Final

Supplemental Environmental Assessment for The SBI*net* Tucson West Tower Project Nogales and Sonoita Stations' Area of Responsibility U.S. Border Patrol, Tucson Sector

U.S. Department of Homeland Security
U.S. Customs and Border Protection
SBI*net*

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FINDING OF NO SIGNIFICANT IMPACT
Supplemental Environmental Assessment
for the SBI*net* Tucson West Tower Project
Nogales and Sonoita Stations' Area of Responsibility
U.S. Border Patrol, Tucson Sector, Arizona

PROJECT HISTORY: The Secure Border Initiative (SBI) is a comprehensive, multi-year plan established by the Department of Homeland Security (DHS) in November 2005 to secure the United States (U.S.) borders and reduce illegal immigration. The SBI mission is to promote border security strategies that protect against and prevent terrorist attacks and other transnational crimes. Additionally, the SBI initiative will coordinate DHS efforts to ensure the legal entry and exit of people and goods moving across our borders and improve the enforcement of immigration, customs, and agriculture laws at our borders, within the country, and abroad.

SBI*net* is the component of SBI charged with developing and installing technology and attendant tactical infrastructure (TI) solutions to help U.S. Customs and Border Protection (CBP) gain effective control of our Nation's borders. The goal of SBI*net* is to field the most effective, proven technology and response platforms, and integrate them into a single, comprehensive border security system for DHS.

CBP implements the National Border Patrol Strategy with the goal of establishing and maintaining effective control of the borders. The U.S. Border Patrol (USBP) maximizes border security with an appropriate balance of personnel, technology, and infrastructure. Effective control exists when CBP is consistently able to: 1) detect illegal entries in to the U.S. when they occur; 2) identify the entry and classify its level of threat; 3) efficiently and effectively respond to these entries; and, 4) bring each event to an appropriate law enforcement resolution.

This Supplemental Environmental Assessment (SEA) updates the *2008 Environmental Assessment for the Proposed SBInet Tucson West Project Ajo, Tucson, Casa Grande, Nogales, and Sonoita Stations Areas of Operation, U.S. Border Patrol, Tucson Sector, Arizona* which analyzed various aspects of a proposed project that would be carried out under CBP SBI and implemented as a part of the SBI*net* program. The 2008 Environmental Assessment (EA) addressed the potential direct and indirect effects of the proposed construction, upgrade, operation, and maintenance of a system of 54 sensor and communication towers and the construction and improvement of access roads. After completion of the 2008 EA and development of the final laydown for the SBI*net* Tucson West Project, SBI*net* identified the need for three new towers and the modification of some aspects of one tower covered in the 2008 EA.

This SEA was prepared in compliance with provisions of the National Environmental Policy Act (NEPA) of 1969 as amended (42 U.S. Code [U.S.C.] 4321 et seq.), the Council on Environmental Quality's (CEQ) NEPA implementing regulations at 40 Code of Federal Regulations (CFR) Part 1500, and the DHS *Management Directive 023-01, Environmental Planning Program* (71 *Federal Register* [FR] 16790).

The SEA addresses the potential direct and indirect effects, beneficial and adverse, of the proposed construction, operation, and maintenance of three new sensor and communication towers and modification of one previously analyzed sensor tower, proposed construction of new access roads and repair or improvements to existing approach roads associated with construction and operation of the proposed towers within the U.S. Border Patrol, Tucson Sector, Arizona.

PROJECT LOCATION: The affected area for this SEA covers the Nogales and Sonoita Areas of Responsibility (AOR) near Nogales, Arizona and approximately 56 linear miles of U.S. border. All activities included as part of the Proposed Action are within Santa Cruz County.

PURPOSE AND NEED: After further analysis of technical and operational needs, SBI*net* determined that three new towers and modification of one previously analyzed tower were needed to enhance the operational and technical capabilities of the SBI*net* Tucson West Tower Project. Proposed site TCA-NGL-141 was analyzed as an alternate tower site in the 2008 EA; however, after further consideration it was determined the tower was needed to meet operational needs (i.e., the construction of the tower is essential to the SBI*net* Tucson West Tower Project). Proposed tower site TCA-NGL-316 is needed to replace tower site TCA-NGL-048 because a real estate agreement has not been reached at this time with the landowner. Additionally, TCA-SON-314 would replace tower site TCA-SON-055 (analyzed as part of the 2008 EA Proposed Action) to allow for a better viewshed. Modifications to tower site TCA-SON-057 are needed to enhance the spatial coverage of the tower site.

The purpose of this project is to support CBP's mission through enhancing technological capabilities in support of assessing a high frequency and volume of illegal cross border activities over a vast area of the border region. The proposed project described in this SEA would enhance CBP's capability to provide spatially and temporally continuous surveillance across the entire 30,000 square mile area affected by the proposed project.

This supplemental action is needed to:

1) provide more efficient and effective means of assessing border activities;
2) provide rapid detection and accurate characterization of potential threats;
3) provide coordinated deployment of resources in the apprehension of CBVs; and
4) reduce crime in border communities and improve the quality of life and economic vitality of border regions through provision of the tools necessary for effective law enforcement.

ALTERNATIVES: Three alternatives were considered: No Action Alternative, Proposed Action, and Alternative 1. Other alternatives considered but rejected and not further analyzed in this EA were the use of:

- Unmanned aircraft systems;
- Remote sensing satellites;

- Unattended ground sensors;
- Increased CBP workforce; and
- Increased aerial reconnaissance/operations.

Seven tower sites were evaluated for both sensor and communication efficiencies and overall compatibility with the SBI*net* Tucson West Tower Project network design and connectivity. Of the sites evaluated, four sites were eliminated as unsuitable for tower construction due to operational (e.g., area coverage), constructability (e.g., soils, topography), real estate (e.g., rights of entry), and/or technical requirements (e.g., line of sight) that could not be met in a particular location. These sites are summarized along with the reasons for their elimination as proposed tower sites in the table below.

Table 1. Alternate Sites Proposed but Rejected

Tower ID	Station	Reason for Rejection*
TCA-NGL-048	Nogales	RE
TCA-NGL-318	Nogales	RE
TCA-NGL-319	Nogales	RE
TCA-NGL-210	Nogales	T
TCA-NGL-211	Nogales	T
TCA-SON-055	Sonoita	O, T

O—operational, T—technical, C—constructability, RE—real estate

No Action Alternative: The three towers described in this SEA would not be constructed under the No Action Alternative. However, 54 towers analyzed in the 2008 EA would continue to be constructed, upgraded, operated, and maintained within the Ajo, Tucson, Casa Grande, Nogales and Sonoita stations' AORs. Of the proposed 54 towers, 12 are upgrades to existing towers (seven existing CBP towers, one tower located at the new proposed Ajo Station and four existing commercial towers). Impacts resulting from the construction of the 42 new towers and the retrofit/replacement of the 12 existing towers were fully assessed in the 2008 EA; however, upgrades to these existing towers were considered to be environmentally benign due to the fact the areas are currently disturbed and no further ground disturbance would occur. Implementation of the No Action Alternative would not enhance CBP's capability to provide continuous surveillance within the Nogales and Sonoita stations' AORs. The No Action Alternative serves as a baseline against which the impacts of the Proposed Action are evaluated.

Proposed Action Alternative: The Proposed Action includes the construction, operation, and maintenance of three sensor towers (TCA-NGL-141 and 316, and TCA-SON-314), and modification of one previously analyzed sensor tower (TCA-SON-057), construction of new access roads and repair and improvement to existing approach roads associated with construction and operation of the proposed towers.

Proposed site TCA-NGL-141 was analyzed as an alternate tower site in the 2008 EA; however, after further consideration it was determined the tower was needed to meet operational needs (i.e., the construction of the tower is essential to the SBI*net* Tucson West Tower Project). Proposed tower site TCA-NGL-316 is needed to replace tower site TCA-NGL-048 because a real estate agreement has not been reached at this time

with the landowner. Construction of tower site TCA-NGL-316 would also eliminate the need for two originally planned towers (TCA-NGL-210 and 211). Additionally, tower site TCA-SON-314 would replace tower site TCA-NGL-055 (analyzed as part of the 2008 EA Proposed Action) to allow for enhanced spatial coverage. Modifications to tower site TCA-SON-057 are needed to enhance the spatial coverage of the tower site. The Proposed Action would decrease the total number of towers in the SBI*net* Tucson West Tower Project, as described in the 2008 EA, to 53 towers.

In general, a typical tower in the SBI*net* Tucson West Tower Project would:

- be 80 to 100 feet high and would not require guy wires;
- have a footprint up to 100- X 100-foot, including the 50- X 50-foot or 80- X 80-foot tower site and a maintained fire buffer. The fire buffer would be maintained free of vegetation;
- have an equipment shelter with an approximately 10- X 12-foot footprint;
- have perimeter security fencing; and
- use one of two power systems: commercial grid power where available, or a hybrid propane fueled generator-solar system with a 1,000-gallon propane fuel tank.

Two types of tower structures are proposed for this project: self standing towers (SST), and rapidly deployed towers (RDT). RDTs are temporary structures that can be disassembled if necessary.

Access roads would need to be improved or constructed in order to install, operate, and maintain the proposed towers. Two new access roads totaling 531 feet in length would be constructed to provide access to tower sites TCA-NGL-141 and 316. The new access roads would be constructed to provide a 12-foot wide driving surface with 2-foot wide shoulders on each side (total width of 16 feet). Temporary construction impacts may occur up to 20 feet on either side of the new (constructed) road for a total width of 40 feet of temporary impacts. Where possible, construction equipment would stay within the area to be impacted by cut-and-fill or V-ditches. The 20-foot temporary construction area would allow room for the maneuvering of construction equipment. Road repair includes minor grading, leveling, and the installation of V-ditches. Temporary impacts may occur in the 2-foot construction easement along 0.66 mile of repaired roads and 1.32 miles of improved roads.

As part of the Proposed Action, a maintenance crew would visit the tower sites up to twice per month to insure that the equipment is operating smoothly. Propane trucks would fuel those towers, which are not connected to the electrical grid, once per month. This necessitates vehicle travel to each of the proposed tower sites for propane delivery, maintenance, and operations of the towers.

Alternative 1: Alternative 1 is the same as the Proposed Action except TCA-SON-323 would be constructed as an alternate to TCA-SON-314. TCA-SON-314 may be located on property potentially over a mining claim site. If for some reason TCA-SON-314 becomes unavailable because of the mining claim, TCA-SON-323 would be further

reviewed for suitability. A total of three new towers sites, TCA-NGL-141, TCA-NGL-316, and TCA-SON-323, would be constructed and TCA-SON-057 would be modified as part of Alternative 1. Permanent and temporary impacts from road improvement, repair, and construction, would be similar to those under the Proposed Action. However, under Alternative 1, there would be 591 feet of new roads constructed and 1.51 miles of road improved. The length of road to be repaired would be the same as under the Proposed Action (0.66 mile). Temporary impacts may occur up to 20 feet on either side of the new (constructed) road for a total width of 40 feet of temporary impacts along the 591 feet of new road. Temporary impacts may occur in the 2-foot easement along the 0.66 mile of repaired road and the 1.51 miles of improved road.

ENVIRONMENTAL CONSEQUENCES: Implementation of the Proposed Action would permanently disturb 2.34 acres for the construction of the proposed towers and construction, repair and improvement of access and approach roads. Additionally, 1.62 acres would be temporarily disturbed during construction activities for the three new proposed towers and modification of tower TCA-SON-057 and construction, repair and improvement of access and approach roads. No impacts to prime farmland would occur.

No impacts to floodplains from access roads would occur with implementation of the Proposed Action. Additionally, the Proposed Action would have temporary and minor impacts to air, roadways and traffic, groundwater, and surface waters during construction activities. A total of 29 new washes, which are considered waters of the U.S., would be impacted as a result of the Proposed Action. Construction and other road improvements within these washes are authorized under a Nationwide Permit 14. Commercial grid power would not be impacted as a result of the Proposed Action although long-term benefits to socioeconomics could occur. Cultural resources would not be impacted by implementation of the Proposed Action.

One proposed tower site (TCA-SON-314) and its alternate tower site (TCA-SON-323) are located within Mexican spotted owl (*Strix occidentalis lucida)* critical habitat; however the tower sites lack primary constituent elements for nesting, roosting, and foraging habitat. CBP has determined that the proposed project may affect but is not likely to adversely affect the Mexican spotted owl or designated critical habitat.

Tower site TCA-SON-057 is situated upstream of Huachuca water umbel (*Lilaeopsis schaffneriana recurva*) critical habitat. However, no project-related activities would occur directly in suitable or critical water umbel habitat.

There are no known lesser long-nosed bat (*Leptonycteris yerbabuenae*) roosts within the project area, although the project area is foraging habitat for the bat. Agaves were identified at tower sites TCA-SON-314 and TCA-SON-323. Some of these agaves were in areas that would be disturbed. Since there are mitigation measures to salvage and transplant agaves and columnar cacti, or replace larger agaves and columnar cacti within an area to be disturbed at a 2:1 ratio, the proposed project may affect but is not likely to adversely affect the lesser long-nosed bat. The Proposed Action would have a

long-term, indirect beneficial effect on vegetation communities used by Mexican spotted owl and lesser long-nosed bats through the reduction in illegal alien, smuggler, and other cross border violator (CBV) traffic.

Noise generated by heavy construction equipment would be intermittent and last approximately 4 weeks during the excavation and preparation of the foundation to install each tower and construct, repair and improve roads, after which, noise levels would return to ambient levels. The noise impacts from construction activities would be short-term and minor and would not significantly impact the noise environment. Noise emissions from generators and air-conditioning associated with the operation of the proposed tower sites would have a minor, long-term impact to the noise environment. Implementation of the Proposed Action would reduce impacts compared to the Tucson West Tower Project addressed in the original 2008 EA. The overall project footprint would be reduced by 4.13 acres (3.44 acres and 0.69 acres temporary and permanent impacts, respectively) and impacts to three Waters of the U.S. would be avoided by eliminating tower TCA-SON-055.

The proposed project would also result in overall beneficial impacts within the region through a reduction in illegal activities. A decrease in border area crime would be expected from the reduction in illegal activities. No significant adverse effects to the natural or human environment, as defined in 40 CFR Section 1508.27 of the CEQ's Regulations for Implementing NEPA, are expected from implementation of the Proposed Action.

MITIGATION: Mitigation measures are identified for each resource category that could be potentially affected. Many of these measures have been incorporated as standard operating procedures by CBP in similar past projects. Mitigation measures and standard best management practices (BMPs) are also identified in the SEA in Section 5. These mitigation measures and BMPs were included in the 2008 EA.

<u>Project Planning/Design Communication</u>

- CBP will minimize bird perching, nesting, and roosting opportunities on new towers.
- Proposed tower sites are not in or near wetlands, other known bird concentration areas (e.g., state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. If discovered otherwise, mitigations will be implemented.
- CBP will not use guy wires for tower support to reduce the probability of bird and bat collisions.
- CBP will use security lighting for on-ground facilities and equipment that is down-shielded to keep light within the boundaries of the site. Security lights will not shine onto habitat areas at a level greater than 1.5 foot-candles.
- CBP will site, design, and construct towers and appurtenant elements to avoid or minimize habitat loss within and adjacent to the tower "footprint." CBP will

minimize road access and fencing to reduce or prevent habitat fragmentation and disturbance, and to reduce above-ground obstacles to birds in flight.

- Where feasible, CBP will place electric power lines underground or on the surface as insulated, shielded wire to avoid electrocution of birds and bats. CBP will apply recommendations of the Avian Power Line Interaction Committee for any required above-ground lines, transformers, or conductors. CBP will use raptor protective devices on above ground wires.
- CBP will control noxious weeds using U.S. Environmental Protection Agency approved herbicides.
- If rodent populations on the perimeter of the facility are to be controlled, CBP will not use rodenticides.
- CBP will develop a Fire Management Plan as part of tower construction and in coordination with the landowner and/or land management agency.
- Once CBP has determined that towers are no longer needed, CBP will remove them within 12 months. CBP will restore footprints of towers and associated facilities to natural conditions.

Project Planning/Design – General

CBP will use disturbed areas or areas that will be used later in the construction period for staging, parking, and equipment storage.

CBP will properly design and locate roads so the potential for entrapment of surface flows within the roadbed due to grading will be avoided or minimized.

CBP will properly design and locate roads so the widening of existing or created roadbeds beyond the design parameters due to improper maintenance and use will be avoided or minimized.

CBP will properly design and locate roads so the fewest roads needed for Proposed Actions will be constructed to proper standards. In concurrence with the landowners and/or land management agency, once CBP determines that access roads constructed as part of this Proposed Action are no longer needed for the purpose of this project, CBP will close and restore access roads to natural surface and topography using appropriate techniques. The Global Positioning System (GPS) coordinates of roads that are thus closed will be recorded and integrated into the CBP Geographic Information System (GIS) database. A record of acreage or miles of roads taken out of use, restored, and revegetated will be maintained.

CBP will develop and implement a stormwater management plan (SWMP or stormwater pollution prevention plan [SWPPP]). Erosion control measures and appropriate BMPs, as required and promulgated through the SWMP and engineering designs, will be implemented before, during, and after soil disturbing activities. Areas with highly erodible soils will be given special consideration when preparing the SWMP to ensure incorporation of various erosion control techniques such as straw bales, silt fencing,

aggregate materials, wetting compounds, and rehabilitation, where possible, to decrease erosion.

Site, design, and construct towers and their associated facilities, including roads, to avoid or minimize habitat loss within or adjacent to the footprint. Minimize access road and fence construction. Minimize the amount of above-ground obstacles associated with the site.

Site rehabilitation conducted by CBP will include re-vegetating or the distribution of organic and geological materials (i.e., boulders and rocks) over disturbed areas to reduce erosion and also allow the area to naturally vegetate. Native seeds or plants, which are compatible with the enhancement of protected species, will be used to revegetate staging areas and other temporarily disturbed areas. Native seed mix will be reviewed by a qualified botanist as part of project planning. Organic material will be collected and stockpiled during construction to be used for erosion control after construction while tower areas naturally re-vegetate. Materials used for on-site erosion control will be free of non-native plant seeds and other plant parts to limit potential for infestation. Because natural materials cannot be certified as completely weed-free, CBP will follow up with the use of such materials and monitoring of rehabilitated sites for a period of time to be determined in the site restoration plan.

CBP will document any establishment of non-native plants and will implement appropriate control measures.

CBP will ensure that all construction activities adhere to applicable portions of DHS Management Directive 025-01 governing waste management.

A CBP-approved spill protection plan (or SPCCP) will be developed and implemented at construction and maintenance sites to ensure that any toxic substances are properly handled and that escape into the environment is prevented. Agency standard protocols will be used. Drip pans underneath equipment, containment zones used when refueling vehicles or equipment, and other measures are to be included.

CBP will incorporate BMPs relating to project area delineation, water sources, waste management, and site restoration into project planning and implementation for road construction and maintenance.

CBP security lighting at facilities will be designed to minimize light pollution beyond the designated security zone while achieving light levels needed for agent safety and operational purposes. Because directed lighting for security zones can extend ambient light levels well over 900 feet away from the source, the effects of lighting extend beyond the immediate area. Security lights will not shine onto habitat areas at a level greater than 1.5 foot-candles. All lights will be shielded from the top to prevent uplighting.

CBP will develop and implement erosion control measures and appropriate BMPs before, during, and after soil disturbing activities. To protect areas with highly erodible soils, various erosion control techniques such as straw bales, silt fencing, aggregate materials, wetting compounds, and rehabilitation will be used where possible where possible to decrease erosion.

To minimize impacts to natural and cultural resources, a detailed site plan for each tower site and all associated roads (including construction and maintenance access roads and patrol roads) and staging areas will be developed. Site plans will be developed with and approved by the land managers and among other items, it will include dimensions of tower footprint, height of the tower, power source for the tower, level of noise generated by each tower, maintenance schedule of each tower and associated roads, construction schedule, etc. The plans will be included in the description of the Proposed Action of the SEA.

General Construction Activities

CBP will clearly demarcate the perimeter of all areas to be disturbed during construction or maintenance activities using flagging or temporary construction fence, and no disturbance outside that perimeter will be authorized.

CBP will construct and maintain the fewest roads needed, using proper construction standards.

The width of all roads that are created or maintained by CBP will be measured and recorded using GPS coordinates and integrated into the CBP GIS database. Maintenance actions will not increase the width of the 12-foot road bed or the amount of disturbed area beyond the 12-foot road bed.

CBP will obtain materials such as gravel or topsoil from existing developed or previously used sources, not from undisturbed areas adjacent to the project area.

CBP will minimize the areas to be disturbed by limiting deliveries of materials and equipment to only those needed for effective project implementation.

CBP will use water for construction from wells at the discretion of the landowner (depending on water rights). If local groundwater pumping would create adverse effects to aquatic, marsh, or riparian dwelling Federally listed species, treated water from outside the immediate area will be utilized.

CBP will not use surface water from aquatic or marsh habitats for construction purposes if that site supports aquatic Federally listed species or if it contains non-native invasive species or disease vectors and there is any opportunity to contaminate any Federally listed species' habitat through use of the water at the project site.

CBP will not use surface water from untreated sources, including water used for irrigation purposes, for construction or maintenance projects located within 1 mile of

aquatic habitat for Federally listed aquatic species. Groundwater or surface water from a treated municipal source will be used when close to such habitats. This is to prevent the transfer of invasive animals or disease pathogens between habitats if water on the construction site was to reach the Federally listed species habitats.

CBP water tankers that convey untreated surface water will not discard unused water within 2 miles of any aquatic or marsh habitat.

CBP storage tanks containing untreated water will be of a size that if a rainfall event were to occur, the tank (assuming open), will not be overtopped and cause a release of water into the adjacent drainages. Water storage on the project areas will be in on-ground containers located on upland areas, not in washes.

CBP pumps, hoses, tanks and other water storage devices will be cleaned and disinfected with a 10 percent bleach solution at an appropriate facility and before use at another site (this water is not to enter any surface water area). If a new water source is used that is not from a treated or groundwater source, the equipment will require additional cleaning. This is important to kill any residual disease organisms or early life stages of invasive species that may affect local populations of Federally listed species.

CBP will contain nonhazardous waste materials and other discarded materials such as construction waste, until removed from the construction and maintenance sites. This will assist in keeping the project area and surroundings free of litter and reduce the amount of disturbed area needed for waste storage.

To eliminate attracting predators of protected animals, CBP will dispose of all food related trash items such as wrappers, cans, bottles, and food scraps in closed containers and remove them daily from the project site.

Waste water is water used for project purposes that is contaminated with construction materials or from cleaning equipment and thus carries oils or other toxic materials or other contaminants as defined in state regulations. CBP will store waste water in closed containers on site until removed for disposal. Concrete wash water will not be dumped on the ground, but will be collected and moved offsite for disposal. This wash water is toxic to aquatic life.

CBP will minimize the number of vehicles traveling to and from the project site and the number of trips per day to reduce the likelihood of disturbing animals in the area or injuring an animal on the road.

Construction speed limits will not exceed 35 miles per hour (mph) on major unpaved roads (graded with ditches on both sides) and 25 mph on all other unpaved roads. Night time travel speeds will not exceed 25 mph, and may be less based on visibility and other safety considerations. Construction at night will be minimized.

If CBP construction or maintenance activities continue at night, all lights will be shielded to direct light only onto the work site and the area necessary to ensure the safety of the workers. The minimum foot-candles necessary will be used, and the number of lights will be minimized. Any light extending beyond the construction or maintenance area will be no greater than 1.5 foot-candles.

CBP will minimize noise levels for day or night construction and maintenance. All generators will be in baffle boxes (a sound-resistant box that is placed over or around a generator), have an attached muffler, or use other noise-abatement methods in accordance with industry standards.

Soils

Vehicular traffic associated with the tower and access road construction activities and operational support activities will remain on established roads to the maximum extent practicable. Areas with highly erodible soils will be given special consideration when designing the proposed project towers and access roads to ensure incorporation of various erosion control techniques such as, straw bales, silt fencing, aggregate materials, wetting compounds, and rehabilitation, where possible, to decrease erosion. Site rehabilitation will include re-vegetating or the distribution of organic and geological materials (i.e., boulders and rocks) over the disturbed areas to reduce erosion while allowing the areas to naturally vegetate. Additionally, erosion control measures and appropriate BMPs, as required and promulgated through the SWPPP and engineering designs, will be implemented before, during, and after construction activities.

Road repairs or improvements shall avoid, to the greatest extent practicable, creating wind rows with the soils once grading activities are completed. Excess soils from construction activities will be used on-site to raise and shape proposed tower sites and road surfaces.

Vegetation

CBP will use materials free of non-native plant seeds and other plant parts to limit potential for infestation for on-site erosion control in uninfested native habitats. Since natural materials cannot be certified as completely weed-free, if such materials are used, there will be follow-up monitoring to document establishment of non-native plants and appropriate control measures will be implemented for a period of time to be determined in the site restoration plan.

CBP fill material brought in from outside the project area will be identified as to source location and will be weed-free.

CBP will remove invasive plants that appear on the tower sites, and along sections of repaired and new road. Removal will be done in ways that eliminate the entire plant and remove all plant parts to a disposal area. Herbicides will be used, according to label directions, if they are not toxic to Federally listed species that may be in the area.

Training to identify non-native invasive plants will be provided for CBP personnel or contractors as necessary.

CBP will avoid removal of riparian vegetation within 100 feet of aquatic habitats to provide a buffer area to protect the habitat from sedimentation.

Construction equipment will be cleaned at the temporary staging areas, in accordance with BMPs, prior to entering and departing the project corridor to minimize the spread and establishment of non-native invasive plant species.

Wildlife Resources

The Migratory Bird Treaty Act (16 U.S.C. 703-712, [1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989]) requires that Federal agencies coordinate with the U.S. Fish and Wildlife Service (USFWS) if a construction activity would result in the take of a migratory bird. If construction or clearing activities are scheduled during nesting seasons (February 15 through August 31); surveys will be performed to identify active nests. If construction activities result in the take of a migratory bird; then coordination with the USFWS, Federal Aviation Administration (FAA), and Arizona Game and Fish Department (AGFD) will be required and applicable permits would be obtained prior to construction or clearing activities. Another mitigation measure that would be considered is to schedule all construction activities outside nesting seasons negating the requirement for nesting bird surveys. The proposed sensor and communication towers will also comply with USFWS guidelines for reducing fatal bird strikes on communication towers to the greatest extent practicable. Guidelines recommend co-locating new antennae arrays on existing towers whenever possible and to build towers as short as possible, without guy wires or lighting, and use white strobe lights whenever lights are necessary for aviation safety.

CBP will minimize the depth of any pits created so animals do not become trapped.

