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Approval expires 4/30/2017

United States Environmental Protection Agency
General Permit for New or Modified Minor Sources of Air Pollution in Indian Country

http://www.epa.gov/air/tribal/tribalnsr.html

Request for Coverage under the General Air Quality Permit for New or Modified Minor Source Concrete Batch Plants in Indian Country

Last Modified: July 1, 2016
Version 1.0

Prior to construction or modification, complete this application and submit it to your reviewing authority. A list of reviewing authorities, their areas of coverage, and contact information can be found in Attachment E to the General Air Quality Permit for New or Modified Minor Source Concrete Batch Plants or visit: http://www.epa.gov/air/tribal/tribalnsr.html.

For assistance with this application please contact your reviewing authority.

For instructions on completing this application please see the document "Instructions for Requesting Coverage under the General Air Quality Permit for New or Modified Minor Source Concrete Batch Plants in Indian Country."

Section 1: Contact Information

1. Business Name: FNF Construction, Inc.	2. Date: 2-22-18
3. Site Address: Window Rock Airport Beacon Road Window Rock, AZ 86515	4. County: Apache
5. Name of Operator or Contact at Site (if different from owner):	6. Telephone Number of Operator or Contact at Site (if different from owner):
7. Owner: FNF Construction, Inc.	8. Telephone Number of Owner: 480-929-6733
9. Mailing Address of Owner: 115 S. 48th St. Tempe, AZ 85281	10. Correspondence Address: Company Name: c/o: Address: ← Same
11. Authorized Contact Person: Name: Tressia Contreras Title: Environmental Manager Phone: 480-929-6733	Email: Tressia@FNFinc.com FAX: 480-921-8720

Section 2: Facility Information for Requesting Coverage under the General Air Quality Permit for New or Modified Minor Source Concrete Batch Plants

12. Please list all of the site locations for which you want approval to locate your concrete batch plant. Include the site name (if any), street address, city, state, and name of the Indian Reservation. If needed, use additional paper. You may seek approval for additional locations in the future.

Site Name	Street Address	City/Town	State	Area of Indian Country
Window Rock Airport	Beacon Rd.	Window Rock	AZ	Navajo Nation

13. This application is for (check all that apply):

☒ Construction/relocation of a new concrete batch plant in Indian country – no current general permit (please describe the proposed new source or location).
Soil Cement mixing Plant Temporiarly located (30 DAYS) At The Window Rock Airport

☐ Add a new location for your concrete batch plant already covered by the General Permit (please describe the proposed new location).

☐ Modification of an existing concrete batch plant. Please describe the modification below. The definition of "modification" can be found at 40 CFR 49.152(d), and in the "Instructions" document.

☐ Stationary (fixed) concrete batch plant.

☒ Portable concrete batch plant.

14. North American Industry Classification System (NAICS)/Standard Industrial Classification (SIC) Code and/or description of the facility:
Soil Cement mixing plant

☒	327320	NAICS	Concrete Batch Plants (including temporary)
☐	327320	NAICS	Central Mixed Concrete Manufacturing
☐	327320	NAICS	Truck Mixed Concrete Manufacturing
☐	327320	NAICS	Transit Mixed Concrete Manufacturing
☐	327320	NAICS	Ready Mix Concrete Manufacturing and Distributing
☐	327331	NAICS	Concrete Manufacturing: All Types of Blocks and Bricks
☐	327332	NAICS	Concrete Manufacturing: All Types of Pipe and Conduit
☐	327390	NAICS	Concrete Manufacturing: All Structural Forms
☐	3271	SIC	Concrete Block and Brick
☐	3272	SIC	Concrete Products, Except Block and Brick
☐	3273	SIC	Central-mixed Concrete, Ready-mixed Concrete, Truck-mixed Concrete

☐ Other – please specify _____NAICS; _____SIC

15. Will your new or modified facility be located in an ozone nonattainment area? Information on the ozone attainment status of the area where your facility is/will be located can be found at: http://www.epa.gov/airquality/greenbook/.

☐ Yes ☒ No

If yes, specify the classification of the ozone nonattainment area:

☐ Marginal ☐ Moderate ☐ Serious ☐ Severe ☐ Extreme

Note: If your facility is located in severe or extreme ozone nonattainment area, it does not qualify for this general permit and you must obtain a site-specific permit from your reviewing authority.

16. Will the PTE of your new facility, or the emissions increase from your modified existing facility, be equal to or above the applicable minor NSR thresholds listed below for ANY of the listed pollutants? Emissions from your facility may be calculated using the PTE calculator available online at: http://www.epa.gov/air/tribal/tribalnsr.html. Be sure to include all new or modified emission units at the facility.

Pollutant	Attainment Area	Nonattainment Area
Carbon Monoxide (CO)	10 tons per year (tpy)	5 tpy
Particulate Matter (PM)	10 tpy	5 tpy
Particulate Matter (PM_{10})	5 tpy	1 tpy
Particulate Matter ($PM_{2.5}$)	3 tpy	0.6 tpy
Sulfur Dioxide (SO_2)	10 tpy	5 tpy
Nitrogen Oxides (NO_X)	10 tpy	5 tpy
Volatile Organic Compound (VOC)	5 tpy	2 tpy

☒ Yes ☐ No

If you answered **'No,'** your source is exempt from the minor NSR program. Please contact your reviewing authority to confirm that your facility will not need a permit. If you answered **'Yes,'** continue on to the next question.

17. If located in an attainment, unclassifiable, or attainment/unclassifiable area, will the PTE of your facility be less than 250 tpy for PM, PM_{10}, $PM_{2.5}$, VOC, NO_X, CO, and SO_2, each individually? Be sure to include all existing, new, and modified emission units at your facility.

☒ Yes ☐ No

If you answered **'No,'** your source does not qualify for the General Permit. Please contact your reviewing authority to apply for a site-specific permit. If you answered **'Yes,'** continue on to the next question.

18. If located in a nonattainment area for any pollutant, will the PTE of your facility for the particular nonattainment pollutant be less than the NSR major source thresholds specified in the table below (based on nonattainment classification)? The emissions from your facility may be calculated using the PTE calculator provided at http://www.epa.gov/air/tribal/tribalnsr.html. Be sure to include all existing, new, and modified emission units at your facility.

Pollutant	Nonattainment Classification	NSR Major Source Threshold
Ozone	Marginal	100 tpy of VOC or NO_X
	Moderate	100 tpy of VOC or NO_X
	Serious	50 tpy of VOC or NO_X

Pollutant	Nonattainment Classification	NSR Major Source Threshold
	Severe	25 tpy of VOC or NO_X
	Extreme	10 tpy of VOC or NO_X
PM_{10}	Moderate	100 tpy
	Serious	70 tpy
CO	Moderate	100 tpy
	Serious	50 tpy
SO_2, NO_2, $PM_{2.5}$	No nonattainment classification	100 tpy

☐ Yes ☐ No ☒ N/A - Not located in any nonattainment area

If you answered **'No,'** your source does not qualify for the minor NSR program. Please contact reviewing authority to apply for a site-specific permit. If you answered **'Yes' or 'N/A,'** continue on to the next question.

19. What is the projected annual concrete production (in cubic yards) at your new or modified facility?
8,200 cy cubic yards per consecutive 12 month period.

Section 3: Technical Information for Requesting Coverage under the General Air Quality Permit for New or Modified Minor Source Concrete Batch Plants

If needed, additional pages may be provided and added after this one. Use a unique ID# for each piece of equipment.

Information regarding the emission units at your facility is required by 40 CFR 49.154 and 40.160. Please provide the information below for all equipment at your facility. For each emissions unit, include supporting documentation for the PTE of the unit with your Request for Coverage. In addition, for existing emissions units, include the most recent actual annual emissions. See 40 CFR 49.154(a)(2). (For more information on how to calculate actual emissions, you may go to: http://www.epa.gov/air/tribal/tribalnsrcalculators.html.) As needed, please include other relevant information with your Request for Coverage (including any equipment not identified below).

20. Facility Equipment
List all equipment at the site owned, leased or operated by the applicant, as well as the maximum rated capacity in tons per hour, Btu/hr, or hp.

Unit ID #	Unit Description			Controls on Unit	Maximum Rated Capacity	Make/ Model	Date of Construction (mm/dd/yyyy)
	Mixer	Hopper, Silo, or Bin	Other (please specify)	Specify Type of Control (may be fabric filter, baghouse, shrouds, wetting, BMPs, etc.)	Tons per Hour for Equipment and Btu or hp for Engines		

Unit ID #	Unit Description			Controls on Unit	Maximum Rated Capacity	Make/ Model	Date of Construction (mm/dd/yyyy)
1	☐	☒	Concrete Silo	BAghouse	600TPH	~~Accumix~~ 600B	1986
2	☐	☒	Aggregate hopper	moisture in material	600 TPH	"	1986
3	☒	☐	Pugmill mixer	wet Enclosed		"	1986
4	☐	☐	Concrete Feeder	BAghouse	60 TPH	"	1986
5	☐	☐	Water TANK	N/A	850 gal	"	1986
6	☐	☐	Conveyor	wet material		"	1986
7	☐	☒	Dump Hopper	wet material	1.5cy	"	1986
8	☐	☐	concrete BAghouse	BAghouse		"	1986
9	☐	☐	Engine	N/A	230 HP	"	1986
	☐	☐					
	☐	☐					
	☐	☐					

Notes:
In the column labeled Unit ID # please give unique identifiers for all of the equipment at the site. You may use an existing facility numbering system or emissions inventory ID #. This unique identifier will differentiate between the different emission units at the facility.

In subsequent sections of this permit application, please use the same Unit ID #'s already provided for the equipment listed here.

21. Material Handling – Transferring, Loading, Unloading, Conveyors, and Dropping (Please use same Unit ID #'s identified above in this permit application)

Unit ID #	Unit Description	Maximum Material Transferred (tpy)	Average Moisture Content	Control Technology					
	E.g. truck dump, conveyor drop, truck loading	Per point	%	None	Water Spray	Chemical Additive	Conveyor with ½ cover	Conveyor with ¾ cover	Cover with full cover
2	LOADER DROP	600TPH	VARIES	☒	☐	☐	☐	☐	☐
6	Conveyor	1.5cy	Saturated	☒	☐	☐	☐	☐	☐
7	Dump	1.5cy	Saturated	☒	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐

				☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐

22. Stationary Engines (including emergency engines) Do not include mobile engines or engines that remain in one location for less than 12 months.

Unit ID #	Unit Description (include whether new, modified or existing)	Fuel Type(s)	Maximum Rated Capacity (hp)	Manufactured Date (mm/dd/yyyy)	Model Year
9	New	Diesel	230 HP	1986	1986

23. Metal Degreasing (part washers)

Unit ID #	Unit Description (include whether new, modified or existing)	Freeboard Ratio	Solvents Used	Manufactured Date (mm/dd/yyyy)
	N/A			

Section 4: Information on Completing Screening Processes that have to be Satisfied to Request Coverage under the General Air Quality Permit for New or Modified Minor Source Concrete Batch Plants

24. Threatened or Endangered Species

Have you demonstrated that you meet one of the criteria listed in Appendix A with respect to the protection of any and all species that are federally listed as threatened or endangered under the ESA or of habitat that is federally designated as "critical habitat" under the ESA? If you answered **'No,'** you cannot request coverage under this permit.

☒ Yes ☐ No

If you answered **'Yes,'** then you need to provide the appropriate documentation to the EPA to qualify for coverage under this permit. Please indicate under which criterion in Appendix A you are satisfying this requirement:

☐ A ☐ B ☐ C ☒ D ☐ E

25. Historic Properties

Have you completed the screening process in Appendix B to determine if the construction, modification or operation of your new or modified minor source of air pollutants has the potential to cause effects to historic properties (pursuant to the NHPA)? If you answered **'No,'** you cannot request coverage under this permit.

