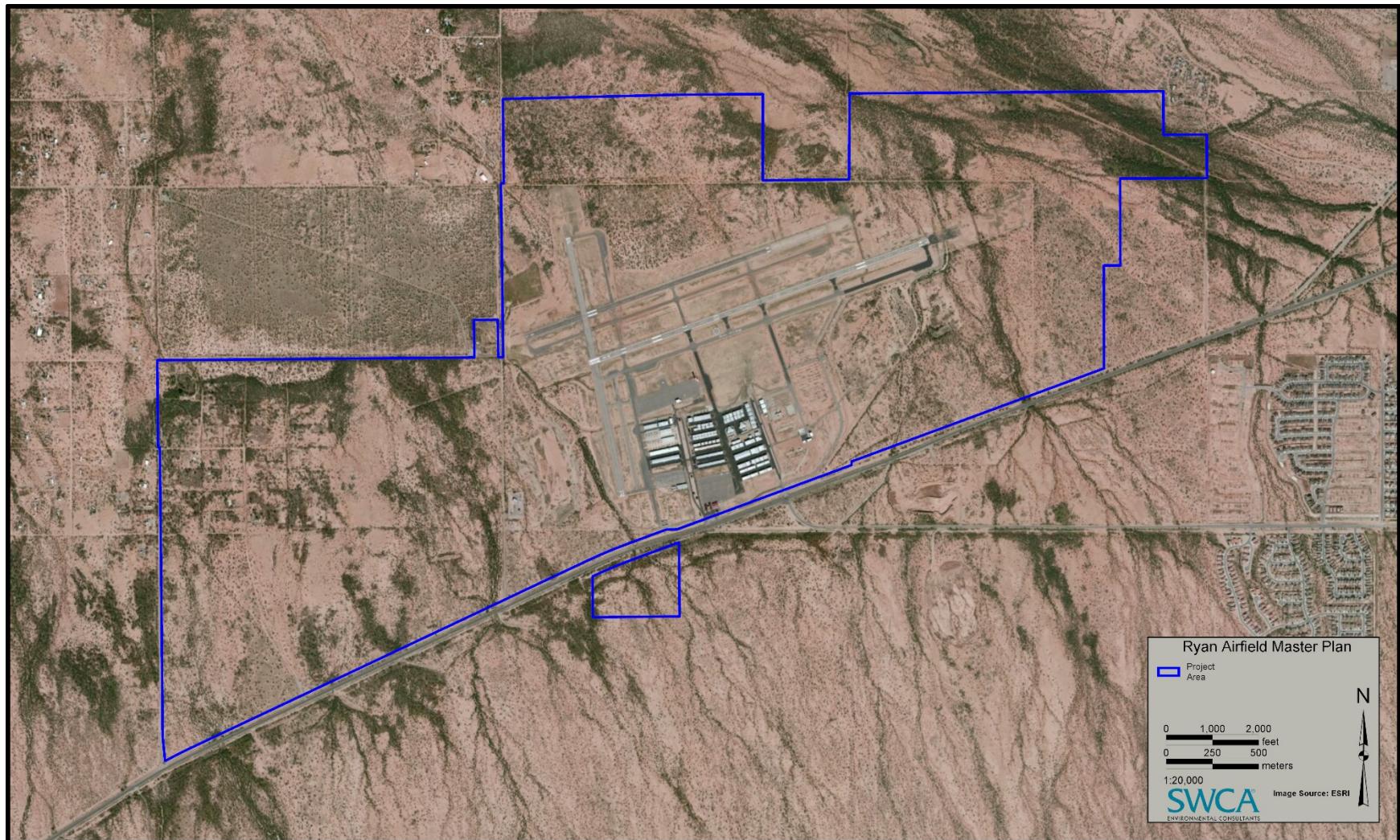
Attachment A – Site Map  
Attachment B – Environmental Documentation



**ATTACHMENT A**

**Site Map**







**ATTACHMENT B**  
**Environmental Documentation**

**48761 Ryan Airfield**  
9698 W Tucson-Ajo Hwy  
Tucson, AZ 85735

Inquiry Number: 5570385.3s  
February 22, 2019

## EDR Area / Corridor Report



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

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***Thank you for your business.***  
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with any questions or comments.

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# EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

## SUBJECT PROPERTY INFORMATION

### ADDRESS

9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

### TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

## STANDARD ENVIRONMENTAL RECORDS

### *Federal CERCLIS NFRAP site list*

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 12/13/2018 has revealed that there is 1 SEMS-ARCHIVE site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
<b><i>AVIATION DESIGNS OF</i></b> Site ID: 0904340 EPA Id: AZD982466302	<b>6249 S AVIATOR LANE</b>	<b>E17 / 7</b>	<b>40</b>

### *State- and tribal - equivalent CERCLIS*

SHWS: ZipAcids List

A review of the SHWS list, as provided by EDR, and dated 01/03/2000 has revealed that there is 1 SHWS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
<b><i>AVIATION DESIGNS OF</i></b> Facility Id: 1100	<b>6249 S AVIATOR LN</b>	<b>E22 / 7</b>	<b>45</b>

## EXECUTIVE SUMMARY

### ***State and tribal landfill and/or solid waste disposal site lists***

SWF/LF: Directory of Solid Waste Facilities

A review of the SWF/LF list, as provided by EDR, and dated 12/28/2018 has revealed that there is 1 SWF/LF site within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
RYAN FIELD Facility Status: CLOSED	12 MILES WEST OF TUC	12 / 7	36

### ***State and tribal registered storage tank lists***

AST: List of Aboveground Storage Tanks

A review of the AST list, as provided by EDR, has revealed that there is 1 AST site within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
RYAN AIRFIELD Database: AST 2, Date of Government Version: 08/30/2018 Cert Status: Open	6275 S AIRFIELD	E16 / 7	39

### ADDITIONAL ENVIRONMENTAL RECORDS

#### ***Local Lists of Landfill / Solid Waste Disposal Sites***

SWTIRE: Solid Waste Tire Facilities

A review of the SWTIRE list, as provided by EDR, and dated 10/12/2018 has revealed that there is 1 SWTIRE site within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
PIMA COUNTY - RYAN F	6455 S CONTINENTAL R	G33 / 6	51

#### ***Other Ascertainable Records***

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 03/01/2018 has revealed that there are 5 RCRA NonGen / NLR sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
AVIATION DESIGNS OF EPA ID: AZD981979248	RYAN FIELD 6021 BAT	2 / 6	29
<b>AIR TRANSPORT TRAINI</b>	<b>6200 S AVIATOR LN</b>	<b>D14 / 6</b>	<b>36</b>

## EXECUTIVE SUMMARY

EPA ID:: AZD983483777

<b>ORION</b> EPA ID:: AZD983473448	<b>6249 S AVIATION LN B</b>	<b>E15 / 7</b>	<b>38</b>
<b>AVIATION DESIGNS OF</b> EPA ID:: AZD982466302	<b>6249 S AVIATOR LANE</b>	<b>E17 / 7</b>	<b>40</b>
AIRCRAFTERS LLC EPA ID:: AZD983473430	6249 S AVIATOR LN BL	E18 / 7	42

### FINDS: Facility Index System/Facility Registry System

A review of the FINDS list, as provided by EDR, and dated 11/15/2018 has revealed that there are 9 FINDS sites within the requested target property.

<b>Site</b>	<b>Address</b>	<b>Map ID / Focus Map(s)</b>	<b>Page</b>
QWEST COMMUNICATIONS Registry ID:: 110039251993	NO ADDRESS ON RECORD	3 / 6	31
RYAN FIELD Registry ID:: 110038012049	UNKNOWN	4 / 7	31
RYAN AIR FIELD PD01- Registry ID:: 110039408094	NO ADDRESS ON RECORD	B8 / 7	34
<b>AIR TRANSPORT TRAINI</b> Registry ID:: 110002597538	<b>6200 S AVIATOR LN</b>	<b>D14 / 6</b>	<b>36</b>
<b>ORION</b> Registry ID:: 110002591785	<b>6249 S AVIATION LN B</b>	<b>E15 / 7</b>	<b>38</b>
<b>AVIATION DESIGNS OF</b> Registry ID:: 110002582704	<b>6249 S AVIATOR LANE</b>	<b>E17 / 7</b>	<b>40</b>
<b>AIRCRAFTERS LLC</b> Registry ID:: 110039242209	<b>6249 S AVIATOR LN</b>	<b>E19 / 7</b>	<b>44</b>
RYAN FIELD TRANSFER Registry ID:: 110035777424	6455 S. CONTINENTAL	G32 / 6	51
CITY OF TUCSON - WAT Registry ID:: 110039332326	NO ADDRESS ON RECORD	I53 / 6	61

### ECHO: Enforcement & Compliance History Information

A review of the ECHO list, as provided by EDR, and dated 09/02/2018 has revealed that there are 4 ECHO sites within the requested target property.

<b>Site</b>	<b>Address</b>	<b>Map ID / Focus Map(s)</b>	<b>Page</b>
<b>AIR TRANSPORT TRAINI</b> Registry ID: 110002597538	<b>6200 S AVIATOR LN</b>	<b>D14 / 6</b>	<b>36</b>
<b>ORION</b> Registry ID: 110002591785	<b>6249 S AVIATION LN B</b>	<b>E15 / 7</b>	<b>38</b>
<b>AVIATION DESIGNS OF</b> Registry ID: 110002582704	<b>6249 S AVIATOR LANE</b>	<b>E17 / 7</b>	<b>40</b>
<b>AIRCRAFTERS LLC</b>	<b>6249 S AVIATOR LN</b>	<b>E19 / 7</b>	<b>44</b>

# EXECUTIVE SUMMARY

Registry ID: 110039242209

## EMAP: All Places of Interest Listing

A review of the EMAP list, as provided by EDR, and dated 10/11/2018 has revealed that there are 34 EMAP sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
RYAN AIR FIELD PD01- Facility Status: ACTIVE ID Number: 135886		B7 / 7	33
RYAN AIRFIELD Facility Status: ACTIVE ID Number: 164984	9700 W AJO HWY	C10 / 6	35
RYAN AIRFIELD OUTFAL Facility Status: ACTIVE ID Number: 164986		11 / 6	35
AIR TRANSPORT TRAINI Facility Status: NOT ACTIVE ID Number: 125253	6200 S AVIATOR LN	D13 / 6	36
ORION AIRPARK LIMITE Facility Status: NOT ACTIVE ID Number: 126316	6249 S AVIATOR LN	E20 / 7	44
<b>AVIATION DESIGNS OF</b> Facility Status: ACTIVE ID Number: 126317 ID Number: 126346	<b>6249 S AVIATOR LN</b>	<b>E22 / 7</b>	<b>45</b>
RYAN AIRFIELD OUTFAL Facility Status: ACTIVE ID Number: 164985		23 / 6	46
TANK #8 Facility Status: ACTIVE ID Number: 36157		F25 / 6	48
TANK #3 Facility Status: ACTIVE ID Number: 36152		F26 / 6	48
TANK #4 Facility Status: ACTIVE ID Number: 36153		F27 / 6	48
TANK #7 Facility Status: ACTIVE ID Number: 36156		F28 / 6	49
TANK #6 Facility Status: ACTIVE ID Number: 36155		F29 / 6	49
TANK #5 Facility Status: ACTIVE ID Number: 36154		F30 / 6	50
<b>PIMA COUNTY - RYAN F</b>	<b>6455 S CONTINENTAL R</b>	<b>G33 / 6</b>	<b>51</b>

## EXECUTIVE SUMMARY

Facility Status: ACTIVE		
ID Number: 4854		
ID Number: 148618		
PIPING	H34 / 7	52
Facility Status: ACTIVE		
ID Number: 92085		
COMPARTMENT A	H35 / 7	53
Facility Status: ACTIVE		
ID Number: 72739		
TANK #2	H36 / 7	53
Facility Status: ACTIVE		
ID Number: 36151		
COMPARTMENT A	H37 / 7	54
Facility Status: ACTIVE		
ID Number: 72738		
PIPING	H38 / 7	54
Facility Status: ACTIVE		
ID Number: 92086		
PIPING	H39 / 7	55
Facility Status: ACTIVE		
ID Number: 92084		
COMPARTMENT A	H40 / 7	55
Facility Status: ACTIVE		
ID Number: 72745		
COMPARTMENT A	H41 / 7	55
Facility Status: ACTIVE		
ID Number: 72741		
COMPARTMENT A	H42 / 7	56
Facility Status: ACTIVE		
ID Number: 72740		
COMPARTMENT A	H43 / 7	56
Facility Status: ACTIVE		
ID Number: 72744		
COMPARTMENT A	H44 / 7	57
Facility Status: ACTIVE		
ID Number: 72743		
TANK #1	H45 / 7	57
Facility Status: ACTIVE		
ID Number: 36150		
PIPING	H46 / 7	58
Facility Status: ACTIVE		
ID Number: 92091		
PIPING	H47 / 7	58
Facility Status: ACTIVE		
ID Number: 92090		
COMPARTMENT A	H48 / 7	58
Facility Status: ACTIVE		
ID Number: 72742		
PIPING	H49 / 7	59

## EXECUTIVE SUMMARY

Facility Status: ACTIVE  
ID Number: 92087

PIPING	H50 / 7	59
Facility Status: ACTIVE ID Number: 92089		
PIPING	H51 / 7	60
Facility Status: ACTIVE ID Number: 92088		
CITY OF TUCSON - WAT	I52 / 6	60
Facility Status: ACTIVE ID Number: 13014		
QWEST COMMUNICATIONS	54 / 6	61
Facility Status: NOT ACTIVE ID Number: 13325		

### Enforcement: Enforcement and Violation Listing

A review of the Enforcement list, as provided by EDR, and dated 11/19/2018 has revealed that there is 1 Enforcement site within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b>PIMA COUNTY - RYAN F</b>	<b>6455 S CONTINENTAL R</b>	<b>G33 / 6</b>	<b>51</b>

### SPDES: NPDES

A review of the SPDES list, as provided by EDR, and dated 09/04/2018 has revealed that there are 6 SPDES sites within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
20106591 SECURITY FE		1 / 6	29
INSTALL RUNWAY 15/33		A5 / 7	32
20106681 INSTALL RUN		A6 / 7	32
RYAN AIRFIELD LOT 24	SE 1/4 OF SECTION 12	C9 / 6	34
20110092 RYAN AIRFIE		24 / 7	46
RYAN AIR FIELD		31 / 7	50

### EDR RECOVERED GOVERNMENT ARCHIVES

#### ***Exclusive Recovered Govt. Archives***

##### RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

A review of the RGA HWS list, as provided by EDR, has revealed that there is 1 RGA HWS site within the requested target property.

<u>Site</u>	<u>Address</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
AVIONES FUMIGADORES	6249 S AVIATOR LANE	E21 / 7	45

# EXECUTIVE SUMMARY

Facility ID: 1100

## SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Page Numbers and Map Identifications refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

## STANDARD ENVIRONMENTAL RECORDS

### ***Federal RCRA CORRACTS facilities list***

CORRACTS: Corrective Action Report

A review of the CORRACTS list, as provided by EDR, and dated 03/01/2018 has revealed that there is 1 CORRACTS site within approximately1 mile of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b><i>ESCO</i></b> EPA ID:: AZD980880819	<b><i>5200 S BRANIFF RD</i></b>	<b><i>NNW 1/4 - 1/2 (0.378 mi.)</i></b>	<b><i>56 / 2</i></b>	<b><i>64</i></b>

### ***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

A review of the RCRA-TSDF list, as provided by EDR, and dated 03/01/2018 has revealed that there is 1 RCRA-TSDF site within approximately 0.5 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b><i>ESCO</i></b> EPA ID:: AZD980880819	<b><i>5200 S BRANIFF RD</i></b>	<b><i>NNW 1/4 - 1/2 (0.378 mi.)</i></b>	<b><i>56 / 2</i></b>	<b><i>64</i></b>

### ***State- and tribal - equivalent CERCLIS***

SHWS: ZipAcids List

A review of the SHWS list, as provided by EDR, and dated 01/03/2000 has revealed that there is 1 SHWS site within approximately1 mile of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b><i>ESCO</i></b>	<b><i>5200 S BRANIFF RD</i></b>	<b><i>NNW 1/4 - 1/2 (0.378 mi.)</i></b>	<b><i>56 / 2</i></b>	<b><i>64</i></b>

## EXECUTIVE SUMMARY

Facility Id: 1295

### ***State and tribal leaking storage tank lists***

#### LUST: Leaking Underground Storage Tank Listing

A review of the LUST list, as provided by EDR, and dated 09/07/2018 has revealed that there is 1 LUST site within approximately 0.5 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b>RYAN AIRFIELD</b> Date Closed: 10/31/12 Date Closed: 09/08/99 Facility Id: 0-000330 Facility Status: CLOSED	<b>9400 W AJO HWY</b>	<b>SSE 0 - 1/8 (0.028 mi.)</b>	<b>55 / 7</b>	<b>61</b>

### ***State and tribal registered storage tank lists***

#### UST: Underground Storage Tank Listing

A review of the UST list, as provided by EDR, and dated 09/07/2018 has revealed that there is 1 UST site within approximately 0.25 miles of the requested target property.

<u>Site</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID / Focus Map(s)</u>	<u>Page</u>
<b>RYAN AIRFIELD</b> Closure Type: Removal Facility Id: 0-000330 Date Closed: 01/30/1991 Date Closed: 12/01/1988	<b>9400 W AJO HWY</b>	<b>SSE 0 - 1/8 (0.028 mi.)</b>	<b>55 / 7</b>	<b>61</b>

**MAPPED SITES SUMMARY**

**Target Property:**  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

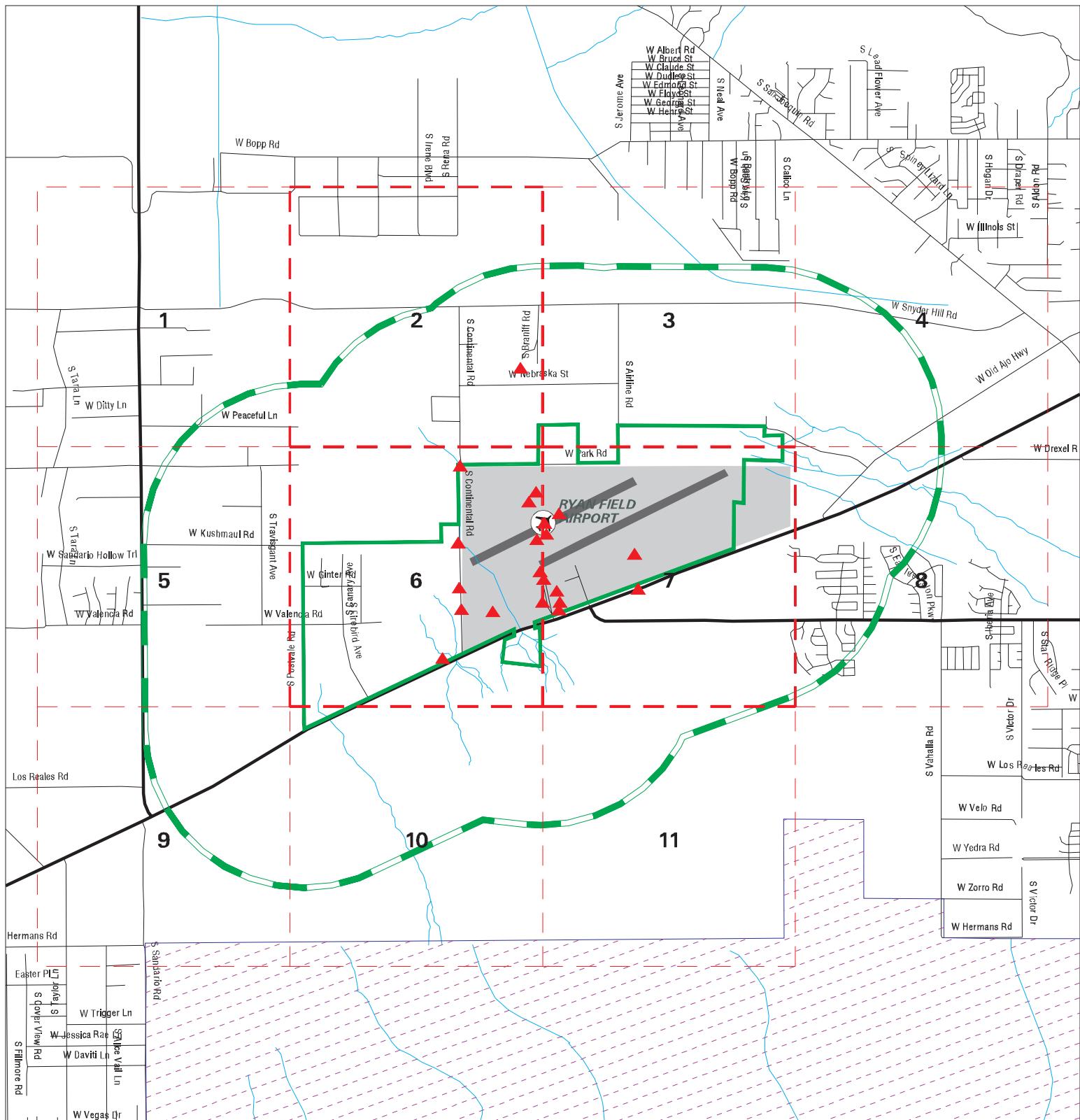
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 6	20106591 SECURITY FE		SPDES	TP
2 / 6	AVIATION DESIGNS OF	RYAN FIELD 6021 BAT	RCRA NonGen / NLR	TP
3 / 6	QWEST COMMUNICATIONS	NO ADDRESS ON RECORD	FINDS	TP
4 / 7	RYAN FIELD	UNKNOWN	FINDS	TP
A5 / 7	INSTALL RUNWAY 15/33		SPDES	TP
A6 / 7	20106681 INSTALL RUN		SPDES	TP
B7 / 7	RYAN AIR FIELD PD01-		EMAP	TP
B8 / 7	RYAN AIR FIELD PD01-	NO ADDRESS ON RECORD	FINDS	TP
C9 / 6	RYAN AIRFIELD LOT 24	SE 1/4 OF SECTION 12	SPDES	TP
C10 / 6	RYAN AIRFIELD	9700 W AJO HWY	EMAP	TP
11 / 6	RYAN AIRFIELD OUTFAL		EMAP	TP
12 / 7	RYAN FIELD	12 MILES WEST OF TUC	SWF/LF	TP
D13 / 6	AIR TRANSPORT TRAINI	6200 S AVIATOR LN	EMAP	TP
D14 / 6	AIR TRANSPORT TRAINI	6200 S AVIATOR LN	RCRA NonGen / NLR, FINDS, ECHO	TP
E15 / 7	ORION	6249 S AVIATION LN B	RCRA NonGen / NLR, FINDS, ECHO	TP
E16 / 7	RYAN AIRFIELD	6275 S AIRFIELD	AST	TP
E17 / 7	AVIATION DESIGNS OF	6249 S AVIATOR LANE	SEMS-ARCHIVE, RCRA NonGen / NLR, FINDS, ...	TP
E18 / 7	AIRCRAFTERS LLC	6249 S AVIATOR LN BL	RCRA NonGen / NLR	TP
E19 / 7	AIRCRAFTERS LLC	6249 S AVIATOR LN	FINDS, ECHO	TP
E20 / 7	ORION AIRPARK LIMITE	6249 S AVIATOR LN	EMAP	TP
E21 / 7	AVIONES FUMIGADORES	6249 S AVIATOR LANE	RGA HWS	TP
E22 / 7	AVIATION DESIGNS OF	6249 S AVIATOR LN	SHWS, EMAP	TP
23 / 6	RYAN AIRFIELD OUTFAL		EMAP	TP
24 / 7	20110092 RYAN AIRFIE		SPDES	TP
F25 / 6	TANK #8		EMAP	TP
F26 / 6	TANK #3		EMAP	TP
F27 / 6	TANK #4		EMAP	TP
F28 / 6	TANK #7		EMAP	TP
F29 / 6	TANK #6		EMAP	TP
F30 / 6	TANK #5		EMAP	TP
31 / 7	RYAN AIR FIELD		SPDES	TP
G32 / 6	RYAN FIELD TRANSFER	6455 S. CONTINENTAL	FINDS	TP
G33 / 6	PIMA COUNTY - RYAN F	6455 S CONTINENTAL R	SWTIRE, EMAP, Enforcement	TP
H34 / 7	PIPING		EMAP	TP
H35 / 7	COMPARTMENT A		EMAP	TP
H36 / 7	TANK #2		EMAP	TP
H37 / 7	COMPARTMENT A		EMAP	TP
H38 / 7	PIPING		EMAP	TP
H39 / 7	PIPING		EMAP	TP

**MAPPED SITES SUMMARY**

**Target Property:**  
 9698 W TUCSON-AJO HWY  
 TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.)	DIRECTION
H40 / 7	COMPARTMENT A		EMAP		TP
H41 / 7	COMPARTMENT A		EMAP		TP
H42 / 7	COMPARTMENT A		EMAP		TP
H43 / 7	COMPARTMENT A		EMAP		TP
H44 / 7	COMPARTMENT A		EMAP		TP
H45 / 7	TANK #1		EMAP		TP
H46 / 7	PIPING		EMAP		TP
H47 / 7	PIPING		EMAP		TP
H48 / 7	COMPARTMENT A		EMAP		TP
H49 / 7	PIPING		EMAP		TP
H50 / 7	PIPING		EMAP		TP
H51 / 7	PIPING		EMAP		TP
I52 / 6	CITY OF TUCSON - WAT		EMAP		TP
I53 / 6	CITY OF TUCSON - WAT	NO ADDRESS ON RECORD	FINDS		TP
54 / 6	QWEST COMMUNICATIONS		EMAP		TP
55 / 7	RYAN AIRFIELD	9400 W AJO HWY	LUST, UST, EMAP, Enforcement, Financial ...	149	0.028 SSE
56 / 2	ESCO	5200 S BRANIFF RD	CORRACTS, RCRA-TSDF, RCRA-LQG, SHWS, 202.1994	0.378	NNW

## Key Map - 5570385.3s



SITE NAME: 48761 Ryan Airfield  
ADDRESS: 9698 W Tucson-Ajo Hwy  
CITY/STATE: Tucson AZ  
ZIP: 85735

CLIENT: SWCA Environmental Consultants  
CONTACT: Steve Obrien  
INQUIRY #: 5570385.3s  
DATE: 02/22/19 3:36 PM

## 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
<b><u>STANDARD ENVIRONMENTAL RECORDS</u></b>								
<b><i>Federal NPL site list</i></b>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<b><i>Federal Delisted NPL site list</i></b>								
Delisted NPL	1.000		0	0	0	0	NR	0
<b><i>Federal CERCLIS list</i></b>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<b><i>Federal CERCLIS NFRAP site list</i></b>								
SEMS-ARCHIVE	0.500	1	0	0	0	NR	NR	1
<b><i>Federal RCRA CORRACTS facilities list</i></b>								
CORRACTS	1.000		0	0	1	0	NR	1
<b><i>Federal RCRA non-CORRACTS TSD facilities list</i></b>								
RCRA-TSDF	0.500		0	0	1	NR	NR	1
<b><i>Federal RCRA generators list</i></b>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<b><i>Federal institutional controls / engineering controls registries</i></b>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<b><i>Federal ERNS list</i></b>								
ERNS	TP		NR	NR	NR	NR	NR	0
<b><i>State- and tribal - equivalent NPL</i></b>								
AZ NPL	1.000		0	0	0	0	NR	0
AZ WQARF	1.000		0	0	0	0	NR	0
<b><i>State- and tribal - equivalent CERCLIS</i></b>								
SPL	1.000		0	0	0	0	NR	0
SHWS	1.000	1	0	0	1	0	NR	2
<b><i>State and tribal landfill and/or solid waste disposal site lists</i></b>								
SWF/LF	0.500	1	0	0	0	NR	NR	1
<b><i>State and tribal leaking storage tank lists</i></b>								
LUST	0.500		1	0	0	NR	NR	1

## 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
<b><i>State and tribal registered storage tank lists</i></b>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		1	0	NR	NR	NR	1
AST	0.250	1	0	0	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
<b><i>State and tribal institutional control / engineering control registries</i></b>								
AZURITE	0.500		0	0	0	NR	NR	0
AUL	0.500		0	0	0	NR	NR	0
<b><i>State and tribal voluntary cleanup sites</i></b>								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
<b><i>State and tribal Brownfields sites</i></b>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b><u>ADDITIONAL ENVIRONMENTAL RECORDS</u></b>								
<b><i>Local Brownfield lists</i></b>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b><i>Local Lists of Landfill / Solid Waste Disposal Sites</i></b>								
SWTIRE	0.500	1	0	0	0	NR	NR	1
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
<b><i>Local Lists of Hazardous waste / Contaminated Sites</i></b>								
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
<b><i>Local Land Records</i></b>								
LIENS 2	TP		NR	NR	NR	NR	NR	0
<b><i>Records of Emergency Release Reports</i></b>								
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
<b><i>Other Ascertainable Records</i></b>								
RCRA NonGen / NLR	0.250	5	0	0	NR	NR	NR	5
FUDS	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
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		0	0	0	0	NR	0
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	0	NR	0
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	9	NR	NR	NR	NR	NR	9
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
ECHO	TP	4	NR	NR	NR	NR	NR	4
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		0	0	NR	NR	NR	0
EMAP	TP	34	NR	NR	NR	NR	NR	34
Enforcement	TP	1	NR	NR	NR	NR	NR	1
Financial Assurance	TP		NR	NR	NR	NR	NR	0
MANIFEST	0.250		0	0	NR	NR	NR	0
VAPOR	0.500		0	0	0	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
SPDES	TP	6	NR	NR	NR	NR	NR	6
WWFAC	0.500		0	0	0	NR	NR	0

### EDR HIGH RISK HISTORICAL RECORDS

#### ***EDR Exclusive Records***

EDR MGP	1.000	0	0	0	0	NR	0
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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
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
<b><u>EDR RECOVERED GOVERNMENT ARCHIVES</u></b>								
<b><i>Exclusive Recovered Govt. Archives</i></b>								
RGA HWS	TP	1	NR	NR	NR	NR	NR	1
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		65	2	0	3	0	0	70

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

# Focus Map - 1 - 5570385.3s



▲ Sites	/\ Focus Map - Sites	Dept. Defense Sites	0
△ Target Property	○ Power Line	AZ NPL	1/8
▲ Search Buffer	△ Pipe Line	Water Quality Assurance Revolving	1/4 Miles
/\ Focus Map - No Sites	■ National Priority List Sites	Indian Reservations BIA	

SITE NAME: 48761 Ryan Airfield  
 ADDRESS: 9698 W Tucson-Ajo Hwy  
 CITY/STATE: Tucson AZ  
 ZIP: 85735

CLIENT: SWCA Environmental Consultants  
 CONTACT: Steve Obrien  
 INQUIRY #: 5570385.3s  
 DATE: 02/22/19

MAPPED SITES SUMMARY - FOCUS MAP 1

Target Property:  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 2 - 5570385.3s



▲ Sites	/\ \ Focus Map - Sites	Dept. Defense Sites
▲\ \ Target Property	○\ \ Power Line	AZ NPL
▲\ \ Search Buffer	○\ \ Pipe Line	Water Quality Assurance Revolving
/\ \ Focus Map - No Sites	■\ \ National Priority List Sites	Indian Reservations BIA

0 1/8 1/4 Miles

**SITE NAME:** 48761 Ryan Airfield  
**ADDRESS:** 9698 W Tucson-Ajo Hwy  
**CITY/STATE:** Tucson AZ  
**ZIP:** 85735

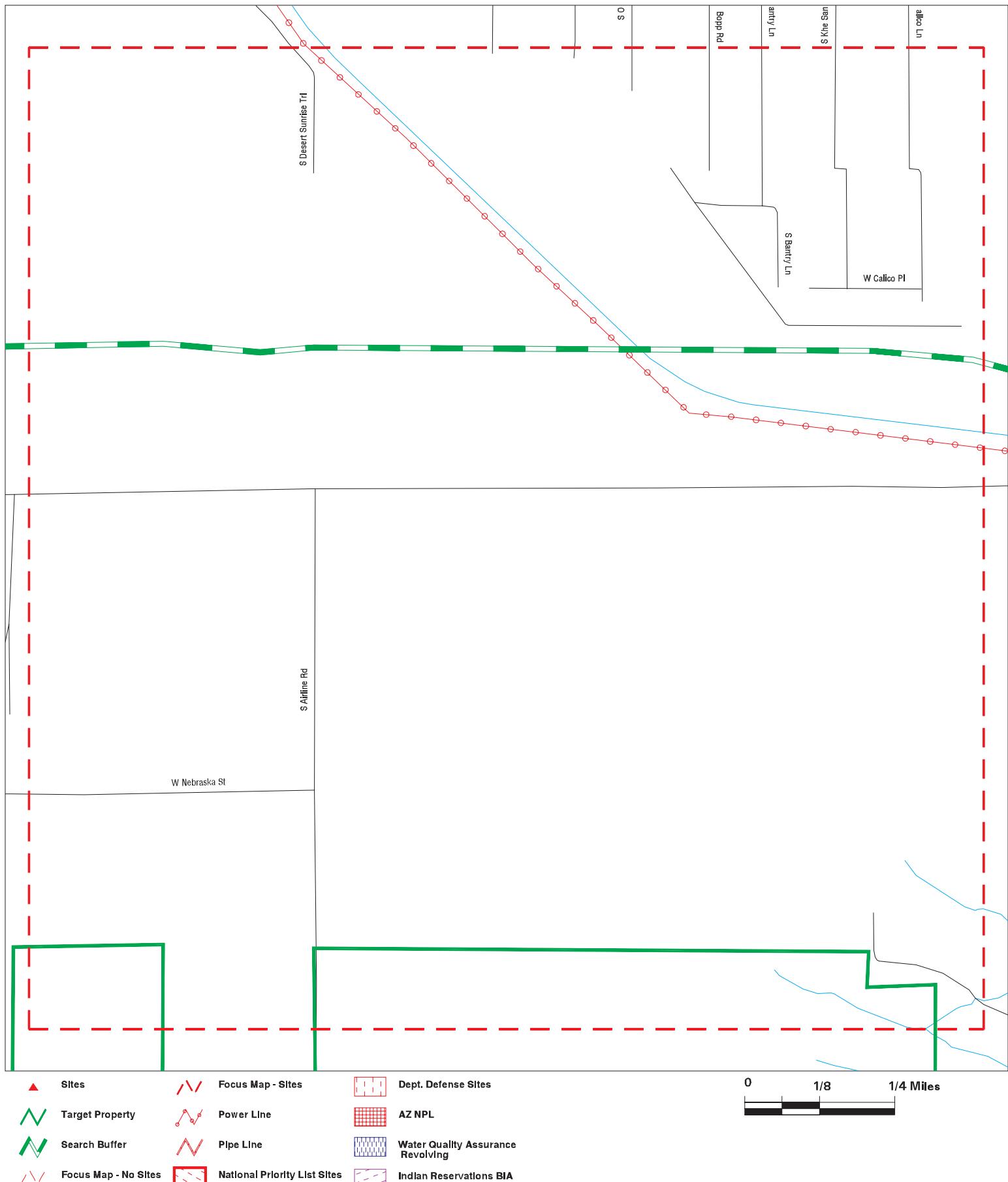
**CLIENT:** SWCA Environmental Consultants  
**CONTACT:** Steve Obrien  
**INQUIRY #:** 5570385.3s  
**DATE:** 02/22/19

MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.)	DIRECTION
56 / 2	ESCO	5200 S BRANIFF RD	CORRACTS, RCRA-TSDF, RCRA-LQG, SHWS, 202.1994	0.378	NNW

# Focus Map - 3 - 5570385.3s



SITE NAME: 48761 Ryan Airfield  
 ADDRESS: 9698 W Tucson-Ajo Hwy  
 CITY/STATE: Tucson AZ  
 ZIP: 85735

CLIENT: SWCA Environmental Consultants  
 CONTACT: Steve Obrien  
 INQUIRY #: 5570385.3s  
 DATE: 02/22/19

MAPPED SITES SUMMARY - FOCUS MAP 3

Target Property:  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 4 - 5570385.3s



▲ Sites  
 / \ Focus Map - Sites  
 / \ Focus Map - No Sites  
 \ \ National Priority List Sites  
 \ \ Dept. Defense Sites  
 \ \ AZ NPL  
 \ \ Water Quality Assurance Revolving  
 \ \ Indian Reservations BIA  
 \ \ Power Line  
 \ \ Pipe Line  
 \ \ Search Buffer  
 \ \ Target Property

\ \ Dept. Defense Sites  
 \ \ AZ NPL  
 \ \ Water Quality Assurance Revolving  
 \ \ Indian Reservations BIA  
 \ \ Power Line  
 \ \ Pipe Line  
 \ \ Search Buffer  
 \ \ Target Property

0 1/8 1/4 Miles

SITE NAME: 48761 Ryan Airfield  
 ADDRESS: 9698 W Tucson-Ajo Hwy  
 CITY/STATE: Tucson AZ  
 ZIP: 85735

CLIENT: SWCA Environmental Consultants  
 CONTACT: Steve Obrien  
 INQUIRY #: 5570385.3s  
 DATE: 02/22/19

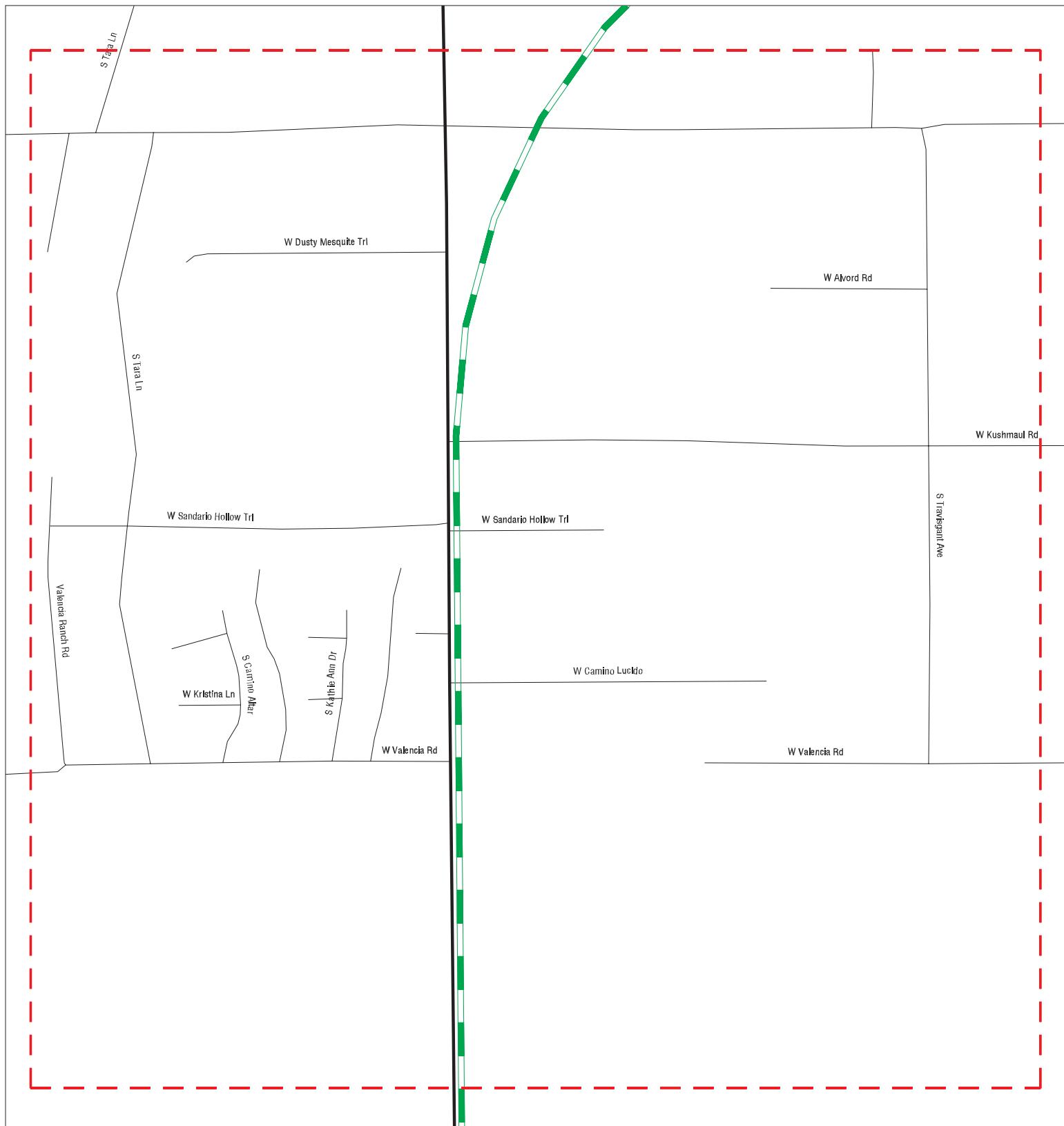
MAPPED SITES SUMMARY - FOCUS MAP 4

Target Property:  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 5 - 5570385.3s



▲ Sites	/\ Focus Map - Sites	Dept. Defense Sites	0
▲ Target Property	/\ Power Line	AZ NPL	1/8
▲ Search Buffer	/\ Pipe Line	Water Quality Assurance Revolving	1/4 Miles
/\ Focus Map - No Sites	/\ National Priority List Sites	Indian Reservations BIA	

**SITE NAME:** 48761 Ryan Airfield  
**ADDRESS:** 9698 W Tucson-Ajo Hwy  
**CITY/STATE:** Tucson AZ  
**ZIP:** 85735

**CLIENT:** SWCA Environmental Consultants  
**CONTACT:** Steve Obrien  
**INQUIRY #:** 5570385.3s  
**DATE:** 02/22/19

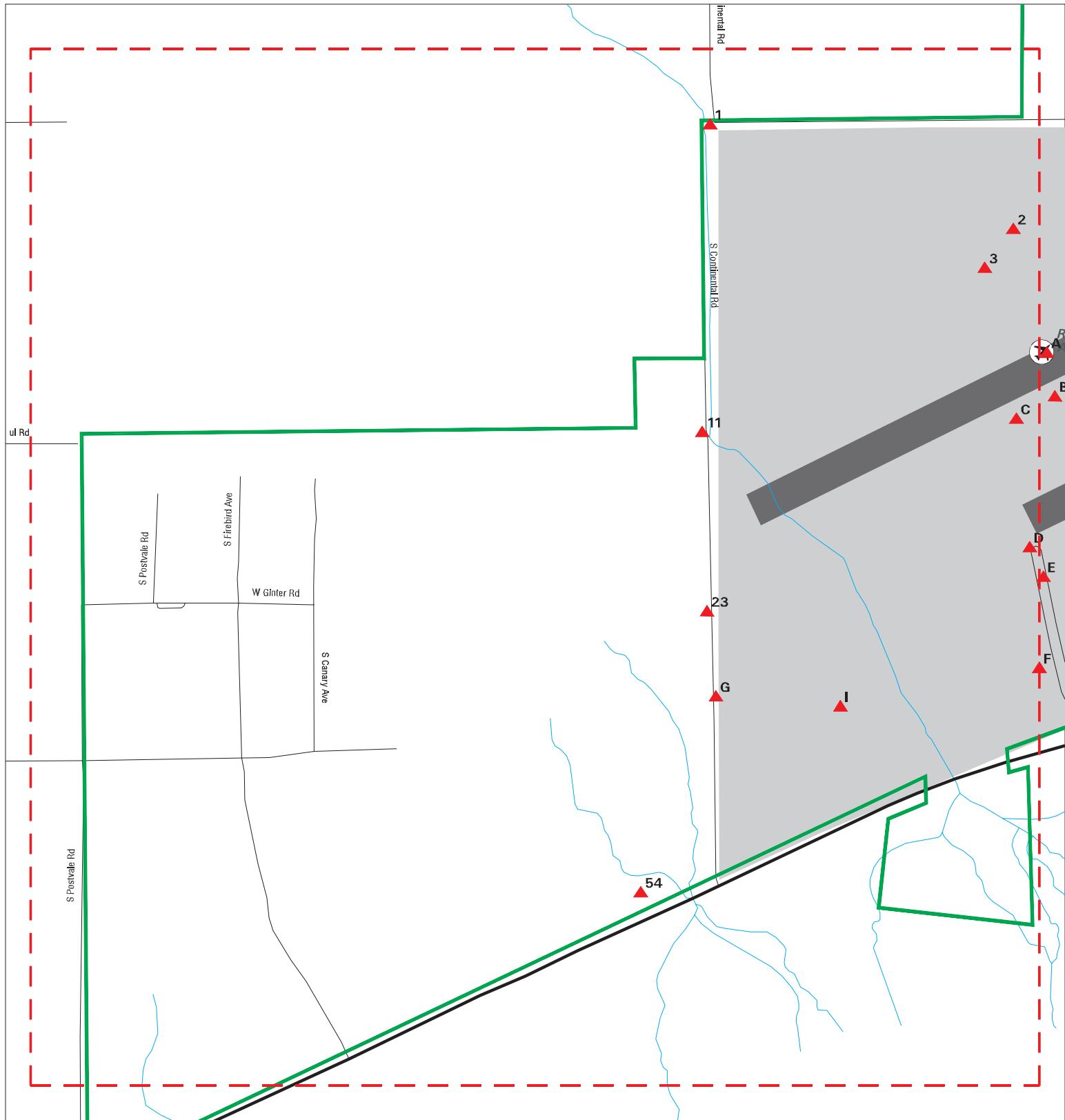
MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

Focus Map - 6 - 5570385.3s



SITE NAME: 48761 Ryan Airfield  
ADDRESS: 9698 W Tucson-Ajo Hwy  
CITY/STATE: Tucson AZ  
ZIP: 85735

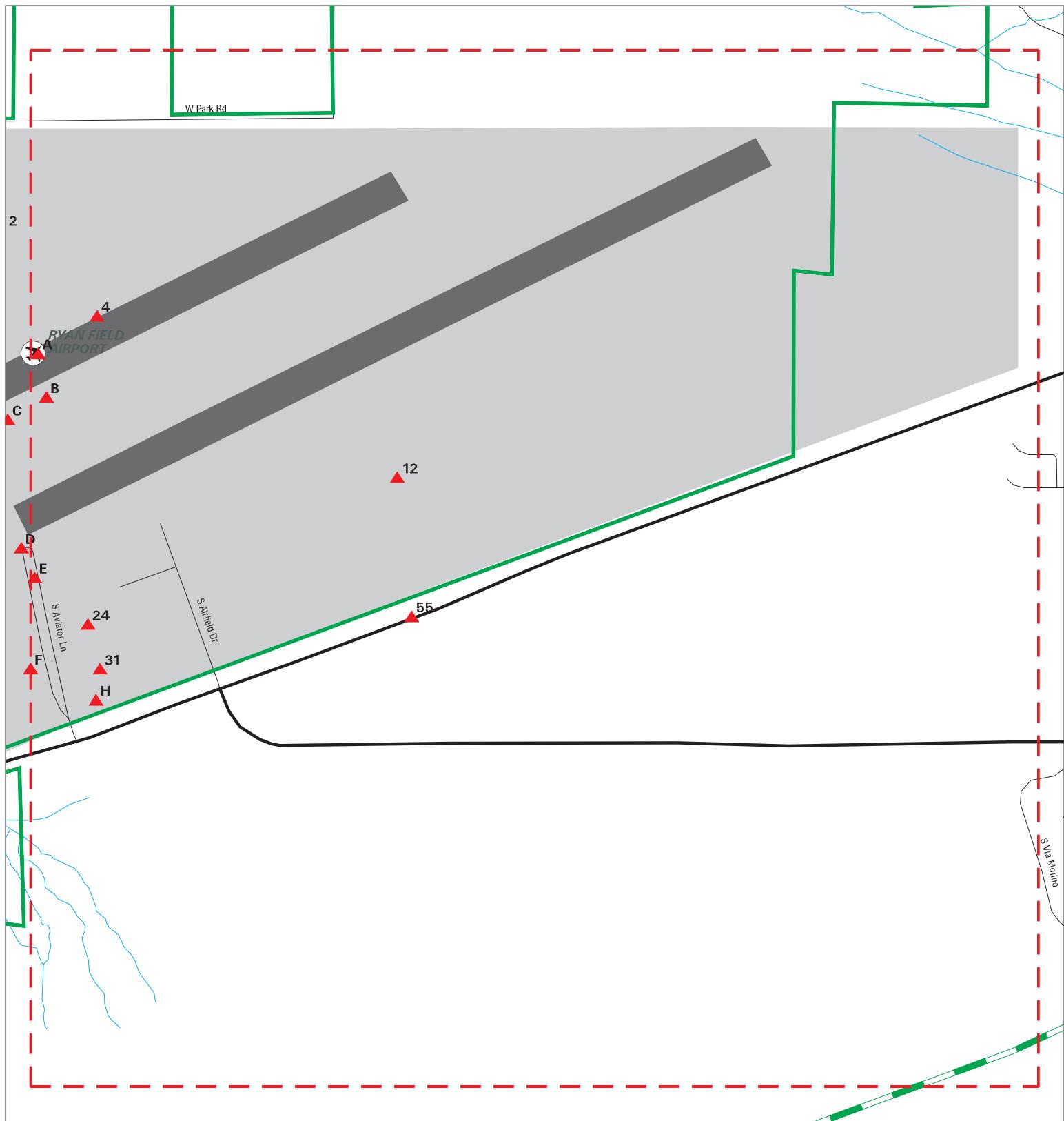
CLIENT: SWCA Environmental Consultants  
CONTACT: Steve Obrien  
INQUIRY #: 5570385.3s  
DATE: 02/22/19

**MAPPED SITES SUMMARY - FOCUS MAP 6**

**Target Property:**  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 6	20106591 SECURITY FE		SPDES	TP
2 / 6	AVIATION DESIGNS OF	RYAN FIELD 6021 BAT	RCRA NonGen / NLR	TP
3 / 6	QWEST COMMUNICATIONS	NO ADDRESS ON RECORD	FINDS	TP
C9 / 6	RYAN AIRFIELD LOT 24	SE 1/4 OF SECTION 12	SPDES	TP
C10 / 6	RYAN AIRFIELD	9700 W AJO HWY	EMAP	TP
11 / 6	RYAN AIRFIELD OUTFAL		EMAP	TP
D13 / 6	AIR TRANSPORT TRAINI	6200 S AVIATOR LN	EMAP	TP
D14 / 6	AIR TRANSPORT TRAINI	6200 S AVIATOR LN	RCRA NonGen / NLR, FINDS, ECHO	TP
23 / 6	RYAN AIRFIELD OUTFAL		EMAP	TP
F25 / 6	TANK #8		EMAP	TP
F26 / 6	TANK #3		EMAP	TP
F27 / 6	TANK #4		EMAP	TP
F28 / 6	TANK #7		EMAP	TP
F29 / 6	TANK #6		EMAP	TP
F30 / 6	TANK #5		EMAP	TP
G32 / 6	RYAN FIELD TRANSFER	6455 S. CONTINENTAL	FINDS	TP
G33 / 6	PIMA COUNTY - RYAN F	6455 S CONTINENTAL R	SWTIRE, EMAP, Enforcement	TP
I52 / 6	CITY OF TUCSON - WAT		EMAP	TP
I53 / 6	CITY OF TUCSON - WAT	NO ADDRESS ON RECORD	FINDS	TP
54 / 6	QWEST COMMUNICATIONS		EMAP	TP

# Focus Map - 7 - 5570385.3s



- ▲ Sites
- ▲ Focus Map - Sites
- Dept. Defense Sites
- ▲ Target Property
- ▲ Power Line
- AZ NPL
- ▲ Search Buffer
- ▲ Pipe Line
- Water Quality Assurance Revolving
- ▲ Focus Map - No Sites
- National Priority List Sites
- Indian Reservations BIA

0 1/8 1/4 Miles

**SITE NAME:** 48761 Ryan Airfield  
**ADDRESS:** 9698 W Tucson-Ajo Hwy  
**CITY/STATE:** Tucson AZ  
**ZIP:** 85735

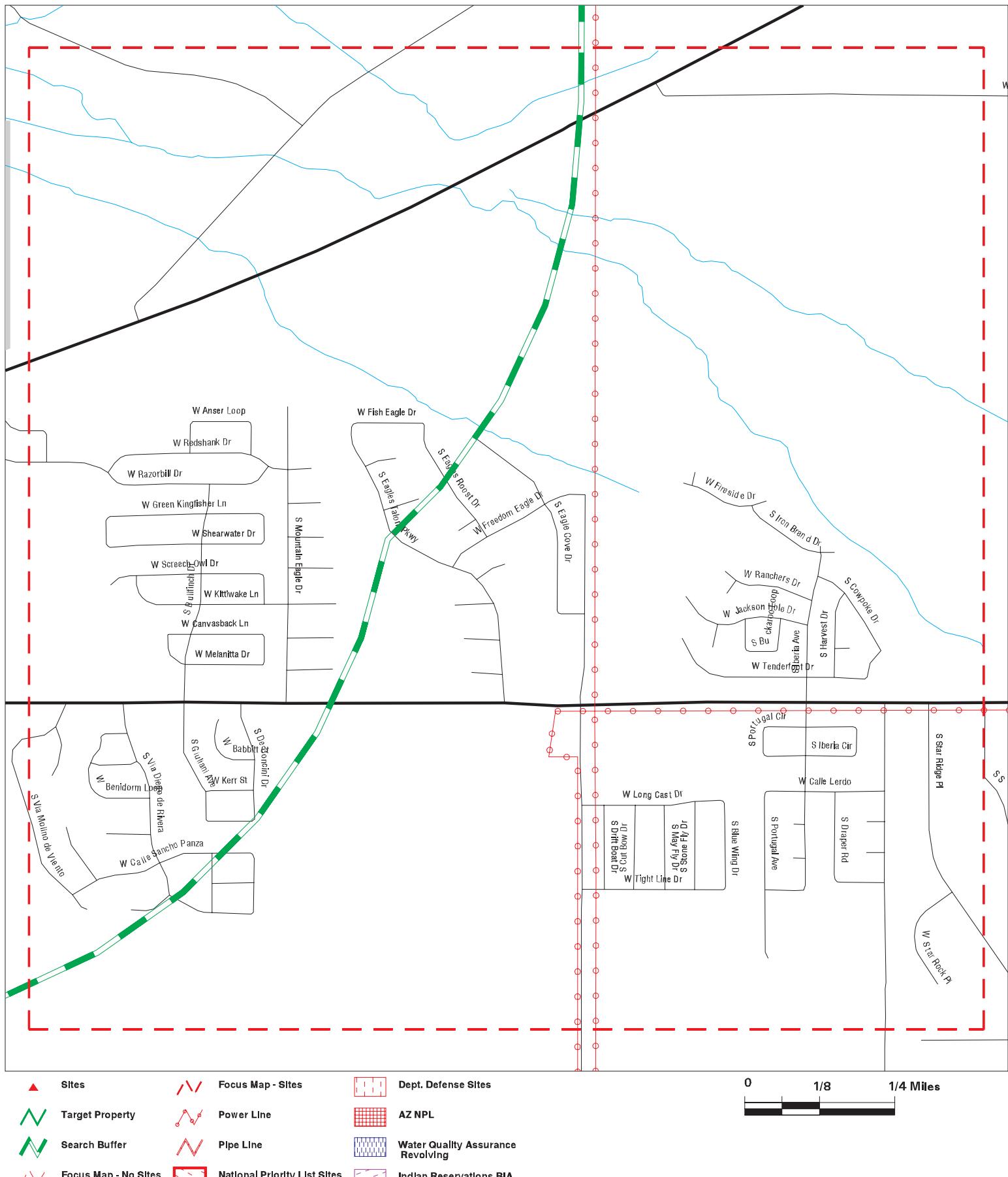
**CLIENT:** SWCA Environmental Consultants  
**CONTACT:** Steve Obrien  
**INQUIRY #:** 5570385.3s  
**DATE:** 02/22/19

**MAPPED SITES SUMMARY - FOCUS MAP 7**

**Target Property:**  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.)	DIRECTION
4 / 7	RYAN FIELD	UNKNOWN	FINDS		TP
A5 / 7	INSTALL RUNWAY 15/33		SPDES		TP
A6 / 7	20106681 INSTALL RUN		SPDES		TP
B7 / 7	RYAN AIR FIELD PD01-		EMAP		TP
B8 / 7	RYAN AIR FIELD PD01-	NO ADDRESS ON RECORD	FINDS		TP
12 / 7	RYAN FIELD	12 MILES WEST OF TUC	SWF/LF		TP
E15 / 7	ORION	6249 S AVIATION LN B	RCRA NonGen / NLR, FINDS, ECHO		TP
E16 / 7	RYAN AIRFIELD	6275 S AIRFIELD	AST		TP
E17 / 7	AVIATION DESIGNS OF	6249 S AVIATOR LANE	SEMS-ARCHIVE, RCRA NonGen / NLR, FINDS, ...		TP
E18 / 7	AIRCRAFTERS LLC	6249 S AVIATOR LN BL	RCRA NonGen / NLR		TP
E19 / 7	AIRCRAFTERS LLC	6249 S AVIATOR LN	FINDS, ECHO		TP
E20 / 7	ORION AIRPARK LIMITE	6249 S AVIATOR LN	EMAP		TP
E21 / 7	AVIONES FUMIGADORES	6249 S AVIATOR LANE	RGA HWS		TP
E22 / 7	AVIATION DESIGNS OF	6249 S AVIATOR LN	SHWS, EMAP		TP
24 / 7	20110092 RYAN AIRFIE		SPDES		TP
31 / 7	RYAN AIR FIELD		SPDES		TP
H34 / 7	PIPING		EMAP		TP
H35 / 7	COMPARTMENT A		EMAP		TP
H36 / 7	TANK #2		EMAP		TP
H37 / 7	COMPARTMENT A		EMAP		TP
H38 / 7	PIPING		EMAP		TP
H39 / 7	PIPING		EMAP		TP
H40 / 7	COMPARTMENT A		EMAP		TP
H41 / 7	COMPARTMENT A		EMAP		TP
H42 / 7	COMPARTMENT A		EMAP		TP
H43 / 7	COMPARTMENT A		EMAP		TP
H44 / 7	COMPARTMENT A		EMAP		TP
H45 / 7	TANK #1		EMAP		TP
H46 / 7	PIPING		EMAP		TP
H47 / 7	PIPING		EMAP		TP
H48 / 7	COMPARTMENT A		EMAP		TP
H49 / 7	PIPING		EMAP		TP
H50 / 7	PIPING		EMAP		TP
H51 / 7	PIPING		EMAP		TP
55 / 7	RYAN AIRFIELD	9400 W AJO HWY	LUST, UST, EMAP, Enforcement, Financial ...	149	0.028 SSE

# Focus Map - 8 - 5570385.3s



**SITE NAME:** 48761 Ryan Airfield  
**ADDRESS:** 9698 W Tucson-Ajo Hwy  
**CITY/STATE:** Tucson AZ  
**ZIP:** 85735

**CLIENT:** SWCA Environmental Consultants  
**CONTACT:** Steve Obrien  
**INQUIRY #:** 5570385.3s  
**DATE:** 02/22/19

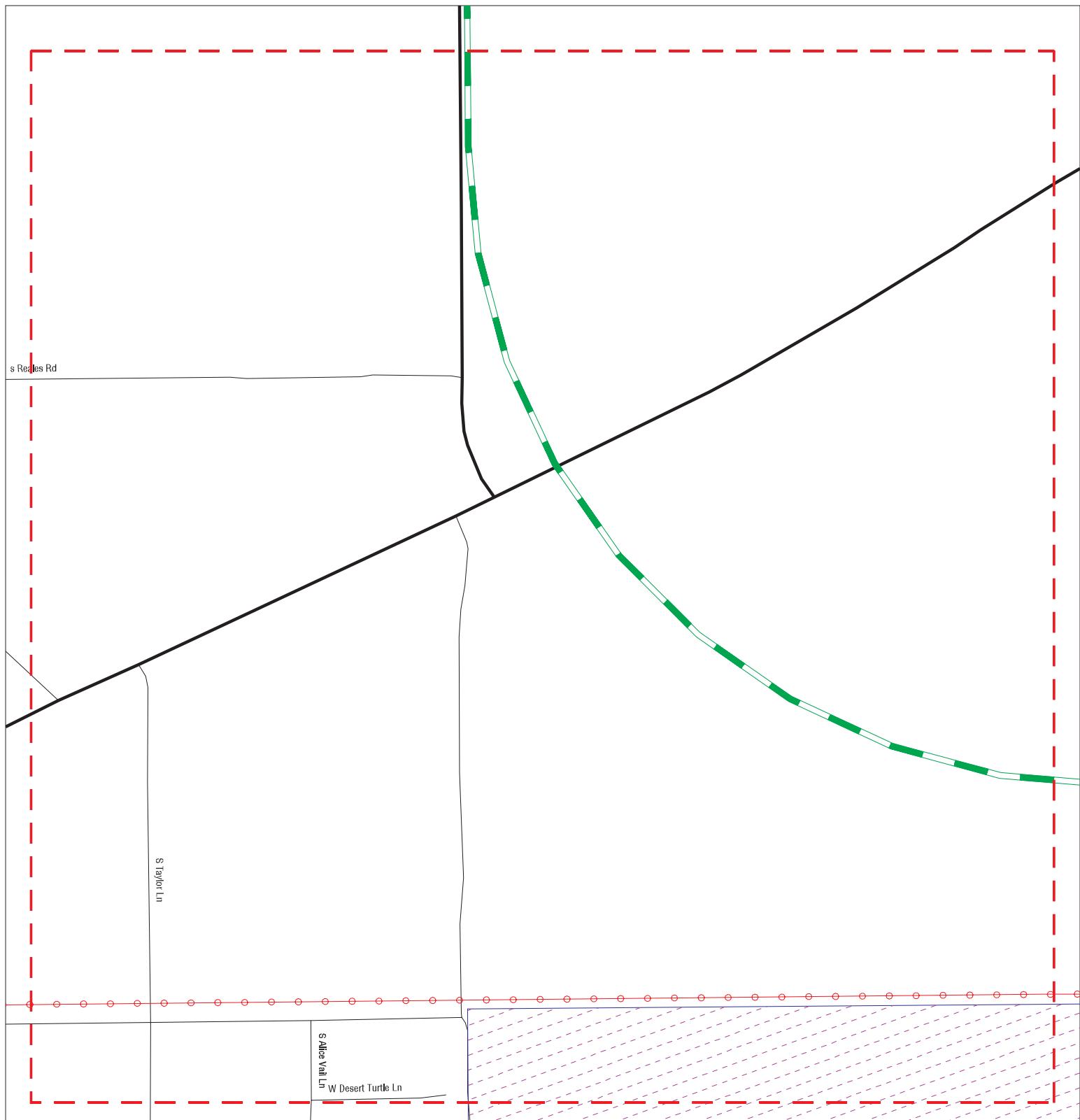
MAPPED SITES SUMMARY - FOCUS MAP 8

Target Property:  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 9 - 5570385.3s