Protected Species

Several BMPs have been identified to decrease any potential impacts to Federal and state protected species:

- Where a project could be located within 1.0 mile of occupied species habitats but the individuals of the species are not likely to move into the project area, a biological monitor is not needed during construction. However, the construction manager will be aware of the species location and ensure that BMPs designed to minimize habitat impacts are implemented and maintained as planned.
- If an individual of a Federally listed species is found in the designated project area and is in danger of being harmed (e.g., in path of vehicles or foot traffic), work will cease in the area of the species until either a qualified biological monitor can safely remove the individual, or it moves away on its own.

- Individual animals found in the project area in danger of being harmed will be relocated by a CBP biologist to a nearby safe location in accordance with accepted species handling protocols in Federal and state permits.
- Construction equipment will be cleaned prior to entering and departing the project area to minimize the spread and establishment of non-native invasive plant species.
- Soil disturbances in temporary impact areas along roads and staging areas will be re-vegetated with native vegetation from nursery stock or seed.
- Within the designated disturbance area, CBP will limit grading or topsoil removal to areas where this activity is needed to provide the ground conditions for construction or maintenance activities. Minimizing disturbance to soils will enhance the ability to restore the disturbed area after the project is complete. In Pima pineapple cactus habitat, removal of topsoil is a permanent impact.
- CBP will confine vehicular traffic associated with construction activities to established roads (with the exception of new roads being constructed).
- CBP's road maintenance shall avoid making wind rows with the soils once grading activities are completed, and any excess soils will be used on-site to raise and shape the tower site and/or road surface.
- New roads created or improved by CBP will be located such that the potential for road bed erosion into Federally listed species habitat will be avoided or minimized.
- CBP will monitor, provide corrective maintenance, and document excessive use of unimproved roads that results in their deterioration such that it affects the surrounding Federally listed species habitat in the CBP Project Report.
- New access roads to proposed tower sites will avoid routes which cross occupied threatened and endangered aquatic habitats.
- CBP activities occurring in suitable jaguar (*Panthera onca*) habitat will use existing roads to avoid further fragmentation of habitat, avoid constructing physical barriers that are impenetrable by jaguars in potential movement corridors.
- All contractors, work crews (including National Guard and military personnel), and CBP personnel in the field performing construction and maintenance activities will receive training. Training would provide information on the habitat and behavior of the specific sensitive species found in the area, including information on how to avoid impacts to these species resulting from construction and operational activities. It will be the responsibility of the construction project manager(s) to ensure that their personnel are familiar with general BMPs, the specific conservation measures presented here, and other limitations and constraints. In addition, training in identification of non-native invasive plants and animals should be provided for contracted personnel engaged in follow-up monitoring of construction sites.

- Road improvements would not widen any driving surface;
  - The removal of roadside vegetation would be limited to only those portions of plants necessary to allow the passage of vehicles, material, and equipment;
  - All access routes into and out of the disturbance area should be flagged, and no travel outside of those boundaries should be authorized;
  - To the extent practicable, areas already disturbed by past activities or those that will be used later in the construction period should be used for staging, parking, and equipment storage;
  - The perimeter of all areas to be disturbed during construction should be clearly demarcated using flagging, and no disturbance outside that perimeter should be authorized;
  - The area to be disturbed should be minimized by limiting deliveries of materials and equipment to only those needed for effective project implementation;
  - Within the designated disturbance area, grading or topsoil removal should be limited to areas where this activity is needed to provide the ground conditions necessary for construction or maintenance activities;
  - Any vegetation removal outside the actual tower site should be minimized, and vegetation should be removed using hand tools or controlled by mowing; and
- The number of construction vehicles traveling to and from the project site and the number of trips per day will be minimized to reduce the likelihood of disturbing animals in the area or injuring an animal on the road. Construction speed limits should not exceed 35 mph on major unpaved roads (graded with ditches on both sides) and 25 mph on all other unpaved roads. Night-time travel speeds should not exceed 25 mph, or less based on visibility and other safety considerations.

- Transmission of disease vectors and invasive non-native aquatic species can occur if vehicles cross infected or infested streams or other waters and water or mud remains on the vehicle. If these vehicles subsequently cross or enter uninfected or noninfested waters, the disease or invasive species may be introduced to the new area. CBP and its contractors will avoid contact with wetted areas. However, if vehicles or other equipment use will occur in wetted areas west of Interstate 19 (including ponds, impoundments, or ephemeral or permanent streams) that equipment will be a) cleaned of mud and debris and then sprayed with a 10 percent bleach, 70 percent ethanol, or one percent quaternary ammonium solution, or b) allowed to dry completely, before moving to another wetted area. Treatments as just described will not be required for travel along paved routes through the project area, as these routes are heavily traveled by the public and cleaning/sterilization of project vehicles will do little to prevent movement of disease via vehicular travel.

Mexican Spotted Owl - Project Planning/Documentation

- Roads, fences, security zones, surveillance sites, staging areas including tower sites, and other facilities that will require land clearing and will have associated noise and artificial light components will be at least 0.25 mile from any known Protected Activity Center (PAC) or CBP will mitigate (See *Post Construction* below). Firebreaks, fuels reduction, or other improved access for fire suppression will be incorporated, as appropriate in the placement of facilities. Facilities will not be located between nests and important forage areas such that movement between the two is compromised, or CBP will mitigate impacts.
- CBP will avoid new roads in the vicinity of PACs and other important habitat areas to reduce effects of human activity near PACs or CBP will mitigate impacts (see *Post Construction* below). Existing roads used by CBP to access new or existing facilities may need to be closed to other access to protect important owl habitat.

Mexican Spotted Owl - During Construction/Maintenance

- CBP will monitor:

  a) construction activities for towers, new roads, and road improvements, between March 1 and August 31, which are closer than 0.25 mile to an owl PAC. Construction activities will be monitored by a qualified biologist provided by CBP.

  b) Mexican spotted owl PACs where towers and increased human use may potentially affect owls and other areas where tower sites are within or less than 0.25 mile from a PAC.

- CBP will develop an MOU with the landowners and/or land management agencies to conduct spotted owl monitoring. Monitoring will be conducted by an experienced and Federally permitted spotted owl surveyor. All Mexican spotted owl disturbances will be documented in the CBP project reports. Corrective actions will be developed and implemented in coordination with USFWS and landowner and/or land management agencies, if effects are detected.
- CBP may conduct maintenance activities for facilities at any time; however, for major work on roads or fences where a significant amount of equipment will be required, the period of October to April is preferred.

Mexican Spotted Owl – Post Construction

- CBP will monitor affected Mexican spotted owl PACs annually for 3 years (field seasons) from the date construction is completed and towers are fully operational. CBP will develop an MOU with the landowners and/or land management agencies to conduct spotted owl monitoring. Corrective actions should be developed and implemented in coordination with USFWS and landowner and/or land management agencies, if effects are detected. Corrective actions may include road closures, fencing, gating, and/or site restoration. Monitoring will be conducted by an experienced and Federally permitted spotted owl surveyor.

- CBP will provide sufficient funds to close unauthorized roads and restore habitat near affected Mexican spotted owl PACs in conjunction with U.S. Forest Service travel management planning. For every road repaired or created within 0.25 mile of a Mexican spotted owl PAC, CBP will close and/or restore the same length of road. CBP will update maps showing where improved or new roads were completed. CBP will complete a road closure/restoration plan. Mitigation will be completed within 3 years of the completion of construction.

Jaguar - Post Construction

- CBP will complete a road closure/restoration plan for review and approval by landowners and/or land management agencies and USFWS that:
  a) identifies and maps new roads where barriers will be placed to prevent public access,
  b) identifies and maps unauthorized roads near potential jaguar movement corridors,
  c) specifies that USFWS will use jaguar monitoring results to assist CBP in determining which unauthorized roads to close,
  d) specifies potential road closure methods,
  e) specifies potential restoration methods for closed roads,
  f) includes a schedule for closure, and
  g) includes a schedule and content of annual reporting.
- CBP will prevent public access of <u>new roads</u> through gating, physical barriers, fencing, etc., in combination with appropriate signage and in coordination with the landowner and/or land management agencies. CBP will work with the land management agencies to determine the best method to prevent public access on new roads needing barriers. Blocking access will be achieved in a way that does not increase the probability that unauthorized roads will be created nearby.
- CBP will close and/or restore <u>unauthorized roads</u> (if approved by landowner) in or near jaguar movement corridors to help offset the increase in improved or new roads at a ratio of 2:1 (i.e., 2 miles of road closed and/or restored for every 1 mile of road created or repaired). This will require post construction quantification of (a) the number of miles of roads repaired and created, and (b) the area of new and repaired cut and fill. CBP will work with the land management agencies and USFWS to identify unauthorized roads for closure and determine the method most likely to prevent future access. Some road closures will require discing and seeding (using native species), in addition to placement of barriers. Closures will be achieved in a way that does not increase the probability that unauthorized roads will be created nearby.

Lesser long-nosed Bat - Project Planning/Documentation

- CBP roads, fences, security zones, surveillance sites, staging areas including tower sites, and other facilities that will require land clearing and have associated

noise and high intensity artificial light components, will be located at least 1.0 mile from any known roost site or will be mitigated (see *Post Construction* below). The location of the facility will not be located between roosts and known foraging sites such that access between the two is compromised.

- CBP will avoid areas containing columnar cacti (saguaro [*Carnegiea gigantea*], organ pipe [*Stenocereus thurberi*]) or agaves that provide the forage base for the bat or will mitigate effects (see *Post Construction* below).

- During construction or maintenance activities in or within 1.0 mile radius of bat maternity roosts or known summer roosts (or such distance that noise, light, or other effects reach the habitat), a construction monitor with authority to halt construction at any time the appropriate Conservation BMPs are not being properly implemented as agreed to will be present on site.

Lesser long-nosed Bat - During Construction/Maintenance

- Construction activities for towers, new roads, and road improvements that are within 1.0 mile radius of a bat roost and occur between May 1 and September 30 will be monitored by a qualified biologist. In some years, bats may arrive earlier and leave later in the year than the May to September time frame. For maternity roosts this will be March through August. For summer roosts, this will be July through October. Any occurrences and/or disturbances of lesser long-nosed bats will be documented and mitigated (see *Post Construction* below).

- CBP may perform maintenance activities for facilities at any time; however, for major work on roads or fences where significant amount of equipment will be required, the October to April time period is preferred.

- CBP will salvage and transplant agaves if they are less than 18 inches in diameter and columnar cacti less than 6.0 feet tall. Agaves that have flower stalks will not be salvaged/transplanted. A minimum of 12 to 18 inches of agave and cacti roots will be salvaged. Prior to removal, CBP will mark the orientation on each cactus to be transplanted. CBP will transplant columnar cacti in the same orientation they were removed to increase probability of survival. CBP will relocate plants at least 75 feet from the construction limits. CBP will not plant agaves or columnar cacti in active wash channels. Plants will be watered according to site conditions.

- CBP will count agaves and columnar cacti removed for construction and will replace agaves and columnar cacti at a 2:1 ratio (for every plant removed, two will be replaced).

Lesser long-nosed Bat - Post Construction

- CBP will conduct annual bat surveys at bat roosts within 1.0 mile radius of tower sites for 2 years from the date towers are fully operational. CBP will compare results with previous years' surveys. If negative effects of the Proposed Action are documented, CBP will take corrective action (e.g., gating, signing, fencing) and will continue to survey annually until negative effects are no longer detected.

Surveys will be conducted throughout the season by a lesser long-nosed bat expert.

- CBP will monitor roosts within 1.0 mile radius of tower sites for direct or indirect effects of the action for 2 years from the date towers are fully operational. CBP will install Hobo data loggers in lesser long-nosed bat roosts most prone to human use to detect changes in temperature, humidity, etc. CBP will take corrective actions in coordination with USFWS and/or the landowners/land management agencies if such effects are detected. This may include road closures, gating, signing, fencing, etc.

- CBP will conduct a telemetry study to locate bat roosts and foraging areas used by those bats found in the vicinity of towers. This study will be conducted for 5 years when the towers are constructed and are fully operational. If occupied mines or caves are found within a mile of towers, they will be monitored with Hobo™ data loggers. CBP will telemeter 15 bats per year in early August and will track bats through mid October. CBP will telemeter up to five bats at a time; transmitters have a two to three week lifespan. CBP will hire five field biologists to conduct the study. The Patagonia Mountains are covered with hundreds of abandoned mines that may be used by lesser long-nosed bats. Tracking bats telemetered near towers in the Patagonia Mountains will determine where these bats are foraging and roosting. If negative effects are found in foraging or roosting areas as a result of this Proposed Action, CBP will take corrective action. This may include road closures, gating, signing, fencing, etc.

- CBP will conduct monitoring to document and assess tower related mortality of lesser long-nosed bats beginning once tower construction is completed and continuing for 5 years after the towers are fully operational. Monitoring will include systematic lesser long-nosed bat searches and use of radar, GPS, infrared, thermal imagery, and/or acoustical monitoring equipment to assess and verify bat movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems. If lesser long-nosed bat mortality is documented at tower or wind turbine sites, CBP will: a) immediately notify USFWS in writing, b) work with USFWS to develop site-specific measures to reduce that mortality, and c) continue monitoring beyond the 5 years until mortality is no longer occurring. Information gained from monitoring will be used to develop tower retrofits to reduce lesser long-nosed bat mortality, if collisions are documented. CBP will incorporate the bat mortality monitoring associated with the Proposed Action into an annual report for a minimum of 5 years.

- Where improved or new roads may increase human use of bat roosts occupied or potentially occupied by lesser long-nosed bats, CBP will prevent access through gating, fencing, other physical barriers, etc. This includes the State of Texas mine roost. Patagonia Mountains abandoned mines, and other lesser long-nosed bat roosts. Close coordination with USFWS and landowners and/or land management agencies will be necessary, as the design and season of installation is critical to ensure bat gates benefit lesser long-nosed bats.

- CBP will water transplanted agave and columnar cacti if needed and according to site conditions to ensure survival. CBP will monitor annually for survival for 5 years and will replace dead or dying plants.
- CBP will replace agaves and columnar cacti removed for construction at a 2:1 ratio. CBP will work with landowners and/or land management agencies to determine location for replacement plants. CBP will water plants according to site conditions to ensure survival. CBP will monitor annually for survival for 5 years after tower construction is complete and will replace dead or dying plants.

Water Resources

Standard construction procedures will be implemented to minimize potential for erosion and sedimentation during construction. All work shall cease during heavy rains and would not resume until conditions are suitable for the movement of equipment and material. All fuels, waste oils, and solvents will be collected and stored in tanks or drums within secondary containment areas consisting of an impervious floor and bermed sidewalls capable of holding the volume of the largest container stored therein. The refueling of machinery will be completed following accepted guidelines, and all vehicles will have drip pans during storage to contain minor spills and drips. No refueling or storage will take place within 100 feet of drainages.

A Construction Stormwater General Permit will be obtained prior to construction, and this would require approval of a site-specific SWPPP and Notice of Intent (NOI). A site-specific SPCCP will also be in place prior to the start of construction. Other environmental design measures will be implemented such as straw bales, silt fencing, aggregate materials, wetting compounds, and re-vegetation with native plant species, where possible, to decrease erosion and sedimentation.

Prior to the start of construction activities, the construction contractor will review the most up-to-date version of the Arizona Department of Environmental Quality 305(b) and 303(d) report. Additionally, road repair or improvement activities in wash or drainage crossings will not impede the flow of affected water courses.

CBP will remove animal waste from areas where horses are housed.

Cultural Resources

Should any archaeological artifacts be found during construction, the appropriate land management archaeologist will be notified immediately. All work will cease in the area until an evaluation of the discovery is made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values.

Air Quality

Mitigation measures will be incorporated to ensure that fugitive dust and other air quality constituents emission levels do not rise above the minimum threshold as required per 40 CFR 51.853(b)(1). Measures will include dust suppression methods such as road

watering to minimize airborne particulate matter created during construction activities. Standard construction BMPs such as routine watering of the construction site as well as access roads to the site will be used in limiting fugitive dust, particulate matter, and potential particulate matter measuring less than 10 microns emissions during the construction phase of the proposed project. Additionally, all construction equipment and vehicles will be required to be maintained in good operating condition to minimize exhaust emissions.

Noise

During tower construction periods, short-term noise impacts are anticipated. All applicable Occupational Safety and Health Administration regulations and requirements will be followed. On-site activities would be restricted to daylight hours to the greatest extent practicable although night-time construction could occur if the construction schedule requires it. Construction equipment will possess properly working mufflers and would be kept properly tuned to reduce backfires. Implementation of these measures will reduce the expected short-term noise impacts to an insignificant level in and around tower construction sites.

Hazardous materials

BMPs will be implemented as standard operating procedures during all construction activities, and will include proper handling, storage, and/or disposal of hazardous and/or regulated materials. To minimize potential impacts from hazardous and regulated materials, all fuels, waste oils and solvents will be collected and stored in tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein. The refueling of machinery will be completed in accordance with applicable industry and regulatory guidelines, and all vehicles will have drip pans during storage to contain minor spills and drips. Although it is unlikely that a major spill would occur, any spill of reportable quantities will be contained immediately within an earthen dike, and the application of an absorbent (e.g., granular, pillow, sock, etc.) will be used to absorb and contain the spill. To ensure oil pollution prevention, a SPCCP will be in place prior to the start of construction activities and all personnel will be briefed on the implementation and responsibilities of this plan. All spills will be reported to the designated CBP point of contact for the project. Furthermore, a spill of any petroleum liquids (e.g., fuel) or material listed in 40 CFR 302 Table 302.4 of a reportable quantity must be cleaned up and reported to the appropriate Federal and state agencies.

All waste oil and solvents will be recycled. All non-recyclable hazardous and regulated wastes will be collected, characterized, labeled, stored, transported, and disposed of in accordance with all applicable Federal, state, and local regulations, including proper waste manifesting procedures.

Solid waste receptacles will be maintained at construction staging areas. Non-hazardous solid waste (trash and waste construction materials) will be collected and deposited in on-

site receptacles. Solid waste will be collected and disposed of by a local waste disposal contractor.

Contamination of ground and surface waters will be avoided by storing concrete wash water, and any water that has been contaminated with construction materials, oils, equipment residue, etc., in closed containers on-site until removed for disposal. This wash water is toxic to wildlife. Storage tanks will have proper air space (to avoid rainfall-induced overtopping), be on-ground containers, and be located in upland areas instead of washes.

Disposal of used batteries or other small quantities of hazardous waste will be handled, managed, maintained, stored, and disposed of in accordance with applicable Federal and state rules and regulations for the management, storage, and disposal of hazardous materials, hazardous waste and universal waste. Additionally, to the extent practicable, all batteries will be recycled, locally.

Where handling of hazardous and regulated materials does occur, CBP will collect and store all fuels, waste oils and solvents in clearly labeled tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein.

FINDING: Based upon the analyses of the EA and the mitigation measures to be incorporated as part of the Proposed Action, it has been concluded that the Proposed Action will not result in any significant effects to the environment. Therefore, no further environmental impact analysis is warranted.

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Chief
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Office of Border Patrol

4-9-10
Date

Gregory Giddens
Executive Director
Facilities Management and Engineering
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5/3/10
Date

FINAL

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT FOR THE SBI*net* TUCSON WEST TOWER PROJECT NOGALES AND SONOITA STATIONS' AREA OF RESPONSIBILITY U.S. BORDER PATROL, TUCSON SECTOR

June 2010

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EXECUTIVE SUMMARY

INTRODUCTION

The Secure Border Initiative (SBI) is a comprehensive, multi-year plan established by the Department of Homeland Security (DHS) in November 2005 to secure the United States (U.S.) borders and reduce illegal immigration. The SBI mission is to promote border security strategies that protect against and prevent terrorist attacks and other transnational crimes. Additionally, SBI will coordinate DHS efforts to ensure the legal entry and exit of people and goods moving across our borders and improve the enforcement of immigration, customs, and agriculture laws at U.S. borders, within the country, and abroad.

SBI*net* is the component of SBI charged with developing and installing technology and attendant tactical infrastructure (TI) solutions to help U.S. Customs and Border Protection (CBP) gain effective control of our Nation's borders. The goal of SBI*net* is to field the most effective, proven technology and response platforms, and integrate them into a single, comprehensive border security system for DHS.

CBP implements the National Border patrol Strategy with the goal of establishing and maintaining effective control of the borders. The U.S. Border Patrol (USBP) maximizes border security with an appropriate balance of personnel, technology, and infrastructure. Effective control exists when CBP is consistently able to: 1) detect illegal entries in to the U.S. when they occur; 2) identify the entry and classify its level of threat; 3) efficiently and effectively respond to these entries; and, 4) bring each event to an appropriate law enforcement resolution.

This Supplemental Environmental Assessment (SEA) supplements the SBI*net*'s 2008 *Environmental Assessment for the Proposed SBInet Tucson West Project Ajo, Tucson, Casa Grande, Nogales, and Sonoita Stations Areas of Operation, U.S. Border Patrol,*

Tucson Sector, Arizona, which analyzed various aspects of a proposed project that would be carried out under the CBP SBI and be implemented as a part of the SBI*net* program. The 2008 EA addressed the potential direct and indirect effects of the proposed construction, installation, operation, and maintenance of a system of 54 sensor and communication towers and the construction and improvement of access roads. After completion of the 2008 Environmental Assessment (EA) and development of the final laydown for the SBI*net* Tucson West Project, SBI*net* identified the need for three new towers and the modification of some aspects of one tower covered in the 2008 EA.

PURPOSE AND NEED

The purpose of the proposed project is to improve CBP's efficiency and probability of detection, identification, and apprehension of cross border violators (CBVs). Achieving effective control of the borders of the U.S is a key mission of CBP. The objective of this SBI*net* project is to maximize surveillance along approximately 56 linear miles of U.S. border within the Tucson Sector's Nogales and Sonoita Stations' Areas of Responsibility (AOR).

This SBI*net* Tucson West Tower Project is needed to:

1) provide more efficient and effective means of assessing border activities;
2) provide rapid detection and accurate characterization of potential threats;
3) provide coordinated deployment of resources in the apprehension of CBVs; and
4) reduce crime in border communities and improve the quality of life and economic vitality of border regions through provision of the tools necessary for effective law enforcement.

DESCRIPTION OF PROPOSED ACTION

The Proposed Action includes the construction, operation, and maintenance of three new sensor towers (TCA-NGL-141 and 316, and TCA-SON-314) and modification of one previously analyzed sensor tower (TCA-SON-057), which creates a communications network in support of the SBI*net* Tucson West common operating picture (COP) among components of CBP and other Federal, state, and local partners outside CBP. Construction of these towers would eliminate the need for two originally planned towers (TCA-NGL-210 and 211). The Proposed Action would decrease the total number of towers in the SBI*net* Tucson West Tower Project, as described in the 2008 EA, to 53 towers. TCA-SON-057 was originally analyzed in the 2008 EA as a 80-foot rapidly deployed tower with a permanent impact footprint of 50- X 50-foot. After further technical and operational analyses, the proposed tower for site SON-057 would require construction of a 100-foot self standing tower with a permanent impact footprint of 80- X 80-foot. The Proposed Action also includes the construction of new access roads and repair or improvement to existing approach roads associated with construction and operation of the proposed towers. Maintenance of associated access roads and approach roads is also included as part of the Proposed Action. Information gathered from the proposed towers would further contribute to the comprehensive operability of the SBI*net* Tucson West COP. The SBI*net* Tucson West COP would also provide mechanisms to communicate comprehensive situational awareness, including information to incorporate intelligence-driven capabilities at all operational levels and locations. Two alternate tower sites, TCA-NGL-318 and 319, were reviewed as alternates to TCA-NGL-316 but were not included as part of the analysis because CBP could not obtain rights of entries from the landowners to access their properties.

The Proposed Action described in this SEA represents CBP's plan to develop the right combination of technology, infrastructure, transportation assets, and deployment of CBP personnel to enhance the SBI*net* Tucson West Tower Project and to achieve effective control of 56 miles of border in the Tucson Sector.

PROPOSED ACTION AND ALTERNATIVES CONSIDERED

There are three alternatives analyzed: 1) No Action Alternative; 2) Proposed Action, which is described above; and 3) Alternative 1.

Under the No Action Alternative the three new towers would not be constructed and the Tower TCA-SON-057 would not be modified; however, the 54 towers analyzed in the 2008 EA would continue to be constructed, upgraded, operated, and maintained within the Ajo, Tucson, Casa Grande, Nogales and Sonoita stations' AORs. Of the proposed 54 towers, 12 are upgrades to existing towers (seven existing CBP towers, one tower located at the new proposed Ajo Station and four existing commercial towers). Impacts resulting from the construction of the 42 new towers and the retrofit/replacement of the 12 existing towers were fully assessed in the 2008 EA; however, upgrades to the existing towers were considered to be environmentally benign due to the fact the areas are currently disturbed and no further ground disturbance would occur. Under the No Action Alternative, none of the proposed three new sensor towers would be constructed or the previously analyzed sensor towers modified, and the stated purpose and need of the supplemental action would not be satisfied. The No Action Alternative serves as a baseline against which the impacts of the Proposed Action are evaluated.

Alternative 1 is the same as the Proposed Action except TCA-SON-323 would be constructed as an alternate to TCA-SON-314. TCA-SON-314 may be potentially located on property over a mining claim site. If for some reason TCA-SON-314 becomes unavailable because of the mining claim, TCA-SON-323 would be further reviewed for suitability. A total of three new towers sites, TCA-NGL-141, TCA-NGL-316, and TCA-SON-323, would be constructed and TCA-SON-057 would be modified as part of Alternative 1.

AFFECTED ENVIRONMENT AND CONSEQUENCES

Implementation of the Proposed Action or the Alternative 1 would permanently disturb 2.34 or 2.64 acres, respectively, for the construction of all towers and roads. Additionally, 1.62 or 1.76 acres would be temporarily disturbed during construction activities for all proposed towers and new access roads, approach road repair or improvement, and road maintenance as part of the Proposed Action or Alternative 1, respectively. However, no impacts to prime farmland would occur.

One of the proposed tower sites (TCA-SON-314) and one alternate site (TCA-SON-323), are located on Coronado National Forest (CNF) lands which are all undeveloped lands used primarily for recreational and educational purposes. Proposed tower sites TCA-NGL-141 and 316 are located on private and Arizona State Lands, respectively.

Under the Proposed Action, aesthetic resources within the region would be permanently impacted. These resources are currently impacted by existing structures, or are in remote areas. The installation of towers would detract from the aesthetic resources of the project area. Infrastructure components would be located primarily within undeveloped areas, the majority of which are located adjacent to or within CNF. Alternative 1 would result in impacts similar to those described for the Proposed Action.