☒ Yes ☐ No

If you answered **'Yes,'** then provide the appropriate documentation to the EPA to qualify for coverage under this permit.

Section 5: Additional Information about this General Air Quality Permit for New or Modified Minor Source Concrete Batch Plants

This section provides information on the sizes of sources in terms of emissions that are eligible for the General Permit. The emission limitations and standards in this permit are expected to ensure that source-wide emissions are below the rates shown in the following table:

Pollutant of Concern	Attainment, Unclassifiable or Attainment/ Unclassifiable Areas	Nonattainment Areas
CO	21.0 tpy	21.0 tpy
VOC	4.7 tpy	4.8 tpy (marginal and moderate ozone areas)
		2.1 tpy (serious, severe and extreme ozone areas)
NO_X	91.1 tpy	85.8 tpy (marginal and moderate ozone areas)
		1.3 tpy (serious, severe and extreme ozone areas)
PM	54.2 tpy	NA
PM_{10}	21.3 tpy	21.3 tpy
$PM_{2.5}$	5.6 tpy	5.6 tpy

You should contact your reviewing authority if you intend to rely on the emission limitations and standards in this General Permit to prevent having to obtain a Title V permit.

Applicant's Statement (to be signed by the applicant)

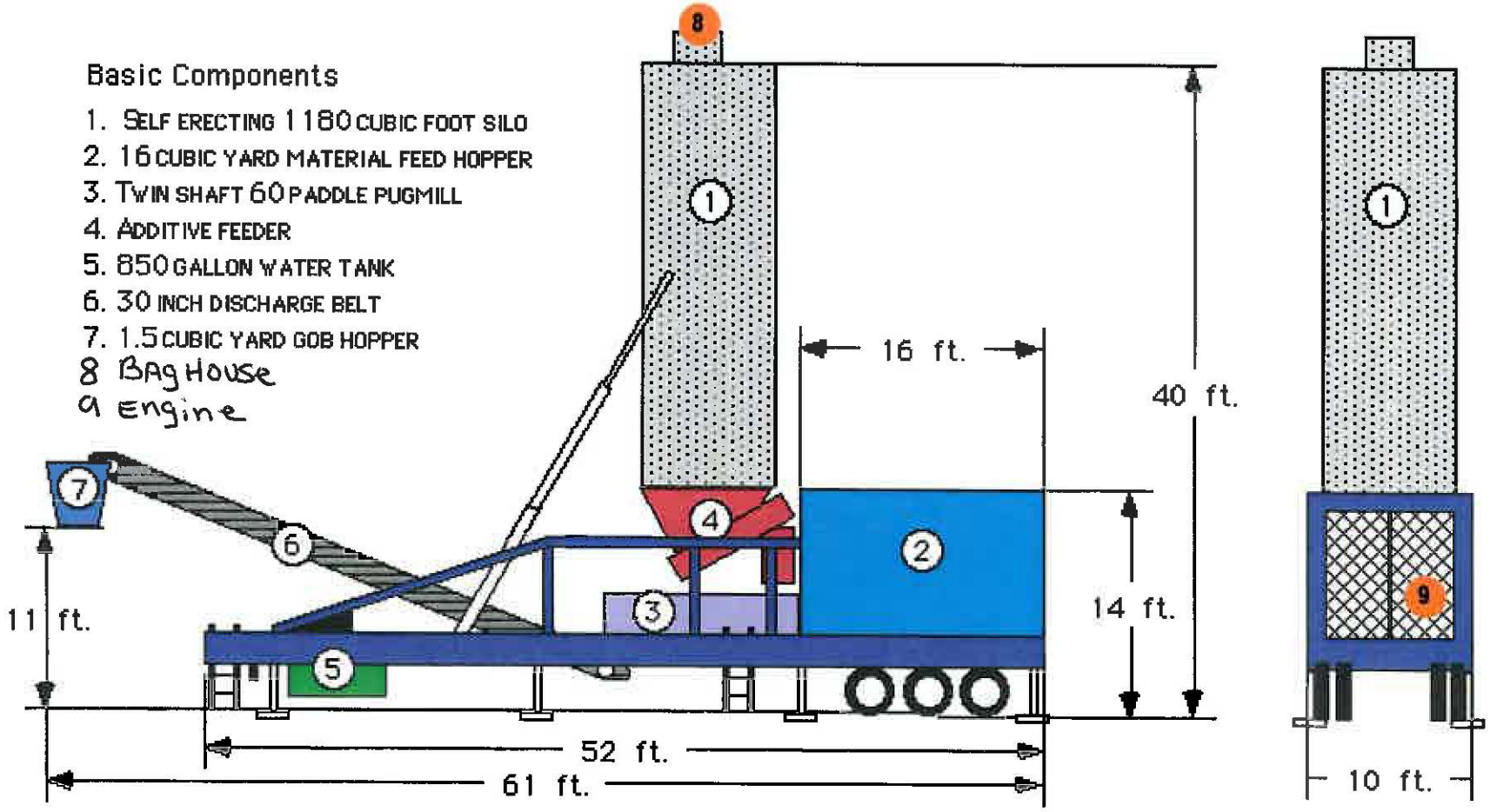
I certify that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Name: Tressia Contreras (Signature) Name: Tressia Contreras (Print or Type) Date: 2-22-18

Title: Environmental Manager

Basic Components

1. Self erecting 1180 cubic foot silo
2. 16 cubic yard material feed hopper
3. Twin shaft 60 paddle pugmill
4. Additive feeder
5. 850 gallon water tank
6. 30 inch discharge belt
7. 1.5 cubic yard gob hopper
8 Bag House
9 engine



Side View

Rear View

AccuMix™ 600B Schematic

Gears, Inc.

AccuMix 600B

BY GEARS inc.

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(970) 349-6151
Fax (970) 349-6625

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♦ DESCRIPTION

The AccuMix™ 600B is Gears Inc.'s proprietary modified Aran ASR 280B continuous mixing pugmill. It is a computer controlled, automated, self contained, self erecting, mobile system for metering and blending accurately and consistently on a continuous basis one or two grades of aggregates, one or two fine particulate additives (with an auxiliary silo), water, and a liquid admixture. This machine is unique in its compactness, productivity, efficiency, accuracy and relocation ease. Maximum capacity of the AccuMix™ 600B is 600 tons per hour. This output will vary depending on the physical properties of the soil, the amount and type of additives and the desired production rate.

Built on the chassis of an Aran ASR 280B, the AccuMix™ 600B utilizes and expands upon this industry proven design. While keeping its superior layout, mixing chamber, and feeders, which are recognized throughout the industry for their uniformity and consistency, the AccuMix™ 600B builds on these strengths. This is accomplished with new state of the art power, delivery, measuring, monitoring, automation and control systems to bring the plant into the 21st century. What we end up with is a more powerful, efficient, accurate and consistent plant.

♦ MIXING METHODOLOGY

Though there are several methods of blending materials, few are well suited to the mixing of low slump low moisture materials. Achieving the desired mix results requires two primary components; a mixer and a material feed system. The mixer can be either a drum or a pugmill, the feed system either batch or continuous. Since a drum mixer simply folds the same material recursively, it must be of the batch type. This leaves three possible combinations; batching drum, batching pugmill and continuous pugmill. Within these three types material can be measured either volumetrically or gravimetrically.

Mixer

Drum mixers used for conventional concrete simply fold the material to be blended. This requires the high water content of conventional concrete to allow the folding action to be effective and efficient. The time that is required for a drum mixer to attempt to completely and uniformly mix low slump or no slump low moisture materials (if even achievable) is prohibitive, limiting production or requiring much larger equipment and the associated costs. The preferred method of mixing low slump materials is therefore a well-designed pugmill that will provide the essential violent mixing action required.

Feed System

There is one characteristic of the batch system that on the surface seems to give the batch system an advantage. This is the fact that each ingredient in every batch is statically weighed. While it is easy to verify the calibration of these static weigh hoppers there are many problems that arise when these systems are in production. The fact that a weigh bin can be shown to be accurate in a static condition does not mean it will dose the proper amount of ingredient to each batch. There are several factors that influence batch accuracy including the reality that overdosed ingredients cannot be returned to their hoppers, material may lodge in the bins after being weighed and vibrations and movements accompanying mixing action may introduce inaccuracies not seen during

static calibration. In order to achieve a completely homogeneous mix all ingredients must enter the mixing chamber at the same time and place and at the precise designed proportional rate. This requires measuring and controlling the flow rate of each input feed on a continuous basis. It is virtually impossible to achieve a constant input flow rate in a batch type system because they contain no devices to measure the flow rate of the input feeds. Since these systems also require a batch time, inconsistencies in the mix will likely result if all of the weighed materials do not arrive in the mixer before this timing begins. Batching pugmills or "Compulsory" mixers utilize a pugmill but because the pugmill mixing action involves moving the material in one direction, the non-consistent flow rates of the input feeds prohibits the pugmill from achieving true uniformity in the mix.

This being the case, the ideal system for this application is a continuous mixing pugmill. We chose the Aran ASR 280B as a base for the AccuMix™ 600B because it is the best continuous mix pugmill design in the industry. This plant is designed to completely and uniformly mix low or no slump low moisture materials.

Volumetric Vs. Gravimetric

With the increasing reliability and accuracy of in line weighing systems, combined with pressure from customers specifying their use, many continuous mix manufacturers are building their systems with gravimetric feeders. While weighing a material adds the benefit of accuracy regardless of flow consistency, any weighing system applied to a continuous metering system, or a batching system, is by nature retrospective. Weighing only takes place after the metered stream has left the feed hopper or vessel. A retrospective weighing system can add little benefit to a poorly designed and inherently unstable continuous metering system. If the feed rate is constantly varying because of changes in density, flow characteristics, or partial bridging in the metering zone, than a loop feedback based on material weight can correct for improper flow rates only after the fact. The only way to ensure stable and uniform proportioning of the ingredients is to make sure that the material in the metering zone is uniform and free of blockages and that the metering device itself is intrinsically stable.

In order to reap the rewards of a gravimetric system you must still maintain the consistency required of a volumetric system. A successful continuous metering system begins with the design of hoppers and silos so that material of uniform characteristics is provided in the metering zone. This is another primary reason we chose the Aran ASR 280B as a base for the AccuMix™ 600B. It's volumetric measuring system has given priority to insure the materials presented to the metering zones are uniform and that the metering feeders extracting it have dimensional and speed stability. The AccuMix™ 600B utilizes the consistency and uniformity of this industries proven volumetric feeders. To this we have added the benefits of gravimetric in line weighing systems with premium state of the art Ramsey in line weighing systems to the aggregate, fine particulate and discharge feeds, and Endress+Hauser electro magnetic flow meters to the water and admixture feeds.

♦ SPECIFICATIONS

1. POWER

On board power for the AccuMix™ 600B's hydraulic, pneumatic and electrical systems is derived from Cummins C8.3, turbocharged, aftercooled diesel. Delivering 230 HP and 730 LB-FT of torque, the C8.3 is designed to be more durable, more reliable and more economical - with reduced maintenance and up to 40% fewer parts than conventional diesel designs. The C8.3 is mechanically coupled to the pugmill and drives feeders through belt driven hydraulic pumps. These pumps provide variable flow to whatever circuits require it, giving it versatility in mix proportions and much smoother, consistent and efficient power then electric motors can provide.

2. AGGREGATE

Aggregate(s) or soil(s) to be processed is (are) fed into the rear 16 cubic yard material feed hopper which is lined with a sprayed on Polyurea to prevent material sticking and improve flow characteristics. The hopper may be split with the optional dividers so as to accommodate two types of soil or aggregates. The hopper may be fed one of three ways. First, a front-end loader can feed the hopper directly by building a ramp perpendicular to the hopper. Secondly, material may be conveyed into the hopper. Thirdly, a screen can process directly into the hopper. Experience has shown that screening directly into the hopper is a good method to limit the handling of material but due to screen capacity, it is often the limiting factor concerning maximum production of the mixing plant.