▲ Sites	△ Focus Map - Sites	■ Dept. Defense Sites	0	1/8	1/4 Miles
△ Target Property	△ Power Line	■ AZ NPL			
△ Search Buffer	△ Pipe Line	■ Water Quality Assurance Revolving			
△ Focus Map - No Sites	■ National Priority List Sites	■ Indian Reservations BIA			

SITE NAME: 48761 Ryan Airfield  
 ADDRESS: 9698 W Tucson-Ajo Hwy  
 CITY/STATE: Tucson AZ  
 ZIP: 85735

CLIENT: SWCA Environmental Consultants  
 CONTACT: Steve Obrien  
 INQUIRY #: 5570385.3s  
 DATE: 02/22/19

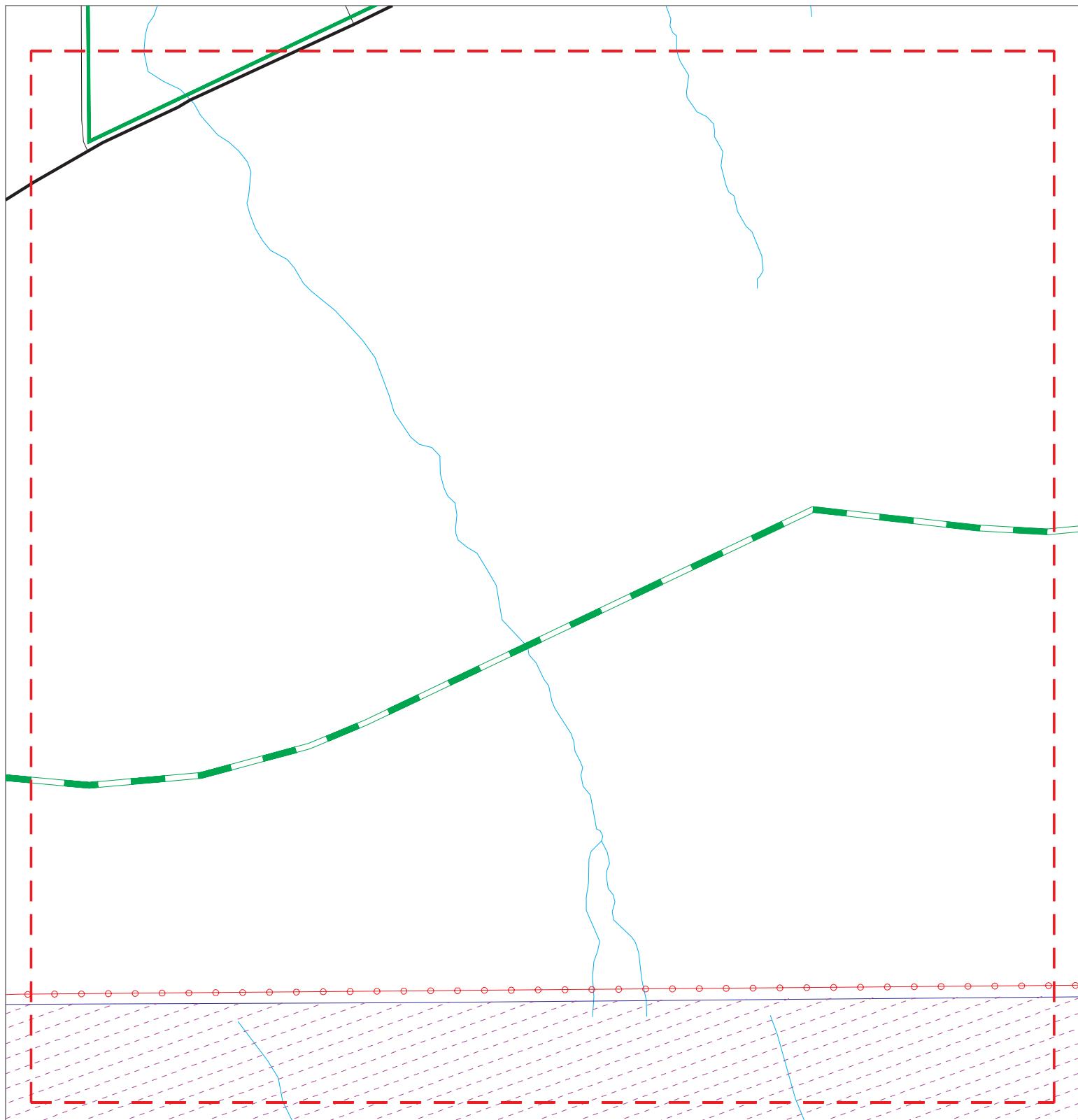
MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 10 - 5570385.3s



**SITE NAME:** 48761 Ryan Airfield  
**ADDRESS:** 9698 W Tucson-Ajo Hwy  
**CITY/STATE:** Tucson AZ  
**ZIP:** 85735

**CLIENT:** SWCA Environmental Consultants  
**CONTACT:** Steve Obrien  
**INQUIRY #:** 5570385.3s  
**DATE:** 02/22/19

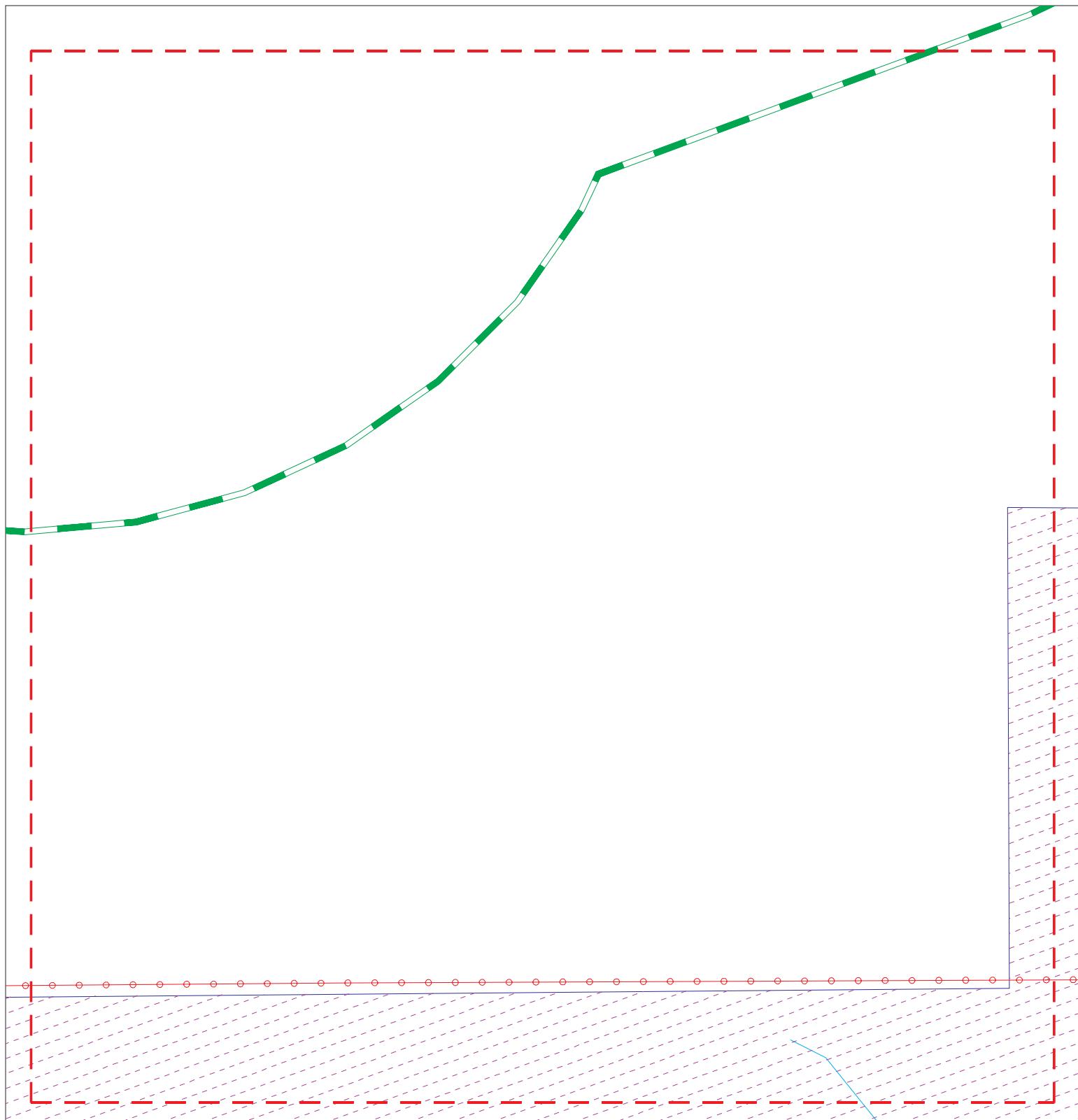
MAPPED SITES SUMMARY - FOCUS MAP 10

Target Property:  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

# Focus Map - 11 - 5570385.3s



<b>SITE NAME:</b> 48761 Ryan Airfield <b>ADDRESS:</b> 9698 W Tucson-Ajo Hwy <b>CITY/STATE:</b> Tucson AZ <b>ZIP:</b> 85735	<b>CLIENT:</b> SWCA Environmental Consultants <b>CONTACT:</b> Steve Obrien <b>INQUIRY #:</b> 5570385.3s <b>DATE:</b> 02/22/19
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MAPPED SITES SUMMARY - FOCUS MAP 11

Target Property:  
9698 W TUCSON-AJO HWY  
TUCSON, AZ 85735

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

MAP FINDINGS			
Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number
1 Target Property	<b>20106591 SECURITY FENCING AND ROADWAY</b> <b>TUCSON, AZ 85756</b>	<b>SPDES</b>	<b>S121583587</b> <b>N/A</b>
Actual: 2373 ft.	NPDES: AZNPDES Number: 72475 Application Type: AZPDES STORMWATER - GENERAL CONSTRUCTION Receive Date: 09/04/2012 Approved Date: 09/06/2012 Term Void Date: 06/07/2013 Application Status: NOTICE OF TERMINATION Site Phone: (520) 573-8100 Contact Name: JILL MERRICK Operator Business Name: TUCSON AIRPORT AUTHORITY Operator Address: 7005 S PLUMER AVENUE, TUCSON, AZ 85756 Operator Phone: (520) 573-8100 Operator Fax: (520) 573-8006 Operator County: PIMA Type of Project: AIRPORT Part of Larger Plan: No Total Project Size: 28 Size of Operation: 28 Site Direction: 9698 W AJO WAY Start Date: 09/04/2012 End Date: 04/13/2013 Non Stormwater Discharges: Not reported Closest Receiving Water: UN-NAMED WASH MS4 Potential: No MS4 Owner: Not reported SWPPP Location: 7005 S PLUMER AVENUE, TUCSON, AZ 85756 SWPPP Contact Name: FRED BRINKER SWPPP Contact Phone: (520) 573-8100 Within Quarter Mile: No Within Half Mile: Not reported Signer Name: JILL MERRICK Signer Business Name: TUCSON AIRPORT AUTHORITY Signer Address: 7005 S PLUMER AVENUE, TUCSON, AZ 85756 Signer Phone: (520) 573-8100 Latitude: 320850.8 Longitude: 1111100.6		
2 Target Property	<b>AVIATION DESIGNS OF TUCSON</b> <b>RYAN FIELD 6021 BAT X</b> <b>TUCSON, AZ 85713</b>	<b>RCRA NonGen / NLR</b>	<b>1000159382</b> <b>AZD981979248</b>
Actual: 2391 ft.	RCRA NonGen / NLR: Date form received by agency: 04/10/1987 Facility name: AVIATION DESIGNS OF TUCSON Facility address: RYAN FIELD 6021 BAT X Focus Map: 6 EPA ID: AZD981979248 Contact: ENVIRONMENTAL MANAGER Contact address: RYAN FIELD 6021 BAT X SIX THOUSAND TWENTY ONE BAT X TUCSON, AZ 85713 Contact country: US Contact telephone: 602-288-4841 Contact email: Not reported EPA Region: 09 Land type: Other land type Classification: Non-Generator		

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**AVIATION DESIGNS OF TUCSON (Continued)**

**1000159382**

Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: NOT REQUIRED  
Owner/operator address: NOT REQUIRED  
Owner/operator country: NOT REQUIRED, ME 99999  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported  
  
Owner/operator name: LINDEMAN RUSTY  
Owner/operator address: NOT REQUIRED  
Owner/operator country: NOT REQUIRED, ME 99999  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

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  
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

Facility Has Received Notices of Violations:

Regulation violated: FR - 262.10-12.A  
Area of violation: Generators - General  
Date violation determined: 11/16/1988  
Date achieved compliance: 09/04/1990  
Violation lead agency: State  
Enforcement action: Not reported  
Enforcement action date: Not reported  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**AVIATION DESIGNS OF TUCSON (Continued)**

**1000159382**

Enforcement lead agency: Not reported  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 11/16/1988  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 09/04/1990  
Evaluation lead agency: State

**3 Target Property** QWEST COMMUNICATIONS SR 86 FIBER OPTIC LINE  
NO ADDRESS ON RECORD  
TUCSON, AZ 85735

**FINDS** 1012138056  
N/A

FINDS:

**Actual:** Registry ID: 110039251993  
**2394 ft.**

**Focus Map:** Environmental Interest/Information System  
**6** 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.

**4 Target Property** RYAN FIELD  
UNKNOWN  
TUCSON, AZ 85701

**FINDS** 1011989234  
N/A

FINDS:

**Actual:** Registry ID: 110038012049  
**2398 ft.**

**Focus Map:** Environmental Interest/Information System  
**7** AIR EMISSIONS CLASSIFICATION UNKNOWN

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

Map ID	Direction	Distance	Elevation	Site	MAP FINDINGS	Database(s)	EDR ID Number	EPA ID Number
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**A5** **INSTALL RUNWAY 15/33 LIGHTING AND SIGNAGE** **SPDES** **S121581154**  
**Target** **TUCSON, AZ 85735** **N/A**  
**Property**

**Site 1 of 2 in cluster A**

**Actual:** NPDES:  
**2400 ft.** AZNPDES Number: 538535  
**Focus Map:** Application Type: AZPDES STORMWATER - GENERAL CONSTRUCTION  
**7** Receive Date: 11/02/2015  
Approved Date: 11/02/2015  
Term Void Date: 04/20/2016  
Application Status: NOTICE OF TERMINATION  
Site Phone: (480) 226-1832  
Contact Name: CHAD GUTTERUD  
Operator Business Name: RURAL ELECTRIC INC  
Operator Address: 9502 E MAIN STREET, MESA, AZ 85207  
Operator Phone: (480) 986-1488  
Operator Fax: (480) 984-0319  
Operator County: PIMA  
Type of Project: ADOT PROJECT  
Part of Larger Plan: No  
Total Project Size: 10  
Size of Operation: 10  
Site Direction: 9698 W AJO WAY TUCSON  
Start Date: 10/26/2015  
End Date: 04/02/2016  
Non Stormwater Discharges: Not reported  
Closest Receiving Water: BRAWLEY WASH  
MS4 Potential: No  
MS4 Owner: Not reported  
SWPPP Location: 9698 W AJO WAY, TUCSON, AZ 85735  
SWPPP Contact Name: CHAD GUTTERUD  
SWPPP Contact Phone: (480) 226-1832  
Within Quarter Mile: No  
Within Half Mile: N  
Signer Name: CHAD GUTTERUD  
Signer Business Name: RURAL ELECTRIC INC  
Signer Address: 9502 E MAIN STREET, MESA, AZ 85207  
Signer Phone: (480) 226-1832  
Latitude: 320832  
Longitude: 1111028

**A6** **20106681 INSTALL RUNWAY 15/33 LIGHTING & SIGN** **SPDES** **S121586206**  
**Target** **N/A**  
**Property** **TUCSON, AZ 85735**

**Site 2 of 2 in cluster A**

**Actual:** NPDES:  
**2400 ft.** AZNPDES Number: 88702  
**Focus Map:** Application Type: AZPDES STORMWATER - GENERAL CONSTRUCTION  
**7** Receive Date: 12/24/2015  
Approved Date: 12/24/2015  
Term Void Date: 05/02/2016  
Application Status: NOTICE OF TERMINATION  
Site Phone: (520) 573-8100  
Contact Name: DANETTE BEWLEY  
Operator Business Name: TUCSON AIRPORT AUTHORITY  
Operator Address: 7005 S PLUMER AVENUE, TUCSON, AZ 85756

Map ID	Site	MAP FINDINGS	Database(s)	EDR ID Number
Direction				EPA ID Number
Distance				
Elevation				

**20106681 INSTALL RUNWAY 15/33 LIGHTING & SIGN (Continued)**
**S121586206**

Operator Phone: (520) 573-8100  
 Operator Fax: Not reported  
 Operator County: PIMA  
 Type of Project: OTHER  
 Part of Larger Plan: No  
 Total Project Size: 10  
 Size of Operation: 10  
 Site Direction: 9698 W AJO WAY  
 Start Date: 10/26/2015  
 End Date: 04/02/2016  
 Non Stormwater Discharges: Not reported  
 Closest Receiving Water: Un-Named Stream  
 MS4 Potential: No  
 MS4 Owner: Not reported  
 SWPPP Location: 7005 S PLUMER AVENUE, TUCSON, AZ 85756  
 SWPPP Contact Name: ERIC ROUDEBUSH  
 SWPPP Contact Phone: (520) 573-4805  
 Within Quarter Mile: No  
 Within Half Mile: N  
 Signer Name: DANETTE BEWLEY  
 Signer Business Name: TUCSON AIRPORT AUTHORITY  
 Signer Address: 7005 S PLUMER AVENUE, TUCSON, AZ 85756  
 Signer Phone: (520) 573-8100  
 Latitude: 320832  
 Longitude: 1111028

**B7** **RYAN AIR FIELD PD01-447R** **EMAP** **S117612440**  
**Target** **TUCSON ESTATES, AZ** **N/A**  
**Property**

**Site 1 of 2 in cluster B**

**Actual:** EMAP:  
**2403 ft.** ID Number: 135886  
**Focus Map:** Township: 15S  
**7** Range: 11E  
 Section: 12  
 Quarter 1: Not reported  
 Quarter 2: Not reported  
 Quarter 3: Not reported  
 Latitude: 32.1412222  
 Longitude: -111.1742222  
 Collection Method: PROVIDED BY OWNER/OPERATOR  
 Place Type: WATER LINE/DRINKING WATER PROJECT  
 Place Type Code: WLE  
 Place C Code: RO  
 Facility Status: ACTIVE  
 End Date: Not reported  
 Verified: Y

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**B8** RYAN AIR FIELD PD01-447R  
Target NO ADDRESS ON RECORD  
Property TUCSON ESTATES, AZ 85735

**FINDS** 1012166560  
N/A

Site 2 of 2 in cluster B

Actual: FINDS:  
2403 ft.  
Focus Map: Registry ID: 110039408094  
7

Environmental Interest/Information System

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.

**C9** RYAN AIRFIELD LOT 24  
Target SE 1/4 OF SECTION 12, T15S, R11E  
Property TUCSON, AZ 85735

**SPDES** S121579673  
N/A

Site 1 of 2 in cluster C

Actual: NPDES:  
2403 ft. AZNPDES Number: 533948  
Focus Map: Application Type: AZPDES STORMWATER - GENERAL CONSTRUCTION  
6 Receive Date: 06/09/2014  
Approved Date: Not reported  
Term Void Date: 07/11/2014  
Application Status: INVALIDATED  
Site Phone: (520) 954-7667  
Contact Name: GARY SCHNEIDER  
Operator Business Name: RYAN PARTNERS  
Operator Address: 901 N VIA ROMA, TUCSON, AZ 85735  
Operator Phone: (520) 954-7667  
Operator Fax: (520) 882-0347  
Operator County: PIMA  
Type of Project: OTHER  
Part of Larger Plan: Yes  
Total Project Size: 2.1  
Size of Operation: 2.00  
Site Direction: RYAN AIRFIELD  
Start Date: 06/16/2014  
End Date: 02/20/2015  
Non Stormwater Discharges: Not reported  
Closest Receiving Water: SHEET FLOW TO BLACK WASH APPROX 2.4 MILES DOWNSTREAM N  
MS4 Potential: No  
MS4 Owner: Not reported  
SWPPP Location: 2455 E SPEEWAY, SUITE # 102, TUCSON, AZ 85719  
SWPPP Contact Name: RENE FLORES  
SWPPP Contact Phone: (520) 628-3654  
Within Quarter Mile: No  
Within Half Mile: N  
Signer Name: GARY SCHNEIDER  
Signer Business Name: STEEL DESIGN & CONSTRUCTION  
Signer Address: 901 N VIA ROMA, TUCSON, AZ 85735

Map ID	MAP FINDINGS	
Direction		
Distance		
Elevation	Site	Database(s)

**RYAN AIRFIELD LOT 24 (Continued)** **S121579673**

Signer Phone: (520) 954-7667  
 Latitude: 320826.560  
 Longitude: 1111030.940

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<b>C10</b>	<b>RYAN AIRFIELD</b>	<b>EMAP</b>	<b>S121346443</b>
<b>Target</b>	<b>9700 W AJO HWY</b>		<b>N/A</b>
<b>Property</b>	<b>TUCSON, AZ 85735</b>		

**Site 2 of 2 in cluster C**

<b>Actual:</b>	EMAP:
<b>2403 ft.</b>	ID Number: 164984
<b>Focus Map:</b>	Township: Not reported
<b>6</b>	Range: Not reported
	Section: Not reported
	Quarter 1: Not reported
	Quarter 2: Not reported
	Quarter 3: Not reported
	Latitude: 32.1400000
	Longitude: -111.1783333
	Collection Method: PROVIDED BY OWNER/OPERATOR
	Place Type: UNDEFINED PLACE TYPE
	Place Type Code: UND
	Place C Code: PP
	Facility Status: ACTIVE
	End Date: Not reported
	Verified: N

---

<b>11</b>	<b>RYAN AIRFIELD OUTFALL OUTFALL #2</b>	<b>EMAP</b>	<b>S121346445</b>
<b>Target</b>			<b>N/A</b>
<b>Property</b>	<b>, AZ</b>		

<b>Actual:</b>	EMAP:
<b>2394 ft.</b>	ID Number: 164986
<b>Focus Map:</b>	Township: Not reported
<b>6</b>	Range: Not reported
	Section: Not reported
	Quarter 1: Not reported
	Quarter 2: Not reported
	Quarter 3: Not reported
	Latitude: 32.1404090
	Longitude: -111.1837080
	Collection Method: PROVIDED BY OWNER/OPERATOR
	Place Type: STORMWATER DISCHARGE POINT
	Place Type Code: STWDP
	Place C Code: RO
	Facility Status: ACTIVE
	End Date: Not reported
	Verified: N

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

12 RYAN FIELD SWF/LF S103895168  
Target 12 MILES WEST OF TUCSON ON AZ 86 NORTH OF 86 N/A  
Property PIMA COUNTY (County), AZ

Actual: SWF/LF:  
2416 ft. Facility Status: CLOSED  
Focus Map: Facility Type: Closed Solid Waste Facilities  
7 Operator: Not reported  
Operator Address: 131 W. Congress  
Operator City,St,Zip: Tucson, AZ 85701  
Directions: Not reported  
Telephone: Not reported  
Owner: Not reported  
Operator Company: Pima County  
Cubic Yards: Not reported

D13 AIR TRANSPORT TRAINING INTERNATIONAL EMAP S117584930  
Target 6200 S AVIATOR LN N/A  
Property TUCSON, AZ 85735

Site 1 of 2 in cluster D

Actual: EMAP:  
2412 ft. ID Number: 125253  
Focus Map: Township: Not reported  
6 Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1330190  
Longitude: -111.1760508  
Collection Method: DIGITAL IMAGERY  
Place Type: AIRCRAFT REPAIR/MAINTENANCE FACILITY  
Place Type Code: AIRR  
Place C Code: PP  
Facility Status: NOT ACTIVE  
End Date: 10/31/2006  
Verified: Y

D14 AIR TRANSPORT TRAINING INTL RCRA NonGen / NLR 1001459674  
Target 6200 S AVIATOR LN FINDS AZD983483777  
Property TUCSON, AZ 85735 ECHO

Site 2 of 2 in cluster D

Actual: RCRA NonGen / NLR:  
2412 ft. Date form received by agency: 07/21/1993  
Focus Map: Facility name: AIR TRANSPORT TRAINING INTL  
6 Facility address: 6200 S AVIATOR LN  
TUCSON, AZ 85735  
EPA ID: AZD983483777  
Contact: KARIN WEATHERWALKS  
Contact address: PO BOX 11420  
TUCSON, AZ 85734  
Contact country: US  
Contact telephone: 602-727-1068  
Contact email: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**AIR TRANSPORT TRAINING INTL (Continued)**

**1001459674**

EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: LUFTHANSA GERMAN AIRLINES  
Owner/operator address: PO BOX 11420  
TUCSON, AZ 85734  
Owner/operator country: Not reported  
Owner/operator telephone: 602-883-2274  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

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  
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

Violation Status: No violations found

**FINDS:**

Registry ID: 110002597538

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.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1001459674  
Registry ID: 110002597538

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

EDR ID Number  
EPA ID Number

**AIR TRANSPORT TRAINING INTL (Continued)**

**1001459674**

DFR URL:

<http://echo.epa.gov/detailed-facility-report?fid=110002597538>

<b>E15</b>	<b>ORION</b>	<b>RCRA NonGen / NLR</b>	<b>1000589588</b>
<b>Target</b>	<b>6249 S AVIATION LN BLD 5</b>	<b>FINDS</b>	<b>AZD983473448</b>
<b>Property</b>	<b>TUCSON, AZ 85735</b>	<b>ECHO</b>	

**Site 1 of 8 in cluster E**

<b>Actual:</b>	RCRA NonGen / NLR:
<b>2414 ft.</b>	Date form received by agency: 12/02/1997
<b>Focus Map:</b>	Facility name: ORION
<b>7</b>	Facility address: 6249 S AVIATION LN BLD 5
	TUCSON, AZ 85735
	EPA ID: AZD983473448
	Mailing address: PO BOX 276
	SELLS STAR ROUTE, AZ 85735
	Contact: WAYNE MELGREEN
	Contact address: 6249 S AVIATION LN BLD 5
	TUCSON, AZ 85735
	Contact country: US
	Contact telephone: 602-883-5746
	Contact email: Not reported
	EPA Region: 09
	Classification: Non-Generator
	Description: Handler: Non-Generators do not presently generate hazardous waste

**Owner/Operator Summary:**

Owner/operator name:	WAYNE MELGREEN
Owner/operator address:	PO BOX 276
	SELLS STAR RT, AZ 85735
Owner/operator country:	Not reported
Owner/operator telephone:	602-883-5746
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

**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
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

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

EDR ID Number  
EPA ID Number

**ORION (Continued)**

**1000589588**

Violation Status: No violations found

FINDS:

Registry ID: 110002591785

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.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1000589588  
Registry ID: 110002591785  
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110002591785>

**E16**      **RYAN AIRFIELD**  
**Target**      **6275 S AIRFIELD**  
**Property**      **TUCSON, AZ 85735**

**AST**      **A100355098**  
**N/A**

**Site 2 of 8 in cluster E**

**Actual:** AST 2:  
**2414 ft.**      Exemption Num: 1000655-11  
**Focus Map:**      Owner Id: 99  
7      Owner Name: Tucson Airport Authority  
Applicant Mailing Address: 7005 S Plumer Ave  
Applicant City, State, Zip: Tucson, AZ 85756  
Cert Status: Open  
Cert Effective Date: 05/05/2016  
Comments: Not reported  
Tank Number: 1  
Product Code: Gas(10)  
Tank Type: Above  
Capacity: 2,000.00  
Installed Date: 10/30/2000  
Cancellation Date: Not reported  
Tax ID: 10-1005121

Exemption Num: 1000655-11  
Owner Id: 99  
Owner Name: Tucson Airport Authority  
Applicant Mailing Address: 7005 S Plumer Ave  
Applicant City, State, Zip: Tucson, AZ 85756  
Cert Status: Open  
Cert Effective Date: 05/05/2016  
Comments: Not reported  
Tank Number: 2  
Product Code: Diesel(20)  
Tank Type: Above  
Capacity: 2,000.00

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**RYAN AIRFIELD (Continued)**

**A100355098**

Installed Date: 10/30/2000  
Cancellation Date: Not reported  
Tax ID: 10-1005121

**E17 AVIATION DESIGNS OF TUCSON**  
**Target 6249 S AVIATOR LANE**  
**Property TUCSON, AZ 85735**

SEMS-ARCHIVE 1000159383  
RCRA NonGen / NLR AZD982466302  
FINDS  
ECHO

**Site 3 of 8 in cluster E**

**Actual:** SEMS Archive:  
**2414 ft.** Site ID: 0904340  
**Focus Map:** EPA ID: AZD982466302  
**7** Cong District: 02  
FIPS Code: 04019  
FF: N  
NPL: Not on the NPL  
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information  
Latitude: 32.233333  
Longitude: -110.958333

SEMS Archive Detail:

Region: 09  
Site ID: 0904340  
EPA ID: AZD982466302  
Site Name: AVIONES FUMIGADORES DEL SURESTE  
NPL: N  
FF: N  
OU: 00  
Action Code: VS  
Action Name: ARCH SITE  
SEQ: 1  
Start Date: Not reported  
Finish Date: 1992-08-17 04:00:00  
Qual: Not reported  
Current Action Lead: EPA Perf In-Hse

Region: 09  
Site ID: 0904340  
EPA ID: AZD982466302  
Site Name: AVIONES FUMIGADORES DEL SURESTE  
NPL: N  
FF: N  
OU: 00  
Action Code: DS  
Action Name: DISCVRY  
SEQ: 1  
Start Date: 1992-02-11 05:00:00  
Finish Date: 1992-02-11 05:00:00  
Qual: Not reported  
Current Action Lead: EPA Perf

Region: 09  
Site ID: 0904340  
EPA ID: AZD982466302  
Site Name: AVIONES FUMIGADORES DEL SURESTE  
NPL: N  
FF: N

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**AVIATION DESIGNS OF TUCSON (Continued)**

**1000159383**

OU: 00  
Action Code: PA  
Action Name: PA  
SEQ: 1  
Start Date: Not reported  
Finish Date: 1992-08-17 04:00:00  
Qual: N  
Current Action Lead: EPA Perf

RCRA NonGen / NLR:

Date form received by agency: 10/31/1988

Facility name: AVIATION DESIGNS OF TUCSON  
Facility address: 6249 S AVIATOR LANE  
TUCSON, AZ 85735  
EPA ID: AZD982466302  
Mailing address: PO BOX 249  
TUCSON, AZ 85735  
Contact: ENVIRONMENTAL MANAGER  
Contact address: 6249 S AVIATOR LANE  
TUCSON, AZ 85735  
Contact country: US  
Contact telephone: 602-578-3631  
Contact email: Not reported  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: RUSTY LINDEMAN  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported  
  
Owner/operator name: NOT REQUIRED  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**AVIATION DESIGNS OF TUCSON (Continued)**

**1000159383**

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  
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

Violation Status: No violations found

FINDS:

Registry ID: 110002582704

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: 1000159383  
Registry ID: 110002582704  
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110002582704>

**E18** AIRCRAFTERS LLC  
**Target** 6249 S AVIATOR LN BLD 1 TO 3  
**Property** TUCSON, AZ 85735

RCRA NonGen / NLR 1004674146  
AZD983473430

**Site 4 of 8 in cluster E**

**Actual:** RCRA NonGen / NLR:  
**2414 ft.** Date form received by agency: 03/28/2003  
**Focus Map:** Facility name: AIRCRAFTERS LLC  
**7** Facility address: 6249 S AVIATOR LN BLD 1 TO 3  
TUCSON, AZ 85735

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**AIRCRAFTERS LLC (Continued)**

**1004674146**

EPA ID: AZD983473430  
Mailing address: HCR2 BOX 254  
Contact: SCOTT W FARRIS  
Contact address: HCR2 BOX 254  
Contact country: TUCSON, AZ 85735  
Contact telephone: 520-235-3491  
Contact email: Not reported  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: AIRCRAFT COLOR DESIGNS INC  
Owner/operator address: HCR2 BOX 254  
Contact: TUCSON, AZ 85735  
Owner/operator country: Not reported  
Owner/operator telephone: 520-883-3802  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

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  
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: 02/28/1996  
Site name: AIRCRAFTERS LLC  
Classification: Conditionally Exempt Small Quantity Generator  
Violation Status: No violations found

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**E19** AIRCRAFTERS LLC  
Target 6249 S AVIATOR LN  
Property TUCSON, AZ 85735

FINDS 1012147680  
ECHO N/A

**Site 5 of 8 in cluster E**

Actual: 2414 ft.

FINDS:

**Focus Map:** Registry ID: 110039242209  
7

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:

1012147680

Registry ID:

110039242209

DFR URL:

<http://echo.epa.gov/detailed-facility-report?fid=110039242209>

**E20** ORION AIRPARK LIMITED PARTNERSHIP  
Target 6249 S AVIATOR LN  
Property TUCSON, AZ 85735

EMAP S117606057  
N/A

**Site 6 of 8 in cluster E**

Actual: 2414 ft.

EMAP:

ID Number: 126316

**Focus Map:** 7

Township:

Not reported

Range:

Not reported

Section:

Not reported

Quarter 1:

Not reported

Quarter 2:

Not reported

Quarter 3:

Not reported

Latitude:

32.1370118

Longitude:

-111.1756395

Collection Method:

DIGITAL IMAGERY

Place Type:

AIRCRAFT REPAIR/MAINTENANCE FACILITY

Place Type Code:

AIRR

Place C Code:

PP

Facility Status:

NOT ACTIVE

End Date:

04/16/2009

Verified:

Y

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

EDR ID Number  
EPA ID Number

**E21** **AVIONES FUMIGADORES DEL SURESTE**  
**Target** **6249 S AVIATOR LANE**  
**Property** **TUCSON, AZ**

**RGA HWS** **S114981523**  
**N/A**

**Site 7 of 8 in cluster E**

**Actual:** RGA HWS:  
**2414 ft.** 2000 AVIONES FUMIGADORES DEL SURESTE 6249 S AVIATOR LANE  
**Focus Map:** 1999 AVIONES FUMIGADORES DEL SURESTE 6249 S AVIATOR LANE  
**7** 1998 AVIONES FUMIGADORES DEL SURESTE 6249 S AVIATOR LANE  
1997 AVIONES FUMIGADORES DEL SURESTE 6249 S AVIATOR LANE  
1995 AVIONES FUMIGADORES DEL SURESTE 6249 S AVIATOR LANE

**E22** **AVIATION DESIGNS OF TUCSON**  
**Target** **6249 S AVIATOR LN**  
**Property** **TUCSON, AZ 85735**

**SHWS** **S103932024**  
**EMAP** **N/A**

**Site 8 of 8 in cluster E**

**Actual:** SHWS:  
**2414 ft.** EPA ID: AZD982466302  
**Focus Map:** Program: PA/SI  
**7** Site Code: Not reported  
Facility Id: 1100  
Discovery Date: 01/01/1900  
Source: Not reported  
Operable Unit: Not reported  
QWARTF Area: Not reported  
Lat: Not reported  
Long: Not reported  
Lat/Long Method: 99  
Comments: Not reported

**EMAP:**  
ID Number: 126317  
Township: Not reported  
Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1362682  
Longitude: -111.1753408  
Collection Method: DIGITAL IMAGERY  
Place Type: AEROSPACE - AIRCRAFT MANUFACTURING  
Place Type Code: AERO  
Place C Code: PP  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

ID Number: 126346  
Township: Not reported  
Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1381656  
Longitude: -111.1719946

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**AVIATION DESIGNS OF TUCSON (Continued)**

**S103932024**

Collection Method: DIGITAL IMAGERY  
Place Type: AIRCRAFT REPAIR/MAINTENANCE FACILITY  
Place Type Code: AIRR  
Place C Code: PP  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**23** **RYAN AIRFIELD OUTFALL OUTFALL #1**  
**Target** **EMAP** **S121346444**  
**Property** , AZ **N/A**

EMAP:  
Actual: ID Number: 164985  
2407 ft. Township: Not reported  
Focus Map: Range: Not reported  
6 Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1363020  
Longitude: -111.1835790  
Collection Method: PROVIDED BY OWNER/OPERATOR  
Place Type: STORMWATER DISCHARGE POINT  
Place Type Code: STWDP  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: N

**24** **20110092 RYAN AIRFIELD TAXIWAY B2**  
**Target** **SPDES** **S121584847**  
**Property** **TUCSON, AZ 85735** **N/A**

NPDES:  
Actual: AZNPDES Number: 81162  
2418 ft. Application Type: AZPDES STORMWATER - GENERAL CONSTRUCTION  
Focus Map: Receive Date: 04/21/2014  
7 Approved Date: 04/21/2014  
Term Void Date: 07/31/2014  
Application Status: NOTICE OF TERMINATION  
Site Phone: (520) 273-8100  
Contact Name: JAMES A GARCIA  
Operator Business Name: TUCSON AIRPORT AUTHORITY  
Operator Address: 7005 S PLUMER AVENUE, TUCSON, AZ 85756  
Operator Phone: (520) 573-8100  
Operator Fax: (520) 273-8006  
Operator County: PIMA  
Type of Project: OTHER  
Part of Larger Plan: No  
Total Project Size: 4  
Size of Operation: 4  
Site Direction: 9698 W AJO WAY  
Start Date: 04/21/2014  
End Date: 06/25/2014  
Non Stormwater Discharges: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**20110092 RYAN AIRFIELD TAXIWAY B2 (Continued)**

**S121584847**

Closest Receiving Water: UNNAMED WATER  
MS4 Potential: No  
MS4 Owner: Not reported  
SWPPP Location: 7005 S PLUMER AVENUE, TUCSON, AZ 85756  
SWPPP Contact Name: ERIC ROUDENBUSH  
SWPPP Contact Phone: (520) 573-8100  
Within Quarter Mile: No  
Within Half Mile: N  
Signer Name: JAMES A GARCIA  
Signer Business Name: TUCSON AIRPORT AUTHORITY  
Signer Address: 7005 S PLUMER AVENUE, TUCSON, AZ 85756  
Signer Phone: (520) 573-8100  
Latitude: 320809.69  
Longitude: 1111023.19  
  
AZNPDES Number: 533382  
Application Type: AZPDES STORMWATER - GENERAL CONSTRUCTION  
Receive Date: 04/11/2014  
Approved Date: 04/16/2014  
Term Void Date: 07/18/2014  
Application Status: NOTICE OF TERMINATION  
Site Phone: (520) 591-7894  
Contact Name: SIAMAK SAMSAM  
Operator Business Name: PAVEX CORP  
Operator Address: 4001 E MICHIGAN STREET, TUCSON, AZ 85714  
Operator Phone: (520) 747-9000  
Operator Fax: (520) 747-1695  
Operator County: PIMA  
Type of Project: AIRPORT  
Part of Larger Plan: No  
Total Project Size: 4.00  
Size of Operation: 4.00  
Site Direction: 9698 W AJO WAY  
Start Date: 04/21/2014  
End Date: 06/25/2014  
Non Stormwater Discharges: Not reported  
Closest Receiving Water: UNNAMED WATER  
MS4 Potential: No  
MS4 Owner: Not reported  
SWPPP Location: 9698 W AJO WAY, TUCSON, AZ 85735  
SWPPP Contact Name: DANNY MOLINA  
SWPPP Contact Phone: (520) 591-7894  
Within Quarter Mile: No  
Within Half Mile: N  
Signer Name: LYNNETTE KEYS  
Signer Business Name: PAVEX CORP  
Signer Address: 4001 E MICHIGAN STREET, TUCSON, AZ 85714  
Signer Phone: (520) 747-9000  
Latitude: 320809.69  
Longitude: 1111023.19

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**F25** TANK #8  
Target  
Property , AZ

EMAP S118051614  
N/A

Site 1 of 6 in cluster F

**Actual:** EMAP:  
**2419 ft.** ID Number: 36157  
**Focus Map:** Township: Not reported  
**6** Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1350068  
Longitude: -111.1746484  
Collection Method: DIGITAL IMAGERY  
Place Type: UNDERGROUND STORAGE TANK  
Place Type Code: UST  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**F26** TANK #3  
Target  
Property , AZ

EMAP S118051608  
N/A

Site 2 of 6 in cluster F

**Actual:** EMAP:  
**2419 ft.** ID Number: 36152  
**Focus Map:** Township: Not reported  
**6** Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1350068  
Longitude: -111.1746484  
Collection Method: DIGITAL IMAGERY  
Place Type: UNDERGROUND STORAGE TANK  
Place Type Code: UST  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**F27** TANK #4  
Target  
Property , AZ

EMAP S118051609  
N/A

Site 3 of 6 in cluster F

**Actual:** EMAP:  
**2419 ft.** ID Number: 36153  
**Focus Map:** Township: Not reported  
**6** Range: Not reported

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**TANK #4 (Continued)**

**S118051609**

Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1350068  
Longitude: -111.1746484  
Collection Method: DIGITAL IMAGERY  
Place Type: UNDERGROUND STORAGE TANK  
Place Type Code: UST  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**F28**      **TANK #7**  
**Target**  
**Property** , AZ

**EMAP**   **S118051613**  
N/A

**Site 4 of 6 in cluster F**

Actual: EMAP:  
2419 ft. ID Number: 36156  
**Focus Map:** Township: Not reported  
6 Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1350068  
Longitude: -111.1746484  
Collection Method: DIGITAL IMAGERY  
Place Type: UNDERGROUND STORAGE TANK  
Place Type Code: UST  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**F29**      **TANK #6**  
**Target**  
**Property** , AZ

**EMAP**   **S118051612**  
N/A

**Site 5 of 6 in cluster F**

Actual: EMAP:  
2419 ft. ID Number: 36155  
**Focus Map:** Township: Not reported  
6 Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1350068  
Longitude: -111.1746484  
Collection Method: DIGITAL IMAGERY  
Place Type: UNDERGROUND STORAGE TANK

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**TANK #6 (Continued)**

**S118051612**

Place Type Code: UST  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

F30      **TANK #5**  
Target  
Property , AZ

**EMAP S118051610**  
N/A

**Site 6 of 6 in cluster F**

Actual: EMAP:  
2419 ft. ID Number: 36154  
Focus Map: Township: Not reported  
6 Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1350068  
Longitude: -111.1746484  
Collection Method: DIGITAL IMAGERY  
Place Type: UNDERGROUND STORAGE TANK  
Place Type Code: UST  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

31      **RYAN AIR FIELD**  
Target  
Property **TUCSON, AZ 85735**

**SPDES S121582281**  
N/A

NPDES:  
Actual: AZNPDES Number: 541831  
2421 ft. Application Type: AZPDES STORMWATER - GENERAL CONSTRUCTION  
Focus Map: Receive Date: 10/04/2016  
7 Approved Date: 10/07/2016  
Term Void Date: 12/27/2016  
Application Status: NOTICE OF TERMINATION  
Site Phone: (520) 240-1434  
Contact Name: VINCENT ROSALES  
Operator Business Name: KE&G CONSTRUCTION  
Operator Address: 5100 S ALVERNON WAY, TUCSON, AZ 85706  
Operator Phone: (520) 748-0188  
Operator Fax: (520) 748-8975  
Operator County: PIMA  
Type of Project: AIRPORT  
Part of Larger Plan: No  
Total Project Size: 8  
Size of Operation: 8.00  
Site Direction: 9698 W AJO WAY  
Start Date: 10/10/2016  
End Date: 12/31/2016  
Non Stormwater Discharges: Not reported

Map ID	MAP FINDINGS	
Direction		
Distance		
Elevation	Site	Database(s) EDR ID Number EPA ID Number

**RYAN AIR FIELD (Continued)**
**S121582281**

Closest Receiving Water: UNNAMED WATER  
 MS4 Potential: No  
 MS4 Owner: Not reported  
 SWPPP Location: 9698 W AJO WAY, TUCSON, AZ 85735  
 SWPPP Contact Name: VINCENT ROSALES  
 SWPPP Contact Phone: (520) 240-1434  
 Within Quarter Mile: No  
 Within Half Mile: N  
 Signer Name: VINCENT ROSALES  
 Signer Business Name: KE&G CONSTRUCTION  
 Signer Address: 5100 S ALVERNON WAY, TUCSON, AZ 85706  
 Signer Phone: (520) 468-9257  
 Latitude: 320806  
 Longitude: 1111022

<b>G32</b>	<b>RYAN FIELD TRANSFER STATION</b>	<b>FINDS</b>	<b>1012132250</b>
Target	6455 S. CONTINENTAL RD		N/A

**Property** **TUCSON, AZ 85701**

**Site 1 of 2 in cluster G**

**Actual:** FINDS:  
 2413 ft.

**Focus Map:** Registry ID: 110035777424  
 6 Environmental Interest/Information System

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.

<b>G33</b>	<b>PIMA COUNTY - RYAN FIELD TRANSFER STATION WTCS</b>	<b>SWTIRE</b>	<b>S117612442</b>
Target	6455 S CONTINENTAL RD	EMAP	N/A

**Property** **TUCSON, AZ 85735**

**Site 2 of 2 in cluster G**

**Actual:** SWTIRE:  
 2413 ft. Owner Name: Pima County Dept. of Environmental Quality, Solid Waste Mgmt. Division  
**Focus Map:** Owner Address: 5301 W. Ina Road  
 6 Owner City,St,Zip: Tucson, AZ 85743  
 Facility Type: Used Tire Site or WTCS (<5,000)  
 Contact Name: Dave Eaker  
 Contact Phone: (520) 744-9795

**EMAP:**  
 ID Number: 4854  
 Township: 15S  
 Range: 11E  
 Section: 12  
 Quarter 1: Not reported

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**PIMA COUNTY - RYAN FIELD TRANSFER STATION WTCS (Continued)**

**S117612442**

Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1341980  
Longitude: -111.1829930  
Collection Method: DIGITAL IMAGERY  
Place Type: TRANSFER STATION  
Place Type Code: TS  
Place C Code: PP  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y  
  
ID Number: 148618  
Township: Not reported  
Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1347586  
Longitude: -111.1830183  
Collection Method: DIGITAL IMAGERY  
Place Type: WASTE TIRE COLLECTION SITE  
Place Type Code: WTCS  
Place C Code: PP  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**ENF:**

Facility ID: 4854  
Facility Name: RYAN FIELD TRANSFER STATION  
Case ID: 142749  
Facility Type: TRANSFER STATION  
Notice Type: Not reported  
Notice Issue Date: 08/20/2013  
Order Type: Not reported  
Order Issue Date: Not reported  
Closed Date: 10/08/2013  
Facility Status: Case Closed  
Env Program: SOLID WASTE PROGRAM  
Notice Type Code: Not reported

**H34 PIPING**  
**Target**  
**Property , AZ**

**EMAP S118012879**  
**N/A**

**Site 1 of 18 in cluster H**

**Actual:** EMAP:  
**2424 ft.** ID Number: 92085  
**Focus Map:** Township: Not reported  
**7** Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**PIPING (Continued)**

**S118012879**

Latitude: 32.1342890  
Longitude: -111.1728857  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK PIPING  
Place Type Code: PIPG  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H35 COMPARTMENT A**  
Target  
Property , AZ

**EMAP S118007855**  
N/A

**Site 2 of 18 in cluster H**

Actual: EMAP:  
2424 ft. ID Number: 72739  
Focus Map: Township: Not reported  
7 Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342890  
Longitude: -111.1728857  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK COMPARTMENT  
Place Type Code: CMPT  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H36 TANK #2**  
Target  
Property , AZ

**EMAP S118051607**  
N/A

**Site 3 of 18 in cluster H**

Actual: EMAP:  
2424 ft. ID Number: 36151  
Focus Map: Township: Not reported  
7 Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342890  
Longitude: -111.1728857  
Collection Method: DIGITAL IMAGERY  
Place Type: UNDERGROUND STORAGE TANK  
Place Type Code: UST  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported

Map ID	Site	MAP FINDINGS	Database(s)	EDR ID Number
Direction				EPA ID Number
Distance				
Elevation				

**TANK #2 (Continued)**
**S118051607**

Verified: Y

**H37 COMPARTMENT A** **EMAP S118007854**  
**Target** **N/A**  
**Property , AZ**

**Site 4 of 18 in cluster H**

**Actual:** EMAP:  
**2424 ft.** ID Number: 72738  
**Focus Map:** Township: Not reported  
**7** Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK COMPARTMENT  
Place Type Code: CMPT  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H38 PIPING** **EMAP S118012880**  
**Target** **N/A**  
**Property , AZ**

**Site 5 of 18 in cluster H**

**Actual:** EMAP:  
**2424 ft.** ID Number: 92086  
**Focus Map:** Township: Not reported  
**7** Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK PIPING  
Place Type Code: PIPG  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

Map ID	MAP FINDINGS	
Direction		
Distance		
Elevation	Site	Database(s) EDR ID Number EPA ID Number

**H39 PIPING** **EMAP S118012878**  
**Target** **N/A**  
**Property , AZ**

**Site 6 of 18 in cluster H**

**Actual:** EMAP:  
**2424 ft.** ID Number: 92084  
**Focus Map:** Township: Not reported  
**7** Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK PIPING  
Place Type Code: PIPG  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H40 COMPARTMENT A** **EMAP S118007863**  
**Target** **N/A**  
**Property , AZ**

**Site 7 of 18 in cluster H**

**Actual:** EMAP:  
**2424 ft.** ID Number: 72745  
**Focus Map:** Township: Not reported  
**7** Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK COMPARTMENT  
Place Type Code: CMPT  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H41 COMPARTMENT A** **EMAP S118007857**  
**Target** **N/A**  
**Property , AZ**

**Site 8 of 18 in cluster H**

**Actual:** EMAP:  
**2424 ft.** ID Number: 72741  
**Focus Map:** Township: Not reported  
**7** Range: Not reported

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**COMPARTMENT A (Continued)**

**S118007857**

Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK COMPARTMENT  
Place Type Code: CMPT  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H42 COMPARTMENT A**  
Target  
Property , AZ

**EMAP S118007856**  
N/A

**Site 9 of 18 in cluster H**

Actual: EMAP:  
2424 ft. ID Number: 72740  
Focus Map: Township: Not reported  
7 Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK COMPARTMENT  
Place Type Code: CMPT  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H43 COMPARTMENT A**  
Target  
Property , AZ

**EMAP S118007862**  
N/A

**Site 10 of 18 in cluster H**

Actual: EMAP:  
2424 ft. ID Number: 72744  
Focus Map: Township: Not reported  
7 Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK COMPARTMENT

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**COMPARTMENT A (Continued)**

**S118007862**

Place Type Code: CMPT  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H44 COMPARTMENT A**  
Target  
Property , AZ

**EMAP S118007859**  
N/A

**Site 11 of 18 in cluster H**

Actual: EMAP:  
2424 ft. ID Number: 72743  
Focus Map: Township: Not reported  
7 Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK COMPARTMENT  
Place Type Code: CMPT  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H45 TANK #1**  
Target  
Property , AZ

**EMAP S118051606**  
N/A

**Site 12 of 18 in cluster H**

Actual: EMAP:  
2424 ft. ID Number: 36150  
Focus Map: Township: Not reported  
7 Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: DIGITAL IMAGERY  
Place Type: UNDERGROUND STORAGE TANK  
Place Type Code: UST  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

Map ID	Direction	Distance	Elevation	Site	MAP FINDINGS	Database(s)	EDR ID Number	EPA ID Number
--------	-----------	----------	-----------	------	--------------	-------------	---------------	---------------

**H46 PIPING** **EMAP S118012885**  
**Target** **N/A**  
**Property , AZ**

**Site 13 of 18 in cluster H**

**Actual:** EMAP:  
**2424 ft.** ID Number: 92091  
**Focus Map:** Township: Not reported  
**7** Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK PIPING  
Place Type Code: PIPG  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H47 PIPING** **EMAP S118012884**  
**Target** **N/A**  
**Property , AZ**

**Site 14 of 18 in cluster H**

**Actual:** EMAP:  
**2424 ft.** ID Number: 92090  
**Focus Map:** Township: Not reported  
**7** Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK PIPING  
Place Type Code: PIPG  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H48 COMPARTMENT A** **EMAP S118007858**  
**Target** **N/A**  
**Property , AZ**

**Site 15 of 18 in cluster H**

**Actual:** EMAP:  
**2424 ft.** ID Number: 72742  
**Focus Map:** Township: Not reported  
**7** Range: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**COMPARTMENT A (Continued)**

**S118007858**

Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK COMPARTMENT  
Place Type Code: CMPT  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H49** PIPING  
**Target**  
**Property** , AZ

**EMAP** **S118012881**  
N/A

**Site 16 of 18 in cluster H**

**Actual:** EMAP:  
**2424 ft.** ID Number: 92087  
**Focus Map:** Township: Not reported  
**7** Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK PIPING  
Place Type Code: PIPG  
Place C Code: RO  
Facility Status: ACTIVE  
End Date: Not reported  
Verified: Y

**H50** PIPING  
**Target**  
**Property** , AZ

**EMAP** **S118012883**  
N/A

**Site 17 of 18 in cluster H**

**Actual:** EMAP:  
**2424 ft.** ID Number: 92089  
**Focus Map:** Township: Not reported  
**7** Range: Not reported  
Section: Not reported  
Quarter 1: Not reported  
Quarter 2: Not reported  
Quarter 3: Not reported  
Latitude: 32.1342820  
Longitude: -111.1729213  
Collection Method: GPS WITH CORRECTION < 3 METER ERROR  
Place Type: UNDERGROUND STORAGE TANK PIPING

Map ID	MAP FINDINGS	
Direction		
Distance		
Elevation	Site	Database(s) EDR ID Number EPA ID Number

**PIPING (Continued)** **S118012883**

Place Type Code: PIPG  
 Place C Code: RO  
 Facility Status: ACTIVE  
 End Date: Not reported  
 Verified: Y

---

<b>H51</b>	<b>PIPING</b>	<b>EMAP</b>	<b>S118012882</b>
<b>Target</b>			<b>N/A</b>
<b>Property</b>	, AZ		

**Site 18 of 18 in cluster H**

<b>Actual:</b>	EMAP:
<b>2424 ft.</b>	ID Number: 92088
<b>Focus Map:</b>	Township: Not reported
<b>7</b>	Range: Not reported
	Section: Not reported
	Quarter 1: Not reported
	Quarter 2: Not reported
	Quarter 3: Not reported
	Latitude: 32.1342820
	Longitude: -111.1729213
	Collection Method: GPS WITH CORRECTION < 3 METER ERROR
	Place Type: UNDERGROUND STORAGE TANK PIPING
	Place Type Code: PIPG
	Place C Code: RO
	Facility Status: ACTIVE
	End Date: Not reported
	Verified: Y

---

<b>I52</b>	<b>CITY OF TUCSON - WATER SYSTEM - POE 140</b>	<b>EMAP</b>	<b>S117591710</b>
<b>Target</b>			<b>N/A</b>
<b>Property</b>	TUCSON, AZ		

**Site 1 of 2 in cluster I**

<b>Actual:</b>	EMAP:
<b>2416 ft.</b>	ID Number: 13014
<b>Focus Map:</b>	Township: 15S
<b>6</b>	Range: 11E
	Section: 12
	Quarter 1: SW
	Quarter 2: SE
	Quarter 3: SE
	Latitude: 32.1341306
	Longitude: -111.1799944
	Collection Method: MAP INTERPOLATION BY DEQ STAFF
	Place Type: DRINKING WATER POINT OF ENTRY
	Place Type Code: DWPOE
	Place C Code: RO
	Facility Status: ACTIVE
	End Date: Not reported
	Verified: Y

Map ID	Site	MAP FINDINGS	EDR ID Number
Direction			EPA ID Number
Distance			
Elevation			

I53 CITY OF TUCSON - WATER SYSTEM - POE 140 FINDS 1012169714  
 Target NO ADDRESS ON RECORD N/A  
 Property TUCSON, AZ 85735

**Site 2 of 2 in cluster I**

Actual: FINDS:  
 2416 ft.  
 Focus Map: Registry ID: 110039332326

6 Environmental Interest/Information System

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.

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54 QWEST COMMUNICATIONS SR 86 FIBER OPTIC LINE EMAP S117610828  
 Target N/A  
 Property TUCSON, AZ

EMAP:  
 Actual: ID Number: 13325  
 2425 ft. Township: 15S  
 Focus Map: Range: 11E  
 6 Section: 12  
 Quarter 1: Not reported  
 Quarter 2: Not reported  
 Quarter 3: Not reported  
 Latitude: 32.1298716  
 Longitude: -111.1853655  
 Collection Method: DIGITAL IMAGERY  
 Place Type: CONSTRUCTION PROJECT  
 Place Type Code: CONST  
 Place C Code: PP  
 Facility Status: NOT ACTIVE  
 End Date: 03/27/2012  
 Verified: Y

---

55 RYAN AIRFIELD LUST U001624872  
 SSE 9400 W AJO HWY UST N/A  
 < 1/8 TUCSON, AZ 85735 EMAP  
 0.028 mi. Enforcement  
 149 ft. Financial Assurance

Actual: LUST:  
 2424 ft. Facility Name: RYAN AIRFIELD  
 Focus Map: Facility ID: 0-000330  
 7 Facility Status: CLOSED  
 Date Closed: 09/08/99  
 Lust Number: 1625.02  
 Leak Priority: CLOSED SOIL LVL MEETS TIER1  
 Notification: 02/01/95

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**RYAN AIRFIELD (Continued)**

**U001624872**

Lust Number: 1625.03  
Leak Priority: CLOSED SOIL LVL MEETS TIER1  
Notification: 06/11/12

UST:

Facility ID: 0-000330  
Owner: TUCSON AIRPORT AUTHORITY  
Latitude: 32.135006  
Longitude: 111.174648

Tank ID: 1  
Date Closed: Not reported  
Tank Status: Open  
Closure Type: Not reported  
Tank Inst Date: 01/01/1989  
Capacity: 12000  
Substance: Gasoline  
Compartment: COMPARTMENT A  
Tank Const Type: Double Walled  
Tank Mtrl Type: Composite (Steel/Fiberglass)  
Pipe Type: Pressure  
Pipe Mtrl Type: Fiberglass Reinforced Plastic  
Pipe const Type: Not reported

Tank ID: 2  
Date Closed: Not reported  
Tank Status: Open  
Closure Type: Not reported  
Tank Inst Date: 01/01/1989  
Capacity: 12000  
Substance: Gasoline  
Compartment: COMPARTMENT A  
Tank Const Type: Double Walled  
Tank Mtrl Type: Composite (Steel/Fiberglass)  
Pipe Type: Pressure  
Pipe Mtrl Type: Fiberglass Reinforced Plastic  
Pipe const Type: Not reported

Tank ID: 3  
Date Closed: 12/01/1988  
Tank Status: Perm Closure  
Closure Type: Removal  
Tank Inst Date: 01/01/1956  
Capacity: 6000  
Substance: Gasoline  
Compartment: COMPARTMENT A  
Tank Const Type: Not reported  
Tank Mtrl Type: Asphalt coated or Bare Steel  
Pipe Type: Suction - Check Valve at the Tank Top  
Pipe Mtrl Type: Bare or Galvanized Steel  
Pipe const Type: Single Walled

Tank ID: 4  
Date Closed: 12/01/1988  
Tank Status: Perm Closure  
Closure Type: Removal  
Tank Inst Date: 01/01/1956

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**RYAN AIRFIELD (Continued)**

**U001624872**

**Capacity:** 6000  
**Substance:** Gasoline  
**Compartment:** COMPARTMENT A  
**Tank Const Type:** Not reported  
**Tank Mtrl Type:** Asphalt coated or Bare Steel  
**Pipe Type:** Suction - Check Valve at the Tank Top  
**Pipe Mtrl Type:** Bare or Galvanized Steel  
**Pipe const Type:** Single Walled  
  
**Tank ID:** 5  
**Date Closed:** 01/30/1991  
**Tank Status:** Perm Closure  
**Closure Type:** Removal  
**Tank Inst Date:** 01/01/1960  
**Capacity:** 1000  
**Substance:** Gasoline  
**Compartment:** COMPARTMENT A  
**Tank Const Type:** Not reported  
**Tank Mtrl Type:** Asphalt coated or Bare Steel  
**Pipe Type:** Suction - Check Valve at the Tank Top  
**Pipe Mtrl Type:** Bare or Galvanized Steel  
**Pipe const Type:** Single Walled

**EMAP:**

**ID Number:** 14710  
**Township:** Not reported  
**Range:** Not reported  
**Section:** Not reported  
**Quarter 1:** Not reported  
**Quarter 2:** Not reported  
**Quarter 3:** Not reported  
**Latitude:** 32.1350068  
**Longitude:** -111.1746484  
**Collection Method:** GPS WITH CORRECTION < 3 METER ERROR  
**Place Type:** AIRPORT/AIRSTrip  
**Place Type Code:** ARPT  
**Place C Code:** PP  
**Facility Status:** ACTIVE  
**End Date:** Not reported  
**Verified:** Y

**ENF:**

**Facility ID:** 14710  
**Facility Name:** RYAN AIRFIELD  
**Case ID:** 122836  
**Facility Type:** AIRPORT/AIRSTrip  
**Notice Type:** Not reported  
**Notice Issue Date:** 12/14/2010  
**Order Type:** Not reported  
**Order Issue Date:** Not reported  
**Closed Date:** 03/21/2011  
**Facility Status:** Case Closed  
**Env Program:** UNDERGROUND STORAGE TANK PROGRAM  
**Notice Type Code:** Not reported

**Facility ID:** 14710

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**RYAN AIRFIELD (Continued)**

**U001624872**

Facility Name:	RYAN AIRFIELD
Case ID:	146392
Facility Type:	AIRPORT/AIRSTRIP
Notice Type:	Not reported
Notice Issue Date:	11/07/2013
Order Type:	Not reported
Order Issue Date:	Not reported
Closed Date:	11/12/2013
Facility Status:	Case Closed
Env Program:	UNDERGROUND STORAGE TANK PROGRAM
Notice Type Code:	Not reported
Facility ID:	14710
Facility Name:	RYAN AIRFIELD
Case ID:	89977
Facility Type:	AIRPORT/AIRSTRIP
Notice Type:	Not reported
Notice Issue Date:	10/23/2007
Order Type:	Not reported
Order Issue Date:	Not reported
Closed Date:	12/17/2007
Facility Status:	Case Closed
Env Program:	UNDERGROUND STORAGE TANK PROGRAM
Notice Type Code:	Not reported

Financial Assurance 1:

Mech Desc:	Commercial Liability Insurance
Owner Name:	TUCSON AIRPORT AUTHORITY
Annual Coverage:	\$2,000,000.00
Effective Date:	04/12/2018
Expired Date:	04/12/2019
Tank Status:	Not reported

56        **ESCO**  
NNW        **5200 S BRANIFF RD**  
1/4-1/2      **TUCSON, AZ 85706**  
0.378 mi.  
1994 ft.