Direct effects of the Proposed Action on Federally listed species include degradation or potential loss of habitat as a result of construction and operation of the proposed tower sites. Additionally, insignificant direct effects to Federally listed species would occur from electromagnetic fields associated with operation of radars. Most of these effects would be avoided or substantially minimized through the implementation of best management practices (BMP) and other conservation measures such as the training of construction project managers, use of biological monitors, avoidance of disturbance in sensitive habitats or during breeding seasons, and efforts to minimize the spread of invasive species. Indirect effects resulting from the project would be limited to changes in CBV, illegal alien (IA), and smuggler activity and subsequent CBP interdiction and

apprehension efforts. The Proposed Action would allow CBP to identify CBV, IA, and smuggler activities closer to the U.S./Mexico and thus conduct focused interdiction activities. Thus, the Proposed Action would have an indirect beneficial effect as a result of decreasing illegal cross border traffic and decreasing the consequent CBP enforcement footprint. The decreased enforcement footprint would reduce habitat degradation north of the U.S./Mexico border. Alternative 1 would have similar impacts on Federally listed species.

The implementation of the Proposed Action or Alternative 1 would not significantly impact floodplains in the region. During site surveys, a total of 29 waters of the U.S. (WUS) were observed crossing either the access or approach roads associated with the three proposed tower sites. Tower construction and repair activities within the potential WUS would be authorized under Nationwide Permit 14. Additionally, the Proposed Action would have minor short-term impacts to air quality and roadways and traffic, during tower construction. The Proposed Action would result in 2.34 acres of permanent and 1.62 acres of temporary impacts on vegetation and soils in the project area and Alternative 1 would result in approximately 2.64 acres of permanent and 1.76 acres of temporary impacts on vegetation and soils in the project area. Increased noise emissions associated with the construction, operation and maintenance of the proposed towers and construction, repair, or maintenance of associated access roads would have a temporary moderate impact on nearby CNF lands and a moderate impact on wildlife, including migratory birds. No utilities would be significantly impacted as a result of the Proposed Action or the Alternative 1, although long-term benefits to socioeconomics could occur.

No previously recorded cultural resources sites are located within the area of potential effect of the proposed towers. Two new archaeological sites located within the project area, AZ EE:9:260(Arizona State Museum [ASM]) and AZ EE:10:181(ASM), were identified as part of this project and are not considered eligible for the National Register of Historic Places and are not considered significant. As a result, no adverse impacts on cultural resources are anticipated.

Beneficial impacts in the form of increased knowledge of the past are realized as a result of surveys conducted as part of this SEA. Additionally, both previously recorded and unidentified cultural resource sites located within the project area and regionally would receive increased protection from disturbance through the deterrence of illegal alien foot and vehicle traffic moving through surrounding areas. Impacts on cultural resources under the Alternative 1 would be similar to those under the Proposed Action.

No significant adverse effects to the natural or human environment, as defined in 40 Code of Federal Regulations Section 1508.27 of the Council on Environmental Quality's Regulations for Implementing National Environmental Policy Act, are expected from implementation of the Proposed Action. The proposed project would also result in overall beneficial impacts within the region through a reduction in illegal activities. A decrease in border area crime would be expected from the reduction in illegal activities.

Implementation of the Proposed Action would reduce impacts compared to the Tucson West Tower Project addressed in the original 2008 EA. The overall project footprint would be reduced by 4.13 acres (3.44 acres and 0.69 acres temporary and permanent impacts, respectively) and impacts to three Waters of the U.S. would be avoided by eliminating tower TCA-SON-055.

FINDINGS AND CONCLUSIONS

Based upon the analyses of this SEA and the environmental design and mitigation measures to be implemented, the Proposed Action would not have a significant effect on the environment. Therefore, no additional environmental evaluation is warranted.

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SECTION 1.0
BACKGROUND

1.0 BACKGROUND

1.1 INTRODUCTION

This Supplemental Environmental Assessment (SEA) updates the Secure Border Initiative (SBI) *Environmental Assessment for the Proposed SBInet Tucson West Project Ajo, Tucson, Casa Grande, Nogales, and Sonoita Stations Areas of Operation, U.S. Border Patrol, Tucson Sector, Arizona* (CBP 2008a), which analyzed various aspects of a proposed project that would be carried out under the United States (U.S.) Customs and Border Protection (CBP) SBI and implemented as a part of the SBI*net* program. The 2008 Environmental Assessment (EA) addressed the potential direct and indirect effects of the proposed construction, installation, operation, and maintenance of a system of 54 sensor and communication towers and the construction and improvement of access roads. After completion of the 2008 EA and development of the final laydown for the SBI*net* Tucson West Project, SBI*net* identified the need for three new towers and the modification of some aspects of one tower covered in the 2008 EA. This SEA includes the construction, operation and maintenance of three sensor towers; construction of approximately 591 feet of new access roads; approximately 3,329 feet of road improvements; and approximately 3,465 feet of road repairs within the U.S. Border Patrol (USBP) Nogales and Sonoita Stations' Areas of Responsibility (AOR) in south central Arizona (Figure 1-1). Additionally, one tower (TCA-SON-057), addressed in the 2008 EA, would be modified from 80 feet to 100 feet in height and the permanent impact would increase from 50- X 50-foot to 80- X 80-foot. The tower type would change from a rapidly deployed tower (RDT) to a self standing tower (SST).

This SEA was prepared in compliance with provisions of the National Environmental Policy Act (NEPA) of 1969 as amended (40 U.S. Code [U.S.C.]. 4321 *et seq*.), the Council on Environmental Quality's (CEQ) NEPA implementing regulations at 40 Code of Federal Regulations (CFR) Part 1500, and the U.S. Department of Homeland

Figure 1-1: Vicinity Map

Security's (DHS) *Environmental Planning Management Directive* 023-1 (71 *Federal Register* [FR] 16790).

Consistent with 40 CFR 1508.28, this SEA analyzes direct and indirect site-specific and cumulative environmental impacts of the proposed project. The affected area for this SEA covers approximately 113 square miles of south central Arizona in the Nogales and Sonoita stations' AORs. In connection with earlier border infrastructure projects, much of this area and similar actions were analyzed in previous NEPA documents prepared by CBP and the legacy Immigration and Naturalization Service (INS). Accordingly, this SEA tiers from a July 2001 INS and Joint Task Force-Six (JTF-6) NEPA document entitled, *Supplemental Programmatic Environmental Impact Statement, INS and JTF-6 Activities on the Southwest U.S.-Mexico Border* (INS and JTF-6 2001) and the Programmatic *Environmental Assessment for the Proposed Installation and Operation of Remote Video Surveillance Systems in the Western Region of Immigration and Naturalization Service* (INS 2003). Where the SEA incorporates previously documented information, the appropriate NEPA document is cited and the incorporated content is summarized in this SEA, such as from the 2008 CBP EA. Where previous NEPA documents do not provide sufficient information for the analysis required in this SEA, new surveys for sensitive resources and characterization of tower sites were completed and this information is included in this SEA.

USBP Tucson Sector provides law enforcement support for the Arizona counties of Maricopa, Pima, Santa Cruz, Pinal, and Cochise. The Nogales and Sonoita stations would be affected by the proposed project. CBP proposes to design, develop, and deploy technology-based solutions to decrease illegal cross border activities and deter and detect illegal entries in the Nogales and Sonoita stations' AOR. This project would support the CBP's mission by strengthening National security between ports of entry (POE) to prevent illegal entry of illegal aliens (IAs), smugglers, and other cross border violators (CBV) into the U.S.

The SBI*net* project described and analyzed in this SEA is anticipated to achieve CBP operational requirements and CBP's mission of improving land border security. This SEA describes the project goals that SBI*net* is required to support and analyzes the potential environmental impacts of the proposed tower construction, installation, operation, and maintenance of its component structures and facilities.

1.1.1 Program Background

The U.S. experiences substantial cross border traffic of IAs, illegal drugs, and other contraband every year. Along with other societal costs, these illegal activities cost U.S. citizens billions of dollars annually; directly from criminal activities, including the costs of apprehension, detention, and incarceration of criminals and indirectly by loss of property, illegal participation in government programs, and increased insurance costs. The program background was described in the 2008 EA and is incorporated herein by reference (CBP 2008a).

1.1.2 Legislative Background

Among its many functions, DHS is charged with enforcing the Immigration and Naturalization Act, which includes the authority and duty to control and guard the boundaries and borders of the U.S. against the illegal entry of aliens (8 U.S.C. 1103). Pursuant to Section 1502 of the Homeland Security Act, and the President's reorganization plan of January 30, 2003, established CBP, which has responsibility for the resources and missions of the legacy Customs Service and USBP relating to borders and POEs. CBP's core mission is to defend U.S. borders against all threats while facilitating legitimate trade and travel. The legislative background of DHS and CBP was described in the 2008 EA and is incorporated herein by reference (CBP 2008a).

1.2 PURPOSE AND NEED

After further analysis of technical and operational needs, SBI*net* determined that three new towers and modification of one previously analyzed tower were needed to enhance

the operational and technical capabilities of the SBI*net* Tucson West Tower Project (i.e., the construction of the towers are essential to the SBI*net* Tucson West Tower Project). Proposed tower site TCA-NGL-141 would provide spatial coverage for areas east of Nogales, Arizona. Proposed tower site TCA-NGL-316 is needed to replace tower site TCA-NGL-048 because a real estate agreement has not been reached at this time with the landowner. Construction of tower site TCA-NGL-316 would also eliminate the need for two towers (TCA-NGL-210 and 211). Additionally, tower site TCA-SON-314 would replace tower site TCA-NGL-055 (analyzed as part of the 2008 EA Proposed Action) to enhance tower effectiveness. Modifications to tower site TCA-SON-057 are needed to enhance the effectiveness of the tower site.

The purpose of this project is to support CBP's mission through enhancing technological capabilities in support of assessing a high frequency and volume of illegal activities over a vast area of the border region. The proposed project described in this SEA would enhance CBP's capability to provide surveillance within the Nogales and Sonoita stations' AORs encompassed by the proposed Tucson West Tower Project.

This supplemental action is needed to:

1) provide more efficient and effective means of assessing border activities;
2) provide rapid detection and accurate characterization of potential threats;
3) provide coordinated deployment of resources in the apprehension of CBVs; and
4) reduce crime in border communities and improve the quality of life and economic vitality of border regions through provision of tools necessary for effective law enforcement.

1.3 PUBLIC INVOLVEMENT

1.3.1 Public Review

SBI*net* initiated public involvement and scoping activities as directed by 40 CFR Section 1501.7, 1503, and 1506.6 to identify any significant environmental issues related to this proposed project. This process began in June 2007 through the issuance of 47 agency

coordination letters to Federal, state and local agencies and Indian tribes, inviting their participation and input regarding the SBI*net* tower projects in the Tucson Sector's AOR (Appendix A).

A public scoping meeting was held on July 17, 2007, in Tucson to present and discuss plans for this proposed project and to explain how this action would be analyzed in the original 2008 EA. Members of the public in attendance were invited to provide comments and questions about the proposed project after the presentation.

The 2008 EA was released for 30-day public comment period. During the 30-day public comment period, 24 letters and emails were received: four from Federal agencies, two from state agencies, four from non-governmental organizations, and 14 from private citizens. Comments were addressed and revisions were made to the document.

The draft SEA and draft Finding of No Significant Impact (FONSI) were released to the public and Federal, state, and local agencies for 30-day public review and comment period on November 20, 2009 and comments were received until December 21, 2009. The Notice of Availability (NOA) announcing the availability of the draft SEA and draft FONSI for public review and comments was published in the *Arizona Daily Star*, *Nogales International*, and *Sierra Vista Herald* newspapers. Proof of Publication of the NOA is provided in Appendix A. Three comment letters, one from Arizona Department of Environmental Quality, one from the White Mountain Apache Tribe, and one from the National Optical Astronomy Observatory were received. The comment letter received from the National Optical Astronomy Observatory was the same letter submitted for the 2008 EA. These letters, as well as responses to these letters, are provided in Appendix A. The final SEA and FONSI will be released to the public.

1.3.2 Agency Coordination

Coordination and consultation with stakeholder agencies and other potentially affected parties occurred at the initial preparation stages of this SEA. This began, for the original Tucson West EA, in June 2007 through the issuance of agency coordination letters to

potentially affected Federal, state, and local agencies and Indian tribes, inviting their participation and input regarding the proposed project. Six responses were received. In May 2009, nine agency coordination letters specifically addressing the three proposed SBI*net* Tucson Tower Project towers and one alternate tower were issued to potentially affected Federal, state, and local agencies and Indian tribes, inviting their participation and input regarding this supplemental project. Two responses to the May 2009 coordination letters were received by SBI*net*. Copies of correspondence generated during the preparation of this Supplemental EA are presented in Appendix A. Formal and informal coordination was conducted and is on-going with the following agencies:

- U.S. Department of the Interior (DOI)
  - Bureau of Land Management (BLM)
  - U.S. Fish and Wildlife Service (USFWS)
- U.S. Environmental Protection Agency (USEPA)
- U.S. Department of Agriculture (USDA)
  - Natural Resource Conservation Service (NRCS)
  - U.S. Forest Service (USFS)
- U.S. Section, International Boundary and Water Commission (USIBWC)
- U.S. Army Corps of Engineers (USACE)
- Arizona State Trust Land (ASTL)
- Arizona Game and Fish Department (AGFD)
- Arizona State Historic Preservation Officer (SHPO)
- Arizona Department of Environmental Quality (ADEQ)
- Arizona Department of Transportation (ADOT)

1.4 COOPERATING AGENCIES

USDA and DOI are cooperating agencies on SBI projects including the SBI*net* proposed project in this SEA. A Memorandum of Understanding (MOU) was entered into in March 2006 between USDA, DOI, and CBP. The MOU outlines the cooperative efforts between all USDA and DOI agencies acting as land managers and/or with operations in the southwest border region when planning and negotiating project details to best meet each agency's goals and objectives. Further, a Memorandum of Agreement, entered into in January 2008 between CBP and DOI for SBI, formalized the commitment among CBP and DOI projects to coordinate the review of projects subject to NEPA and CEQ regulations implementing NEPA.

1.5 FRAMEWORK FOR ANALYSIS

The framework for analysis was discussed in detail in the 2008 EA and is incorporated herein by reference (CBP 2008a). This SEA was prepared in accordance with provisions of the NEPA of 1969 as amended (40 U.S.C. 4321 *et seq*.), CEQ's NEPA implementing regulations in 40 CFR Part 1500, and the DHS *Environmental Planning Management Directive 023-1 (previously numbered 5100.1)*.

SECTION 2.0
PROPOSED ACTION AND ALTERNATIVES

2.0 PROPOSED ACTION AND ALTERNATIVES

Two alternatives to the Proposed Action were identified and considered during the planning stages of the proposed project, Alternative 1 and No Action alternatives. The following paragraphs describe the alternative selection process and the Proposed Action and alternatives considered.

2.1 ALTERNATIVES AND ALTERNATIVES SELECTION

The alternative selection process was discussed in detail in the 2008 EA and is incorporated herein by reference (CBP 2008a). As the proponent agency preparing this SEA, CBP developed a range of alternatives with consideration of the purpose and need outlined above and of the potential effects to the environment. The purpose of this project is to support CBP's mission through enhancing technological capabilities in support of assessing a high frequency and volume of illegal activities over a vast area of the border region. CBP considered various technological systems and equipment capable of providing continuous surveillance across the entire 30,000 square mile area affected area of the SBI*net* Tucson West Tower Project. The No Action Alternative, described in Section 2.5, is assessed as required by NEPA and CEQ regulations.

2.2 CRITERIA FOR TOWER SITE SELECTION

Criteria for the selection of tower sites were discussed in detail in the 2008 EA and that discussion is incorporated herein by reference (CBP 2008a). Briefly, the sensor and communication tower site selection process identifies potential suitable site locations and their alternatives. Key tower site evaluation considerations take into account constructability, operability, and environmental factors.

After further analysis of technical and operational needs, SBI*net* determined that three new towers and modification of one previously analyzed tower were needed to enhance the operational and technical capabilities of the SBI*net* Tucson West Tower Project. Each of these proposed towers was fully evaluated in terms of the purpose and need, as well as costs, operability, and potential impacts to the environment. The location of each tower is provided in (Figure 2-1). TCA-NGL-141 was analyzed as an alternate tower site in the 2008 EA; however, after further consideration it was determined the tower was needed to meet operational needs and is included in this SEA. TCA-NGL-048 was analyzed in the 2008 EA but would be replaced with TCA-NGL-316 as part of the Proposed Action discussed in this SEA, because a real estate agreement for tower site TCA-NGL-048 has not been reached at this time with the landowner. Construction of TCA-NGL-316 would also eliminate the need for tower sites TCA-NGL-210 and 211 (analyzed as part of the 2008 EA Proposed Action). Proposed tower site TCA-SON-314 is analyzed as part of the Proposed Action; this tower site would replace TCA-SON-055 (analyzed as part of the 2008 EA Proposed Action) to allow for better sensor performance. TCA-SON-323 is an alternate to TCA-SON-314 and is discussed under Alternative 1 in this SEA. TCA-SON-057 was discussed in the 2008 EA and the type of tower and permanent footprint of the tower would be modified as part of the Proposed Action or Alternative 1 of this SEA. Modifications are needed to enhance the sensor efficiency of TCA-SON-057.

Seven tower sites were evaluated for both sensor and communication efficiencies and overall compatibility with the SBI*net* Tucson West Tower Project network design and connectivity. Of the sites evaluated, four sites were eliminated as unsuitable for tower construction due to operational (e.g., area coverage), constructability (e.g., soils, topography), real estate (e.g., rights of entry), and/or technical requirements (e.g., sensor performance) that could not be met in a particular location. These sites are summarized in Table 2-1 with the reasons for their elimination as proposed tower sites.

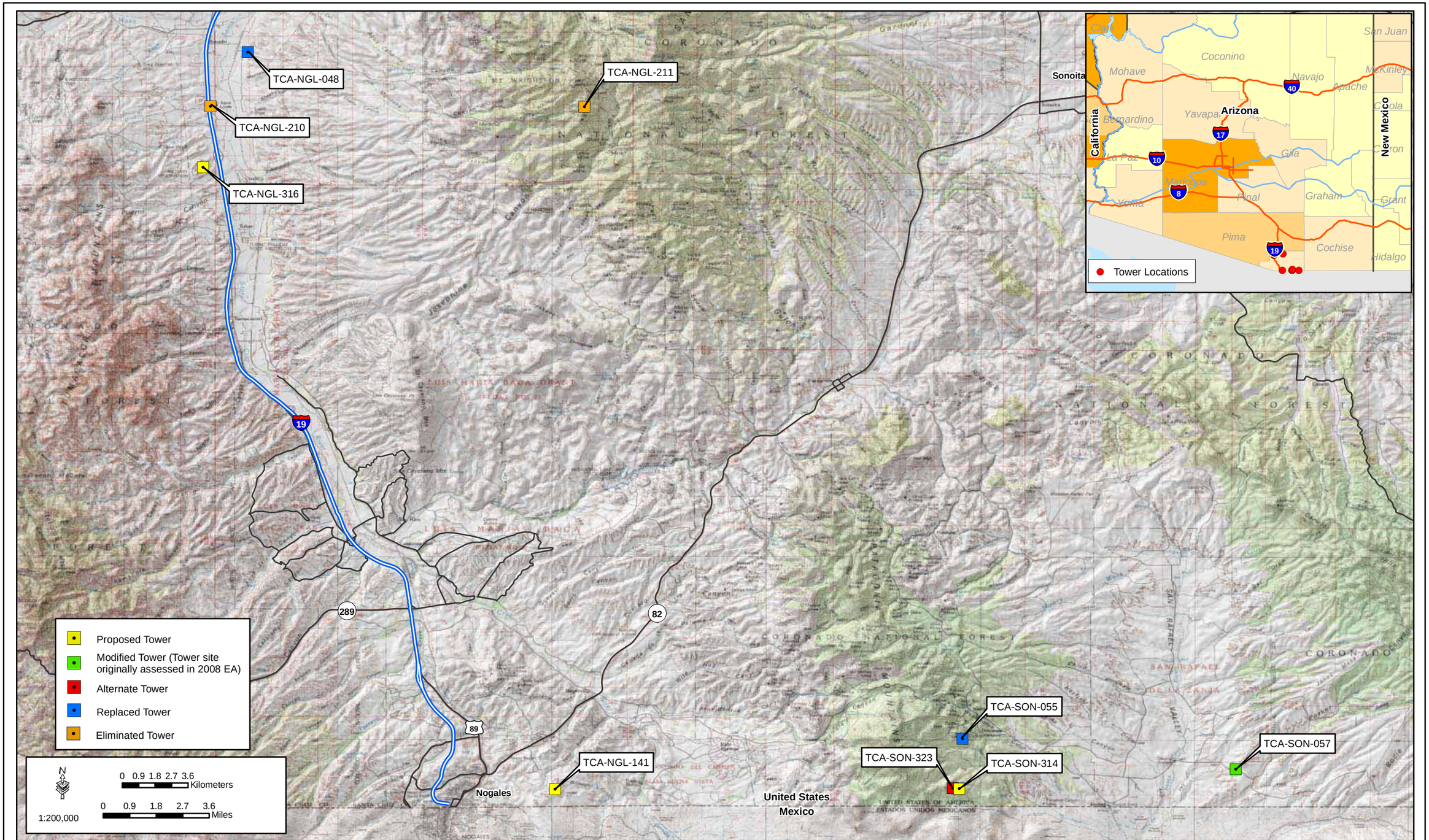

Figure 2-1: SBI*net* Proposed Action Tower Location Map

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Table 2-1. Alternate Sites Proposed but Rejected

Tower ID	Station	Reason for Rejection*
TCA-NGL-048	Nogales	RE
TCA-NGL-318	Nogales	RE
TCA-NGL-319	Nogales	RE
TCA-NGL-210	Nogales	T
TCA-NGL-211	Nogales	T
TCA-SON-055	Sonoita	O, T

O—Operational, T—Technical, RE—Real Estate

2.3 PROPOSED ACTION

The Proposed Action includes the construction, operation, and maintenance of three new sensor towers (TCA-NGL-141 and 316, and TCA-SON-314) and modification of one previously analyzed sensor tower (TCA-SON-057), which creates a communications network in support of the SBI*net* Tucson West common operating picture (COP) among components of CBP and other Federal, state, and local partners outside CBP. Construction of these towers would eliminate the need for two originally planned towers (TCA-NGL-210 and 211). The Proposed Action would decrease the total number of towers in the SBI*net* Tucson West Tower Project, as described in the 2008 EA, to 53 towers. TCA-SON-057 was originally approved in the 2008 EA as a 80-foot high RDT with a permanent impact footprint of 50- X 50- feet. After further analysis, SBI*net* proposes to construct a 100-foot high SST with a permanent impact footprint of 80- X 80- feet. The Proposed Action also includes the construction of new access roads and repair or improvement to existing approach roads associated with construction and operation of the other three proposed towers. Maintenance of associated access roads and approach roads is also included as part of the Proposed Action. Information gathered from the proposed towers would contribute to the comprehensive operability of the SBI*net* Tucson West Tower Project COP. The SBI*net* Tucson West Tower Project COP would also provide mechanisms to communicate comprehensive situational awareness, including information to incorporate intelligence-driven capabilities at all operational levels and locations.

The Proposed Action described in this SEA represents CBP's plan to develop the right combination of technology, infrastructure, transportation assets, and deployment of CBP personnel to enhance the SBI*net* Tucson West Tower Project and to achieve operational control of 56 miles of border in the Tucson Sector (CBP 2007 and 2008b).

2.3.1 Tower Construction and Maintenance

To construct the proposed towers and access roads, CBP plans to lease or purchase private and state lands, or obtain special use permits on public lands, as necessary. Two types of tower structures, RDT and SST, are proposed for this project: The RDTs proposed for this project would be 80 feet to 120 feet high and the SST at TCA-SON-057 would be 100 feet high. Neither type would require guy wires. The following is a brief description of RDTs and SSTs:

- RDTs are lattice style structures which use pre-cast modular stacked slabs for the foundation and are typically 8- X 8-foot X 6 inches, 10- X 10-foot X 6 inches, or 12- X 12-foot X 6 inches depending upon tower height (Figures 2-2 and 2-3). The lowermost foundation slab rests on top of approximately 2 feet of crushed stone at the base of the excavated area. The depth of each tower foundation is dependent on tower height and geotechnical characteristics at each tower site. Tower foundations could be placed to a depth of 3 to 5 feet below ground surface (bgs) depending on tower height and geotechnical characteristics at each tower site. The uppermost tower foundation slab may potentially extend from 7 inches to 26 inches above the existing surface grade.
- SSTs are steel, lattice-style structures which have three circular concrete pilings approximately 4 feet in diameter, and would be placed at each site to anchor the tower legs in the ground (Figures 2-4 and 2-5). Depth of the pilings is dependent on tower height and geotechnical characteristics at each tower site, but would not go deeper than 60 feet bgs.

Currently, an existing 1-acre industrial warehouse facility in south Tucson near Interstate 10, as well as the individual staging areas at each proposed tower site would be utilized for tower and associated access road work. The storage area would be used to store bulk materials and equipment during construction. The storage area was described in the 2008 EA and that discussion is incorporated herein by reference (CBP 2008a).