Aggregate(s) or soil(s) is (are) fed to the mixing chamber by means of a wide low speed belt feeder with a long hopper opening. This configuration prevents material bridging and provides a continuous and uniform flow. Flow sensors for each component are located at the feed point and will immediately shut down the mix if either material is empty or clogged. Feed belts are not the ideal place for inline weighing because changes in hopper levels and pressure from skirting will cause inaccuracies in the measurement. For this reason primary measurement of the aggregate takes place on the discharge belt, which allows for a long stable weigh platform with no variants to affect accuracy. A Ramsey Series 20, belt scale system coupled to their Micro-Tech 2101 Integrator, weighs discharge material.

The rigid and rugged 10-20 weighbridge with no moving or wearing parts, remains permanently aligned within the conveyor frame, and provides a substantial 8 foot weigh span for maximum sample time. Weight is then provided to the integrator through its precision, strain-gage load cell applied in tension to guarantee load cell alignment and accuracy. The most reliable and accurate speed sensing device ever developed for scale service, the 60-12C digital belt speed sensor mounted

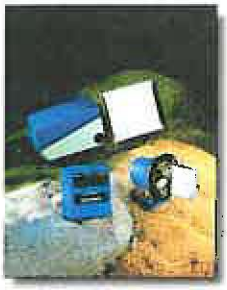
on the tail pulley, provides true belt speed to the integrator. The advanced electronics of the Micro-Tech 2101 Integrator provides for automatic zero tracking, multiple machine directed calibration options and computes rate, total and speed information for the plant's computer at **better than ± 1/2 % accuracy** *(manufacturer's specifications available upon request)*.

The Plant's computer system then removes other mix ingredients plus aggregate stockpile moisture, which is entered in a % by the operator, to arrive at a dry aggregate weight. Secondary measurement is derived volumetrically at the feed belt and is used to achieve the instantaneous rate required for mix proportioning. The computer continually verifies volumetric calibration while monitoring for variations between gravimetric and volumetric rates. This provides two measuring points for the aggregate, which the computer uses to indicate scale problems or improbable failures.

3. FINE PARTICULATE ADDITIVE

Fine particulate additives such as cement, fly ash, lime and bentonite are pneumatically transferred from bulk tankers and stored in the AccuMix™ 600B's 1180 cubic foot self erecting silo. If more than one type of additive is required, an optional self erecting auxiliary silo may be set up next to the plant which is controlled and powered by the AccuMix™ 600B. The silos are equipped with negative pressure DCE Dalamatic DLM V10/10F dust control systems, which filter and evacuate the pressurized air entering the silo. This process maintains constant silo pressure so as not to affect the consistency of the feeder.

Additives enter the feeder via a specially designed cone, which has been optimized to prevent bridging and designed to maintain a constant and consistent supply of material regardless of the level of the material in the silo. This is accomplished without the need for an aeration system, which will vary the materials consistency. Additives then enters a Gears Inc. designed screw feeder through a 24"x32" opening. The size of this opening combined with oversized half-pitched double flighting and material baffles provide a smooth and consistent flow without the concern of bridging. The maximum capacity of the feeder is 60 tons per hour for most cement. This will vary with the unit weights of different materials. It should be noted that experience has shown that the limiting factor with this feeder will be the ability of the pneumatic to off load the fine particulate additive into the AccuMix™ 600B's silo.



A Ramsey Granumet DE 10 Impact Flow Meter then weighs the additive. Unlike other forms of inline weighing devices, the impact flow meter is maintenance free, has very few moving parts and it's calibration and zero will not change once established. The Ramsey Granumet DE 10 is unique in that it measures only the horizontal aspect of the flow force making it immune to zero drift due to material buildup. It has no wear parts or adjustments. Measurement is also not affected by changing impact points or pulsating and surging flows. Force is measured by a Precision Linear Differential Variable Transformer, which is non-contacting and therefore cannot be damaged by shock or overload. The output is sent by means of a noise immune Pulse Frequency Modulated

digital signal to the Ramsey Micro-Tech 2106 Integrator. This Integrator provides automatic zeroing, multiple machine directed calibration options, flow rate and total to the plants computer. Accuracy will depend on the type of additive, flow rate, variations in production rate and stability of site, but will be no worse than ± 2 %. In most situations the manufacturers stated **accuracy of better than ± 1/2 % can be achieved** *(manufacturer's specifications available upon request).*

The computer constantly verifies calibration of the Impact flow meter. The computer compares product load tickets, which are entered by the operator and silo inventory that is measured by an Endress+Hauser Levelflex FMP 232. Using patented MicroImpulse time domain reflectometry (MiTDR) technology, the Levelflex measures the level of product in the silo to within 1%. This measurement is unaffected by pneumatic filling, moisture, temperature or vibration and requires no calibration or maintenance. The computer uses the silo level to estimate the remaining inventory and compares this to product delivered and used.

4. WATER

Water required is determined by the mix design minus the native water in the material to be mixed. Water is fed from an outside source into the plant's 850 gallon on board water tank, which acts as a surge tank. This water is fed at the design rate into the mixing chamber by two hydrostatic 2-inch ITT Jabsco flexible impeller positive displacement water pumps. These pumps provide a continuous, uniform flow and have a maximum capacity of 50 tons per hour. An Endress+Hauser Promag 33F Electromagnetic Flow Meter which features empty pipe detection, creep suppression and auto zero measures the flow rate. This mag-meter has no moving parts, requires no calibration and provides an unobstructed flow tube for **better than ± 1/2 % accuracy** *(manufacturer's specifications available upon request).*

5. ADMIXTURE

Using Gears, Inc.'s optional modular admixture delivery system, the AccuMix™ 600B can dispense a liquid additive into the water delivery system for optimum dispersion through the mix. This system is controlled and powered by the plant. Admixture is pumped from an outside container by means of a 1/4" or 1/2" Ingersoll-Rand Aro pneumatic pump. The pump size is dependent upon the fluid properties and proportion. The admixture then enters an Aro Shock-Blocker pulsation damping system to achieve a completely consistent flow. A check valve is installed before the admixture enters the water delivery system to prevent any cross contamination of supplies. As with the water, admixture is measured by an Endress+Hauser Promag 33A Electromagnetic Flow Meter. Because this mag-meter has an open flow tube, it is ideally suited for admixtures, which tend to clog up or decrease the accuracy of traditional meters. As long as the fluid has a minimum conductivity of 5 µS/cm, no calibration is required and the meter will provide **better then ± 1/2 % accuracy** *(manufacturer's specifications available upon request).*

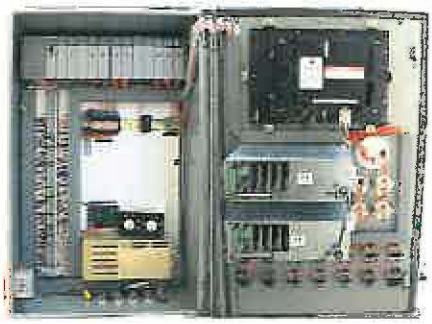
6. MIXING CHAMBER

All ingredients enter simultaneously at the beginning of the mixing chamber, allowing them maximum mixing time. The mixing chamber houses an interlaced 12 foot twin shaft variable speed 60 paddle pugmill designed to achieve a violent mixing action throughout its length resulting in a well-mixed homogeneous product. This type of mixing, with no slump or low moisture products, is greatly more effective and efficient than a drum type mixer that merely folds the product. (Efficiency of a mixer is determined by the time required to satisfactorily process the material and the amount of energy required to achieve the desired results).

7. DISCHARGE

The finished product exits the plant by means of a 30-inch variable speed hydrostatic discharge belt. The conveyor is precision aligned, meticulously maintained, and is equipped with several forms of cleaning devices to ensure accurate zero and calibration of the scale. Material then enters the 1.5 cubic yard gob hopper, which is utilized to prevent material segregation and to interrupt the continuous flow of product allowing trucks to enter and exit the loading area. The gob hopper may be left open continuously so that a conveyor may be used to remove the finished product from the plant.

8. CONTROL SYSTEM

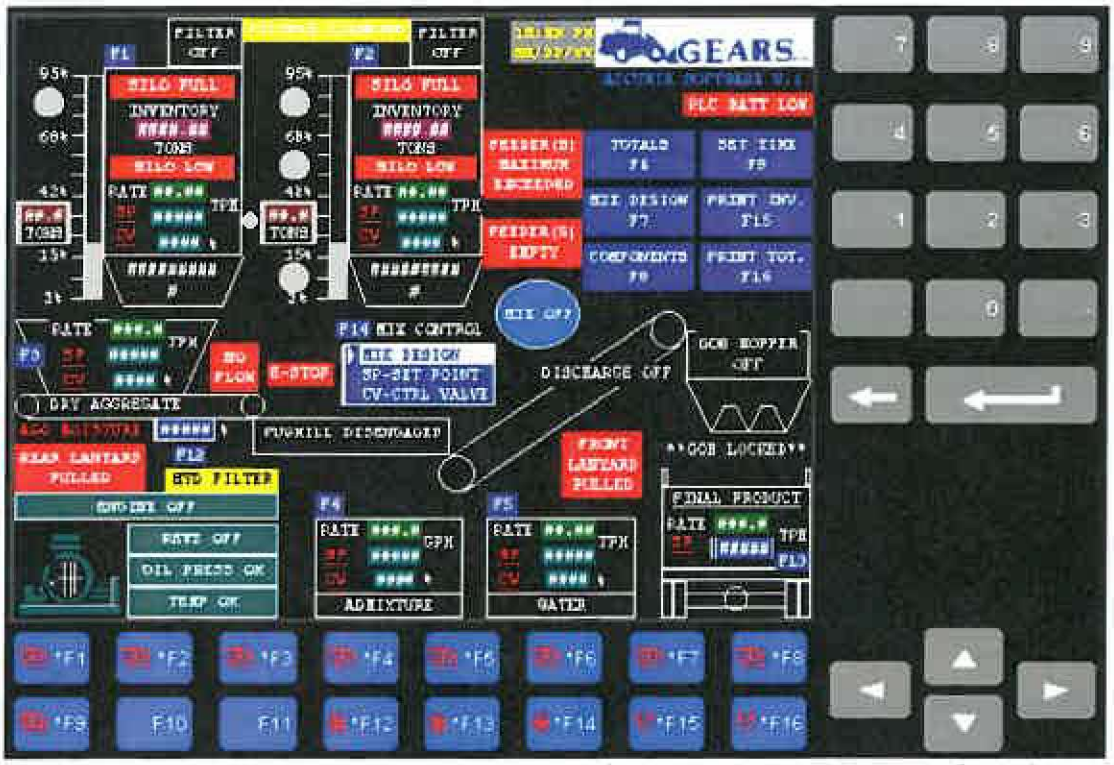


The heart of the AccuMix™ 600B is its control system. An Allen-Bradley SLC 5/03 Programmable Logic Controller and Panelview 1000C 10.5" color active matrix Operator Interface is directed by Gears, Inc.'s proprietary AccuMix™ control software. Designed for harsh industrial environments, this versatile and reliable system has extensive self-diagnostics and is completely modular, making diagnosing and repairing problems as easy as plugging in a new module.

AccuMix™ software provides fully automated plant control and monitoring of all plant systems including engine, flow meters, sensors and switches. Displays indicate all flow rates, set points, feeder speeds, totals and status of all feeds and processes. All critical mechanical systems are monitored to alleviate damage and prevent down time. Inventory of fine particulate and admixture are computed and tracked. An Omega RS232 thermal printer is provided and will print mix design, inventories, rates and totals, either on demand or on a mix time interval. All electronics are accessible via a DH 485 network and with optional terminal can be controlled and monitored remotely.