Actual:  
2363 ft.

**CORRACTS    1000323972**  
**RCRA-TSDF    AZD980880819**  
**RCRA-LQG**  
**SHWS**  
**2020 COR ACTION**  
**FINDS**  
**ECHO**

**Focus Map:**    CORRACTS:  
2            EPA ID:        AZD980880819  
              EPA Region:    9  
              Area Name:     ENTIRE FACILITY  
              Actual Date:   20140421  
              Action:         CA550RC  
              NAICS Code(s): Not reported  
              Original schedule date: Not reported  
              Schedule end date: Not reported

EPA ID:	AZD980880819
EPA Region:	9
Area Name:	ENTIRE FACILITY
Actual Date:	20120516
Action:	CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

NAICS Code(s): Not reported  
Original schedule date: Not reported  
Schedule end date: Not reported  
  
EPA ID: AZD980880819  
EPA Region: 9  
Area Name: ENTIRE FACILITY  
Actual Date: 19990331  
Action: CA075LO - CA Prioritization, Facility or area was assigned a low corrective action priority  
  
NAICS Code(s): Not reported  
Original schedule date: Not reported  
Schedule end date: Not reported  
  
EPA ID: AZD980880819  
EPA Region: 9  
Area Name: ENTIRE FACILITY  
Actual Date: 19990331  
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified  
  
NAICS Code(s): Not reported  
Original schedule date: Not reported  
Schedule end date: Not reported  
  
EPA ID: AZD980880819  
EPA Region: 9  
Area Name: ENTIRE FACILITY  
Actual Date: 19990331  
Action: CA999NF - Corrective Action Process Terminated, No Further Action  
  
NAICS Code(s): Not reported  
Original schedule date: Not reported  
Schedule end date: Not reported  
  
EPA ID: AZD980880819  
EPA Region: 9  
Area Name: ENTIRE FACILITY  
Actual Date: 19990331  
Action: CA225NR - Stabilization Measures Evaluation, This facility is, not amenable to stabilization activity at the, present time for reasons other than (1) it appears to be technically, infeasible or inappropriate (NF) or (2) there is a lack of technical, information (IN). Reasons for this conclusion may be the status of, closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other, administrative considerations  
  
NAICS Code(s): Not reported  
Original schedule date: Not reported  
Schedule end date: Not reported  
  
EPA ID: AZD980880819  
EPA Region: 9  
Area Name: ENTIRE FACILITY  
Actual Date: 19980430  
Action: CA999RM - Corrective Action Process Terminated, Remedial Activities Completed  
  
NAICS Code(s): Not reported  
Original schedule date: Not reported

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Schedule end date: Not reported

EPA ID: AZD980880819  
EPA Region: 9  
Area Name: ENTIRE FACILITY  
Actual Date: 19980424  
Action: CA550 - Certification Of Remedy Completion Or Construction Completion  
NAICS Code(s): Not reported  
Original schedule date: Not reported  
Schedule end date: Not reported

EPA ID: AZD980880819  
EPA Region: 9  
Area Name: ENTIRE FACILITY  
Actual Date: 19950927  
Action: CA200 - RFI Approved  
NAICS Code(s): Not reported  
Original schedule date: Not reported  
Schedule end date: Not reported

EPA ID: AZD980880819  
EPA Region: 9  
Area Name: ENTIRE FACILITY  
Actual Date: 19950927  
Action: CA400 - Date For Remedy Selection (CM Imposed)  
NAICS Code(s): Not reported  
Original schedule date: Not reported  
Schedule end date: Not reported

EPA ID: AZD980880819  
EPA Region: 9  
Area Name: ENTIRE FACILITY  
Actual Date: 19940630  
Action: CA100 - RFI Imposition  
NAICS Code(s): Not reported  
Original schedule date: Not reported  
Schedule end date: Not reported

EPA ID: AZD980880819  
EPA Region: 9  
Area Name: ENTIRE FACILITY  
Actual Date: 19940630  
Action: CA150 - RFI Workplan Approved  
NAICS Code(s): Not reported  
Original schedule date: Not reported  
Schedule end date: Not reported

EPA ID: AZD980880819  
EPA Region: 9  
Area Name: ENTIRE FACILITY  
Actual Date: 19910331  
Action: CA050RF - RFA Completed, Assessment was an RFA  
NAICS Code(s): Not reported  
Original schedule date: Not reported  
Schedule end date: Not reported

EPA ID: AZD980880819

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

EPA Region:	9
Area Name:	ENTIRE FACILITY
Actual Date:	19900801
Action:	CA650 - Stabilization Construction Completed
NAICS Code(s):	Not reported
Original schedule date:	Not reported
Schedule end date:	Not reported
EPA ID:	AZD980880819
EPA Region:	9
Area Name:	ENTIRE FACILITY
Actual Date:	19900228
Action:	CA600SR - Stabilization Measures Implemented, Primary measure is source removal and/or treatment
NAICS Code(s):	Not reported
Original schedule date:	Not reported
Schedule end date:	Not reported
EPA ID:	AZD980880819
EPA Region:	9
Area Name:	ENTIRE FACILITY
Actual Date:	19890101
Action:	CA070YE - RFA Determination Of Need For An RFI, RFI is Necessary
NAICS Code(s):	Not reported
Original schedule date:	Not reported
Schedule end date:	Not reported

**RCRA-TSDF:**

Date form received by agency: 08/30/1996

Facility name:	ESCO
Facility address:	5200 S BRANIFF RD TUCSON, AZ 85706
EPA ID:	AZD980880819
Contact:	JOSEPH DRAZEK
Contact address:	2 N CENTRAL AVE PHOENIX, AZ 85004-2391
Contact country:	US
Contact telephone:	602-229-4335
Contact email:	Not reported
EPA Region:	09
Land type:	Private
Classification:	TSDF
Description:	Handler is engaged in the treatment, storage or disposal of hazardous waste
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg 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; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; 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 more than 100 kg of that material at any time

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Owner/Operator Summary:

Owner/operator name: EUGENE SCHRAG  
Owner/operator address: PO BOX 27383  
TUCSON, ME 85726  
Owner/operator country: Not reported  
Owner/operator telephone: 602-883-8953  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported  
  
Owner/operator name: NOT REQUIRED  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

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  
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: 02/05/1993  
Site name: ESCO  
Classification: Conditionally Exempt Small Quantity Generator

Corrective Action Summary:

Event date: 01/01/1989  
Event: DETERMINATION OF NEED FOR AN INVESTIGATION-INVESTIGATION IS NECESSARY  
  
Event date: 02/28/1990  
Event: STABILIZATION/INTERIM MEASURES DECISION-PRIMARY MEAS IS SOURCE REMOVL

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

&OR TRT

Event date:	08/01/1990
Event:	STABILIZATION CONSTRUCTION COMPLETED
Event date:	03/31/1991
Event:	RFA COMPLETED-ASSESSMENT WAS A RFA
Event date:	06/30/1994
Event:	INVESTIGATION IMPOSITION
Event date:	06/30/1994
Event:	INVESTIGATION WORKPLAN APPROVED
Event date:	09/27/1995
Event:	INVESTIGATION COMPLETE
Event date:	09/27/1995
Event:	REMEDY DECISION
Event date:	04/24/1998
Event:	REMEDY CONSTRUCTION
Event date:	04/30/1998
Event:	CA PROCESS IS TERMINATED-REMEDIAL ACTIVITIES COMPLETE
Event date:	03/31/1999
Event:	STABILIZATION MEASURES EVALUATION-FACILITY NOT AMENABLE TO STABILIZATION
Event date:	03/31/1999
Event:	CA PRIORITIZATION-LOW CA PRIORITY
Event date:	03/31/1999
Event:	HUMAN EXPOSURES CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE
Event date:	03/31/1999
Event:	CA PROCESS IS TERMINATED-NO FURTHER ACTION
Event date:	05/16/2012
Event:	RELEASE TO GW CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE
Event date:	04/21/2014
Event:	REMEDY CONSTRUCTION-REMEDY CONSTRUCTED

Facility Has Received Notices of Violations:

Regulation violated:	FR - 264.10-18.B
Area of violation:	TSD - General
Date violation determined:	06/29/1995
Date achieved compliance:	11/30/1995
Violation lead agency:	State
Enforcement action:	Not reported
Enforcement action date:	Not reported
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A  
Area of violation: Generators - General  
Date violation determined: 06/08/1993  
Date achieved compliance: 09/14/1993  
Violation lead agency: State  
Enforcement action: Not reported  
Enforcement action date: Not reported  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: Not reported  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 08/03/1990  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/28/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 08/03/1990  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 02/21/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 08/03/1990  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 11/05/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 263
Area of violation:	Transporters - General
Date violation determined:	08/03/1990
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	09/28/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 263
Area of violation:	Transporters - General
Date violation determined:	08/03/1990
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	11/05/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 262.50-60
Area of violation:	Generators - General
Date violation determined:	08/03/1990
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	02/21/1991
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 263
Area of violation:	Transporters - General
Date violation determined:	08/03/1990
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	02/21/1991
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Paid penalty amount:	Not reported
Regulation violated:	FR - 262.50-60
Area of violation:	Generators - General
Date violation determined:	08/03/1990
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	02/21/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 262.50-60
Area of violation:	Generators - General
Date violation determined:	08/03/1988
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	INITIAL 3008(A) COMPLIANCE
Enforcement action date:	01/17/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 263
Area of violation:	Transporters - General
Date violation determined:	08/03/1988
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	02/21/1991
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 262.50-60
Area of violation:	Generators - General
Date violation determined:	08/03/1988
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	01/18/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: INITIAL 3008(A) COMPLIANCE  
Enforcement action date: 01/17/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 03/26/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 01/18/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 11/05/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Area of violation: Transporters - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 11/05/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/28/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 02/21/1991  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/28/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 03/26/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: F - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 12/30/1986  
Date achieved compliance: 07/19/1995  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 05/28/1987  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: F - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 12/30/1986  
Date achieved compliance: 07/19/1995  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 07/21/1987  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: F - 263  
Area of violation: Transporters - General  
Date violation determined: 12/30/1986  
Date achieved compliance: 07/19/1995  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 05/28/1987  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 05/02/1986

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 11/05/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 05/02/1986  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 11/05/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 05/02/1986  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/17/1986  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 05/02/1986  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/17/1986  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 05/02/1986  
Date achieved compliance: 04/18/1992

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/28/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 05/02/1986  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/28/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A  
Area of violation: Generators - General  
Date violation determined: 03/18/1985  
Date achieved compliance: 05/02/1986  
Violation lead agency: EPA  
Enforcement action: INITIAL 3008(A) COMPLIANCE  
Enforcement action date: 12/07/1984  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: EPA  
Proposed penalty amount: 10000  
Final penalty amount: 10000  
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A  
Area of violation: Generators - General  
Date violation determined: 03/18/1985  
Date achieved compliance: 05/02/1986  
Violation lead agency: EPA  
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER  
Enforcement action date: 04/01/1985  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: EPA  
Proposed penalty amount: Not reported  
Final penalty amount: 10000  
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A  
Area of violation: Generators - General  
Date violation determined: 03/18/1985  
Date achieved compliance: 05/02/1986  
Violation lead agency: EPA

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Enforcement action: WRITTEN INFORMAL

Enforcement action date: 03/18/1985

Enf. disposition status: Not reported

Enf. disp. status date: Not reported

Enforcement lead agency: EPA

Proposed penalty amount: Not reported

Final penalty amount: Not reported

Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A

Area of violation: Generators - General

Date violation determined: 03/26/1984

Date achieved compliance: 05/02/1986

Violation lead agency: EPA

Enforcement action: INITIAL 3008(A) COMPLIANCE

Enforcement action date: 12/03/1984

Enf. disposition status: Not reported

Enf. disp. status date: Not reported

Enforcement lead agency: EPA

Proposed penalty amount: 10000

Final penalty amount: 10000

Paid penalty amount: Not reported

Regulation violated: F - 262.10-12.A

Area of violation: Generators - General

Date violation determined: 03/26/1984

Date achieved compliance: 05/02/1986

Violation lead agency: State

Enforcement action: Not reported

Enforcement action date: Not reported

Enf. disposition status: Not reported

Enf. disp. status date: Not reported

Enforcement lead agency: Not reported

Proposed penalty amount: Not reported

Final penalty amount: Not reported

Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A

Area of violation: Generators - General

Date violation determined: 03/26/1984

Date achieved compliance: 05/02/1986

Violation lead agency: EPA

Enforcement action: FINAL 3008(A) COMPLIANCE ORDER

Enforcement action date: 03/27/1985

Enf. disposition status: Not reported

Enf. disp. status date: Not reported

Enforcement lead agency: EPA

Proposed penalty amount: Not reported

Final penalty amount: 5000

Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 06/29/1995

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

Area of violation: TSD - General

Date achieved compliance: 11/30/1995

Evaluation lead agency: State

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Evaluation date: 06/08/1993  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 09/14/1993  
Evaluation lead agency: State

Evaluation date: 08/03/1990  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 04/18/1992  
Evaluation lead agency: State

Evaluation date: 08/03/1990  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Transporters - General  
Date achieved compliance: 04/18/1992  
Evaluation lead agency: State

Evaluation date: 08/03/1988  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Transporters - General  
Date achieved compliance: 04/18/1992  
Evaluation lead agency: State

Evaluation date: 08/03/1988  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 04/18/1992  
Evaluation lead agency: State

Evaluation date: 12/30/1986  
Evaluation: FOCUSED COMPLIANCE INSPECTION  
Area of violation: Transporters - General  
Date achieved compliance: 07/19/1995  
Evaluation lead agency: State

Evaluation date: 12/30/1986  
Evaluation: FOCUSED COMPLIANCE INSPECTION  
Area of violation: Generators - General  
Date achieved compliance: 07/19/1995  
Evaluation lead agency: State

Evaluation date: 12/30/1986  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 05/02/1986  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 04/18/1992  
Evaluation lead agency: State

Evaluation date: 05/02/1986  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Transporters - General

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Date achieved compliance: 04/18/1992  
Evaluation lead agency: State  
  
Evaluation date: 03/18/1985  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Generators - General  
Date achieved compliance: 05/02/1986  
Evaluation lead agency: EPA  
  
Evaluation date: 03/26/1984  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Generators - General  
Date achieved compliance: 05/02/1986  
Evaluation lead agency: EPA  
  
Evaluation date: 03/26/1984  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 05/02/1986  
Evaluation lead agency: State  
  
Evaluation date: 03/26/1984  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: EPA

**RCRA-LQG:**

Date form received by agency: 08/30/1996  
Facility name: ESCO  
Facility address: 5200 S BRANIFF RD  
TUCSON, AZ 85706  
EPA ID: AZD980880819  
Contact: JOSEPH DRAZEK  
Contact address: 2 N CENTRAL AVE  
PHOENIX, AZ 85004-2391  
Contact country: US  
Contact telephone: 602-229-4335  
Contact email: Not reported  
EPA Region: 09  
Land type: Private  
Classification: TSDF  
Description: Handler is engaged in the treatment, storage or disposal of hazardous waste  
  
Classification: Large Quantity Generator  
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg 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; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; 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 more than 100 kg of that material at any time

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Owner/Operator Summary:

Owner/operator name: EUGENE SCHRAG  
Owner/operator address: PO BOX 27383  
TUCSON, ME 85726  
Owner/operator country: Not reported  
Owner/operator telephone: 602-883-8953  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported  
  
Owner/operator name: NOT REQUIRED  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

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  
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: 02/05/1993  
Site name: ESCO  
Classification: Conditionally Exempt Small Quantity Generator

Corrective Action Summary:

Event date: 01/01/1989  
Event: DETERMINATION OF NEED FOR AN INVESTIGATION-INVESTIGATION IS NECESSARY  
  
Event date: 02/28/1990  
Event: STABILIZATION/INTERIM MEASURES DECISION-PRIMARY MEAS IS SOURCE REMOVL

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

&OR TRT

Event date:	08/01/1990
Event:	STABILIZATION CONSTRUCTION COMPLETED
Event date:	03/31/1991
Event:	RFA COMPLETED-ASSESSMENT WAS A RFA
Event date:	06/30/1994
Event:	INVESTIGATION IMPOSITION
Event date:	06/30/1994
Event:	INVESTIGATION WORKPLAN APPROVED
Event date:	09/27/1995
Event:	INVESTIGATION COMPLETE
Event date:	09/27/1995
Event:	REMEDY DECISION
Event date:	04/24/1998
Event:	REMEDY CONSTRUCTION
Event date:	04/30/1998
Event:	CA PROCESS IS TERMINATED-REMEDIAL ACTIVITIES COMPLETE
Event date:	03/31/1999
Event:	STABILIZATION MEASURES EVALUATION-FACILITY NOT AMENABLE TO STABILIZATION
Event date:	03/31/1999
Event:	CA PRIORITIZATION-LOW CA PRIORITY
Event date:	03/31/1999
Event:	HUMAN EXPOSURES CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE
Event date:	03/31/1999
Event:	CA PROCESS IS TERMINATED-NO FURTHER ACTION
Event date:	05/16/2012
Event:	RELEASE TO GW CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE
Event date:	04/21/2014
Event:	REMEDY CONSTRUCTION-REMEDY CONSTRUCTED

Facility Has Received Notices of Violations:

Regulation violated:	FR - 264.10-18.B
Area of violation:	TSD - General
Date violation determined:	06/29/1995
Date achieved compliance:	11/30/1995
Violation lead agency:	State
Enforcement action:	Not reported
Enforcement action date:	Not reported
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A  
Area of violation: Generators - General  
Date violation determined: 06/08/1993  
Date achieved compliance: 09/14/1993  
Violation lead agency: State  
Enforcement action: Not reported  
Enforcement action date: Not reported  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: Not reported  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 08/03/1990  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/28/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 08/03/1990  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 02/21/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 08/03/1990  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 11/05/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 263
Area of violation:	Transporters - General
Date violation determined:	08/03/1990
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	09/28/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 263
Area of violation:	Transporters - General
Date violation determined:	08/03/1990
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	11/05/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 262.50-60
Area of violation:	Generators - General
Date violation determined:	08/03/1990
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	02/21/1991
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 263
Area of violation:	Transporters - General
Date violation determined:	08/03/1990
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	02/21/1991
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Paid penalty amount:	Not reported
Regulation violated:	FR - 262.50-60
Area of violation:	Generators - General
Date violation determined:	08/03/1990
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	02/21/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 262.50-60
Area of violation:	Generators - General
Date violation determined:	08/03/1988
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	INITIAL 3008(A) COMPLIANCE
Enforcement action date:	01/17/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 263
Area of violation:	Transporters - General
Date violation determined:	08/03/1988
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	02/21/1991
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported
Regulation violated:	FR - 262.50-60
Area of violation:	Generators - General
Date violation determined:	08/03/1988
Date achieved compliance:	04/18/1992
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	01/18/1990
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: INITIAL 3008(A) COMPLIANCE  
Enforcement action date: 01/17/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 03/26/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 01/18/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 11/05/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Area of violation: Transporters - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 11/05/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/28/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 02/21/1991  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/28/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Date violation determined: 08/03/1988  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 03/26/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: F - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 12/30/1986  
Date achieved compliance: 07/19/1995  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 05/28/1987  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: F - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 12/30/1986  
Date achieved compliance: 07/19/1995  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 07/21/1987  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: F - 263  
Area of violation: Transporters - General  
Date violation determined: 12/30/1986  
Date achieved compliance: 07/19/1995  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 05/28/1987  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 05/02/1986

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 11/05/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 05/02/1986  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 11/05/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 05/02/1986  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/17/1986  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 05/02/1986  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/17/1986  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60  
Area of violation: Generators - General  
Date violation determined: 05/02/1986  
Date achieved compliance: 04/18/1992

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/28/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 263  
Area of violation: Transporters - General  
Date violation determined: 05/02/1986  
Date achieved compliance: 04/18/1992  
Violation lead agency: State  
Enforcement action: WRITTEN INFORMAL  
Enforcement action date: 09/28/1990  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: State  
Proposed penalty amount: Not reported  
Final penalty amount: Not reported  
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A  
Area of violation: Generators - General  
Date violation determined: 03/18/1985  
Date achieved compliance: 05/02/1986  
Violation lead agency: EPA  
Enforcement action: INITIAL 3008(A) COMPLIANCE  
Enforcement action date: 12/07/1984  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: EPA  
Proposed penalty amount: 10000  
Final penalty amount: 10000  
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A  
Area of violation: Generators - General  
Date violation determined: 03/18/1985  
Date achieved compliance: 05/02/1986  
Violation lead agency: EPA  
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER  
Enforcement action date: 04/01/1985  
Enf. disposition status: Not reported  
Enf. disp. status date: Not reported  
Enforcement lead agency: EPA  
Proposed penalty amount: Not reported  
Final penalty amount: 10000  
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A  
Area of violation: Generators - General  
Date violation determined: 03/18/1985  
Date achieved compliance: 05/02/1986  
Violation lead agency: EPA

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Enforcement action: WRITTEN INFORMAL

Enforcement action date: 03/18/1985

Enf. disposition status: Not reported

Enf. disp. status date: Not reported

Enforcement lead agency: EPA

Proposed penalty amount: Not reported

Final penalty amount: Not reported

Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A

Area of violation: Generators - General

Date violation determined: 03/26/1984

Date achieved compliance: 05/02/1986

Violation lead agency: EPA

Enforcement action: INITIAL 3008(A) COMPLIANCE

Enforcement action date: 12/03/1984

Enf. disposition status: Not reported

Enf. disp. status date: Not reported

Enforcement lead agency: EPA

Proposed penalty amount: 10000

Final penalty amount: 10000

Paid penalty amount: Not reported

Regulation violated: F - 262.10-12.A

Area of violation: Generators - General

Date violation determined: 03/26/1984

Date achieved compliance: 05/02/1986

Violation lead agency: State

Enforcement action: Not reported

Enforcement action date: Not reported

Enf. disposition status: Not reported

Enf. disp. status date: Not reported

Enforcement lead agency: Not reported

Proposed penalty amount: Not reported

Final penalty amount: Not reported

Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A

Area of violation: Generators - General

Date violation determined: 03/26/1984

Date achieved compliance: 05/02/1986

Violation lead agency: EPA

Enforcement action: FINAL 3008(A) COMPLIANCE ORDER

Enforcement action date: 03/27/1985

Enf. disposition status: Not reported

Enf. disp. status date: Not reported

Enforcement lead agency: EPA

Proposed penalty amount: Not reported

Final penalty amount: 5000

Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 06/29/1995

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

Area of violation: TSD - General

Date achieved compliance: 11/30/1995

Evaluation lead agency: State

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Evaluation date: 06/08/1993  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 09/14/1993  
Evaluation lead agency: State

Evaluation date: 08/03/1990  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 04/18/1992  
Evaluation lead agency: State

Evaluation date: 08/03/1990  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Transporters - General  
Date achieved compliance: 04/18/1992  
Evaluation lead agency: State

Evaluation date: 08/03/1988  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Transporters - General  
Date achieved compliance: 04/18/1992  
Evaluation lead agency: State

Evaluation date: 08/03/1988  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 04/18/1992  
Evaluation lead agency: State

Evaluation date: 12/30/1986  
Evaluation: FOCUSED COMPLIANCE INSPECTION  
Area of violation: Transporters - General  
Date achieved compliance: 07/19/1995  
Evaluation lead agency: State

Evaluation date: 12/30/1986  
Evaluation: FOCUSED COMPLIANCE INSPECTION  
Area of violation: Generators - General  
Date achieved compliance: 07/19/1995  
Evaluation lead agency: State

Evaluation date: 12/30/1986  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: State

Evaluation date: 05/02/1986  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 04/18/1992  
Evaluation lead agency: State

Evaluation date: 05/02/1986  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Transporters - General

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

Date achieved compliance: 04/18/1992  
Evaluation lead agency: State  
  
Evaluation date: 03/18/1985  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Generators - General  
Date achieved compliance: 05/02/1986  
Evaluation lead agency: EPA  
  
Evaluation date: 03/26/1984  
Evaluation: NON-FINANCIAL RECORD REVIEW  
Area of violation: Generators - General  
Date achieved compliance: 05/02/1986  
Evaluation lead agency: EPA  
  
Evaluation date: 03/26/1984  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Generators - General  
Date achieved compliance: 05/02/1986  
Evaluation lead agency: State  
  
Evaluation date: 03/26/1984  
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE  
Area of violation: Not reported  
Date achieved compliance: Not reported  
Evaluation lead agency: EPA

**SHWS:**

EPA ID: Not reported  
Program: WQARF  
Site Code: 100050  
Facility Id: 1295  
Discovery Date: 01/01/1987  
Source: Not reported  
Operable Unit: 0  
QWARF Area: Not reported  
Lat: Not reported  
Long: Not reported  
Lat/Long Method: 20  
Comments: Not reported

**2020 COR ACTION:**

EPA ID: AZD980880819  
Region: 9  
Action: Remedy Construction

**FINDS:**

Registry ID: 110000608968

**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.

Map ID  
Direction  
Distance  
Elevation

Site

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

**ESCO (Continued)**

**1000323972**

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:

1000323972

Registry ID:

110000608968

DFR URL:

<http://echo.epa.gov/detailed-facility-report?fid=110000608968>

Count: 9 records

## ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
PIMA COUNTY	8854037		APPROX. 8000 BLK OF E, VALENCIA RD TUSCON		ERNS
PIMA COUNTY	M300002978	TUCSON READY MIX, INC.	VALENCIA PIT		US MINES
TUCSON	2007834072		OFF OF AJO HWY		ERNS
TUCSON	S100885512	AZ TRUCKING CO.	SAM LENA PARK		SPILLS
TUCSON	S106196279	SOUTHERN PACIFIC PIPELINE	VALENCIA & ELWOOD		SPILLS
TUCSON	S106201809	BLM	SW MOUNTAIN PARK, HWY 86		SPILLS
TUCSON	S106198422	TUCSON FUELS	AJO/PALO VERDE RD INTERSECTION		SPILLS
TUCSON	1024089458	SHAW PIPELINE SERVICES- KINDER MORGAN YARD	6651 S POSTVALE RD LOCATED IN SWAN INDUSTRIAL PARK, WHICH IS NEAR SWAN ROAD, SOUTH OF LOS REALES ROAD. WEST & SOUTH OF LOS REALES LANDFILL.	85735	RCRA NonGen / NLR WWFAC
TUCSON	S112057542	GOLD STAR PUMPING			

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

## NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/12/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: N/A
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 02/15/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Quarterly

### NPL Site Boundaries

#### Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)  
Telephone: 202-564-7333

EPA Region 1 Telephone 617-918-1143	EPA Region 6 Telephone: 214-655-6659
EPA Region 3 Telephone 215-814-5418	EPA Region 7 Telephone: 913-551-7247
EPA Region 4 Telephone 404-562-8033	EPA Region 8 Telephone: 303-312-6774
EPA Region 5 Telephone 312-886-6686	EPA Region 9 Telephone: 415-947-4246
EPA Region 10 Telephone 206-553-8665	

## Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/12/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: N/A
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 02/15/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Quarterly

## NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/12/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: N/A
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 02/15/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Quarterly

## FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/05/2017	Telephone: 703-603-8704
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 01/04/2019
Number of Days to Update: 92	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Varies

## SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/12/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: 800-424-9346
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 02/15/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/29/2019
	Data Release Frequency: Quarterly

## SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/13/2018	Source: EPA
Date Data Arrived at EDR: 12/28/2018	Telephone: 800-424-9346
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 02/15/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/29/2019
	Data Release Frequency: Quarterly

## CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/01/2018	Source: EPA
Date Data Arrived at EDR: 03/28/2018	Telephone: 800-424-9346
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: (415) 495-8895
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

## RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: (415) 495-8895
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

## RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: (415) 495-8895
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

## RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: (415) 495-8895
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

## LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 10/17/2018	Source: Department of the Navy
Date Data Arrived at EDR: 10/25/2018	Telephone: 843-820-7326
Date Made Active in Reports: 12/07/2018	Last EDR Contact: 02/07/2019
Number of Days to Update: 43	Next Scheduled EDR Contact: 05/27/2019
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls 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.

Date of Government Version: 07/31/2018      Source: Environmental Protection Agency  
Date Data Arrived at EDR: 08/28/2018      Telephone: 703-603-0695  
Date Made Active in Reports: 09/14/2018      Last EDR Contact: 02/04/2019  
Number of Days to Update: 17      Next Scheduled EDR Contact: 03/11/2019  
Data Release Frequency: Varies

## US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls 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.

Date of Government Version: 07/31/2018      Source: Environmental Protection Agency  
Date Data Arrived at EDR: 08/28/2018      Telephone: 703-603-0695  
Date Made Active in Reports: 09/14/2018      Last EDR Contact: 02/04/2019  
Number of Days to Update: 17      Next Scheduled EDR Contact: 03/11/2019  
Data Release Frequency: Varies

## ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/24/2018      Source: National Response Center, United States Coast Guard  
Date Data Arrived at EDR: 09/25/2018      Telephone: 202-267-2180  
Date Made Active in Reports: 11/09/2018      Last EDR Contact: 02/08/2019  
Number of Days to Update: 45      Next Scheduled EDR Contact: 04/08/2019  
Data Release Frequency: Quarterly

## STANDARD ENVIRONMENTAL RECORDS

### *State- and tribal - equivalent NPL*

#### AZ NPL: NPL Detail Listing

Detailed site information for NPL sites from the Arizona Department of Environmental Quality.

Date of Government Version: 09/30/2018      Source: Department of Environmental Quality  
Date Data Arrived at EDR: 10/16/2018      Telephone: 602-771-4609  
Date Made Active in Reports: 10/16/2018      Last EDR Contact: 02/13/2019  
Number of Days to Update: 0      Next Scheduled EDR Contact: 06/03/2019  
Data Release Frequency: Varies

#### AZ WQARF: Water Quality Assurance Revolving Fund Sites

Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 09/30/2018      Source: Department of Environmental Quality  
Date Data Arrived at EDR: 10/16/2018      Telephone: 602-771-4360  
Date Made Active in Reports: 10/16/2018      Last EDR Contact: 02/13/2019  
Number of Days to Update: 0      Next Scheduled EDR Contact: 06/03/2019  
Data Release Frequency: Annually

### *State- and tribal - equivalent CERCLIS*

#### AZ SPL: Superfund Program List

The list is 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.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/25/2004  
Date Data Arrived at EDR: 04/04/2018  
Date Made Active in Reports: 05/17/2018  
Number of Days to Update: 43

Source: Department of Environmental Quality  
Telephone: 602-771-4360  
Last EDR Contact: 01/28/2019  
Next Scheduled EDR Contact: 05/11/2019  
Data Release Frequency: No Update Planned

## AZ SHWS: ZipAcids List

The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/2000  
Date Data Arrived at EDR: 04/11/2000  
Date Made Active in Reports: 05/16/2000  
Number of Days to Update: 35

Source: Department of Environmental Quality  
Telephone: 602-771-4360  
Last EDR Contact: 12/12/2018  
Next Scheduled EDR Contact: 04/01/2019  
Data Release Frequency: No Update Planned

## ***State and tribal landfill and/or solid waste disposal site lists***

### AZ SWF/LF: Directory of Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 12/28/2018  
Date Data Arrived at EDR: 01/03/2019  
Date Made Active in Reports: 01/07/2019  
Number of Days to Update: 4

Source: Department of Environmental Quality  
Telephone: 602-771-2300  
Last EDR Contact: 01/03/2019  
Next Scheduled EDR Contact: 04/22/2019  
Data Release Frequency: Varies

## ***State and tribal leaking storage tank lists***

### AZ LUST: Leaking Underground Storage Tank Listing

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 09/07/2018  
Date Data Arrived at EDR: 10/10/2018  
Date Made Active in Reports: 10/31/2018  
Number of Days to Update: 21

Source: Department of Environmental Quality  
Telephone: 602-771-4345  
Last EDR Contact: 01/11/2019  
Next Scheduled EDR Contact: 04/22/2019  
Data Release Frequency: Semi-Annually

### INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018  
Date Data Arrived at EDR: 05/18/2018  
Date Made Active in Reports: 07/20/2018  
Number of Days to Update: 63

Source: EPA Region 1  
Telephone: 617-918-1313  
Last EDR Contact: 01/25/2019  
Next Scheduled EDR Contact: 05/06/2019  
Data Release Frequency: Varies

### INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018  
Date Data Arrived at EDR: 05/18/2018  
Date Made Active in Reports: 07/20/2018  
Number of Days to Update: 63

Source: EPA Region 1  
Telephone: 617-918-1313  
Last EDR Contact: 01/25/2019  
Next Scheduled EDR Contact: 05/06/2019  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018	Source: EPA Region 1
Date Data Arrived at EDR: 05/18/2018	Telephone: 617-918-1313
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 01/25/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

## INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018	Source: EPA Region 1
Date Data Arrived at EDR: 05/18/2018	Telephone: 617-918-1313
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 01/25/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

## INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018	Source: EPA Region 1
Date Data Arrived at EDR: 05/18/2018	Telephone: 617-918-1313
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 01/25/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

## INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018	Source: EPA Region 1
Date Data Arrived at EDR: 05/18/2018	Telephone: 617-918-1313
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 01/25/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

## INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018	Source: EPA Region 1
Date Data Arrived at EDR: 05/18/2018	Telephone: 617-918-1313
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 01/25/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

## INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018	Source: EPA Region 1
Date Data Arrived at EDR: 05/18/2018	Telephone: 617-918-1313
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 01/25/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

## FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017	Source: FEMA
Date Data Arrived at EDR: 05/30/2017	Telephone: 202-646-5797
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 01/08/2019
Number of Days to Update: 136	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## ***State and tribal registered storage tank lists***

### **AZ UST: Underground Storage Tank Listing**

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 09/07/2018	Source: Department of Environmental Quality
Date Data Arrived at EDR: 09/17/2018	Telephone: 602-771-4345
Date Made Active in Reports: 09/18/2018	Last EDR Contact: 01/11/2019
Number of Days to Update: 1	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Annually

### **AZ AST 2: Aboveground Storage Tank Listing**

A listing of aboveground storage tank site locations.

Date of Government Version: 08/30/2018	Source: Department of Environmental Quality
Date Data Arrived at EDR: 09/05/2018	Telephone: 602-771-4380
Date Made Active in Reports: 09/28/2018	Last EDR Contact: 12/10/2018
Number of Days to Update: 23	Next Scheduled EDR Contact: 03/25/2019
	Data Release Frequency: Varies

### **AZ AST: List of Aboveground Storage Tanks**

Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 11/29/2018	Source: Department of Building & Fire Safety
Date Data Arrived at EDR: 12/11/2018	Telephone: 602-364-1003
Date Made Active in Reports: 01/07/2019	Last EDR Contact: 12/06/2018
Number of Days to Update: 27	Next Scheduled EDR Contact: 03/25/2019
	Data Release Frequency: No Update Planned

### **INDIAN UST R1: Underground Storage Tanks on Indian Land**

Date of Government Version: 04/06/2016	Source: N/A
Date Data Arrived at EDR: 03/02/2017	Telephone: N/A
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 01/25/2019
Number of Days to Update: 36	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

### **INDIAN UST R5: Underground Storage Tanks on Indian Land**

Date of Government Version: 04/06/2016	Source: N/A
Date Data Arrived at EDR: 03/02/2017	Telephone: N/A
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 01/25/2019
Number of Days to Update: 36	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

### **INDIAN UST R6: Underground Storage Tanks on Indian Land**

Date of Government Version: 04/06/2016	Source: N/A
Date Data Arrived at EDR: 03/02/2017	Telephone: N/A
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 01/25/2019
Number of Days to Update: 36	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

### **INDIAN UST R7: Underground Storage Tanks on Indian Land**

Date of Government Version: 04/06/2016	Source: N/A
Date Data Arrived at EDR: 03/02/2017	Telephone: N/A
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 01/25/2019
Number of Days to Update: 36	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## INDIAN UST R8: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016	Source: N/A
Date Data Arrived at EDR: 03/02/2017	Telephone: N/A
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 01/25/2019
Number of Days to Update: 36	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

## INDIAN UST R9: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016	Source: N/A
Date Data Arrived at EDR: 03/02/2017	Telephone: N/A
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 01/25/2019
Number of Days to Update: 36	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

## INDIAN UST R10: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016	Source: N/A
Date Data Arrived at EDR: 03/02/2017	Telephone: N/A
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 01/25/2019
Number of Days to Update: 36	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

## INDIAN UST R4: Underground Storage Tanks on Indian Land

Date of Government Version: 04/06/2016	Source: N/A
Date Data Arrived at EDR: 03/02/2017	Telephone: N/A
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 01/25/2019
Number of Days to Update: 36	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

## ***State and tribal institutional control / engineering control registries***

### AZURITE: Remediation and DEUR/VEMUR Tracking System

ADEQ maintains a repository listing sites remediated under programs administered by the department.

Date of Government Version: 11/19/2018	Source: Department of Environmental Quality
Date Data Arrived at EDR: 11/19/2018	Telephone: 602-771-4397
Date Made Active in Reports: 11/30/2018	Last EDR Contact: 12/12/2018
Number of Days to Update: 11	Next Scheduled EDR Contact: 04/01/2019
	Data Release Frequency: Varies

### AZ AUL: DEUR Database

Activity and use limitations include both engineering controls and institutional controls. DEUR and VEMUR sites. 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. VEMUR: Voluntary Environmental Mitigation Use Restriction. A restrictive land use covenant that, prior to July 18, 2000, was required when a property owner elected to remediate the property to non-residential uses. Effective July 18, 2000, the DEUR replaced the VEMUR as a restrictive use covenant.

Date of Government Version: 12/13/2018	Source: Department of Environmental Quality
Date Data Arrived at EDR: 12/18/2018	Telephone: 602-771-4397
Date Made Active in Reports: 01/08/2019	Last EDR Contact: 12/12/2018
Number of Days to Update: 21	Next Scheduled EDR Contact: 04/01/2019
	Data Release Frequency: Varies

### INDIAN VCP R7: Voluntary Cleanup Priority Listng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/20/2008      Source: EPA, Region 7  
Date Data Arrived at EDR: 04/22/2008      Telephone: 913-551-7365  
Date Made Active in Reports: 05/19/2008      Last EDR Contact: 04/20/2009  
Number of Days to Update: 27      Next Scheduled EDR Contact: 07/20/2009  
Data Release Frequency: Varies

**INDIAN VCP R1: Voluntary Cleanup Priority Lisitng**  
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008      Source: EPA, Region 7  
Date Data Arrived at EDR: 04/22/2008      Telephone: 913-551-7365  
Date Made Active in Reports: 05/19/2008      Last EDR Contact: 04/20/2009  
Number of Days to Update: 27      Next Scheduled EDR Contact: 07/20/2009  
Data Release Frequency: Varies

## ***State and tribal voluntary cleanup sites***

AZ VCP: Voluntary Remediation Program Sites  
Sites involved in the Voluntary Remediation Program.

Date of Government Version: 05/14/2018      Source: Department of Environmental Quality  
Date Data Arrived at EDR: 08/28/2018      Telephone: 602-771-4411  
Date Made Active in Reports: 09/28/2018      Last EDR Contact: 12/27/2018  
Number of Days to Update: 31      Next Scheduled EDR Contact: 04/15/2019  
Data Release Frequency: Varies

## ***State and tribal Brownfields sites***

AZ BROWNFIELDS: Brownfields Tracking System  
Information relating to Brownfields sites in Arizona.

Date of Government Version: 05/14/2018      Source: Department of Environmental Quality  
Date Data Arrived at EDR: 08/28/2018      Telephone: 602-771-4401  
Date Made Active in Reports: 09/28/2018      Last EDR Contact: 12/27/2018  
Number of Days to Update: 31      Next Scheduled EDR Contact: 04/15/2019  
Data Release Frequency: Varies

## **US BROWNFIELDS: A Listing of Brownfields Sites**

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/17/2018      Source: Environmental Protection Agency  
Date Data Arrived at EDR: 12/18/2018      Telephone: 202-566-2777  
Date Made Active in Reports: 01/11/2019      Last EDR Contact: 12/18/2018  
Number of Days to Update: 24      Next Scheduled EDR Contact: 04/01/2019  
Data Release Frequency: Semi-Annually

## **ADDITIONAL ENVIRONMENTAL RECORDS**

### ***Local Lists of Landfill / Solid Waste Disposal Sites***

AZ SWTIRE: Solid Waste Tire Facilities  
A waste tire "facility" means a solid waste facility at which waste tires are stored outdoors on any day.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/12/2018  
Date Data Arrived at EDR: 11/01/2018  
Date Made Active in Reports: 11/30/2018  
Number of Days to Update: 29

Source: Department of Environmental Quality  
Telephone: 602-771-4132  
Last EDR Contact: 02/21/2019  
Next Scheduled EDR Contact: 06/10/2019  
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands  
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998  
Date Data Arrived at EDR: 12/03/2007  
Date Made Active in Reports: 01/24/2008  
Number of Days to Update: 52

Source: Environmental Protection Agency  
Telephone: 703-308-8245  
Last EDR Contact: 01/29/2019  
Next Scheduled EDR Contact: 05/13/2019  
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985  
Date Data Arrived at EDR: 08/09/2004  
Date Made Active in Reports: 09/17/2004  
Number of Days to Update: 39

Source: Environmental Protection Agency  
Telephone: 800-424-9346  
Last EDR Contact: 06/09/2004  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009  
Date Data Arrived at EDR: 05/07/2009  
Date Made Active in Reports: 09/21/2009  
Number of Days to Update: 137

Source: EPA, Region 9  
Telephone: 415-947-4219  
Last EDR Contact: 01/17/2019  
Next Scheduled EDR Contact: 05/06/2019  
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014  
Date Data Arrived at EDR: 08/06/2014  
Date Made Active in Reports: 01/29/2015  
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service  
Telephone: 301-443-1452  
Last EDR Contact: 02/01/2019  
Next Scheduled EDR Contact: 05/13/2019  
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/21/2018  
Date Data Arrived at EDR: 09/21/2018  
Date Made Active in Reports: 11/09/2018  
Number of Days to Update: 49

Source: Drug Enforcement Administration  
Telephone: 202-307-1000  
Last EDR Contact: 02/21/2019  
Next Scheduled EDR Contact: 06/10/2019  
Data Release Frequency: No Update Planned

## ***Local Lists of Hazardous waste / Contaminated Sites***

AZ CDL: Clandestine Drug Labs  
A listing of drug lab seizures in Arizona.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/24/2018  
Date Data Arrived at EDR: 10/25/2018  
Date Made Active in Reports: 10/31/2018  
Number of Days to Update: 6

Source: Board of Technical Registration  
Telephone: 602-364-4931  
Last EDR Contact: 12/21/2018  
Next Scheduled EDR Contact: 04/08/2019  
Data Release Frequency: Varies

## US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/21/2018  
Date Data Arrived at EDR: 09/21/2018  
Date Made Active in Reports: 11/09/2018  
Number of Days to Update: 49

Source: Drug Enforcement Administration  
Telephone: 202-307-1000  
Last EDR Contact: 02/21/2019  
Next Scheduled EDR Contact: 06/10/2019  
Data Release Frequency: Quarterly

## LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 12/12/2018  
Date Data Arrived at EDR: 12/28/2018  
Date Made Active in Reports: 01/11/2019  
Number of Days to Update: 14

Source: Environmental Protection Agency  
Telephone: 202-564-6023  
Last EDR Contact: 02/15/2019  
Next Scheduled EDR Contact: 05/06/2019  
Data Release Frequency: Semi-Annually

## HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/26/2018  
Date Data Arrived at EDR: 03/27/2018  
Date Made Active in Reports: 06/08/2018  
Number of Days to Update: 73

Source: U.S. Department of Transportation  
Telephone: 202-366-4555  
Last EDR Contact: 02/08/2019  
Next Scheduled EDR Contact: 04/08/2019  
Data Release Frequency: Quarterly

## Records of Emergency Release Reports

### AZ SPILLS: Hazardous Material Logbook

Chemical spills and incidents referred to the Emergency Response Unit.

Date of Government Version: 11/15/2001  
Date Data Arrived at EDR: 06/28/2007  
Date Made Active in Reports: 07/24/2007  
Number of Days to Update: 26

Source: Department of Environmental Quality  
Telephone: 602-771-4153  
Last EDR Contact: 02/21/2019  
Next Scheduled EDR Contact: 06/10/2019  
Data Release Frequency: Varies

### AZ SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 12/11/2001  
Date Data Arrived at EDR: 01/03/2013  
Date Made Active in Reports: 02/11/2013  
Number of Days to Update: 39

Source: FirstSearch  
Telephone: N/A  
Last EDR Contact: 01/03/2013  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/01/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/28/2018	Telephone: (415) 495-8895
Date Made Active in Reports: 06/22/2018	Last EDR Contact: 12/03/2018
Number of Days to Update: 86	Next Scheduled EDR Contact: 04/08/2019
	Data Release Frequency: Quarterly

## FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 07/08/2015	Telephone: 202-528-4285
Date Made Active in Reports: 10/13/2015	Last EDR Contact: 11/19/2018
Number of Days to Update: 97	Next Scheduled EDR Contact: 03/04/2019
	Data Release Frequency: Varies

## DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/11/2019
Number of Days to Update: 62	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: Semi-Annually

## FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005	Source: U.S. Geological Survey
Date Data Arrived at EDR: 02/06/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/11/2019
Number of Days to Update: 339	Next Scheduled EDR Contact: 04/22/2019
	Data Release Frequency: N/A

## SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/03/2017	Telephone: 615-532-8599
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 02/15/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 05/27/2019
	Data Release Frequency: Varies

## US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/31/2018  
Date Data Arrived at EDR: 09/25/2018  
Date Made Active in Reports: 11/09/2018  
Number of Days to Update: 45

Source: Environmental Protection Agency  
Telephone: 202-566-1917  
Last EDR Contact: 02/04/2019  
Next Scheduled EDR Contact: 04/08/2019  
Data Release Frequency: Quarterly

## EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013  
Date Data Arrived at EDR: 03/21/2014  
Date Made Active in Reports: 06/17/2014  
Number of Days to Update: 88

Source: Environmental Protection Agency  
Telephone: 617-520-3000  
Last EDR Contact: 02/08/2019  
Next Scheduled EDR Contact: 05/20/2019  
Data Release Frequency: Quarterly

## 2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017  
Date Data Arrived at EDR: 05/08/2018  
Date Made Active in Reports: 07/20/2018  
Number of Days to Update: 73

Source: Environmental Protection Agency  
Telephone: 703-308-4044  
Last EDR Contact: 02/08/2019  
Next Scheduled EDR Contact: 05/20/2019  
Data Release Frequency: Varies

## TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016  
Date Data Arrived at EDR: 06/21/2017  
Date Made Active in Reports: 01/05/2018  
Number of Days to Update: 198

Source: EPA  
Telephone: 202-260-5521  
Last EDR Contact: 12/21/2018  
Next Scheduled EDR Contact: 04/01/2019  
Data Release Frequency: Every 4 Years

## TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016  
Date Data Arrived at EDR: 01/10/2018  
Date Made Active in Reports: 01/12/2018  
Number of Days to Update: 2

Source: EPA  
Telephone: 202-566-0250  
Last EDR Contact: 02/20/2019  
Next Scheduled EDR Contact: 06/03/2019  
Data Release Frequency: Annually

## SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2009  
Date Data Arrived at EDR: 12/10/2010  
Date Made Active in Reports: 02/25/2011  
Number of Days to Update: 77

Source: EPA  
Telephone: 202-564-4203  
Last EDR Contact: 01/25/2019  
Next Scheduled EDR Contact: 05/06/2019  
Data Release Frequency: Annually

## ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/12/2018  
Date Data Arrived at EDR: 12/28/2018  
Date Made Active in Reports: 01/11/2019  
Number of Days to Update: 14

Source: EPA  
Telephone: 703-416-0223  
Last EDR Contact: 02/15/2019  
Next Scheduled EDR Contact: 03/18/2019  
Data Release Frequency: Annually

## RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g. the fire department) should an accident occur.

Date of Government Version: 10/26/2018  
Date Data Arrived at EDR: 11/06/2018  
Date Made Active in Reports: 01/11/2019  
Number of Days to Update: 66

Source: Environmental Protection Agency  
Telephone: 202-564-8600  
Last EDR Contact: 01/22/2019  
Next Scheduled EDR Contact: 05/06/2019  
Data Release Frequency: Varies

## RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995  
Date Data Arrived at EDR: 07/03/1995  
Date Made Active in Reports: 08/07/1995  
Number of Days to Update: 35

Source: EPA  
Telephone: 202-564-4104  
Last EDR Contact: 06/02/2008  
Next Scheduled EDR Contact: 09/01/2008  
Data Release Frequency: No Update Planned

## PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 08/13/2018  
Date Data Arrived at EDR: 10/04/2018  
Date Made Active in Reports: 11/09/2018  
Number of Days to Update: 36

Source: EPA  
Telephone: 202-564-6023  
Last EDR Contact: 02/15/2019  
Next Scheduled EDR Contact: 05/20/2019  
Data Release Frequency: Quarterly

## PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/14/2018  
Date Data Arrived at EDR: 10/11/2018  
Date Made Active in Reports: 12/07/2018  
Number of Days to Update: 57

Source: EPA  
Telephone: 202-566-0500  
Last EDR Contact: 01/11/2019  
Next Scheduled EDR Contact: 04/22/2019  
Data Release Frequency: Annually

## ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016  
Date Data Arrived at EDR: 11/23/2016  
Date Made Active in Reports: 02/10/2017  
Number of Days to Update: 79

Source: Environmental Protection Agency  
Telephone: 202-564-2501  
Last EDR Contact: 01/07/2019  
Next Scheduled EDR Contact: 04/22/2019  
Data Release Frequency: Quarterly

## FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009  
Date Data Arrived at EDR: 04/16/2009  
Date Made Active in Reports: 05/11/2009  
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances  
Telephone: 202-566-1667  
Last EDR Contact: 08/18/2017  
Next Scheduled EDR Contact: 12/04/2017  
Data Release Frequency: Quarterly

## FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009  
Date Data Arrived at EDR: 04/16/2009  
Date Made Active in Reports: 05/11/2009  
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances  
Telephone: 202-566-1667  
Last EDR Contact: 08/18/2017  
Next Scheduled EDR Contact: 12/04/2017  
Data Release Frequency: Quarterly

## MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016  
Date Data Arrived at EDR: 09/08/2016  
Date Made Active in Reports: 10/21/2016  
Number of Days to Update: 43

Source: Nuclear Regulatory Commission  
Telephone: 301-415-7169  
Last EDR Contact: 01/22/2019  
Next Scheduled EDR Contact: 05/06/2019  
Data Release Frequency: Quarterly

## COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005  
Date Data Arrived at EDR: 08/07/2009  
Date Made Active in Reports: 10/22/2009  
Number of Days to Update: 76

Source: Department of Energy  
Telephone: 202-586-8719  
Last EDR Contact: 12/05/2018  
Next Scheduled EDR Contact: 03/18/2019  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 12/03/2018
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/18/2019
	Data Release Frequency: Varies

## PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/30/2017	Telephone: 202-566-0517
Date Made Active in Reports: 12/15/2017	Last EDR Contact: 01/25/2019
Number of Days to Update: 15	Next Scheduled EDR Contact: 05/06/2019
	Data Release Frequency: Varies

## RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/03/2018	Telephone: 202-343-9775
Date Made Active in Reports: 11/09/2018	Last EDR Contact: 01/03/2019
Number of Days to Update: 37	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Quarterly

## HIST FTTS: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

## HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2008
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

## DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/01/2018  
Date Data Arrived at EDR: 10/30/2018  
Date Made Active in Reports: 01/18/2019  
Number of Days to Update: 80

Source: Department of Transportation, Office of Pipeline Safety  
Telephone: 202-366-4595  
Last EDR Contact: 01/29/2019  
Next Scheduled EDR Contact: 05/11/2019  
Data Release Frequency: Quarterly

## CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2018  
Date Data Arrived at EDR: 10/12/2018  
Date Made Active in Reports: 12/07/2018  
Number of Days to Update: 56

Source: Department of Justice, Consent Decree Library  
Telephone: Varies  
Last EDR Contact: 01/07/2019  
Next Scheduled EDR Contact: 04/22/2019  
Data Release Frequency: Varies

## BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015  
Date Data Arrived at EDR: 02/22/2017  
Date Made Active in Reports: 09/28/2017  
Number of Days to Update: 218

Source: EPA/NTIS  
Telephone: 800-424-9346  
Last EDR Contact: 02/13/2019  
Next Scheduled EDR Contact: 06/03/2019  
Data Release Frequency: Biennially

## INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014  
Date Data Arrived at EDR: 07/14/2015  
Date Made Active in Reports: 01/10/2017  
Number of Days to Update: 546

Source: USGS  
Telephone: 202-208-3710  
Last EDR Contact: 01/07/2019  
Next Scheduled EDR Contact: 04/22/2019  
Data Release Frequency: Semi-Annually

## FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017  
Date Data Arrived at EDR: 09/11/2018  
Date Made Active in Reports: 09/14/2018  
Number of Days to Update: 3

Source: Department of Energy  
Telephone: 202-586-3559  
Last EDR Contact: 01/31/2019  
Next Scheduled EDR Contact: 05/20/2019  
Data Release Frequency: Varies

## UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017  
Date Data Arrived at EDR: 10/11/2017  
Date Made Active in Reports: 11/03/2017  
Number of Days to Update: 23

Source: Department of Energy  
Telephone: 505-845-0011  
Last EDR Contact: 12/14/2018  
Next Scheduled EDR Contact: 03/04/2019  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/12/2018  
Date Data Arrived at EDR: 12/28/2018  
Date Made Active in Reports: 01/11/2019  
Number of Days to Update: 14

Source: Environmental Protection Agency  
Telephone: 703-603-8787  
Last EDR Contact: 02/15/2019  
Next Scheduled EDR Contact: 04/15/2019  
Data Release Frequency: Varies

## LEAD SMELTER 2: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/12/2018  
Date Data Arrived at EDR: 12/28/2018  
Date Made Active in Reports: 01/11/2019  
Number of Days to Update: 14

Source: Environmental Protection Agency  
Telephone: 703-603-8787  
Last EDR Contact: 02/15/2019  
Next Scheduled EDR Contact: 04/15/2019  
Data Release Frequency: Varies

## US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem

Date of Government Version: 10/27/2009  
Date Data Arrived at EDR: 11/10/2009  
Date Made Active in Reports: 12/08/2009  
Number of Days to Update: 28

Source: N/A  
Telephone: N/A  
Last EDR Contact: 11/12/1996  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Annually

## US AIRS MINOR: Aerometric Information Retrieval System Facility Subsystem

Date of Government Version: 10/27/2009  
Date Data Arrived at EDR: 11/10/2009  
Date Made Active in Reports: 12/08/2009  
Number of Days to Update: 28

Source: N/A  
Telephone: N/A  
Last EDR Contact: 11/12/1996  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Annually

## US MINES: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011  
Date Data Arrived at EDR: 06/08/2011  
Date Made Active in Reports: 09/13/2011  
Number of Days to Update: 97

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 11/30/2018  
Next Scheduled EDR Contact: 03/11/2019  
Data Release Frequency: Varies

## US MINES 2: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011  
Date Data Arrived at EDR: 06/08/2011  
Date Made Active in Reports: 09/13/2011  
Number of Days to Update: 97

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 11/30/2018  
Next Scheduled EDR Contact: 03/11/2019  
Data Release Frequency: Varies

## US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011  
Date Data Arrived at EDR: 06/08/2011  
Date Made Active in Reports: 09/13/2011  
Number of Days to Update: 97

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 11/30/2018  
Next Scheduled EDR Contact: 03/11/2019  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2018	Source: Department of Interior
Date Data Arrived at EDR: 09/11/2018	Telephone: 202-208-2609
Date Made Active in Reports: 09/14/2018	Last EDR Contact: 12/19/2018
Number of Days to Update: 3	Next Scheduled EDR Contact: 03/25/2019
	Data Release Frequency: Quarterly

## FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/15/2018	Source: EPA
Date Data Arrived at EDR: 12/05/2018	Telephone: (415) 947-8000
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 01/31/2019
Number of Days to Update: 37	Next Scheduled EDR Contact: 03/18/2019
	Data Release Frequency: Quarterly

## ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/05/2018	Telephone: 202-564-2280
Date Made Active in Reports: 09/14/2018	Last EDR Contact: 01/07/2019
Number of Days to Update: 9	Next Scheduled EDR Contact: 03/18/2019
	Data Release Frequency: Quarterly

## UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2017	Source: Department of Defense
Date Data Arrived at EDR: 06/19/2018	Telephone: 703-704-1564
Date Made Active in Reports: 09/14/2018	Last EDR Contact: 01/14/2019
Number of Days to Update: 87	Next Scheduled EDR Contact: 04/29/2019
	Data Release Frequency: Varies

## DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/26/2018	Telephone: 202-564-0527
Date Made Active in Reports: 10/05/2018	Last EDR Contact: 11/30/2018
Number of Days to Update: 71	Next Scheduled EDR Contact: 03/11/2019
	Data Release Frequency: Varies

## FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/22/2018	Source: EPA
Date Data Arrived at EDR: 08/22/2018	Telephone: 800-385-6164
Date Made Active in Reports: 10/05/2018	Last EDR Contact: 02/21/2019
Number of Days to Update: 44	Next Scheduled EDR Contact: 06/03/2019
	Data Release Frequency: Quarterly

## ***Other Ascertainable Records***

### AZ AIRS: Arizona Airs Database

Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 10/26/2018	Source: Department of Environmental Quality
Date Data Arrived at EDR: 10/30/2018	Telephone: 602-771-2344
Date Made Active in Reports: 11/30/2018	Last EDR Contact: 12/27/2018
Number of Days to Update: 31	Next Scheduled EDR Contact: 04/15/2019
	Data Release Frequency: Semi-Annually

### AZ AQUIFER: Waste Water Treatment Facilities

Waste Water Treatment Facilities with APP (Aquifer Protection Permits.)

Date of Government Version: 12/12/2018	Source: Department of Environmental Quality
Date Data Arrived at EDR: 12/13/2018	Telephone: 602-771-4623
Date Made Active in Reports: 01/07/2019	Last EDR Contact: 02/11/2019
Number of Days to Update: 25	Next Scheduled EDR Contact: 05/27/2019
	Data Release Frequency: Semi-Annually

### AZ DOD: Department of Defense Sites

These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 09/30/2018	Source: Department of Environmental Quality
Date Data Arrived at EDR: 10/16/2018	Telephone: 602-771-4360
Date Made Active in Reports: 10/31/2018	Last EDR Contact: 02/13/2019
Number of Days to Update: 15	Next Scheduled EDR Contact: 06/03/2019
	Data Release Frequency: Annually

### AZ DRY WELLS: Drywell Registration

A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 12/12/2018	Source: Department of Environmental Quality
Date Data Arrived at EDR: 12/13/2018	Telephone: 602-771-4686
Date Made Active in Reports: 01/07/2019	Last EDR Contact: 02/19/2019
Number of Days to Update: 25	Next Scheduled EDR Contact: 06/03/2019
	Data Release Frequency: Semi-Annually

### AZ DRYCLEANERS: Drycleaner Facility Listing

A listing of drycleaner facilities in Arizona.

Date of Government Version: 04/11/2014	Source: Department of Environmental Quality
Date Data Arrived at EDR: 04/15/2014	Telephone: 602-771-4335
Date Made Active in Reports: 05/12/2014	Last EDR Contact: 12/12/2018
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/01/2019
	Data Release Frequency: Varies

### AZ EMAP: All Places of Interest Listing

A listing of all places of interest to the Department of Environmental Quality, including air, waste and water sites.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/11/2018  
Date Data Arrived at EDR: 10/12/2018  
Date Made Active in Reports: 10/31/2018  
Number of Days to Update: 19

Source: Department of Environmental Quality  
Telephone: 602-771-4380  
Last EDR Contact: 12/03/2018  
Next Scheduled EDR Contact: 03/18/2019  
Data Release Frequency: Varies

## AZ ENF: Enforcement and Violation Listing

A listing of enforcement and violation cases in the state of Arizona.

Date of Government Version: 11/19/2018  
Date Data Arrived at EDR: 11/19/2018  
Date Made Active in Reports: 11/30/2018  
Number of Days to Update: 11

Source: Department of Environmental Quality  
Telephone: 602-771-4424  
Last EDR Contact: 01/28/2019  
Next Scheduled EDR Contact: 05/11/2019  
Data Release Frequency: Varies

## AZ Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information for ust sites.

Date of Government Version: 10/17/2018  
Date Data Arrived at EDR: 10/23/2018  
Date Made Active in Reports: 10/31/2018  
Number of Days to Update: 8

Source: Department of Environmental Quality  
Telephone: 602-771-4258  
Last EDR Contact: 12/21/2018  
Next Scheduled EDR Contact: 04/08/2019  
Data Release Frequency: Varies

## AZ MANIFEST: Manifest Information

Hazardous waste manifest information

Date of Government Version: 12/31/2017  
Date Data Arrived at EDR: 07/17/2018  
Date Made Active in Reports: 09/05/2018  
Number of Days to Update: 50

Source: Department of Environmental Quality  
Telephone: N/A  
Last EDR Contact: 12/12/2018  
Next Scheduled EDR Contact: 04/01/2019  
Data Release Frequency: Annually

## AZ VAPOR: Vapor Intrusion

A listing of vapor intrusion site locations

Date of Government Version: 12/12/2018  
Date Data Arrived at EDR: 12/27/2018  
Date Made Active in Reports: 01/25/2019  
Number of Days to Update: 29

Source: Department of Environmental Quality  
Telephone: 602-771-4197  
Last EDR Contact: 12/12/2018  
Next Scheduled EDR Contact: 04/01/2019  
Data Release Frequency: Varies

## AZ UIC: Underground Injection Control Wells

Underground injection control wells.