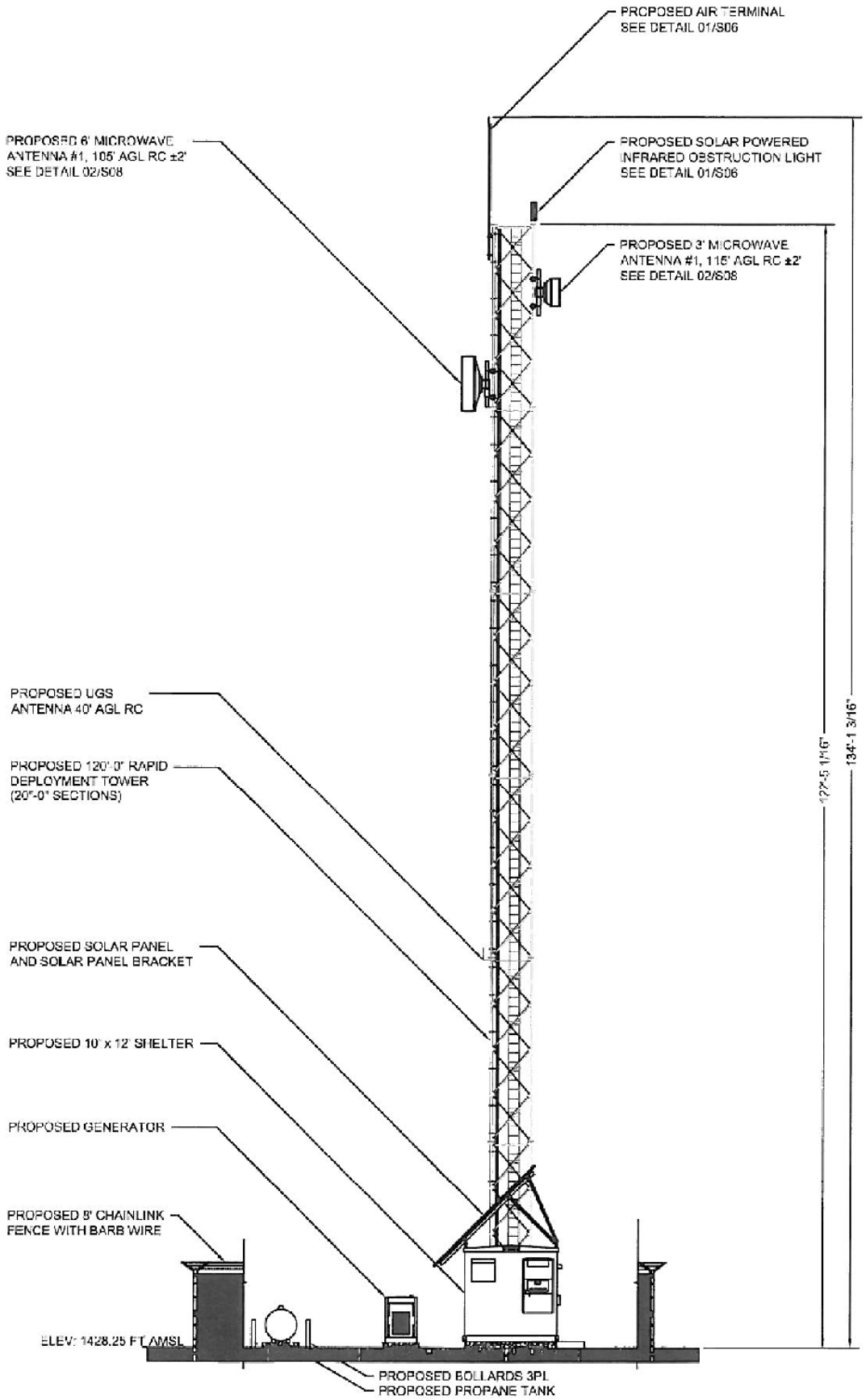
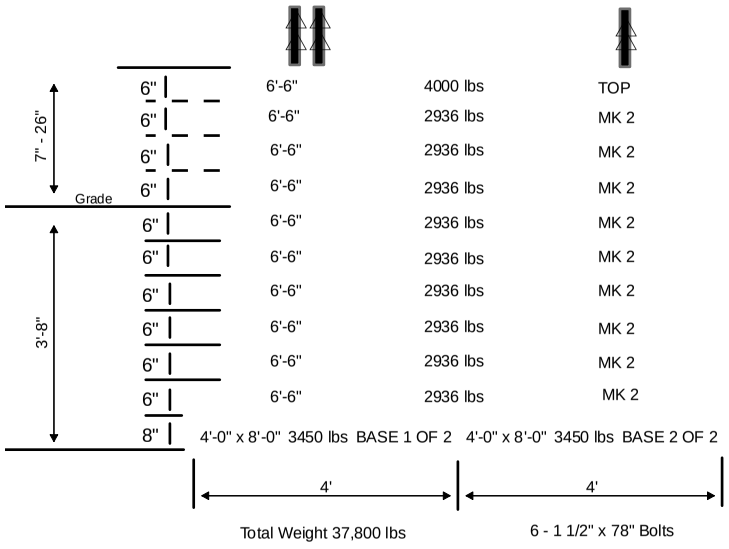


Figure 2-2: Profile of a Rapidly Deployed Tower



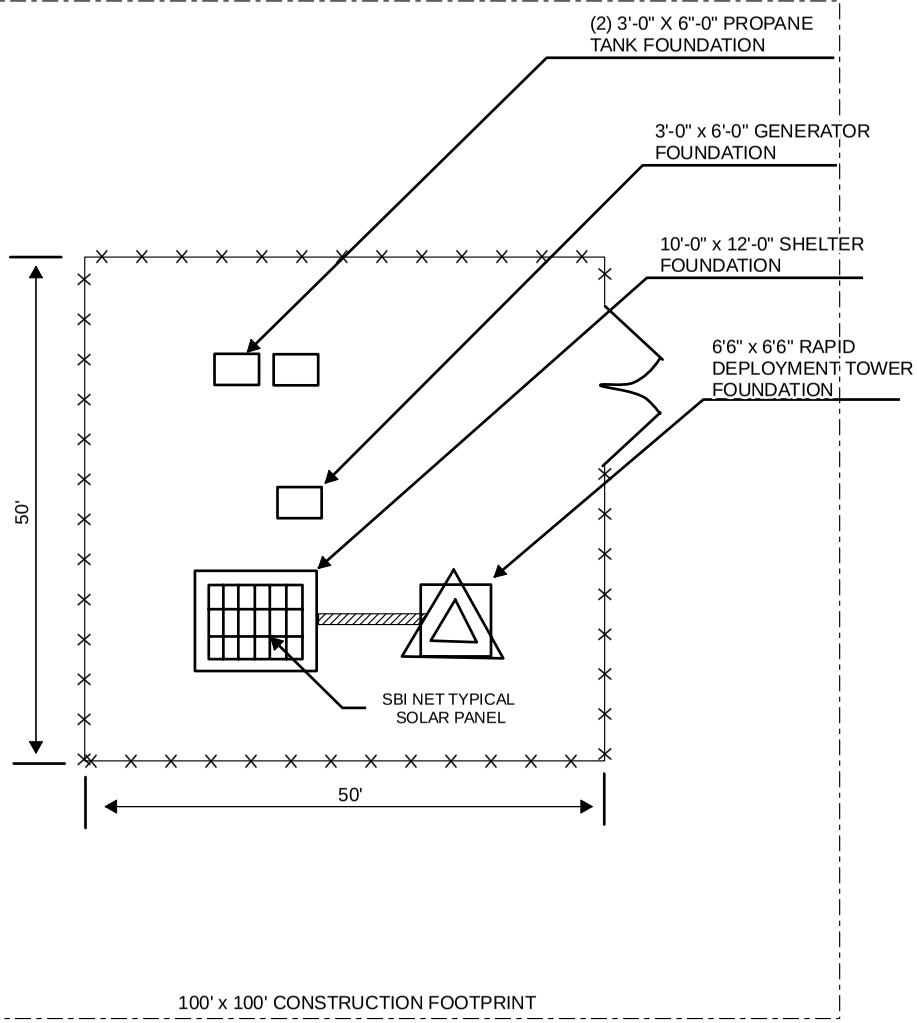
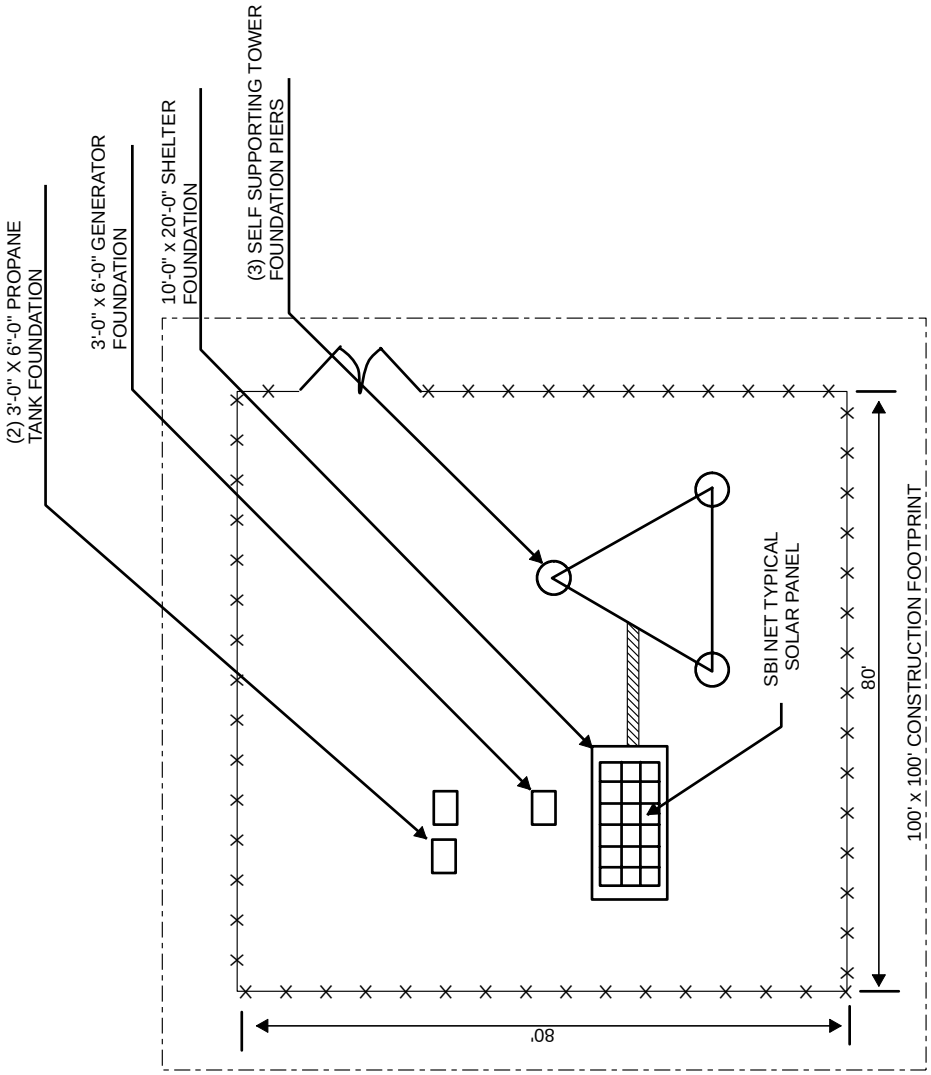


Figure 2-3: Rapidly Deployed Tower Schematic



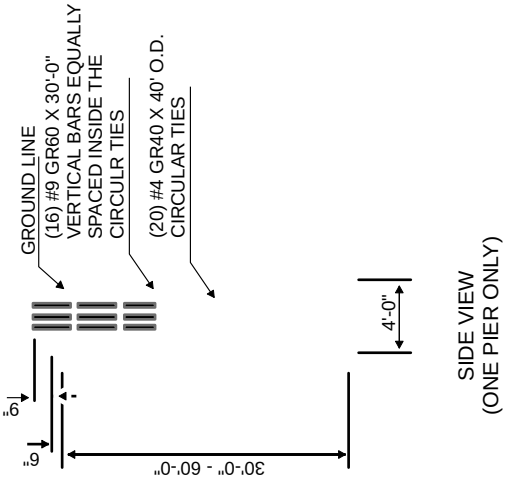


Figure 2-4: Self Standing Tower Schematic

August 2009

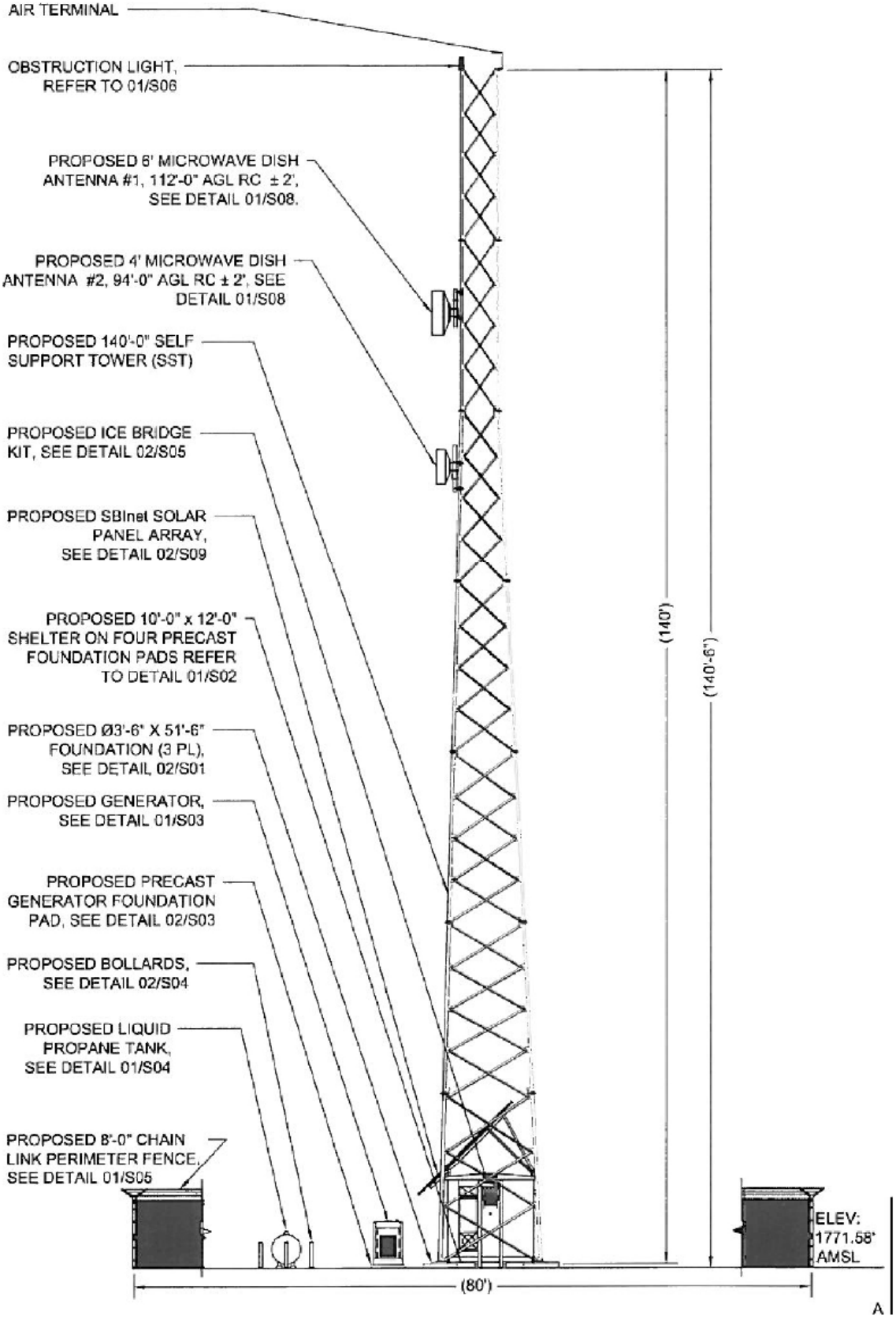


Figure 2-5: Profile of a SST Tower

Each tower would have the following design, power requirements, and site and fence enclosure footprint, unless otherwise noted in the detailed proposed tower sites discussion. Table 2-2 provides a summary of the pertinent information of each tower site and configuration.

- Tower heights – RDTs are typically 80 feet high, but can be up to 120 feet high, and the SST at TCA-SON-057 would be 100 feet high. Neither tower type would require guy wires.
- Power source – commercial grid power (where available) with a propane fueled generator backup or a propane hybrid 25 kilowatt (kW) generator system with solar capabilities. A 1,000 gallon propane fuel tank would be located at sites utilizing propane fueled generators. Generator-solar hybrid systems are expected to operate twice per day for up 2 to 4 hours for each start. Operation of backup generators for towers connected to an electric grid system should be limited to 1 hour, twice a month for system conditioning, plus off-grid operational schedules if grid power is interrupted. Generators would be housed within an enclosure equipped with noise baffles.
- Commercial grid power – Proposed tower TCA-NGL-316 would be connected to commercial grid electric power. All power lines would be installed either overhead or in buried cables from the main trunk line to the tower sites shelter and then on an elevated cable tray to the tower[2]. If commercial power is utilized, then the installation of overhead or buried lines would be placed within surveyed road construction buffer areas, all of which would be verified to identify potential impacts to biological and cultural resources along access roads.
- A 10- X 12-foot equipment shelter would be within the perimeter fencing of each proposed tower site. The shelter would be installed on a precast concrete pad. The shelters would be air conditioned with an 18,000 British Thermal Unit system operated on an as needed basis. The equipment shelters would also be equipped with an air blower (130 watts) that forces filtered ambient air through the shelter to cool the electronics during normal tower operation.
- Tower site footprint – at a maximum construction of RDT and SST tower sites would result in ground disturbance within a 100- X 100-foot area (Figure 2-6). All staging of construction equipment and materials, if necessary would occur within this footprint during construction. The permanent tower site footprint would be 50- X 50-foot for RDTs and 80- X 80-foot for SSTs. A fire buffer would be maintained outside the permanent tower site footprint but within the 100- X 100-foot area.

[2] Although proposed tower TCA-NGL-316 would be powered by commercial grid power, commercial grid power may not be available immediately upon tower deployment. In that case, the power source would be supplied by a 25 kW generator hybrid system until the tower is connected to commercial grid power.

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Table 2-2. SBI*net* Tucson West Tower Project Tower Site Data and Configuration

Tower Name	TCA-NGL-141	TCA-NGL-316	TCA-SON-057*	TCA-SON-314	TCA-SON-323**
Tower Type	**Type: RRVS**	**Type: RRVS-**	**Type: RRVS**	**Type: RRVS**	**Type: RRVS**
Basic Site Conditions					
Construction staging/footprint area and maintained fire buffer (permanent)	100' X 100'	100' X 100'	100' X 100'	100' X 100'	100' X 100'
Tower site footprint	50' X 50'	50' X 50'	80’ X 80’	50’ X 50’	50’ X 50’
Access road improvements and construction (length/width and surface treatment)	New road construction (101’ X 16’) and road repair (3,465’ X 12’)	New access road construction (430’ X16’)	Road Improvements (3,656' X 12')	Road Improvements (3,329' X 12')	New road construction (60’ X 16’) and road repair (4,331’ X 12’)
Drainage structure requirements	None needed	None needed	None needed	None needed	None needed
Dimension, height, and type of security fence for this site	50' X 50' X 8' chainlink w/barb wire	50' X 50' X 8' chainlink w/barb wire	80' X 80' X 8' chainlink w/barb wire	50' X 50' X 8' chainlink w/barb wire	50' X 50' X 8' chainlink w/barb wire
Current land use at site	Private	ASTL	CNF	CNF	CNF
Tower Description					
Tower construction type	RDT	RDT	SST	RDT	RDT
Tower height	Up to 120'	Up to 120'	Up to 100'	Up to 120'	Up to 120'
Guy wires requirements	None needed	None needed	None needed	None needed	None needed
Recommended foundation for site	Stacked slabs	Stacked slabs	3 concrete piers	Stacked slabs	Stacked slabs
Power Description					
Distance to commercial power or type of primary power	Generator-solar	Grid/Generator-solar	Generator-solar	Generator-solar	Generator-solar
Commercial power right-of-way	None needed	None needed	None needed	None needed	None needed
Generator fuel type	Propane	Propane	Propane	Propane	Propane
Fuel tank capacity for generator, if required	1,000	1,000	1,000	1,000	1,000
Amount of energy consumption from each tower site? (Anticipated percentage of generator use, percentage power from existing utility, alternate energy sources).	3,650 kW-hours/month	3,650 kW-hours/month	3,650 kW-hours/month	3,650 kW-hours/month	3,650 kW-hours/month

ASTL - Arizona State Trust Lands
CNF – Coronado National Forest
RRVS – radar and remote video system
* Tower was discussed in the 2008 EA; the permanent footprint would be increased from 50’X50’ to 80’X80’, the tower height would be increased from 80’ to 100’, and the tower type would be SST instead of RDT. TCA-SON-057 was covered in the 2008 EA, the only change being addressed in this SEA is the permanent footprint, tower height, and tower type.
** Tower would replace TCA-SON-314 in Alternative 1.

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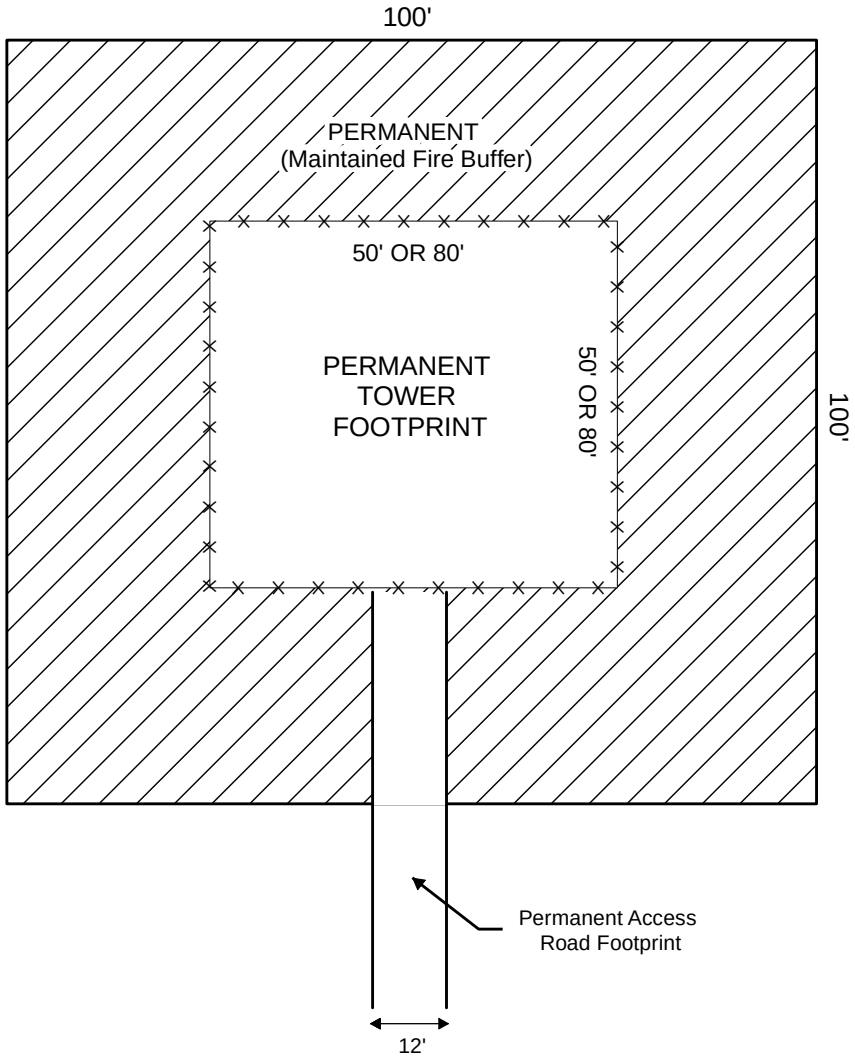

NOT TO SCALE

Figure 2-6: Tower Construction Footprint

- Perimeter security fence enclosure footprint – 50- X 50-foot X 8-foot high chainlink with six strands of barbed wire, in a v-shape, at the top of the perimeter security fence surrounding the tower and its associated equipment shelter.

The 100- X 100-foot construction footprint for each proposed tower would be cleared and grubbed. Prior to any land disturbance, measures outlined in Section 5.0 would be in place to control erosion and minimize potential adverse environmental effects. Individual tower staging areas would be within this construction footprint. Depending on the type of tower construction, the construction time frame for each proposed tower site is expected to be approximately 4 weeks and, in general, would occur during daylight hours; however, it is possible, due to construction schedule constraints that some night-time construction could occur.

Typical designs for the sensor towers consist of the following components:

- Multiple cameras (electro-optical/infrared sensors, video cameras);
- Radio-frequency radar; and
- Data receiving/transmitting antennas.

The exact number and type of equipment would depend on the number and types of cameras used, the area to be monitored, and other design variables. Cameras, antennas, and parabolic antennas would be installed at heights that would ensure satisfactory line-of-sight and provide clear pathways for transmission of information to relay towers and the Nogales or Sonoita stations. Towers generally require line-of-sight to ensure unobstructed microwave transmission signals from tower to tower. Currently, it is expected that the transmitters and sensors associated with the SBI*net* Tucson West Tower Project would operate below 30 gigaHertz (GHz).

When tower facility lighting is deemed necessary due to CBP operational needs, such as the installation of infrared lighting, USFWS (2000) *Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers* would be followed to reduce night-time atmospheric lighting and the potential adverse effects of night-time lighting to migratory bird and nocturnal flying species. Any infrared lighting

installed on the proposed towers would be compatible with night vision goggle usage. If the tower sites are lighted for CBP security purposes then lighting would utilize low sodium bulbs, be shielded to avoid illumination outside the footprint of the tower sites, and be activated by motion detectors.

As part of the Proposed Action, the towers would require routine maintenance and refueling. Tower site maintenance would include, but is not limited to, changing oil, oil filters, and spark plugs. This necessitates vehicle travel to each of the proposed tower sites for propane delivery, maintenance, and operations of the towers. Maintenance would be required approximately two times per month (approximately 24 times per year) for those tower sites not connected to a commercial electric power grid and tower sites connected to commercial electric grid power would require maintenance approximately 13 times per year (Boeing 2009). Maintenance personnel would use single axle, four-wheel drive pickup trucks to travel to each tower site. In addition to the vehicle trips for maintenance, tower sites not connected to the electrical grid would require refueling once a month or 12 times per year, and the tower sites connected to the electrical grid would require refueling only once a year. Tanker trucks with dual rear tires and or rear dual axles with a gross vehicle weight of 30,000 pounds would be used to deliver fuel to each applicable tower site. A total of approximately 79 vehicle trips per year for all three tower sites would occur for maintenance and refueling efforts Table 2-3. Maintenance of TCA-SON-057 was previously addressed in the 2008 EA (CBP 2008a).

Table 2-3. Summary of Annual Vehicle Trips Required for Tower Maintenance and Refueling

Tower	Power Source	Maintenance Trips	Refueling Trips	Total
TCA-NGL-141	Generator/solar	24	12	36
TCA-NGL-316	Grid and generator/solar	13	1	7
TCA-SON-314	Generator/solar	24	12	36
TOTAL		61	25	79

Source: Boeing 2009

The following discussion is a detailed description of each of the three proposed towers and one tower proposed for modification as part of the Proposed Action. The potential impacts from road construction and improvement for TCA-SON-057 were discussed in the 2008 EA; the only changes to the tower site being addressed in this SEA are to tower height, tower type and permanent footprint.