Start up sequence is automated to start all components in proper order and all mix ingredients are interlocked and will start simultaneously. Mix proportions may be controlled one of three ways. First, they may be controlled manually by entering the

desired feeder speed. Second, the desired feed rates may be entered and AccuMix™ 600B will maintain them. Third, the desired final product rate and a mix design may be entered. AccuMix™ software will then calculate proper proportions and maintain feed rates. Mix design is entered by specifying each dry particulate additive as a percentage of dry aggregate weight, admixture in gallons per ton of final product and mix moisture as a percent of all dry materials. Entering the mix design in this way maintains the crucial proportion of dry materials and admixture, regardless of moisture changes. This is very important because the aggregate stockpile moisture will vary throughout the day plus evaporation in transport will require varying the final mix moisture. The operator continually updates the stockpile moisture and desired mix moisture. AccuMix™ software uses this information to compute dry aggregate weights and to add the proper amount of water to achieve desired output.



1 of 12 AccuMix™ 600B control windows

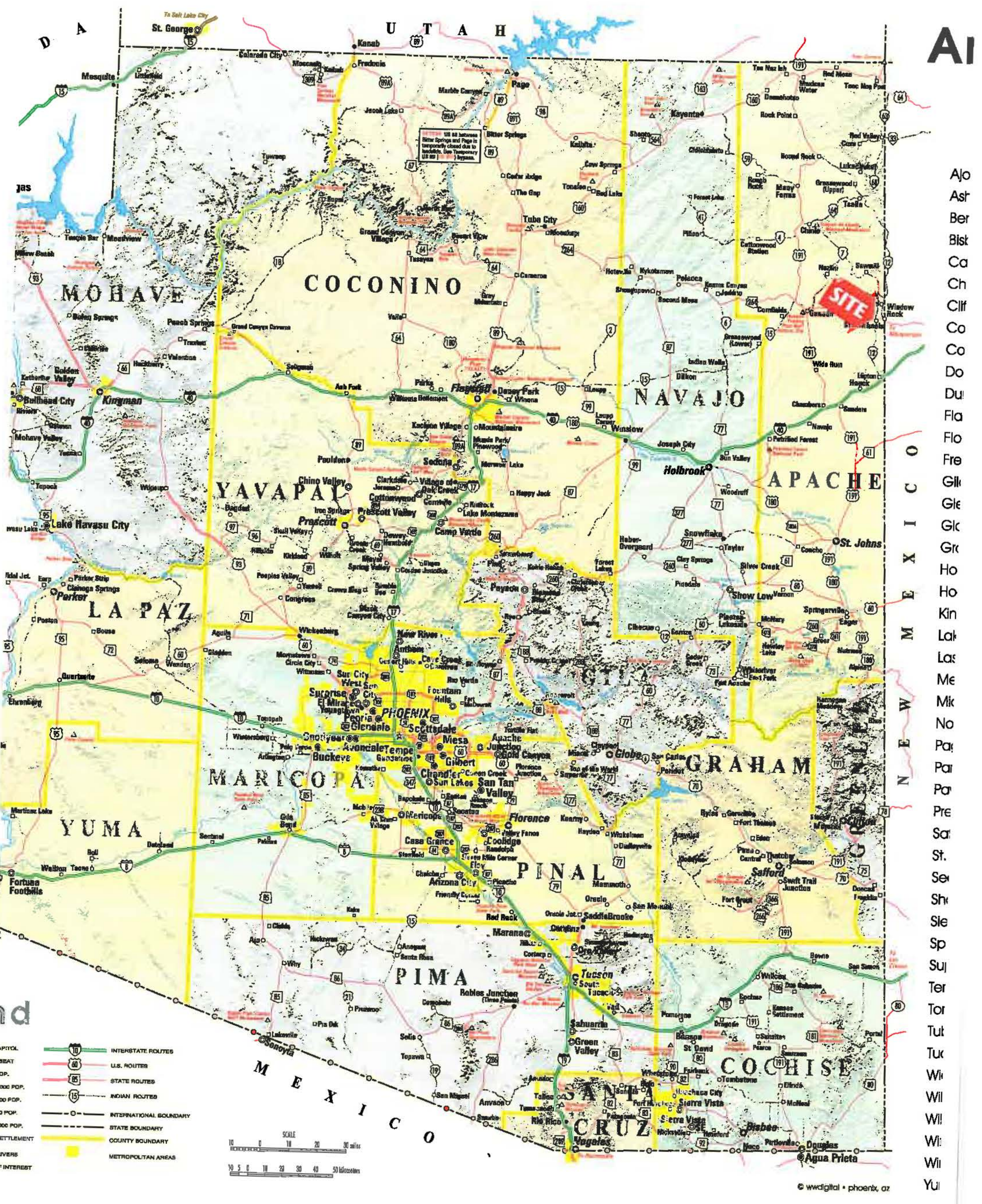
All material hoppers are equipped with empty bin indicators tied to mix shut down. Ingredient feeder control loops are monitored and adjusted every 2 milliseconds for fast accurate proportioning of feed materials and will shut down the mix immediately if proportion is not within specifications. When plant control is by mix design, the combination of these functions and the consistency of the feeders results in proportioning accuracies of better than ± 1/10 % *(manufacturer's specifications available upon request).*

9. SAFETY

Safety is our highest priority and for this reason we have extended the original safety systems of the Aran 280B to include railing meeting OSHA approval and more guards on moving equipment. All critical processes can be easily and safely locked out and audible warning is given before plant starts.

CONCLUSION

The Design of the AccuMix™ 600B has culminated from years of hands on experience with numerous and varied mixing projects. We have used this extensive experience to design what we believe is the ultimate machine for the job. Any successful mixing project will require the right equipment, trained personnel, support and expertise. Gears Inc. can provide all three as we have on hundreds of successfully completed projects in the past.



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MOHAVE
NAVAJO
APACHE
YAVAPAI
LA PAZ
MARICOPA
YUMA
PINAL
GRAHAM
PIMA
COCHISE
SANTA CRUZ
GILA
NEW MEXICO
MEXICO
SITE
Flagstaff
Kingman
Prescott
PHOENIX
Tucson
Holbrook
Winslow
St. Johns
Globe
Florence
Safford
Nogales
Bisbee
Douglas
Agua Prieta
Page
Tuba City
Kayenta
Window Rock
Lake Havasu City
Bullhead City
Parker
Casa Grande
Sierra Vista
Scottsdale
Mesa
Tempe
Chandler
Gilbert
Glendale
Peoria
Sedona
Payson
St. George
Kanab
Sonoyta
INTERSTATE ROUTES
U.S. ROUTES
STATE ROUTES
INDIAN ROUTES
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STATE BOUNDARY
COUNTY BOUNDARY
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PLANT SETUP
Google Earth
© 2013 Google
500 ft
N


Plant location
Window Rock Airport
Lagoon Rd
Beacon Rd
Google Earth
© 2018 Google
N
2000 ft


20
PLANT SITE
This photo shows that the Window Rock Airport has utilized this plant staging area since 2003. The site is covered with recycled asphalt millings. Plant operations will remain within this previously disturbed area.
Google Earth
Image U.S. Geological Survey
Image NMRGIS
2003 PHOTO DATE
500 ft
N

EXTRAORDINARY CIRCUMSTANCES EVALUATION INFORMATION SUBMITTAL FOR CATEGORICAL EXCLUSION OF AIRPORT PROJECTS

I. INTRODUCTION: The FAA must comply with the National Environmental Policy Act (NEPA) for all proposed airport development projects that require a federal action. Categorical Exclusions for various actions are defined in Federal Aviation Administration (FAA) Order 1050.1E, *Environmental Impacts: Policies and Procedures."* The FAA is seeking information from the airport sponsor to be able to determine whether the sponsor's proposed airport development project can be categorically excluded from the NEPA requirement to conduct a formal Environmental Assessment (EA) or Environmental Impact Statement (EIS). Note an action on the categorically excluded list is not automatically exempted from environmental review under NEPA. FAA must determine if any extraordinary circumstances apply to the proposed project. The intent for this information is to informally document the agency's categorical exclusion determination. The need for this information is based upon the guidance in paragraphs 304 and 305 of Order 1050.1E see: http://www.faa.gov/regulations_policies/orders_notices/media/ALL1050-1E.pdf.

II. APPLICABILITY: Sponsors are not asked to submit information described below for equipment and vehicle purchases (i.e. Aircraft Rescue and Fire Fighting; snow removal equipment; security equipment such as computers, scanners, etc.); Runway/taxiway edge lighting and other electrical items such as regulators, control panels, etc.; Master Plans, Part 150 Studies, feasibility studies, and environmental disclosure documents, etc.

III. DIRECTIONS: The airport sponsor is to submit narrative responses to the questions in Section V below and provide supporting documentation to ensure the FAA can determine that no extraordinary circumstances exist. Sponsors are to submit this information only for proposed projects where they anticipate federal funding assistance within the next 12 months or if no funding is sought, for Airport Layout Plan approval. Please provide this information not later than 12 months prior to implementation of the proposed project to allow FAA to determine if further study is needed. Suggested sources for this information include, but not limited to, previous Master Plan or environmental studies and associated documents, Part 150 studies, or research. The jurisdictional federal, state and local resource agencies responsible for protecting specially-protected resources often contain internet web site information that will be of assistance. This information will also assist sponsors in complying with applicable federal laws, regulations, and executive orders as they relate to the proposed project. To expedite review, please include the headings listed in Section V, below, in **bold** in your narrative responses and address each heading separately.

IV. ASSISTANCE: The Environmental Protection Specialists in your respective Airports District Office are available to provide guidance and answer questions about the submittal of information to support a Categorical Exclusion and/or environmental resource categories. Airport Sponsors may expect a written response on the adequacy of the information from the ADO between 30 to 90-days of FAA's receipt, depending upon the workload of the ADO at the time of receipt.

V. PROJECT INFORMATION AND EXTRAORDINARY CIRCUMSTANCE INFORMATION SUBMITTAL .

A. Airport/Sponsor/Address/Contact Information:

Airport: Window Rock Airport
Sponsor: Navajo Tribe
Contact Information: Arlando Teller, Program Manager, Navajo DOT
Telephone: 505-371-8320
Fax: 928-871-8320
Address: P.O. Box 4620, Window Rock, AZ 86515

B. Proposed Project Description / Purpose & Need for Project:

The boundary of the proposed project is identified on the attached Area of Potential Effect (APE) drawing.

Description: Runway Reconstruction (7,000' x 75')

- **The proposed project would reconstruct the existing Runway 2-20 (7,000' x 75') and would include all necessary pavement markings and limited shoulder re-grading and seeding. Non-precision instrument pavement markings would be re-applied, and safety areas associated with the new pavement edge would be re-graded and seeded as needed.**

Purpose & Need: The existing pavement has a Pavement Condition Index (PCI) of 21 and has been observed to create foreign object debris (FOD). A reconstructed runway would enhance safety and reduce FOD.

EXTRAORDINARY CIRCUMSTANCES EVALUATION INFORMATION SUBMITTAL FOR CATEGORICAL EXCLUSION OF AIRPORT PROJECTS

C. Identify the appropriate category for the proposed project: (1) Approval of a project on an airport layout plan (ALP); (2) Approval of federal funding for airport development; (3) Requests for conveyance of government land; (4) Approval of release of airport land; (5) Approval of the use of passenger facility charges (PFC); (6) Approval of development or construction on a federally obligated airport.

The proposed project falls under the following category: (6) Approval of development or construction on a federally obligated airport.