Date of Government Version: 09/30/2015  
Date Data Arrived at EDR: 02/05/2016  
Date Made Active in Reports: 04/05/2016  
Number of Days to Update: 60

Source: Arizona Geological Survey  
Telephone: 520-770-3500  
Last EDR Contact: 01/28/2019  
Next Scheduled EDR Contact: 05/11/2019  
Data Release Frequency: Varies

## AZ NPDES: Notice of Intent Construction Stormwater General Permits Database

NPDES permit sites

Date of Government Version: 09/04/2018  
Date Data Arrived at EDR: 09/06/2018  
Date Made Active in Reports: 10/01/2018  
Number of Days to Update: 25

Source: Department of Environmental Quality  
Telephone: 602-771-4424  
Last EDR Contact: 01/07/2019  
Next Scheduled EDR Contact: 04/22/2019  
Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## AZ WWFAC: Waste Water Treatment Facilities

Statewide list of waste water treatment facilities

Date of Government Version: 07/09/2012

Date Data Arrived at FDR: 03/23/2012

Date of Government Version: 07/09/2012  
Date Data Arrived at EDR: 07/23/2012  
Date Made Active in Reports: 09/06/2012  
Number of Days to Update: 45  
Source: Department of Environmental Quality  
Telephone: 602-771-4623  
Last EDR Contact: 01/17/2019  
Next Scheduled EDR Contact: 05/06/2019  
Data Release Frequency: Varies

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

EDB Hist Cleaner: EDB Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## AZ RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Arizona.

Date of Government Version: N/A  
Date Data Arrived at EDR: 07/01/2013  
Date Made Active in Reports: 01/02/2014  
Number of Days to Update: 185

Source: Department of Environmental Quality  
Telephone: N/A  
Last EDR Contact: 06/01/2012  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## AZ RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Arizona.

Date of Government Version: N/A  
Date Data Arrived at EDR: 07/01/2013  
Date Made Active in Reports: 01/15/2014  
Number of Days to Update: 198

Source: Department of Environmental Quality  
Telephone: N/A  
Last EDR Contact: 06/01/2012  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## AZ RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Arizona.

Date of Government Version: N/A  
Date Data Arrived at EDR: 07/01/2013  
Date Made Active in Reports: 01/02/2014  
Number of Days to Update: 185

Source: Department of Environmental Quality  
Telephone: N/A  
Last EDR Contact: 06/01/2012  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

### Oil/Gas Pipelines

Source: PennWell Corporation  
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

### Electric Power Transmission Line Data

Source: PennWell Corporation  
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**Sensitive Receptors:** There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

### AHA Hospitals:

Source: American Hospital Association, Inc.  
Telephone: 312-280-5991  
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

## Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

## Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

## Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

## Daycare Centers: Child Care Facilities & Group Homes

Source: Department of Health Services

Telephone: 602-674-4220

**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**

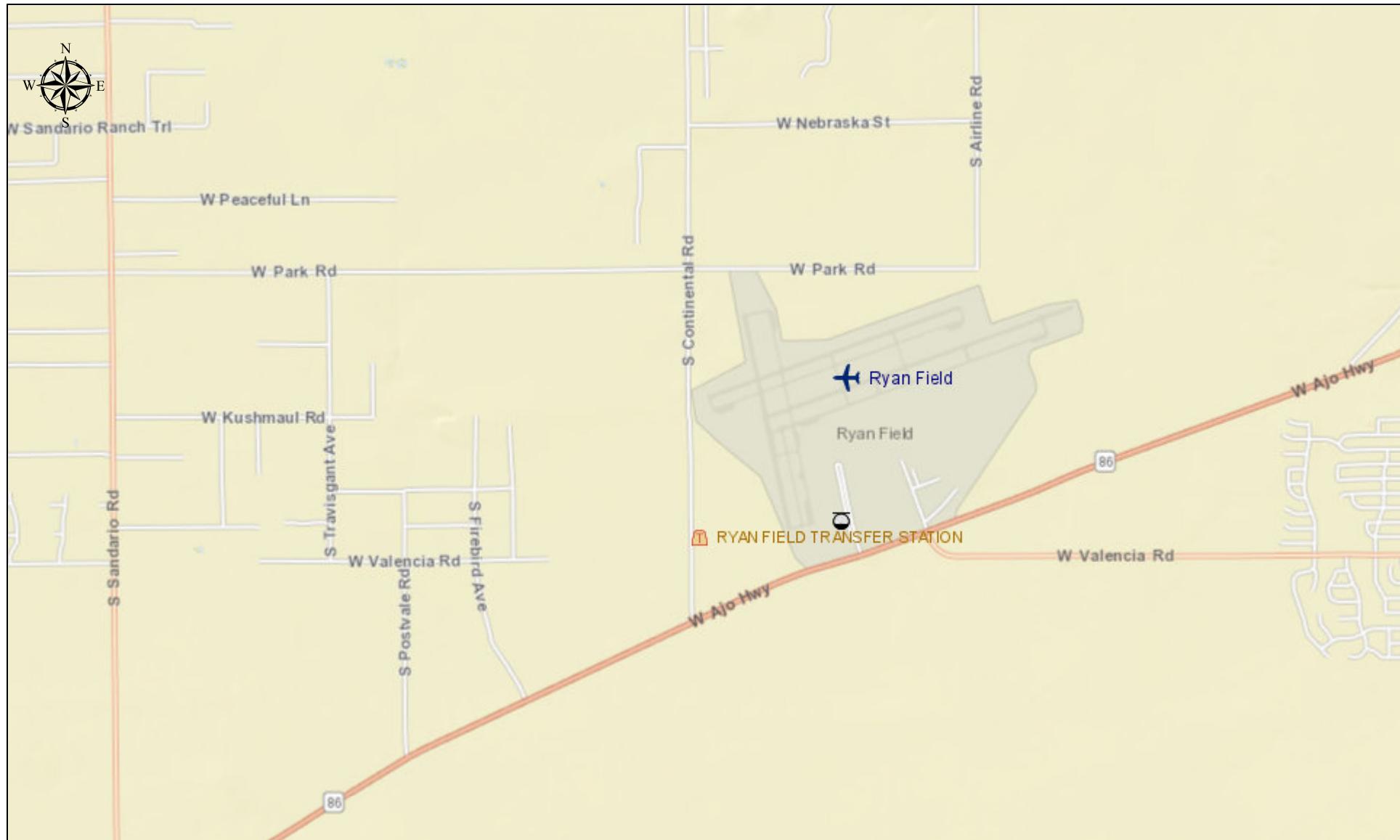
Source: State Land Department

Telephone: 602-542-4094

## STREET AND ADDRESS INFORMATION

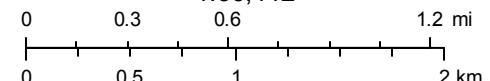
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Ryan Field - ADEQ eMap



March 4, 2019

1:36,112



-  Landfills - Municipal
-  Landfills - Non-Municipal
-  Transfer Stations
-  DEUR Sites

Voluntary Remediation	UST - Releases
 Active	 Closed
 Closed	 Suspected
 Terminated	 Confirmed
 Withdrawn	

- Cities and Towns
- Airports - Primary
- Rivers
- Streams - Major

The Arizona Department of Environmental Quality has compiled this map as a service to our customers using information from various sources. ADEQ cannot ensure that the information is accurate, current or complete. Neither the information presented nor the maps themselves are official documents.

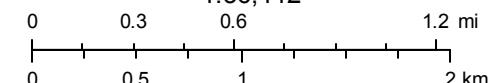
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

# Ryan Field - ADEQ eMap



March 4, 2019

1:36,112



- Landfills - Municipal
- Landfills - Non-Municipal
- Transfer Stations
- DEUR Sites

- Voluntary Remediation**
- UST - Releases**
- Active
- Closed
- Suspected
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- Withdrawn
- Cities and Towns
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- Streams - Major

The Arizona Department of Environmental Quality has compiled this map as a service to our customers using information from various sources. ADEQ cannot ensure that the information is accurate, current or complete. Neither the information presented nor the maps themselves are official documents.

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Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community  
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

## ADEQ Underground Storage Tank (UST) Database Search Results

This table was generated from ADEQ's AZURITE database.

Date Generated: March 04, 2019

<b>Facility ID</b>	0-000330
<b>Facility Name</b>	RYAN AIRFIELD
<b>Facility Address</b> (If blank, no physical address on file)	9400 W AJO HWY TUCSON, AZ 85735
<b>Facility County</b>	Pima
<b>Owner Name</b>	TUCSON AIRPORT AUTHORITY
<b>Tank ID</b>	5
<b>Tank Latitude</b>	32.135006759
<b>Tank Longitude</b>	111.174648433
<b>Tank Closure Type</b>	Perm Removal
<b>Tank Closure Date</b>	01/30/1991

<b>Facility ID</b>	0-000330
<b>Facility Name</b>	RYAN AIRFIELD
<b>Facility Address</b> (If blank, no physical address on file)	9400 W AJO HWY TUCSON, AZ 85735
<b>Facility County</b>	Pima
<b>Owner Name</b>	TUCSON AIRPORT AUTHORITY
<b>Tank ID</b>	3
<b>Tank Latitude</b>	32.135006759
<b>Tank Longitude</b>	111.174648433
<b>Tank Closure Type</b>	Perm Removal
<b>Tank Closure Date</b>	12/01/1988

<b>Facility ID</b>	0-000330
<b>Facility Name</b>	RYAN AIRFIELD
<b>Facility Address</b> (If blank, no physical address on file)	9400 W AJO HWY TUCSON, AZ 85735
<b>Facility County</b>	Pima
<b>Owner Name</b>	TUCSON AIRPORT AUTHORITY

<b>Tank ID</b>	2
<b>Tank Latitude</b>	32.135006759
<b>Tank Longitude</b>	111.174648433
<b>Tank Closure Type</b>	
<b>Tank Closure Date</b>	

<b>Facility ID</b>	0-000330
<b>Facility Name</b>	RYAN AIRFIELD
<b>Facility Address</b> (If blank, no physical address on file)	9400 W AJO HWY TUCSON, AZ 85735
<b>Facility County</b>	Pima
<b>Owner Name</b>	TUCSON AIRPORT AUTHORITY
<b>Tank ID</b>	1
<b>Tank Latitude</b>	32.135006759
<b>Tank Longitude</b>	111.174648433
<b>Tank Closure Type</b>	
<b>Tank Closure Date</b>	

<b>Facility ID</b>	0-000330
<b>Facility Name</b>	RYAN AIRFIELD
<b>Facility Address</b> (If blank, no physical address on file)	9400 W AJO HWY TUCSON, AZ 85735
<b>Facility County</b>	Pima
<b>Owner Name</b>	TUCSON AIRPORT AUTHORITY
<b>Tank ID</b>	4
<b>Tank Latitude</b>	32.135006759
<b>Tank Longitude</b>	111.174648433
<b>Tank Closure Type</b>	Perm Removal
<b>Tank Closure Date</b>	12/01/1988

## Results 1 - 5 of 5

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## ADEQ Leaking Underground Storage Tank (LUST) Database Search Results

This table was generated from ADEQ's AZURITE database.

Date Generated: March 04, 2019

<b>Facility ID</b>	0-000330
<b>Leak ID</b>	1625.02
<b>Priority Level</b>	5R1
<b>Facility Name</b>	RYAN AIRFIELD
<b>Facility Address</b> (If blank, no physical address on file)	9400 W AJO HWY TUCSON, AZ 85735
<b>Facility County</b>	Pima
<b>Release Status</b>	Closed
<b>Release Reported Date</b>	02/01/1995
<b>Release Closure Date</b>	09/08/1999

<b>Facility ID</b>	0-000330
<b>Leak ID</b>	1625.03
<b>Priority Level</b>	5R1
<b>Facility Name</b>	RYAN AIRFIELD
<b>Facility Address</b> (If blank, no physical address on file)	9400 W AJO HWY TUCSON, AZ 85735
<b>Facility County</b>	Pima
<b>Release Status</b>	Closed
<b>Release Reported Date</b>	06/11/2012
<b>Release Closure Date</b>	10/31/2012

### Results 1 - 2 of 2

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## Ryan Field Landfill

[Projects](#)

**Objectives** To ensure the safety of the public and the environment with site inspections.



**Location** 9698 W Ajo Way

**Waste Acreage** 7.3

**Operation** 1973-1977

**Dates**

**Status** Monitored Only Site

**Type** Groundwater Protection Project

**Annual Budget** approximately \$20,000

**Contact** City of Tucson - Environmental Services 520-791-3175

**Description** The Ryan Airfield Landfill is located in southeastern Avra Valley at the southeast end of the airfield's runway system. The landfill received residential and commercial refuse from the airfield and

homes, farms and businesses located in the surrounding Avra Valley area. The property is owned by the City of Tucson and is leased to the Tucson Airport Authority. Today the City inspects the landfill annually. There are no shallow landfill gas probes at the site because there are no nearby buildings.

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**Additional Info** Based on a review of historical operational records and soil vapor and groundwater monitoring data collected from 2007 through 2009, this landfill is considered a low future environmental risk.

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**Activities** Inspections

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**Last Update** Friday Feb 22, 2019

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[View this project on the Environmental Management Projects Map](#)

## Project Details

[Updates](#) [Pictures](#) [Attachments](#)

### Attachments

- [2015 Landfill Inspection Report](#)

This report documents the annual landfill inspection activities conducted at Ryan Airfield Landfill on September 30, 2015.

- [Soil Gas Monitoring Report 2010 and 2011](#)

Soil gas monitoring report to verify soil gas concentrations observed during soil gas monitoring in December 2009. The text, tables, and figures to the report are available at this link. To review the full document contact the Environmental Services office at 520-791-3175.

- [Closed Landfills Inspection and Maintenance Report](#)

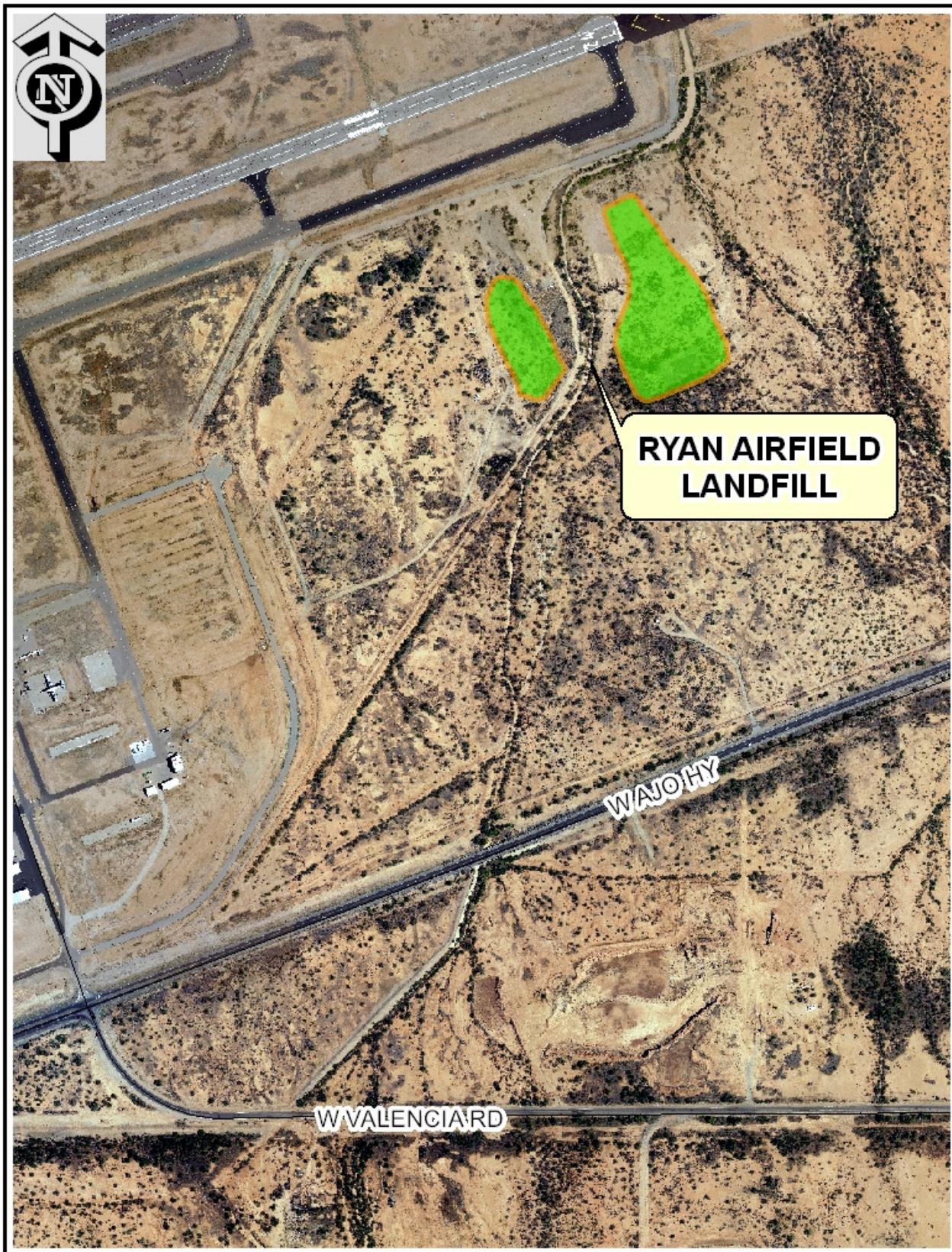
The City of Tucson - Environmental Services owns and maintains fifteen closed regulated and non-regulated landfills. This guidance report provides the procedures for inspecting and maintaining those landfills. The text portion of this report is available at this link. To review the full document contact the Environmental Services office at 520-791-3175.

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- [Annual Monitoring Report - 2009](#)

Groundwater and soil gas monitoring report covering the January - December 2009 period. The text, tables, and figures to the report are available at this link. For the full document contact the Environmental Services office at 520-791-3175.

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## Technical Memorandum

**Prepared For:** Tucson Airport Authority on behalf of Mead & Hunt, Inc.

**Prepared by:** SWCA Environmental Consultants

**Date:** April 2, 2020

**Re:** **Endangered Species Act Desktop Review for the Ryan Airfield Master Plan Project, Pima County, Arizona / SWCA Project No. 48761**

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### INTRODUCTION

Ryan Airfield, which is operated by the Tucson Airport Authority, is currently working with Mead and Hunt to update its Airfield Master Plan (herein called the “Master Plan”) (Coffman Associates, Inc. 2010). As part of the planning process, SWCA Environmental Consultants (SWCA) has prepared this technical memorandum to address the Endangered Species Act (ESA) of 1973 (16 United States Code [USC] 1531 et seq.) and in support of the Federal Aviation Administration (FAA)-required National Environmental Policy Act (NEPA) process (Advisory Circular [AC] 150/5070-6B, Airport Master Plans; Orders 1050.1F, Environmental Impacts: Policies and res, and 5050.4B, NEPA Implementation Instructions for Airport Actions).

The primary goal of this technical memorandum is to evaluate the potential for occurrence of federally listed species, to identify any species or potential areas of concern that may be present, and to identify the potential need for future species-specific surveys during development in order to inform the Master Plan.

The area evaluated in this technical memorandum (the planning area) is approximately 1,749 acres of land that includes the roughly 440-acre footprint of the airport and vacant land in all directions. The planning area occurs on privately owned land along West Ajo Highway (Arizona State Route 86) near the intersection with West Valencia Road in Sections 1 and 11–14, Township 15 South, Range 11 East, and Sections 6 and 7, Township 15 South, Range 12 East, Gila and Salt River Baseline and Meridian (Figures 1 and 2). The planning area consists of existing Ryan Airfield infrastructure, which is proposed to be modified or added to, and additional surrounding area, where development of airport components and both aeronautical and non-aeronautical development are proposed (see Appendix A for the Preferred Development Concept).

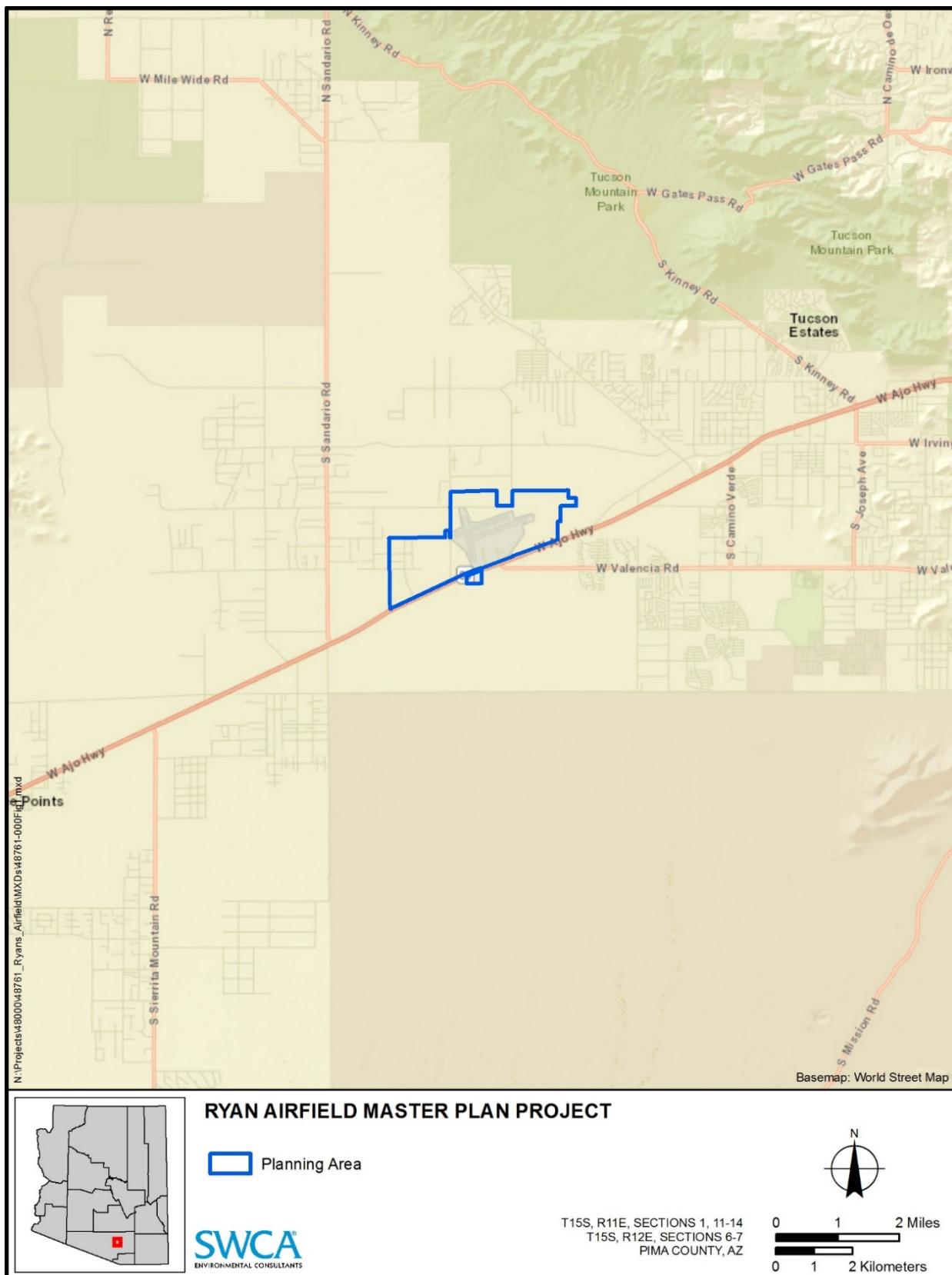


Figure 1. General location of the planning area.

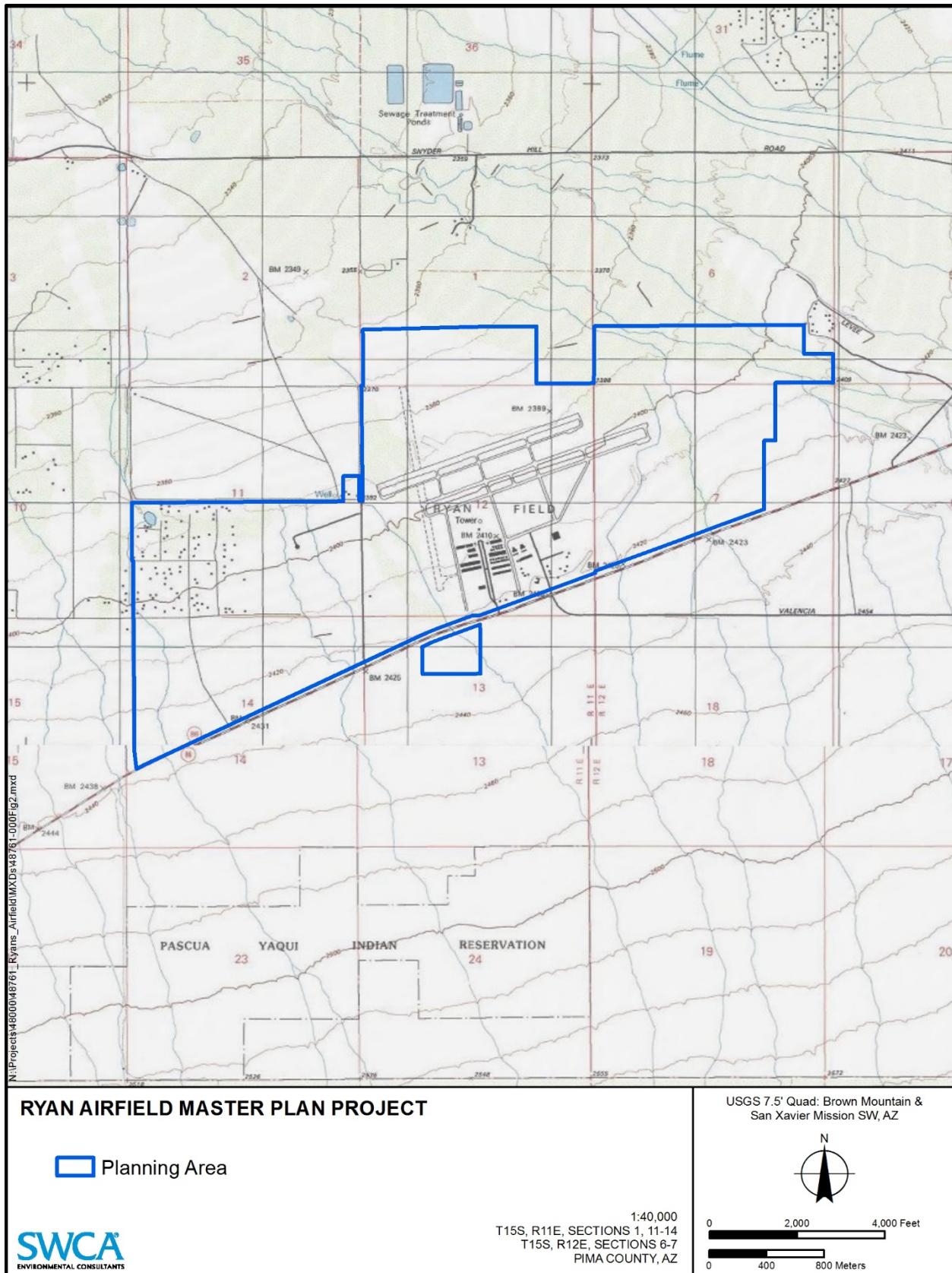


Figure 2. Planning area location.

## METHODS

This effort included desktop analysis only; no field reconnaissance occurred. All projects identified in the updated Master Plan would have separate environmental clearance processes. Field reconnaissance, including species-specific surveys, to ensure environmental compliance could be recommended for future individual projects.

An SWCA biologist evaluated the planning area footprint using existing data to measure the distances to known populations of listed plants and animals; determine the relative level of disturbance and development in the planning area and vicinity; search for the presence of habitat features used by special-status species such as riparian corridors, standing water, or cleared areas; and search for occurrence records near the planning area. Existing data sources used to evaluate the planning area included topographic maps (U.S. Geological Survey 7.5-minute topographic map, Brown Mountain, Arizona); publicly available satellite imagery and street view imagery (Google Earth 2020); online databases of occurrence record locations (AGFD 2020a; AZHGIS 2020; eBird 2020); and field notes from previous SWCA field efforts in the planning area.

Vegetation was classified to the community level according to the map *Biotic Communities of the Southwest* (Brown 1994). The Natural Resources Conservation Service PLANTS database was used for plant naming conventions (Natural Resources Conservation Service 2020). Federally listed plants are referred to by the nomenclature used by the U.S. Fish and Wildlife Service (USFWS) for listing.

## ECOLOGICAL OVERVIEW

The planning area occurs within an ecotonal zone between the Semidesert grassland and the Arizona upland subdivision of Sonoran desertscrub biotic communities (Brown 1994). The planning area consists of existing infrastructure at Ryan Airfield (including buildings, runways, roads) and surrounding undeveloped area proposed for additional construction. The elevation within the planning area ranges from approximately 2,360 to 2,440 feet above mean sea level (amsl). Examination of topographic maps and publicly available aerial imagery (Google Earth 2020) indicates that the areas surrounding existing Ryan Airfield infrastructure consist of patches of disturbed and undisturbed native vegetation, bisected by ephemeral drainages that flow generally southeast to northwest. Black Wash, which is ephemeral, is the primary drainage feature in the area and passes through the distal northeast corner of the planning area. Several smaller ephemeral washes, tributaries to Black Wash, also pass through the planning area at various locations.

No broadleaf deciduous riparian vegetation communities (i.e., communities containing cottonwood [*Populus* spp.], willow [*Salix* spp.], ash [*Fraxinus* spp.], etc.) or suitable bat roost sites (e.g., natural caves or mine features) appear to occur in the planning area according to available satellite imagery (Google Earth 2020). However, field reconnaissance prior to project construction activities would be required to confirm this.

Previous fieldwork completed by SWCA within the Ryan Airfield, east of the existing facilities, indicated that the vegetation consisted of species typical of both the Sonoran desertscrub and Semidesert grassland biotic communities, and consisted of perennial and annual grass species, cacti, forbs, and woody shrubs and trees including broom snakeweed (*Gutierrezia sarothrae*), velvet mesquite (*Prosopis velutina*), whitethorn acacia (*Vachellia constricta*), and paloverde (*Parkinsonia* spp.) (SWCA 2017). Native vegetation in the planning area in areas that have not been surveyed would be expected to be similar.

Plants that are protected under the Arizona Native Plant Law (Arizona Revised Statutes 3-904) as administered by the Arizona Department of Agriculture (ADA) occur within the planning area.

More information regarding this state regulation can be found on the ADA's *Protected Native Plants by Category* website (ADA 2020a).

Non-native species were identified during previous field efforts within the planning area conducted by SWCA, with only one noxious weed species observed, buffelgrass (*Pennisetum ciliare*). More information about noxious weed species listed by the ADA under Arizona Administrative Codes R3-4-245. More information is available on the ADA's Plant Services Division website (ADA 2020b).

## **FEDERALLY LISTED SPECIES**

The USFWS maintains a list of protected species and the critical habitat that are known to occur in each Arizona County. SWCA accessed the USFWS Information for Planning and Consultation (IPaC) online database (USFWS 2020a) to obtain a project-specific list of federally listed species that may occur in the planning area and to obtain the federally listed species that may occur in Pima County (Appendix B). These species are currently listed or are proposed for listing as endangered or threatened under the ESA, or are considered non-essential experimental population (NEP) species. The list also includes candidate species for proposal as threatened or endangered. The ESA specifically prohibits the “take” of a listed species. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.”

### **Species Evaluation**

The potential for occurrence of each species was summarized according to the categories listed below. Because not all species are accommodated precisely by a given category (i.e., category definitions may be too restrictive), an expanded rationale for each category assignment is provided. Potential for occurrence categories are as follows.

- *Known to occur*—the species has been documented in the planning area by a reliable observer.
- *May occur*—the planning area is within the species' currently known range, and vegetation communities, soils, etc., resemble those known to be used by the species.
- *Unlikely to occur*—the planning area is within the species' currently known range, but vegetation communities, soils, etc., do not resemble those known to be used by the species, or the planning area is clearly outside the species' currently known range.

Of the 21 species listed by the USFWS with the potential to occur in Pima County, seven have the potential to occur in the planning area according to the IPaC official species list (USFWS 2020a; see Appendix B). Based on a desktop review and previous surveys of portions of the planning area by SWCA biologists, only one species, the Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*), is known to occur in the planning area. The remaining listed species are unlikely to occur. The planning area is clearly beyond the known geographic or elevational range of these species, or it does not contain vegetation or landscape features known to support these species, or both (Table 1). No critical habitat for any listed species occurs in the planning area at this time.

**Table 1. Federally Listed Species Potentially Occurring in Pima County, Arizona**

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Planning Area
Acuña cactus ( <i>Echinomastus erectocentrus</i> var. <i>acunensis</i> )	E	This cactus occurs in disjunct populations across southern Arizona on well-drained gravel ridges and knolls on granite-derived soils. It grows in the Arizona Upland subdivision of the Sonoran Desertscrub plant association at elevations between 1,198 and 2,789 feet amsl. This species occurs in Maricopa, Pima, and Pinal Counties.	Unlikely to occur. There are no gravel ridges or knolls with granite-derived soils, and the planning area is not within the current range of this species.
California least tern ( <i>Sterna antillarum brownii</i> )	E	Forms nesting colonies on barren to sparsely vegetated areas. Nests in shallow depressions on open sandy beaches, sandbars, gravel pits, or exposed flats along shorelines of inland rivers, lakes, reservoirs, and drainage systems. Found in Maricopa, Mohave, and Pima Counties.	Unlikely to occur. The planning area does not contain habitats similar to those used by this species; there are no open sandy beaches, sand bars, gravel pits, or exposed shorelines of inland rivers, lakes, reservoirs, or drainage systems. While this species has been observed 0.8 mile north of the planning area at the Avra Valley Water Reclamation Facility (eBird 2020), no impacts to this facility would be expected to occur as a result of any project at Ryan Airfield.
Canelo Hills ladies-tresses ( <i>Spiranthes delitescens</i> )	E	Found at elevations between 4,585 and 4,970 feet amsl in ciénega wetlands, usually intermixed with tall grasses and sedges, on fine-grained, highly organic, saturated soils. Only known from four ciénegas in southern Arizona.	Unlikely to occur. This species is not known to occur in Pima County. Further, the planning area is below the elevational range of this species, and it does not contain any ciénega wetlands.
Chiricahua leopard frog ( <i>Rana chiricahuensis</i> )	T	Historically occurred in ciénegas, pools, livestock tanks, lakes, reservoirs, streams, and rivers at elevations of 3,281 to 8,890 feet amsl. It is now often restricted to springs, livestock tanks, and streams in the upper portions of watersheds where non-native predators either have yet to invade or habitats are marginal for them.	Unlikely to occur. There are no permanent water sources suitable for this species in or adjacent to the planning area. Furthermore, the planning area is below the elevational range for this species, and there are no documented occurrences within 3 miles of the planning area (AZHGIS 2020).
Desert pupfish ( <i>Cyprinodon macularius</i> )	E	Found in shallow waters of desert springs, small streams, and marshes at elevations below 5,000 feet amsl. One natural population still occurs in Quitobaquito Springs and Quitobaquito Pond in Pima County, and reintroductions have been made in Pima, Pinal, Maricopa, Graham, Cochise, La Paz, and Yavapai Counties.	Unlikely to occur. There are no permanent water sources suitable for this species in or adjacent to the planning area. There are also no documented occurrences with 3 miles of the planning area (AZHGIS 2020).
Gila chub ( <i>Gila intermedia</i> )	E	Found in pools in smaller streams, ciénegas, and artificial ponds ranging in elevation from 2,000 to 5,500 feet amsl. Highly secretive, adults prefer deeper, quieter waters in pools and eddies below riffles or runs, often remaining in cover under terrestrial vegetation, boulders, and fallen logs.	Unlikely to occur. No permanent water is present in the planning area or adjacent vicinity. There are also no documented occurrences within 3 miles of the planning area (AZHGIS 2020).
Gila topminnow ( <i>Poeciliopsis occidentalis occidentalis</i> )	E	Occurs in small streams, springs, and ciénegas at elevations below 4,500 feet amsl, primarily in shallow areas with aquatic vegetation and debris for cover. In Arizona, most of the remaining native populations are in the Santa Cruz River system.	Unlikely to occur. There are no permanent water sources suitable for this species in or adjacent to the planning area. There are also no documented occurrences within 3 miles of the planning area (AZHGIS 2020).

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Planning Area
Huachuca water umbel ( <i>Lilaeopsis schaffneriana</i> ssp. <i>recurva</i> )	E	Semi-aquatic to aquatic perennial found in shallow water or saturated soil of ciénegas or marshy wetlands at elevations between 4,000 and 6,500 feet amsl. Known from the Huachuca Mountains, Canelo Hills, headwaters of the Santa Cruz River to Black Draw, and the San Pedro River.	Unlikely to occur. There are no permanent aquatic or semi-aquatic habitats in the planning area. Further, the planning area is below the elevational range of this species, and there are no documented occurrences of this species within 3 miles of the planning area (AZHGIS 2020).
Jaguar ( <i>Panthera onca</i> )	E	Jaguars were once prominent in southern Arizona and were found in Sonoran desertscrub up through subalpine conifer forest at elevations between 1,600 and 9,000 feet amsl. Based on 25 historical (from 1902 to 2001) reliable and spatially accurate jaguar sighting records in Arizona, the majority of jaguars were observed in scrub grasslands (56%) and Madrean evergreen forests (20%), all were within 6.2 miles of a water source, and most occurred in moderately rugged to extremely rugged terrain (Hatten et al. 2005). Additionally, river valleys and other drainage features likely "provide travel corridors for jaguars, along with higher prey densities, cooler air, and denser vegetation than surrounding habitats" (Jaguar Recovery Team and U.S. Fish and Wildlife Service 2012).	Unlikely to occur. Though the planning area is within the elevational and geographic range for this species, this project is not likely to affect this species because 1) jaguars are extremely rare; 2) the planning area occurs in close proximity to residential development, existing air traffic from Ryan Airfield, and busy roads; 3) the planning area does not contain rugged terrain; and 4) the planning area is approximately 19 miles northeast of designated critical habitat, making it unlikely that a jaguar would use the planning area.
Kearny's blue-star ( <i>Amsonia kearneyana</i> )	E	Found on dry, open slopes (20 to 30 degrees) at elevations between 4,000 and 6,000 feet amsl in the transition zone between Madrean evergreen woodland and interior chaparral. Also occurs at elevations between 3,600 and 3,800 feet amsl on stable, partially shaded, coarse alluvium along dry washes under deciduous riparian trees and shrubs in Sonoran desertscrub or desertscrub-grassland ecotone. Known only from a west-facing drainage in the Baboquivari Mountains.	Unlikely to occur. This species is only known from a few small populations in the Baboquivari Mountains more than 20 miles southwest of the planning area. The planning area is also outside the elevational range of this species.
Masked bobwhite ( <i>Colinus virginianus</i> <i>ridgewayi</i> )	E	Found at elevations between 1,000 and 4,000 feet amsl in desert grasslands with diverse, moderately dense native grasses and forbs and adequate brush cover. This subspecies has been found to be closely associated with prairie acacia ( <i>Acacia angustissima</i> ). Known only from reintroduced populations on Buenos Aires National Wildlife Refuge.	Unlikely to occur. The habitats in the planning area are not similar to those used by the species, and the planning area is more than 20 miles northeast of the Buenos Aires National Wildlife Refuge.
Mexican spotted owl ( <i>Strix occidentalis lucida</i> )	T	Found in mature montane forests and woodlands and steep, shady, wooded canyons. Can also be found in mixed-conifer and pine-oak vegetation types. Generally, nests in older forests of mixed conifers or ponderosa pine ( <i>Pinus ponderosa</i> )–Gambel oak ( <i>Quercus gambelii</i> ). Nests in live trees on natural platforms (e.g., dwarf mistletoe [ <i>Arceuthobium</i> spp.] brooms), snags, and canyon walls at elevations between 4,100 and 9,000 feet amsl.	Unlikely to occur. The planning area does not contain suitable habitat for this species, and the planning area is below the known elevational range of this species.
Nichol's Turk's head cactus ( <i>Echinocactus</i> <i>horizontalis</i> var. <i>nicholii</i> )	E	Found in Sonoran desertscrub with limestone-derived alluvium at elevations between 2,000 and 3,600 feet amsl. In Arizona, its known range is limited to the Waterman and Vekol Mountains.	Unlikely to occur. The planning area is far from known populations in the Waterman and Vekol Mountains.

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Planning Area
Northern Mexican gartersnake ( <i>Thamnophis eques megalops</i> )	T	Riparian obligate. Lotic and lentic habitats that include ciénegas and stock tanks (earthen impoundments), and rivers containing pools and backwaters. Most frequently found between 3,000 and 5,000 feet amsl but may occur up to approximately 8,500 feet amsl. Use adjacent terrestrial habitats for foraging, thermoregulation, gestation, shelter, immigration, emigration, and brumation. Core population areas in Arizona include mid/upper Verde River drainage, mid/lower Tonto Creek, and the San Rafael Valley.	Unlikely to occur. The planning area is below typical elevational range for the species and suitable wetland or stock tank habitat for this species is not present in or adjacent to the planning area. Further, there are no occurrence records for this species within 3 miles of the planning area (AZHGIS 2020).
Ocelot ( <i>Leopardus pardalis</i> )	E	In Arizona, this species has typically been observed in subtropical thorn forest, thornscrub, and dense, brushy thickets at elevations below 8,000 feet amsl and is often found in riparian bottomlands. The critical habitat component is probably dense cover near the ground and complete avoidance of open country. In Arizona, there are five recent confirmed sightings of ocelot in Cochise County (2009–2012), one confirmed sighting near Globe (2010), and unconfirmed sightings in the Chiricahua and Peloncillo Mountains.	Unlikely to occur. The species is very rare, and there are no dense, brushy thickets or riparian bottomlands in the planning area. The planning area is also in an area with heavy human disturbance (e.g., West Ajo Highway and the existing Ryan Airfield facilities), which this species would likely avoid. In recent years, this species has been documented in several areas in southern Arizona; however, all of those locations are distant from the planning area.
Pima pineapple cactus ( <i>Coryphantha scheeri</i> var. <i>robustispina</i> )	E	Found on alluvial bajadas in sand or rocky loam soils that are on slopes with less than 10% grade within desert grassland and Sonoran desertscrub at elevations between 2,800 and 3,500 feet amsl. In Arizona, found in the Santa Cruz and Altar Valleys and Patagonia Mountains.	Known to occur. The planning area is within the range of this species and contains suitable habitat. Previous surveys within the planning area conducted by SWCA located one individual within the planning area. There are occurrence records for this species within 3 miles of the planning area (AZHGIS 2020).  Species-specific protocol surveys are recommended prior to construction of individual projects within the planning area.
Sonora chub ( <i>Gila ditaenia</i> )	T	Found at an elevation of approximately 3,900 feet amsl in perennial and intermittent small to medium-sized streams, where it prefers pools near cliffs, boulders, or other cover in stream channels. In Arizona, its range includes Sycamore Creek and Peñasco Canyon in the Atascosa Mountains and California Gulch in Santa Cruz County.	Unlikely to occur. This species is not known to occur in Pima County except at the Arizona-Sonora Desert Museum as an assurance population (USFWS 2013). Further, the planning area lacks suitable permanent water sources required by this species.
Sonoran pronghorn ( <i>Antilocapra americana sonoriensis</i> )	E/NEP	Found in Sonoran desertscrub within broad, intermountain alluvial valleys with creosote bush ( <i>Larrea tridentata</i> )-bursage ( <i>Ambrosia</i> spp.) and paloverde ( <i>Parkinsonia</i> spp.)-mixed cacti associations at elevations between 2,000 and 4,000 feet amsl. The only extant U.S. population is in southwestern Arizona; however, the USFWS has established a 10(j) area for reintroductions. The only current reintroduction is in and near the Kofa National Wildlife Refuge.	Unlikely to occur. The planning area is outside the species' currently known range and is not within a potential reintroduction area.
Sonoyta mud turtle ( <i>Kinosternon sonoriense longifemorale</i> )	E	In Arizona, found only in pond and stream habitat at Quitobaquito Springs in Organ Pipe Cactus National Monument. This subspecies of the more common Sonora mud turtle ( <i>Kinosternon sonoriense sonoriense</i> ) also occurs in Rio Sonoyta, Mexico.	Unlikely to occur. This species is only found in the area of Quitobaquito Springs, which is approximately 100 miles southwest of the planning area.

Common Name (Species Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Planning Area
Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	E	Found in dense riparian habitats along streams, rivers, and other wetlands where cottonwood, willow, boxelder ( <i>Acer negundo</i> ), saltcedar ( <i>Tamarix</i> spp.), Russian olive ( <i>Elaeagnus angustifolia</i> ), buttonbush ( <i>Cephaelanthus</i> spp.), and arrowweed ( <i>Pluchea sericea</i> ) are present. Nests are found in thickets of trees and shrubs, primarily those that are 13–23 feet high, among dense, homogeneous foliage. Habitat occurs at elevations below 8,500 feet amsl.	Unlikely to occur. Suitable habitat for this species is not present in or adjacent to the planning area. This species does not have occurrence records in the vicinity of the planning area (AZHGIS 2020; eBird 2020).
Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	T	Typically found in riparian woodland vegetation (cottonwood, willow, or saltcedar) at elevations below 6,600 feet amsl. Dense understory foliage appears to be an important factor in nest site selection. The highest concentrations in Arizona are along the Agua Fria, San Pedro, upper Santa Cruz, and Verde River drainages, and Cienega and Sonoita Creeks.	Unlikely to occur. Suitable habitat for this species is not present in or adjacent to the planning area. While this species has been observed 0.8 mile north of the planning area at the Avra Valley Water Reclamation Facility (eBird 2020), no impacts to this facility would be expected to occur as a result of any project at Ryan Airfield.

Source: Range or habitat information is from AGFD (2020a); USFWS (2020b); Arizona Rare Plant Committee (ca. 2001); and Corman and Wise-Gervais (2005).

\* USFWS Status Definitions:

E = Endangered. Endangered species are those in imminent jeopardy of extinction. The ESA specifically prohibits the take of a species listed as endangered. Take is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

NEP = Non-Essential Experimental Population. Experimental populations of a species designated under Section 10(j) of the ESA for which the USFWS, through the best available information, believes is not essential for the continued existence of the species. Regulatory restrictions are considerably reduced under an NEP designation.

T = Threatened. Threatened species are those in imminent jeopardy of becoming endangered. The ESA prohibits the take of a species listed as threatened under Section 4(d) of the ESA. Take is defined by the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct.

## AGENCY CORRESPONDENCE

The Arizona Game and Fish Department (AGFD) maintains a statewide database, known as the Heritage Data Management System (HDMS), which tracks records for federally listed species and other species of special concern (AGFD 2020). This database can be accessed through the AGFD online environmental review tool (Arizona Heritage Geographic Information System [AZHGIS]) (AZHGIS 2020). SWCA accessed the database and received a response document (Appendix C).

The HDMS-generated response reported that a bat colony, Pima pineapple cactus, American peregrine falcon (*Falco peregrinus anatum*), Sonoran desert tortoise (*Gopherus morafkai*), reticulate Gila monster (*Heloderma suspectum suspectum*), Thornber's nipple cactus (*Mammillaria thornberi*), and Tumamoc globeberry (*Tumamoca macdougalii*) have documented occurrences within 3 miles of the planning area. There is no suitable cliff habitat for nesting peregrine falcons, although the planning area could provide foraging habitat. The planning area could provide suitable habitat or dispersal habitat for the reticulate Gila monster or Sonoran desert tortoise. The Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects (Appendix D) should be followed during development projects. The Thornber's nipple cactus and Tumamoc globeberry have the potential to occur in the planning area, as suitable habitat occurs. Although neither of these species is protected under the ESA, they are protected under the Arizona Native Plant Law.

## **RESULTS AND MANAGEMENT RECOMMENDATIONS**

An SWCA qualified biologist conducted this review using available data, including satellite imagery, print and online literature sources, and online databases. The purpose of the review was to evaluate federally listed species or critical habitat protected under the ESA that has the potential to be present in the planning area and thus may be affected by the project.

This biological overview documents that one species is known to occur in the planning area and could be affected by future project-related activities. The planning area is clearly beyond the known geographic or elevational range of the remaining species listed by the USFWS for Pima County, or it does not contain vegetation or landscape features known to support these species, or both.

Review of the AGFD online environmental review tool identified occurrence records of special-status species within 3 miles of the planning area. Those species, and other special-status species, may occur within the planning area; however, only Pima pineapple cactus is afforded protection under the ESA and has occurrence records within 3 miles of the planning area.

The Ryan Airfield Master Plan planning area is within the range of the Pima pineapple cactus, habitat for this species is known to be present within the planning area, the species has been documented within 3 miles of the planning area (AZHGIS 2020), and the species is known to occur within the planning area. Thus, species-specific surveys are recommended prior to project commencement to identify any individuals within the planning area footprint. If individual plants are present, then mitigation measures may be required.

## **LIMITATIONS AND WARRANTY**

Within the limitations of schedule, budget, and scope of work, SWCA warrants that this study was conducted in accordance with accepted environmental science practices, including the technical guidelines, evaluation criteria, and species' listing status in effect at the time this evaluation was performed, as outlined in this technical memorandum.

The results and conclusions of this technical memorandum represent the best professional judgment of SWCA scientists and are based on information provided by the project proponent and on information obtained from agencies and other sources during the course of the study. No other warranty, expressed or implied, is made.

## LITERATURE CITED

Arizona Department of Agriculture (ADA). 2020a. Arizona Administrative Code: Title 3, Chapter 3. Available at: [https://apps.azsos.gov/public\\_services/Title\\_03/3-03.pdf](https://apps.azsos.gov/public_services/Title_03/3-03.pdf). Accessed March 2020.

\_\_\_\_\_. 2020b. *Protected Native Plants by Category*. Available at: <https://agriculture.az.gov/pestspest-control/agriculture-pests/noxious-weeds>. Accessed March 2020.

Arizona Game and Fish Department (AGFD). 2020. Plant and animal abstracts, distribution maps, and illustrations. Available at <https://www.azgfd.com/wildlife/heritagefund/>. March 2020.

Arizona Heritage Geographic Information System (AZHGIS). 2020. Arizona Game and Fish Department online environmental review tool. Available at: <http://www.azgfd.gov/hgis>. Accessed March 26, 2020.

Arizona Rare Plant Committee. ca. 2001. *Arizona Rare Plant Field Guide*. Washington, D.C.: U.S. Government Printing Office.

Brown, D.E. (ed.). 1994. Biotic Communities: Southwestern United States and Northwestern Mexico. Salt Lake City: University of Utah Press.

Coffman Associates, Inc. 2010. *Airport Master Plan for Ryan Airfield*. Prepared for Tucson Airport Authority. Available at: <https://www.flytucson.com/ryan/about/master-plan/>. Accessed April 1, 2020.

Corman, T.E., and C. Wise-Gervais. 2005. *Arizona Breeding Bird Atlas*. Albuquerque: University of New Mexico Press.

eBird. 2020. eBird Explore. Available at: <https://ebird.org/map>. Accessed March 2020.

Google Earth. 2020. Planning area imagery.  $32.137084^{\circ}$ ,  $-111.178521^{\circ}$ . Available at: <http://earth.google.com/web>. Accessed March 26, 2020.

Hatten, J.R., A. Averill-Murray, and W.E. Van Pelt. 2005. A spatial model of potential jaguar habitat in Arizona. *Journal of Wildlife Management* 69(3):1024–1033.

Jaguar Recovery Team and U.S. Fish and Wildlife Service (USFWS). 2012. Recovery Outline for the Jaguar (*Panthera onca*). Available at: <http://www.fws.gov/southwest/es/arizona/Jaguar.htm>. Accessed March 2020.

Natural Resources Conservation Service. 2020. PLANTS database. Available at: <http://plants.usda.gov/java/>. Accessed March 2020.

SWCA Environmental Consultants (SWCA). 2017. Biological Evaluation of the Ryan Airfield Drainage Improvements Phase I Project in Tucson, Pima County, Arizona. August 2017.

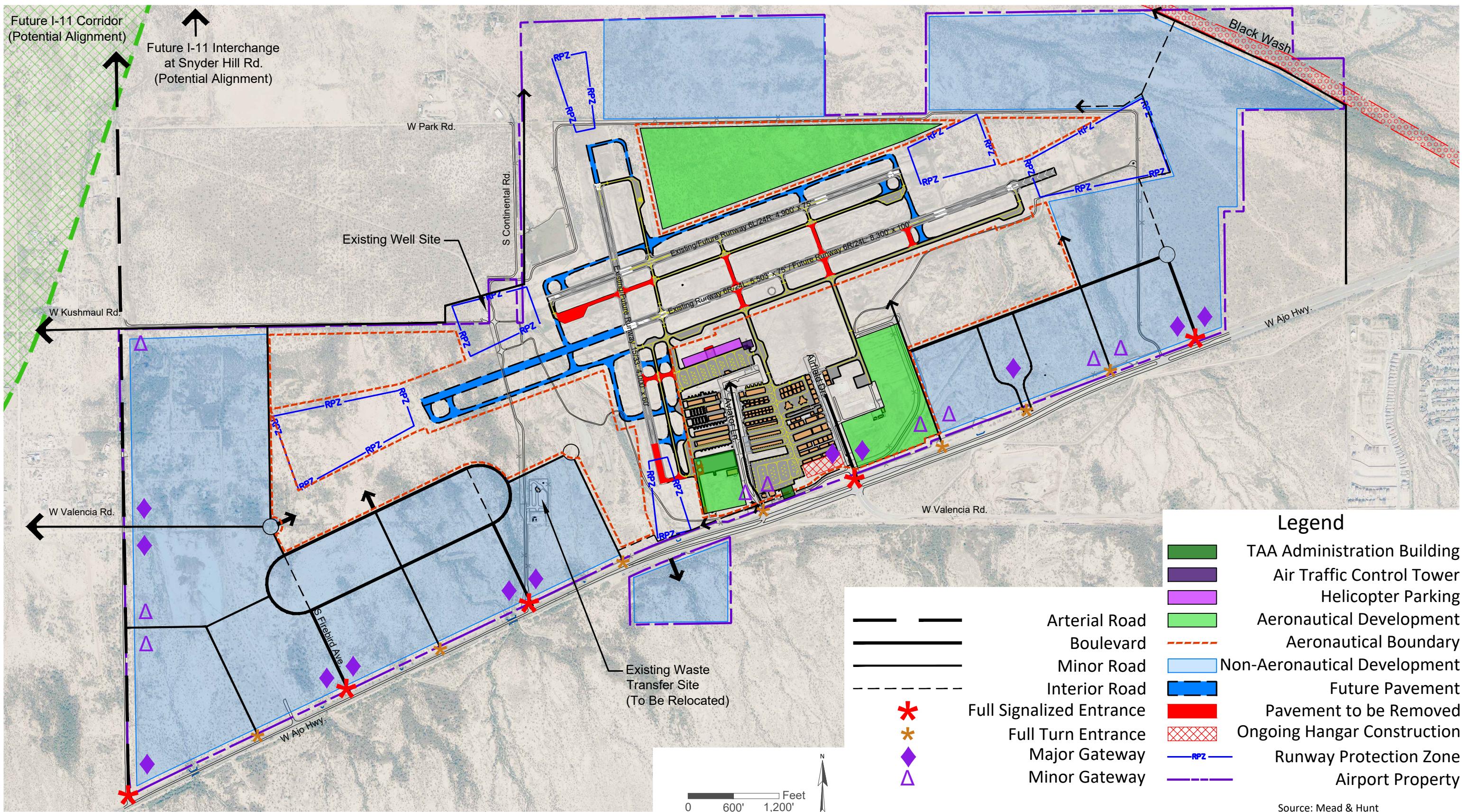
U.S. Fish and Wildlife Service (USFWS). 2013. Sonora chub/Charalito Sonorense (*Gila ditaenia*) 5-Year Review. Available at: [https://ecos.fws.gov/docs/five\\_year\\_review/doc4263.pdf](https://ecos.fws.gov/docs/five_year_review/doc4263.pdf). Accessed March 2020.

\_\_\_\_\_. 2020a. Information for Planning and Consultation (IPaC). Available at: <https://ecos.fws.gov/ipac/>. Accessed March 26, 2020.

\_\_\_\_\_. 2020b. Arizona Ecological Services. Available at: <https://www.fws.gov/southwest/es/>. Accessed March 2020.

## **APPENDIX A**

### **Ryan Airfield Master Plan Preferred Development Concept**





## **APPENDIX B**

### **USFWS-Listed Species Project-Specific IPaC Database Receipt and Listed Species for Pima County**



# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Pima County, Arizona



## Local office

Arizona Ecological Services Field Office

📞 (602) 242-0210

📠 (602) 242-2513

9828 North 31st Ave

#c3

Phoenix, AZ 85051-2517

<http://www.fws.gov/southwest/es/arizona/>

[http://www.fws.gov/southwest/es/EndangeredSpecies\\_Main.html](http://www.fws.gov/southwest/es/EndangeredSpecies_Main.html)

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [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.

The following species are potentially affected by activities in this location:

## Mammals

NAME	STATUS
------	--------

Jaguar *Panthera onca*

There is **final** critical habitat for this species. Your location overlaps the critical habitat.

<https://ecos.fws.gov/ecp/species/3944>

Endangered

Ocelot *Leopardus* (=*Felis*) *pardalis*

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4474>

Endangered

Sonoran Pronghorn *Antilocapra americana sonoriensis*

Wherever found, except where listed as an experimental population

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4750>

Endangered

Sonoran Pronghorn *Antilocapra americana sonoriensis*

U.S.A. (AZ), Mexico

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/4750>

EXPN

## Birds

## NAME

California Least Tern *Sterna antillarum browni*

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/8104>

STATUS

Endangered

Masked Bobwhite (quail) *Colinus virginianus ridgwayi*

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/3484>

Endangered

Mexican Spotted Owl *Strix occidentalis lucida*

There is **final** critical habitat for this species. Your location overlaps the critical habitat.

<https://ecos.fws.gov/ecp/species/8196>

Threatened

Southwestern Willow Flycatcher *Empidonax traillii extimus*

There is **final** critical habitat for this species. Your location overlaps the critical habitat.

<https://ecos.fws.gov/ecp/species/6749>

Endangered

Yellow-billed Cuckoo *Coccyzus americanus*

There is **proposed** critical habitat for this species. Your location overlaps the critical habitat.

<https://ecos.fws.gov/ecp/species/3911>

Threatened

## Reptiles

## NAME

## STATUS

Northern Mexican Gartersnake *Thamnophis eques megalops*

Threatened

There is **proposed** critical habitat for this species. Your location overlaps the critical habitat.

<https://ecos.fws.gov/ecp/species/7655>

Sonoyta Mud Turtle *Kinosternon sonoriense longifemorale*

Endangered

There is **proposed** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/7276>

## Amphibians

## NAME

## STATUS

Chiricahua Leopard Frog *Rana chiricahuensis*

Threatened

There is **final** critical habitat for this species. Your location overlaps the critical habitat.

<https://ecos.fws.gov/ecp/species/1516>

## Fishes

## NAME

## STATUS

Desert Pupfish *Cyprinodon macularius*

Endangered

There is **final** critical habitat for this species. Your location overlaps the critical habitat.

<https://ecos.fws.gov/ecp/species/7003>

Gila Chub *Gila intermedia*

Endangered

There is **final** critical habitat for this species. Your location overlaps the critical habitat.

<https://ecos.fws.gov/ecp/species/51>

Gila Topminnow (incl. Yaqui) *Poeciliopsis occidentalis*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/1116>

Sonora Chub *Gila ditaenia*

Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/1394>

## Flowering Plants

## NAME

## STATUS

Acuna Cactus <i>Echinomastus erectocentrus</i> var. <i>acunensis</i> There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat. <a href="https://ecos.fws.gov/ecp/species/5785">https://ecos.fws.gov/ecp/species/5785</a>	Endangered
Canelo Hills Ladies-tresses <i>Spiranthes delitescens</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/8098">https://ecos.fws.gov/ecp/species/8098</a>	Endangered
Huachuca Water-umbel <i>Lilaeopsis schaffneriana</i> var. <i>recurva</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/1201">https://ecos.fws.gov/ecp/species/1201</a>	Endangered
Kearney's Blue-star <i>Amsonia kearneyana</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/7485">https://ecos.fws.gov/ecp/species/7485</a>	Endangered
Nichol's Turk's Head Cactus <i>Echinocactus horizonthalonius</i> var. <i>nicholii</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/5343">https://ecos.fws.gov/ecp/species/5343</a>	Endangered
Pima Pineapple Cactus <i>Coryphantha scheeri</i> var. <i>robustispina</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/4919">https://ecos.fws.gov/ecp/species/4919</a>	Endangered

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Acuna Cactus <i>Echinomastus erectocentrus</i> var. <i>acunensis</i> <a href="https://ecos.fws.gov/ecp/species/5785#crithab">https://ecos.fws.gov/ecp/species/5785#crithab</a>	Final
Beardless Chinch Weed <i>Pectis imberbis</i> For information on why this critical habitat appears for your project, even though Beardless Chinch Weed is not on the list of potentially affected species at this location, contact the local field office. <a href="https://ecos.fws.gov/ecp/species/1348#crithab">https://ecos.fws.gov/ecp/species/1348#crithab</a>	Proposed
Chiricahua Leopard Frog <i>Rana chiricahuensis</i> <a href="https://ecos.fws.gov/ecp/species/1516#crithab">https://ecos.fws.gov/ecp/species/1516#crithab</a>	Final

Desert Pupfish	Cyprinodon macularius	Final
Gila Chub	Gila intermedia	Final
Jaguar	Panthera onca	Final
Mexican Spotted Owl	Strix occidentalis lucida	Final
Northern Mexican Gartersnake	Thamnophis eques megalops	Proposed
Southwestern Willow Flycatcher	Empidonax traillii extimus	Final
Yellow-billed Cuckoo	Coccyzus americanus	Proposed

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

## MIGRATORY BIRD INFORMATION IS NOT AVAILABLE AT THIS TIME

### Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

### What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

### What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);

2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

## National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

This location overlaps the following National Wildlife Refuge lands:

LAND	ACRES
Buenos Aires National Wildlife Refuge	117,562.46 acres

📞 (520) 823-4251

📠 (520) 823-4247

MAILING ADDRESS

P.O. Box 109

Sasabe, AZ 85633-0109

PHYSICAL ADDRESS

7.5 Miles North Of Sasabe On Highway 286

Sasabe, AZ 85633

<https://www.fws.gov/refuges/profiles/index.cfm?id=22530>

Cabeza Prieta National Wildlife Refuge	855,532.91 acres
----------------------------------------	------------------

📞 (520) 387-6483

📠 (520) 387-5359

1611 North Second Avenue

Ajo, AZ 85321-1634

<https://www.fws.gov/refuges/profiles/index.cfm?id=22571>

## Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

## Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

## **Data limitations**

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted.

Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

## **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubificid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

## **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.



# 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](http://www.fws.gov/southwest/es/EndangeredSpecies_Main.html)

In Reply Refer To:

March 26, 2020

Consultation Code: 02EAAZ00-2020-SLI-0609

Event Code: 02EAAZ00-2020-E-01358

Project Name: Ryan Airfield Master Plan

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

To Whom It May Concern:

The Fish and Wildlife Service (Service) is providing this list under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). The list you have generated identifies threatened, endangered, proposed, and candidate species, and designated and proposed critical habitat, that may occur within one or more delineated United States Geological Survey 7.5 minute quadrangles with which your project polygon intersects. Each quadrangle covers, at minimum, 49 square miles. 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/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/nationalbaldeaglenmanagementguidelines.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-0609

Event Code: 02EAAZ00-2020-E-01358

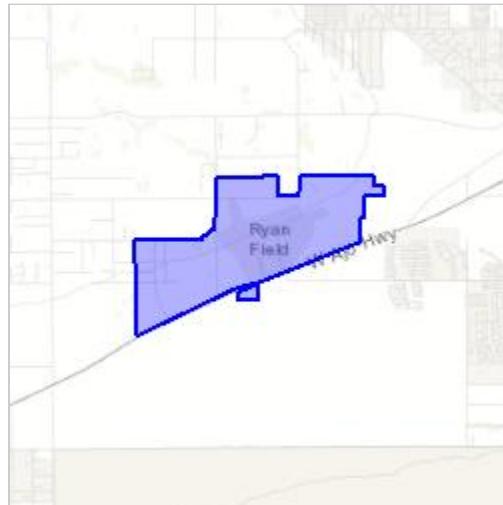
Project Name: Ryan Airfield Master Plan

Project Type: TRANSPORTATION

Project Description: Ryan Airfield is updating its Airport Master Plan for Ryan Airfield. The planning area is approximately 1,749 acres. SWCA is preparing an ESA desktop review to inform the Master Plan. All projects identified in the plan will have separate environmental clearance processes.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/32.13753256130906N111.18078014309266W>



Counties: Pima, AZ

## Endangered Species Act Species

There is a total of 7 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<sup>1</sup>, 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.

---

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.

### Mammals

NAME	STATUS
Jaguar <i>Panthera onca</i>	Endangered
Sonoran Pronghorn <i>Antilocapra americana sonoriensis</i>	Experimental Population, Non-Essential

Population: U.S.A. (AZ), Mexico  
No critical habitat has been designated for this species.  
Species profile: <https://ecos.fws.gov/ecp/species/3944>

### Birds

NAME	STATUS
California Least Tern <i>Sterna antillarum browni</i>	Endangered
Yellow-billed Cuckoo <i>Coccyzus americanus</i>	Threatened

No critical habitat has been designated for this species.  
Species profile: <https://ecos.fws.gov/ecp/species/8104>

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>

## Reptiles

NAME	STATUS
Northern Mexican Gartersnake <i>Thamnophis eques megalops</i> There is <b>proposed</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/7655">https://ecos.fws.gov/ecp/species/7655</a>	Threatened
Sonoyta Mud Turtle <i>Kinosternon sonoriense longifemorale</i> There is <b>proposed</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/7276">https://ecos.fws.gov/ecp/species/7276</a>	Endangered

## Flowering Plants

NAME	STATUS
Pima Pineapple Cactus <i>Coryphantha scheeri var. robustispina</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4919">https://ecos.fws.gov/ecp/species/4919</a>	Endangered

## Critical habitats

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



**APPENDIX C**

**AZHGIS Online Environmental Review Response**



# 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:**

Ryan Airfield Master Plan

**User Project Number:**

48761

**Project Description:**

Ryan Airfield is updating its Airport Master Plan for Ryan Airfield. The planning area is approximately 1,749 acres. SWCA is preparing an ESA desktop review to inform the Master Plan. All projects identified in the plan will have separate environmental clearance processes.

**Project Type:**

Transportation & Infrastructure, Airports, Construction of new runways, terminals/concourses, other facilities

**Contact Person:**

Stacy Campbell

**Organization:**

SWCA

**On Behalf Of:**

FAA

**Project ID:**

HGIS-10760

***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**

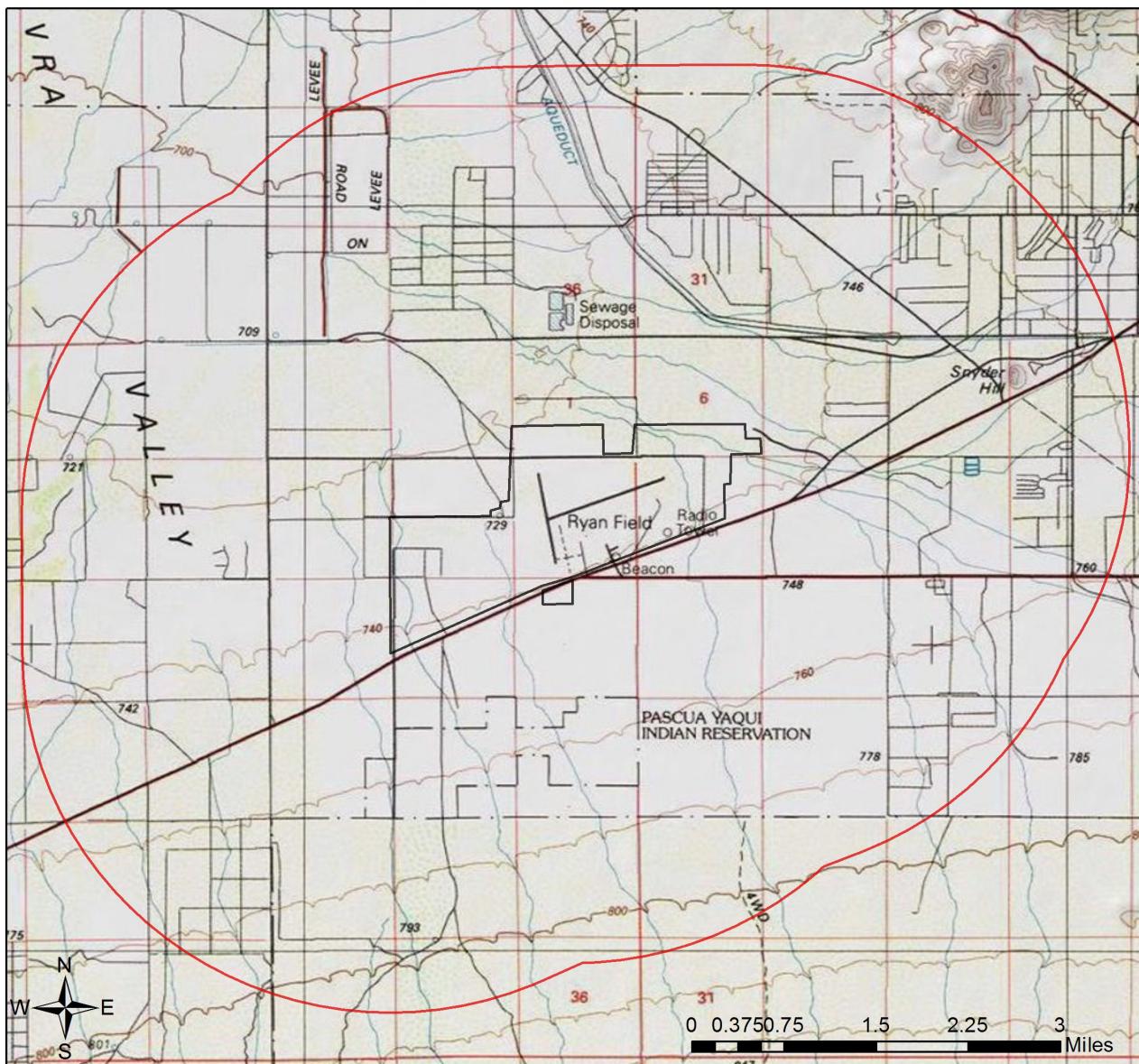
**Fax Number: (623) 236-7366**

**Or**

**[PEP@azgfd.gov](mailto: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

## Ryan Airfield Master Plan USA Topo Basemap With Locator Map



- Project Boundary
- Buffered Project Boundary

Project Size (acres): 1,872.58

Lat/Long (DD): 32.1398 / -111.1769

County(s): Pima

AGFD Region(s): Tucson

Township/Range(s): T15S, R11E; T15S, R12E

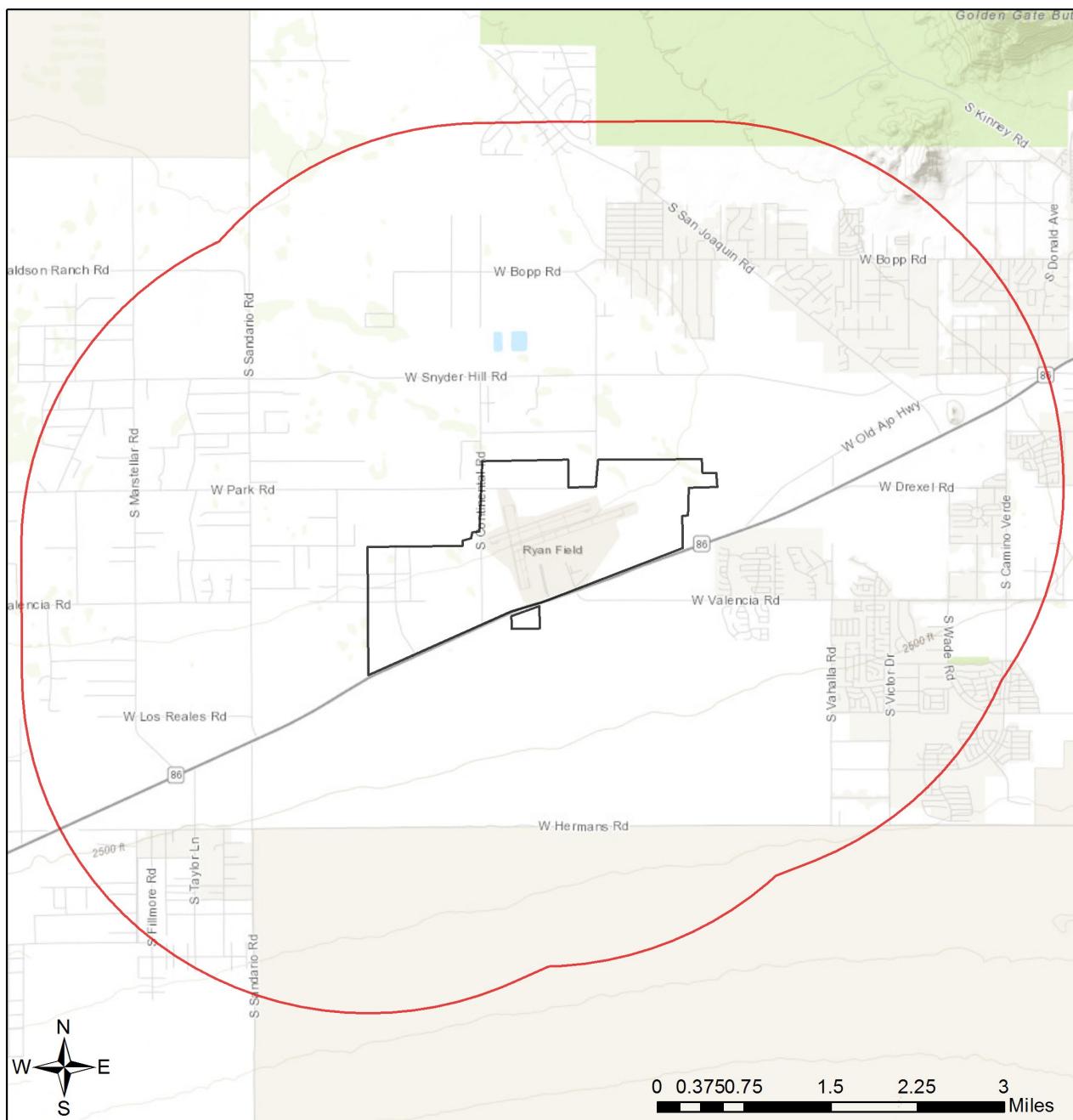
USGS Quad(s): BROWN MOUNTAIN; SAN XAVIER MISSION SW

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



## Ryan Airfield Master Plan

### Web Map As Submitted By User



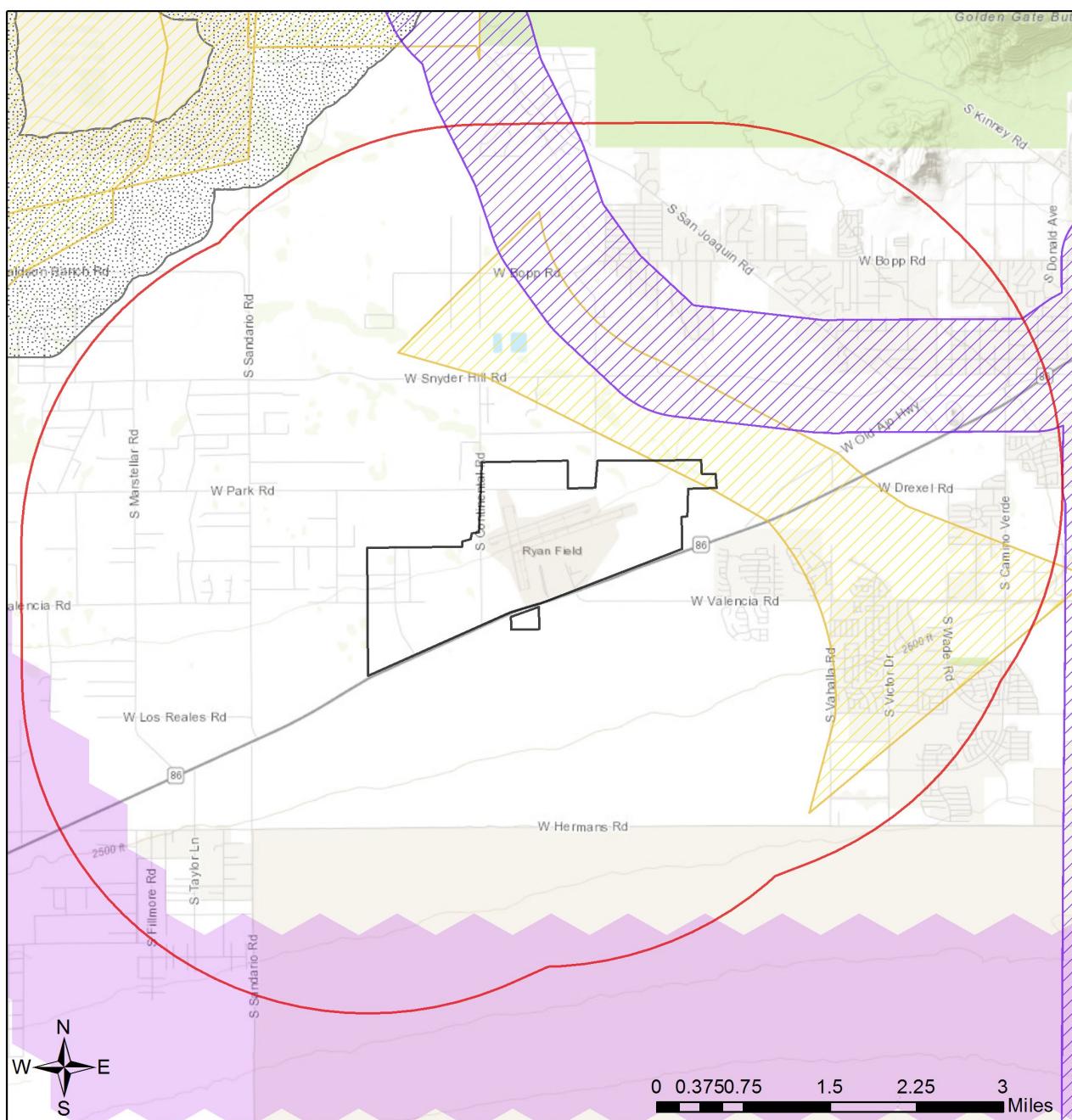
- Project Boundary
- Buffered Project Boundary

Project Size (acres): 1,872.58  
Lat/Long (DD): 32.1398 / -111.1769  
County(s): Pima  
AGFD Region(s): Tucson  
Township/Range(s): T15S, R11E; T15S, R12E  
USGS Quad(s): BROWN MOUNTAIN; SAN XAVIER MISSI

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

## Ryan Airfield Master Plan

### Important Areas



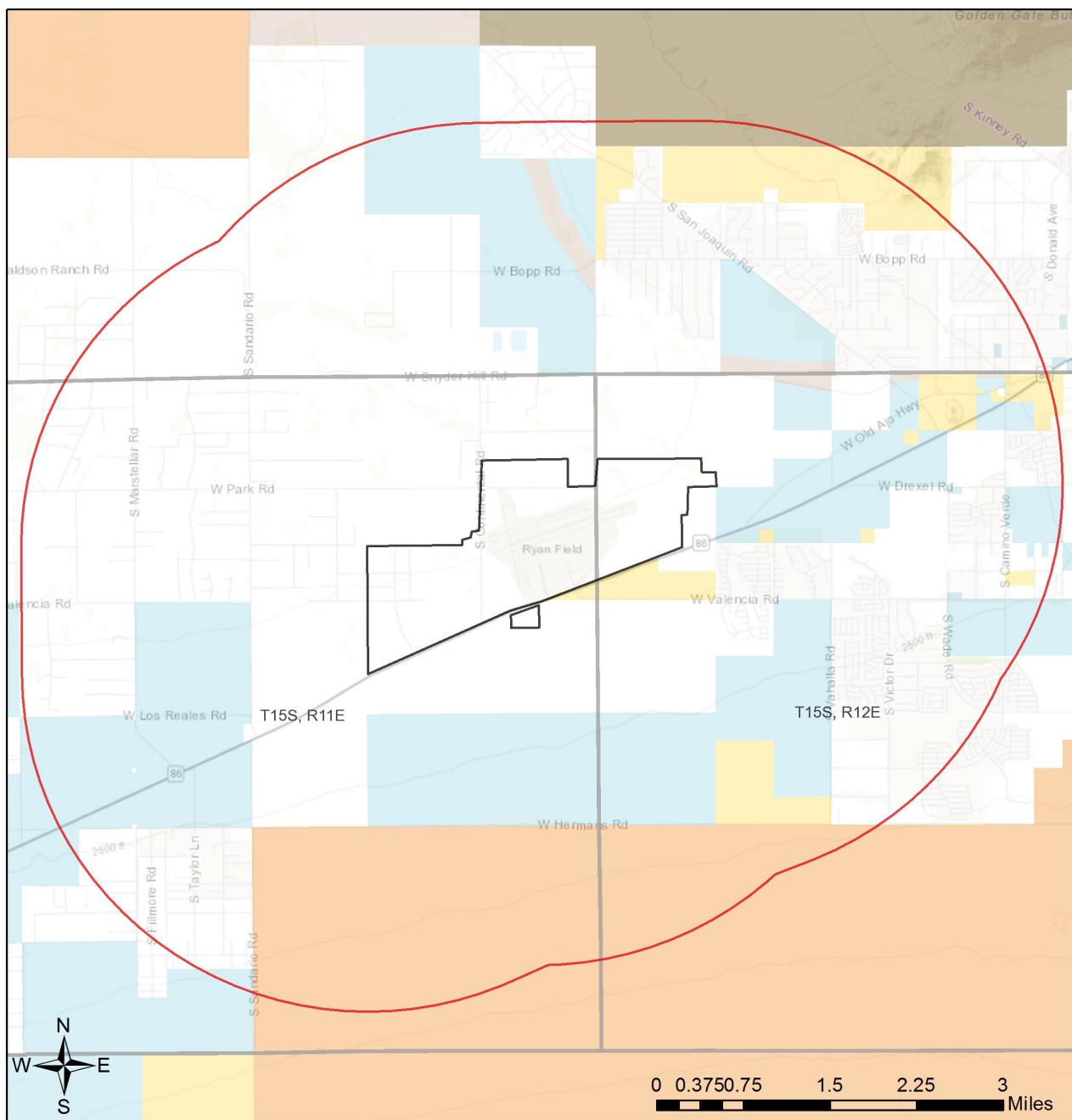
- Project Boundary
- Buffered Project Boundary
- County Stakeholder Assessment**
- Wildlife Crossing Area
- Wildlife Movement Area - Diffuse
- Wildlife Movement Area - Landscape

- Wildlife Movement Area - Riparian/Wash Project Size (acres): 1,872.58
- Wildlife Connectivity Lat/Long (DD): 32.1398 / -111.1769
- Important Connectivity Zones County(s): Pima
- Pinal County Riparian AGFD Region(s): Tucson
- Critical Habitat Township/Range(s): T15S, R11E; T15S, R12E
- Important Bird Areas USGS Quad(s): BROWN MOUNTAIN; SAN XAVIER MISSI

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

## Ryan Airfield Master Plan

### Township/Ranges and Land Ownership



- Project Boundary
- Buffered Project Boundary
- Township/Ranges

Military

Mixed/Other

National Park/Mon.

Private

State & Regional Parks

State Trust

US Forest Service

Wildlife Area/Refuge

Project Size (acres): 1,872.58

Lat/Long (DD): 32.1398 / -111.1769

County(s): Pima

AGFD Region(s): Tucson

Township/Range(s): T15S, R11E; T15S, R12E

USGS Quad(s): BROWN MOUNTAIN; SAN XAVIER MISSI

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

#### Land Ownership

- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.

**Special Status Species Documented within 3 Miles of Project Vicinity**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Bat Colony						
<i>Coryphantha scheeri</i> var. <i>robustispina</i>	Pima Pineapple Cactus	LE			HS	
<i>Falco peregrinus anatum</i>	American Peregrine Falcon	SC	S	S		1A
<i>Gopherus morafkai</i>	Sonoran Desert Tortoise	CCA	S	S		1A
<i>Heloderma suspectum suspectum</i>	Reticulate Gila Monster					1A
<i>Mammillaria thornberi</i>	Thornber Fishhook Cactus				SR	
<i>Tumamoca macdougallii</i>	Tumamoc Globeberry		S	S	SR	

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

**Special Areas Documented within the Project Vicinity**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Concentrated drainages across State Route 86 towards Brawley Wash	Pima County Wildlife Movement Area - Landscape					

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
<i>Aix sponsa</i>	Wood Duck				1B	
<i>Ammospermophilus harrisii</i>	Harris' Antelope Squirrel				1B	
<i>Anaxyrus retiformis</i>	Sonoran Green Toad			S		1B
<i>Anthus spragueii</i>	Sprague's Pipit	SC			1A	
<i>Athene cunicularia hypugaea</i>	Western Burrowing Owl	SC	S	S		1B
<i>Botaurus lentiginosus</i>	American Bittern				1B	
<i>Calypte costae</i>	Costa's Hummingbird				1C	
<i>Chilomeniscus stramineus</i>	Variable Sandsnake				1B	
<i>Colaptes chrysoides</i>	Gilded Flicker			S		1B
<i>Coluber bilineatus</i>	Sonoran Whipsnake				1B	
<i>Corynorhinus townsendii pallescens</i>	Pale Townsend's Big-eared Bat	SC	S	S		1B
<i>Crotalus tigris</i>	Tiger Rattlesnake				1B	
<i>Crotaphytus nebrius</i>	Sonoran Collared Lizard				1B	
<i>Dipodomys spectabilis</i>	Banner-tailed Kangaroo Rat			S		1B
<i>Empidonax wrightii</i>	Gray Flycatcher				1C	
<i>Euderma maculatum</i>	Spotted Bat	SC	S	S		1B
<i>Eumops perotis californicus</i>	Greater Western Bonneted Bat	SC		S		1B
<i>Glaucidium brasilianum cactorum</i>	Cactus Ferruginous Pygmy-owl	SC	S	S		1B

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

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
<i>Gopherus morafkai</i>	Sonoran Desert Tortoise	CCA	S	S		1A
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC, BGA	S	S		1A
<i>Heloderma suspectum</i>	Gila Monster					1A
<i>Incilius alvarius</i>	Sonoran Desert Toad					1B
<i>Lasiurus blossevillii</i>	Western Red Bat		S			1B
<i>Lasiurus xanthinus</i>	Western Yellow Bat		S			1B
<i>Leopardus pardalis</i>	Ocelot	LE				1A
<i>Leptonycteris yerbabuenae</i>	Lesser Long-nosed Bat	SC				1A
<i>Lepus alleni</i>	Antelope Jackrabbit					1B
<i>Macrotus californicus</i>	California Leaf-nosed Bat	SC		S		1B
<i>Melanerpes uropygialis</i>	Gila Woodpecker					1B
<i>Melospiza lincolni</i>	Lincoln's Sparrow					1B
<i>Melozone aberti</i>	Abert's Towhee		S			1B
<i>Micrathene whitneyi</i>	Elf Owl					1C
<i>Micruroides euryxanthus</i>	Sonoran Coralsnake					1B
<i>Myiarchus tyrannulus</i>	Brown-crested Flycatcher					1C
<i>Myotis velifer</i>	Cave Myotis	SC		S		1B
<i>Myotis yumanensis</i>	Yuma Myotis	SC				1B
<i>Nyctinomops femorosaccus</i>	Pocketed Free-tailed Bat					1B
<i>Oreoscoptes montanus</i>	Sage Thrasher					1C
<i>Oreothlypis luciae</i>	Lucy's Warbler					1C
<i>Panthera onca</i>	Jaguar	LE				1A
<i>Peucaea carpalis</i>	Rufous-winged Sparrow					1B
<i>Phrynosoma solare</i>	Regal Horned Lizard					1B
<i>Phyllorhynchus browni</i>	Saddled Leaf-nosed Snake					1B
<i>Progne subis hesperia</i>	Desert Purple Martin		S			1B
<i>Setophaga petechia</i>	Yellow Warbler					1B
<i>Sphyrapicus nuchalis</i>	Red-naped Sapsucker					1C
<i>Spizella breweri</i>	Brewer's Sparrow					1C
<i>Tadarida brasiliensis</i>	Brazilian Free-tailed Bat					1B
<i>Toxostoma lecontei</i>	LeConte's Thrasher		S			1B
<i>Troglodytes pacificus</i>	Pacific Wren					1B
<i>Vireo bellii arizonae</i>	Arizona Bell's Vireo					1B
<i>Vulpes macrotis</i>	Kit Fox	No Status				1B

**Species of Economic and Recreation Importance Predicted within the Project Vicinity**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
<i>Callipepla gambelii</i>	Gambel's Quail					

**Species of Economic and Recreation Importance Predicted within the Project Vicinity**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla squamata	Scaled Quail					1C
Odocoileus hemionus	Mule Deer					
Pecari tajacu	Javelina					
Puma concolor	Mountain Lion					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

**Project Type: Transportation & Infrastructure, Airports, Construction of new runways, terminals/concourses, other facilities**

**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.

Consider tower designs and/or modifications that reduce or eliminate impacts to migratory birds (i.e. free standing, minimally lighted structures).

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

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/SHPD/index.html>).

Based on the project type entered, coordination with Arizona Department of Environmental Quality may be required (<http://www.azdeq.gov/>).

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

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

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

**The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at [PEP@azgfd.gov](mailto:PEP@azgfd.gov).**

**Project Location and/or Species Recommendations:**

HDMS records indicate that one or more native plants listed on the **Arizona Native Plant Law and Antiquities Act** have been documented within the vicinity of your project area. Please contact:

Arizona Department of Agriculture  
1688 W Adams St.  
Phoenix, AZ 85007  
Phone: 602.542.4373  
<https://agriculture.az.gov/sites/default/files/Native%20Plant%20Rules%20-%20AZ%20Dept%20of%20Ag.pdf> starts on page 44

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

**Phoenix Main Office**  
9828 North 31st Avenue #C3  
Phoenix, AZ 85051-2517  
Phone: 602-242-0210  
Fax: 602-242-2513

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

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

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

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](mailto:pep@azgfd.gov)) for specific project recommendations.

**APPENDIX D**

**Sonoran Desert Tortoise Handling Guidelines**



**GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES  
ENCOUNTERED ON DEVELOPMENT PROJECTS**  
Arizona Game and Fish Department  
Revised September 22, 2014

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

The Sonoran desert tortoise occurs south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position parallel to the ground at all times, and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 40° Celsius (105° Fahrenheit) unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to one-half mile, but no further than necessary from its original location. If a release site or alternate burrow is unavailable within this distance, and ambient air temperature exceeds 40° Celsius (105° Fahrenheit), contact the Department for guidance. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, may be placed in the Department's tortoise adoption program. *Managers of projects likely to affect desert tortoises should obtain a [scientific collecting license](#) from the Department to facilitate handling or temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- Use the Department's [Environmental On-Line Review Tool Department](#) during the planning stages of any project that may affect desert tortoise habitat.
- Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.
- Take is prohibited by state law.
- These guidelines do not apply to Mojave desert tortoises (north and west of the Colorado River). Mojave desert tortoises are listed as threatened under the Endangered Species Act, administered by the U.S. Fish and Wildlife Service.
- These guidelines are subject to revision at the discretion of the Department.



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## TECHNICAL MEMORANDUM

**To:** Chris Hacker  
Aviation Services  
Mead & Hunt  
8777 E. Via de Ventura, Suite 398  
Scottsdale, Arizona 85258

**From:** David M. R. Barr, Archaeologist

**Date:** August 12, 2020

**Re:** **Ryan Airfield Master Plan: Historic Buildings Technical Memorandum / SWCA Project No. 48761**

---

## INTRODUCTION

Ryan Airfield is currently in the process of updating its *Airport Master Plan for Ryan Airfield* (herein called the “Master Plan” [Coffman Associates, Inc. 2010]). As part of the planning process, SWCA Environmental Consultants (SWCA) has prepared this technical memorandum (tech memo) to provide summary information on the historic buildings within the Ryan Airfield property. This tech memo supports the development of an updated Master Plan for 2018 to 2038, in accordance with the Federal Aviation Administration (FAA) requirements (Advisory Circular [AC] 150/5070-6B, *Airport Master Plans*; Orders 1050.1F, *Environmental Impacts: Policies and Procedures*, and 5050.4B, *National Environmental Policy Act (NEPA) Implementation Instructions for Airport Actions*) and also Executive Order 11988 – Floodplain Management.

This document provides summary information on the presence or absence of historic-era buildings, i.e., buildings that are 50 years old or older, on the approximately 1,900-acre airport property identified in the current airport layout plan. In addition, this document provides recommendations regarding the need for a historic building inventory/assessment at the airfield property.

## Historic Building Inventory

SWCA reviewed historic-era aerial photographs, the 2019 draft Master Plan, the 1944 utilities map, and the 1963 Airport Layout Plan.

The 1958 aerial depicts 14 buildings at Ryan Airfield (Historic Aerials 2020). The 1966 aerial depicts the buildings in the same location as in 1958; however, one building has been demolished. Examination of the 1990 aerial indicates that all but three of the original buildings have been demolished and only their concrete foundations remain. Between 1996 and 2003, all the original buildings have been demolished and only four concrete foundations remain.

The 1944 utilities map for the Ryan School of Aeronautics (Defense Plant Corporation 1944) (Appendix A) depicts the same number and orientation of buildings as observed on the 1958 aerial. Examination of the 1963 Ryan Field Airport Layout Plan (Blanton & Cole 1963) (see Appendix A) shows no new buildings and the existing buildings are the same as depicted the 1944 utilities map and what was observed on the historic aerials. Also depicted on the 1963 map is the proposed airport development that included taxiways, runways and runway improvements, aprons, hangars, and office buildings.

Examination of the building inventory provided in the Ryan Airfield Master Plan Working Paper 1 (Mead & Hund 2019) indicates that there are currently 107 buildings on Ryan Airfield (Mead & Hunt 2019: Table 1-6) (Appendix B). Review of the construction dates (see Appendix B) indicates that the earliest buildings constructed at Ryan Airfield are buildings E-113 and E-114, and both are shade hangars constructed in 1981. In addition, there are 13 buildings constructed between 1983 and 1989, 61 buildings built between 1991 and 1999, and 25 buildings built between 2001 and 2006 (Mead & Hunt 2019: Table 1-6).

## **Conclusion and Recommendations**

Review of the available data indicates that there are no historic-era structures at Ryan Airfield. Therefore, SWCA recommends that a historic building inventory/assessment is not currently necessary. However, a historic building inventory/assessment may be necessary as the current buildings reach the 50-year-old threshold. The earliest constructed buildings at Ryan Airfield date to 1981; therefore, the soonest a historic building inventory/assessment may be needed is 2031.

## LITERATURE CITED

Blanton & Cole. 1963. Ryan Field Airport Layout Plan. Prepared for City of Tucson. Blanton & Cole, Architects & Engineers, Tucson, Arizona.

Coffman Associates, Inc. 2010. *Airport Master Plan for Ryan Airfield*. Prepared for Tucson Airport Authority. Available at: <https://www.flytucson.com/ryan/about/master-plan/> Accessed August 8, 2020.

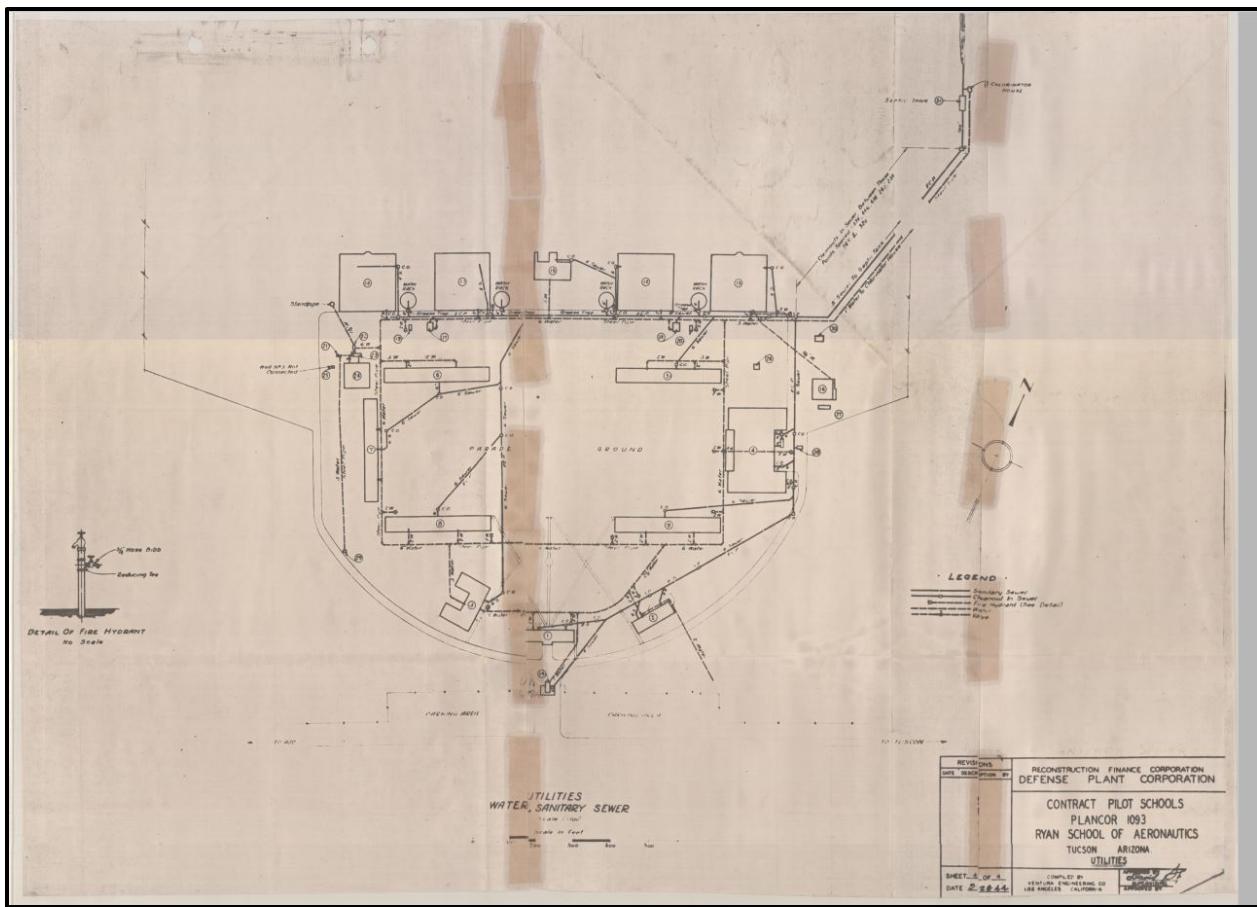
Defense Plant Corporation. 1944. Contract Pilot Schools Plancor 1093, Ryan School of Aeronautics, Utilities. Defense Plant Corporation, Reconstruction Finance Corporation.

Historic Aerials. Images of Ryan Airfield. Available at: <https://www.historicaerials.com/viewer>. Accessed August 6, 2020.

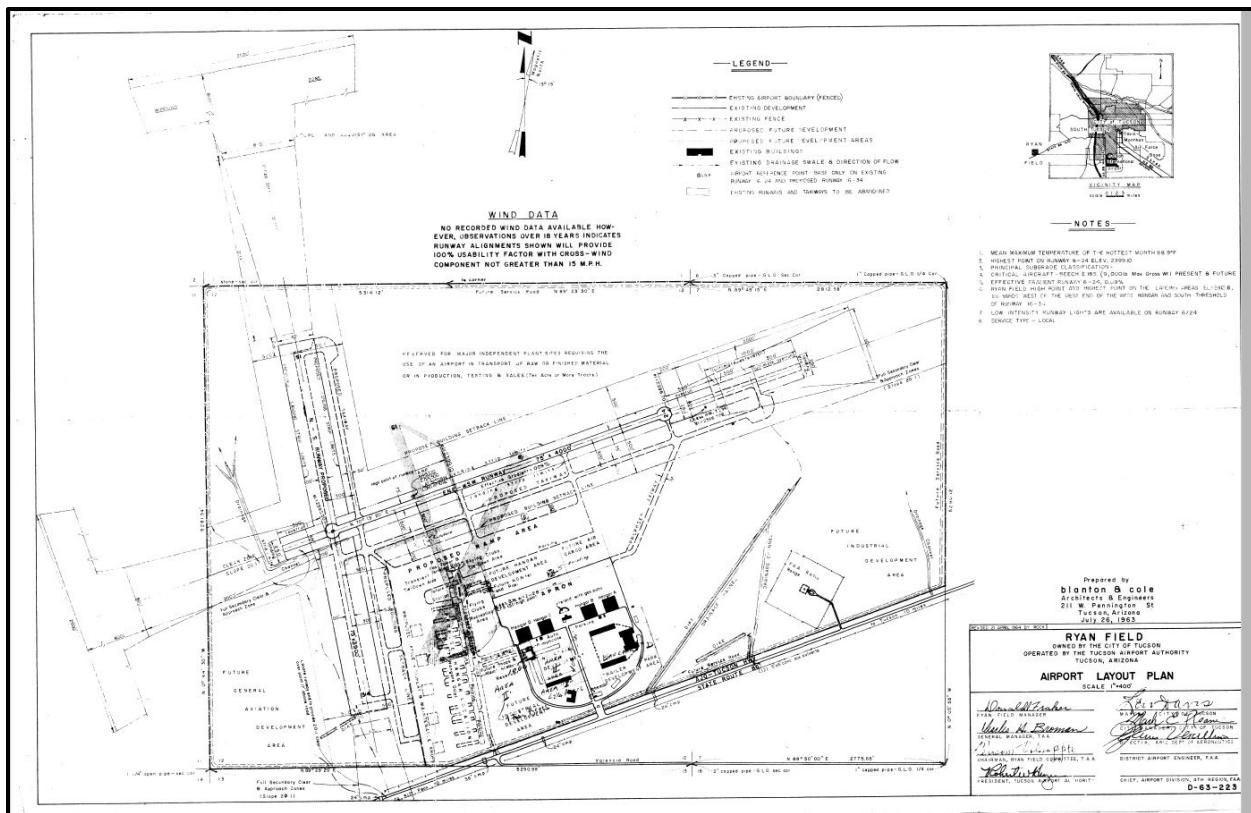
Mead & Hunt. 2019. Ryan Airfield Master Plan Working Paper 1 (Draft). Mead & Hunt, Scottsdale, Arizona.

**APPENDIX A**  
**Airport Layout Maps**





Appendix A. Ryan Airfield 1944 utilities map.



## Appendix A. Ryan Airfield 1963 layout map.

## **APPENDIX B**

### **Ryan Airfield Existing Building Construction Data**

## Non-Aeronautical

### Buildings and Uses

Table 1-6 lists the existing Airport buildings with reference to the ALP numbers, on-site building number, building type, condition and year the building was constructed. This includes sites for fuel, ATCT, and utilities on the Airport.

**Table 1-6: Airport Buildings**

RYAN AIRFIELD BUILDING INVENTORY				
2011 RYN ALP Building #	Building No. (New)	Building Type	Building Sq. Ft.	Year Built
1	E-101	Flight School	8,600	1992
2	E-102	T-Hangars	25,402	1983
3	E-103	Conventional Hangar	28,966	1989
4	E-104	Nose Shade Hangars	NA	1986
5	E-105	Hangar Office	12,300	1988
6	E-106	Hangar Office	12,570	1987
7	E-107	Hangar Office	12,450	1986
8	E-108	Hangar Office	8,960	1986
9	E-109	Office Building	2,900	1986
10	E-110	Restaurant	2,747	1985
11	E-111	RYAN Administration Building	4,424	2005
12	E-112	Self-Serve Fueling Facility	NA	1988
13	E-113	Shade Hangars	16,800	1981
14	E-114	Shade Hangars	16,800	1981
15	E-115	Conventional Hangar	14,580	1995
16	E-116	Hangar Office	2,000	1994
17	E-117	Hangar Office	1,760	1994
18	E-118	Hangar Office	1,760	1994
19	E-119	Hangar Office	1,760	1994
20	E-120	Hangar Office	1,760	1994
21	E-121	Hangar Office	2,000	1994
22	E-122	Hangar Office	2,000	1994
23	E-123	Hangar Office	1,548	1991
24	E-124	Hangar Office	1,548	1991
25	E-125	Hangar Office	1,548	1991
26	E-126	Hangar Office	1,548	1991
27	E-127	Hangar Office	1,548	1991
28	E-128	Hangar Office	1,548	1991
29	E-129	Hangar Office	1,548	1991
30	E-130	Hangar Office	1,548	1991
31	E-131	Hangar Office	1,548	1991

**Table 1-6: Airport Buildings (continued)**

RYAN AIRFIELD BUILDING INVENTORY				
2011 RYN ALP Building #	Building No. (New)	Building Type	Building Sq. Ft.	Year Built
32	E-132	Hangar Office	1,548	1991
33	E-133	Hangar Office	1,548	1991
34	E-134	Hangar Office	1,548	1991
35	E-135	Hangar Office	1,548	1991
36	E-136	Hangar Office	1,548	1991
37	E-137	Hangar Office	1,548	1991
38	E-138	Hangar Office	1,548	1991
39	E-139	Hangar Office	1,880	1994
40	E-140	Conventional Hangar	1,850	1994
41	E-141	Conventional Hangar	1,850	1994
42	E-142	Conventional Hangar	1,850	1994
43	E-143	Conventional Hangar	1,850	1994
44	E-144	Conventional Hangar	1,850	1994
45	E-145	Conventional Hangar	1,850	1994
46	E-146	Conventional Hangar	1,850	1994
47	E-147	Conventional Hangar	1,850	1994
48	E-148	Hangar Office	3,850	1989
49	E-149	Wash Rack	2,759	1995
50	E-150	Hangar Office	17,760	1983
51	E-151	Hangar Office	4,960	2006
52	E-152	Hangar Office	4,960	2006
53	E-153	Hangar Office	4,960	2006
54	E-154	Conventional Hangar	3,000	2006
55	E-155	Hangar Office	4,960	2006
56	E-156	Hangar Office	4,960	2006
57	E-157	Hangar Office	4,960	2006
58	E-158	Conventional Hangar	3,000	2006
59	E-159	Conventional Hangar	7,560	2003
60	E-160	Conventional Hangar	3,600	2003
61	E-161	Conventional Hangar	3,600	2004
62	E-162	Conventional Hangar	3,600	2004
63	E-163	Conventional Hangar	3,600	2004
64	E-164	Conventional Hangar	3,600	2003
65	E-165	Conventional Hangar	19,706	2001
66	E-166	Conventional Hangar	9,700	2003
67	E-167	Conventional Hangar	6,330	2003
68	E-168	Conventional Hangar	3,600	2002
69	E-169	Conventional Hangar	3,600	2002
70	E-170	Conventional Hangar	3,600	2004

**Table 1-6: Airport Buildings (continued)**

RYAN AIRFIELD BUILDING INVENTORY				
2011 RYN ALP Building #	Building No. (New)	Building Type	Building Sq. Ft.	Year Built
71	E-171	Conventional Hangar	9,300	2004
72	E-172	Box Hangar W/Office	4,450	2004
73	E-173	Box Hangar	2,600	2001
74	E-174	Box Hangar	2,600	2001
75	E-175	Box Hangar	1,680	1998
76	E-176	Box Hangar	3,000	1996
77	E-177	T-Hangars	6,798	1995
78	E-178	T-Hangars	6,798	1995
79	E-179	Conventional Hangar	2,400	1996
80	E-180	Conventional Hangar	3,000	1996
81	E-181	Conventional Hangar	3,000	1996
82	E-182	Conventional Hangar	2,520	1996
83	E-183	Conventional Hangar	3,000	1996
84	E-184	Conventional Hangar	2,500	1996
85	E-185	Conventional Hangar	2,520	1996
86	E-186	Conventional Hangar	3,000	1996
87	E-187	Conventional Hangar	2,520	1996
88	E-188	Conventional Hangar	3,000	1996
89	E-189	Conventional Hangar	3,000	1996
90	E-190	Conventional Hangar	2,400	1996
91	E-191	Conventional Hangar	4,800	1997
92	E-192	Conventional Hangar	3,555	1996
93	E-193	Conventional Hangar	3,560	1996
94	E-194	Conventional Hangar	3,650	1996
95	E-195	Conventional Hangar	3,560	1996
96	E-196	Conventional Hangar	3,540	1996
97	E-197	Hangar Office	3,600	1999
98	E-198	Hangar Office	3,600	1999
99	E-199	Hangar Office	3,600	1999
100	E-200	Maintenance Facilities	5,490	1988
102	E-201	Electrical Vault	NA	NA
103	E-202	AWOS	NA	NA
104	E-203	Localizer	NA	NA
105	E-204	Glideslope Antenna	NA	NA
108	E-205	Air Traffic Control Tower	NA	1992
101	F-100	Solid Waste Transfer Station	2,400	NA
106	G-100	Water Tank	NA	NA
107	G-101	Generator	NA	NA



# **Archaeological Survey for the Ryan Airfield Master Plan Project, Pima County, Arizona**

**NOVEMBER 2020**

**PREPARED FOR  
Tucson Airport Authority**

**ON BEHALF OF  
Mead & Hunt, Inc.**

**PREPARED BY  
SWCA Environmental Consultants**

**ARCHAEOLOGICAL SURVEY  
FOR THE RYAN AIRFIELD MASTER PLAN PROJECT,  
PIMA COUNTY, ARIZONA**

Prepared for

**Tucson Airport Authority**  
7250 South Tucson Boulevard, Suite 300  
Tucson, Arizona 85756  
Attn: Scott Robidoux

On behalf of

**Mead & Hunt, Inc.**  
8777 East Via de Ventura, Suite 398  
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Prepared by

David M. R. Barr, M.A., RPA

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Arizona Antiquities Act Blanket Permit No. 2020-029bl

SWCA Project No. 48761

SWCA Cultural Resources Report No. 20-715

November 2020

**STATE HISTORIC PRESERVATION OFFICE**  
**SURVEY REPORT ABSTRACT**

---

**Report Title:** Archaeological Survey for the Ryan Airfield Master Plan Project, Pima County, Arizona

**Project Name:** Ryan Airfield Master Plan

**Project Location:** Three Points, Pima County, Arizona

**Project Locator UTM:** NAD 83 Zone 12      483454mE      3555547mN

**Project Sponsor:** Mead & Hunt, Inc.

**Sponsor Project Number(s):** None

**Lead Agency:** Federal Aviation Administration

**Agency Project Name/Number:** Not known

**Other Involved Agencies:** Tucson Airport Authority; City of Tucson; Arizona State Museum (ASM)

**Applicable Regulations:** Section 106 of the National Historic Preservation Act (36 Code of Federal Regulations Part 800); Arizona Antiquities Act (Arizona Revised Statutes [ARS] § 41-841 *et seq.*)

**Funding Source:** Federal

**ASLD ROW Application Number:** Not applicable

**Description of the Project/Undertaking:** Ryan Airfield, which is owned by the City of Tucson and operated and maintained by the Tucson Airport Authority, contracted Mead & Hunt, Inc., to update the Airport Master Plan for future airport expansion and development. SWCA Environmental Consultants (SWCA) was subcontracted by Mead & Hunt, Inc., to complete a cultural resources survey of 648 acres of the overall 1,754-acre airport property to identify historic properties (i.e., properties listed in or eligible for listing in the National Register of Historic Places [NRHP]) that could be affected by future airport actions.

**Project Area/Survey Area:** The Ryan Airfield planning area consists of approximately 1,754 acres of land that includes the roughly 440-acre footprint of the airport and vacant lands in all directions.

SWCA's survey covered 648 acres of the planning area that is being considered for airport expansion and development in the Airport Master Plan update.

**Legal Description:** The Ryan Airfield planning area is located in unincorporated Pima County in Sections 1 and 11–14, Township 15 South, Range 11 East, and Sections 6 and 7, Township 15 South, Range 12 East, Gila and Salt River Baseline and Meridian, on the U.S. Geological Survey Brown Mountain and San Xavier Mission, Arizona, 7.5-minute quadrangles.

**Land Jurisdiction(s):** City of Tucson

**Total Acres:** 1,754 acres (Ryan Airfield planning area)

**Acres Surveyed:** 648 acres (area being considered for future airport expansion and development)

**Acres Not Surveyed:** 1,106 acres (of which 202 acres have been surveyed within the last 10 years)

**Consultant Firm/Organization:** SWCA

**Project Number:** 48761

**Permit Number(s):** Arizona Antiquities Act Blanket Permit No. 2020-029bl

**ASM Accession No.:** 2020-0322.ASM

**Date(s) of Fieldwork:** August 29, 2020 – October 5, 2020

**Number of IOs Recorded:** 17

**STATE HISTORIC PRESERVATION OFFICE  
SURVEY REPORT ABSTRACT**

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**Number of Sites Recorded:** 1

**Eligible Sites:** 1 – AZ AA:16:620(ASM)

**Ineligible Sites:** None

**Unevaluated Sites:** None

**Sites Not Relocated:** None

**Site Summary Table**

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Land Jurisdiction	Identification Status (new or previously recorded)	Site Number/ Property Address	Eligibility Status/ Criterion	Recommended Treatment
City of Tucson	Newly recorded	AZ AA:16:620(ASM)	Eligible / Criterion D	Avoidance

---

**Comments:**

SWCA's survey of 648 acres of the Ryan Airfield planning area resulted in the identification of one archaeological site (AZ AA:16:620[ASM]) and 17 isolated occurrences (IOs).

AZ AA:16:620(ASM) is a newly recorded, small prehistoric artifact scatter with an associated rock feature. The site is recommended as eligible for listing in the NRHP. SWCA recommends that AZ AA:16:620(ASM) be avoided during future airport improvements and development. If avoidance is not feasible, an agency-approved treatment plan should be developed and implicated.

The 17 IOs are prehistoric and historic-era manifestations. The prehistoric IOs consist of ceramic and flaked stone artifacts, and the historic-era IOs are food and beverage cans, glass bottle fragments, and concrete pads. The IOs are recommended not eligible for the NRHP, they do not warrant preservation, and they require no further study.

The above recommendations apply only to the 648 acres surveyed by SWCA and reported on herein. If ground-disturbing activities are proposed outside of the surveyed areas, a qualified archaeologist should be contacted to assess the project's effect on cultural resources.

If previously undocumented buried cultural resources are identified during ground-disturbing activities, all work must immediately cease within 30 meters (100 feet) until a qualified archaeologist has documented the discovery and evaluated its eligibility for the NRHP, in consultation with the appropriate agencies. Work must not resume in this area without agency approval.

If human remains are encountered during ground-disturbing activities, all work must immediately cease within 30 meters (100 feet). The ASM, the lead agency, the Arizona State Historic Preservation Office, and appropriate Tribes must be notified within 24 hours (following ASM and/or agency protocol). Human remains will be treated in accordance with ARS §41-844, and work must not resume in this area without proper authorization from the ASM and the lead agency.

## **PROJECT DESCRIPTION**

Ryan Airfield, which is owned by the City of Tucson and operated and maintained by the Tucson Airport Authority, contracted Mead & Hunt, Inc., to update the Airport Master Plan for future airport expansion and development. SWCA Environmental Consultants (SWCA) was subcontracted by Mead & Hunt, Inc., to complete a cultural resources survey of 648 acres of the overall 1,754-acre airport property to identify historic properties (i.e., properties listed in or eligible for listing in the National Register of Historic Places [NRHP]) that could be affected by future airport actions.

The Ryan Airfield planning area is approximately 1,754 acres of land that includes the roughly 440-acre footprint of the airport and vacant lands in all directions. SWCA's survey covered 648 acres of the planning area that is being considered for airport expansion and development in the Airport Master Plan update.

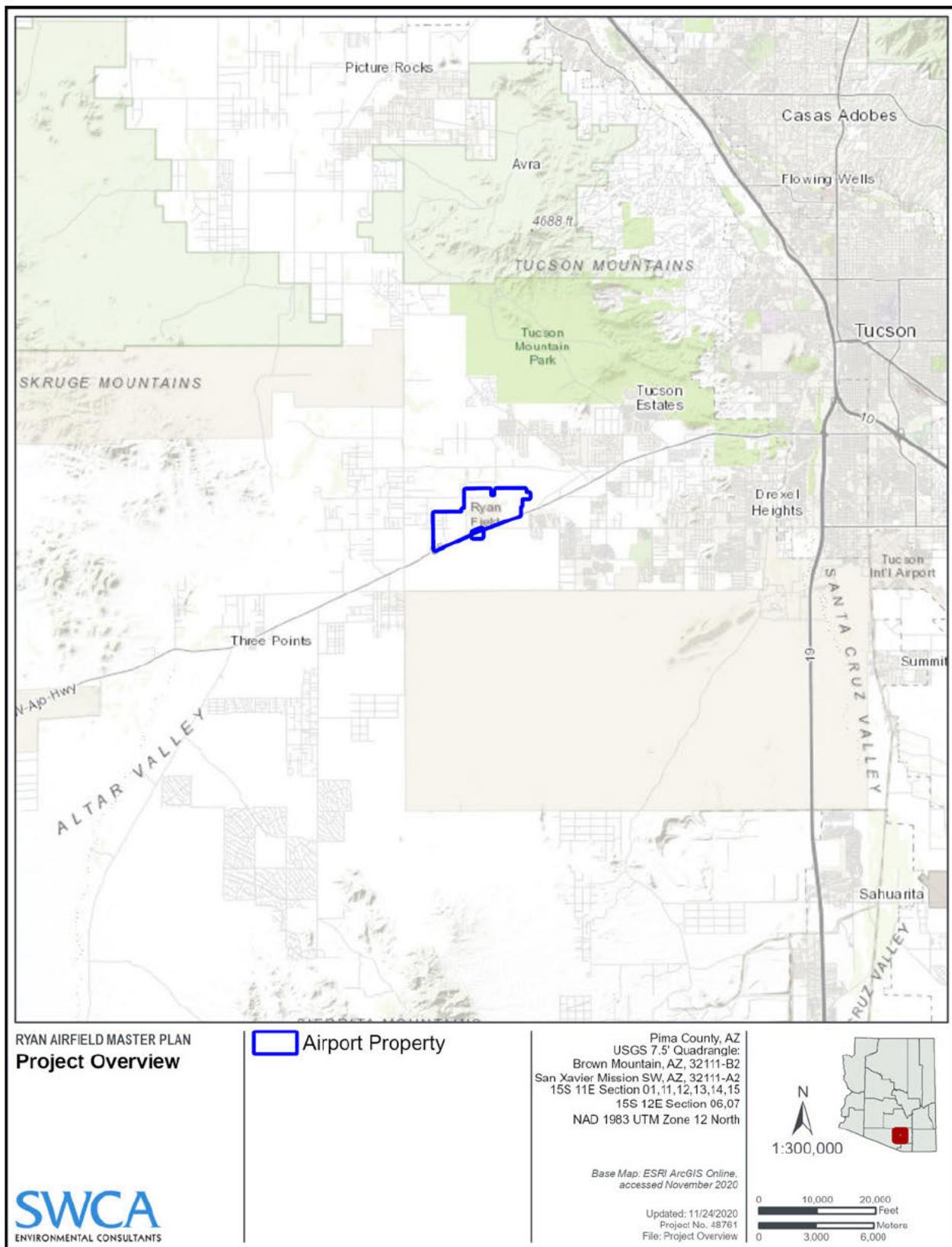
## **PROJECT LOCATION**

Ryan Airfield is located north of Ajo Highway (State Route 86), southwest of the city of Tucson in unincorporated Pima County (Figure 1). Specifically, Ryan Airfield property is located in Sections 1 and 11–14, Township 15 South, Range 11 East, and Sections 6 and 7, Township 15 South, Range 12 East, Gila and Salt River Baseline and Meridian, on the U.S. Geological Survey (USGS) Brown Mountain and San Xavier Mission, Arizona, 7.5-minute quadrangles (Figure 2).

## **PHYSIOGRAPHIC CONTEXT**

Ryan Airfield is located in the upper Avra Valley. The Avra Valley is a broad, north-draining alluvial basin that is bounded on the east by the Tucson Mountains, on the west by the Roskruge, Waterman, and Silver Bell Mountains, and on the south by the Sierrita Mountains. Brawley Wash is the axial drainage of the Avra Valley, ultimately flowing into and forming Los Robles Wash, a tributary of the Santa Cruz River. Tucson Mountain Park is approximately 3.5 miles north of the project area, and the Roskruge Mountains are approximately 5 miles northwest of the project area.

The survey area is undeveloped desert surrounding existing airfield infrastructure (Figure 3). The survey area is relatively undisturbed with the exception of several existing roads and fences. In addition, there are several south-to-north-flowing ephemeral washes that bisect the survey area. Soils in the project are mapped as Tubac Sandy Loam complex, 0 to 2 percent slopes (Natural Resources Conservation Service 2020). These soils typically consist of a thin [0- to 2-inch] upper horizon of sandy loam, overlaying up to 14 inches of loam. Surface sediments consist of light brown deposits intermixed with small gravels. Elevation ranges from approximately 2,370 to 2,430 feet above mean sea level.



**Figure 1. Project vicinity.**

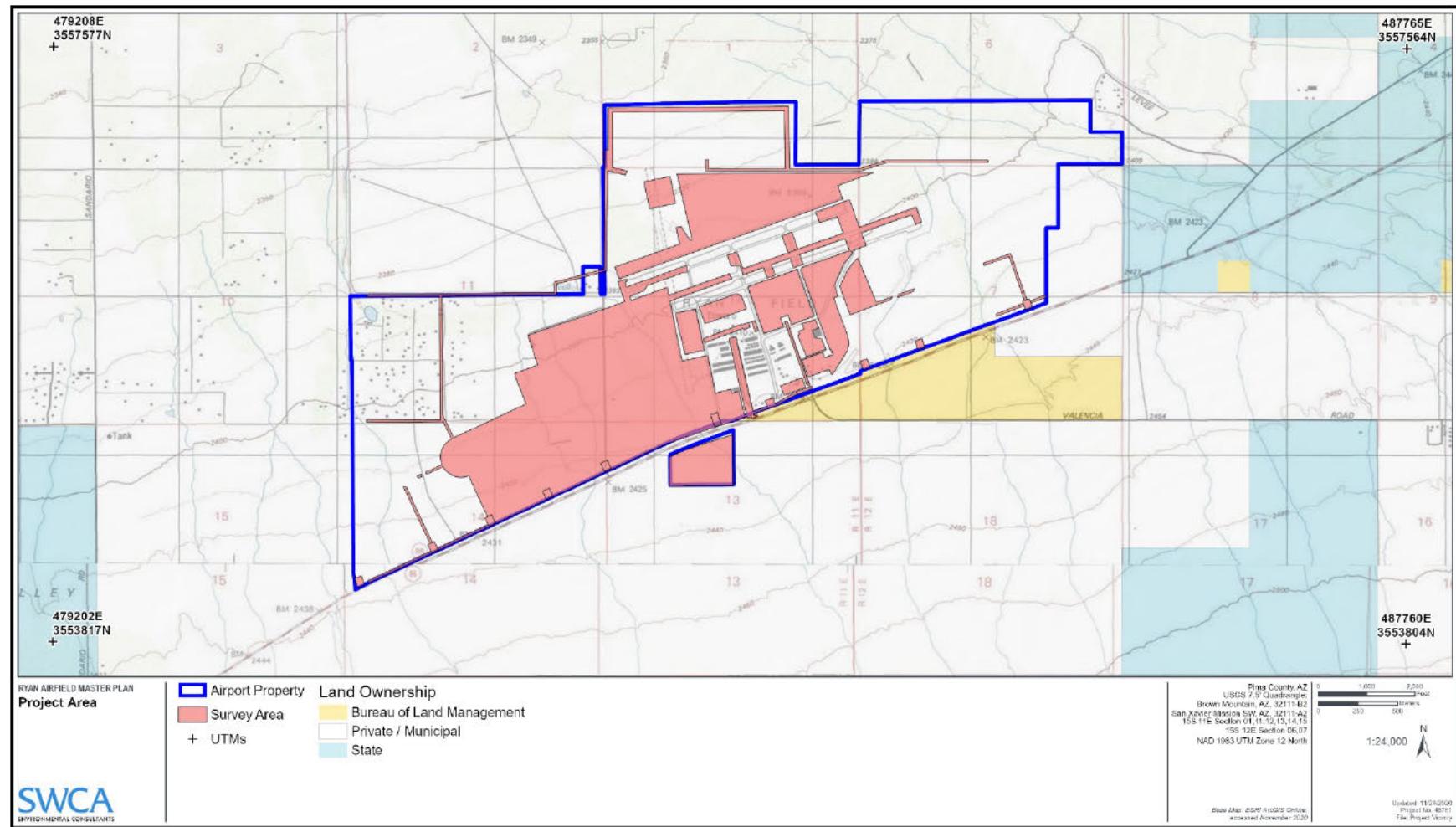


Figure 2. Project location.