Tower ID:	**TCA-NGL-141**
Type of Tower:	Radar and Remote Video System (RRVS)
Tower Foundation:	RDT
Tower Height:	Up to 120 feet
Station:	Nogales
Location:	Santa Cruz County
Land Use:	Private
Location Description:	The proposed tower site for TCA-NGL-141 is located on private land, approximately 3,175 feet north of the U.S./Mexico border and 3,955 south of N. Royal Road (see Figure 2-7). The proposed tower site is approximately 2 miles east of Nogales.
Tower Access:	Access to the proposed site is via an unnamed road that extends north from the U.S./Mexico border to the proposed tower site. Approximately 101 feet of new access road construction and 3,465 feet of road repair are needed to facilitate tower installation and maintenance.
Type of Primary Power:	Hybrid generator-solar backup

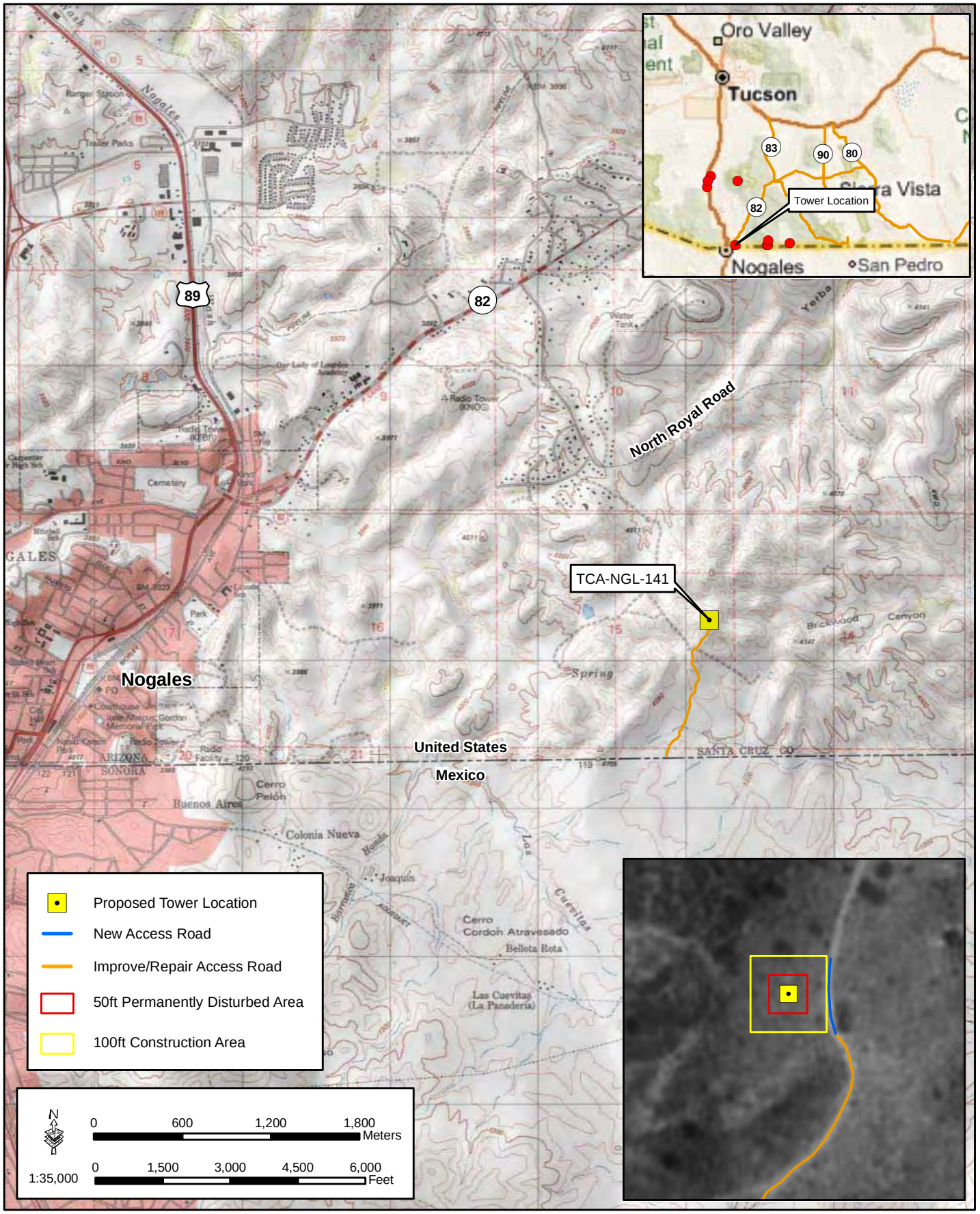

Figure 2-7: TCA-NGL-141 Tower and Access Road

Tower ID:	TCA-NGL-316
Type of Tower:	RRVS
Tower Foundation:	RDT
Tower Height:	Up to 120 feet
Station:	Nogales
Location:	Santa Cruz County
Land Use:	ASTL
Location Description:	The proposed tower site for TCA-NGL-316 is located on ASTL property approximately 2,721 feet west of Interstate 19, approximately 321 feet west of El Burro Lane, and approximately 1,926 feet east of an El Paso Pipeline Company gasline right-of-way (see Figure 2-8). The proposed tower site is approximately 22.5 miles north of the Nogales POE.
Tower Access:	Access to the proposed site would be via an unpaved road that originates at El Burro Lane. Approximately 430 feet of new access road construction is needed to facilitate tower installation and maintenance.
Type of Primary Power:	Grid and hybrid generator-solar backup

Tower ID:	**TCA-SON-057**
Type of Tower:	RRVS
Tower Foundation:	SST
Tower Height:	100 feet
Station:	Sonoita
Location:	Santa Cruz County
Land Use:	USFS (i.e., CNF)
Location Description:	The proposed tower site for TCA-SON-057 is approximately 23 miles south of the intersection of State Routes 82 and 83 near Sonoita, Arizona (see Figure 2-9).
Tower Access:	Access to the tower is from an un-named existing access road via Forest Service Road 61. Repair to the un-named road (3,656 feet) would be needed to facilitate tower installation and maintenance.
Type of Primary Power:	Hybrid generator-solar backup
County:	Santa Cruz

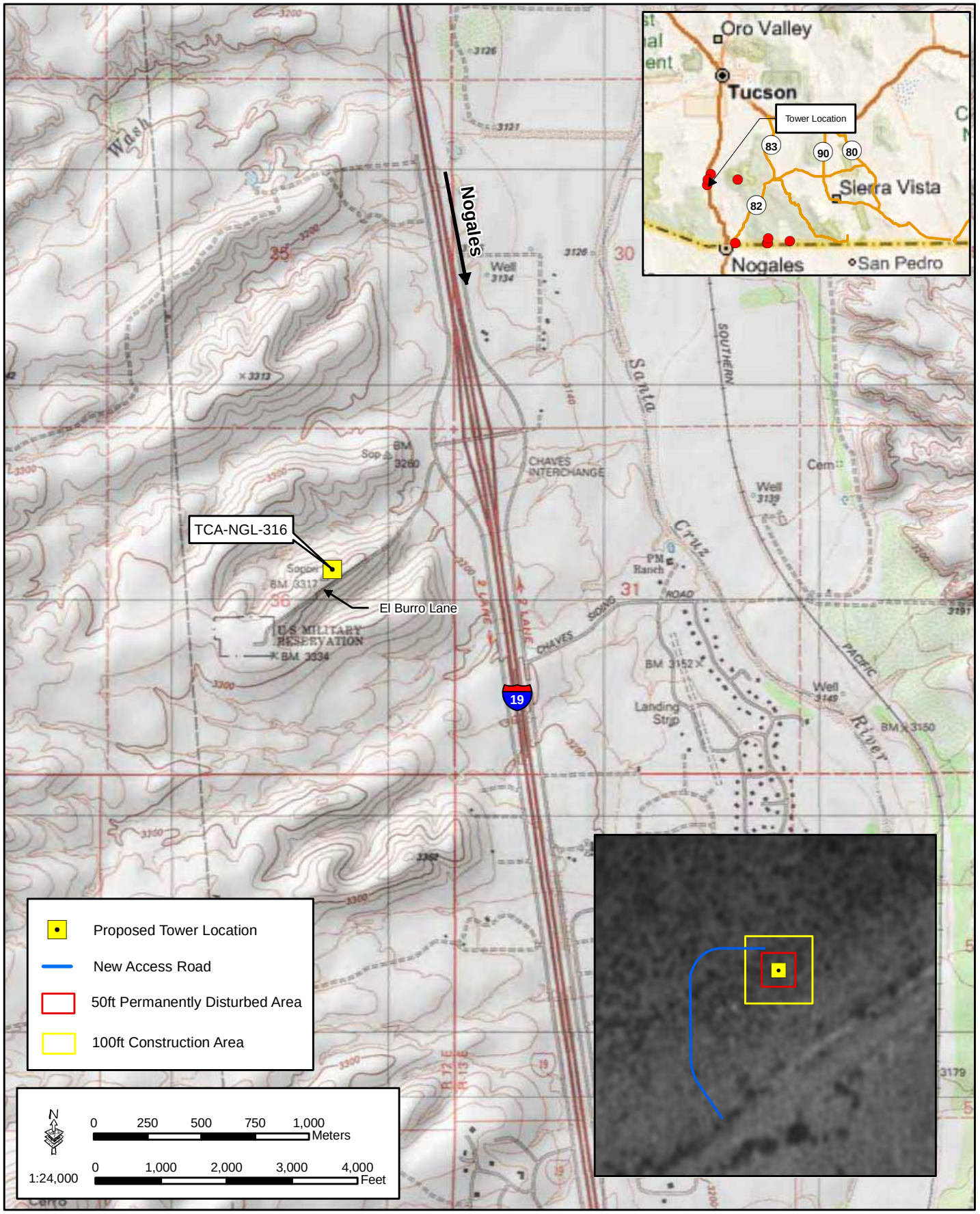

Figure 2-8: TCA-NGL-316 Tower and Access Road

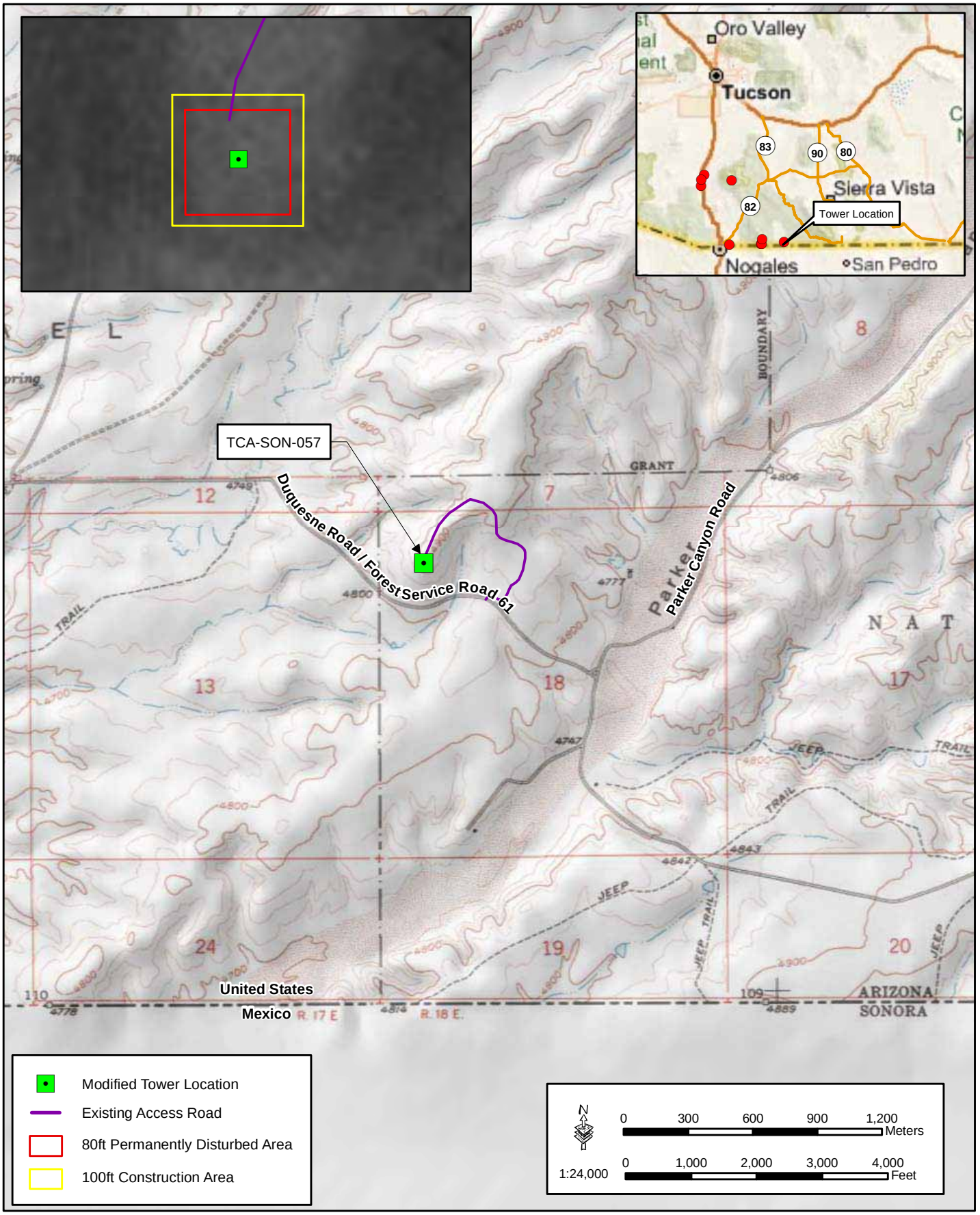

Figure 2-9: TCA-SON-057 Location Map

Tower ID:	**TCA-SON-314**
Type of Tower:	RRVS
Tower Foundation:	RDT
Tower Height:	Up to 120 feet
Station:	Sonoita
Location:	Santa Cruz County
Land Use:	USFS (i.e., CNF)
Location Description:	The proposed tower site for TCA-SON-314 is at Benton Mine in the Patagonia Mountains (Figure 2-10). Further, the proposed tower site is located approximately 2,989 feet north of the U.S./Mexico border and approximately 2.5 miles southwest of Duquesne.
Tower Access:	Access to the site would be via an existing unpaved, unmaintained road that branches off the existing border road. Approximately 3,329 feet of road improvement is needed for tower installation and maintenance.
Type of Primary Power:	Hybrid generator-solar backup
County:	Santa Cruz

2.3.2 Road Construction, Repair, Improvement, and Maintenance

Road Construction

Two new access roads totaling 531 feet in length would be constructed to provide access to tower sites, TCA-NGL-141 and 316, from existing approach roads. The new access roads would be constructed to provide a 12-foot wide driving surface with 2-foot wide shoulders on each side (total width of 16 feet). Additionally, some of the new roads may require cut and fill while others may require a v-ditch on one side of the new road. If cut and fill would be required the construction impact could extend as much as 22 feet on either side of new roads (yielding an impact corridor 56 feet wide). The new access roads would be surfaced with *in situ* materials. Following construction activities, the temporary impact areas would be revegetated with a mixture of native plant seeds.

Road Repairs

The approach road to proposed tower site TCA-NGL-141 would require repairs along a total of approximately 3,465 feet of road segments. Road repair includes minor grading,

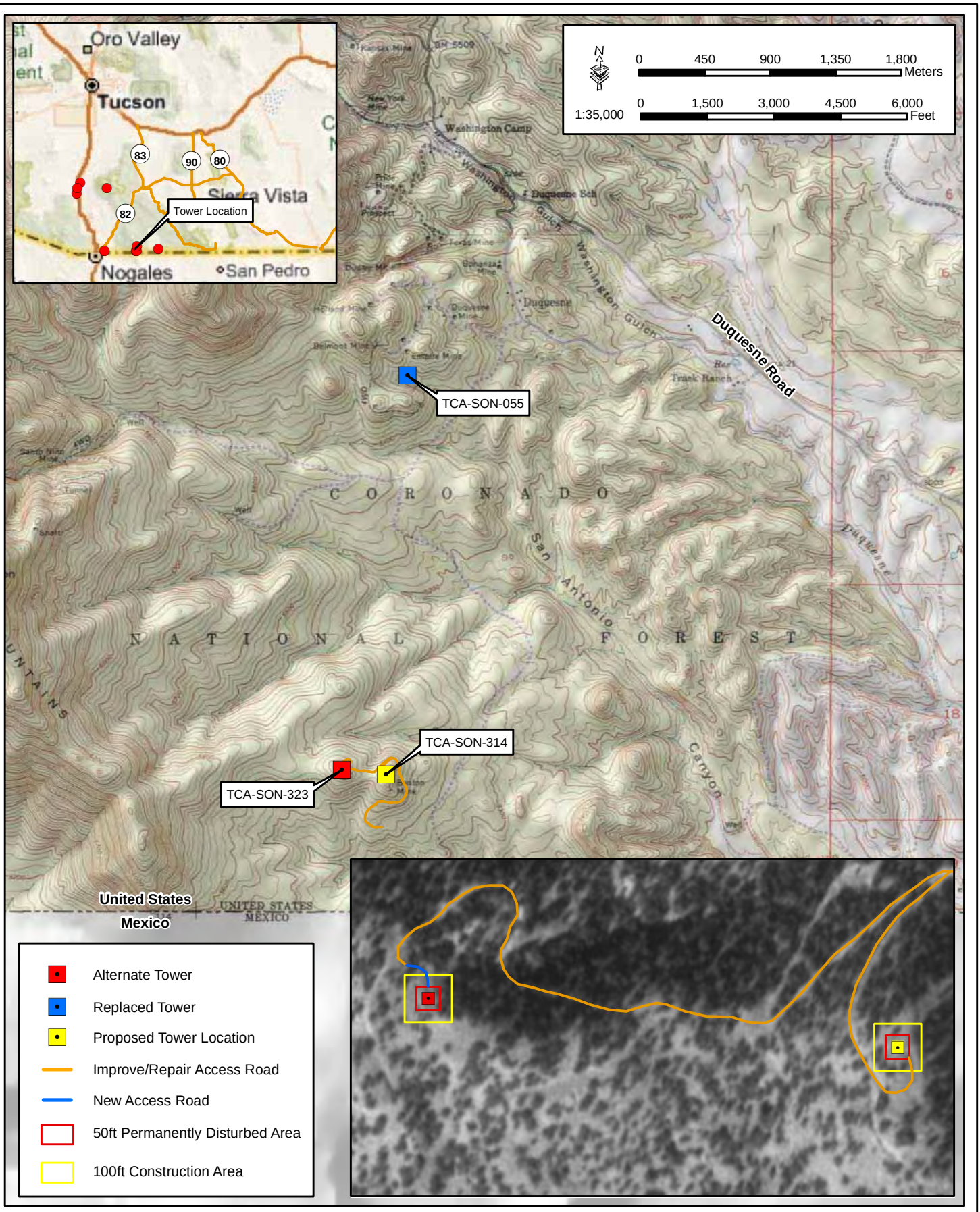

Figure 2-10: TCA-SON-314 and TCA-SON-323 Towers and Access Roads

leveling, and the installation of nuisance drainage structures. All existing approach roads are currently accessible by four-wheel drive vehicles; thus, repair is only needed to allow passage of heavy construction equipment. All repaired road segments would be graded to a maximum driving surface width of 12 feet within the existing alignment of the road and would include a 2-foot wide temporary construction easement on each side of the road. The 2-foot wide temporary construction easement would be revegetated following construction activities. *In situ* materials from the impacted areas would be used to repair road segments and no additional aggregate or stabilizers would be used to improve the driving surface. Repairs to the approach road at TCA-SON-057 were addressed in the 2008 EA and are, therefore, not addressed further in this SEA (CBP 2008a).

Road Improvements

The approach road to proposed tower site TCA-SON-314 would require approximately 3,329 feet of improvements. Road improvements include reconstruction, widening, and straightening of the existing approach roads. Road improvements would be completed to provide the maximum driving surface. No road improvements would be made beyond the 12-foot roadbed and a 2-foot temporary construction easement on each side of the road. The 2-foot temporary construction easement would be revegetated following construction activities.

Road Maintenance

CBP is implementing a comprehensive tactical infrastructure maintenance and repair (CTIMR) for CBP tactical infrastructure and all roads associated with CBP tactical infrastructure and SBI*net* projects required to ensure full-time access to the towers and other tactical infrastructure (TI). In general, roads would be maintained to the original construction condition. Specific maintenance requirements and schedules for each road will be developed between the USBP Sector and the land manager. Maintenance may be performed by contractors or by the land manager as deemed appropriate between the USBP Sector and land manager. However, it is anticipated that maintenance activities of approach and access roads may be required up to six times

per year or as necessary. Maintenance of approach and access roads could include grading within the existing road alignment to maintain the condition of the road surface for maintenance access. Maintenance actions would include necessary erosion control associated with the roads. If significant upgrades to roads are required, additional environmental documentation would be required.

2.4 ALTERNATIVE 1

A total of three towers would be constructed and TCA-SON-057 would be modified as part of Alternative 1. Alternative 1 is the same as the Proposed Action except that TCA-SON-314 would be removed from the tower laydown and replaced by TCA-SON-323. TCA-SON-314 may be potentially located on property over an existing mining claim site. If it is determined the mining claim renders the property unusable as a tower site, TCA-SON-323 would be selected over TCA-SON-314. The design metrics for TCA-SON-323, with the exception of road footprints, would be the same as those for TCA-SON-314 (see Table 2-1). Further, tower maintenance requirements would be the same as those described for TCA-SON-314 in the Proposed Action.

The following discussion is a detailed description of TCA-SON-323 (see Figure 2-10).

Tower ID:	**TCA-SON-323**
Type of Tower:	RRVS
Tower Foundation:	RDT
Tower Height:	Up to 120 feet
Station:	Sonoita
Location:	Santa Cruz County
Land Use:	USFS (i.e., CNF)
Location Description:	The proposed tower site for TCA-SON-323 is located approximately 900 feet west of TCA-SON-314 in the Patagonia Mountains (see Figure 2-10).
Tower Access:	Access to the site would be via an existing unpaved, unmaintained road that branches off the existing border road. Approximately 76 feet of new access road construction and 4,272 feet of road improvements is needed for tower installation and maintenance.
Type of Primary Power:	Generator-solar hybrid
County:	Santa Cruz

2.5 NO ACTION ALTERNATIVE

Under the No Action Alternative, the three towers discussed in this SEA and the one tower to be modified in this SEA would not be constructed. The construction, upgrade, operation, and maintenance of 54 sensor and communication towers and associated access road evaluated in the 2008 EA would continue as planned. The No Action would partially satisfy the stated purpose and need and its inclusion in this EA is required by NEPA regulations (40 CFR 1502.14(d)). Implementation of the No Action Alternative would not enhance CBP's capability to provide surveillance of that portion of the Nogales and Sonoita stations' AORs affected by the proposed project.

2.6 ALTERNATIVES ELIMINATED FROM ANALYSIS

CBP considered a range of alternatives during the planning process for the Proposed Action. The alternatives that were eliminated from further detailed analysis for various reasons are incorporated from the 2008 EA herein by reference (CBP 2008a). The alternatives discussed in the 2008 EA included: 1) unmanned aircraft systems; 2) remote sensing satellites; 3) remote sensors; 4) increased CBP workforce; and 5) increased aerial reconnaissance/operations. Preliminary tower sites considered in the preparation of this SEA are discussed below.

2.7 SUMMARY

The three alternatives selected for further analysis are the No Action Alternative, Proposed Action, and Alternative 1. An alternative matrix (Table 2-4) shows how each of these alternatives satisfies the stated purpose and need. Table 2-5 presents a summary matrix of the impacts from the three alternatives analyzed and how they affect the environment and environmental resources in the project area.

Table 2-4. Alternative Matrix of Purpose and Need to Alternatives

Purpose and Need	No Action Alternative	Proposed Action	Alternative 1
Providing more efficient and effective means of assessing border activities;	Partial	Yes	Yes
Providing rapid detection and accurate characterization of potential threats;	Partial	Yes	Yes
Providing coordinated deployment of resources in the apprehension of IAs, smugglers, and other CBVs; and	Partial	Yes	Yes
Reducing crime in border communities and improving the quality of life and economic vitality of border regions through provision of tools necessary for effective law enforcement	Partial	Yes	Yes

Table 2-5. Summary Matrix

Affected Environment	No Action Alternative	Proposed Action	Alternative 1
Land Use (Section 3.2)	No additional impacts would occur as the three proposed towers and upgrade of one tower would not be completed under the No Action Alternative. However, illegal cross border activity would continue to affect land use.	Approximately 2.34 acres of land would be converted from their current use as private, USFS (CNF), or Arizona State Trust Lands to CBP enforcement activities compared to the No Action Alternative. No direct significant adverse impact on land use is anticipated as the SBI*net* Tucson West Tower Project has been extensively coordinated with private persons and affected land management agencies. Additionally, special use permits would be obtained by CBP prior to initiating construction of the proposed towers and associated access roads, and repairs and improvements to approach roads associated with the proposed towers.	Construction of the proposed three towers and access roads would permanently convert 2.64 acres from their current use as private, USFS (CNF), or Arizona State Trust Lands to CBP enforcement activities compared to the No Action Alternative.
Geology and Soils (Section 3.3)	No additional impacts to soils would occur as the three proposed towers and upgrade of one tower would not be completed under the No Action Alternative. However, illegal cross border activity would continue to disturb soils in the project area.	There would be no impacts to geologic resources of the area. The Proposed Action involves primarily disturbances to topsoil layers, or somewhat deeper in the case of the SST at TCA-SON-057. Construction of the proposed towers and access roads and repairs and improvements to associated approach roads would have a direct permanent impact on 2.34 acres and temporarily impact on 1.62 acres of soils compared to the No Action Alternative. Although these impacts are long-term, they would be minor when examined on a regional scale, due to the small amount of soils lost relative to the quantity of the same soils regionally. The Proposed Action would reduce CBV traffic within the project area, and improve the detection of CBV traffic closer to the U.S./Mexico border thus focusing and improving USBP agent's apprehension capabilities. No soils classified as prime farmlands occur in the project area. Therefore, no impacts to prime farmlands would occur as part of the Proposed Action.	Direct permanent and temporary impacts to geologic resources, soils, and prime farmlands associated with the Alternative 1 would be similar to those resulting from the Proposed Action. There would be 2.64 acres of permanent impacts and 1.76 acres of temporary impacts on regionally common soils, when compared to the No Action Alternative.
Hydrology and Groundwater (Section 3.4)	The No Action Alternative would not require the use of additional groundwater. The three proposed towers and upgrade of one tower would not be constructed under the No Action Alternative.	Approximately 1.46 acre-feet of water would be required for tower and access road construction and road improvements and repair compared to the No Action Alternative. The proposed project is located in the Santa Cruz Active Management Area (AMA). Currently, the Santa Cruz AMA is experiencing a groundwater recharge surplus. Therefore, the Proposed Action would not result in a significant impact to the groundwater and hydrology in the region.	Impacts to hydrology and groundwater would be similar to those described for the Proposed Action. However, implementation of Alternative 1 would require 1.66 acre-feet of water, when compared to the No Action Alternative.
Surface Waters and Waters of the U.S., (Section 3.5)	No surface waters or waters of the U.S. would be impacted as the three proposed towers and upgrade of one tower would not occur under the No Action Alternative. However, illegal cross border activity would continue to impact surface waters and waters of the U.S.	Surface waters could be temporarily affected by the proposed construction actions. Short-term effects could include a temporary increase in erosion and sedimentation during periods of construction. Disturbed soils and hazardous substances (i.e., anti-freeze, fuels, oils, and lubricants) could directly impact water quality during a rain event. These effects would be minimized through the use of best management practices (BMP). A General Stormwater Permit would be obtained prior to construction. This would require approval of a site-specific Stormwater Pollution Prevention Plan (SWPPP) and Notice of Intent. A site-specific Spill Prevention, Control and Countermeasure Plan would be in place prior to the start of construction. All pertinent BMP would be implemented to minimize erosion into surface waters. No wetlands are located within the project area. A total of 29 Waters of the U.S. (WUS) are located in the project corridor. All impacts to WUS meet the criteria for a Nationwide Permit 14.	Impacts to surface waters and WUS would be similar to those described for the Proposed Action.
Floodplains (Section 3.6)	No additional impacts to floodplains would occur with the implementation of the No Action Alternative. In the absence of the Proposed Action, illegal cross border activity would continue to impact floodplains in the project area.	None of the roads and towers, foundations, and associated buildings described in the Proposed Action is located in the 100-year floodplain. Therefore, there would be no impacts on floodplains.	Alternative 1 would not impact floodplains.