D. Identify the applicable Categorical Exclusion:
The proposed project must be specifically identified in Order 1050.1E paragraphs 307 through 312 "Categorical Exclusions" and cannot involve any conditions identified in paragraph 501 (projects normally requiring an EIS); paragraph 401 (projects normally requiring an EA). If the proposal involves extraordinary circumstances, identified in Paragraph 304, explain.

The proposed project is identified in FAA Order 1050.1E, paragraph 310(e).

E. Review of Extraordinary Circumstances (FAA Order 1050.1E paragraph 304):
Include a description of the project site as it relates to each of the following resource categories:

1. **AIR QUALITY – Paragraph 304g.** Is the proposed project in an air quality attainment, nonattainment or maintenance area for a specific criteria pollutant? Would the project worsen the air quality?

The Clean Air Act of 1970 was enacted to reduce emissions of specific pollutants via Federal standards. These standards include the National Ambient Air Quality Standards which set maximum allowable ambient concentrations of ozone (O_3) nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), lead (Pb) and particulate matter 10 microns or smaller (PM_{10}). Section 176(c) of the Act, in part, states that no Federal agency shall engage in, support in any way or provide financial assistance for license, permit or approve any activity that does not conform to the State Implementation Plan.

The proposed project would be located in the northeast portion of Arizona within Apache County, and would not be located within or adjacent to a defined "Nonattainment" (or maintenance) area as shown on the attached Counties Designated "Nonattainment" Map. Furthermore, the proposed project would not worsen air quality or result in a significant impact to air quality as defined by the Clean Air Act.

The project would have the potential of creating temporary increases in particulate and gaseous air pollution levels as a result of construction activities, but would be expected to be minimal. All reasonable precautions would be taken to prevent particulate matter from becoming airborne.

2. **COASTAL RESOURCES – Paragraph 304c (For Airports in California, Hawaii and Pacific Islands only).** Is the proposed project in a coastal zone, as defined by a state's Coastal Zone Management Plan (CZMP)? If "yes," Describe how the project is consistent with the State's CZMP.

The proposed project would be located in Arizona. Therefore, no impacts on coastal resources would occur.

3. **DEPARTMENT OF TRANSPORTATION SECTION 4(f) – Paragraph 304b.** Would the proposed project directly or indirectly use any land from a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance? If "yes," describe the proximity of park to project site and explain how much of the park would be affected & why the land is needed.

The proposed project would be located on existing airport property on previously disturbed land, and would not use any land from a public park, recreation area or wildlife or waterfowl refuge of national, state or local significance. Therefore, no Section 4 (f) lands would be impacted.

4. **NATURAL RESOURCES AND ENERGY SUPPLY – Paragraph 304c.** Would the proposed project affect energy or other natural resource consumption where demand exceeds the capacity of the supplier? Explain how the sponsor intends to resolve natural resource consumption issues where demand exceeds capacity of the supplier. If the sponsor states demand does not exceed the supply, briefly indicate how this was determined.

EXTRAORDINARY CIRCUMSTANCES EVALUATION INFORMATION SUBMITTAL FOR CATEGORICAL EXCLUSION OF AIRPORT PROJECTS

The proposed project would not affect energy or other natural resource consumption. During the construction period, fuel and oil would be required for equipment; however, neither is in short supply. Thus, there would be no impact on natural resources or energy supply.

5. FARMLANDS – Paragraph 304c. Would the proposed project convert any farmland to non-agricultural uses? If yes, identify the current approved zoning classification for the project area.

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service's Web Soil Survey, the following soil types are located on or near the vicinity of the proposed project site: Querencia and Gish soils. According to the Web Soil Survey, this type of soil, as well as the other soil types surrounding the proposed project site, are classified as "not prime farmland." Therefore, the proposed project would not involve the acquisition or conversion of farmland. See the attached Web Soil Survey map.

6. FISH, WILDLIFE, AND PLANTS – Paragraph 304c. Does the proposed project area contain any federally-listed endangered or threatened species of flora and fauna, or designated critical habitat? Describe the site and specific species or habitat designation, if any, and results of any consultation with the U.S. Fish and Wildlife Service or National Marine Fisheries Service, if available.

The US Fish and Wildlife Service website was reviewed and the list of threatened and endangered species for Apache County is attached. Although the potential for the named species to occur in the vicinity of the proposed project exists, no known species or critical habitats are known to exist within the proposed project's APE. The project would occur on existing airport property on existing pavement and graded runway safety areas; therefore, the proposed project would not likely impact the existence of any federally listed species or result in the destruction or adverse modification of any federally designated critical habitat.

7. FLOODPLAINS – Paragraph 304c. Would the proposed project be located in, or would it encroach upon, any designated 100-year floodplains? Floodplain maps can be viewed at http://www.hazardmaps.gov/atlas.php.

According to the Federal Emergency Management Agency (FEMA) floodplain map, the proposed project is located within a region that has not been mapped, or where a printed map is not available. Based upon previous site visits and aerial photography, the proposed project does not appear to be located within any floodplain areas. Thus, the proposed project would not impact any designated 100-year floodplains.

8. HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE -- Paragraph 304k. Would the proposed project require the use of land that may contain hazardous substances or may be contaminated? Identify any documented hazardous materials issues on the project site. (Agencies such as the U.S. Environmental Protection Agency and/or the applicable state environmental agency have publicly available information on their websites that may be of assistance.)

The proposed project would be located on existing airport property on previously disturbed land where no known hazardous substances or contaminated land exists. If hazardous materials are encountered during construction, the Arizona Department of Environmental Quality will be contacted regarding procedures for the handling and the disposal of the hazardous materials. Solid waste generated during construction would be contained in designated areas and receptacles and removed once the project is completed. Pollution related to construction activities (i.e. dust) would be minimal and would not adversely affect the proposed project area as a whole.

9. HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES – Paragraph 304a and 304j. Does the proposed project affect any documented properties that are prehistoric, historic, archeological, or cultural resources? Provide copy of any prior consultation with the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) for the proposed project area. If project is in a previously undeveloped site, provide cultural resources survey.

A cultural resource survey was previously conducted on airport property by the Navajo Historic Preservation Department (see attached). According to the survey report, two cultural sites and one isolated occurrence were found on airport property. Of these discoveries, only one site (AZ-P-24-62) was deemed

eligible as a cultural and archaeological resource. The condition of compliance for this site is it must be avoided by a minimum of 50 feet, and a qualified archaeologist must mark the site boundaries prior to construction activities. All construction activities pertaining to the proposed runway reconstruction would be performed at a pre-determined safe distance according to the Navajo Historic Preservation Department's direction. Thus, the proposed project would have no impact on historical, cultural, architectural, or archaeological resources provided the measures described above are implemented.

Should additional cultural or archaeological resources be discovered during construction, work would be temporarily suspended in the area to allow for the evaluation and disposition of such resources. The responsible FAA, Tribal, and SHPO officials would then be notified as soon as possible following a discovery.

10. NOISE – Paragraph 304f. Would the proposed project increase airport noise over noise sensitive land uses. (e.g. residences, schools, churches, and hospitals)? See Table 1 of 14 CFR Part 150 for descriptions of various noise sensitive land uses.

The proposed project would not increase airport noise over noise sensitive land uses, nor would it impact airport capacity. Any construction related noise would be temporary in nature, and would last only for the duration of the proposed project's construction period.

11. SECONDARY (INDUCED) IMPACTS – Paragraphs 304d & e. Does the proposed project require relocation of any homes or businesses, or increase off-airport surface traffic congestion? Describe the number of relocations needed for the proposed project.

The proposed project would not require the relocation of any homes or businesses, nor would it increase off airport surface traffic congestion. The project would be constructed on airport property on existing pavement; therefore, no secondary (induced) impacts are anticipated to occur.

12. WATER QUALITY – Paragraph 304h. Would the proposed project degrade water quality, including ground water, surface water bodies, or any public water supply systems? Does the sponsor have an airport wide Storm Water Pollution Prevention Plan (SWPPP), project specific SWPPP? If yes, give date of Plan.

The proposed project would not result in a significant environmental impact to water quality. Recommendations established in FAA Advisory Circular 150/5370-10, *Standards for Specifying Construction of Airports*, would be incorporated into the project design and specifications, and followed throughout the entire construction period.

The sponsor (Navajo Tribe) does not currently have an airport Storm Water Pollution Prevention Plan (SWPPP) in place for Window Rock Airport.

13. WETLANDS - Paragraph 304c. Would the proposed project be built in or near any previously identified jurisdictional wetlands? Briefly indicate how this was determined. If yes, provide any documentation to indicate that the U.S. Army Corps of Engineers has determined if the wetlands are jurisdictional or not.

Wetlands are defined in EO 11990, Protection of Wetlands, as "those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support, a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs and similar areas such as sloughs, potholes, wet meadows, river overflows and natural ponds. Jurisdictional Waters of the United States may also include drainage channels, washes, ditches, arroyos, or other waterways which are tributaries to navigable Waters of the U.S. ..."

According to the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are no wetlands located within the APE for the proposed project (see attached Wetlands Inventory map). The proposed project would occur on existing pavement and graded runway safety areas; thus, no impacts to wetlands or Jurisdictional Waters of the U.S. would occur for the proposed project.

EXTRAORDINARY CIRCUMSTANCES EVALUATION INFORMATION SUBMITTAL FOR CATEGORICAL EXCLUSION OF AIRPORT PROJECTS

14. WILD AND SCENIC RIVERS – Paragraph 304c. (AZ, CA & NV only) Would the proposed project be built near or affect a designated Wild and Scenic River? If yes, identify the wild and scenic river segment and distance to the proposed project. See http://www.nps.gov/rivers/wildriverslist.html for additional information.

The proposed project would not affect any portion of the free-flowing characteristics of a Wild and Scenic River, Study River or adjacent areas that are part of such rivers, as listed in the National Park Service Wild and Scenic Rivers Inventory. The closest Wild and Scenic Rivers in Arizona are the Verde River and Fossil Creek, which are located approximately 240 miles to the southwest of the proposed project location.

15. OTHER CONSIDERATIONS – Paragraphs 304d, 304i, 304j, and 304k. Is the proposed project likely to be highly controversial on environmental grounds?

The project would not be controversial on environmental grounds. All impacts are considered to be below the level of significance.

Is there organized opposition to the project on environmental grounds?

There is no known organized opposition to the project by public entities or governmental agencies.

Is the proposed project reasonably consistent with plans, goals, and policies adopted by the community in which the project is located?

The proposed project would be consistent with local plans and policies as set forth by the sponsor (Navajo Tribe).

Is the project likely to directly, indirectly, or cumulatively create a significant impact on the human environment?

The project is not likely to directly, indirectly, or cumulatively create a significant impact on the human environment.