**Figure 3. Overview of survey area, facing northeast.**

Ryan Airfield is in an ecotonal zone between the semidesert grassland and the Arizona upland subdivision of Sonoran desertscrub (Brown 1994). The dominant vegetation in the project area consists of perennial and annual grass species, cacti, forbs, and woody shrubs and trees including broom snakeweed (*Gutierrezia sarothrae*), velvet mesquite (*Prosopis velutina*), whitethorn acacia (*Vachellia constricta*), paloverde (*Parkinsonia florida*), and creosote bush (*Larrea tridentata* var. *tridentata*),

## CULTURE HISTORY

### Pre-Hohokam (ca. 12,500 B.C.–ca. A.D. 650)

The earliest known human occupation of southeastern Arizona is associated with the Paleoindian period (9500–8000 B.C.). The most commonly recognized artifacts from this period are large projectile points, such as those of the Clovis and Folsom traditions. A significant number of Paleoindian sites are in southeastern Arizona, including some of the better-studied Clovis culture sites in the New World. Aside from a few projectile points, there is no substantial evidence of Paleoindian occupation in the Tucson Basin. This may be because the area was not attractive to Paleoindian peoples or, more likely, because the sites have become either deeply buried or destroyed by natural geological processes (Huckell 1984). Clovis points curated by later peoples have occasionally been recovered from younger, Hohokam contexts at sites near Tucson (Barr 2009; Doelle 1985).

The extinction of many species of Pleistocene big-game animals and the development of plant milling technology marked the origin of Archaic culture in the region (Sayles 1983; Sayles and Antevs 1941).

With the recent discovery of early maize farming in the region, largely studied in the Tucson Basin and nearby Cienega Valley, the Late Archaic period has been relabeled the Early Agricultural period

(Huckell 1995, 1996). Formerly, this period was known simply as the Late Archaic or, for southeastern Arizona, the San Pedro phase of the Cochise culture.

Large-scale excavations along the Tucson Basin reach of the Santa Cruz River (e.g., Mabry 1998) have revolutionized the archaeological community's understanding of this period. Previously, Late Archaic people were viewed as living in small, kin-based bands, practicing a foraging strategy and moving from place to place as they followed a seasonally scheduled subsistence round. Now, we know that the bulk of the population probably lived in substantial villages, for at least part of each year, and adopted floodplain maize farming from societies living far to the south in the Valley of Mexico.

At riverine habitation sites, the discovery of abundant marine shell from the Gulf of California and California coasts informs archaeologists that these people made very long expeditions to obtain the shell or participated in a very large-scale, supra-regional trade network. Roth (1995), however, demonstrates that Early Agricultural residents of the Tucson Basin also continued to exploit non-riverine habitats. A number of investigated sites on the upper bajadas of the Tucson, Tortolita, and Santa Catalina Mountains were the focus of short-term, wild-food gathering and processing activities. Although occupations were short-term, the sites were often occupied repeatedly and have included substantial material culture remains, including human burials (Dart 1986).

The Early Ceramic period in the Tucson Basin, ca. A.D. 150–650, is characterized by the local development of plain ware pottery. Early researchers suspected that the Hohokam culture was the result of a large-scale migration to an “empty niche” in the middle Gila River area from what is now western Mexico (Haury 1976). Recently available evidence of a large Early Agricultural and Early Ceramic period population in the northern Sonoran Desert, however, has led researchers to hypothesize an *in situ* development.

## **Hohokam (ca. A.D. 650–1450)**

The pre-Classic Hohokam village-dwelling farmers of the northern Sonoran Desert are best characterized by their participation in a widespread religious ideology (Wallace et al. 1995). This ideology was principally expressed by participation in a Mesoamerican ball game and a cremation funerary complex. Ball courts are found at major Hohokam village sites and mark the population centers and social foci of the Hohokam world (Wilcox 1991). Cremation cemeteries are associated with specific house clusters within villages, which suggests the presence of kinship lineage-based social organization.

In the Tucson Basin, a patently Hohokam culture emerged by A.D. 800 (Wallace et al. 1995). By the Rincon phase, beginning ca. A.D. 950, the local pottery style was markedly different from that made in the middle Gila River area to the north. The implication is that pottery and potters consistently moved between these areas in earlier times, transferring style, but not so in the Rincon phase and later times. Also at about this time, food production was diversified by innovative use of the landscape. Specifically, in addition to irrigation farming along the Santa Cruz River and major tributaries, some segments of the local population began floodwater farming along minor washes and dry farming the bajada slopes. Rather than suggesting that a segment of the local population was forced to subsist in marginal, water-poor areas, this suggests that a large, cooperating population was diversifying food production as an adaptive strategy. Localized disasters could be mitigated by food transfer from unaffected groups to the victims of crop failure in a social system of reciprocity. The evolution of a diversified, cooperative food production strategy was experienced throughout the Hohokam world in the late pre-Classic and the Classic periods.

The Classic period is marked by the abandonment of the ball game, an increasing preference for inhumation rather than cremation burial, and development of adobe architecture. Many pre-Classic communities were abandoned, and new, larger communities were established. A new religious ideology, including the construction of platform mound monuments, was initiated. By the end of the Classic period,

Hohokam villagers had built more than 100 platform mounds in the northern Sonoran Desert region. Pre-Classic period architectural antecedents were plaster-capped earth piles enclosed with timber palisades and topped by jacal superstructures. The Classic period Hohokam developed this architecture into adobe-walled, room-like cells filled with cobbles and earth with adobe room-block superstructures. These monuments were built in select multi-room, adobe-walled compounds. These compounds were situated strategically in the largest villages, at regular intervals along canal systems, and housed sizable storage facilities (Gregory and Nials 1986). Trash at sites with platform mounds reflects greater access to rare commodities (Bayman 1992). They were likely ceremonial facilities, elite residences, and places of political authority.

## **Proto-Historic Period (A.D. 1492–1692)**

At the end of the Classic period, the Hohokam social and economic structure seems to have collapsed. As documented by the first Spanish explorers of the region, local populations reverted to less intensive patterns of land use. The local O’odham continued a very Hohokam-like subsistence strategy in the Tucson Basin (Castetter and Bell 1942) and occupied villages along the Santa Cruz River when explorer-priest Kino and company arrived in the 1690s (Bolton 1936; Seymour 2011). The Spanish colonists who followed established several missions near existing O’odham villages along the length of the Santa Cruz River. Ultimately, the Santa Cruz Valley became dominated by Spanish and Mexican families who lived by farming, ranching, and trade.

## **Historic Period (A.D. 1693–1953)**

The Historic period in the Tucson Basin can be divided into a Spanish/Mexican period (A.D. 1699–1854) and an American period (A.D. 1854–1950)—the terms Spanish, Mexican, and American referring to political hegemony rather than ethnic identity (Ayres 1984). Spanish colonization of what is now known as southern Arizona began in the 1690s with the travels of the Jesuit missionary Eusebio Francisco Kino. Kino first traveled as far north as the Tucson Basin in 1692 and 1694 (Doelle 1984). The mission at San Xavier del Bac in the southern Tucson Basin was established under Kino’s influence in 1700. Father Kino established missions at Tumacacori and Tubac in 1691. The 1751 Pima Indian Revolt destroyed the Tubac settlement, and the Presidio San Ignacio de Tubac was established in 1752 to protect the Spanish colonists in Tubac. In 1775, a presidio was established in Tucson to protect the missions at San Xavier and San Agustín from Apache attack (Harry and Ciolek-Torrello 1992). The Santa Cruz River from Nogales to its confluence with the Gila River is part of the Juan Bautista de Anza National Historic Trail, which recognizes the 1775–1776 expedition led by Juan Bautista de Anza from Sonora, Mexico, to the San Francisco Bay area of California that resulted in the Spanish colonization of San Francisco (Garate 1994). The expedition, consisting of 240 persons, arrived in the San Francisco Bay area on March 27, 1776.

Small numbers of Spanish/Mexican settlers populated the Santa Cruz Valley during the Spanish colonial period, establishing herds of range cattle and mining in the hills around Arivaca. Settlement slowed after Mexican independence, when funding and supplies largely ceased to reach the missions and presidios guarding the frontier, and the threat of Apache attack was renewed (Clemensen 1987; Harry and Ciolek-Torrello 1992; Sheridan 1995).

The American period (1854–1945) began with the Gadsden Purchase, when southern Arizona became U.S. territory in 1854. The Homestead Act of 1862 provided for the conversion of federal land to small, private holdings and promoted American settlement of Arizona, along with the rest of the western United States (Stein 1990). Settlement was constantly disrupted until the 1880s, however, by warfare with Apache bands. As a result, the U.S. military manned a number of posts in the area: El Reventon

(1862 and 1864), Camp/Fort Lowell (1860–1890), Camp Tucson (1860–1861), Camp Tubac (1864), and Camp Cameron (1866).

For 7 years (1910–1917), the Mexican revolution raged just across the international border approximately 20 miles (32 km) south of Tubac. In 1912, the Arizona Territory was made a state. The Santa Fe Pacific Railroad Company acquired Santa Cruz Valley rights-of-way in 1915, and U.S. participation in World War I (1917–1918) created a bull market for the principal products of the Santa Cruz River valley: cattle, copper, cotton, and horses. The new access to railroad transportation positioned Tubac-area residents to take advantage of the good market conditions.

The Stock Raising Homestead Act (1916) fostered the settlement of non-irrigable land. During the Great Depression (1929–ca. 1939), settling such marginal land became a more attractive economic activity (Stein 1988, 1990). In areas like the Santa Cruz River valley, these factors promoted ranching endeavors on the bajadas or mountain skirts. Some cattlemen vehemently opposed fencing the free range for small homesteads, however, which may have created hostile relationships.

Arizona was granted statehood in 1912, bringing many improvements in transportation, education, and agriculture to the region. Developing industries led to ever-larger numbers of Euro-Americans moving through and into the Tucson Basin during the American period. The discovery of precious metals in southern Arizona led to a mining boom. Transportation across the area increased and changed from horse trails to wagon routes, and then to railroads and automobile thoroughfares. Government legislation and improved transportation routes linked southern Arizona with the rest of the United States, leading to a rise in the variety of activities carried out in the region.

The development of the railroad brought even more people to southern Arizona. Although the first American railroad began operating in 1827, it took nearly 20 years for rail to become the predominant form of transportation. By the mid-1850s, Congress had recognized the need for a transcontinental railroad. However, because of the magnitude of such an operation, it took until the 1880s for the line to reach southern Arizona. Before that time, Tucson remained isolated economically since all goods were brought to the area by oxen or mule. The railroads made it easier, faster, and cheaper to transport freight and people (Sheridan 1995). This brought many changes to Tucson, including a stronger economy, a larger population, a more diverse mix of people with the influx of Chinese railroad workers, and the beginnings of a tourist industry (Sheridan 1995).

Ford's invention of the Model T further changed the landscape of southern Arizona, leading to a rise in automobile ownership and eventual road improvements. Only a handful of automobiles existed in southern Arizona before Ford's development of the Model T and the production line. In 1900, 8,000 automobiles were owned in this country, rising to 10,000 by 1910. However, by 1920, the total number of automobiles owned in the country had risen to 8 million; this number had skyrocketed to 23 million by 1930. The rise in automobile ownership led to a need for better roads on which to travel. The first roads for automobiles were not paved; such projects did not begin until the 1930s. These early roads continued to be the two-track dirt roads, graded dirt roads, and graveled roads of earlier wagon travel (Keane and Bruder 1999).

The next suite of major changes came with U.S. entry into World War I (WWI) in 1917. The war demand for cotton was met primarily by farms in the Salt River valley, but farmers along the Santa Cruz River also benefited from the cotton boom (Sheridan 1995:211–213). WWI influenced mining, when the demand for copper rose in response to weapons manufacturing. Many mining districts, such as the Ajo District, began large-scale production at the start of the war (Wilson 1949:5–6). Production declined after the end of the war, however. WWI highlighted the need for good roads, and with the growth of private automobile ownership in the 1920s, Arizona levied its first gasoline tax in 1921 (Hall 1972:224).

Following WWI, tourism grew along with Arizona's reputation for a healthful climate. Sanatoriums and schools were built for tuberculosis patients, many of them WWI veterans. As early as 1913, ancient ruins were advertised as tourist attractions. The dude-ranch industry arrived in the 1920s (Whittlesey et al. 1994). The Great Depression halted economic prosperity in other areas, however, severely affecting farming, ranching, and mining, the latter nearly disappearing. Civilian Conservation Corps and Works Progress Administration workers built roads, bridges, and other facilities that enhanced recreational sites.

U.S. participation in World War II (WWII) (1941–1945) contributed to national economic recovery and, like U.S. participation in WWI, created better market conditions for ranching, farming, and mining operations in the Santa Cruz River valley. A more enduring impact was urban growth, including that of fledgling desert cities.

Mining saw a second boom during WWII. Military installations such as Davis-Monthan Air Force Base in Tucson, Fort Huachuca in Sierra Vista, and the Barry M. Goldwater Air Force Range centered in Phoenix (then called Luke Field) also expanded greatly during the war. After the attack on Pearl Harbor, the federal government began to realize the need for a large number of trained pilots. With the fear of coastal attack spurred by Pearl Harbor, inland training sites were preferred, and Arizona's clear weather was ideal. Pilot-training centers were established at Marana Army AirField and Ryan Field to address this need (Henry 1992).

Construction for Ryan Airfield started on June 15, 1942, in the open desert southwest of Tucson, on the north side of the major route between Tucson and Sells, the Tohono O'odham capital. It took just 3 months to construct the Army Airfield. The Ryan School of Aeronautics included paved runways, an apron, hangars, barracks, a mess hall, maintenance shop, classrooms, offices, a PX, and recreational facilities (Coffman Associates, Inc. 2010). The school closed on September 5, 1944, with 6,000 graduated pilots. Because of the critical need for pilots, the full 4-month course of flight instruction was compressed to 9 weeks.

At the end of WWII, the U.S. government was left with numerous surplus airports that were transferred to state and local jurisdictions under the War Surplus Property Act of 1944. Ryan Airfield, including all improvements, was transferred to the State of Arizona on October 4, 1948 (Coffman Associates, Inc. 2010).

On August 1, 1951, the State executed a 10-year lease agreement with the Tucson Airport Authority for the 906-acre airport, ending a 6-year period of dormancy. Within 3 weeks of operation, five buildings were leased to two tenants. The short-term lease prohibited new tenants from improving the airfield. However, in 1954, a new 99-year lease was executed. The State ultimately transferred ownership of the airport by quit claim deed to the City of Tucson on December 16, 1960. Since that time, Ryan Airfield has experienced a significant expansion of general aviation facilities (Coffman Associates, Inc. 2010).

## PREVIOUS RESEARCH

### Archaeological Records Search

Before fieldwork, SWCA consulted the AZSITE database to identify previously conducted surveys and previously recorded sites in the project area and within a 1-mile radius of the project area.

The records search showed that 55 archaeological projects have been conducted in or within 1 mile of the project area, covering approximately 50 percent of the 1-mile search radius and approximately 420 acres of the airport property. These surveys were conducted between 1978 and 2014 for residential developments, natural gas pipelines, electrical transmission/distribution lines, road improvements, and

potable water and wastewater pipelines. Approximately 11 percent of the survey area has been previously surveyed as a result of five surveys (Table 1; see Appendix A). In 1975, the ASM conducted two linear surveys, one of which was 5 miles long × 150 feet wide for road right-of-way clearance. No cultural resources were identified (Hammack 1986a). The second survey was 7 miles long × 200 feet wide for road right-of-way clearance. This survey identified five IOs and no archaeological sites (Hammack 1986b). In 1986, the ASM conducted a linear survey of 3.8 miles × 50 feet for road improvements. This survey identified two IOs and no archaeological sites (Ervin 1986). In 1989, SWCA conducted a block survey of 200 acres for proposed airport expansion. This survey did not identify any cultural resources (Euler 1989). In 1994, Desert Archaeology conducted a block survey of 14 acres for a proposed water detention basin and apron expansion. The survey identified three IOs and no archaeological sites (Freeman 1994). In 1999, Dames & Moore conducted a linear survey of 16 miles along State Route (SR) 86 for a pavement preservation project. The survey identified four previously documented archaeological sites, 19 IOs, and no new archaeological sites (Hill and Bruder 1999). Outside of the current survey area but within the airport project, eight additional surveys (Table 2; see Appendix A) have been conducted, totaling approximately 216 acres.

No archaeological sites have been documented in the survey area; two sites have been documented within the airport property (Barr and Petersen 2017) (Table 3; see Appendix A); and 44 sites have been documented within the 1-mile search radius.

**Table 1. Previously Conducted Archaeological Surveys within the Survey Area**

Agency Number	Project Name	Report Reference
1975-14.ASM	Avra Valley – Ryan Airfield	Hammack (1986a)
1975-15.ASM	Brawley Wash – Robles Junction	Hammack (1986b)
1986-162.ASM	Survey Along Why–Tucson Highway (SR 86)	Ervin (1986)
1989-184.ASM	Coffman Associates – Ryan Field	Euler (1989)
1994-326.ASM	Ryan Field Survey	Freeman (1994)
1999-85.ASM	Three Points to Kinney Road Pavement Preservation	Hill and Bruder (1999)

**Table 2. Previously Conducted Archaeological Surveys within the Airport Property**

Agency Number	Project Name	Report Reference
1988.92.ASM	Valencia Road Survey	Maldonado (1988)
2002-4.ASM	Picture Rocks/Sandario to Valencia/Camino de Oeste	Jones and Dart (2002)
2003-385.ASM	Closed Landfill Assessment CTA-79	Brack (2003)
2012-0272.ASM / SHPO-2012-0465	EPNG Sasabe Line Cultural Resources Services	Hesse et al. (2013)
2014-322.ASM	Sierra Pipeline Project Firebird Avenue Variance	Barr and Hesse (2014)
2016-023.ASM	Ryan Airfield Drainage Improvements	Barr and Petersen (2017)
2019-307.ASM	Wildflower Outfall Sewer Line	Eldridge and Hesse (2019)
BLM-16-21	Silver Bell Planning Unit A-10840	No information in AZSITE

**Table 3. Previously Recorded Archaeological Sites within the Airport Property**

Site Number	Site Type	Cultural/Temporal Affiliation	Eligibility Status
AZ AA:16:612(ASM)	Artifact scatter	Euro-American/Historic	Not eligible (recorder)
AZ AA:16:613(ASM)	Artifact scatter	Euro-American/Historic	Not eligible (recorder)

## National Register of Historic Places—Listed Properties

The National Park Service’s NRHP database was searched to identify properties listed in the NRHP that are located in or within 1 mile of the airport. No NRHP-listed properties were identified within the search area.

## Historic Map Research

Historical maps were consulted to identify historic-era properties that were present, and may still be present, in the search area.

The General Land Office (GLO) map of Township 15 South, Range 11 East, filed in 1888, shows the TELEGRAPH LINE FROM QUIJOTOA TO TUCSON trending southwest-northeast through Sections 1, 10, 11, 15–17, 19, 20. A southwest-northeast dirt road from ALTAR AND QUIJOTOA TO TUCSON is depicted in Sections 12–15, 20–22, and 30. In addition, a northwest-southeast trending OLD ROAD is depicted in Sections 1 and 2. No other historical structures, farm fields, ranches, roads, or other facilities are shown in the immediate vicinity of the project area.

The GLO map of Township 15 South, Range 12 East, filed in 1919, shows two dirt roads in the S½ of Section 7 that extend into Sections 8 and 9. One is roughly east-west-trending road and the other is northeast-southwest-trending. The GLO map of Township 15 South, Range 11 East, filed in 1888 shows one of the same roads in the southeast corner of Section 12. The 1955 GLO Dependent Resurvey and Subdivision map for Section 7 depicts the AJO TO TUCSON HIGHWAY in the S½ of Section 7. This road is at a similar alignment with one of the roads depicted on the 1919 GLO. In Section 6, two northwest-southeast-trending roads that intersect with the northeast-southwest-trending road in Section 8. No other historical structures, farm fields, ranches, roads, or other facilities are shown in the immediate vicinity of the project area.

The 1943 USGS San Xavier Mission, Arizona, 15-minute quadrangle was examined. No historical structures are shown the project area; however, there are minor roughly north-south-trending dirt roads in Sections 12 and 14 and a dirt cattle tank in Section 11. In Section 6, there is a northwest-southeast-trending dirt road that leads to a well and tank. In addition, the AJO TO TUCSON HIGHWAY is depicted south of the current project area. The 1957 USGS San Xavier Mission, Arizona, 15-minute quadrangle was also examined. The map depicted Ryan Field in Section 12 and five TOWERS in the SW¼ of Section 7. The roads depicted in Sections 12 and 14 are longer present; however, there is a north-south-trending dirt road along the eastern Section line of Section 14 that leads to PHILLIPS RANCH in Section 2. Two buildings are depicted on the west side of that road in Section 11, along with the dirt water tank that was depicted on the 1943 map. Finally, the road in Section 6 is still depicted; however, a pipeline and seven structures are depicted in the SE¼ on the east side of Black Wash.

## RESEARCH DESIGN

The rules implementing Arizona Revised Statutes (ARS) 41-841 et seq., the Arizona Antiquities Act, state that a research design should be developed for all survey projects greater than 640 acres. Given this, several basic research questions were posed prior to the current archaeological survey.

1. What types of Hohokam sites are present, small artifact scatters or apparent habitation sites? How and when did they use the survey area? How does the site(s) relate to the surrounding area?
2. Is there evidence for Protohistoric or Historic period Native American use of the survey area? Are there any diagnostic protohistoric or historic Native American artifacts within the survey area?
3. How was the survey area used in Historic times? What evidence of ranching, military, or homesteading is present in the survey area? Is the survey area solely military or is there evidence of non-military use in the areas outside of the main airfield?

## **SURVEY METHODS**

### **Resource Definitions**

Archaeological resources were evaluated according to criteria established by the Arizona State Museum (ASM). The criteria recognize two classes of archaeological remains: the site and the IO. The archaeological site is defined under rules adopted for the administration of the Arizona Antiquities Act:

“Archaeological site” means any area with material remains of past Indian or non-Indian life or activities that are of archaeological interest, including without limitation, historic or prehistoric ruins, burial grounds, and inscriptions made by human agency. (Arizona Antiquities Act, ARS 41-841, *et seq.*, Chapter 8-201, A.3)

As interpreted by the ASM, “remains of archaeological interest” may include “purposeful constructions” or simply concentrations of materials more than 50 years old. Additionally, sites should consist of at least one of the following:

30+ artifacts of a single class (i.e., 30 sherds, 30 tin cans) within an area 15 meters (50 feet) in diameter, except when all pieces appear to originate from a single source (i.e., one ceramic pot, one core, one glass bottle);

20+ artifacts which include at least 2 classes of artifact types (i.e., sherds, groundstone, nails, glass) within an area 15 meters (50 feet) in diameter;

One or more archaeological features in temporal association with any number of artifacts;

Two or more temporally associated archaeological features without artifacts.

Non-linear, isolated features without associated artifacts may be recorded at the discretion of the archaeologists. An “isolated feature” is defined as a feature that does not have any other features within a 100 meter (325 feet) diameter. This might include isolated rock piles, mine shafts, prospecting pits or unidentified depressions without associated artifact associations. [ASM 1995]

An archaeological occurrence meeting these minimum criteria is recorded as a site. An occurrence not meeting these criteria is generally classified as an IO, although under exceptional circumstances an IO may be judgmentally classified as a site.

## **Survey Coverage**

SWCA archaeologists Eric Petersen, Heather West, and Teodoro Eldridge surveyed the project area on August 29 through October 5, 2020, resulting in a total of 10 person–field days. General conditions for the survey were excellent, and ground visibility was generally 90 percent.

The survey was conducted using standard archaeological techniques following ASM guidelines for survey coverage and site recording methodologies. According to the standards for pedestrian survey established by the ASM, a person conducting a pedestrian survey can achieve 100 percent coverage of a parcel by walking a series of systematic transects spaced no more than 20 m (66 feet) apart. The survey entailed systematically walking the 648-acre project area in parallel transects spaced no more than 20 m apart.

The archaeologists sought evidence for cultural resources in the form of artifacts (e.g., ceramics, lithics, historical metals, or glass) or features (concentrations of fire-affected rock, charcoal-stained soil, prehistoric or historical structures, or other cultural anomalies). In addition to searching for archaeological remains, the archaeologists included in their survey in-use properties (e.g., buildings, roads, corrals) greater than 50 years old.

Once a site was identified, the crew then proceeded to mark the locations of artifacts and features with pin flags. Next, individual crew members began their assigned tasks. Tasks included completing the site form, conducting artifact inventories, completing feature descriptions, taking photographs, and mapping the site with a handheld GPS unit. GPS data were reported in Universal Transverse Mercator (UTM) coordinates projected using the 1983 North American Datum (NAD 1983). No artifacts were collected.

Archaeological remains designated as IOs were point-located and recorded using a handheld GPS unit. When culturally diagnostic or unusual items comprised IOs, they were photographed.

## **National and Arizona Registers Criteria for Evaluation**

Four criteria are applied in the evaluation of cultural properties for inclusion in the NRHP (36 Code of Federal Regulations 60.4). The same criteria are used to evaluate properties for inclusion in the Arizona Register of Historic Places (ARHP) (Arizona Administrative Code Section R12-8-302). Normally, a significant property must be at least 50 years old and meet at least one of these four criteria to be considered eligible for listing in the NRHP/ARHP. According to the NRHP/ARHP criteria, the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

- A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. that are associated with the lives of persons significant in our past; or
- C. that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguished entity whose components may lack individual distinction; or
- D. that have yielded, or may be likely to yield, information important in prehistory or history.

## **SURVEY FINDINGS**

The archaeological survey resulted in the identification of one newly recorded archaeological site (AZ AA:16:620[ASM]) and 17 IOs (Figure 4). AZ AA:16:620(ASM) is a prehistoric artifact scatter with a rock feature. A description of the site and a discussion of its significance follow.

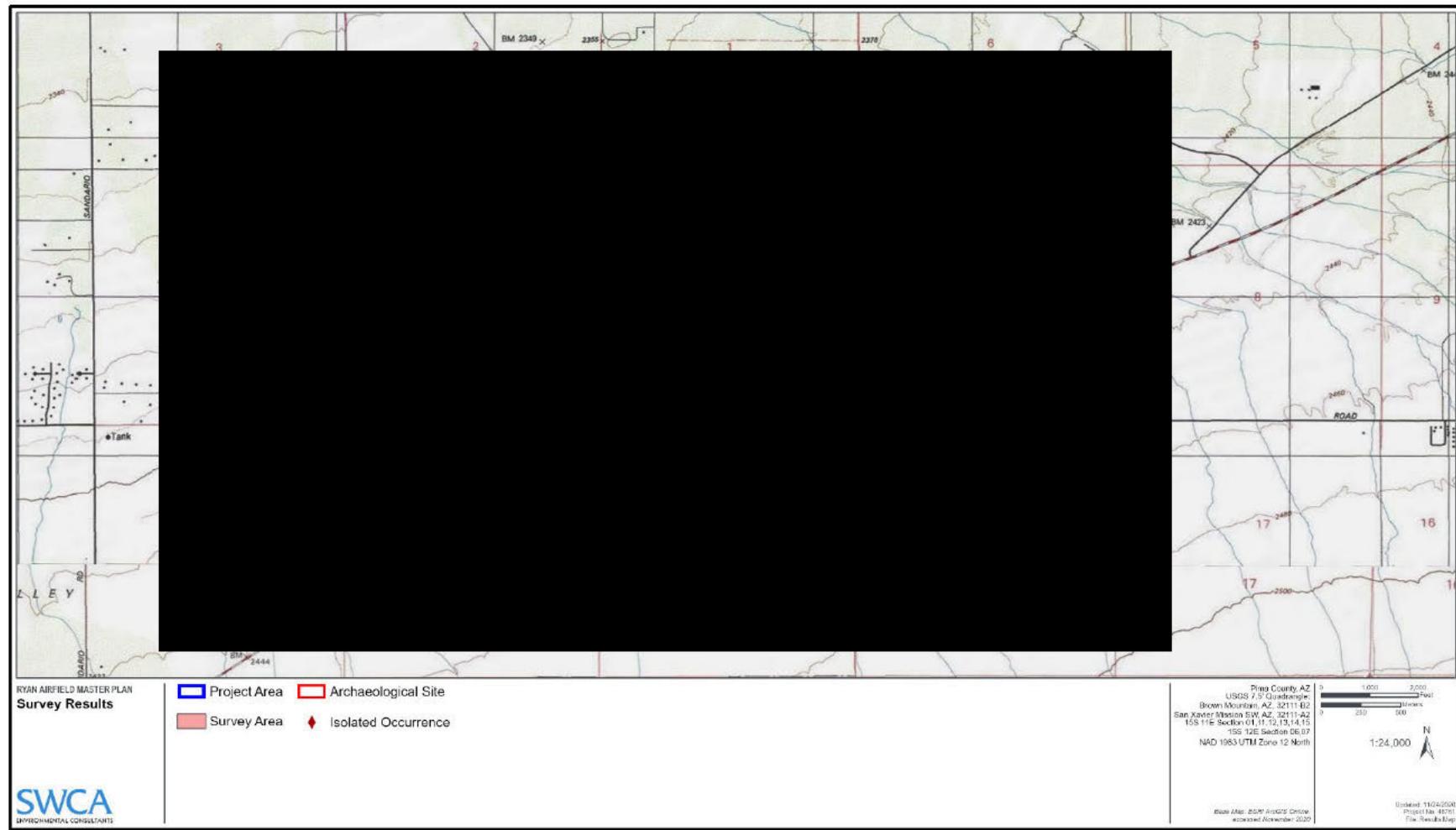


Figure 4. Results of the current survey.

## AZ AA:16:620(ASM)

**Field Designation:** Ryan-1

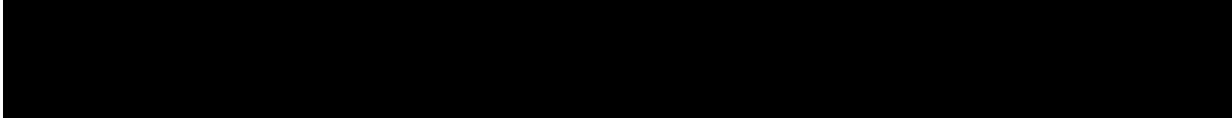
**Site Type:** Artifact scatter with an associated feature

**Cultural Affiliation:** Hohokam

**Temporal Affiliation:** Ceramic

**Dimensions/Area:** 43 × 18 m (809 m<sup>2</sup>)

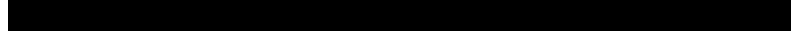
**Land Ownership:** City of Tucson



**NRHP/ARHP Eligibility:** Recommended eligible

### **Site Overview**

AZ AA:16:620(ASM) is a prehistoric artifact scatter with a rock feature



### **Features**

Feature 1, located in the northwestern portion of the site, is an oval cluster of rocks that measures 28 × 20 cm and consists of eight cobbles of vesicular basalt, quartzite, and rhyolite. The rocks range from 3 to 8 cm in length. Five of the cobbles are partially buried, whereas the other three rest directly on the surface. Seven of the rocks appear to be thermally affected; however, no charcoal or ash was observed. One plainware body sherd was observed within 5 m of the feature. It is unknown whether the rock cluster is associated with buried archaeological deposits (i.e., if there is an associated pit).

### **Artifacts**

Field archaeologists recorded all artifacts they observed (n=34). The whole site density is about 0.04 artifact/m<sup>2</sup>. The assemblage contains ceramics, flaked stone, and ground stone. The ceramic assemblage includes 18 plain ware body sherds, nine smudged plain ware body sherds, and one plain ware bowl rim sherd. Four pieces of flaked stone were recorded, including two rhyolite cortical flakes, one rhyolite non-cortical flake, and one metasediment cortical flake. Other observed artifacts include one point-located (PL) vesicular basalt metate fragment (PL 1) and one quartzite hammerstone.

### **Environmental Setting**

AZ AA:16:620(ASM) is located on both sides of a incised rill on the floodplain, approximately 2.0 miles (3.2 km) southwest of Black Wash. The Tucson Mountains are the most prominent landmark to the northeast. Surface sediments consist of tan sandy loam intermixed with gravels (Figure 6). Vegetation includes mesquite, whitethorn, cholla, wolfberry, and barrel cactus. Surface visibility at the time of the survey was 90 percent. The site elevation is 2,415 feet (736 m) above mean sea level.

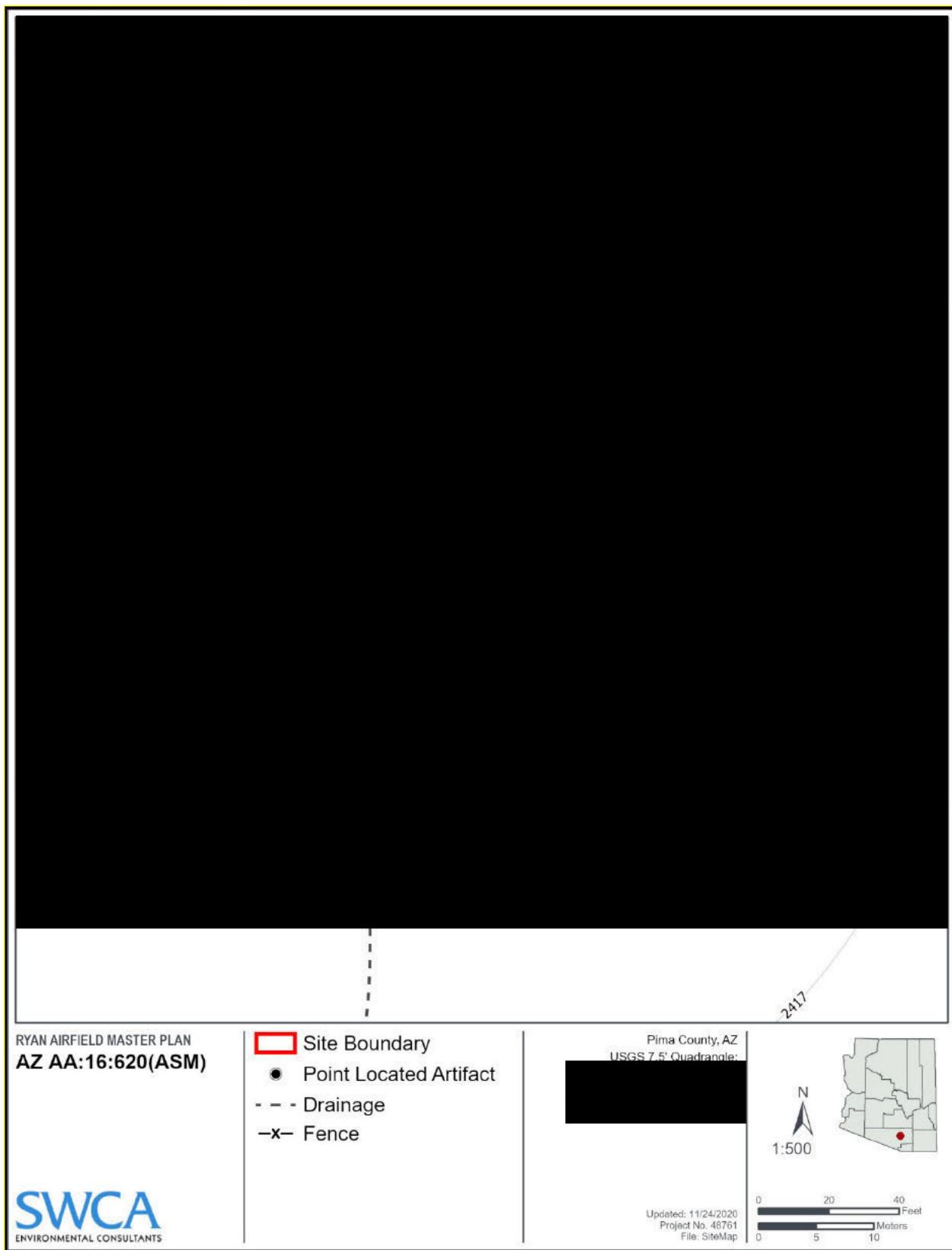
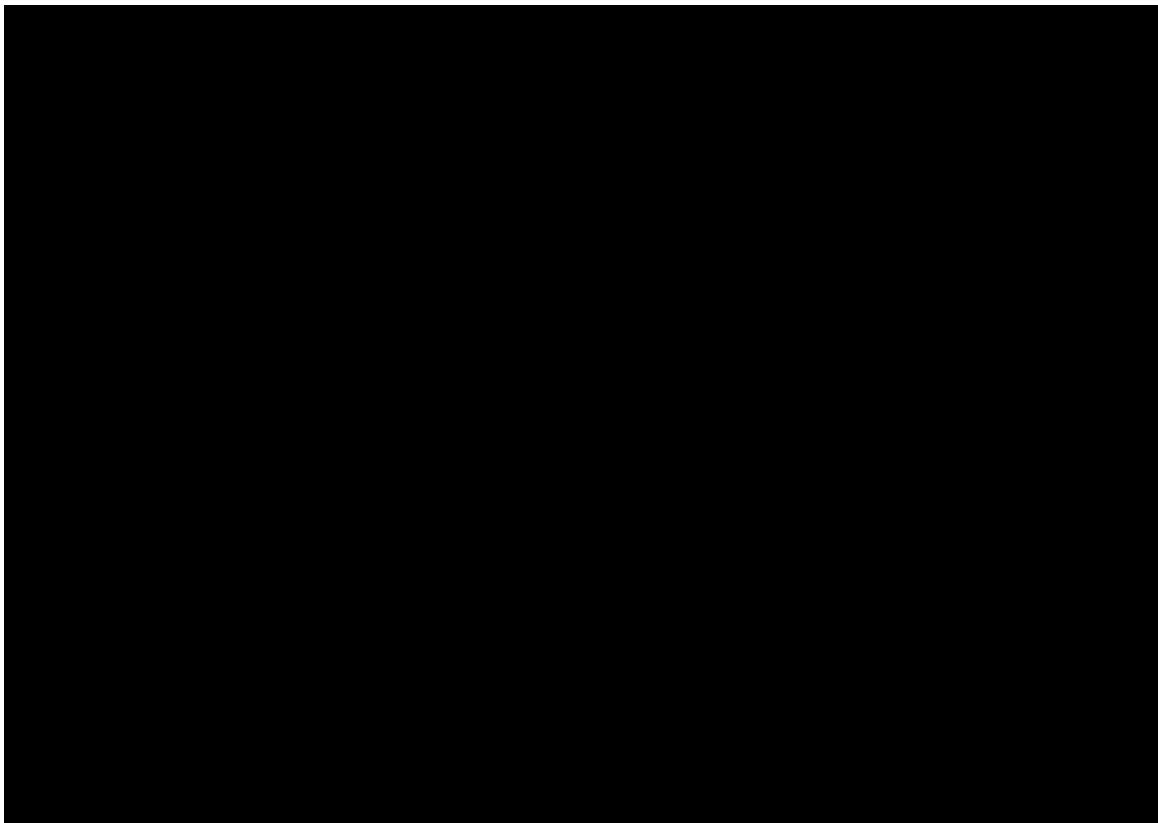


Figure 5. AZ AA:16:620(ASM) site map.



### ***Site Condition***

The site is in good condition, experiencing only minor impacts from water erosion and bioturbation. Water erosion is evident with the formation of a rill, and artifacts are eroding out of the rill edges. Bioturbation is evident from artifacts being exposed from animal burrowing activities.

### ***Interpretation and NRHP Eligibility***

AZ AA:16:620(ASM) is a prehistoric artifact scatter with a rock feature. The ceramic assemblage indicates a Hohokam cultural affiliation, and the variety of artifact classes indicates multiple site activities. The site may represent a limited-use activity area where resource gathering and processing may have occurred. A partially buried feature, artifacts eroding out of the rill, and artifacts being exposed by bioturbation suggest a potential for buried archaeological deposits that could yield important information. SWCA recommends the site as eligible for the NRHP because the site meets the criteria for eligibility under Criterion D (information potential).

### **Isolated Occurrences**

Seventeen IOs of artifacts or features were recorded during survey of the project area (Table 4). Four IOs are prehistoric manifestations and consist of ceramic and flaked stone artifacts. Thirteen IOs are historic-era manifestations and consist of cans, bottles, and four concrete foundations. The concrete foundations are the remnants of the WWII buildings that have since been removed.

**Table 4. Isolated Occurrences**

IO No.	IO Description	Area of Dispersal	Easting*	Northing*
1	One Owen-Illinois bottle base.	—		
2	One cone top can and one SUPER COLA ORANGE soda can.	5 × 5 m		
3	One crushed matchstick-filler can.	—		
4	One crushed matchstick-filler can fragment.	—		
5	One Owen-Illinois brown bottle.	—		
6	Two Rincon Red-on-brown sherds.	4 × 4 m		
7	Two sand-tempered plain ware sherds.	15 × 15 m		
8	One hole-in-cap meat can.	—		
9	One concrete pad measuring 90 × 12 m.	—		
10	One concrete pad measuring 90 × 12 m.	—		
11	One concrete pad measuring 46 × 33 m.	—		
12	One concrete pad measuring 47 × 45 m.	—		
13	One brown Latchford-Marble Glass Company (1939–1957) bottle base.	—		
14	One crushed matchstick-filler can.	—		
15	One metasediment non-cortical flake.	—		
16	One crushed matchstick-filler can.	—		
17	One sand-tempered plain ware sherd.	—		

\* UTM coordinates (NAD 83), Zone 12

## PREHISTORIC AND HISTORIC PERIOD USE OF THE PROJECT AREA

One archaeological property and 17 IOs were recorded during the archaeological survey. The following discussion addresses the questions posed earlier in the research design in light of the SWCA survey data.

The one archaeological property and four of the IOs contain Native American components. The site is associated with the Hohokam and consists of an artifact scatter with an associated rock feature. Hohokam use of the area is inferred by the presence of plain ware and decorated pottery. Plain ware pottery is common throughout the Hohokam tradition; however, the occurrence, albeit minor, of Rincon Red-on-brown sherds suggests a Sedentary use of the survey area from A.D. 950–1150. Our findings support other survey results in the general region that the area was used by the Hohokam for subsistence and resource processing. No evidence of Paleoindian or Archaic period use was identified.

The limited artifact assemblage observed within the archaeological property and the IOs suggest that the area was used for gathering and resource processing. The presence of the rock feature at AZ AA:16:620(ASM) may suggest that the site represents a short-term camp. This is similar to other Hohokam period sites found within the general area that consist of artifact scatters with and without thermally affected rock clusters.

Protohistoric and Historic Native American use of the area could be evident from the presence of Papago pottery (postdating A.D. 1860). However, no archaeological sites or diagnostic artifacts were found that represent definitive use of the survey area by Native peoples during this time.

Although historical records indicate that Frank Young homesteaded the SW $\frac{1}{4}$  of Section 11, Township 15 South, Range 11 East in 1938 and Lewis E. Chapman homesteaded the SE $\frac{1}{4}$  of Section 11 in 1932, under

the December 26, 1916, Homestead Entry–Stock Raising (39 Stat 862), no evidence of ranching or homesteading was identified within the survey area.

Historic-period Euro-American use is illustrated by light scatter of historic-era cans and bottles observed in the survey area. Many of the historic artifacts are a short distance from SR 86, which may suggest that these items were thrown out of vehicles during travel to and from Tucson. Although Ryan Airfield was constructed in 1942 by the Army and used for flight training until 1944, the only remnants of the time period are the four concrete foundations identified. According to the 1963 Airport Layout Plan, the two square foundations were Hangars A and B and the two rectangular foundations were barracks. These buildings were demolished sometime after 1967 and before 1996. Ryan Airfield was taken over by the Tucson Airport Authority in 1951, and the airport has been improved and expanded over the years; however, no existing structures pre-date 1981.

## **SUMMARY AND MANAGEMENT RECOMMENDATIONS**

SWCA's survey of 648 acres of the Ryan Airfield planning area resulted in the identification of one archaeological site (AZ AA:16:620[ASM]) and 17 IOs.

AZ AA:16:620(ASM) is a newly recorded, small prehistoric artifact scatter with an associated rock feature. The site is recommended as eligible for listing in the NRHP. SWCA recommends that AZ AA:16:620(ASM) be avoided during future airport improvements and development. If avoidance is not feasible, an agency-approved treatment plan should be developed and implemented.

The 17 IOs are prehistoric and historic-era manifestations. The prehistoric IOs consist of ceramic and flaked stone artifacts, and the historic-era IOs are food and beverage cans, glass bottle fragments, and concrete pads. The IOs are recommended not eligible for the NRHP, they do not warrant preservation, and they require no further study.

The above recommendations apply only to the 648 acres surveyed by SWCA and reported on herein. If ground-disturbing activities are proposed outside of the surveyed areas, a qualified archaeologist should be contacted to assess the project's effect on cultural resources.

If previously undocumented buried cultural resources are identified during ground-disturbing activities, all work must immediately cease within 30 meters (100 feet) until a qualified archaeologist has documented the discovery and evaluated its eligibility for the NRHP, in consultation with the appropriate agencies. Work must not resume in this area without agency approval.

If human remains are encountered during ground-disturbing activities, all work must immediately cease within 30 meters (100 feet). The ASM, the lead agency, the Arizona State Historic Preservation Office, and appropriate Tribes must be notified within 24 hours (following ASM and/or agency protocol). Human remains will be treated in accordance with ARS §41-844, and work must not resume in this area without proper authorization from the ASM and the lead agency.

## REFERENCES CITED

Arizona State Museum (ASM)  
1995 *Revised Site Definition Policy*. Arizona State Museum, University of Arizona, Tucson.

Ayres, James E.  
1984 The Anglo Period in Archaeological and Historical Perspective. *The Kiva* 49(3–4):225–232.

Barr, David M. R.  
2009 *Archaeological Survey of Approximately 15 Miles of the SWTC Pantano to Sahuarita Transmission Line (Poles 96–196), Pima County, Arizona*. Cultural Resources Report 09-331. SWCA Environmental Consultants, Tucson, Arizona.

Barr, David M. R., and S. Jerome Hesse  
2014 *Archaeological Survey for the Sierrita Gas Pipeline, LLC's Sierrita Pipeline Project, Pima County, Arizona—the Firebird Avenue Variance*. Cultural Resources Report No. 14-341. SWCA Environmental Consultants, Tucson, Arizona.

Barr, David M. R., and Eric S. Petersen  
2017 *Archaeological Survey of 126 Acres for the Proposed Ryan Airfield Drainage Improvements Phase I Project in Tucson, Pima County, Arizona*. Cultural Resources Report No. 16-56. SWCA Environmental Consultants, Tucson, Arizona.

Bayman, James M.  
1992 The Circulation of Exotics in a Tucson Basin Platform Mound Community. In *Proceedings of the Second Salado Conference, Globe, Arizona*, edited by Richard C. Lange and S. Germick, pp. 31–37. Occasional Papers of the Arizona Archaeological Society, Phoenix.

Bolton, H. E.  
1936 *The Rim of Christendom: A Biography of Eusebio Francisco Kino, Pacific Coast Pioneer*. Macmillan Company, New York.

Brack, Michael  
2003 *An Archaeological Assessment of the Ryan Airfield Landfill, Pima County, Arizona*. Report No. 03-119. Desert Archaeology, Tucson, Arizona.

Brown, David E. (editor)  
1994 *Biotic Communities: Southwestern United States and Northwestern Mexico*. University of Utah Press, Salt Lake City.

Castetter, E. F., and W. H. Bell  
1942 *Pima and Papago Indian Agriculture*. University of New Mexico, Albuquerque.

Clemensen, Berle A.  
1987 *Cattle, Copper, and Cactus: The History of Saguaro National Monument, Arizona*. U.S. Department of the Interior, National Park Service, Washington, D.C.

Coffman Associates, Inc.  
2010 *Airport Master Plan for Ryan Airfield, Tucson, Arizona*. Coffman Associates, Inc., Scottsdale, Arizona.

Dart, Allen

1986 *Archaeological Investigations at La Paloma: Archaic and Hohokam Occupations at Three Sites in the Northeastern Tucson Basin, Arizona*. Anthropological Papers No. 4. Institute for American Research and SWCA Environmental Consultants, Tucson, Arizona.

Doelle, William H.

1984 The Tucson Basin during the Protohistoric period. *The Kiva* 49(3–4):195–211.

1985 *Excavations at the Valencia Site: A Preclassic Hohokam Village in the Southern Tucson Basin*. Anthropological Paper No. 3. Institute for American Research, Tucson, Arizona.

Eldridge, Teodoro, and S. Jerome Hesse

2019 *Cultural Resources Survey for the Joint Wildflower/TAA/Sendero Outfall Sewer, Pima County, Arizona*. Cultural Resources Report No. 19-753. SWCA Environmental Consultants, Tucson, Arizona.

Ervin, Richard G.

1986 Archaeological Clearance Survey Along State Route 86, Pima County, Arizona for Johnson-Brittain and Associates. Letter Report dated December 4, 1986. Arizona State Museum, University of Arizona, Tucson.

Euler, Thomas R.

1989 *An Archaeological Survey of Approximately 200 Acres near Ryan Airfield, Pima County, Arizona*. SWCA Environmental Consultants, Tucson, Arizona.

Freeman, Andrea K. L.

1994 Archaeological Survey for a Proposed Detention Basin and Apron Expansion at Ryan Airfield, Pima County, Arizona. Letter Report No. 94-135. Desert Archaeology, Tucson, Arizona

Garate, Don

1994 *Juan Bautista de Anza National Historic Trail*. Southwest Parks and Monuments Association, Tucson, Arizona.

Gregory, David A., and Fred L. Nials

1986 Observations Concerning the Distribution of Classic Period Hohokam Platform Mounds. In *Proceedings of the 1983 Hohokam Symposium*, Pt. 1, edited by Alfred E. Dittert, Jr., and D. E. Dove, pp. 373–388. Occasional Paper No. 2. Arizona Archaeological Society, Phoenix.

Hall, Dorothy

1972 *Archaeological Resources: BR, Orme Reservoir, Phase I Salt Arm, Maricopa County., Arizona*. Arizona State Museum, University of Arizona, Tucson.

Hammack, Laurens

1986a Arizona State Museum Project Registration Form. On file, Arizona State Museum, University of Arizona, Tucson.

1986b Arizona State Museum Project Registration Form. On file, Arizona State Museum, University of Arizona, Tucson.

Harry, Karen, and Richard Ciolek-Torrello

1992 *Farming the Floodplain: A Look at Prehistoric and Historic Land-Use along the Rillito, Test Excavations and National Register Evaluations of Eight Prehistoric and Historic Sites along the Rillito River, Pima County, Arizona*. Technical Series No. 35. Statistical Research, Inc., Tucson, Arizona.

Haury, Emil W.

1976 *The Hohokam: Desert Farmers and Craftsmen*. University of Arizona, Tucson.

Henry, Bonnie

1992 *Another Tucson*. Arizona Daily Star Publishing Company, Tucson.

Hesse, S. Jerome, David M. R. Barr, Paul Rawson, India S. Hesse, and Eric S. Peters

2013 *Archaeological Survey for El Paso Natural Gas Company's Sasabe Lateral Project, Pima County, Arizona*. Cultural Resources Report No. 14-407. SWCA Environmental Consultants, Tucson, Arizona.

Hill, Matthew E. Jr., and J. Simon Bruder

1999 *Cultural Resources Survey for the Three Points to Kenney Pavement Preservation Project, Pima County, Arizona*. Dames & Moore, Phoenix, Arizona.

Huckell, Bruce B.

1984 The Paleo-Indian and Archaic Occupation of the Tucson Basin: An Overview. *Kiva* 49:133–145.

1995 *Of Marshes and Maize: Preceramic Agricultural Settlements in the Cienega Valley, Southeastern Arizona*. Anthropological Papers of the University of Arizona. University of Arizona Press, Tucson.

1996 The Archaic Prehistory of the North American Southwest. *Journal of World Prehistory* 10(3):305–373.

Jones, Jeffery T., and Allen Dart

2002 Cultural Resources Survey of 30.97 Miles of 66-Foot-Wide Communications Cable Access Corridors West of Tucson in Pima County, Arizona. Letter Report No. 2002-002. Old Pueblo Archaeology Center, Tucson, Arizona.

Keane, Melissa, and J. Simon Bruder

1999 *Good Roads Everywhere: Historic and Regulatory Contexts for the Evaluation of Arizona Roads*. Intermountain Cultural Resource Services Research Paper No. 42. Dames and Moore, Phoenix, Arizona.

Mabry, J. B. (editor)

1998 *Archaeological Investigations of Early Village Sites in the Middle Santa Cruz Valley: Analysis and Synthesis*. Anthropology Papers No. 19. Center for Desert Archaeology, Tucson, Arizona.

Maldonado, Ronald P.

1988 *An Archaeological Survey of 3.5 Miles of Right-of-Way for a Proposed Powerline*. Cultural & Environmental Systems, Tucson, Arizona.

Natural Resources Conservation Service

2020 Web Soil Survey. Available at: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Accessed November 3, 2020.

Roth, Barbara J.

1995 Late Archaic Occupation of the Upper Bajada: Excavations at AZ AA:12:84(ASM), Tucson Basin. *Kiva* 61(2):189–207.

Sayles, Edward B.

1983 *The Cochise Cultural Sequence in Southeastern Arizona*. Anthropological Papers No. 42. University of Arizona Press, Tucson.

Sayles, Edward B., and Ernst Antevs

1941 *The Cochise Culture*. Medallion Papers No. 29. Gila Pueblo, Globe, Arizona.

Seymour, Deni J.

2011 *Where the Earth and Sky are Sewn Together*. University of Utah Press, Salt Lake City.

Sheridan, Thomas E.

1995 *Arizona: A History*. University of Arizona Press, Tucson.

Stein, Pat H.

1988 *Homesteading in the Depression: A Study of Two Short-Lived Homesteads in the Harquahala Valley, Arizona*. Northland Research, Inc., Flagstaff, Arizona.

1990 *Homesteading in Arizona, 1862 to 1940—A Guide to Studying, Evaluating, and Preserving Historic Homesteads; A Component of the Arizona Historic Preservation Plan*. Arizona State Historic Preservation Office, Phoenix.

Wallace, Henry D., James M. Heidke, and William H. Doelle

1995 Hohokam Origins. *Kiva* 60(4):575–618.

Whittlesey, Stephanie M., Richard Ciolek-Torrello, and Matthew A. Sterner

1994 *Southern Arizona, the Last 12,000 Years: A Cultural-Historic Overview for the Western Army National Guard Aviation Training Site*. Technical Series No. 48. Statistical Research Inc., Tucson, Arizona.

Wilcox, David R.

1991 The Mesoamerican Ballgame in the American Southwest. In *The Mesoamerican Ballgame*, edited by Vernon L. Scarborough and David R. Wilcox, pp. 101–125. University of Arizona, Tucson.

Wilson, Eldred D.

1949 *History of Mining in Pima County, Arizona*. 5th ed. Tucson Chamber of Commerce, Tucson, Arizona.

**APPENDIX A**  
**Previous Research Map**







## **APPENDIX B**

### **Site Locational Data**

**Contains Sensitive and Confidential Information – Do Not Distribute**



**Table B.1. Site Locational Data (UTM, NAD 83, Zone 12)**

ASM Site Number	Easting	Northing
AZ AA:16:620(ASM)	[REDACTED]	[REDACTED]

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*Appendix D*

*Agency Correspondence*

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**DEPARTMENT OF THE ARMY**  
**U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT**  
**3636 N. CENTRAL AVE, SUITE 900**  
**PHOENIX, AZ 85012-1939**

July 29, 2019

**SUBJECT: Approved Jurisdictional Determination**

Victor Palma  
Tucson Airport Authority  
7250 S. Tucson Blvd., Suite 300  
Tucson, Arizona 85756

Dear Mr. Palma:

I am responding to your request (File No. SPL-2019-00238) dated March 8, 2019, for an approved Department of the Army jurisdictional determination (JD) for the Ryan Airfield project site (lat.32.139036°N, long. -111.172971°W) located in unincorporated Pima County, Arizona.

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

Based on available information, I have determined that waters of the United States do not occur on the project site. The basis for our determination can be found in the enclosed Approved Jurisdictional Determination (JD) form(s).

This letter includes an approved jurisdictional determination for the Ryan Airfield project site. If you wish to submit new information regarding this jurisdictional determination, please do so within 60 days. We will consider any new information so submitted and respond within 60 days by either revising the prior determination, if appropriate, or reissuing the prior determination. If you object to this or any revised or reissued jurisdictional determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) and Request for Appeal (RFA) form. If you wish to appeal this decision, you must submit a completed RFA form within 60 days of the date on the NAP to the Corps South Pacific Division Office at the following address:

Tom Cavanaugh  
Administrative Appeal Review Officer  
U.S. Army Corps of Engineers  
South Pacific Division, CESPD-PDO

450 Golden Gate Ave.  
San Francisco, CA 94102

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5 (see below), and that it has been received by the Division Office by September 27, 2019.

This determination has been conducted to identify the extent of the Corps' Clean Water Act jurisdiction on the particular project site identified in your request, and is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

Thank you for participating in the regulatory program. If you have any questions, please contact me at (602) 230-6953 or via e-mail at Michael.W.Langley@usace.army.mil. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=regulatory\\_survey](http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey).

Sincerely,

Michael Langley  
Branch Chief, Acting  
Regulatory Division

Enclosures

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND  
REQUEST FOR APPEAL**

Applicant: Tucson Airport Authority	File Number: SPL-2019-00238	Date: JULY 29, 2019
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

**SECTION I** - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at [http://www.usace.army.mil/cecw/pages/reg\\_materials.aspx](http://www.usace.army.mil/cecw/pages/reg_materials.aspx) or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

#### **SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

#### **POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision and/or the appeal process you may contact:

Michael Langley  
U.S. Army Corps of Engineers  
Los Angeles District  
3636 N. Central Ave, Suite 900  
Phoenix, AZ 85012-1939

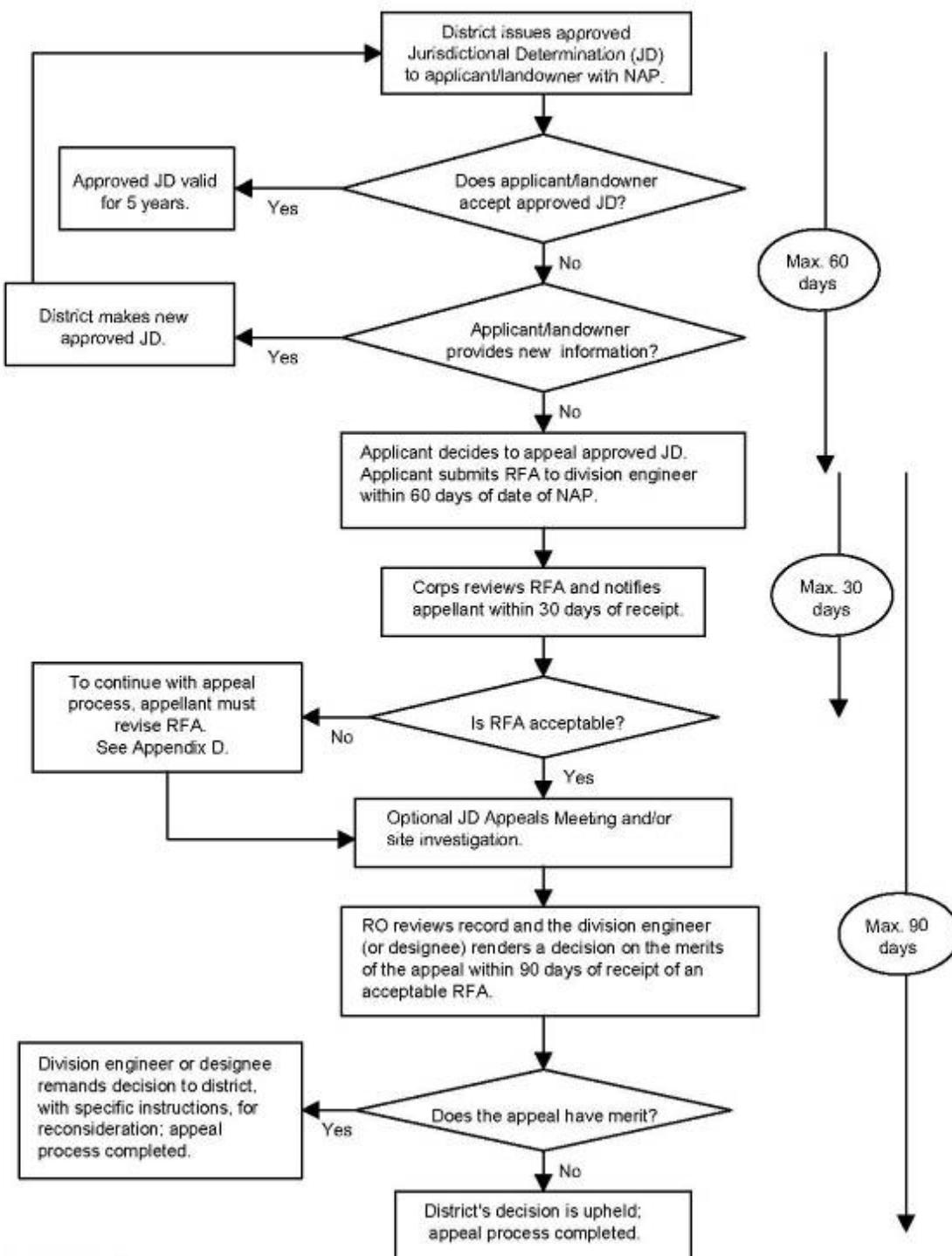
Phone: (602) 230-6953  
Email: Michael.W.Langley@usace.army.mil

If you only have questions regarding the appeal process you may also contact: Thomas J. Cavanaugh  
Administrative Appeal Review Officer  
U.S. Army Corps of Engineers  
South Pacific Division  
450 Golden Gate Ave.  
San Francisco, CA 94102  
Phone: (415) 503-6574 Fax: (415) 503-6646  
Email: thomas.j.cavanaugh@usace.army.mil

**RIGHT OF ENTRY:** Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:
----------------------------------	-------	-------------------

## Administrative Appeal Process for Approved Jurisdictional Determinations



## § 331.5 Criteria.

(a) *Criteria for appeal* —(1) *Submission of RFA*. The appellant must submit a completed RFA (as defined at §331.2) to the appropriate division office in order to appeal an approved JD, a permit denial, or a declined permit. An individual permit that has been signed by the applicant, and subsequently unilaterally modified by the district engineer pursuant to 33 CFR 325.7, may be appealed under this process, provided that the applicant has not started work in waters of the United States authorized by the permit. The RFA must be received by the division engineer within 60 days of the date of the NAP.