Table 2-5, continued

Affected Environment	No Action Alternative	Proposed Action	Alternative 1
Vegetation (Section 3.7)	The No Action Alternative would not result in additional permanent impacts and temporary disturbances to Sonoran desertscrub, semi-desert grassland, and Madrean evergreen woodland vegetation types in the project area. Vegetation would continue to be disturbed by illegal cross border activity.	The Proposed Action would result in the permanent loss of 2.34 acres of Sonoran desertscrub, semi-desert grassland and Madrean evergreen woodland and the temporary degradation of 1.62 acres of the same communities at three tower sites and associated roads, compared to the No Action Alternative.	Alternative 1 would result in similar but slightly greater impacts as those discussed for the Proposed Action. There would be 2.64 acres of permanent impacts and 1.76 acres of temporary impacts on semidesert grassland, Sonoran desertscrub, and Madrean evergreen Oakland vegetation communities when compared to the No Action Alternative.
Wildlife and Aquatic Resources (Section 3.8)	Under the No Action Alternative terrestrial wildlife habitat would not be permanently impacted in the project area. Illegal cross border activity would continue to degrade wildlife habitats and potentially disturb wildlife in the project area.	Tower and access road construction would permanently impact an additional 2.34 acres and temporarily degrade 1.62 acres of terrestrial wildlife habitat compared to the No Action Alternative. The proposed towers could have an adverse impact on migratory birds as a result of bird strikes. However, the number and extent of bird strikes in relation to the size of migratory bird populations and the extent of the migratory flyway would be minimal and would not affect sustainability of migratory bird populations in the region. Appropriate mitigation measures would be implemented to reduce migratory bird strikes.	Alternative 1 would result in similar impacts as the Proposed Action. There would be 2.64 acres of permanent impacts and 1.76 acres of temporary impacts on terrestrial wildlife habitat, when compared to the No Action Alternative.
Protected Species (Section 3.9)	No additional impacts to protected species would occur under the No Action Alternative as the actions described in the Proposed Action would not be implemented. Illegal cross border activity would continue to degrade protected species habitats and potentially disturb protected species in the project area.	One proposed tower site and an alternate tower are located within Mexican spotted owl critical habitat; however, the proposed tower sites lack primary constituent elements for nesting and roosting habitat. CBP has determined that the proposed project may affect but is not likely to adversely affect the Mexican spotted owl, however, it is likely to result in adverse modifications to its critical habitat. The Proposed Action would have a long-term, indirect beneficial affect on vegetation communities used by Mexican spotted owl through the reduction in IA, smuggler, and other CBV traffic. The construction of new roads and, repair, and improvements to existing roads may increase the number and extent of passable roads and increase access to habitat occupied or potentially occupied by sensitive species. However beneficial impacts would be expected under the Proposed Action. Long-term, beneficial effects would occur by lessening impacts of other CBV activities on habitats throughout the project area and surrounding areas. Appropriate best conservation measures, best management practices, and off-setting measures would be implemented to minimize potential effects.	Alternative 1 would result in similar impacts as the Proposed Action.
Cultural Resources (Section 3.10)	No additional impacts to cultural resources would occur as the actions described as part of the Proposed Action would not be implemented. Illegal cross border activity would continue and potentially impact cultural resources in the project area.	No previously recorded sites are located within the area of potential effect (APE) of the proposed towers. In addition, two new archaeological sites located within the APE of the access roads and proposed tower sites are not considered eligible for the NRHP and are not considered significant. As a result, no adverse impacts to cultural resources are anticipated.	Alternative 1 would have no significant impacts on cultural resources.
Air Quality (Section 3.11)	No additional impacts to air quality would occur as the actions described as part of the Proposed Action would not be implemented.	Temporary and minor increases in air pollution would occur from the use of construction equipment and the disturbance of soils during construction of the proposed towers and access roads and road repair and improvements. However, air quality emissions resulting from the Proposed Action would not exceed *de minimis* thresholds for National Ambient Air Quality Standards pollutants. Therefore, a general conformity analysis would not be required for the Proposed Action.	The impacts to the air quality would be similar to those described in the Proposed Action Alternative, but slightly more because this alternative involves the construction of a longer access road. However, air quality emissions resulting from the Alternative 1 would not exceed *de minimis* thresholds for National Ambient Air Quality Standards pollutants.
Noise (Section 3.12)	The three new towers and proposed upgrade of one tower would not be constructed under the No Action Alternative; therefore, no additional impacts from construction and operational noise associate with the three proposed towers and proposed tower upgrade would occur.	Noise generated by heavy construction equipment would be intermittent and last approximately 4 weeks to excavate and prepare the foundation to install each tower and construct, repair and improve roads, after which, noise levels would return to ambient levels. The noise impacts from construction activities would be temporary and minor and would not significantly impact the noise environment. Noise generated by generators and air-conditioning associated with the operation of the proposed tower sites would have a minor, long-term impact to the noise environment.	Alternative 1 would result in similar impacts as those discussed for the Proposed Action.

Table 2-5, continued

Affected Environment	No Action Alternative	Proposed Action	Alternative 1
Radio Frequency Environment (Section 3.13)	No additional impacts to the radio frequency environment would occur under the No Action Alternative.	Radio and microwave transmissions associated with the operation of towers would not have a significant adverse impact on humans, wildlife, or other communication systems. All transmitters and sensors would operate below 30 gigaHertz. Compliance and coordination with National Telecommunications and Information Administration (NTIA) and Federal Communications Commission (FCC) regulations and guidelines would ensure there would be no significant adverse impacts to observatories, human safety, or the natural and biological environment.	Alternative 1 would result in similar impacts as those discussed for the Proposed Action.
Utilities and Infrastructure (Section 3.14)	No additional demands on utilities and infrastructure would occur under the No Action Alternative.	Negligible demands on power utilities would be required as a result of the Proposed Action. One additional tower would be on the electrical grid compared to the No Action Alternative.	Alternative 1 would result in similar impacts as those discussed for the Proposed Action.
Roadways and Traffic (Section 3.15)	No additional impacts to roadways and traffic would be expected under the No Action Alternative.	Construction and staging for the access roads, foundations, and towers would create a minor short-term impact to roadways and traffic within the project region. The increase of vehicular traffic would occur to supply materials and work crews at each tower site for a short period of time.	Impacts to roadways and traffic would be similar to those described for the Proposed Action.
Aesthetics (Section 3.16)	Under the No Action Alternative, the three proposed new towers and proposed upgrade of one tower would not occur and not additional impacts would be expected. Roads and trails created by illegal cross border activity would continue to degrade the aesthetics of the project area.	The installation of towers would detract from the aesthetic resources of the project area. Infrastructure components would be located primarily within undeveloped areas. The Proposed Action would have a moderate, permanent adverse impact to aesthetic qualities.	Alternative 1 would result in impacts similar to those described for the Proposed Action. Alternative 1 would have a moderate, permanent adverse impact to aesthetic qualities.
Hazardous Waste (Section 3.17)	The No Action Alternative would not result in any additional exposure of the public or environment to any hazardous materials.	The Proposed Action would not result in significant exposures of the environment or public to any hazardous materials. The potential exists for minor releases of POL during construction or operational activities. BMPs would be put in place to minimize any potential contamination at the proposed sites during construction activities and operation.	Alternative 1 would result in similar impacts as those discussed for the Proposed Action.
Socioeconomics (Section 3.18)	No additional impacts to socioeconomics would occur under the No Action Alternative.	The Proposed Action would not cause any changes to local employment rates, poverty levels, or local incomes. Long-term beneficial, socioeconomic impacts could be realized from the purchasing of propane. Additionally, indirect beneficial impacts would be expected in the reduced costs of apprehension, detention, and incarceration of criminals and reduced insurance costs, reduced property loss, and other societal costs.	Impacts to socioeconomics would be similar to those described for the Proposed Action.
Environmental Justice (Section 3.19)	Implementation of the No Action Alternative would cause no direct impacts on environmental justice concerns.	Implementation of the Proposed Action would cause no direct impacts to minority and low income populations.	Environmental justice issues would be similar those described for the Proposed Action.
Sustainability and Greening (Section 3.20)	Under the No Action Alternative, applicable Federal sustainability and greening practices would be implemented to the greatest extent practicable.	Under the Proposed Action, applicable Federal sustainability and greening practices would be implemented to the greatest extent practicable.	Applicable Federal sustainability and greening practices would be implemented to the greatest extent practicable as part of Alternative 1.

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SECTION 3.0
AFFECTED ENVIRONMENT AND CONSEQUENCES

3.0 AFFECTED ENVIRONMENT AND CONSEQUENCES

3.1 PRELIMINARY IMPACT SCOPING

This section of the SEA describes the natural and human environment that exists within the project area and the potential impacts of the No Action Alternative, Proposed Action, and Alternative 1 as outlined in Section 2.0 of this document. Only those parameters with the potential to be affected by the Proposed Action are described, per CEQ regulation (40 CFR 1501.7 [3]). Impacts can vary in magnitude from a slight to a total change in the environment. The impact analysis presented in this EA is based upon existing regulatory standards, scientific, and environmental knowledge and best professional opinions.

Some topics are limited in scope due to the lack of direct effect from the proposed project on the resource, or because that particular resource is not located within the project corridor. Resources such as climate and wild and scenic rivers are not addressed for the following reasons:

- Climate

  The climate would not be impacted by the construction and operation of the Proposed Action.

- Wild and Scenic Rivers

  The Proposed Action would not affect any designated Wild and Scenic Rivers (16 U.S.C. 551, 1278[c], 1281[d]) because no rivers designated as such are located within or near the study corridor.

Impacts (consequence or effect) can be either beneficial or adverse, and can be either directly related to the action or indirectly caused by the action. Direct impacts are those effects that are caused by the action and occur at the same time and place (40 CFR 1508.8[a]). Indirect impacts are those effects that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable (40 CFR 1508.8[b]). As discussed in this section, the No Action Alternative, Proposed Action,

and Alternative 1 may create temporary (lasting the duration of construction), short-term (up to 3 years), long-term (3 to 10 years following construction), or permanent (greater than 10 years) impacts or effects.

Impacts on each resource can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. Significant impacts are those effects that would result in substantial changes to the environment (40 CFR 1508.27) and should receive the greatest attention in the decision-making process. Insignificant impacts are those that would result in minimal changes to the environment. The following discussions describe and, where possible, quantify the potential effects of each alternative on the resources within or near the project area. All impacts described below are considered to be adverse unless stated otherwise.

Table 3-1 presents the permanent and temporary impacts (total of 3.96 acres) for the construction of the proposed towers, new access roads, approach road repair or improvement, and road maintenance. Biological and cultural resources surveys were conducted at each proposed tower site and the one proposed alternate tower site, as well as associated access and approach roads. The results of these surveys are provided in the affected environment section of the appropriate resource.

Table 3-1. Temporary and Permanent Impacts from the Proposed Action

Tower Name	Tower		Road	
	Temporary Impacts (in acres)	Permanent Impacts (in acres)	Temporary Impacts (in acres)	Permanent Impacts (in acres)
TCA-NGL-141	0.17	0.06	0.41	0.99
TCA-NGL-316	0.17	0.06	0.39	0.16
TCA-SON-057	0	0.09	0	0
TCA-SON-314	0.17	0.06	0.31	0.92
Tower subtotal	0.51	0.27	-	-
Road subtotal	-	-	1.11	2.07
Total temporary				**1.62**
Total permanent				**2.34**

NOTE: Includes previously disturbed areas
Access and approach road impacts were calculated from the Road Plan and Profile in the 60 percent Design Plans.

3.2 LAND USE

3.2.1 Affected Environment

Santa Cruz County is located on the southwestern border of Arizona and covers 1,236 square miles (Arizona Department of Commerce 2009). Land use in this desert region is generally dependent upon soil characteristics and water availability. Government, tourism, and commercial land use are the county's principal land uses. The USFS and BLM manage 54.6 percent of the land; the State of Arizona owns 7.8 percent, and individual or corporate ownership is 37.5 percent.

Proposed tower sites TCA-SON-314 and TCA-SON-323 are on CNF land, TCA-NGL-141 is on private land, and the remaining proposed tower, TCA-NGL-316 is on Arizona State Trust Land. Tower site TCA-SON-057 is also located on CNF land.

TCA-NGL-316 would be located about 2 miles northeast of the Tumacácori Ecosystem Management Area (EMA) on CNF lands and is located within the Tumacácori-Santa Rita Linkage. The Tumacácori EMA supports varied habitats and has three large mountain ranges within its boundaries – the Tumacácori Mountains, Atascoca Mountains and the San Luis Mountains. These mountain ranges and surrounding valleys support a diversity of wildlife and plants.

The proposed towers would require new access roads to be constructed and/or would require road improvements or repairs to existing roads associated with the proposed towers. Table 3-2 indicates which tower sites and access roads would impact specific landowners or land managing agencies.

Table 3-2. Proposed Tower Site and Access Road Land Ownership

Tower Name	Landowner of Tower Site and Access Road	Acres
TCA-NGL-141	Private	1.63
TCA-NGL-316	Arizona State Trust Land	0.78
TCA-SON-057*	USFS (CNF)	0.09
TCA-SON-314	USFS (CNF)	1.46
TCA-SON-323**	USFS (CNF)	1.89

*This tower was analyzed in the 2008 EA; however, modifications to the type of tower, the height of the tower, and the permanent footprint are now proposed.
** Alternate tower that would replace TCA-SON-314 in Alternative 1.

3.2.2 Environmental Consequences

3.2.2.1 No Action Alternative

No additional impacts to land use would occur as a result of implementing the No Action Alternative. Construction of the three proposed new towers and proposed upgrade of tower site TCA-SON-057 would not occur under the No Action Alternative.

3.2.2.2 Proposed Action

Construction of the proposed towers and access roads, would permanently convert 2.34 acres from their current use as USFS, private, or ASTL land to CBP enforcement activities compared to the No Action Alternative. Construction of the towers and road construction, repairs, and improvements associated with the proposed towers would temporarily impact 1.62 acres of land managed by these same entities compared to the No Action Alternative. No direct significant adverse impacts to land use are anticipated as the Proposed Action has been extensively coordinated with the private landowner and affected land management agencies. Furthermore, the Proposed Action would indirectly reduce the number of illegal roads and trails being created in CNF each year and the Proposed Action would reduce the amount of human waste and trash deposited across CNF each year.

3.2.2.3 Alternative 1

Alternative 1 would result in impacts similar to those described for the Proposed Action. Construction of the proposed towers and access roads, would permanently convert

2.64 acres and temporarily impact 1.76 acres from their current uses as USFS, private, or ASTL land to CBP enforcement activities compared to the No Action Alternative.

3.3 GEOLOGY AND SOILS

3.3.1 Affected Environment

Geology

The project area is located in the Basin and Range Physiographic Province as delineated by the U.S. Geological Survey (USGS) (USGS and California Geologic Survey 2000). The geology of the project area was discussed in the 2008 EA and is incorporated herein by reference (CBP 2008a).

Soils

There are five soil types associated with the proposed tower sites and associated access and approach roads. The soil type at TCA-SON-057 was analyzed in the 2008 EA and is herein incorporated by reference (CBP 2008a). A description of each soil type at the three tower sites is presented in Table 3-3 and soil maps depicting the proposed tower locations are provided in Appendix B.

Prime Farmland

Prime farmland was discussed in the 2008 EA and is incorporated herein by reference (CBP 2008a). USDA, NRCS did not report any of the five soil types as prime farmlands and none of the lands are currently in agricultural production (i.e., irrigated). Furthermore, the soils in this region are not typically irrigated so these soils would fail to meet prime farmland criteria.

3.3.2 Environmental Consequences

3.3.2.1 No Action Alternative

No additional impacts to geology, soils, or prime farmlands would occur as a result of implementing the No Action Alternative. Construction of the three proposed new towers

Table 3-3. Characteristics of Soils Within the Project Corridor

Soils	Slope (percent)	Type	Permeability	Runoff	Erosion Hazard Wind / Water for Undisturbed Soils	Tower Site or Approach Road
Barkerville-Gaddes complex	10-30	Gravelly Sandy Loam	Moderate or moderately rapidly	Medium	Moderate	TCA-SON-314 TCA-SON-323
Barkerville-Gaddes association, steep	30-60	Gravelly Sandy Loam	Moderate or moderately rapidly	Rapid	High	TCA-SON-314 TCA-SON-323
Graham soils	5-20	Gravelly or Cobbly Clay Loam	Slow	Medium	Slight	TCA-NGL-141
Lampshire-Graham-Rock outcrop association	20-60	Cobbly Loam	Moderate to bedrock	Medium or Rapid	Moderate	TCA-NGL-141
White House-Caralampi complex	10-35	Gravelly Loam	Slow	Medium	Moderate	TCA-NGL-316

Source: USDA, Soil Conservation Service (SCS) 1979

and proposed upgrade of tower site TCA-SON-057 would not occur under the No Action Alternative.

3.3.2.2 Proposed Action

Geology

The Proposed Action involves primarily disturbances to topsoil layers, or somewhat deeper in the case of SST (TCA-SON-057). During construction activities, any holes or excavations for either perimeter fence posts or towers, would impact an area no larger than approximately 38 square feet for the three piers on the larger SST, and would not substantially alter the geology in the project area. Each pier would be no deeper than 60 feet bgs, and only one of the proposed towers, TCA-SON-057, is anticipated to be a SST. Additionally, all proposed roads would be located in predominately alluvial material and would, therefore, not require substantial modifications to the area's topography (i.e., road cuts).

Soils

Construction of the proposed towers and access roads and repairs and improvements to associated approach roads would have a direct permanent impact on 2.34 acres and a temporary impact on 1.62 acres of soils. Road repairs and improvements would occur on existing roads; therefore, these soils have been previously disturbed. Although these impacts are long-term, they would be minor when examined on a regional scale, due to the small amount of soils lost relative to the quantity of the same soils regionally. Additionally, BMPs to reduce soil erosion would be employed during construction activities as outlined in Section 5.0, and a SWPPP which would be prepared prior to construction. No hydric soils would be impacted.

The Proposed Action would have a permanent indirect benefit as a result of reducing CBV traffic within the project area. The Proposed Action would improve the detection of CBV traffic closer to the U.S./Mexico border thus focusing and improving USBP agent's apprehension capabilities. The increased detection and apprehension capabilities resulting from the Proposed Action would reduce the amount of CBV off-road traffic and

subsequent soil disturbance. The creation of new illegal roads and trails would be reduced and existing illegal roads and trails would be able to naturally rehabilitate.

Prime Farmlands

No soils classified as prime farmlands occur in the project area. Therefore, no impacts to prime farmlands would occur as part of the Proposed Action.

3.3.2.3 Alternative 1

Geology

Alternative 1 would result in similar impacts compared to the Proposed Action.

Soils

Direct permanent and temporary impacts on soils associated with the Alternative 1 would be similar to those resulting from the Proposed Action; however there would be permanent impacts on 2.64 acres and temporary impacts on 1.76 acres of regionally common soils due to the longer length of the approach road to TCA-SON-323.

3.4 HYDROLOGY AND GROUNDWATER

3.4.1 Affected Environment

The proposed tower sites are located in the Arizona Department of Water Resources (ADWR) groundwater basin Santa Cruz Active Management Area (AMA). Groundwater resources were described in the 2008 EA and are incorporated herein by reference (CBP 2008a).

Some areas of the State of Arizona have relatively deep alluvial aquifers with substantial amounts of groundwater in storage. In 2003, groundwater was the primary water supply utilized in the Santa Cruz AMA (ADWR 2006). Table 3-4 presents the groundwater storage and recharge of the Santa Cruz AMA in project corridor.

Table 3-4. Groundwater Basins Municipal, Industrial, and Agricultural Use and Recharge Rate

Groundwater Basin	Recharge Rate (acre-feet)	Municipal* Water Use (acre-feet)
Santa Cruz AMA	35,500 - 160,300	56,000 – 62,000

Source: ADWR 2006.
*Includes industrial and agricultural water use as well.

3.4.2 Environmental Consequences

3.4.2.1 No Action Alternative

No impacts to groundwater would occur under the No Action Alternative. The actions described in the Proposed Action would not be implemented under the No Action Alternative.

3.4.2.2 Proposed Action

Under the Proposed Action, water would be required for the concrete tower foundations, watering of new access road surfaces and fugitive dust suppression during construction activities. The water used to compact and construct new access roads typically averages 1.7 acre-foot per mile (554,000 gallons) of new road construction (Miranda 2006). Widening and resurfacing existing roads requires approximately 1 acre-foot per mile (325,841 gallons). Using these assumptions, the Proposed Action would require 0.1 acre-feet of water for road construction and 1.3 acre-feet of water for road improvements for a total of 1.46 acre-feet of water.

The water used in association with the Proposed Action, which is not lost to evaporation during watering of access road surfaces during construction, would potentially contribute to aquifer recharge through downward seepage. The Santa Cruz AMA is experiencing groundwater recharge surpluses and the water needs for the proposed project are insignificant compared to the volume used annually for municipal, agricultural, and industrial purposes. The construction of towers and access roads would not substantially alter natural drainage patterns. The access roads are surfaced with *in situ* material and would not create impermeable surfaces. The construction of the access roads would not interfere with groundwater recharge. Therefore, the Proposed

Action would not result in significant adverse impact on groundwater basins and hydrology in the project area.

3.4.2.3 Alternative 1

Under Alternative 1, water needs for new access road surfaces and fugitive dust suppression during construction activities are slightly greater than the Proposed Action, due to the longer length of the approach road to TCA-SON-323. Water use for construction under Alternative 1 would require 1.66 acre-feet of water (0.1 acre-foot for new road construction and 1.5 acre-foot of water for road repair or improvements). The additional 0.20 acre-feet of water use compared to the Proposed Action would not have a significant adverse impact on groundwater resources.

3.5 SURFACE WATERS AND WATERS OF THE U.S.

3.5.1 Affected Environment

All of the proposed towers sites and associated access roads are located in the Santa Cruz-Rio Magdalena-Rio Sonoyta (Santa Cruz) watershed. The Santa Cruz watershed receives about 15 inches of rain and up to 1 inch of snow per year. Groundwater pumping has eliminated natural perennial flow in most of the mainstream Santa Cruz River. Treated wastewater effluent provides perennial flow below discharges from the cities of Nogales and Tucson (ADEQ 2008). A more detailed discussion of the region's surface waters was provided in the 2008 EA and that information is incorporated herein by reference (CBP 2008a).

3.5.1.1 Surface Waters

Section 303(d)(1)(A) of the Clean Water Act (CWA) was discussed in the 2008 EA and is incorporated herein by reference (CBP 2008a). The 2006/2008 305(b) and 303(d) report by ADEQ assessed 32 stream reaches and seven lakes within the watershed and found three stream reaches to be impaired. Table 3-5 provides information on the impaired stream sections in the Santa Cruz watershed as listed in the 2006/2008 ADEQ 303(d) Impaired Waters List. None of the proposed tower sites, new access roads,

and/or roads identified for repair or improved as part of the proposed project are located near the impaired stream reaches listed in Table 3-5.

Table 3-5. List of ADEQ Impaired Streams in Santa Cruz Watershed

Sub-watershed Name & ADEQ ID	Location	Suspected Causes of Impairment	Suspected Sources of Impairment
Nogales Wash 15050301-011	From Mexico border to Potrero Creek	Copper, ammonia, *Escherichia coli* and Chlorine	Abandoned mines Mexico
Santa Cruz River 15050301-010	U.S/Mexico border north thru Nogales	*E. coli*	Natural background and Mexico
Sonoita Creek 15050301-013C	Patagonia Waste Treatment Plant to Santa Cruz River	Zinc and low dissolved oxygen	Abandoned mines

Source: ADEQ 2008; 303 (d) Water Quality Inventory Integrated Report List of Impaired Watersheds [303 (d) list]

3.5.1.2 Waters of the U.S. and Wetlands

Section 404 of the CWA of 1977 (Public Law 95-217) and Waters of the U.S. (WUS) were discussed in the 2008 EA and are incorporated herein by reference (CBP 2008a).

Activities that result in the dredging and/or filling of WUS are regulated under Section 404 of the CWA. Nationwide Permits (NWP) are used to efficiently authorize common activities, which do not significantly impact WUS, including wetlands. Activities required for the construction, expansion, modification, or improvement of linear transportation crossings (e.g., highways, railways, trails, etc.) in WUS, including wetlands are authorized under a NWP 14 if the activity meets the appropriate criteria established for this NWP. The limitation criteria for an NWP 14 are impacts equal to or less than 0.5 acre of non-tidal waters or not greater than 0.33 acre in tidal waters.

In April 2009, Gulf South Research Corporation (GSRC) conducted a survey of potentially affected WUS in the project area. There were 29 WUS identified crossing either the new access or approach roads associated with three of the proposed tower sites (TCA-NGL-141, TCA-NGL-316, and TCA-SON-323). All washes observed are classified as ephemeral streams and are considered jurisdictional under the CWA for the purpose of this SEA. A list of WUS observed during the survey conducted by GSRC is presented in Table 3-6.