AREA OF POTENTIAL EFFECT

SCALE IN FEET

ARMSTRONG CONSULTANTS, Inc.
airport engineering and planning services

401 Road Avenue
Grand Junction, CO 81501
ph: 970.243.8181 fax: 970.241.1762

www.armstrongconsultants.com

WINDOW ROCK AIRPORT
WINDOW ROCK, ARIZONA

No.	Revision	Date	By

Project No: 108003
Date: 12/2010
File Name: 8003APE

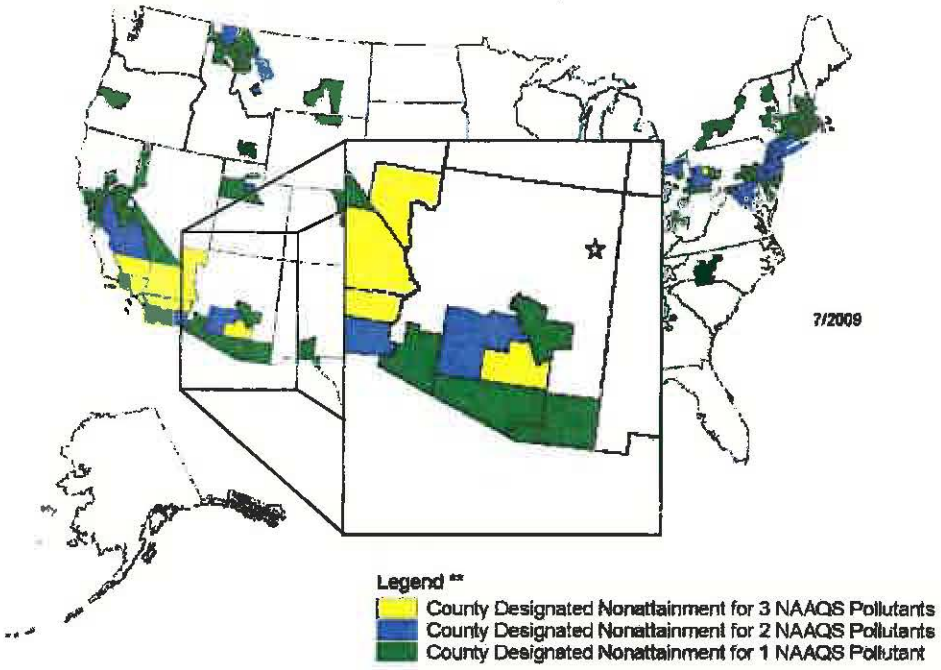
Drawn: GWK
Checked: CRM
Approved: CRM

AREA OF POTENTIAL EFFECT

Sheet 1 of 1

Counties Designated "Nonattainment"

for Clean Air Act's National Ambient Air Quality Standards (NAAQS) *

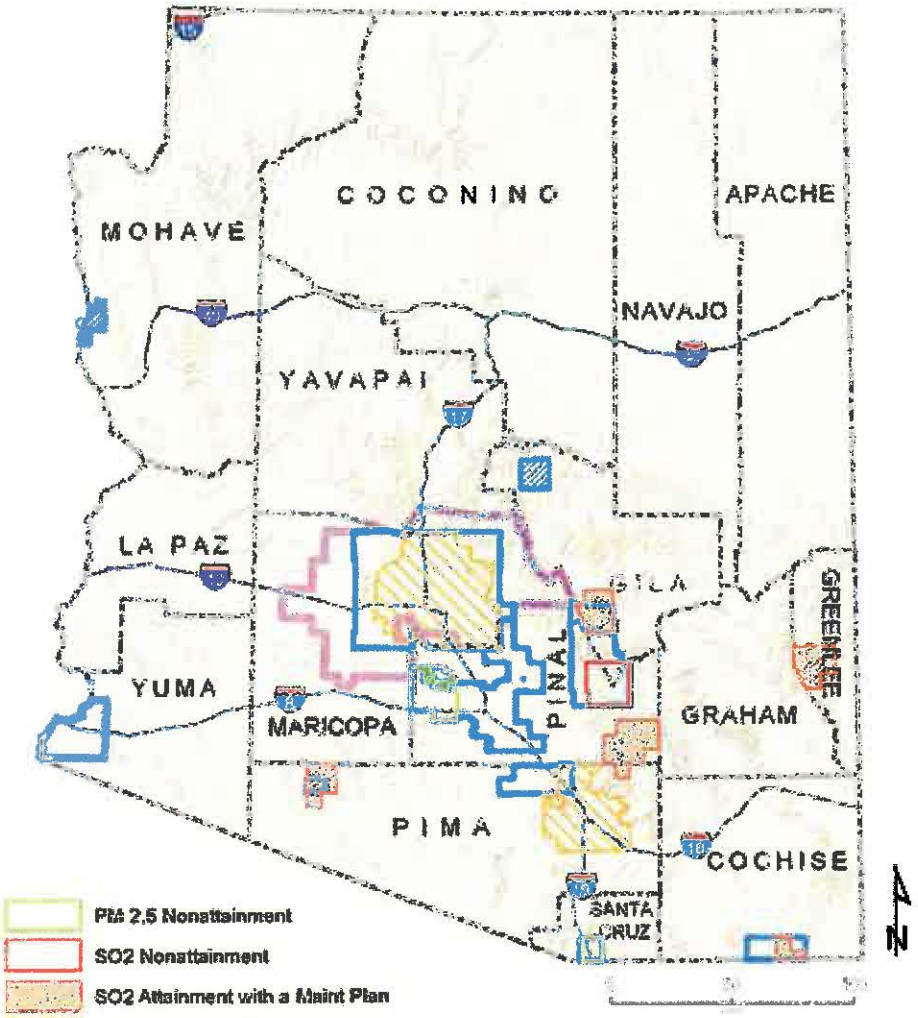


Guam - Pitl and Tanguisson Counties are designated nonattainment for the SO2 NAAQS
Puerto Rico - Mun. of Guaynamo is designated nonattainment for the PM10 NAAQS

* The National Ambient Air Quality Standards are health standards for lead, carbon monoxide, sulfur dioxide, ground level 8-hr ozone, and particulate matter (PM-10 and PM2.5). There are no nitrogen dioxide nonattainment areas.

** Partial counties, those with part of the county designated nonattainment and part attainment, are shown as full counties on the map.

Nonattainment and Attainment Areas



ADEQ Arizona Department of Environmental Quality

Custom Soil Resource Report
Map—Farmland Classification (WebSoilSurvey Window Rock)

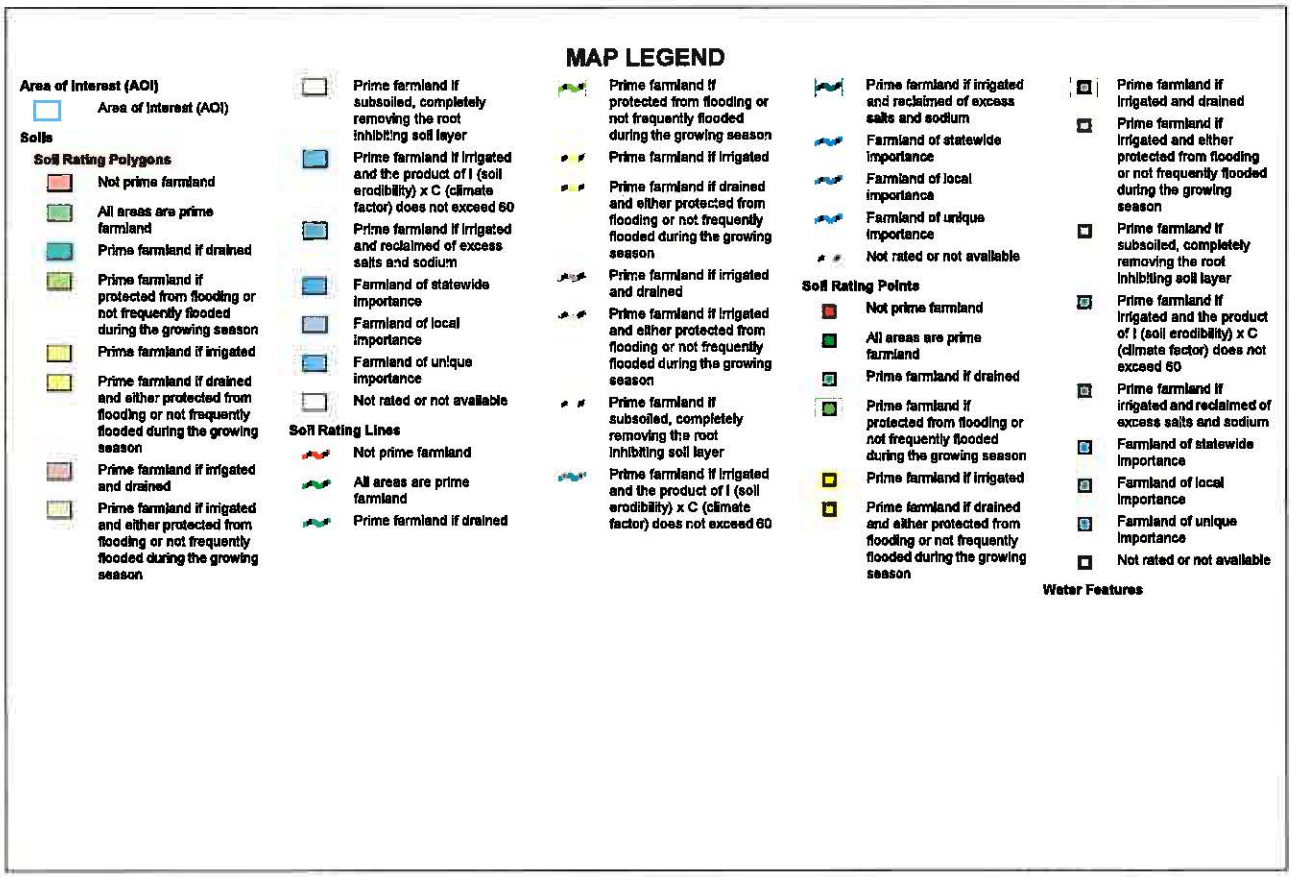
Map Scale: 1:12,000 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0, 150, 300, 600, 900

Feet: 0, 500, 1000, 2000, 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84


MAP LEGEND
Area of Interest (AOI)
Area of Interest (AOI)
Soils
Soil Rating Polygons
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of local importance
Farmland of unique importance
Not rated or not available
Soil Rating Lines
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of local importance
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of local importance
Farmland of unique importance
Not rated or not available
Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico
Survey Area Data: Version 10, Apr 28, 2011

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 25, 2010—May 29, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Farmland Classification (WebSoilSurvey Window Rock)

Farmland Classification— Summary by Map Unit — Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico (AZ715)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
4	Atlatl-Nizhoni family-Rock outcrop complex 15 to 30 percent slopes	Not prime farmland	44.7	6.8%
27	Doakum family-Betonnie complex, 1 to 8 percent slopes	Not prime farmland	155.8	23.7%
90	Querencia and Gish soils, 0 to 2 percent slopes	Not prime farmland	397.0	60.5%
102	Rock outcrop-Vessilla complex, 35 to 70 percent slopes	Not prime farmland	12.6	1.9%
114	Sparank-San Mateo-Zia complex, 0 to 3 percent slopes	Not prime farmland	33.7	5.1%
129	Venzuni clay loam, 1 to 10 percent slopes	Not prime farmland	12.5	1.9%
Totals for Area of Interest			**656.3**	**100.0%**

Rating Options—Farmland Classification (WebSoilSurvey Window Rock)