(2) *Reasons for appeal*. The reason(s) for requesting an appeal of an approved JD, a permit denial, or a declined permit must be specifically stated in the RFA and must be more than a simple request for appeal because the affected party did not like the approved JD, permit decision, or the permit conditions. Examples of reasons for appeals include, but are not limited to, the following: A procedural error; an incorrect application of law, regulation or officially promulgated policy; omission of material fact; incorrect application of the current regulatory criteria and associated guidance for identifying and delineating wetlands; incorrect application of the Section 404(b)(1) Guidelines (see 40 CFR Part 230); or use of incorrect data. The reasons for appealing a permit denial or a declined permit may include jurisdiction issues, whether or not a previous approved JD was appealed.

(b) *Actions not appealable*. An action or decision is not subject to an administrative appeal under this part if it falls into one or more of the following categories:

- (1) An individual permit decision (including a letter of permission or a standard permit with special conditions), where the permit has been accepted and signed by the permittee. By signing the permit, the applicant waives all rights to appeal the terms and conditions of the permit, unless the authorized work has not started in waters of the United States and that issued permit is subsequently modified by the district engineer pursuant to 33 CFR 325.7;
- (2) Any site-specific matter that has been the subject of a final decision of the Federal courts;
- (3) A final Corps decision that has resulted from additional analysis and evaluation, as directed by a final appeal decision;
- (4) A permit denial without prejudice or a declined permit, where the controlling factor cannot be changed by the Corps decision maker (e.g., the requirements of a binding statute, regulation, state Section 401 water quality certification, state coastal zone management disapproval, etc. (See 33 CFR 320.4(j));
- (5) A permit denial case where the applicant has subsequently modified the proposed project, because this would constitute an amended application that would require a new public interest review, rather than an appeal of the existing record and decision;
- (6) Any request for the appeal of an approved JD, a denied permit, or a declined permit where the RFA has not been received by the division engineer within 60 days of the date of the NAP;
- (7) A previously approved JD that has been superceded by another approved JD based on new information or data submitted by the applicant. The new approved JD is an appealable action;
- (8) An approved JD associated with an individual permit where the permit has been accepted and signed by the permittee;
- (9) A preliminary JD; or
- (10) A JD associated with unauthorized activities except as provided in §331.11.

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND  
REQUEST FOR APPEAL**

Applicant: Tucson Airport Authority	File Number: SPL-2019-00238	Date: JULY 29, 2019
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

**SECTION I** - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at [http://www.usace.army.mil/cecw/pages/reg\\_materials.aspx](http://www.usace.army.mil/cecw/pages/reg_materials.aspx) or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

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**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

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**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

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Michael Langley  
U.S. Army Corps of Engineers  
Los Angeles District  
3636 N. Central Ave, Suite 900  
Phoenix, AZ 85012-1939

Phone: (602) 230-6953  
Email: Michael.W.Langley@usace.army.mil

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450 Golden Gate Ave.  
San Francisco, CA 94102  
Phone: (415) 503-6574 Fax: (415) 503-6646  
Email: thomas.j.cavanaugh@usace.army.mil

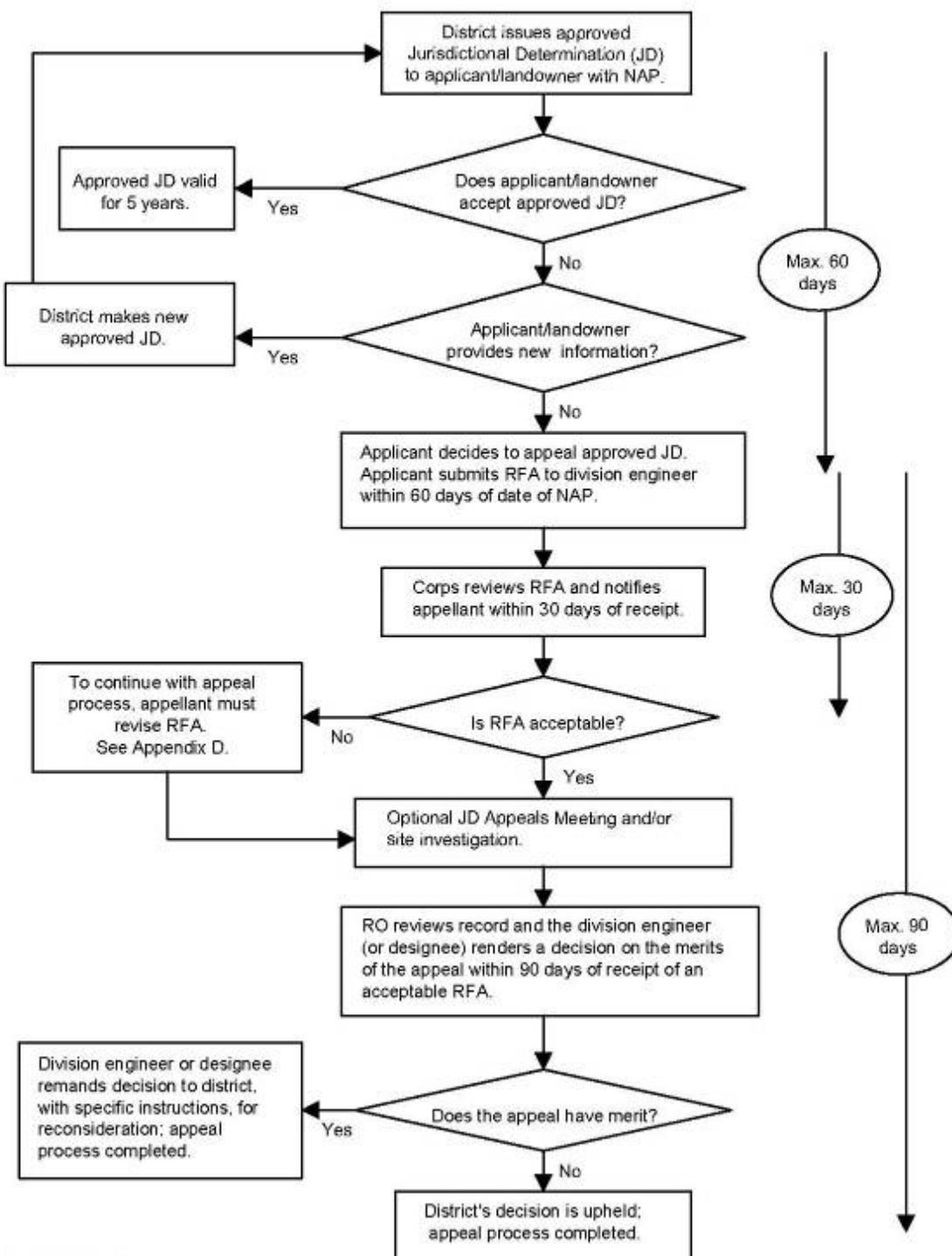
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Date:

Telephone number:

\_\_\_\_\_  
Signature of appellant or agent.

## Administrative Appeal Process for Approved Jurisdictional Determinations



## § 331.5 Criteria.

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(2) *Reasons for appeal*. The reason(s) for requesting an appeal of an approved JD, a permit denial, or a declined permit must be specifically stated in the RFA and must be more than a simple request for appeal because the affected party did not like the approved JD, permit decision, or the permit conditions. Examples of reasons for appeals include, but are not limited to, the following: A procedural error; an incorrect application of law, regulation or officially promulgated policy; omission of material fact; incorrect application of the current regulatory criteria and associated guidance for identifying and delineating wetlands; incorrect application of the Section 404(b)(1) Guidelines (see 40 CFR Part 230); or use of incorrect data. The reasons for appealing a permit denial or a declined permit may include jurisdiction issues, whether or not a previous approved JD was appealed.

(b) *Actions not appealable*. An action or decision is not subject to an administrative appeal under this part if it falls into one or more of the following categories:

- (1) An individual permit decision (including a letter of permission or a standard permit with special conditions), where the permit has been accepted and signed by the permittee. By signing the permit, the applicant waives all rights to appeal the terms and conditions of the permit, unless the authorized work has not started in waters of the United States and that issued permit is subsequently modified by the district engineer pursuant to 33 CFR 325.7;
- (2) Any site-specific matter that has been the subject of a final decision of the Federal courts;
- (3) A final Corps decision that has resulted from additional analysis and evaluation, as directed by a final appeal decision;
- (4) A permit denial without prejudice or a declined permit, where the controlling factor cannot be changed by the Corps decision maker (e.g., the requirements of a binding statute, regulation, state Section 401 water quality certification, state coastal zone management disapproval, etc. (See 33 CFR 320.4(j));
- (5) A permit denial case where the applicant has subsequently modified the proposed project, because this would constitute an amended application that would require a new public interest review, rather than an appeal of the existing record and decision;
- (6) Any request for the appeal of an approved JD, a denied permit, or a declined permit where the RFA has not been received by the division engineer within 60 days of the date of the NAP;
- (7) A previously approved JD that has been superceded by another approved JD based on new information or data submitted by the applicant. The new approved JD is an appealable action;
- (8) An approved JD associated with an individual permit where the permit has been accepted and signed by the permittee;
- (9) A preliminary JD; or
- (10) A JD associated with unauthorized activities except as provided in §331.11.

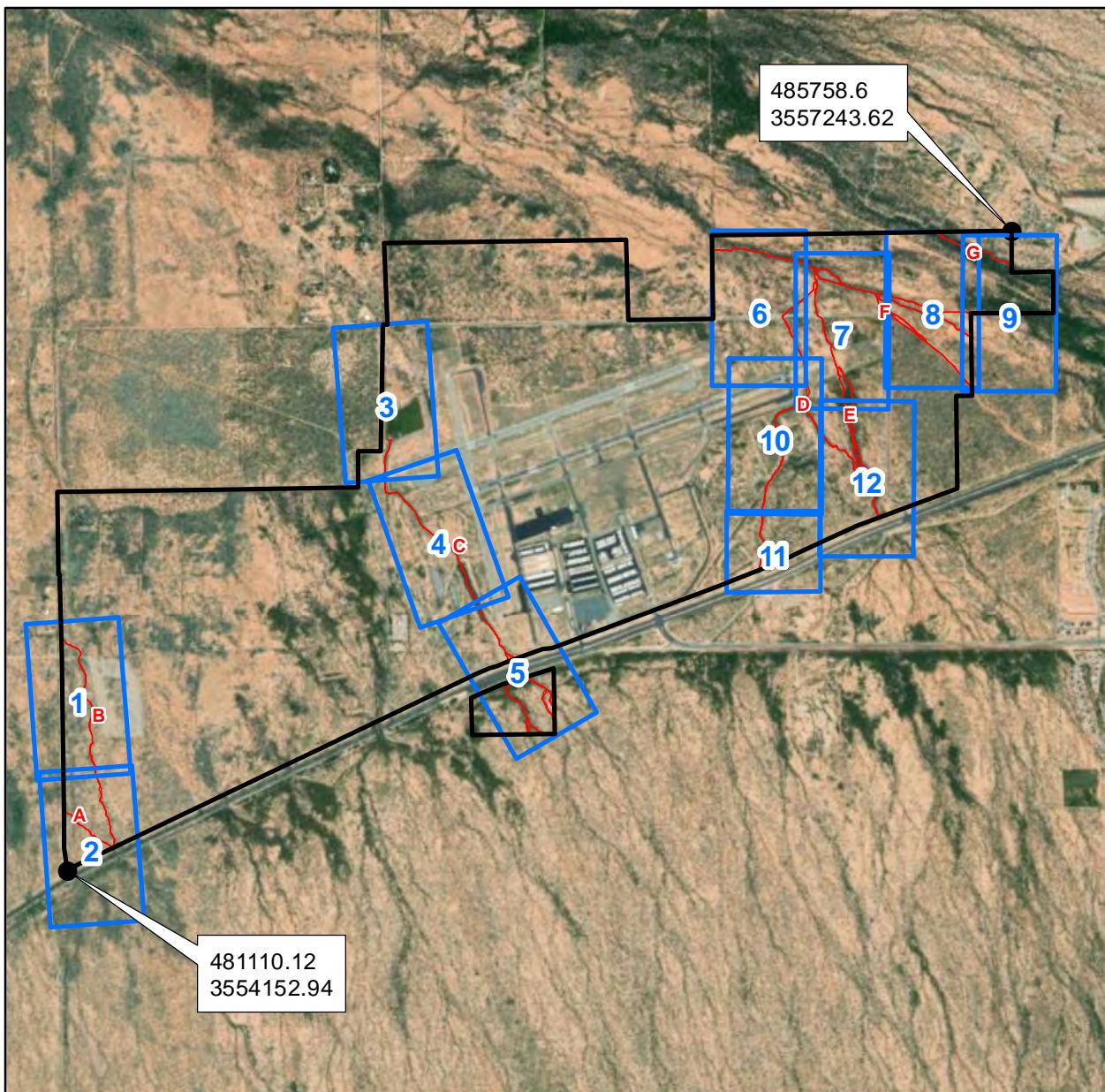


Figure 2: Ordinary High Water Mark Index Map

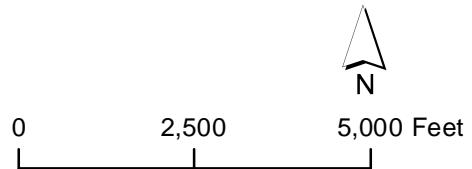
- Project Area
- Map Page
- Washes/Ordinary High Water Mark
- A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

Imagery: ESRI World Imagery, 2018



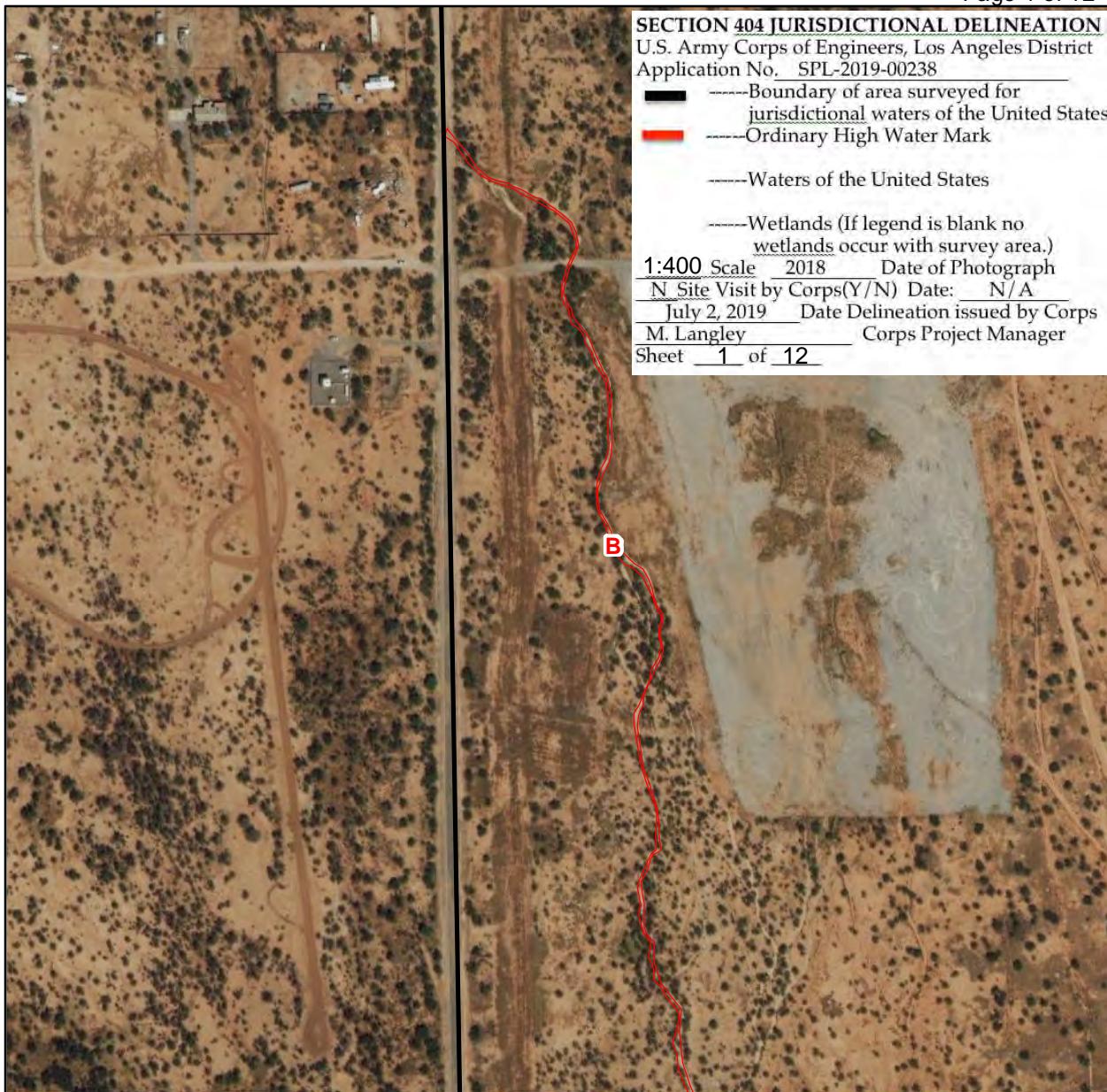


Figure 2-1: Ordinary High Water Mark

 Project Area

 Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet

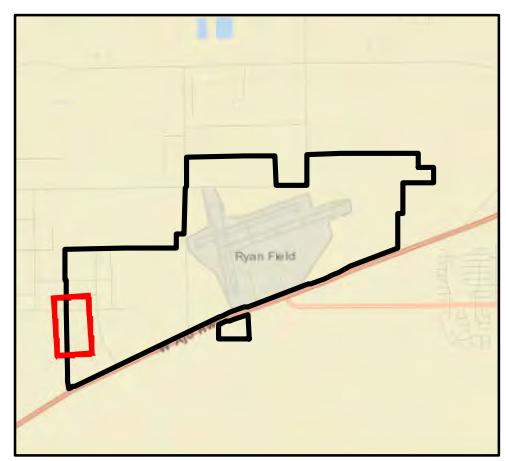




Figure 2-2: Ordinary High Water Mark

  Project Area

  Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet



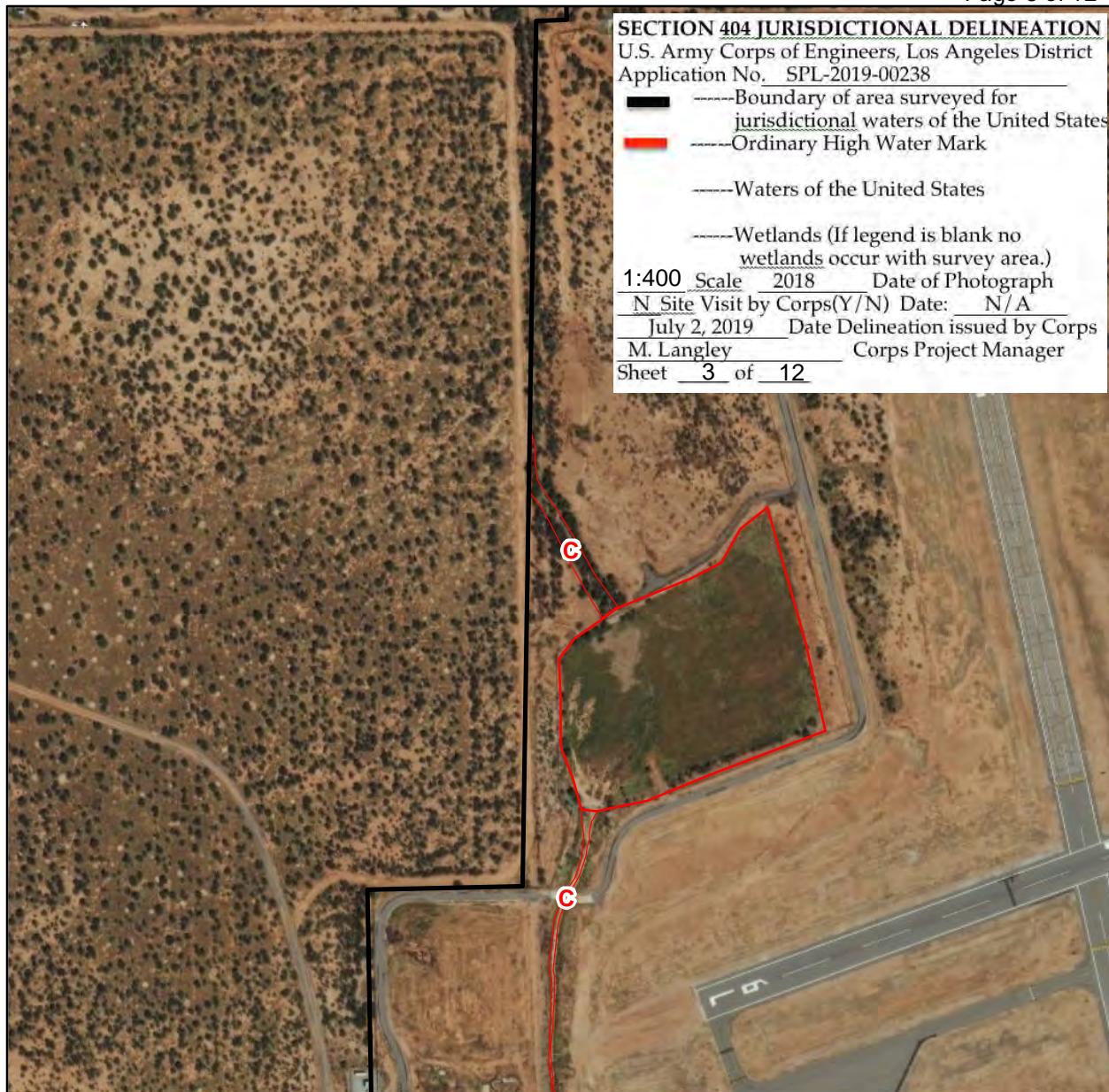


Figure 2-3: Ordinary High Water Mark

  Project Area

  Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet



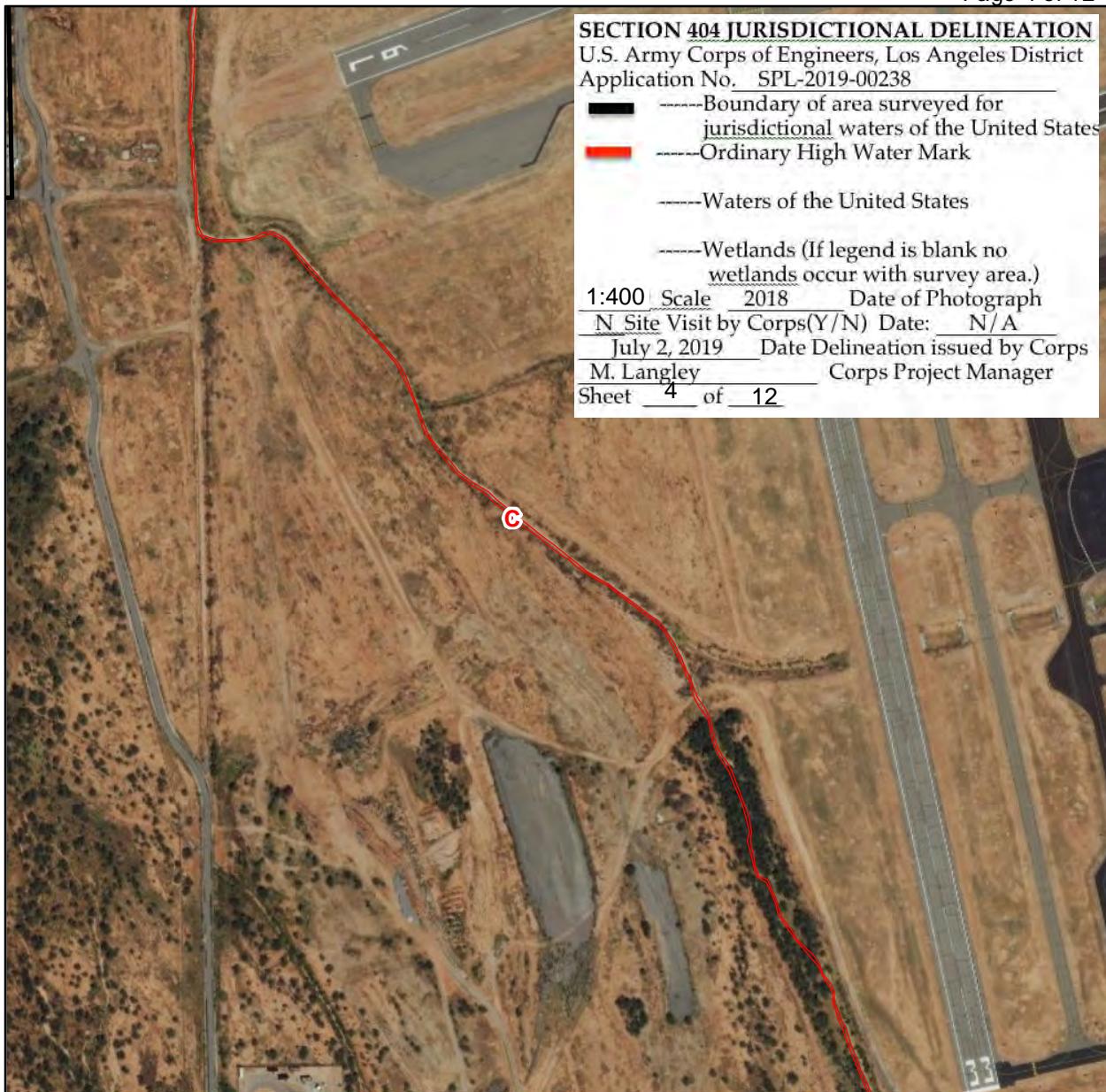


Figure 2-4: Ordinary High Water Mark

  Project Area

  Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet



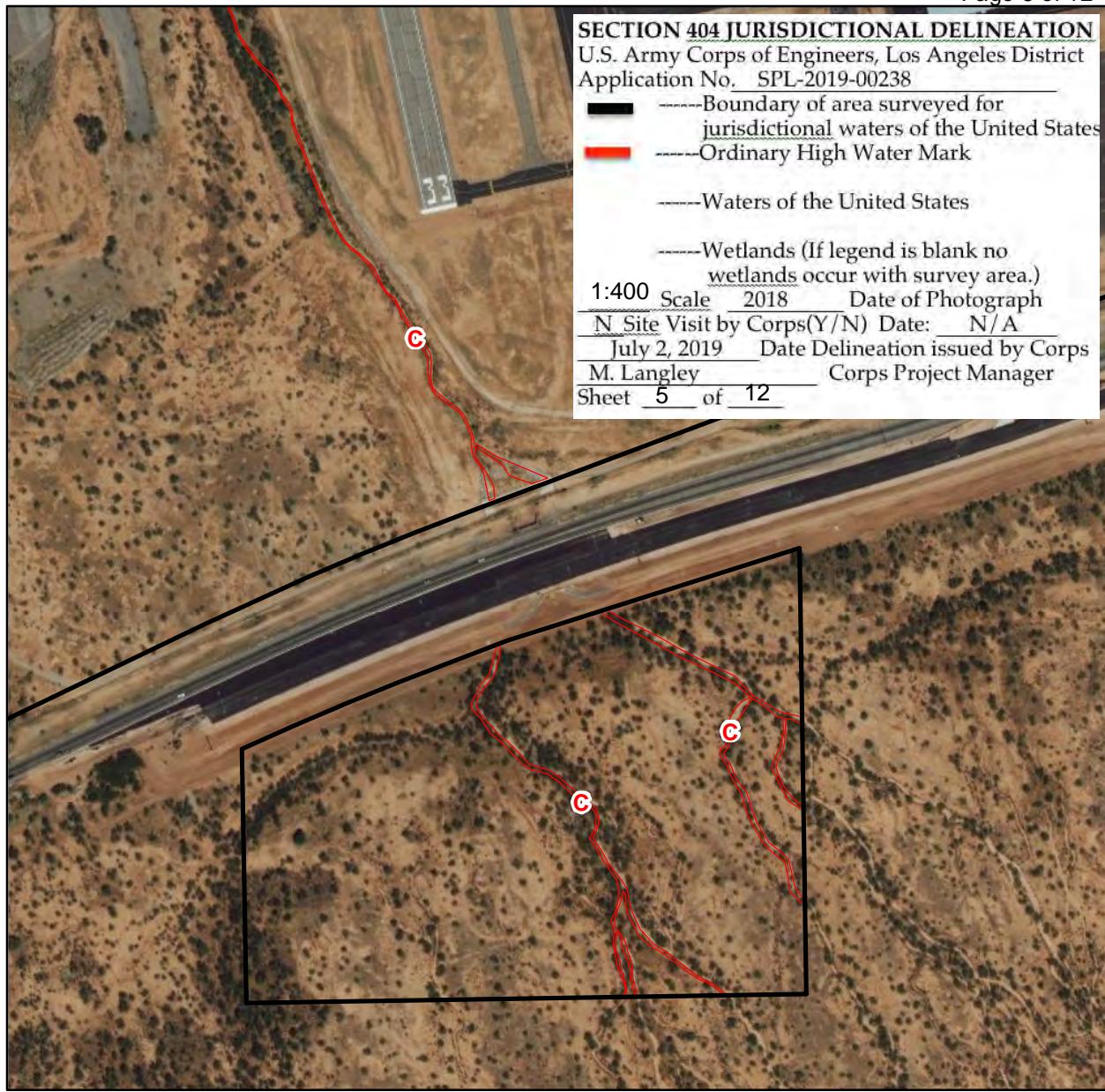


Figure 2-5: Ordinary High Water Mark

  Project Area

  Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

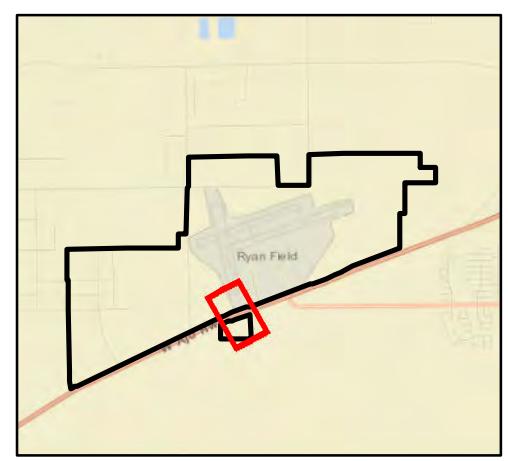
Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet



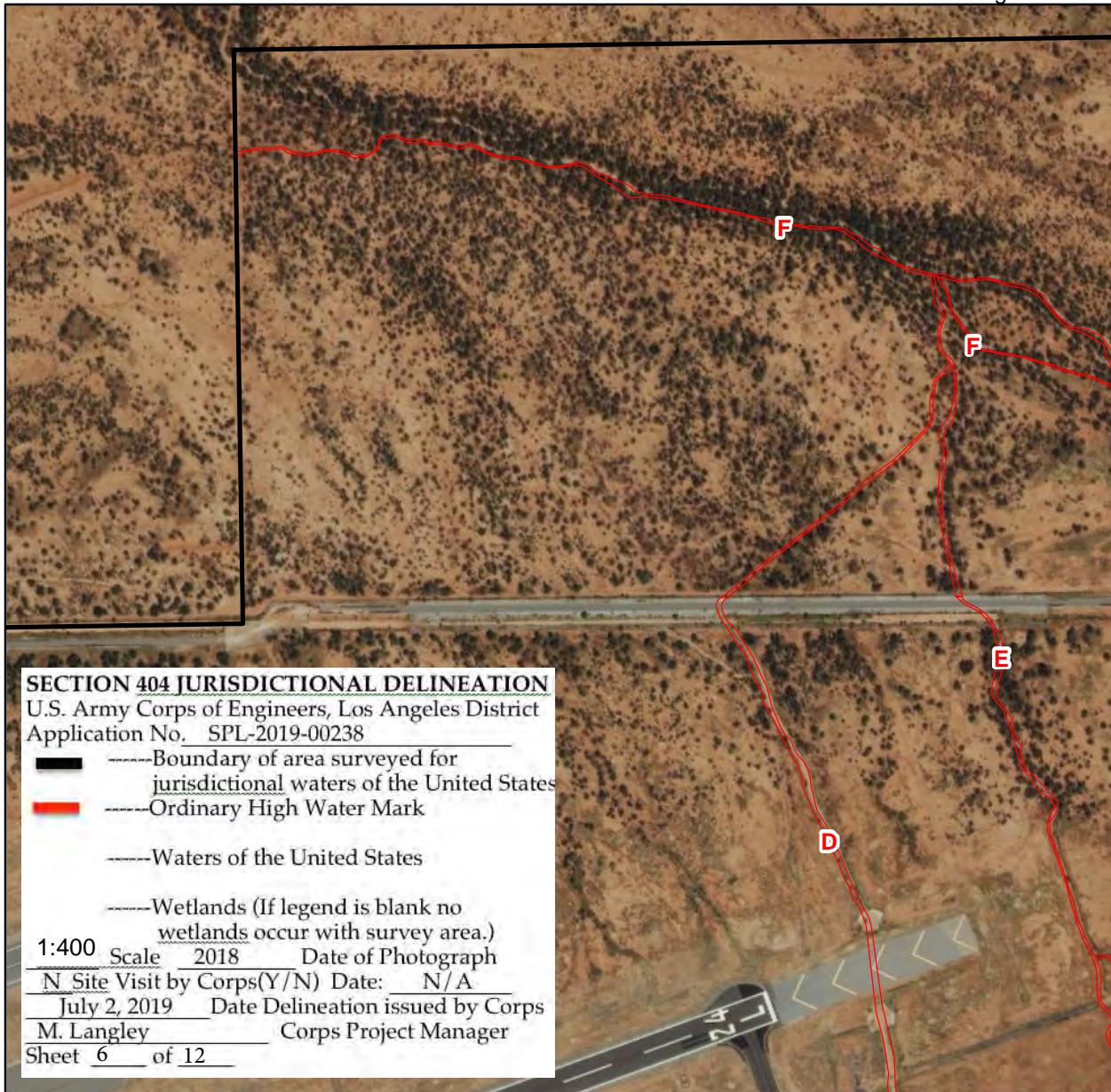


Figure 2-6: Ordinary High Water Mark

  Project Area

  Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

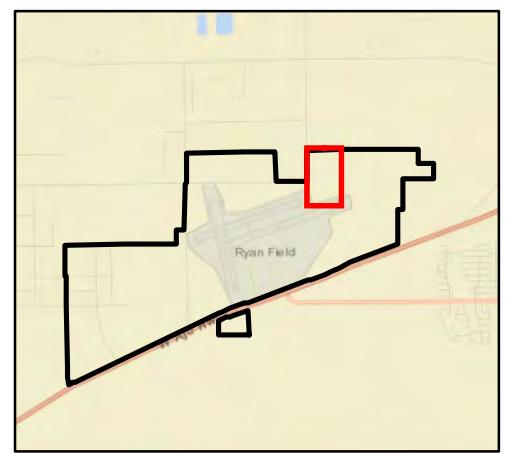
Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet



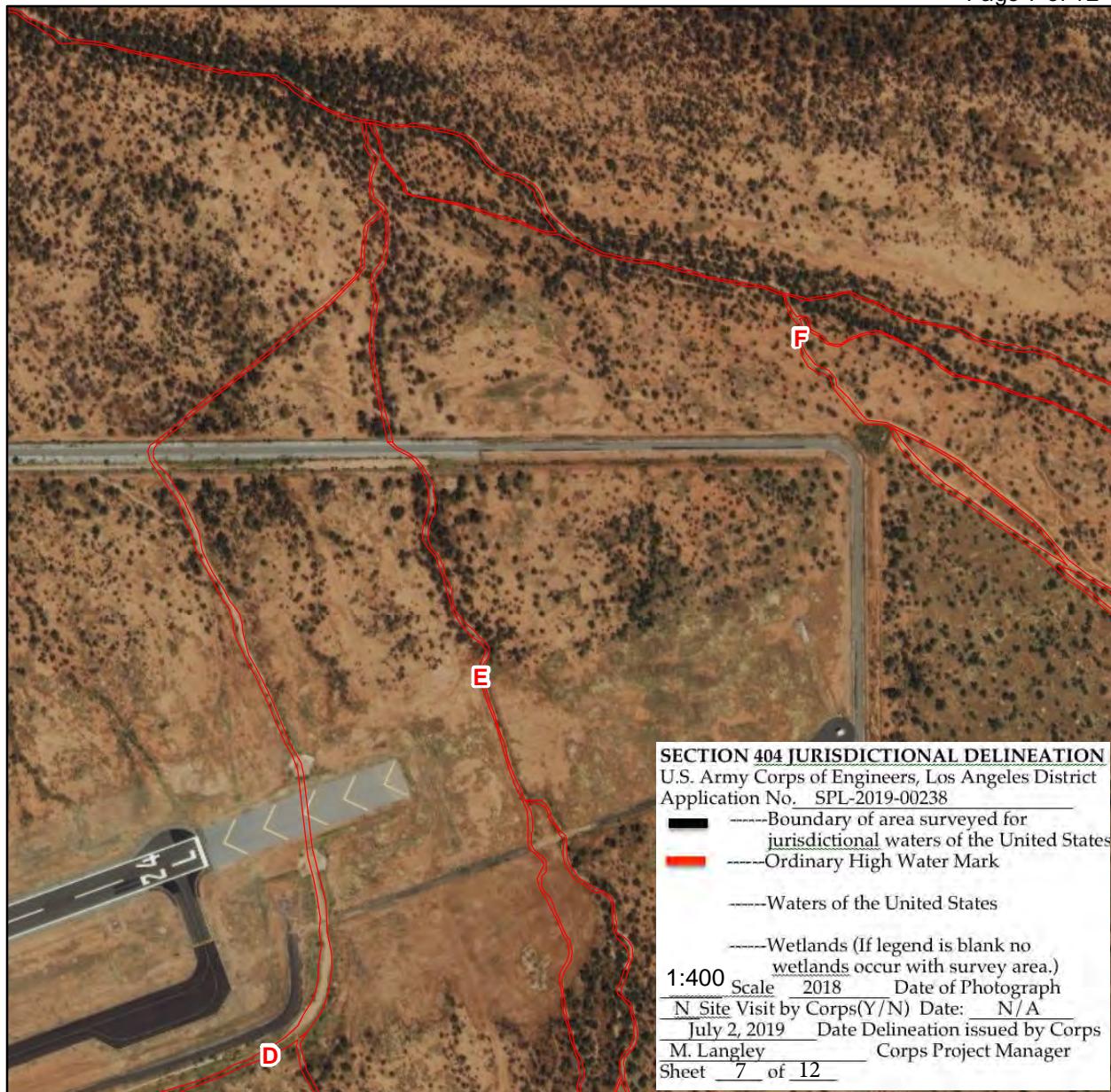


Figure 2-7: Ordinary High Water Mark

  Project Area

  Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet



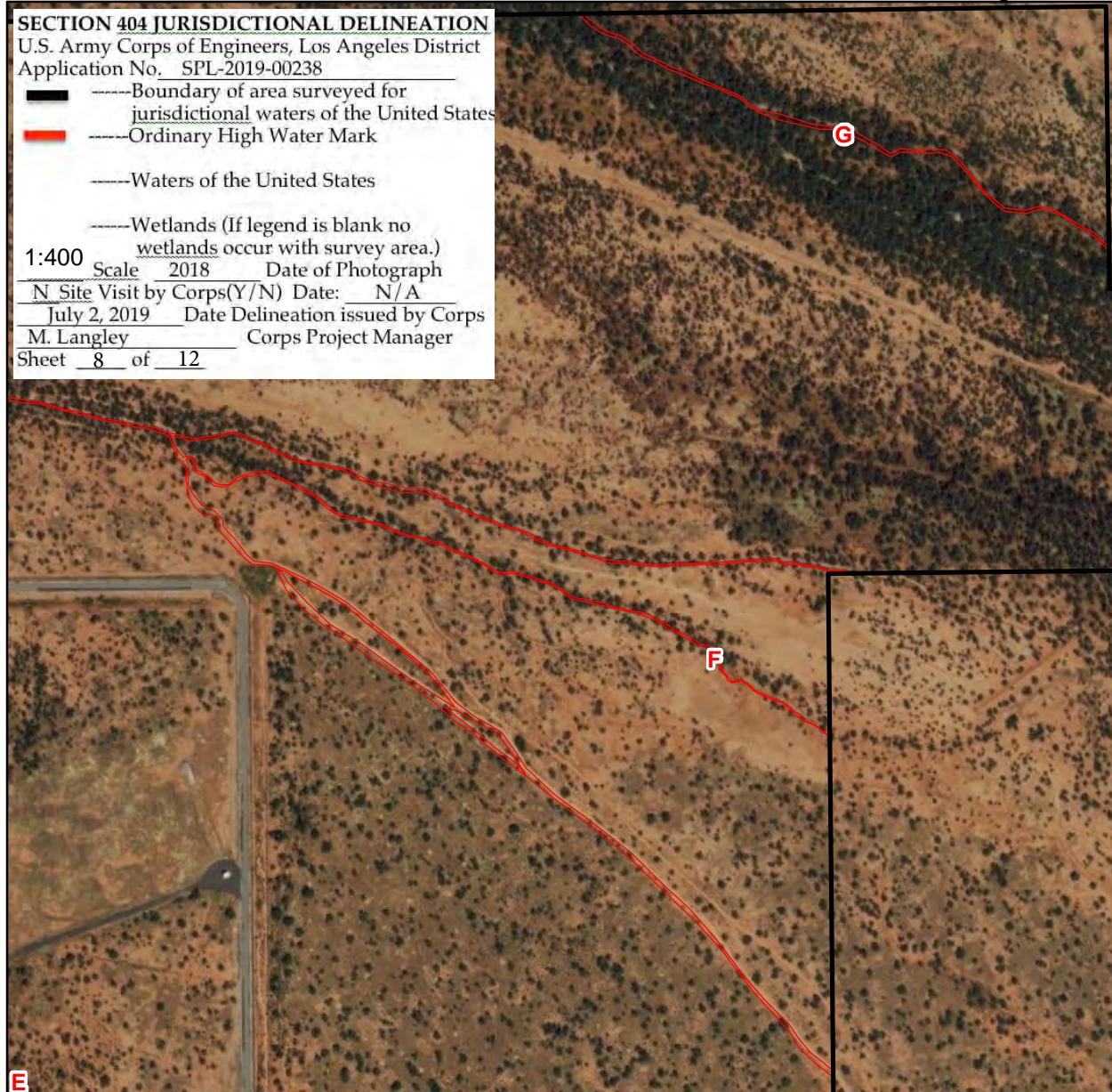


Figure 2-8: Ordinary High Water Mark

  Project Area

  Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

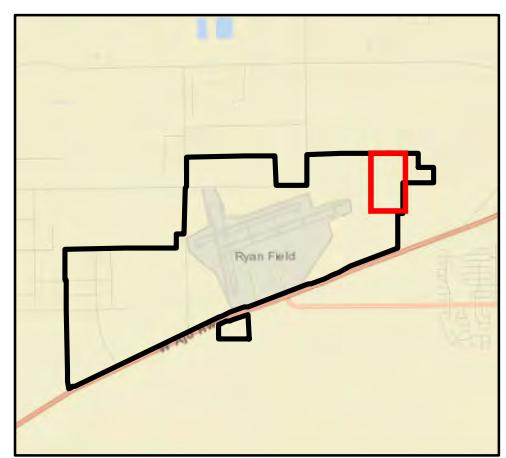
Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet



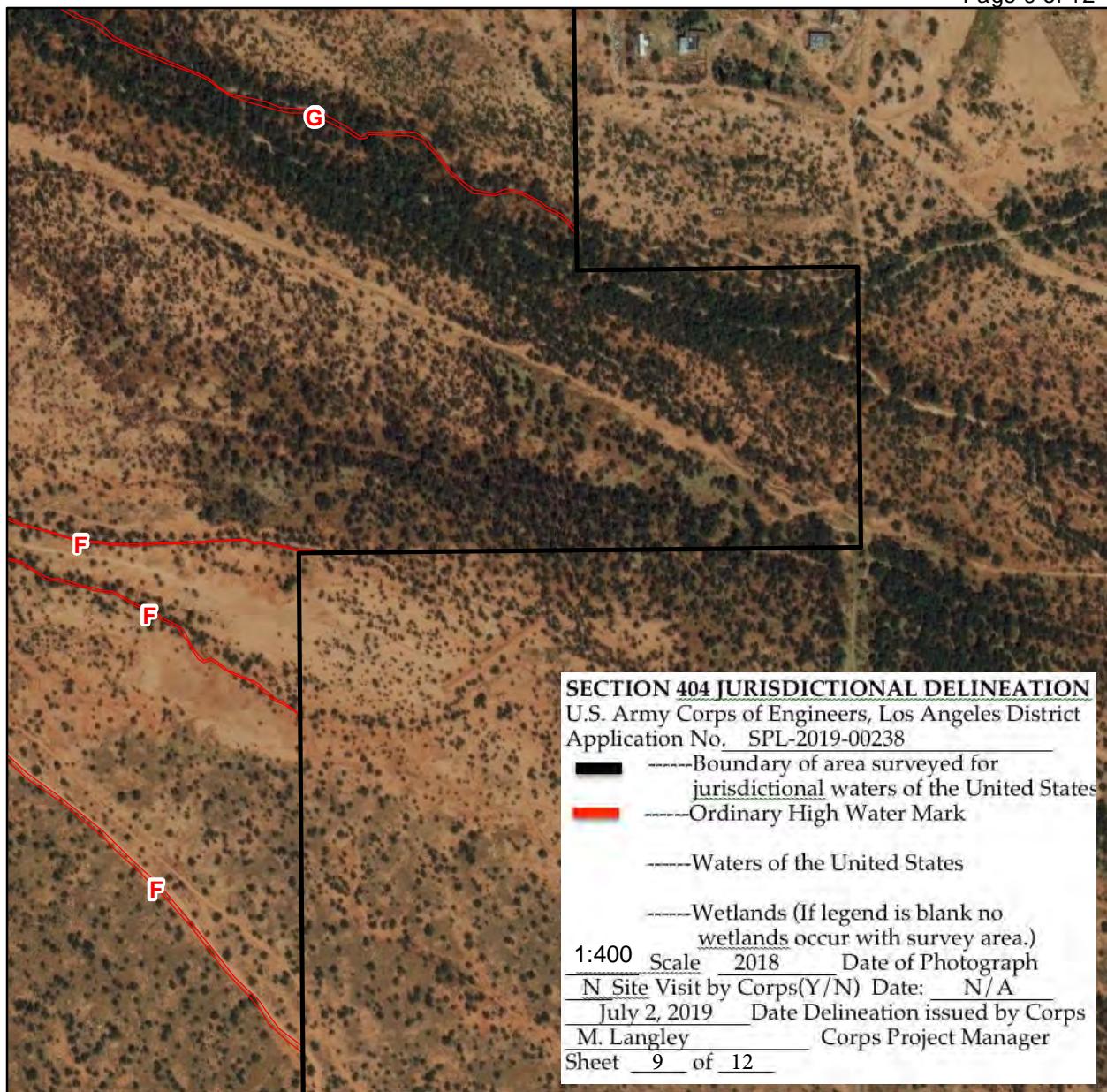


Figure 2-9: Ordinary High Water Mark

Project Area

Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

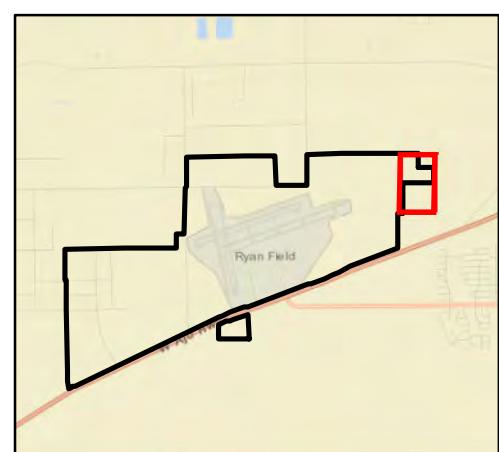
Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet



**SECTION 404 JURISDICTIONAL DELINEATION**  
 U.S. Army Corps of Engineers, Los Angeles District  
 Application No. SPL-2019-00238

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

1:400 Scale 2018 Date of Photograph  
 N Site Visit by Corps(Y/N) Date: N/A  
 July 2, 2019 Date Delineation issued by Corps  
 M. Langley Corps Project Manager  
 Sheet 10 of 12

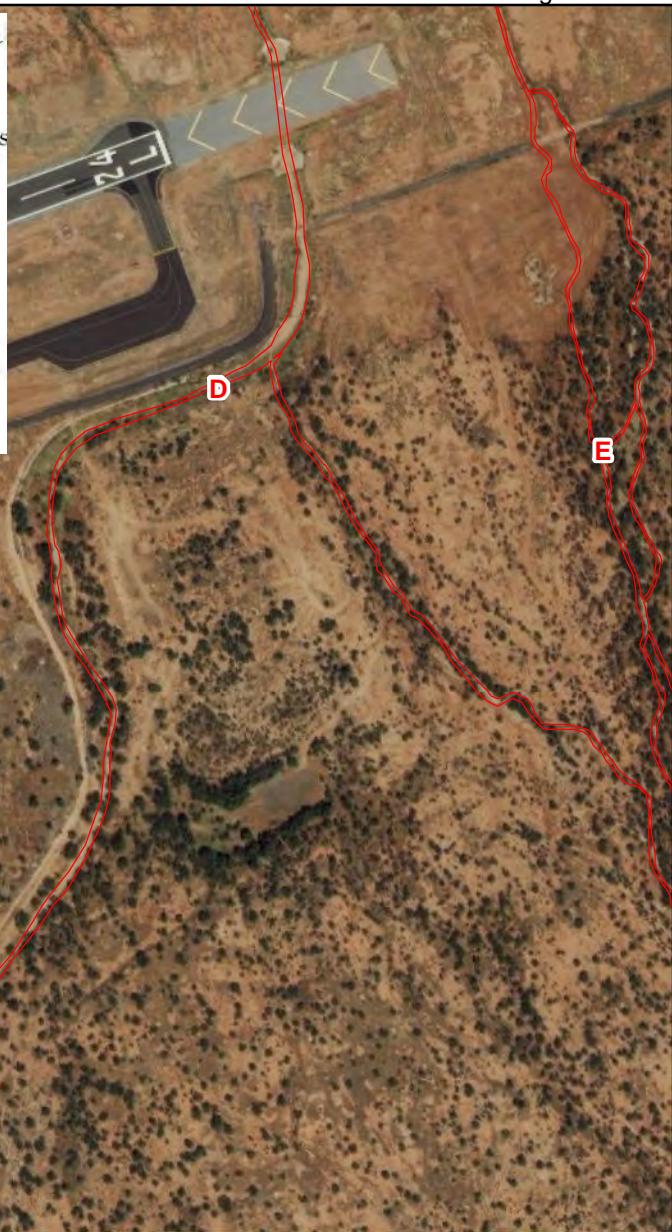


Figure 2-10: Ordinary High Water Mark

  Project Area

  Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

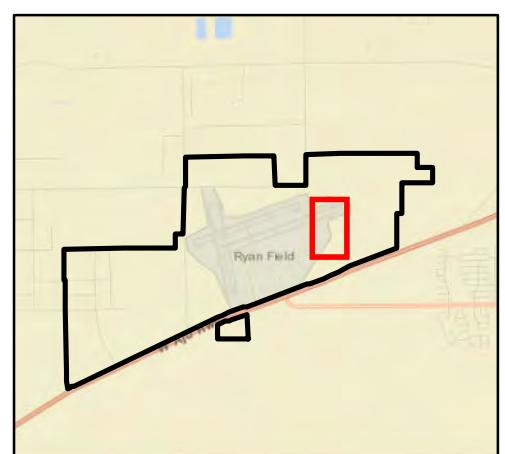
Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet



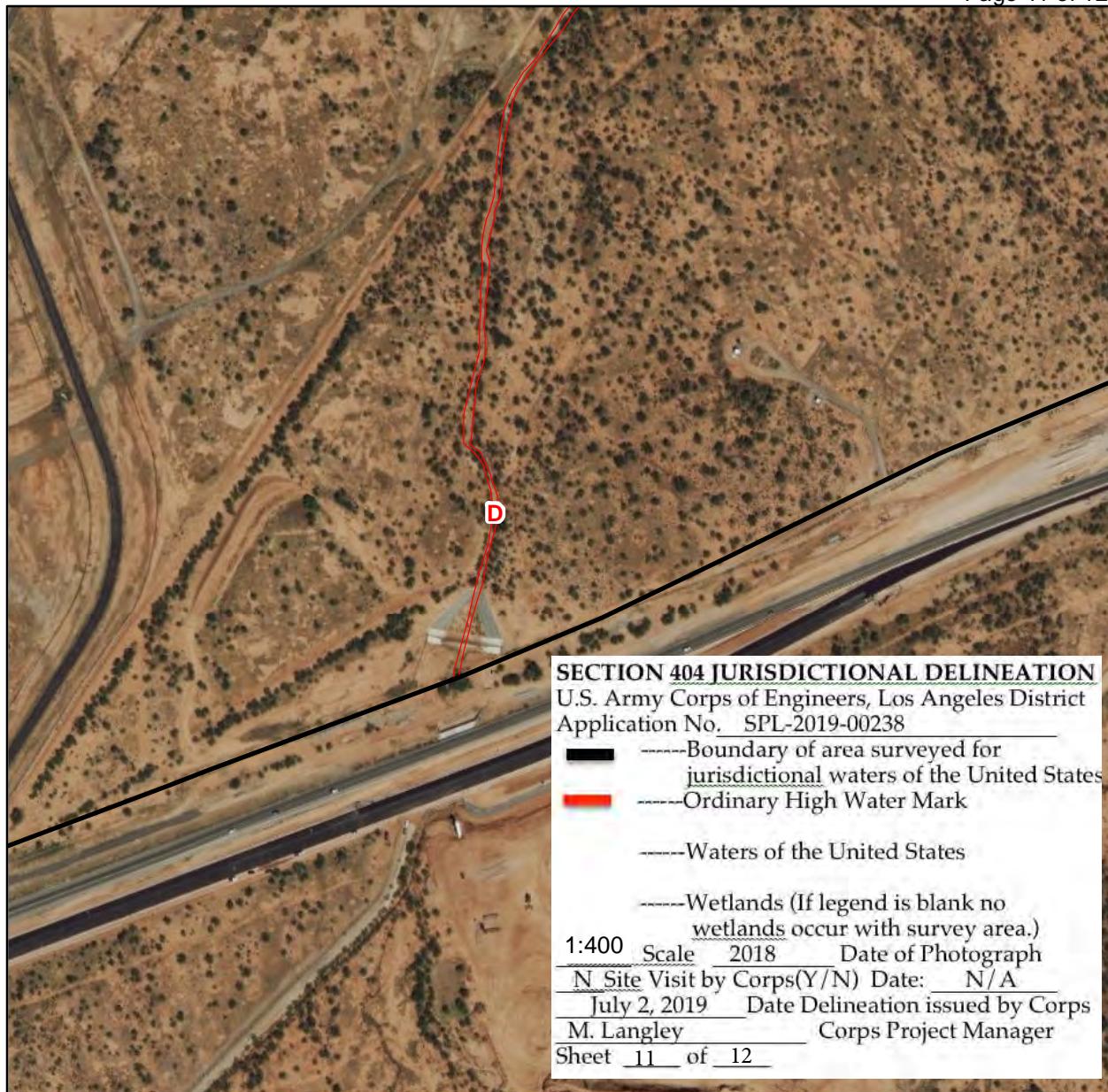


Figure 2-11: Ordinary High Water Mark

Project Area

Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

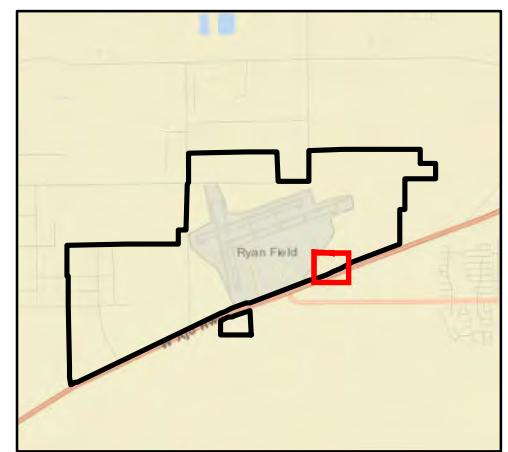
Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet



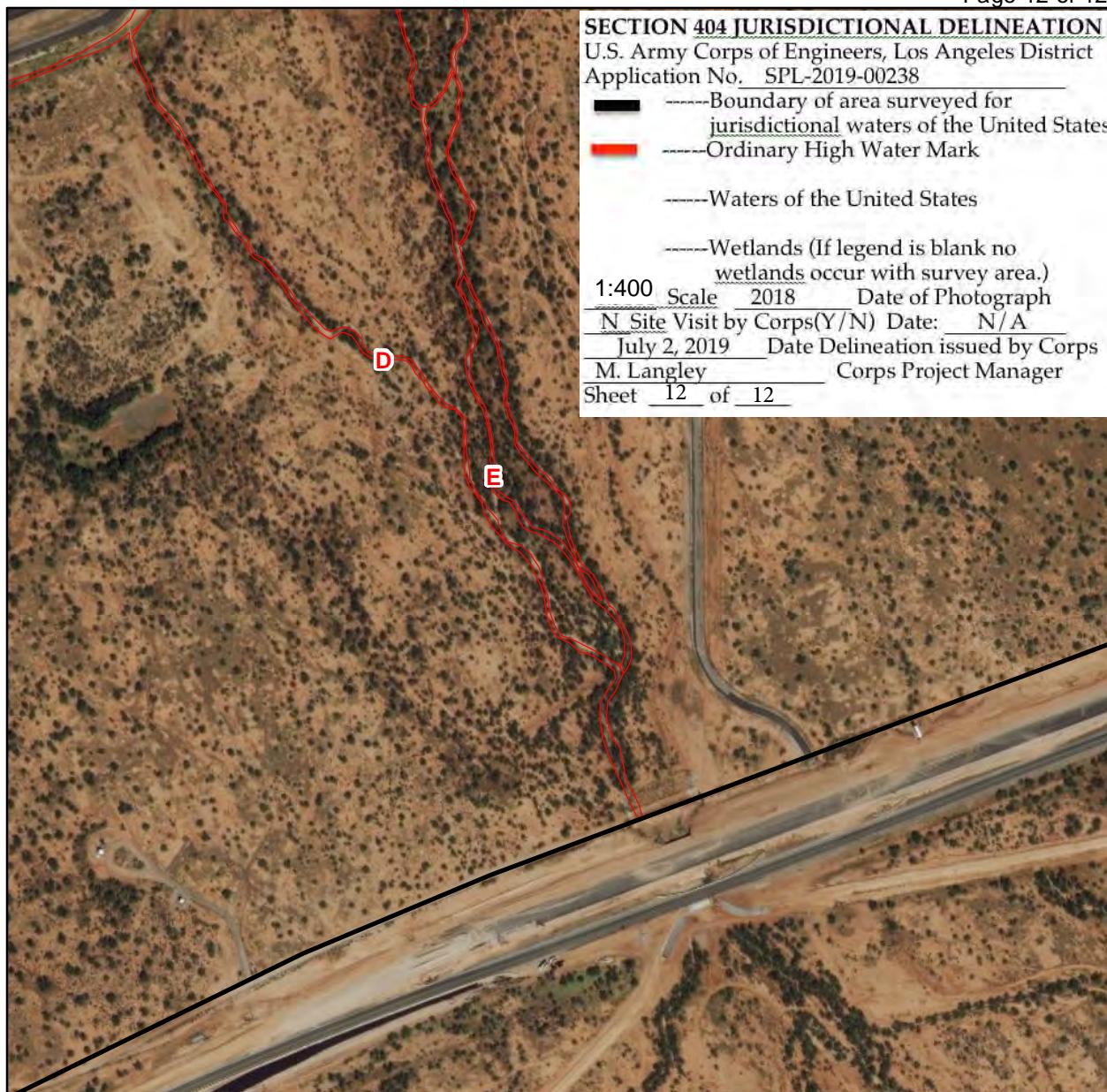


Figure 2-12: Ordinary High Water Mark

  Project Area

  Washes/Ordinary High Water Mark

**A** Drainage ID

Date Sources:

Bowers Environmental

Pima County GIS

Imagery: ESRI World Imagery, 2018

1 inch = 400 feet

0

500

1,000 Feet



**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 2/1/2019**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, Ryan Airfield, File No. SPL-2019-00238**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION: Drainage Feature A**

State: Arizona      County/parish/borough: Pima      City: Tucson

Center coordinates of site (lat/long in degree decimal format): Lat. 32.141775° N, Long. -111.173321° W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:

Gila River between Powers Butte and Gillespie Dam

Name of watershed or Hydrologic Unit Code (HUC): 15050340

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s): 1/20/2019

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters:      linear feet:      width (ft) and/or      acres.  
Wetlands:      acres.

**c. Limits (boundaries) of jurisdiction based on: **Pick List****

Elevation of established OHWM (if known): .

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: **Drainage is ephemeral and does not qualify as a TNW or RPW. Therefore this drainage could only be considered jurisdictional if it possessed a significant nexus with a downstream TNW. This drainage does not possess a significant nexus with the downstream TNW.**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### **SECTION III: CWA ANALYSIS**

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

##### **1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

##### **2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: .

#### **B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

**This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.**

**The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.**

**A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation.** Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

**If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.**

##### **1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

###### **(i) General Area Conditions:**

Watershed size: 97 **square miles**

Drainage area: **acres**

Average annual rainfall: 10.5 inches

Average annual snowfall: 1.1 inches

###### **(ii) Physical Characteristics:**

###### **(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through 7 tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>: Black Wash, Brawley Wash, Greene Canal, Green Wash, Santa Rosa Wash, Santa Cruz Wash, Gila River.