Table 3-6. Waters of the U.S. Associated with the Proposed Tower Sites and Approach and Access Roads

Tower ID	Drainage Type	Periodicity	Width of Channel (feet)	Width of Road & Shoulders (feet)	Proposed Action	Impact (acre)
TCA-NGL-141	Wash	Ephemeral	1	16	Grading	< 0.1
TCA-NGL-141	Wash	Ephemeral	1	16	Grading	< 0.1
TCA-NGL-141	Wash	Ephemeral	2	16	Grading	< 0.1
TCA-NGL-141	Wash	Ephemeral	3	16	Grading	< 0.1
TCA-NGL-141	Wash	Ephemeral	1	16	Grading	< 0.1
TCA-NGL-141	Wash	Ephemeral	7	16	Grading	< 0.1
TCA-NGL-141	Gully	Ephemeral	8	16	Grading	< 0.1
TCA-NGL-141	Gully	Ephemeral	2	16	Grading	< 0.1
TCA-NGL-141	Wash	Ephemeral	12	16	Grading	< 0.1
TCA-NGL-141	Wash	Ephemeral	12	16	Grading	< 0.1
TCA-NGL-141	Wash	Ephemeral	12	16	Grading	< 0.1
TCA-NGL-316	Wash	Ephemeral	3	16	New Road Construction	< 0.1
TCA-SON-323	Wash	Ephemeral	3	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	6	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	1	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	5	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	4	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	5	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	5	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	3	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	12	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	12	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	12	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	1	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	3	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	48	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	8	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	10	16	Grading	< 0.1
TCA-SON-323	Wash	Ephemeral	3	16	Grading	< 0.1

No potential jurisdictional wetlands or perennial pools were identified at the proposed tower sites, within the footprint of existing approach roads or the proposed footprint of any new access roads.

3.5.2 Environmental Consequences

3.5.2.1 No Action Alternative

Tower construction and upgrades, and road construction, improvements, or repairs associated with the Proposed Action would not take place under the No Action

Alternative; therefore, no additional impacts to Waters of the U.S. and wetlands would occur under the No Action Alternative.

3.5.2.2 Proposed Action

Surface waters could be temporarily affected by the proposed construction actions. Short-term effects could include a temporary increase in erosion and sedimentation during periods of construction. Disturbed soils and hazardous substances (i.e., anti-freeze, fuels, oils, and lubricants) could directly impact water quality during a rain event. These effects would be minimized through the use of BMPs. A Construction Stormwater General Permit would be obtained prior to construction, and this would require approval of a site-specific SWPPP and Notice of Intent (NOI). A site-specific Spill Prevention, Control and Countermeasure Plan (SPCCP) would also be in place prior to the start of construction. BMPs outlined in these plans would reduce potential migration of soils, oil and grease, and construction debris into local watersheds. Once the construction project is complete, the temporary impact areas at the tower project sites would be re-vegetated with native vegetation per design plans and BMPs in erosion and sediment plans (e.g., SWPPP), which would mitigate the potential of non-point source pollution to enter local surface waters.

The implementation of the Proposed Action would require re-grading of existing low-water crossings or the construction of new low-water crossings using *in situ* material. A total of 29 new potential WUS would be impacted as a result of implementing the Proposed Action (see Table 3-6). Impacts to three Waters of the U.S. would be avoided by eliminating tower TCA-SON-055. No drainage structures (e.g., concrete low-water crossings) would be constructed as part of the Proposed Action. A Section 404 Permit from the USACE Los Angeles District Regulatory Branch would be required to place fill or operate mechanized equipment in jurisdictional WUS. However, because the USACE Los Angeles District typically considers separate utility for each crossing, a NWP 14 would be used for each WUS crossing. All impacts to affected WUS would be less than the 0.1 acre minimum threshold established for reporting requirements under NWP 14. Consequently, all road repair (i.e., grading) or improvements and construction

in WUS would be authorized under a NWP 14 and a preconstruction notice would not be required. Therefore, there would be no significant adverse effects on surface waters or WUS.

3.5.2.3 Alternative 1

The Alternative 1 project area is slightly larger than the Proposed Action project area. Surface waters could be temporarily affected by the construction actions proposed in Alternative 1 and short-term effects would be similar to those described in the Proposed Action. Therefore, under Alternative 1, there would be no significant impacts on surface waters or WUS.

3.6 FLOODPLAINS

3.6.1 Affected Environment

Floodplains in the Tucson West Tower Project area were discussed in detail in the 2008 EA; those discussions are incorporated herein by reference. Executive Order (EO) 11988, Floodplain Management, requires that each Federal agency take actions to reduce the risk of flood loss, minimize the impact of floods on human safety, health and welfare, and preserve the beneficial values which floodplains serve. EO 11988 requires that agencies evaluate the potential effects of actions within a floodplain and to avoid floodplains unless the agency determines there is no practicable alternative. Where the only practicable alternative is to site in a floodplain, an eight-step planning process is followed to ensure compliance with EO 11988 (Federal Emergency Management Administration [FEMA] 2009).

3.6.2 Environmental Consequences

3.6.2.1 No Action Alternative

Tower construction and upgrades, and road construction, improvements, or repairs associated with the Proposed Action would not take place under the No Action Alternative; therefore, no additional impacts to floodplains would occur under the No Action Alternative.

3.6.2.2 Proposed Action

None of the proposed tower sites, new access roads, or roads proposed for repair or improvement as part of the Proposed Action are located in the 100-year floodplain (Figure 3-1). TCA-SON-057 (previously analyzed in the 2008 EA) is not located in a floodplain. Therefore, there would be no impacts on floodplains.

3.6.2.3 Alternative 1

Impacts to floodplains under Alternative 1 would be the same as described for the Proposed Action; there would be no impacts to floodplains.

3.7 VEGETATIVE HABITAT

3.7.1 Affected Environment

The vegetative environment of the project corridor of the SBI*net* Tucson West Tower Project was described in the 2008 EA and is incorporated herein by reference (CBP 2008a). In summary, the vegetative communities within the project corridor include the Sonoran desertscrub, semidesert grasslands, and Madrean evergreen woodland (Brown 1994, CBP 2008a).

In April of 2009, GSRC conducted biological surveys of the three proposed tower sites and one alternate tower site. The vegetation type at TCA-NGL-316 is semidesert grassland with mesquite (*Prosopis* sp.) as the dominant non-grass species. The other flora consisted of teddy bear cholla (*Cylindropuntia bigelovii bigelovii*), chain fruit cholla (*Cylindropuntia fulgida*), palo verde (*Cercidium floridum*), barrel cactus (*Ferrocactus* sp.), prickly pear (*Opuntia* sp.), and ocotillo (*Fouquieria splendens)*.

At proposed tower site TCA-NGL-141, the vegetation community was Sonoran desertscrub with interspersed semidesert grasslands. Ocotillo was the dominant non-grass species at the tower site changing into mesquite at lower elevations and south along the access road. Vegetation consisted of sotol *(Dasylirion wheeleri*), Spanish

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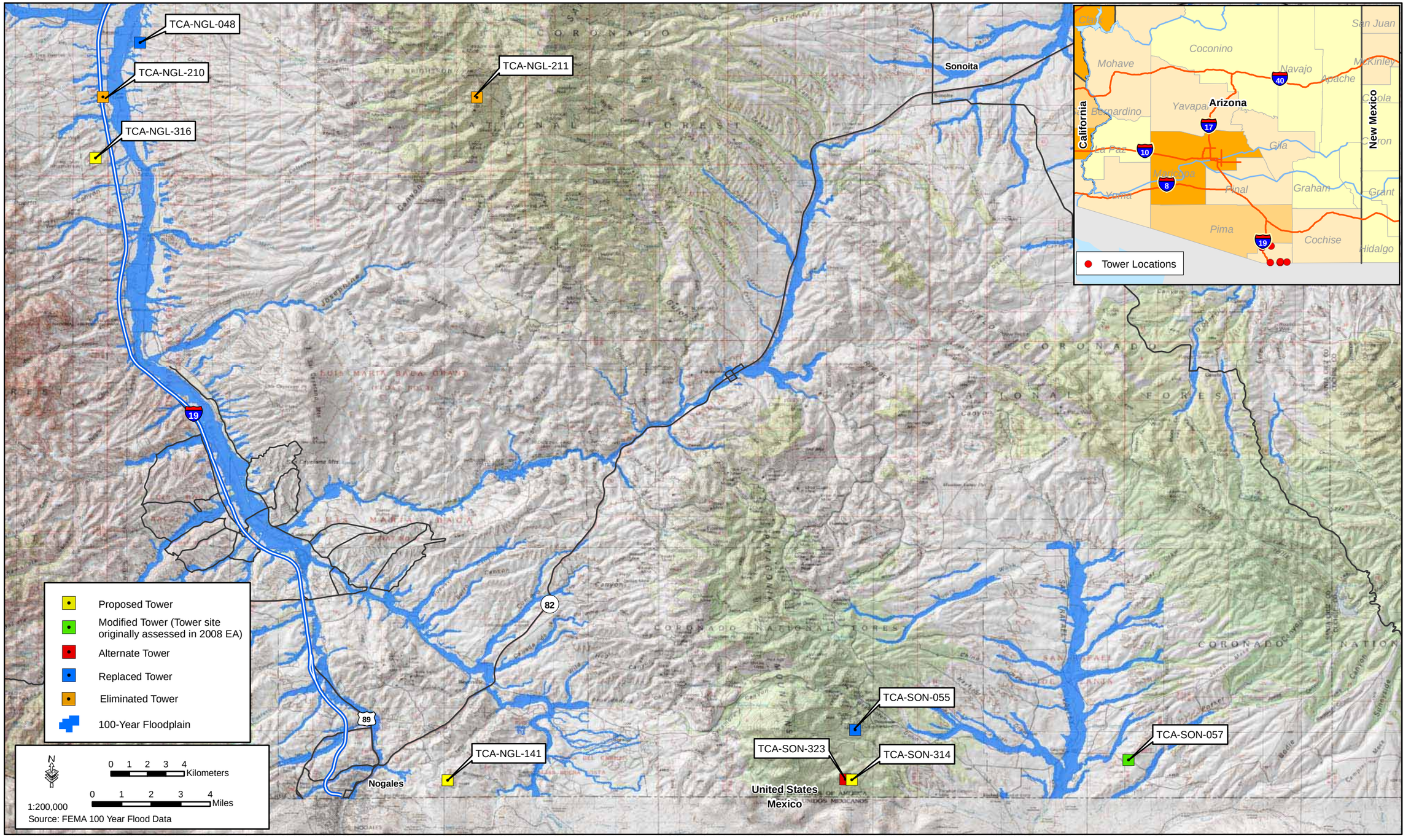

Figure 3-1: Santa Cruz County FEMA Floodplain Map

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dagger (*Yucca gloriosa*), mesquite, bear grass (*Nolina microcarpa*), Emory oak (*Quercus emoryi*), ocotillo, and prickly pear.

The vegetation community at proposed tower site TCA-SON-314, including the new access road was Madrean evergreen woodland. Plants identified during the survey were Emory oak, sotol, alligator juniper (*Juniperis deppeana*), prickly pear, Parry's agave (*Agave parryi),* manzanita (*Arctostaphoylos patula*), chain fruit cholla (*Cylindropuntia fulgida*), rainbow cactus (*Echinocereus pectinatus*), and Spanish dagger.

The proposed alternate tower site TCA-SON-323 was also located in the Madrean evergreen woodland. The vegetation identified at this site and access road was the same as that of TCA-SON-314.

3.7.2 Environmental Consequences

3.7.2.1 No Action Alternative

Under the No Action Alternative, no additional permanent impacts to Sonoran desertscrub, semidesert grassland, and Madrean evergreen woodland vegetative communities would occur, since construction of the three new towers and the upgrade of TCA-SON-057 would not be implemented.

3.7.2.2 Proposed Action

Construction of proposed tower sites and new access roads would permanently convert approximately 2.34 acres of Sonoran desertscrub, semidesert grassland, and Madrean evergreen woodland vegetative communities to CBP enforcement activities. Furthermore road construction, repairs, and improvements associated with the proposed towers would temporarily impact approximately 1.62 acres of Sonaran desertscrub, semidesert grassland, and Madrean evergreen woodland vegetation communities. Each of these communities has been affected by development, cattle grazing, fire suppression, timber harvesting, mining, and the invasion of exotic species over the last century. All of these plant communities are locally and regionally

abundant; therefore, the Proposed Action would not cause the loss of any one of the above mentioned communities and would not have significant adverse impacts to vegetation. Mitigation measures are provided in Section 5.0 to minimize the spread and establishment of invasive species within the project area (CBP 2008a).

Many of the roads leading to tower sites are infrequently used due to poor road conditions. Repair and/or improvements to roads, as well as new road construction, may lead to increased use by humans, both directly in association with construction and operation of towers and indirectly in association with increased recreational access, creating favorable conditions for invasive species already established and the spread of invasive species to new areas. However, the indirect reduction of CBV activity would benefit these habitats through the reduction of similar impacts over a much greater area. Furthermore, improved and new roads would serve as fire breaks which would aid efforts to control wildfires and to manage vegetative habitats through the use of prescribed burns.

3.7.2.3 Alternative 1

The impact of Alternative 1 would be similar to that of the Proposed Action with the exception that tower site TCA-SON-314 would be removed from the tower laydown and replaced by TCA-SON-323. The tower sites are located in the same vegetation community types, thus, impacts to existing vegetation would be the similar; however, there would be 0.30 and 0.18 acre of additional permanent and temporary impacts to Madrean evergreen woodland, respectively, compared to the Proposed Action.

3.8 WILDLIFE RESOURCES

3.8.1 Affected Environment

The biological environment of the project area was discussed in detail in the EA for the SBI*net* Tucson West Project, and is herein incorporated by reference (CBP 2008a). In summary, many of the animals found in Sonoran desertscrub vegetation community are found throughout the warmer and drier regions of the southwestern U.S. Because of

the lack of available forage and extreme temperatures, many of the mammals occupying these vegetation communities are small and most are nocturnal. The semidesert grassland vegetation community provides more forage than other vegetation communities in the project area. The climate of this vegetation community is typically more temperate and rainfall is greater in comparison to the Sonoran desertscrub vegetation community. The Madrean evergreen woodland vegetation community provides abundant forage for mule deer (*Odocoileus hemionis)*, which is common throughout these habitats in the southwest.

3.8.2 Environmental Consequences

3.8.2.1 No Action Alternative

Tower construction and upgrades, and road construction, improvements, or repairs associated with the Proposed Action would not take place under the No Action Alternative; therefore, no additional impacts to wildlife habitat would occur under the No Action Alternative.

3.8.2.2 Proposed Action

The permanent loss of the 2.34 acres of wildlife habitat comprising Sonoran desertscrub, semidesert grasslands, and Madrean evergreen woodland vegetation communities and the temporary impact on 1.62 acres of wildlife habitat would have a minimal impact on wildlife. Although a few sedentary animals could be lost during construction activities, most wildlife would avoid disturbance and construction activities and utilize the abundant surrounding habitat. There is a possibility that the proposed towers could pose hazards to migratory birds; however, since none of the towers would use guy wires, the potential for adverse impacts is greatly reduced. Furthermore, tower construction would adhere to the USFWS interim guidelines and Federal Aviation Administration (FAA) guidelines designed to reduce impacts to migratory birds such as installation of white or red strobe lights and limiting heights of towers (USFWS 2000).

The 2008 EA (CBP 2008a) contained a detailed discussion regarding concerns about the effects of towers to migratory birds and tower lighting. In summary, several studies

have been conducted but are largely inconclusive; most have indicated that more research is needed to better understand the effects of tower lighting on night-migrating birds. However, the Proposed Action is not anticipated to have a significant impact to the sustainability of the wildlife or migratory bird population in the region.

The electromagnetic field (EMF) associated with radars could disorient migratory species, thus increasing the potential for bird strikes (Nicholls and Racey 2007). Mitigation measures as outlined in Section 5.0 would ensure there would be no significant impacts on migratory birds.

Repair of access roads and maintenance of towers would cause temporary, short-term disturbances to wildlife. However, no significant losses of wildlife population due to operation and maintenance of the towers would be expected.

Noise associated with tower and road construction, improvements, and maintenance would result in short-term impacts to wildlife. Elevated noise levels associated with short-term construction and maintenance activities would only occur during the duration of these activities. The effects of this disturbance would include temporary avoidance of work areas and competition for unaffected resources. Due to the limited extent and duration of these activities, impacts on wildlife would be minimal (CBP 2008a). Mitigation measures as outlined in the 2008 EA (CBP 2008a), incorporated by reference herein, would reduce noise associated with operation of heavy equipment.

The increase in noise levels associated with operation of the proposed tower sites (i.e., generators and air conditioners) would be sporadic, only occurring when this equipment is operating. Generators would be equipped with mufflers or baffle boxes to reduce their noise, and noise would be attenuated to 57 A-weighted decibel (dBA) at a distance of 1,165 feet. It is anticipated that wildlife would become accustomed to these intermittent, low-level increases in noise, and that subsequent avoidance of tower sites and any wildlife resources in the area would be minimal.

The Proposed Action could result in indirect and long-term beneficial impacts to wildlife by reducing the adverse impacts of CBV activity on the Sonoran Desert vegetation communities. A reduction in the degradation of these communities would result in an increase or improvement to wildlife resources such as forage, cover, and nesting opportunities. Furthermore, the reduction of CBV activity would result in a proportional reduction in disturbance of wildlife, habitat degradation, and litter. These beneficial impacts could off-set potentially adverse impacts by increasing the availability of wildlife resources and reducing competition for those resources.

3.8.2.3 Alternative 1

The impact of Alternative 1 would be similar to that of the Proposed Action with the exception that tower site TCA-SON-314 would be removed from the tower laydown and replaced by TCA-SON-323. Since the tower sites are located in the same plant community types, Alternative 1 would have similar on wildlife as the Proposed Action; however, there would be a permanent loss of 2.64 acres of wildlife habitat in Sonoran desertscrub, semidesert grasslands, and Madrean evergreen woodland vegetation communities and a temporary impact on 1.62 acres of wildlife habitat, compared to the Proposed Action Alternative. Operational impacts under Alternative 1 would be the same as described for the Proposed Action Alternative. These impacts would have a minimal impact on wildlife.

3.9 PROTECTED SPECIES AND CRITICAL HABITATS

3.9.1 Affected Environment

Protected species and critical habitats were discussed in the 2008 EA and are herein incorporated by reference (CBP 2008a). Biological surveys of the proposed tower sites were conducted by GSRC during April 2009. These investigations included surveys for all Federally and state protected species potentially occurring in the project region.

3.9.2 Federal

USFWS, Arizona Ecological Field Services Office, lists 11 endangered species and three threatened species believed to occur within Santa Cruz County, Arizona. USFWS also lists four candidate species, although candidate species are not afforded protection under the Endangered Species Act (ESA) (USFWS 2009). A list of all USFWS threatened, endangered, and candidate species is provided in Appendix C. Species that could potentially be affected by the Proposed Action are provided in Table 3-7.

Table 3-7. USFWS Listed Species and Critical Habitat Potentially Impacted

Common Name	Species Name	Status	Habitat
Jaguar	*Panthera onca*	E	Found in Sonoran desertscrub up through subalpine conifer forest.
Ocelot	*Leopardus pardalis*	E	Desertscrub habitat with agave and columnar cacti present as food plants.
Mexican spotted owl	*Strix occidentalis lucida*	T	Nests in canyons and dense forests with multi-layered foliage structure.
Mexican spotted owl critical habitat	*Strix occidentalis lucida*	Final	*Federal Register* (31 August 2004) Approximately 4.6 million acres on Federal lands in Arizona, Colorado, New Mexico, and Utah have been designated critical habitat.
Lesser long-nosed bat	*Leptonycteris yerbabuenae*	E	Desertscrub habitat with agave and columnar cacti present as food plants.
Pima pineapple cactus	*Coryphantha scheeri robustispina*	E	Sonoran desertscrub or semi-desert grassland communities.

T = Listed Threatened, E = Listed Endangered.
Source: USFWS 2009 (see Appendix C).

CBP entered into formal consultation with USFWS pursuant to Section 7 of the ESA for the SBI*net* Tucson West Tower Project in 2004. On September 4, 2008, USFWS issued a Biological Opinion (BO [AESO/SE 22410-2008-F-0373]) concluding the Proposed Action may affect and is likely to adversely affect Chiricahua leopard frog (*Lithobates chiricahuensis*), Mexican spotted owl (*Strix occidentalis lucida*) and critical habitat, jaguar (*Panthera onca*), lesser long-nosed bat (*Leptonycteris yerbabuenae*) and Pima pineapple cactus (*Coryphantha scheeri* var *robustispina*). Potential affects to Federally listed species from the Proposed Action would be similar or less in intensity than those described in USFWS's BO (AESO/SE 22410-2008-F-0373) for the SBI*net* Tucson West Tower Project. Through discussions with USFWS, SBI*net* has determined that the Proposed Action does not require reinitiation of formal consultation based on

the four general conditions for reinitiating formal consultation pursuant to Section 7 of the ESA. In September 2008, SBI*net* provided USFWS a letter with its determination that reinitiation of formal consultation pursuant to Section 7 of the ESA is not warranted (Appendix A).

Jaguar

The biology and life history of the jaguar was discussed in detail in the EA for the SBI*net* Tucson West Project, and is herein incorporated by reference (CBP 2008a). The jaguar may transiently use a wide variety of habitats in the project area. Potential habitats in the U.S. are as extensive as those occupied by the population of jaguars in northern Sonora, Mexico. Thus, habitats in the U.S. could become increasingly important as threats continue in Mexico.

Ocelot

The biology and life history of the ocelot was discussed in detail in the EA for the SBI*net* Tucson West Project, and is herein incorporated by reference (CBP 2008a). The ocelot is more adaptable than the jaguar and may persist in partly cleared forests, dense cover near large towns, second growth woodland, and abandoned cultivation. However, the most recent sighting, in 2000, of ocelot near any of the proposed towers occurred 30 miles south of the U.S./Mexico border (Gonzalez 2003). Recent occurrences of ocelot in the project area have not been confirmed.

The biology and life history of the Mexican spotted owl was discussed in detail in the EA for the SBI*net* Tucson West Project, and is herein incorporated by reference (CBP 2008a). In southeast Arizona, the species typically occurs in mixed-conifer forests, but the species utilizes a variety of habitat types throughout its range (USFWS 1995).

Lesser Long-nosed Bat

The biology and life history of the lesser long-nosed bat was discussed in the EA for the SBI*net* Tucson West Project, and is herein incorporated by reference (CBP 2008a). The lesser long-nosed bat primarily utilizes natural caves and abandoned mines for roosting,

but can transiently roost among overhanging rocks and other shelters. The bats eat nectar and fruits of columnar cacti and nectar of paniculate agaves, as such, they are considered to be an important dispersal and pollination vector for these species. Lesser long-nosed bat are known to travel 30 miles to reach suitable concentrations of forage (USFWS 1997).

Pima Pineapple Cactus

The Pima pineapple cactus was discussed in detail in the 2008 EA and is herein incorporated by reference (CBP 2008a). This species is found in association with alluvial substrates at elevations below 4,000 feet between the Baboquivari and Santa Rita Mountains, and in low densities in the northern areas of Sonora, Mexico (USFWS 2007).

3.9.2.1 Critical Habitat

Critical habitat was discussed in the 2008 EA and is herein incorporated by reference (CBP 2008a). Two fish, the Gila chub (*Gila intermedia*) and the Sonoran chub (*Gila ditaenia*), and one aquatic plant, the Huachuca water umbel (*Lilaeopsis schaffneriana recurva*), have critical habitat listed in Santa Cruz County. However, these three species do not have critical habitat in the proposed project area. Furthermore, they would not be impacted because there are no permanent or perennial waterbodies within the project area.

Tower site TCA-SON-057 is situated 0.7 mile upstream of Huachuca water umbel critical habitat; however, no project-related activities would occur directly in suitable or critical water umbel habitat (CBP 2008a).

Tower sites TCA-SON 314 and TCA-TSON-323 are within Mexican spotted owl critical habitat; however, the proposed tower sites lack primary constituent elements for nesting and roosting habitat such as deep canyons and stringers of large trees. The nearest recorded roost is approximately 7 miles north of Benton Mine (Frederick 2009).

3.9.2.2 State

AGFD Natural Heritage Program maintains lists of wildlife of special concern (WSC) by county. WSC are defined as species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines, as described by the AGFD's listing of WSC in Arizona (AGFD 2009a).

According to AGFD's Heritage Data Management System, there are 40 WSC that occur in Santa Cruz County. There are four reptile, six amphibian, 20 bird, six mammal and four fish species listed as WSC in Santa Cruz County (AGFD 2009b). A complete list of state-listed species is in Appendix D.

3.9.3 Environmental Consequences

3.9.3.1 No Action Alternative

The three new proposed towers, associated road construction and improvements, and proposed upgrades to tower site TCA-SON-057 would not occur under the No Action Alternative. Thus, the No Action Alternative would have no additional impacts to protected species and critical habitat.

3.9.3.2 Proposed Action

Designated critical habitat for the Mexican spotted owl occurs within the project area. Proposed tower site TCA-SON-314 lacks primary constituent elements and the nearest recorded roost is approximately 7 miles north of the tower site in the Patagonia Mountains. Furthermore, there is no foraging habitat at tower site TCA-SON-314. Therefore, the project may affect but is not likely to adversely affect the Mexican spotted owl. However, CBP has determined that the proposed project is not likely to result in adverse modifications to its critical habitat.

There are no known lesser long-nosed bat roosts within the project area, although the project area could have foraging habitat for the bat. Agaves were identified at tower sites TCA-SON-314. Some of these agaves were in areas that would be disturbed. However, CBP would salvage and transplant agaves and columnar cacti or replace

larger agaves and columnar cacti at a 2:1 ratio. Additionally, direct effects on lesser long-nosed bats could occur from EMF associated with operation of radars. It has been demonstrated by Nichols and Racey (2007) that bat activity is reduced in habitats exposed to EMF when compared to similar sites where no such radiation can be detected. The study showed that bat activity was reduced in habitats exposed to EMF strength greater than 2 volts/meter (v/m) when compared to similar sites registering EMF levels of zero. Radars to be used as par of the Proposed Action emit an EMF strength of 2 v/m out to 180 feet. Thus, any foraging bats would likely avoid a 180-foot radius around the proposed towers. However, agave is abundant throughout landscape and operation of the proposed towers and this would not affect the viability of lesser long-nosed bat in the project area. It has been determined the proposed project may affect but is not likely to adversely affect the lesser long-nosed bat.

No Pima pineapple cacti were observed during the April 2009 surveys of the proposed tower sites. However, if a Pima pineapple cactus was discovered within the project area, it would be flagged and avoided. If avoidance is not possible, these individuals would be transplanted outside of the disturbance footprint. Therefore, the proposed project may affect but would not likely adversely affect the Pima pineapple cactus.

The most recent sighting (2000) of ocelot near any of the proposed tower sites in the project area occurred 30 miles south of the U.S. border (Gonzalez 2003). Since the ocelot does not occur in the proposed project area, the proposed project would have no effect on the ocelot.