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Apache County

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Apache (Arizona) trout	*Oncorhynchus gilae apache*	Threatened	Yellowish to yellow-olive cutthroat-like trout with large dark spots on body. Dorsal, anal, and caudal fins edged with white. No red lateral band.	Apache, Coconino, Gila, Greenlee	> 5,000 ft	Streams and rivers generally above 6,000 ft. elevation with adequate stream flow and shading; temperatures below 77 degrees F; and substrate composed of boulders, rocks, gravel and some sand and silt.	Presently restricted to drainages in the White Mountains. Hybridization with introduced trout has complicated efforts to maintain the genetic purity of some populations. Special regulations (4d Rule) allow Arizona to manage the species as a sport fish (40 FR 29863).
Black-footed ferret	*Mustela nigripes*	Endangered	Weasel-like, yellow buff coloration with black on feet, tail tip, and eye mask. It has a blunt light colored nose and is 15-18 inches long and tail length is 5-6 inches.	Apache, Coconino, Navajo, Yavapai	< 10,500 ft	Grassland plains generally found in association with prairie dogs.	Unsurveyed prairie dog towns may be occupied by ferrets or may be appropriate for future reintroduction efforts. The Service developed guidelines for surveying prairie dog towns which are available upon request. No wild populations of this species are currently known to exist in Arizona. Reintroduced population exists in Aubrey Valley (Coconino County), Arizona.
California condor	*Gymnogyps californianus*	Endangered	Very large vulture (47 in., wingspan to 9 1/2 ft, weight to 22 lbs); adult plumage blackish, immature more brownish; adult wing linings white, immature mottled; head and upper parts of neck bare; yellow-orange in adults, grayish in mature.	Apache, Coconino, Mohave, Navajo, Yavapai	Varies	High desert canyons and plateaus.	Recovery program has reintroduced condors to Northern Arizona, with the first release (6 birds) in December 1996. The release site is located at the Vermillion Cliffs (Coconino County), with an experimental, nonessential area designated for most of Northern Arizona and Southern Utah. The area in Arizona is within a polygon formed by Hwy 191, Interstate 40, and Hwy 93, and extends north of the Arizona-Utah and Nevada borders. Breeding is documented in Arizona.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Chiricahua leopard frog	*Lithobates chiricahuensis*	Threatened	Cream colored tubercles (spots) on a dark background on the rear of the thigh, dorsolateral folds that are interrupted and deflected medially, and a call given out of water distinguish this spotted frog from other leopard frogs.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, Navajo, Pima, Santa Cruz, Yavapai	3,281-8,890 ft	Restricted to springs, livestock tanks, and streams in upper portion of watersheds that are free from nonnative predators or where marginal habitat for nonnative predators exists.	Critical habitat is designated for 10,346 acres in Apache, Cochise, Gila, Graham, Greenlee, Pima, Santa Cruz, and Yavapai counties in Arizona; and Catron, Hidalgo, Grant, Sierra, and Socorro counties in New Mexico (77 FR 16324).
Little Colorado spinedace	*Lepidomeda vittata*	Threatened	Small (<4 inches long) silvery minnow.	Apache, Coconino, Navajo	4,000-8,000 ft	Moderate to small streams; found in pools and riffles with water flowing over fine gravel and silt substrate.	Critical habitat includes 18 miles of East Clear Creek, 8 miles of Chevelon Creek, and 5 miles of Nutrioso Creek (52 FR 35034).
Loach minnow	*Tiaroga cobitis*	Endangered	Small (<3 inches) slender, elongated fish, olive colored with dirty white spots at the base of the dorsal and caudal fins. Breeding males vivid red on mouth and base of fins.	Apache, Cochise, Gila, Graham, Greenlee, Navajo, Pinal, Yavapai	< 8,000 ft	Benthic species of small to large perennial streams with swift shallow water over cobble and gravel. Recurrent flooding and natural hydrograph important.	Presently found in Aravaipa Creek, Deer Creek, Turkey Creek, Blue River, Campbell Blue Creek, Little Blue Creek, San Francisco River, Eagle Creek, North Fork of the East Fork Black River, Boneyard Creek, and White River and East Fork White River in Arizona, and Dry Blue Creek, Pace Creek, Frieborn Creek, the San Francisco River, Tularosa River, Negrito Creek, Whitewater Creek, the East, Middle, and West Forks of the Gila River, mainstem upper Gila River. Bear Creek and Mangas Creek in New Mexico. Populations have been recently reintroduced in Hot Springs and Redfield canyons in Cochise and Graham counties; Fossil Creek in Gila County; and Bonita Creek in Graham County Arizona. Critical habitat has been designated in Apache, Cochise, Gila, Graham, Greenlee, Pinal, and Yavapai counties, Arizona, as well as in Catron, Grant, and Hidalgo counties in New Mexico (77 FR 10810).

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Mexican gray wolf	*Canis lupus baileyi*	Endangered	Large dog-like carnivore. Head and feet are large in proportion to rest of body. Coat color varies with mix of brown, rust, black, gray, and white. Distinct white lip line around mouth. Adults weigh between 60-90 pounds.	Apache, Gila, Greenlee, Navajo	4,000-12,000 ft	Chaparral, woodland, and forested areas. May cross desert areas.	In January 1998, Mexican gray wolves were reintroduced as an experimental nonessential section 10(j) population under a program to re-establish the subspecies to a portion of its historical range (63 FR 1752). Wolves are released within the experimental boundary into a designated area known as the "Blue Range Wolf Recovery Area" (BRWRA) located in the Apache National Forest in Apache and Greenlee counties. Mexican gray wolves found outside of the experimental nonessential boundary are considered endangered. In 2002, the White Mountain Apache tribe (WMAT) became one of the lead agencies for the reintroduction and allowed wolves on their lands. This effectively expanded the experimental nonessential population into Apache, Gila, and Navajo counties on WMAT lands.
Mexican spotted owl	*Strix occidentalis lucida*	Threatened	Medium sized with dark eyes and no ear tufts. Brownish and heavily spotted with white or beige.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai	4,100-9,000 ft	Nests in canyons and dense forests with multi-layered foliage structure.	Generally nest in older forests of mixed conifer or ponderosa pine/gambel oak type, in canyons, and use variety of habitats for foraging. Sites with cool microclimates appear to be of importance or are preferred. Critical habitat was finalized on August 31, 2004 (69 FR 53182) in Arizona in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Navajo, Pima, Pinal, Santa Cruz, and Yavapai counties.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Narrow-headed Gartersnake	*Thamnophis rufipunctatus*	Proposed Threatened	A small to medium-sized gartersnake with a maximum total length of 44 in. The base color is usually tan or grey-brown with conspicuous brown, black, or reddish spots that become indistinct toward the tail. Its eyes are set high on elongated head, which narrows to the snout. Base color is usually tan or grey-brown (but may darken) with conspicuous brown, black, or reddish spots that become indistinct towards the tail. Scales are keeled.	Apache, Coconino, Gila, Graham, Greenlee, Navajo, Yavapai	2,300-8,200 ft	Clear, rocky streams using predominantly pool and riffle habitat that includes cobbles and boulders.	Lacks striping on the dorsum and sides, which distinguishes its appearance from other gartersnake species with which it could co-occur. Most likely surface active between March and November when air temperatures range from 52-89°F and water temperatures range from 54-72°F. Approximately 1,503 stream miles are being proposed for critical habitat (78 FR 41500).
Navajo sedge	*Carex specuicola*	Threatened	Perennial forb with triangular stems, elongated rhizomes. Flower: white June and July.	Apache, Coconino, Navajo	5,700-6,000 ft	Silty soils at shady seeps and springs.	Designated critical habitat is on the Navajo Nation near Inscription House Ruins. Found at seep springs on vertical cliffs of pink-red Navajo sandstone (50 FR 19370).
New Mexico meadow jumping mouse	*Zapus hudsonius luteus*	Proposed Endangered	Small rodent with extremely long tail and long hind feet. Pelage is coarse with a broad dorsal band of brown or yellowish brown darkened with brownish black hairs; sides paler; under parts white or sometimes suffused with yellowish color. Back of the forefeet and hind feet are grayish white; tail is sparsely haired and distinctly bicolor (dark brown above and yellowish white below). The head is small, narrow, and relatively high crowned. The nose is short and pointed. They are the only mammal with 18 teeth.	Apache, Greenlee	< 8,000 ft	Nests in dry soils but also uses moist, streamside, dense riparian/wetland vegetation.	Since 2005, the New Mexico meadow jumping mouse is diminished to 12 populations in the White Mountains, Arizona. Critical habitat is proposed in Apache and Greenlee counties, Arizona (78 FR 37328). Proposed critical habitat includes the riparian communities along rivers and streams, springs and wetlands, canals and ditches as well as the adjacent floodplain and upland areas extending approximately 100 m (300 ft) outward from the water's edge (as defined as bankfull stage of streams).

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Northern Mexican Gartersnake	*Thamnophis eques megalops*	Proposed Threatened	Background color ranges from olive, olive-brown, to olive-gray. Body has three yellow or light colored stripes running down the length of the body, darker towards tail. Species distinguished from other native gartersnakes by the lateral stripes reaching the 3rd and 4th scale rows. Paired black spots extend along dorsolateral fields.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai	130-8,497 ft	Cienegas, stock tanks, large-river riparian woodlands and forests, streamside gallery forests.	Core population areas in Arizona include mid/upper Verde River drainage, mid/lower Tonto Creek, and the San Rafael Valley and surrounding area. Status on tribal lands unknown. Occurs in Grant and Catron Counties in New Mexico. Distributed south into Mexico along the Sierra Madre Occidental and Mexican Plateau. Strongly associated with the presence of a native prey base including leopard frogs and native fish.
Southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered	Small passerine (about 6 inches) grayish-green back and wings, whitish throat, light olive-gray breast and pale yellowish belly. Two wingbars visible. Eye-ring faint or absent.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 8,500 ft	Cottonwood/willow and tamarisk vegetation communities along rivers and streams.	Riparian-obligate bird that migrates and nests from late April-Sept along river and streams. A revised critical habitat designation was finalized on January 3, 2013, for areas in Apache, Cochise, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pima, Pinal, Santa Cruz, and Yavapai counties (78 FR 344). Training seminar/permits (state and federal) necessary for those conducting call playback surveys.
Three Forks springsnail	*Pyrgulopsis trivialis*	Endangered	Minute hydrobiid snail; shell ovate to narrowly conic; height 0.05 -0.17 inches; whorls 2.5-5.0	Apache	8,000-8,500 ft	Rheocrene springs, seeps, marshes, spring pools, outflows and diverse lotic waters.	Distribution limited to Boneyard Creek and Boneyard Bog Spring complexes in the North Fork of the East Fork Black River watershed. Critical habitat is designated for 17.2 acres (77 FR 23060).
Welsh's milkweed	*Asclepias welshii*	Threatened	Milkweed family (Asclepiadaceae), rhizomatous, herbaceous perennial, 10-40 inches tall with large oval leaves. Flowers: cream colored, rose tinged in center, and bloom in June and July. Juvenile form has long, linear leaves, so is easily overlooked or misidentified.	Apache, Coconino, Navajo	4700-6250 ft	Open, sparsely vegetated semi-stabilized sand dunes and on lee slopes of actively drifting sand dunes.	Small populations known from south of Monument Valley, north of Tuba City, west of Page and west of the Paria-Vermillion cliffs Wilderness Area on the Utah/Arizona border. Designated critical habitat is in Utah (52 FR 41435).