Tributary stream order, if known: 7.

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

**Tributary** properties with respect to top of bank (estimate):

Average width: 6.5 feet

Average depth: feet

Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):

<input checked="" type="checkbox"/> Silts	<input checked="" type="checkbox"/> Sands	<input type="checkbox"/> Concrete
<input type="checkbox"/> Cobbles	<input type="checkbox"/> Gravel	<input type="checkbox"/> Muck
<input type="checkbox"/> Bedrock	<input type="checkbox"/> Vegetation. Type/% cover:	
<input type="checkbox"/> Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Discontinuous; eroding, depositional.  
Presence of run/riffle/pool complexes. Explain: Not present.

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 1 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: Ephemeral.

Other information on duration and volume:

Surface flow is: **Discrete**. Characteristics: Within floodplain/sheetflow area.

Subsurface flow: **No**. Explain findings: All drainagges are ephemeral.

Dye (or other) test performed:

Tributary has (check all that apply):

<input type="checkbox"/> Bed and banks	<input type="checkbox"/> the presence of litter and debris
<input checked="" type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply):	<input type="checkbox"/> destruction of terrestrial vegetation
<input checked="" type="checkbox"/> clear, natural line impressed on the bank	<input type="checkbox"/> the presence of wrack line
<input checked="" type="checkbox"/> changes in the character of soil	<input type="checkbox"/> sediment sorting
<input type="checkbox"/> shelving	<input type="checkbox"/> scour
<input type="checkbox"/> vegetation matted down, bent, or absent	<input type="checkbox"/> multiple observed or predicted flow events
<input checked="" type="checkbox"/> leaf litter disturbed or washed away	<input type="checkbox"/> abrupt change in plant community
<input checked="" type="checkbox"/> sediment deposition	
<input type="checkbox"/> water staining	
<input type="checkbox"/> other (list):	

Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

<input checked="" type="checkbox"/> High Tide Line indicated by:	<input checked="" type="checkbox"/> Mean High Water Mark indicated by:
<input type="checkbox"/> oil or scum line along shore objects	<input type="checkbox"/> survey to available datum;
<input type="checkbox"/> fine shell or debris deposits (foreshore)	<input type="checkbox"/> physical markings;
<input type="checkbox"/> physical markings/characteristics	<input type="checkbox"/> vegetation lines/changes in vegetation types.
<input type="checkbox"/> tidal gauges	
<input type="checkbox"/> other (list):	

**(iii) Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:      acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: No permanent surface water occurs in the project area.

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain: Xeroriparian vegetation 20 percent cover.
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (      ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
------------------------------	------------------------	------------------------------	------------------------

Summarize overall biological, chemical and physical functions being performed:

## C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial.  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: \_\_\_\_\_
- Other factors. Explain: \_\_\_\_\_

**Identify water body and summarize rationale supporting determination:** \_\_\_\_\_

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following *Rapanos*.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.**
- Other: (explain, if not covered above): \_\_\_\_\_

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): **6551** linear feet, **6.5** width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

**SECTION IV: DATA SOURCES.**

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Brown Mountain and San Xavier Mission SW 7.5-Minute Quadrangles.
- USDA Natural Resources Conservation Service Soil Survey. Citation: \_\_\_\_\_
- National wetlands inventory map(s). Cite name: \_\_\_\_\_
- State/Local wetland inventory map(s): \_\_\_\_\_
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: \_\_\_\_\_ (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2017.
  - or  Other (Name & Date): Ground based photographs.
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_
- Applicable/supporting case law: \_\_\_\_\_
- Applicable/supporting scientific literature: \_\_\_\_\_
- Other information (please specify): \_\_\_\_\_

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 2/1/2019**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, Ryan Airfield, File No. SPL-2019-00238**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION: Drainage Feature B**

State: Arizona      County/parish/borough: Pima      City: Tucson

Center coordinates of site (lat/long in degree decimal format): Lat. 32.136697° N, Long. -111.179563° W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:

Gila River between Powers Butte and Gillespie Dam

Name of watershed or Hydrologic Unit Code (HUC): 15050340

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s): 1/04/2019

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters:      linear feet:      width (ft) and/or      acres.  
Wetlands:      acres.

**c. Limits (boundaries) of jurisdiction based on: **Pick List****

Elevation of established OHWM (if known): .

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: **Drainage is ephemeral and does not qualify as a TNW or RPW. Therefore this drainage could only be considered jurisdictional if it possessed a significant nexus with a downstream TNW. This drainage does not possess a significant nexus with the downstream TNW.**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### **SECTION III: CWA ANALYSIS**

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

##### **1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

##### **2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: .

#### **B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

**This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.**

**The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.**

**A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation.** Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

**If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.**

##### **1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

###### **(i) General Area Conditions:**

Watershed size: 97 **square miles**

Drainage area: **acres**

Average annual rainfall: 10.5 inches

Average annual snowfall: 1.1 inches

###### **(ii) Physical Characteristics:**

###### **(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through **7** tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** river miles from RPW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from RPW.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>: Unnamed washes, Black Wash, Brawley Wash, Greene Canal, Green Wash, Santa Rosa Wash, Santa Cruz Wash, Gila River.

Tributary stream order, if known: 7.

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

**Tributary** properties with respect to top of bank (estimate):

Average width: 5 feet

Average depth: 0.25 feet

Average side slopes: **4:1 (or greater).**

Primary tributary substrate composition (check all that apply):

<input checked="" type="checkbox"/> Silts	<input checked="" type="checkbox"/> Sands	<input type="checkbox"/> Concrete
<input type="checkbox"/> Cobbles	<input type="checkbox"/> Gravel	<input type="checkbox"/> Muck
<input type="checkbox"/> Bedrock	<input type="checkbox"/> Vegetation. Type/% cover:	
<input type="checkbox"/> Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Discontinuous; eroding, depositional.  
Presence of run/riffle/pool complexes. Explain: Not present.

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 1 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: Ephemeral.

Other information on duration and volume:

Surface flow is: **Discrete**. Characteristics: Within floodplain/sheetflow area.

Subsurface flow: **No**. Explain findings: All drainagges are ephemeral.

Dye (or other) test performed:

Tributary has (check all that apply):

<input type="checkbox"/> Bed and banks	<input type="checkbox"/> the presence of litter and debris
<input checked="" type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply):	<input type="checkbox"/> destruction of terrestrial vegetation
<input checked="" type="checkbox"/> clear, natural line impressed on the bank	<input type="checkbox"/> the presence of wrack line
<input checked="" type="checkbox"/> changes in the character of soil	<input type="checkbox"/> sediment sorting
<input type="checkbox"/> shelving	<input type="checkbox"/> scour
<input type="checkbox"/> vegetation matted down, bent, or absent	<input type="checkbox"/> multiple observed or predicted flow events
<input checked="" type="checkbox"/> leaf litter disturbed or washed away	<input type="checkbox"/> abrupt change in plant community
<input checked="" type="checkbox"/> sediment deposition	
<input type="checkbox"/> water staining	
<input type="checkbox"/> other (list):	

Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

<input checked="" type="checkbox"/> High Tide Line indicated by:	<input checked="" type="checkbox"/> Mean High Water Mark indicated by:
<input type="checkbox"/> oil or scum line along shore objects	<input type="checkbox"/> survey to available datum;
<input type="checkbox"/> fine shell or debris deposits (foreshore)	<input type="checkbox"/> physical markings;
<input type="checkbox"/> physical markings/characteristics	<input type="checkbox"/> vegetation lines/changes in vegetation types.
<input type="checkbox"/> tidal gauges	
<input type="checkbox"/> other (list):	

**(iii) Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): Xeroriparian Vegetation along some banks and floodplain.
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:      acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: No permanent surface water occurs in the project area.

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width): .
- Vegetation type/percent cover. Explain: Xeroripoarian vegetation 20 percent cover.
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (      ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
------------------------------	------------------------	------------------------------	------------------------

Summarize overall biological, chemical and physical functions being performed:

## C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: \_\_\_\_\_
- Other factors. Explain: \_\_\_\_\_

**Identify water body and summarize rationale supporting determination:** \_\_\_\_\_

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following *Rapanos*.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.**
- Other: (explain, if not covered above): \_\_\_\_\_

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): **6,477** linear feet, **6.0** width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: Ephemeral.
- Wetlands: \_\_\_\_\_ acres.

**SECTION IV: DATA SOURCES.**

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: \_\_\_\_\_
- Corps navigable waters' study: \_\_\_\_\_
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Brown Mountain and San Xavier Mission SW 7.5-Minute Quadrangles.
- USDA Natural Resources Conservation Service Soil Survey. Citation: \_\_\_\_\_
- National wetlands inventory map(s). Cite name: \_\_\_\_\_
- State/Local wetland inventory map(s): \_\_\_\_\_
- FEMA/FIRM maps: \_\_\_\_\_
- 100-year Floodplain Elevation is: \_\_\_\_\_ (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2017.
  - or  Other (Name & Date): Ground based photographs.
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_
- Applicable/supporting case law: \_\_\_\_\_
- Applicable/supporting scientific literature: \_\_\_\_\_
- Other information (please specify): \_\_\_\_\_

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 2/1/2019**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, Ryan Airfield, File No. SPL-2019-00238**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION: Drainage Feature C**

State: Arizona      County/parish/borough: Pima      City: Tucson

Center coordinates of site (lat/long in degree decimal format): Lat. 32.143225° N, Long. -111.162345° W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:

Gila River between Powers Butte and Gillespie Dam

Name of watershed or Hydrologic Unit Code (HUC): 15050340

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s): 1/04/2019

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters:      linear feet:      width (ft) and/or      acres.  
Wetlands:      acres.

**c. Limits (boundaries) of jurisdiction based on: **Pick List****

Elevation of established OHWM (if known): .

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: **Drainage is ephemeral and does not qualify as a TNW or RPW. Therefore this drainage could only be considered jurisdictional if it possessed a significant nexus with a downstream TNW. This drainage does not possess a significant nexus with the downstream TNW.**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### **SECTION III: CWA ANALYSIS**

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

##### **1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

##### **2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: .

#### **B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

**This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.**

**The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.**

**A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation.** Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

**If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.**

##### **1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

###### **(i) General Area Conditions:**

Watershed size: 97 **square miles**

Drainage area: **acres**

Average annual rainfall: 10.5 inches

Average annual snowfall: 1.1 inches

###### **(ii) Physical Characteristics:**

###### **(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through **7** tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** river miles from RPW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from RPW.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>: Unnamed wash, Black Wash, Brawley Wash, Greene Canal, Green Wash, Santa Rosa Wash, Santa Cruz Wash, Gila River.

Tributary stream order, if known: 7.

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

**Tributary** properties with respect to top of bank (estimate):

Average width: 4 feet

Average depth: 0.25 feet

Average side slopes: **4:1 (or greater).**

Primary tributary substrate composition (check all that apply):

<input checked="" type="checkbox"/> Silts	<input checked="" type="checkbox"/> Sands	<input type="checkbox"/> Concrete
<input type="checkbox"/> Cobbles	<input type="checkbox"/> Gravel	<input type="checkbox"/> Muck
<input type="checkbox"/> Bedrock	<input type="checkbox"/> Vegetation. Type/% cover:	
<input type="checkbox"/> Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Discontinuous; eroding, depositional. Presence of run/riffle/pool complexes. Explain: Not present.

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 1 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: Ephemeral.

Other information on duration and volume:

Surface flow is: **Discrete**. Characteristics: Within floodplain/sheetflow area.

Subsurface flow: **No**. Explain findings: All drainagges are ephemeral.

Dye (or other) test performed:

Tributary has (check all that apply):

<input type="checkbox"/> Bed and banks	<input type="checkbox"/> the presence of litter and debris
<input checked="" type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply):	<input type="checkbox"/> destruction of terrestrial vegetation
<input checked="" type="checkbox"/> clear, natural line impressed on the bank	<input type="checkbox"/> the presence of wrack line
<input checked="" type="checkbox"/> changes in the character of soil	<input type="checkbox"/> sediment sorting
<input type="checkbox"/> shelving	<input type="checkbox"/> scour
<input type="checkbox"/> vegetation matted down, bent, or absent	<input type="checkbox"/> multiple observed or predicted flow events
<input checked="" type="checkbox"/> leaf litter disturbed or washed away	<input type="checkbox"/> abrupt change in plant community
<input checked="" type="checkbox"/> sediment deposition	
<input type="checkbox"/> water staining	
<input type="checkbox"/> other (list):	

Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

<input checked="" type="checkbox"/> High Tide Line indicated by:	<input checked="" type="checkbox"/> Mean High Water Mark indicated by:
<input type="checkbox"/> oil or scum line along shore objects	<input type="checkbox"/> survey to available datum;
<input type="checkbox"/> fine shell or debris deposits (foreshore)	<input type="checkbox"/> physical markings;
<input type="checkbox"/> physical markings/characteristics	<input type="checkbox"/> vegetation lines/changes in vegetation types.
<input type="checkbox"/> tidal gauges	
<input type="checkbox"/> other (list):	

**(iii) Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): xeroriparian vegetation.
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:      acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting
 

- Discrete wetland hydrologic connection. Explain: .
- Ecological connection. Explain: .
- Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: No permanent surface water occurs in the project area.

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width): .
- Vegetation type/percent cover. Explain: Xeroriparian vegetation 20 percent cover.
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (      ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
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Summarize overall biological, chemical and physical functions being performed:

## C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial.  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: \_\_\_\_\_
- Other factors. Explain: \_\_\_\_\_

**Identify water body and summarize rationale supporting determination:** \_\_\_\_\_

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following *Rapanos*.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_.
- Wetlands: \_\_\_\_\_ acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.**
- Other: (explain, if not covered above): \_\_\_\_\_.

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_.
- Wetlands: \_\_\_\_\_ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): **6,952** linear feet, **4.0** width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: 2.27 acres. List type of aquatic resource: Ephemeral.
- Wetlands: \_\_\_\_\_ acres.

**SECTION IV: DATA SOURCES.**

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: \_\_\_\_\_.
- Corps navigable waters' study: \_\_\_\_\_.
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Brown Mountain and San Xavier Mission SW 7.5-Minute Quadrangles.
- USDA Natural Resources Conservation Service Soil Survey. Citation: \_\_\_\_\_.
- National wetlands inventory map(s). Cite name: \_\_\_\_\_.
- State/Local wetland inventory map(s): \_\_\_\_\_.
- FEMA/FIRM maps: \_\_\_\_\_.
- 100-year Floodplain Elevation is: \_\_\_\_\_ (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2017.
  - or  Other (Name & Date): Ground based photographs.
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_.
- Applicable/supporting case law: \_\_\_\_\_.
- Applicable/supporting scientific literature: \_\_\_\_\_.
- Other information (please specify): \_\_\_\_\_.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 2/1/2019**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, Ryan Airfield, File No. SPL-2019-00238**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION: Drainage Feature D**

State: Arizona      County/parish/borough: Pima      City: Tucson

Center coordinates of site (lat/long in degree decimal format): Lat. 32.143814° N, Long. -111.159517° W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:

Gila River between Powers Butte and Gillespie Dam

Name of watershed or Hydrologic Unit Code (HUC): 15050340

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:  
 Field Determination. Date(s): 1/04/2019

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas  
 Wetlands adjacent to TNWs  
 Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs  
 Non-RPWs that flow directly or indirectly into TNWs  
 Wetlands directly abutting RPWs that flow directly or indirectly into TNWs  
 Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs  
 Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs  
 Impoundments of jurisdictional waters  
 Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters:      linear feet:      width (ft) and/or      acres.  
Wetlands:      acres.

**c. Limits (boundaries) of jurisdiction based on: **Pick List****

Elevation of established OHWM (if known): .

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: **Drainage is ephemeral and does not qualify as a TNW or RPW. Therefore this drainage could only be considered jurisdictional if it possessed a significant nexus with a downstream TNW. This drainage does not possess a significant nexus with the downstream TNW.**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### **SECTION III: CWA ANALYSIS**

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

##### **1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

##### **2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: .

#### **B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

**This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.**

**The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.**

**A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation.** Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

**If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.**

##### **1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

###### **(i) General Area Conditions:**

Watershed size: 97 **square miles**

Drainage area: **acres**

Average annual rainfall: 10.5 inches

Average annual snowfall: 1.1 inches

###### **(ii) Physical Characteristics:**

###### **(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through **7** tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** river miles from RPW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from RPW.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>: Unnamed wash, Black Wash, Brawley Wash, Greene Canal, Green Wash, Santa Rosa Wash, Santa Cruz Wash, Gila River.

Tributary stream order, if known: 7.

(b) General Tributary Characteristics (check all that apply):

**Tributary is:**  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

**Tributary** properties with respect to top of bank (estimate):

Average width: 5 feet

Average depth: 0.25 feet

Average side slopes: **4:1 (or greater).**

Primary tributary substrate composition (check all that apply):

<input checked="" type="checkbox"/> Silts	<input checked="" type="checkbox"/> Sands	<input type="checkbox"/> Concrete
<input type="checkbox"/> Cobbles	<input type="checkbox"/> Gravel	<input type="checkbox"/> Muck
<input type="checkbox"/> Bedrock	<input type="checkbox"/> Vegetation. Type/% cover:	
<input type="checkbox"/> Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Discontinuous; eroding, depositional. Presence of run/riffle/pool complexes. Explain: Not present.

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 1 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: Ephemeral.

Other information on duration and volume:

Surface flow is: **Discrete**. Characteristics: Within floodplain/sheetflow area.

Subsurface flow: **No**. Explain findings: All drainagges are ephemeral.

Dye (or other) test performed:

Tributary has (check all that apply):

<input type="checkbox"/> Bed and banks	<input type="checkbox"/> the presence of litter and debris
<input checked="" type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply):	<input checked="" type="checkbox"/> destruction of terrestrial vegetation
<input checked="" type="checkbox"/> clear, natural line impressed on the bank	<input checked="" type="checkbox"/> the presence of wrack line
<input checked="" type="checkbox"/> changes in the character of soil	<input checked="" type="checkbox"/> sediment sorting
<input type="checkbox"/> shelving	<input type="checkbox"/> scour
<input type="checkbox"/> vegetation matted down, bent, or absent	<input type="checkbox"/> multiple observed or predicted flow events
<input checked="" type="checkbox"/> leaf litter disturbed or washed away	<input type="checkbox"/> abrupt change in plant community
<input checked="" type="checkbox"/> sediment deposition	
<input type="checkbox"/> water staining	
<input type="checkbox"/> other (list):	

Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

<input checked="" type="checkbox"/> High Tide Line indicated by:	<input checked="" type="checkbox"/> Mean High Water Mark indicated by:
<input type="checkbox"/> oil or scum line along shore objects	<input type="checkbox"/> survey to available datum;
<input type="checkbox"/> fine shell or debris deposits (foreshore)	<input type="checkbox"/> physical markings;
<input type="checkbox"/> physical markings/characteristics	<input type="checkbox"/> vegetation lines/changes in vegetation types.
<input type="checkbox"/> tidal gauges	
<input type="checkbox"/> other (list):	

**(iii) Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: No surface flow, ephemeral drainages within sheet flow floodplain.

Identify specific pollutants, if known: Unknown.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): xeroriparian vegetation.
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:      acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting
 

- Discrete wetland hydrologic connection. Explain: .
- Ecological connection. Explain: .
- Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: No permanent surface water occurs in the project area.

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width): .
- Vegetation type/percent cover. Explain: Xeroriparian vegetation 20 percent cover.
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (      ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
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Summarize overall biological, chemical and physical functions being performed:

## C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: \_\_\_\_\_
- Other factors. Explain: \_\_\_\_\_

**Identify water body and summarize rationale supporting determination:** \_\_\_\_\_

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following *Rapanos*.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.**
- Other: (explain, if not covered above): \_\_\_\_\_

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): **1.24 acres, 6,170 linear feet, 5.0 width (ft).**
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

**SECTION IV: DATA SOURCES.**

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Brown Mountain and San Xavier Mission SW 7.5-Minute Quadrangles.
- USDA Natural Resources Conservation Service Soil Survey. Citation: \_\_\_\_\_
- National wetlands inventory map(s). Cite name: \_\_\_\_\_
- State/Local wetland inventory map(s): \_\_\_\_\_
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: \_\_\_\_\_ (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2017.
  - or  Other (Name & Date): Ground based photographs.
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_
- Applicable/supporting case law: \_\_\_\_\_
- Applicable/supporting scientific literature: \_\_\_\_\_
- Other information (please specify): \_\_\_\_\_

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 2/1/2019**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, Ryan Airfield, File No.SPL-2019-00238**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION: Drainage Feature E**

State: Arizona      County/parish/borough: Pima      City: Tucson

Center coordinates of site (lat/long in degree decimal format): Lat. 32.148957° N, Long. -111.158953° W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:

Gila River between Powers Butte and Gillespie Dam

Name of watershed or Hydrologic Unit Code (HUC): 15050340

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s): 1/04/2019

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters:      linear feet:      width (ft) and/or      acres.  
Wetlands:      acres.

**c. Limits (boundaries) of jurisdiction based on: **Pick List****

Elevation of established OHWM (if known): .

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: **Drainage is ephemeral and does not qualify as a TNW or RPW. Therefore this drainage could only be considered jurisdictional if it possessed a significant nexus with a downstream TNW. This drainage does not possess a significant nexus with the downstream TNW.**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### **SECTION III: CWA ANALYSIS**

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

##### **1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

##### **2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: .

#### **B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

**This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.**

**The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.**

**A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation.** Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

**If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.**

##### **1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

###### **(i) General Area Conditions:**

Watershed size: 97 **square miles**

Drainage area: **acres**

Average annual rainfall: 10.5 inches

Average annual snowfall: 1.1 inches

###### **(ii) Physical Characteristics:**

###### **(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through 7 tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from RPW.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>: Unnaned ephemeral wash, Black Wash, Brawley Wash, Greene Canal, Green Wash, Santa Rosa Wash, Santa Cruz Wash, Gila River.

Tributary stream order, if known: 7.

(b) General Tributary Characteristics (check all that apply):

**Tributary** is:  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

**Tributary** properties with respect to top of bank (estimate):

Average width: 4 feet

Average depth: 0.25 feet

Average side slopes: **4:1 (or greater).**

Primary tributary substrate composition (check all that apply):

<input checked="" type="checkbox"/> Silts	<input checked="" type="checkbox"/> Sands	<input type="checkbox"/> Concrete
<input type="checkbox"/> Cobbles	<input type="checkbox"/> Gravel	<input type="checkbox"/> Muck
<input type="checkbox"/> Bedrock	<input type="checkbox"/> Vegetation. Type/% cover:	
<input type="checkbox"/> Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Discontinuous; eroding, depositional.  
Presence of run/riffle/pool complexes. Explain: Not present.

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 1 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: Ephemeral.

Other information on duration and volume:

Surface flow is: **Discrete**. Characteristics: Within floodplain/sheetflow area.

Subsurface flow: **No**. Explain findings: All drainagges are ephemeral.

Dye (or other) test performed:

Tributary has (check all that apply):

<input type="checkbox"/> Bed and banks	<input type="checkbox"/> the presence of litter and debris
<input checked="" type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply):	<input type="checkbox"/> destruction of terrestrial vegetation
<input checked="" type="checkbox"/> clear, natural line impressed on the bank	<input type="checkbox"/> the presence of wrack line
<input checked="" type="checkbox"/> changes in the character of soil	<input type="checkbox"/> sediment sorting
<input type="checkbox"/> shelving	<input type="checkbox"/> scour
<input type="checkbox"/> vegetation matted down, bent, or absent	<input type="checkbox"/> multiple observed or predicted flow events
<input checked="" type="checkbox"/> leaf litter disturbed or washed away	<input type="checkbox"/> abrupt change in plant community
<input checked="" type="checkbox"/> sediment deposition	
<input type="checkbox"/> water staining	
<input type="checkbox"/> other (list):	

Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

<input checked="" type="checkbox"/> High Tide Line indicated by:	<input checked="" type="checkbox"/> Mean High Water Mark indicated by:
<input type="checkbox"/> oil or scum line along shore objects	<input type="checkbox"/> survey to available datum;
<input type="checkbox"/> fine shell or debris deposits (foreshore)	<input type="checkbox"/> physical markings;
<input type="checkbox"/> physical markings/characteristics	<input type="checkbox"/> vegetation lines/changes in vegetation types.
<input type="checkbox"/> tidal gauges	
<input type="checkbox"/> other (list):	

**(iii) Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: No surface water is present, ephemeral drainage.

Identify specific pollutants, if known: Unknown.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:      acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: No permanent surface water occurs in the project area.

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain: Xeroriparian vegetation 20 percent cover.
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (      ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
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Summarize overall biological, chemical and physical functions being performed:

## C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.

Identify type(s) of waters: \_\_\_\_\_

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.

Identify type(s) of waters: \_\_\_\_\_

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: \_\_\_\_\_
- Other factors. Explain: \_\_\_\_\_

**Identify water body and summarize rationale supporting determination:** \_\_\_\_\_

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following *Rapanos*.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.**
- Other: (explain, if not covered above): \_\_\_\_\_

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): \_\_\_\_\_ linear feet, width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): **8,726** linear feet, **4.0** width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

**SECTION IV: DATA SOURCES.**

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: \_\_\_\_\_
- Corps navigable waters' study: \_\_\_\_\_
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Brown Mountain and San Xavier Mission SW 7.5-Minute Quadrangles.
- USDA Natural Resources Conservation Service Soil Survey. Citation: \_\_\_\_\_
- National wetlands inventory map(s). Cite name: \_\_\_\_\_
- State/Local wetland inventory map(s): \_\_\_\_\_
- FEMA/FIRM maps: \_\_\_\_\_
- 100-year Floodplain Elevation is: \_\_\_\_\_ (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2017.
  - or  Other (Name & Date): Ground based photographs.
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_
- Applicable/supporting case law: \_\_\_\_\_
- Applicable/supporting scientific literature: \_\_\_\_\_
- Other information (please specify): \_\_\_\_\_

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 2/1/2019**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, Ryan Airfield, File No. SPL-2019-00238**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION: Drainage Feature F**

State: Arizona      County/parish/borough: Pima      City: Tucson

Center coordinates of site (lat/long in degree decimal format): Lat. 32.1150222° N, Long. -111.152943° W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:

Gila River between Powers Butte and Gillespie Dam

Name of watershed or Hydrologic Unit Code (HUC): 15050340

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:  
 Field Determination. Date(s): 1/04/2019

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas  
 Wetlands adjacent to TNWs  
 Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs  
 Non-RPWs that flow directly or indirectly into TNWs  
 Wetlands directly abutting RPWs that flow directly or indirectly into TNWs  
 Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs  
 Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs  
 Impoundments of jurisdictional waters  
 Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters:      linear feet:      width (ft) and/or      acres.  
Wetlands:      acres.

**c. Limits (boundaries) of jurisdiction based on: **Pick List****

Elevation of established OHWM (if known): .

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: **Drainage is ephemeral and does not qualify as a TNW or RPW. Therefore this drainage could only be considered jurisdictional if it possessed a significant nexus with a downstream TNW. This drainage does not possess a significant nexus with the downstream TNW.**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### **SECTION III: CWA ANALYSIS**

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

##### **1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

##### **2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: .

#### **B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

**This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.**

**The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.**

**A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation.** Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

**If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.**

##### **1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

###### **(i) General Area Conditions:**

Watershed size: 97 **square miles**

Drainage area: **acres**

Average annual rainfall: 10.5 inches

Average annual snowfall: 1.1 inches

###### **(ii) Physical Characteristics:**

###### **(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through **7** tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** river miles from RPW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from RPW.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>: Unnamed ephemeral wash, Black Wash, Brawley Wash, Greene Canal, Green Wash, Santa

Rosa Wash, Santa Cruz Wash, Gila River.

Tributary stream order, if known: 7.

(b) General Tributary Characteristics (check all that apply):

**Tributary** is:  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

**Tributary** properties with respect to top of bank (estimate):

Average width: 4 feet

Average depth: 0.25 feet

Average side slopes: **4:1 (or greater).**

Primary tributary substrate composition (check all that apply):

<input checked="" type="checkbox"/> Silts	<input checked="" type="checkbox"/> Sands	<input type="checkbox"/> Concrete
<input type="checkbox"/> Cobbles	<input type="checkbox"/> Gravel	<input type="checkbox"/> Muck
<input type="checkbox"/> Bedrock	<input type="checkbox"/> Vegetation. Type/% cover:	
<input type="checkbox"/> Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Discontinuous; eroding, depositional.  
Presence of run/riffle/pool complexes. Explain: Not present.

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 1 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: Ephemeral.

Other information on duration and volume:

Surface flow is: **Discrete**. Characteristics: Within floodplain/sheetflow area.

Subsurface flow: **No**. Explain findings: All drainagges are ephemeral.

Dye (or other) test performed:

Tributary has (check all that apply):

<input type="checkbox"/> Bed and banks	<input type="checkbox"/> the presence of litter and debris
<input checked="" type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply):	<input type="checkbox"/> destruction of terrestrial vegetation
<input checked="" type="checkbox"/> clear, natural line impressed on the bank	<input type="checkbox"/> the presence of wrack line
<input checked="" type="checkbox"/> changes in the character of soil	<input type="checkbox"/> sediment sorting
<input type="checkbox"/> shelving	<input type="checkbox"/> scour
<input type="checkbox"/> vegetation matted down, bent, or absent	<input type="checkbox"/> multiple observed or predicted flow events
<input checked="" type="checkbox"/> leaf litter disturbed or washed away	<input type="checkbox"/> abrupt change in plant community
<input checked="" type="checkbox"/> sediment deposition	
<input type="checkbox"/> water staining	
<input type="checkbox"/> other (list):	

Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

<input checked="" type="checkbox"/> High Tide Line indicated by:	<input checked="" type="checkbox"/> Mean High Water Mark indicated by:
<input type="checkbox"/> oil or scum line along shore objects	<input type="checkbox"/> survey to available datum;
<input type="checkbox"/> fine shell or debris deposits (foreshore)	<input type="checkbox"/> physical markings;
<input type="checkbox"/> physical markings/characteristics	<input type="checkbox"/> vegetation lines/changes in vegetation types.
<input type="checkbox"/> tidal gauges	
<input type="checkbox"/> other (list):	

**(iii) Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: No surface water present, ephemeral drainage.

Identify specific pollutants, if known: Unknown.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): Xeroriparian vegetation.
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:      acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting
 

- Discrete wetland hydrologic connection. Explain: .
- Ecological connection. Explain: .
- Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: No permanent surface water occurs in the project area.

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width): .
- Vegetation type/percent cover. Explain: Xeroripoarian vegetation 20 percent cover.
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (      ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
------------------------------	------------------------	------------------------------	------------------------

Summarize overall biological, chemical and physical functions being performed:

## C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial.  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: \_\_\_\_\_
- Other factors. Explain: \_\_\_\_\_

**Identify water body and summarize rationale supporting determination:** \_\_\_\_\_

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following *Rapanos*.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.**
- Other: (explain, if not covered above): \_\_\_\_\_

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): **5,310** linear feet **4** width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): **5,310** linear feet, **4.0** width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: 1.13 acres. List type of aquatic resource: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

**SECTION IV: DATA SOURCES.**

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: \_\_\_\_\_
- Corps navigable waters' study: \_\_\_\_\_
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Brown Mountain and San Xavier Mission SW 7.5-Minute Quadrangles.
- USDA Natural Resources Conservation Service Soil Survey. Citation: \_\_\_\_\_
- National wetlands inventory map(s). Cite name: \_\_\_\_\_
- State/Local wetland inventory map(s): \_\_\_\_\_
- FEMA/FIRM maps: \_\_\_\_\_
- 100-year Floodplain Elevation is: \_\_\_\_\_ (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2017.
  - or  Other (Name & Date): Ground based photographs.
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_
- Applicable/supporting case law: \_\_\_\_\_
- Applicable/supporting scientific literature: \_\_\_\_\_
- Other information (please specify): \_\_\_\_\_

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 2/1/2019**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Los Angeles District, Ryan Airfield, File No.**  
**SPL-2019-00238**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION: Drainage Feature G**

State: Arizona      County/parish/borough: Pima      City: Tucson      [ ]  
Center coordinates of site (lat/long in degree decimal format): Lat. 32.1150113° N, Long. -111.152426° W.

Universal Transverse Mercator:

Name of nearest waterbody:

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:

Gila River between Powers Butte and Gillespie Dam

Check if mapping hydrogeologic unit (HGU) 15050040 jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date:

Field Determination. Date(s): 1/04/2019

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters:      linear feet:      width (ft) and/or      acres.  
Wetlands:      acres.

**c. Limits (boundaries) of jurisdiction based on: **Pick List****

Elevation of established OHWM (if known): .

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: **Drainage is ephemeral and does not qualify as a TNW or RPW. Therefore this drainage could only be considered jurisdictional if it possessed a significant nexus with a downstream TNW. This drainage does not possess a significant nexus with the downstream TNW.**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

### **SECTION III: CWA ANALYSIS**

#### **A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

##### **1. TNW**

Identify TNW: .

Summarize rationale supporting determination: .

##### **2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is “adjacent”: .

#### **B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):**

**This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.**

**The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.**

**A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation.** Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

**If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.**

##### **1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

###### **(i) General Area Conditions:**

Watershed size: 97 **square miles**

Drainage area: **acres**

Average annual rainfall: 10.5 inches

Average annual snowfall: 1.1 inches

###### **(ii) Physical Characteristics:**

###### **(a) Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through **7** tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** river miles from RPW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from RPW.

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>: Unnamed ephemeral wash, Black Wash, Brawley Wash, Greene Canal, Green Wash, Santa

Rosa Wash, Santa Cruz Wash, Gila River.

Tributary stream order, if known: 7.

(b) General Tributary Characteristics (check all that apply):

**Tributary** is:  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

**Tributary** properties with respect to top of bank (estimate):

Average width: 4 feet

Average depth: 0.25 feet

Average side slopes: **4:1 (or greater).**

Primary tributary substrate composition (check all that apply):

<input checked="" type="checkbox"/> Silts	<input checked="" type="checkbox"/> Sands	<input type="checkbox"/> Concrete
<input type="checkbox"/> Cobbles	<input type="checkbox"/> Gravel	<input type="checkbox"/> Muck
<input type="checkbox"/> Bedrock	<input type="checkbox"/> Vegetation. Type/% cover:	
<input type="checkbox"/> Other. Explain:		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Discontinuous; eroding, depositional.  
Presence of run/riffle/pool complexes. Explain: Not present.

Tributary geometry: **Meandering**

Tributary gradient (approximate average slope): 1 %

(c) Flow:

Tributary provides for: **Ephemeral flow**

Estimate average number of flow events in review area/year: **6-10**

Describe flow regime: Ephemeral.

Other information on duration and volume:

Surface flow is: **Discrete**. Characteristics: Within floodplain/sheetflow area.

Subsurface flow: **No**. Explain findings: All drainagges are ephemeral.

Dye (or other) test performed:

Tributary has (check all that apply):

<input type="checkbox"/> Bed and banks	<input type="checkbox"/> the presence of litter and debris
<input checked="" type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply):	<input type="checkbox"/> destruction of terrestrial vegetation
<input checked="" type="checkbox"/> clear, natural line impressed on the bank	<input type="checkbox"/> the presence of wrack line
<input checked="" type="checkbox"/> changes in the character of soil	<input type="checkbox"/> sediment sorting
<input type="checkbox"/> shelving	<input type="checkbox"/> scour
<input type="checkbox"/> vegetation matted down, bent, or absent	<input type="checkbox"/> multiple observed or predicted flow events
<input checked="" type="checkbox"/> leaf litter disturbed or washed away	<input type="checkbox"/> abrupt change in plant community
<input checked="" type="checkbox"/> sediment deposition	
<input type="checkbox"/> water staining	
<input type="checkbox"/> other (list):	

Discontinuous OHWM.<sup>7</sup> Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

<input checked="" type="checkbox"/> High Tide Line indicated by:	<input checked="" type="checkbox"/> Mean High Water Mark indicated by:
<input type="checkbox"/> oil or scum line along shore objects	<input type="checkbox"/> survey to available datum;
<input type="checkbox"/> fine shell or debris deposits (foreshore)	<input type="checkbox"/> physical markings;
<input type="checkbox"/> physical markings/characteristics	<input type="checkbox"/> vegetation lines/changes in vegetation types.
<input type="checkbox"/> tidal gauges	
<input type="checkbox"/> other (list):	

**(iii) Chemical Characteristics:**

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: No surface water present, ephemeral drainage.

Identify specific pollutants, if known: Unknown.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): Xeroriparian vegetation.
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:      acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting
 

- Discrete wetland hydrologic connection. Explain: .
- Ecological connection. Explain: .
- Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: No permanent surface water occurs in the project area.

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width): .
- Vegetation type/percent cover. Explain: Xeroriparian vegetation 20 percent cover.
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (      ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
------------------------------	------------------------	------------------------------	------------------------

Summarize overall biological, chemical and physical functions being performed:

## C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:  
 TNWs: linear feet width (ft), Or, acres.  
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**  
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial.  
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: \_\_\_\_\_.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: \_\_\_\_\_ acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: \_\_\_\_\_
- Other factors. Explain: \_\_\_\_\_

**Identify water body and summarize rationale supporting determination:** \_\_\_\_\_

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following *Rapanos*.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: \_\_\_\_\_ linear feet \_\_\_\_\_ width (ft).
- Other non-wetland waters: \_\_\_\_\_ acres.  
Identify type(s) of waters: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **None of the ephemeral drainages within the project area have more than an insubstantial or speculative effect on the physical, chemical, or biological integrity of the downstream TNW reach of the Gila River between Powers Butte and Gillespie Dam.**
- Other: (explain, if not covered above): \_\_\_\_\_

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: \_\_\_\_\_ acres. List type of aquatic resource: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): **2,279** linear feet, **4.0** width (ft).
- Lakes/ponds: \_\_\_\_\_ acres.
- Other non-wetland waters: 0.69 acres. List type of aquatic resource: \_\_\_\_\_
- Wetlands: \_\_\_\_\_ acres.

**SECTION IV: DATA SOURCES.**

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Brown Mountain and San Xavier Mission SW 7.5-Minute Quadrangles.
- USDA Natural Resources Conservation Service Soil Survey. Citation: \_\_\_\_\_
- National wetlands inventory map(s). Cite name: \_\_\_\_\_
- State/Local wetland inventory map(s): \_\_\_\_\_
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: \_\_\_\_\_ (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth 2017.
  - or  Other (Name & Date): Ground based photographs.
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_
- Applicable/supporting case law: \_\_\_\_\_
- Applicable/supporting scientific literature: \_\_\_\_\_
- Other information (please specify): \_\_\_\_\_

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

May 21, 2019

Mr. Kyler Erhard  
Lead Program Manager  
Federal Aviation Administration  
Phoenix Airports District Office  
3800 North Central Avenue, Suite 1025, 10th Floor  
Phoenix, AZ 85012

Subject: Ryan Airfield Airport Master Plan Update – Request for FAA Aviation Forecast Review and Approval

Dear Mr. Erhard:

The aviation activity forecasts for the Ryan Airfield (RYN) Airport Master Plan Update are ready for Federal Aviation Administration (FAA) review. The Master Plan forecasts include general aviation aircraft operations, military aircraft operations, and based aircraft. Appendix A summarizes the RYN Master Plan Forecast and Appendix B compares the RYN Master Plan Forecasts with the Terminal Area Forecasts (TAF) published in January 2019.

Advisory Circular 150/5070-6B, Airport Master Plans, states that the general requirement for FAA approval of the master plan forecast is that they are supported by an acceptable forecasting analysis and consistent with the TAF. The based aircraft forecasts are within ten percent of the TAF for the five-year forecast and are within fifteen percent of the TAF for the ten-year forecast, which meets the consistency criteria in AC 150/5070-6B.

The TAF for operations declines over the forecast period, going from 93,769 in 2018 to 88,770 in 2033. For reasons outlined in the chapter, this declining forecast is not considered realistic for the changing conditions around RYN. Subsequent Master Plan chapters will address how the Tucson Airport Authority, along with regional stakeholders, are looking to invest in aeronautical and non-aeronautical development on and around RYN. It is expected that this increase in local economic activity will drive an increase in aircraft operations. Further, the upcoming runway construction project at Tucson International (TUS) is likely to divert small general aviation users of TUS to RYN, and this increased activity is expected to encourage investment by aviation-support services that have existed at RYN in the past. The presence of these support services will give users of other Tucson-area airports a reason to consider RYN during and beyond the runway construction at TUS.

Due to the forecasted decrease in operations in the TAF and the expected growth in operations in the Master Plan forecasts, operations forecasts are 18.6 percent different for the five-year forecast and 24.1 percent different for the ten-year forecast. The total number of operations in the forecast is below 100,000, and AC 150/5070-6B states that although the forecast is outside of TAF tolerances, the decision to approve the forecast can be made at the Airports District Office level, without requiring consultation with FAA Headquarters. Further, these forecasts are lower than operations totals that RYN has seen in the past ten years; therefore, it is assumed that:

- Forecasts do not affect the timing or scale of an airport project, or
- Forecasts do not affect the role of the airport as defined in the current version of FAA Order 5090.3, Field Formulation of the National Plan of Integrated Airport Systems.

Our Team would like to request a teleconference to discuss the methodology utilized and the developed forecast numbers to assist in the Phoenix Airports District Office's review and approval process.

Please let us know your availability in the coming weeks to schedule the forecast review teleconference. You can direct all questions and comments to Scott Robidoux, Senior Airport Planner, at [srobidoux@flytucson.com](mailto:srobidoux@flytucson.com).

Thank you for your prompt review.

Sincerely,



Mike Smejkal, PE, AAE  
Vice President of Planning & Engineering  
Tucson Airport Authority

Attachments (2): Appendix A – Template of Summarizing and Documenting Airport Planning Forecasts  
Appendix B – Comparison of the RYN Master Plan Forecasts and the FAA TAF Forecasts

## Appendix A – Template of Summarizing and Documenting Airport Planning Forecasts

AIRPORT NAME:	Ryan Airfield	A. Forecast Levels and Growth Rates					2018	Average Annual Compound Growth Rates			
		Base Yr. Level	Base Yr. + 1yr.	Base Yr. + 5yrs.	Base Yr. + 10yrs.	Base Yr. + 15yrs.		Base yr. to +1	Base yr. to +5	Base yr. to +10	Base yr. to +15
<b>Passenger Enplanements</b>											
Air Carrier	0	0	0	0	0	0	N/A	N/A	N/A	N/A	
Commuter	0	0	0	0	0	0	N/A	N/A	N/A	N/A	
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	
<b>Operations</b>											
<u>Itinerant</u>											
Air carrier	0	0	0	0	0	0	N/A	N/A	N/A	N/A	
Commuter/air taxi	0	0	0	0	0	0	N/A	N/A	N/A	N/A	
Total Commercial Operations	0	0	0	0	0	0	N/A	N/A	N/A	N/A	
General aviation	34,859	38,000	39,100	40,500	42,000	9.0%	2.3%	1.5%	1.3%		
Military	1,996	2,000	2,000	2,000	2,000	0.2%	0.0%	0.0%	0.0%		
<u>Local</u>											
General aviation	45,900	48,470	51,338	55,255	59,569	5.6%	2.3%	1.9%	1.8%		
Military	11,866	11,900	11,900	11,900	11,900	0.3%	0.1%	0.0%	0.0%		
<b>TOTAL OPERATIONS</b>	<b>94,621</b>	<b>100,370</b>	<b>104,338</b>	<b>109,655</b>	<b>115,469</b>	<b>6.1%</b>	<b>2.0%</b>	<b>1.5%</b>	<b>1.3%</b>		
<b>Instrument Operations</b>	<b>9,531</b>	<b>10,282</b>	<b>10,544</b>	<b>10,878</b>	<b>11,236</b>	<b>7.9%</b>	<b>2.0%</b>	<b>1.3%</b>	<b>1.1%</b>		
<b>Peak Hour Operations</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-100.0%</b>	<b>-100.0%</b>	<b>-100.0%</b>	<b>-100.0%</b>		
<b>Cargo/mail (enplaned+deplaned tons)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>		
<b>Based Aircraft</b>											
Single Engine (Nonjet)	189	191	198	208	218	1.1%	0.9%	1.0%	1.0%		
Multi Engine (Nonjet)	10	10	8	7	5	0.0%	-4.4%	-3.5%	-4.5%		
Jet Engine	1	2	2	2	2	100.0%	14.9%	7.2%	4.7%		
Helicopter	0	0	0	0	0	N/A	N/A	N/A	N/A		
Other	56	57	63	72	81	0.0%	0.0%	0.0%	0.0%		
<b>TOTAL</b>	<b>256</b>	<b>260</b>	<b>271</b>	<b>289</b>	<b>306</b>	<b>1.6%</b>	<b>1.1%</b>	<b>1.2%</b>	<b>1.2%</b>		
<b>B. Operational Factors</b>											
<u>Average aircraft size (seats)</u>											
Air carrier	0	0	0	0	0						
Commuter	0	0	0	0	0						
<u>Average enplaning load factor</u>											
Air carrier	0%	0%	0%	0%	0%						
Commuter	0%	0%	0%	0%	0%						
<b>GA operations per based aircraft</b>	<b>315</b>	<b>333</b>	<b>334</b>	<b>331</b>	<b>332</b>						

## Appendix B – Comparison of the RYN Master Plan Forecasts and the FAA TAF Forecasts

AIRPORT NAME:		Ryan Airfield		
		Airport <u>Forecast</u>	TAF	AF/TAF (% Difference)
<b>Passenger Enplanements</b>				
Base yr.	2018	0	0	N/A
Base yr. + 5yrs.	2023	0	0	N/A
Base yr. + 10yrs.	2028	0	0	N/A
Base yr. + 15yrs.	2033	0	0	N/A
<b>Commercial Operations</b>				
Base yr.	2018	0	4	N/A
Base yr. + 5yrs.	2023	0	4	N/A
Base yr. + 10yrs.	2028	0	4	N/A
Base yr. + 15yrs.	2033	0	4	N/A
<b>Total Operations</b>				
Base yr.	2018	94,621	93,769	0.9%
Base yr. + 5yrs.	2023	104,338	87,992	18.6%
Base yr. + 10yrs.	2028	109,655	88,380	24.1%
Base yr. + 15yrs.	2033	115,469	88,770	30.1%
<b>NOTES: TAF data is on a U.S. Government fiscal year basis (October through September).</b>				



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Federal Aviation Administration  
Phoenix Airports District Office

3800 N Central Ave  
Suite 1025  
Phoenix, AZ 85012

October 30, 2019

Scott Robidoux  
Tucson Airport Authority  
7250 South Tucson Boulevard  
Tucson, AZ 85756

Dear Mr. Robidoux:

**Ryan Field (RYN)  
Aviation Activity Forecast Approval**

The Federal Aviation Administration (FAA) has reviewed the aviation forecast for Ryan Field (RYN) dated October 18, 2019. The FAA approves both this forecast and the use of B-II for both the existing and future critical design aircrafts.

Despite not being within the Terminal Aircraft Forecast (TAF) tolerance this forecast was developed using current data and appropriate methodologies which justify the variances from the TAF. Therefore it is approved for planning purposes, to include Airport Layout Plan development at RYN. It is important to note that the approval of this forecast doesn't guarantee funding for large scale capital improvements as future projects will need to be justified by current activity levels at the time the projects are proposed for implementation.

If you have any questions about this forecast approval, please call me at 602-792-1073.

Sincerely,

Kyler Erhard  
Lead Program Manager

March 18, 2021

Mr. Kyler Erhard  
Lead Program Manager, PHX-609  
Federal Aviation Administration  
Phoenix Airports District Office  
3800 North Central Ave.  
Suite 1025, 10<sup>th</sup> Floor  
Phoenix, AZ 85012

Subject: Ryan Airfield Airport Master Plan Update: Airport Layout Plan for FAA Approval

Dear Mr. Erhard:

Included for the Federal Aviation Administration's (FAA) approval is the revised Ryan Airfield's (RYN) Airport Layout Plan (ALP) based upon comments received by the FAA. The preliminary ALP was reviewed by your office in February 2021. Comments from both the Arizona Department of Transportation – Aeronautics Division (ADOT) and the Federal Aviation Administration (FAA) have been addressed and our Team's responses to those comments are documented in Attachments A and B.

The ALP was updated in accordance with FAA Airport Design Advisory Circular (AC 150/5300-13A – Change 1) and Standard Operating Procedure (SOP) 2.00 (Review and Approval of Airport Layout Plans) and SOP 3.00 (Review of Exhibit 'A' Airport Property Inventory Maps).

Please initiate the final review and approval process for the electronic version of the ALP and direct any questions or comments to Scott Robidoux, Senior Airport Planner at [srobidoux@flytucson.com](mailto:srobidoux@flytucson.com). Thank you again for your prompt review and ultimate approval.

Sincerely,



Danette M. Bewley, A.A.E.,  
President/CEO

cc: Scott Robidoux – Tucson Airport Authority  
Christopher Hacker – Mead & Hunt, Inc.  
Mitch Hooper – Mead & Hunt, Inc.  
Dan Lumetta – Mead & Hunt, Inc.

Attachments (3): Airport Layout Plan – Electronic Submittal  
Attachment A – Response to ADOT Comments  
Attachment B – Response to FAA Comments

RESPONSES TO ARIZONA DEPARTMENT OF TRANSPORTATION – AERONAUTICS DIVISION (ADOT) COMMENTS TO CHANGES/CORRECTIONS TO THE PRELIMINARY AIRPORT LAYOUT PLAN (ALP), RYAN AIRFIELD.

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**GENERAL COMMENTS**

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ADOT did not have any comments on the preliminary ALP.

RESPONSES TO FEDERAL AVIATION ADMINISTRATION (FAA) COMMENTS TO CHANGES/CORRECTIONS TO THE PRELIMINARY AIRPORT LAYOUT PLAN (ALP), RYAN AIRFIELD.

**GENERAL COMMENTS**

The FAA did not have any general comments on the preliminary ALP. Specific FAA comments are included in the following tables.

**SHEET 2 – AIRPORT LAYOUT PLAN**

Ref. No.	Comment	Response
2-1	Holding aprons don't appear to meet standards. They need to have lanes so that planes know where to perform the runup. See Airport Design AC paragraph 412 and associated graphics for hold bay design.	• Aircraft run-up/hold areas for Runway 33, Runway 15, Taxiway B/D intersection, Taxiway B2, Runway 24R, and Runway 24L will be shown on the ALP as either removed due to component project in future/ultimate condition or designed per AC 15/5300-13A, page 152, paragraph 412.
2-2	Ensure wind cone near B3 (and others if any) is located outside of Runway Object Free Area (ROFA).	• Wind cones have been moved out of ROFA to include wind cones near B3 and other taxiways not listed in the comment.
2-3	Ensure the Approach/Departure surfaces meet the dimensions and guidance found in EB99. Specifically, Table 3-2.	• The surfaces meet dimensional guidance found in EB99A.
2-4	For the "future condition" of RYW 6 extension, can you add the runway end markings? Also, for the future condition can you make this layer a little darker, so it stands out more.	• Runway end markings have been added to the future condition of Runway 6R extension. This has also been reflected on other ALP sheets where the markings for Runway 6R need to be shown.

2-5	Remove the non-standard condition table. The only items we want to highlight are approved Modifications to Standards.	<ul style="list-style-type: none"> <li>Non-standard conditions table removed. A Modifications to Standards table was added to Sheet 3 with the remarks of "None Required" in the table per SOP 2.0.</li> </ul>
2-6	Ensure that the vehicle service road is outside of the ROFA and Taxiway object free area (OFA).	<ul style="list-style-type: none"> <li>The future vehicle service road near the North Apron (#10 on the existing facilities table) is outside of the ROFA and Taxiway OFAs.</li> </ul>
2-7	The proposed helicopter parking (F5) is in the Runway Visibility Zone (RVZ). I recommend removing the ones that fall within the RVZ.	<ul style="list-style-type: none"> <li>The proposed helicopter parking falls within the existing RVZ but will not be built until the RVZ shifts due to Runway 15/33 shifting north. The proposed helicopter parking will be outside of the RVZ in the future condition.</li> </ul>
2-8	To make the drawing a little less busy, can you remove the Part 77 lines/labels for those runways that have an instrument approach since the approach/departure surface will supersede the Part 77.	<ul style="list-style-type: none"> <li>Part 77 lines are required to be on the ALP sheet per SOP 2.0. Preference is to leave lines and labels as they are due to the many changes in visibility minimums and physical runway ends.</li> </ul>
2-9	Ensure the future glideslope (GS) Antenna is outside of the ROFA if possible.	<ul style="list-style-type: none"> <li>The future and ultimate GS antennas are outside of the ROFA. The symbol used for the GA antenna lies over the ROFA line but the center of the symbol lies outside of the ROFA lines.</li> </ul>

### SHEET 3 – AIRPORT DATA

Ref. No.	Comment	Response
3-1	Include the visibility component to the Runway Design Code (RDC).	<ul style="list-style-type: none"> <li>Visibility component has been added to the RDC of each runway on the Runway Data table.</li> </ul>

3-2	Include the departure reference code.	<ul style="list-style-type: none"> <li>• Departure reference codes have been added to the Runway Data table.</li> </ul>
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**SHEET 8 – RUNWAY 6L/24R INNER APPROACHES – EXISTING**

Ref. No.	Comment	Response
8-1	How can you mitigate the 20:1 fence penetration?	<ul style="list-style-type: none"> <li>• There are no fence penetrations to the 20:1 approach surface. The fence is 24.6' below the surface.</li> </ul>

**SHEET 15 – RUNWAY 6R/24L DEPARTURE SURFACE – EXISTING**

Ref. No.	Comment	Response
15-1	Why are you showing two different departure surfaces? You should just show the one in EB99.	<ul style="list-style-type: none"> <li>• The ALP does not show two different departure surfaces. The surfaces shown reflect the update to EB99A that was published on July 24, 2020, where the departure surface has “wings” on each side. There are callouts on the departure sheets to show what lines represent these “wings” and the typical 40:1 departure surface.</li> </ul>

**SHEET 16 – RUNWAY 6R/24L DEPARTURE SURFACE – FUTURE**

Ref. No.	Comment	Response
16-1	Why are you showing two different departure surfaces? You should just show the one in EB99.	<ul style="list-style-type: none"> <li>The ALP does not show two different departure surfaces. The surfaces shown reflect the update to EB99A that was published on July 24, 2020, where the departure surface has “wings” on each side. There are callouts on the departure sheets to show what lines represent these “wings” and the typical 40:1 departure surface.</li> </ul>

**SHEET 17 – RUNWAY 6L/24R DEPARTURE SURFACE – FUTURE**

Ref. No.	Comment	Response
17-1	Why are you showing two different departure surfaces? You should just show the one in EB99.	<ul style="list-style-type: none"> <li>The ALP does not show two different departure surfaces. The surfaces shown reflect the update to EB99A that was published on July 24, 2020, where the departure surface has “wings” on each side. There are callouts on the departure sheets to show what lines represent these “wings” and the typical 40:1 departure surface.</li> </ul>

**SHEET 18 – RUNWAY 15/33 DEPARTURE SURFACE – FUTURE**

Ref. No.	Comment	Response
18-1	Why are you showing two different departure surfaces? You should just show the one in EB99.	<ul style="list-style-type: none"> <li>The ALP does not show two different departure surfaces. The surfaces shown reflect the update to EB99A that was published on July 24, 2020, where the departure surface has “wings” on each side. There are callouts on the departure sheets to show what lines represent these “wings” and the typical 40:1 departure surface.</li> </ul>

**SHEET 21 – BUILDING AREA PLAN**

Ref. No.	Comment	Response
21-1	Can you put the taxilane clearances on the graphic? (i.e., distance from taxilane centerline to the associated hangars).	<ul style="list-style-type: none"> <li>Additional dimensions for taxilane clearances have been added to the ALP. This includes distance from taxilane centerline to hangars.</li> </ul>

**SHEET 22 – LAND USE PLAN**

Ref. No.	Comment	Response
22-1	Can you identify the aeronautical vs non-aeronautical land use areas?	<ul style="list-style-type: none"> <li>Aeronautical and non-aeronautical land uses are identified. The hatching for these types of land uses are listed in the Drawing Legend.</li> </ul>



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Western-Pacific Region  
Airports Division  
Phoenix Airport District Office

3800 N. Central Avenue  
Suite 1025, 10<sup>th</sup> Floor  
Phoenix, AZ 85012

March 31, 2021

Danette M. Bewley  
President/CEO  
Tucson Airport Authority  
7250 S. Tucson Boulevard, Suite 300  
Tucson, AZ 85756

Dear Ms. Bewley:

The Ryan Airfield Airport Layout Plan (ALP), prepared by Mead & Hunt, and bearing your signature, is approved and the master plan is accepted. A signed copy of the approved ALP is enclosed.

An aeronautical study (no. 2020-AWP-5876-NRA) was conducted on the proposed development. This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal.

The FAA has only limited means to prevent the construction of structures near an airport. The airport sponsor has the primary responsibility to protect the airport environs through such means as local zoning ordinances, property acquisition, aviation easements, letters of agreement or other means.

Approval of the plan does not indicate that the United States will participate in the cost of any development proposed. Additionally, the United States will only participate in the cost of projects that meet the standards for which that airport is designed. Associated costs for any projects that exceed the appropriate airport design standard will be the responsibility of the airport sponsor.

**This ALP approval is conditioned on acknowledgement that any development on airport property requiring Federal environmental approval must receive such written approval from FAA prior to commencement of the subject development. This ALP approval is also conditioned on acceptance of the plan under local land use laws. We**

**encourage appropriate agencies to adopt land use and height restrictive zoning based on the plan.**

AIP funding requires evidence of eligibility and justification at the time a funding request is ripe for consideration. When construction of any proposed structure or development indicated on the plan is undertaken, such construction requires normal 45-day advance notification to FAA for review in accordance with applicable Federal Aviation Regulations (i.e., Parts 77, 157, 152, etc.). More notice is generally beneficial to ensure that all statutory, regulatory, technical and operational issues can be addressed in a timely manner.

Additionally, any future development that will require amendments to instrument flight procedures must be coordinated by the airport district office and the airport manager to ensure those changes are made in a timely manner.

Please attach this letter to the Airport Layout Plan and retain it in the airport. We wish you great success in your plans for the development of the airport. If we can be of further assistance, please do not hesitate to call Mr. Kyler Erhard, Lead Program Manager, at 602-792-1073.

Sincerely,

Mike N Williams  
Manager, Phoenix Airports District Office

cc: ADOT

Enclosure: Updated Airport Layout Plan

## APPENDIX B. EXHIBIT 'A' REVIEW CHECKLIST

Checklist	Sponsor/Consultant			FAA
	Yes	No	N/A	Agree
1. Existing Dedicated Airport Property Boundary Line identified. This can consist of a combination of fee interest, easements and/or leases. It may include lands that are not contiguous with the airport boundary. Identify source of base map data.	X			
Airports Specialist Comments:				
2. All the airport property parcels are shown and have a unique designation. Parcels with designations from previous Exhibit 'A's should not be changed. However, a new system of designations may be used for new and future property acquisitions. Parcel designations must be consistent with grant descriptions.	X			
Airports Specialist Comments:				
3. Each segment of a parcel's boundary is described in some manner. Metes and bounds, township/range/section, lot and block, plat or other appropriate property description (may be an attachment to the Exhibit 'A' plan sheet or checklist). Points of reference may also be included to further describe the parcel.	X			
Airports Specialist Comments:				
4. Parcels that were once airport property are shown. The date they were released from federal obligations by the FAA and the date of disposal must be included.			X	
Airports Specialist Comments:				
5. Parcel information includes: (often in table format)				
a. Grantor (selling owner)	X			
b. Type of interest acquired (fee simple, easement, etc.)	X			
c. Acreage	X			
d. Type of conveyance instrument	X			
e. Liber/book and page of recording	X			
Airports Specialist Comments:				
6. Each airport property parcel shows: (often in table format)				
a. FAA grant number, including year if acquired under a grant	X			
b. PFC Project Number if acquired with Passenger Facility Charge funds (recommended)			X	
c. Surplus Property Transfer, Government Land Transfer or other statutory federal agreements/conditions. See FAA Order 5010.4 and form 5010-1 Data Element #25 for additional information.			X	
d. Type of easement (clearing, aviation, utility, right of way, expiration date, easement held by others, subordination agreement, etc.)	X			

Review Item	Checklist				Sponsor/Consultant	FAA
	Yes	No	N/A	Agree		
e. Date and type of release/land use change approval (aeronautical use, interim use, concurrent use, etc.). This can also include any release from federal obligations such as a release from the National Emergency Use Provision (NEUP), mineral rights, liens, residential through-the-fence access agreements, etc.			X			
f. Date of property disposal		X				
g. Public land references, if applicable (PIN #/Assessors #, date of recording, book and page, etc.)	X					
h. Any known encumbrances on the property		X				
Airports Specialist Comments:						
7. Purpose of acquisition (current/future development, concurrent use, noise, revenue production, etc.), often in table format. Interim use can be identified with an attached reference.	X					
Airports Specialist Comments:						
8. The plan shows the following for both existing and future configurations based upon the approved Airport Layout Plan:						
a. Runway Protection Zones (RPZ)	X					
b. Runways		X				
c. Runway Safety Areas (RSA)	X					
d. Runway Object Free Areas (OFA)	X					
e. Taxiways	X					
f. Other airport design surfaces (as necessary, must maintain a legible map)	X					
g. Road/railroad right-of-ways	X					
h. Bearing and distance of airport property lines	X					
Airports Specialist Comments:						
9. North arrow, legend and graphic/numerical scale is shown	X					
Airports Specialist Comments:						
10. If the Exhibit 'A' is being submitted as part of a land acquisition project, the parcels being acquired are shown	X					
Airports Specialist Comments:						
11. Title block clearly labeled as Exhibit "A" Airport Property Inventory Maps and dated	X					
Airports Specialist Comments:						
12. Revision block/table, Sponsor approval block, Preparer's block, dated	X					

Checklist	Sponsor/Consultant				FAA
	Review Item	Yes	No	N/A	Agree
Airports Specialist Comments:					
13. Understandable and legible legend, including all linetypes and symbols used	X				
Airports Specialist Comments:					
14. Parcel table is legible	X				
Airports Specialist Comments:					
Parcel data for Exhibit A is shown on Sheet 21.					
Provide an explanation for any checklist item marked 'No'.					

Accepted By: \_\_\_\_\_ Date: April 1, 2021  
 Lead Program Manager





Mead & Hunt  
8800 E. Raintree Drive, Suite 285  
Scottsdale, AZ 85260  
480-718-1896