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Yellow-billed cuckoo	*Coccyzus americanus*	Proposed threatened	Medium-sized bird with a slender, long-tailed profile, slightly down-curved bill that is blue-black with yellow on the lower half. Plumage is grayish-brown above and white below, with rufous primary flight feathers.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 6,500 ft	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries).	Neotropical migrant that winters primarily in South America and breeds primarily in the U.S. (but also in southern Canada and northern Mexico). As a migrant it is rarely detected; can occur outside of riparian areas. Cuckoos are found nesting statewide, mostly below 5,000 feet in central, western, and southeastern Arizona. Concern for cuckoos are primarily focused upon alterations to its nesting and foraging habitat. Nesting cuckoos are associated with relatively dense, wooded, streamside riparian habitat, with varying combinations of Fremont cottonwood, willow, velvet ash, Arizona walnut, mesquite, and tamarisk. Some cuckoos have also been detected nesting in velvet mesquite, netleaf hackberry, Arizona sycamore, Arizona alder, and some exotic neighborhood shade trees.
Zuni bluehead sucker	*Catostomus discorbolus yarrowi*	Proposed Endangered	Fusiform, slender, with a terminal mouth. Bluish head, silvery tan to dark green above, silvery to yellowish or dirty-white below. Sexually mature bluehead suckers range between 3.5 to 8 inches in length.	Apache	> 6,000 ft	Small streams in low-velocity, moderate deep pools, and pool-runs with seasonal dense algae. Young prefer quieter shallow areas near shoreline.	Found in two drainages on the Navajo Nation (Kinlichee Creek [Little Colorado River] and Canyon de Chelly [San Juan River]) in Arizona and in the Zuni River in New Mexico on lands of the Zuni Pueblo, Forest Service, State of New Mexico, and private lands. Critical habitat is proposed for 475.3 km (291.3 mi) of streams in Apache County, Arizona and Cibola, McKinley, and San Juan counties, New Mexico. Conservation actions for the subspecies are included in the Zuni Bluehead Sucker Recovery Plan (New Mexico Department of Game and Fish) and the Arizona Statewide Conservation Program for Six Native Fish (Arizona Game and Fish Department).
Zuni fleabane	*Erigeron rhizomatus*	Threatened	Herbaceous perennial that grows in clusters of numerous erect unbranced stems up to 2.0 feet tall. Flower heads solitary; pale blue ray flowers and yellow disk flowers.	Apache	7,300-8,000 ft	Selenium-rich red or gray detrital clay soils derived from the Chinle and Baca formations.	Only one Arizona location; other 28 sites in Sawtooth Mountains and northwestern part of the Datil Mountains in Catron County, New Mexico. Two sites also on the northwest side of the Zuni Mountains in McKinley County, New Mexico.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Roundtail chub	*Gila robusta*	Candidate	Member of the minnow family Cyprinidae and characterized by streamlined body shape. Color usually olive gray with silvery sides and a white belly. Breeding males develop red or orange coloration on the lower half of the cheeks and on the bases of paired fins. Individuals may reach 49.0 cm (19.3 in) but usually average 25-30 cm (9.8 - 11.8 in).	Apache, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pinal, Yavapai	1,000-7,500 ft.	Cool to warm waters of rivers and streams, often occupy the deepest pools and eddies of large streams.	Historical range of roundtail chub included both the upper and lower Colorado River basins. A 2009 status review determined that the lower Colorado River basin roundtail chub population segment (Arizona and New Mexico) qualifies as a distinct vertebrate population segment (DPS). Populations in the Little Colorado, Bill Williams, and Gila River basins are considered candidate species.
Arizona willow	*Salix arizonica*	Conservation Agreement	Woody, perennial shrub reaching up to 8.5 feet tall; grows as a prostrate mat to large hedge or thicket plant; has small, egg-shaped leaves; new branches are yellow-green, previous years branches are bright red.	Apache	> 8,000 ft	Unshaded or partially shaded wet meadows, streamsides and cienegas; typically found in or adjacent to perennial water.	Known in the vicinity of Mount Baldy, on the Apache-Sitgreaves National Forest, and private land. Conservation agreement between the Service, Forest Service, and National Park Service finalized in April 1995.
Gooddings onion	*Allium gooddingii*	Conservation Agreement	Herbaceous perennial plant; broad, flat, rather blunt leaves; flowering stalk 14-18 inches tall, flattened, and narrowly winged toward apex; fruit is broader than long; seeds are short and thick.	Apache, Greenlee, Pima	7,500-11,250 ft	Shaded sites on north-trending drainages, on slopes, or in narrow canyons, within mixed conifer and spruce fir forests.	Known from the White, Santa Catalina, and Chuska Mountains. Also found in New Mexico on the Lincoln and Gila National Forests. A Conservation Agreement between the Service and the Forest Service signed in February 1998.
American peregrine falcon	*Falco peregrinus anatum*	Delisted	A crow-sized falcon with slate blue-gray on the back and wings, and white on the underside; a black head with vertical "bandit's mask" pattern over the eyes; long pointed wings; and a long wailing call made during breeding. Very adept flyers and hunters, reaching diving speeds of 200 mph.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	3,500-9,000 ft	Areas with rocky, steep cliffs, primarily near water, where prey (primarily shorebirds, songbirds, and waterfowl) concentrations are high. Nests are found on ledges of cliffs, and sometimes on man-made structures such as office towers and bridge abutments.	Species recovered with over 1,650 breeding birds in the US and Canada.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Bald eagle	*Haliaeetus leucocephalus*	Delisted	Large, adults have white head and tail. Height 28 to 38 inches; wingspan 66 to 96 inches. Juveniles and subadults are dark brown with varying degrees of white mottling on chest, wings, and head.	Apache, Coconino, Gila, Graham, La Paz, Maricopa, Mohave, Pinal, and Yavapai	Varies	Large trees or cliffs near water (reservoirs, rivers, and streams) with abundant prey.	Nationwide and throughout the State of Arizona, the bald eagle is currently not listed under the Endangered Species Act. On September 30, 2010, the U.S. District Court dissolved an injunction that led to the bald eagle in the Sonoran Desert Area of central Arizona being placed on the Endangered Species list in 2008. This determination is presently (January 2011) under judicial consideration. Bald eagles are protected under the Bald and Golden Eagle Protection Act (Eagle Act) and other Federal and state statutes. The word "disturb" under the Eagle Act was recently clarified, as well as the implementation of new regulations requiring permits to incidentally "take" eagles. Retrieve more information on management and life history at http://SWBEMC.org.

CULTURAL RESOURCES COMPLIANCE FORM
HISTORIC PRESERVATION DEPARTMENT
PO BOX 2898
WINDOW ROCK, ARIZONA 86515

ROUTING:	COPIES TO	NNHPD NO. 93-450
AZ	SHPO	OTHER PROJECT NO.
	ACHP	NNAD-93-153
X	REAL PROPERTY MGT/330	
X	NNAD	

PROJECT TITLE: A Cultural Resources Inventory of Window Rock Airport

LEAD AGENCY: BIA/NAO

SPONSOR: Transportation and Community Planning Department, Navajo Nation Division of Community Development, P. O. Box 2120, Window Rock, Arizona 86515

PROJECT DESCRIPTION: Improvements to the existing Window Rock Airport (non-lighted) taxi-way - Window Rock, Apache County, Arizona.

LAND STATUS: Tribal Trust
CHAPTER: St. Michaels
LOCATION: T26N, R31W, Unplatted Section, Apache County, Arizona

PROJECT ARCHAEOLOGIST: Paige G. Phifer
NAVAJO ANTIQUITIES PERMIT NO.: NTC

DATE INSPECTED: 11/16/92 thru 5/12/93
DATE OF REPORT: 6/24/93
TOTAL ACREAGE INSPECTED: 39.3

METHOD OF INVESTIGATION: Class III pedestrian inventory with transects spaced 15m apart.

LIST OF CULTURAL RESOURCES FOUND: (2) Sites, (1) Isolated Occurrence

LIST OF ELIGIBLE PROPERTIES: AZ-P-24-62

LIST OF NON-ELIGIBLE PROPERTIES: AZ-P-24-63, (1) Isolated Occurrence

LIST OF ARCHAEOLOGICAL RESOURCES: AZ-P-24-62

EFFECT/CONDITIONS OF COMPLIANCE: No effect. AZ-P-24-62 must be avoided by a minimum of 50 ft. (15m). A qualified archaeologist must mark the site boundary prior to construction activities.

At the request of the land-user, the Yei bi Chei site must be marked for avoidance prior to construction activities.

In the event of a discovery ("discovery" means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices), all operations in the immediate vicinity of the discovery must cease and the Navajo Nation Historic Preservation Department must be notified 602-871-7132.

FORM PREPARED BY: Iris S. Begaye
FINALIZED: 10/25/93

Notification to

Proceed Recommended: Yes xx No ____
Conditions: Yes xx No ____

Alan Downer
Navajo Nation Historic
Preservation Officer

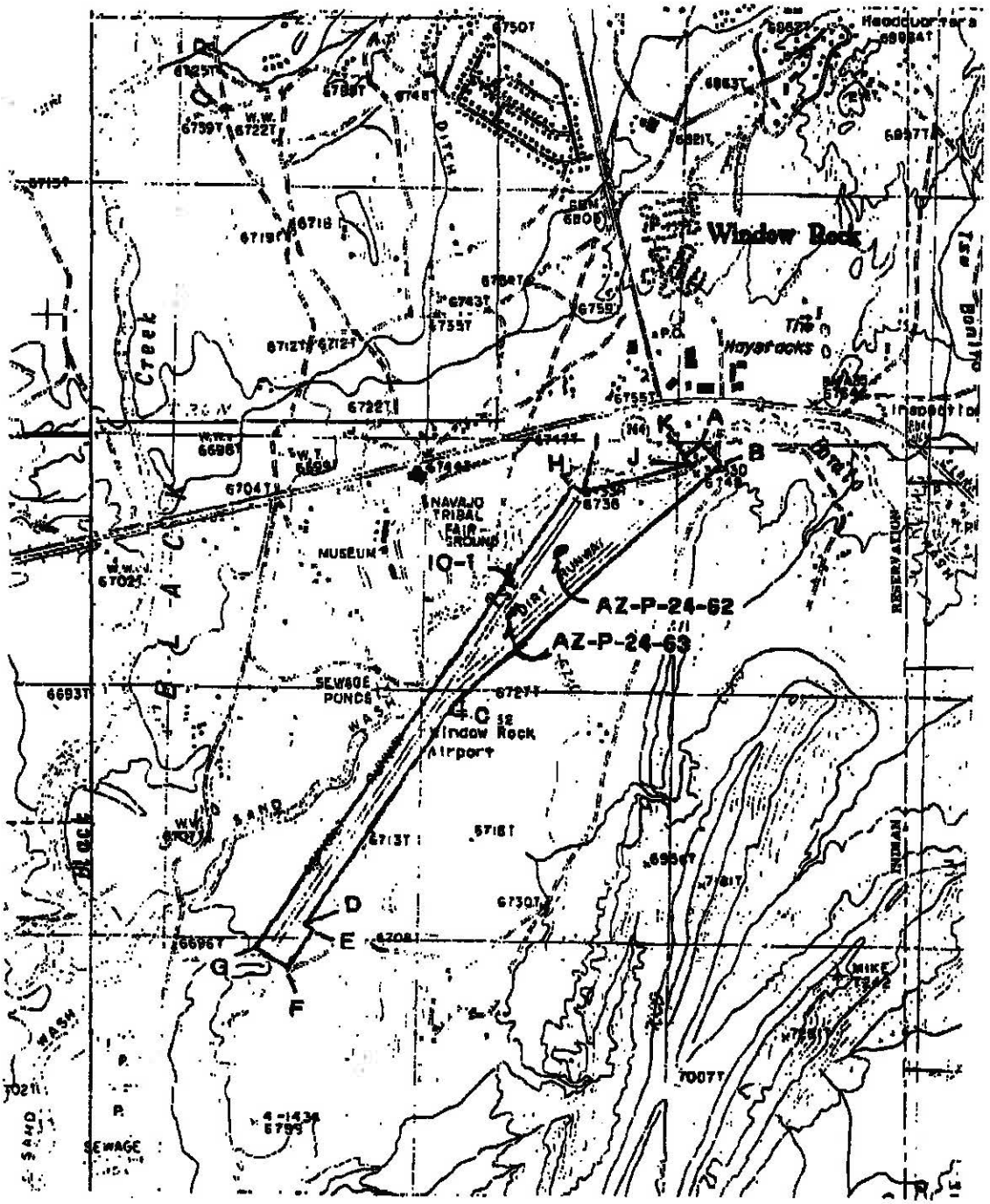
1/3/94
Date

Agency Approval: Yes ✓ No ____

T. R. [illegible]ECONNIC
Area Director

[illegible] 1994
Date

FIGURE 4
Locations of Cultural Resources
U.S.G.S. 7.5' Quadrangle Window Rock, AZ-NM 1983
T 25 N, R 31 W



U.S. Fish and Wildlife Servi

National Wetlands Inventory

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

User Remarks:

Wetlands Window
Rock Airport

Dec 19, 2013

Wetlands

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

Riparian

- Herbaceous
- Forested/Shrub

Riparian Status

- Digital Data