A total of three towers sites would be located in habitats identified as potentially suitable for jaguar based on extrapolation from a limited number of past occurrences. Construction related noise effects would not extend more than 1,000 feet from construction activities. Due to the vast amount of equally suitable habitat between proposed tower sites, the potential is low for noise related effects to result in significant changes in behavior such that the health of individual jaguars would be affected. Operational related noise, any required maintenance, and post construction monitoring

would have similar effects, but would be more limited in extent and duration. Implementation of conservation measures identified in Section 5.0 would minimize the effects of noise, light, and human presence during construction and operation. Therefore, the proposed project may affect but is not likely to adversely affect the jaguar.

Direct effects of the Proposed Action on Federally listed species include degradation or loss of potential habitat as a result of construction and operation of the tower sites. The majority of these effects would be avoided or substantially minimized through the implementation of standard BMPs and other conservation measures such as the training of construction project managers and maintenance staff, use of biological monitors, avoidance of disturbance in sensitive habitats or during breeding seasons, and efforts to minimize the spread of invasive species. Indirect effects resulting from the project would be primarily limited to changes in CBV activity and subsequent CBP interdiction and apprehension efforts. As the level of deterrence increases within areas affected by the Proposed Action, CBV activity is likely to shift to areas where the level of deterrence is lower. Although shifts in illegal activity are reasonably certain to occur, they could occur at nearly any location along the U.S./Mexico border. However, changes in illegal alien traffic patterns result from a myriad of factors in addition to CBP operations and, therefore, are considered unpredictable and beyond the scope of this EA. The location of sensor towers could affect patterns of CBV movement within the action area as CBVs seek new routes through the landscape. The location of towers could affect the areas in which interdiction and apprehension activities occur. Where CBV activity and subsequent apprehension efforts shift into habitats occupied by protected species, some effects could occur. These would include loss and degradation of habitats, loss or damage to protected species, and avoidance of the area. However, the exact location of these effects is difficult to predict and quantify.

In April 2009, the proposed tower sites were surveyed for listed plant and animal species. No Federally protected wildlife species were observed during the biological surveys.

Of the 40 State WSC known to occur in Santa Cruz County, 17 species potentially occur near the tower sites; however, the area of disturbance for each tower site is minor. Therefore, no significant impacts on habitat for these species are expected. Additionally, no occurrences of these species have been documented at the proposed tower sites during field surveys.

Just as with the Federally listed species, direct effects of the Proposed Action on state WSC include degradation or loss of potential habitat as a result of proposed tower construction and operation. Additionally, direct effects on state listed species would occur from EMF associated with operation of radars. The majority of these effects would be avoided or substantially minimized through the implementation of BMPs and other conservation measures described above, and in Section 5.0.

Indirect effects resulting from the project would be primarily limited to changes in CBV activity and subsequent USBP interdiction and apprehension efforts. The proposed towers would increase USBP's ability to detect CBVs thus enhancing enforcement efforts. As the probability of detection and apprehension increases in the project area, the level of deterrence would increase and, consequently, CBV activity would be reduced in the project area. Further, the Proposed Action would through increased effectiveness provide USBP the opportunity to conduct interdiction activities closer to the international border.

Proposed tower site TCA-NGL-316 is located within the Santa Rita-Tumacácori Wildlife Corridor. This corridor is critical in maintaining connectivity between the Sky Islands of the Santa Rita Mountain Complex and the Tumacácori-Atascosa-Pajarito Mountain Complex as well as Sonoran semidesert wildlands. Although the tower would be built within the wildlife corridor, there would be no significant impacts on wildlife connectivity.

The construction of approach and access roads and repair, and improvements made to impassible roads, would increase access to habitat occupied or potentially occupied by

sensitive species. However, the reduction of similar impacts related to CBV activity would benefit these species within the project area.

3.9.3.3 Alternative 1

The impact of Alternative 1 would be similar to that of the Proposed Action with the exception that tower site TCA-SON-314 would be removed from the tower laydown and replaced by TCA-SON-323. Since the tower sites are located in the same habitat types, Alternative 1 would have the same impacts on state and Federal listed species as the Proposed Action. Tower site TCA-SON 323 is also located within Mexican spotted owl critical habitat; however, like tower site TCA-SON 314, the site is lacking in primary constituent elements for nesting and breeding.

3.10 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

3.10.1 Affected Environment

The cultural overview of the project region was described in detail in the 2008 EA and is incorporated herein by reference (CBP 2008a). Briefly, the cultural history of southwestern Arizona is usually discussed in periods: Paleo-Indian (circa 11,500 to 8,000 years before present), Archaic (circa 8,000 to 1,400 years before present) which is generally divided into the Early, Middle and Late Archaic periods, Formative Period (1,400 to 550 years before present) which is generally divided into the Pioneer Period, Colonial Period, Sedentary Period, and Classic Period, Protohistoric and Early Historic Periods (A.D. 1540 to 1860), and Late Historic Period (A.D. 1860 to 1950). The National Historic Preservation Act (NHPA) established the National Register of Historic Places (NRHP), which is the Nation's official list of cultural resources worthy of preservation and protection. The historic preservation review process mandated by Section 106 of the NHPA is outlined in the Advisory Council on Historic Preservation regulations, "Protection of Historic Properties" (36 CFR 800), which were revised and became effective on January 11, 2001.

3.10.1.1 Previous Archaeological Investigations

A total of 24 known archaeological surveys were previously conducted within a 1-mile radius of each of the proposed tower locations. A total of 17 archaeological sites were previously recorded within 1-mile of the proposed tower sites. These sites include prehistoric and historic artifacts scatters along with historic-period trails, and mining and ranching sites. None of the previously recorded sites are adjacent to or intersect the Area of Potential Effect (APE) of the proposed tower sites or access and approach roads (Hart 2009). A search of records and literature for the proposed TCA-SON-057 tower was conducted for the 2008 EA and is incorporated by reference (CBP 2008a). No previously recorded archaeological sites were recorded within the APE of TCA-SON-057 during that records and literature search.

3.10.1.2 Current Investigations

Archaeological surveys were conducted by Northland Research, Inc. for the three proposed tower sites (TCA-NGL-141, TCA-NGL-316, TCA-SON-314) and one alternate site (TCA-SON-323) and their associated access and approach roads between the 20 and 22 April 2009. A total of 51 acres was surveyed as part of this effort. The surveys identified two archaeological sites (AZ EE:9:260 Arizona State Museum [ASM] and AZ EE:10:181[ASM]). AZ EE:9:260 (ASM) is the location of an historic kiln (or kilns) that had recently been destroyed (Hart 2009). The site had limited cultural remains and no intact features remain. The site is considered not eligible for the NRHP and as a result is not considered a significant resource. AZ EE:10:181(ASM) is a historic mine complex consisting of an adit, a short shaft, numerous test adits and test shafts, rock piles or cairns, and two small artifact concentrations. The majority of the site appears modern. The site is not considered eligible for inclusion on the NRHP and is not considered a significant cultural resource (Hart 2009). The SHPO concurred with Mr. Hart's eligibility determinations and the concurrence letter is provided in Appendix A. An archaeological survey had already been conducted for tower location TCA-SON-057 for the 2008 EA and is incorporated here by reference (CBP 2008a). No cultural resources were identified within the APE of tower TCA-SON-057 as a result of those surveys.

3.10.2 Environmental Consequences

3.10.2.1 No Action Alternative

The No Action Alternative would not result in additional impacts to cultural resources as the three proposed new towers and associate roads, and proposed tower upgrades associated with the Proposed Action would not be constructed. However, illegal cross border activity would continue within the project area and potentially disturb known and unknown cultural resources sites.

3.10.2.2 Proposed Action

No previously recorded sites are located within the APE of the proposed towers. In addition, the two new archaeological sites located within the APE of the proposed tower sites and associated access and approach roads, AZ EE:9:260(ASM) and AZ EE:10:181(ASM), are not considered eligible for the NRHP and are not considered significant. As a result, no adverse impacts to cultural resources are anticipated.

Beneficial impacts in the form of increased knowledge of the past are realized as a result of surveys conducted as part of this SEA. Additionally, both recorded and unidentified cultural resource sites located within the study area and regionally would receive increased protection from disturbance through the deterrence of CBV foot and vehicle traffic which currently moves through surrounding areas.

3.10.2.3 Alternative 1

Under Alternative 1, the impacts to cultural resources would be the same as those described under the Proposed Action Alternative.

3.11 AIR QUALITY

3.11.1 Affected Environment

National Ambient Air Quality Standards (NAAQS) represent the maximum levels of background pollution that are considered safe, with an adequate margin of safety, to

protect the public health and welfare. NAAQS were fully described in the 2008 EA and are incorporated herein by reference (CBP 2008a).

Areas that do not meet these NAAQS standards are called non-attainment areas or maintenance areas; areas that meet both primary and secondary standards are known as attainment areas. The Federal Conformity Final Rule (40 CFR Parts 51 and 93) specifies criteria or requirements for conformity determinations for Federal projects.

A conformity analysis determines whether a Federal agency's project is subject to a determination of conformance with a State Implementation Plan if the project is proposed in an area of non-attainment or maintenance regarding NAAQS for constituent pollutants. It requires the responsible Federal agency to evaluate the nature of the Proposed Action and associated air pollutant emissions, calculate emissions as a result of the Proposed Action, and mitigate emissions if *de minimis* thresholds are exceeded.

Santa Cruz County

Santa Cruz County is designated as a moderate non-attainment area for particulate matter less than 10 microns (PM-10; USEPA 2008). The sources of PM-10 include natural wind storms, wind blown dust from agricultural operations and emissions from the combustion of hydrocarbons in cars, trucks, generators and industrial equipment.

3.11.2 Environmental Consequences

3.11.2.1 No Action Alternative

The No Action Alternative would not increase air emissions in Santa Cruz County as the proposed three new towers and associated roads, and proposed tower upgrades would not be constructed as described in the Proposed Action.

3.11.2.2 Proposed Action Alternative

Temporary and minor increases in air pollution would occur from the use of construction equipment (i.e., combustible emissions) and soil disturbance (i.e., fugitive dust), during

construction of the communications and sensor towers and associated road construction, repair, and improvement.

Combustible emission calculations were made for standard construction equipment, such as bulldozers, excavators, pole trucks, front end loaders, backhoes, cranes, and dump trucks, using emission factors from USEPA approved emission model NONROAD6.2 (USEPA 2001). Assumptions were made regarding the type of equipment, duration of the total number of days each piece of equipment would be used, and the number of hours per day each type of equipment would be used. Construction workers and delivery trucks would temporarily increase the combustible emissions in the air shed during their daily commute to and from the project area. Emissions from commuter and delivery trucks were calculated using emission factors generated by the USEPA approved emission factor model MOBILE6.2.

Fugitive dust calculations were made for disturbing the soils while excavating, and grading and constructing the roads and structures. Fugitive dust emissions were calculated using emission factors recommended in USEPA's National Emission Inventory (USEPA 2001) which were the result of field studies conducted by Midwest Research Institute (1996).

The total air quality emissions were calculated to determine the applicability of the General Conformity Rule and are provided in Appendix D. A summary of the total emissions, including fugitive dust, heavy equipment operation, commuter vehicle emissions, and maintenance and operation activities are presented in Table 3-8. As can be seen from this table, the proposed construction activities do not exceed *de minimis* thresholds for Santa Cruz County and, thus, do not require a Conformity Determination.

Table 3-8. Total Air Emissions (tons/year) from the Proposed Action Construction and Maintenance Activities verses the *De minimis* Threshold Levels

Pollutant	Total (tons/year)	*De minimis* Thresholds (tons/year)[1]
CO	14.91	100
Volatile organic compounds	2.67	100
Nitrous Oxides (NOx)	20.86	100
PM-10	13.23	100
PM-2.5	2.76	100
Sulfur Dioxide (SO_2)	2.59	100

Source: 40 CFR 51.853 and GSRC model projections (Appendix D).
1. Note that Santa Cruz County is in non-attainment for PM-10.

Several sources of air pollutants contribute to the overall air impacts of the construction project, includes the following:

1. Combustible engines of construction equipment;
2. Construction workers commute to and from work;
3. Supply trucks delivering materials to construction sites;
4. Fugitive dust from job site ground disturbances; and
5. Bi-monthly commute to towers site for maintenance.

Air emissions would be produced after the towers have been installed and are operating. A maintenance crew would visit the tower sites up to twice per month to insure that the equipment is operating properly and propane trucks would fuel those towers, which are not connected to the electrical grid, once per month. The emissions generated during maintenance trips were summarized and included in Table 3-8. The USEPA approved air emission model MOBILE6.2 was used to produce emission factors for the calculations.

As can be seen from the table above, the proposed maintenance activities do not exceed *de minimis* thresholds in Santa Cruz County and, thus, do not require a Conformity Determination. As there are no violations of air quality standards and no conflicts with the state implementation plans, there would be no significant impacts to air quality from the implementation of the Proposed Action.

During the construction of the proposed project, proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within the design standards of all construction equipment. Dust suppression methods would be implemented to minimize fugitive dust. In particular, wetting solutions would be applied to construction area to minimize the emissions of fugitive dust. By using these environmental design measures, air emissions from the Proposed Action would be temporary and would not significantly impair air quality in the region.

3.11.2.3 Alternative 1

The air emissions resulting from the implementation of Alternative 1 would be similar to those described in the Proposed Action; however, Alternative 1 requires additional road repairs. The air emissions for Alternative 1 were calculated in the air emission analysis (Appendix D) and are summarized in Table 3-9.

Table 3-9. Total Air Emissions (tons/year) from the Alternative 1 Construction verses the *De minimis* Threshold Levels

Pollutant	Total (tons/year)	*De minimis* Thresholds (tons/year)[1]
CO	15.69	100
VOCs	2.86	100
NOx	23.22	100
PM-10	16.93	100
PM-2.5	3.28	100
Sulfur Dioxide (SO_2)	2.91	100

Source: 40 CFR 51.853 and GSRC model projections (Appendix D).
1. Note that Santa Cruz County is in non-attainment for PM-10.

As can be seen from the table above, the proposed construction activities do not exceed *de minimis* thresholds in Santa Cruz County and, thus, do not require a Conformity Determination. As there are no violations of air quality standards and no conflicts with the state implementation plans, there would be no significant impacts to air quality from the implementation of Alternative 1.

3.12 NOISE

3.12.1 Affected Environment

Noise is generally described as unwanted sound, which can be based either on objective effects (i.e., hearing loss, damage to structures, etc.) or subjective judgments (e.g., community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB. Noise was discussed in the 2008 EA and is incorporated herein by reference (CBP 2008a).

3.12.2 Environmental Consequences

3.12.2.1 No Action Alternative

The No Action Alternative would not increase noise levels within the project area as the proposed three new towers and associated roads, and proposed tower upgrades would not be constructed.

3.12.2.2 Proposed Action

One of the proposed tower sites, TCA-NGL-141, is located on private land. There are no residential receptors within 2,000 feet of TCA-NGL-141 or any of the other proposed towers and approach or access roads. Therefore, the Proposed Action would not impact residential sensitive noise receptors. However, one of the proposed towers (TCA-SON-314) and associated access and approach roads would be located in the CNF. This analysis focuses on the noise emissions affecting potential receptors on the CNF.

<u>Assumptions for Tower and Road Construction Noise</u>

It was assumed that the construction of RDTs would require the use of general construction equipment, which produces noise emission up to 81 dBA, for 22 days. Most of the other construction equipment used to install the towers and build and repair the roads, such as backhoe, dump truck, and excavators, produce noise emissions up to 81 dBA (FAA 2007). It is assumed that the general construction equipment would be

operating consistently throughout the day, 5 days a week during the 1 month construction period to install one tower. Assuming the worst case scenario of 81 dBA from general construction equipment, the noise model predicts that noise emissions of 81 dBA from construction equipment would have to travel 320 feet before they would attenuate to 65 dBA. Visitors on the CNF could experience noise levels above 65 dBA if they are within 320 feet of construction activities. However, elevated noise levels from construction activities would be temporary (approximately 22 days) and minor and would not have a significant impact on CNF lands or visitors.

The construction of a SST tower at TCA-SON-057 would require the use of a drill rig in addition to the general construction equipment discussed previously. Drill rigs produce noise emissions up to 97 dBA (FAA 2007). It is anticipated a drill rig would operate 2 days to drill the holes for the three tower piers. The noise model predicts that noise emissions of 97 dBA from a drill rig would have to travel 2,400 feet before attenuating to 65 dBA. Operation of a drill rig would have an adverse impact on visitors within 2,400 feet of TCA-SON-057 during drilling operations. However, these elevated noise levels from drilling operations would be temporary (2 days). During the remaining construction schedule noise levels would be the same as described above. Due to the temporary nature of construction activities, impacts from noise emissions on CNF visitors would be temporary and minor.

Tower Operations

Tower operations refer to noise emissions that would occur after the towers have been installed and associated roads have been constructed, repaired and/or improved. Tower TCA-SON-314 would be powered by a hybrid propane fueled generator – solar system. The propane generator would be expected to operate 4 to 8 hours a day. Noise emissions from the propane generator are approximately 72 dBA at 22 feet from the enclosure under standard test conditions (Office of Border Patrol [OBP] 2009). Assuming the worst case scenario of 72 dBA, noise models predict that noise emissions of 72 dBA from the generator set would have to travel 49 feet before attenuation to the

acceptable level of 65 dBA. Thus, noise emissions from tower operations would result in minor, long-term impacts to CNF lands.

3.12.2.3 Alternative 1

The noise signature created in the CNF during tower construction and operation of TCA-SON-323 would impact the same area as the Proposed Action; however, the length of access road repair and new road construction associated with TCA-SON-323 is greater than the Proposed Action. However, construction is still expected to take 22 days and the noise emissions under Alternative 1 would not result in significant adverse impacts on CNF land or visitors.

3.13 RADIO FREQUENCY ENVIRONMENT

3.13.1 Affected Environment

The radio frequency (RF) environment was discussed in detail in the 2008 EA and is incorporated herein by reference (CBP 2008a). It is currently anticipated that the transmitters and sensors associated with the SBI*net* Tucson West Tower Project would operate below 30 GHz. The Federal Communications Commission (FCC) is responsible for licensing frequencies and ensuring that the approved uses would not interfere with television or radio broadcasts or substantially affect the natural or human environment. The National Telecommunications and Information Administration (NTIA) of the FCC manages Federal agencies' use of the telecommunications spectrum and certifies equipment transmit/receive frequencies for Federal agency use. SBI*net* coordinates and certifies all of its radio frequencies through NTIA prior to equipment deployment on its towers.

3.13.2 Environmental Consequences

3.13.2.1 No Action Alternative

Implementation of the No Action Alternative would not increase RF energy within the project areas as no additional RF transmitters would be would be installed as part of the No Action Alternative.

3.13.2.2 Proposed Action

With the implementation of the Proposed Action, three proposed towers equipped with radio wave and microwave communication systems, as well as radar systems, would be installed for use by CBP in maintaining a secure border. As with any RF transmitter, all of these systems would emit RF energy and EMF radiation; therefore, a potential for adverse effects could occur. However, any adverse effects to human safety and wildlife would likely be negligible due to the minimal exposure limits associated with both the type of equipment used and the elevated locations in which they would be positioned on the proposed towers. The proposed tower sites would also be fenced for security, making human and terrestrial wildlife exposure to RF emitting equipment even less likely.

The potential to exceed maximum permissible exposure (MPE) limits of RF energy such as those described by Kelly (2007) are far outside the capability limits of data and communications systems in the Proposed Action (CBP 2008a). Furthermore, communication and radar systems installed on the proposed towers would be a minimum of 20 feet off the ground and would exceed the safe operating distance for these systems (i.e., 17 feet). Thus, maintenance and operational personnel working within the secure tower sites would not be exposed to any RF energy that exceeds MPE limits set by the FCC.

Though greater research is required to have a better understanding of the effects of RF energy on the avian brain, the potential effects on passing birds is expected to be negligible as well (Beason 1999, Evans and Manville 2000). Any disorientating effect, if experienced, would be short-term and would occur only at close distances from the antennas.

As part of the overall spectrum management process, the NTIA and the FCC have developed radio regulations to help ensure that the various radio services operate compatibly in the same environment without unacceptable levels of RF interference and emissions. While the communication systems and the frequencies in which they would

be operated are considered law enforcement sensitive and cannot be provided to the public, compliance with FCC and NTIA regulations would be required, and would ensure that recognized safety guidelines are not exceeded. All frequencies used by CBP would be coordinated through the FCC and NTIA as required by NTIA regulations. Additionally, transmitters and sensors associated with the SBI*net* Tucson West Tower Project would operate below 30 GHz. Therefore, the RF environment created by the installation, operation and maintenance of the communication and radar systems on the proposed towers would not result in significant adverse impacts to observatories, human safety or the natural and biological environment.

3.13.2.3 Alternative 1

TCA-SON-323 has the same design and equipment as TCA-SON-314, therefore impacts from Alternative 1 would be the same as the impacts from the Proposed Action.

3.14 UTILITIES AND INFRASTRUCTURE

3.14.1 Affected Environment

3.14.1.1 Utility Commercial Grid Power

Utilities and infrastructure were discussed in the 2008 EA and are incorporated herein by reference (CBP 2008a). Citizens Utilities Company services Santa Cruz County, including Nogales and Sonoita (Arizona Department of Commerce 2009). One tower, TCA-NGL-316, would be connected to the commercial electrical grid. It is approximately 80 feet from the proposed tower site to commercial electrical grid.

Power would be extended from the service or secondary pole to the proposed tower utilizing overhead lines. Although power line corridors have not been defined as of yet, coordination is currently underway with the local utility provider within the service area. It is assumed that new power lines would be installed adjacent to surveyed new or existing access roads. If it is necessary to deviate from access road locations, new biological and archaeological surveys would not need to be conducted as the entire area between tower site TCA-NGL-316 and El Burro Lane was surveyed for cultural and

biological resources. The remaining towers would typically be powered by a propane-fueled hybrid generator system which consists of a common generator system with supplemental photovoltaic capabilities consisting of 18 solar panels, an energy storage battery system, an inverter, and direct current power subsystems. Each proposed tower site is not expected to utilize more than 3,650 kW-hours per month from the electrical grid or hybrid generator-solar systems.

The propane fuel source for the generator at each tower would be supplied by local propane dealers. It is anticipated that refueling of each 1,000-gallon propane tank would be required approximately once monthly. For TCA-NGL-316, commercial power may not be available immediately upon tower deployment. If this should occur, the 25 kW hybrid propane generator-solar system would be utilized until commercial power infrastructure can be deployed.

3.14.1.2 Ambient and Artificial Lighting

Ambient or atmospheric light is of concern to many including, most notably, astronomical observatories (International Dark Sky Association 2008). The reduction of man-made or artificial light sources is generally what astronomers would like to see in the southwest and there are light ordinances in place in some cities in the southwest to minimize sky brightness in large population centers.

When tower facility lighting is deemed necessary due to CBP operational needs, such as the installation of infrared lighting, USFWS (2000) *Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers* would be implemented to reduce night-time atmospheric lighting and the potential adverse effects of night-time lighting to migratory bird and nocturnal flying species, and astronomical observatories. Any infrared lighting installed on the proposed towers would be compatible with night vision goggle usage.

Currently, it not anticipated that night-time construction would occur; however if night-time construction becomes necessary, use of lighting would be minimized.

3.14.2 Environmental Consequences

3.14.2.1 No Action Alternative

Since none of the actions described in the Proposed Action would be implemented, no additional demands on utilities or construction of infrastructure would occur under the No Action Alternative.

3.14.2.2 Proposed Action

Negligible demands on power utilities would be required as the result of the Proposed Action. One of the proposed towers, TCA-NGL-316, would utilize the local commercial power grid. More renewable sources of power (i.e., solar) would be employed at other sites which would allow the generator batteries to be charged during daylight hours, and then when exhausted, would switch to propane fuel, a non-renewable resource. Therefore, there would be no significant impacts on power utilities. TCA-SON-057 was previously analyzed in the 2008 EA as having no significant impacts (CBP 2008a).

No towers within the Proposed Action would be over 200 feet in height, and as such, would not be required to follow FAA lighting regulations. Lighting would be necessary for CBP security purposes within the tower perimeter; these lights would utilize low sodium bulbs, be shielded to avoid illumination outside the footprint of the tower sites, and would be activated by motion detectors. Such security lights would be similar to a residential porch light and would be situated on the equipment shelter. Based on these measures no significant long term impact to the night sky and ambient lighting would occur from the implementation of the Proposed Action.

3.14.2.3 Alternative 1

The Alternative 1 would result in impacts similar to those described for the Proposed Action.

3.15 ROADWAYS AND TRAFFIC

3.15.1 Affected Environment

The project area is generally remote, although Interstate 19 is located just east of TCA-NGL-316. U.S. Highway 89 and State Highway 82 are the only highways within the project area. Interstate 19 follows the original route of U.S. 89 and the portion of Interstate 19 from Nogales to Tucson is part of the Canamex Corridor.

Many of the project sites are located in rural, undeveloped areas with recreation or wilderness as the main land uses for the region. Traffic flow is usually low on these roads because most vehicular movement in the region occurs on the Interstate 19.

3.15.2 Environmental Consequences

3.15.2.1 No Action Alternative

Under the No Action Alternative, roadways and travel corridors would not be impacted from increased truck and construction personnel owned vehicles as a result of constructing the three proposed new towers, associated access roads, and proposed upgrades to tower site TCA-SON-057.

3.15.2.2 Proposed Action

With the implementation of the Proposed Action Alternative, three new towers would be installed for use by CBP in maintaining a secure border. Construction and staging for the access roads, foundations, towers and associated equipment shelters would create a minor short-term impact to roadways and traffic within the project region. The increase of vehicular traffic would occur during delivery of supply materials and travel by work crews at each tower site for a short amount of time. Each tower would be installed within an approximate 4-week time period. The initial construction phase would include creation of a staging area for materials and equipment. Once a staging area is established, traffic near the construction sites would be from the influx of construction workers and new materials. Staging areas would be set off the main roads and would not disrupt the flow of traffic.

Existing roads would mainly be utilized to access the tower sites and they would be maintained. A total of 531 feet of new roads would be constructed to access the proposed tower sites from existing roads. The public already has access to the existing roads and the additional 531 feet of roads would end at a tower site.

There are no anticipated long-term impacts to traffic from the installation of the towers. Once construction work is completed, maintenance visits to each site would be required up to two times monthly and refueling visits would be required once monthly. These visits would not increase normal traffic activity locally or regionally.

3.15.2.3 Alternative 1

Alternative 1 would have permanent and direct impacts similar to those discussed for the Proposed Action. A total of 591 feet of new roads would be constructed to access the proposed tower sites from existing roads, compared to 531 feet under the Proposed Action Alternative.

3.16 AESTHETIC AND VISUAL RESOURCES

3.16.1 Affected Environment

Aesthetics and visual resources were discussed in Section 3.16.2.2 of the 2008 EA and are incorporated herein by reference (CBP 2008a). Towers currently exist within the project area and are generally commercial or CBP communications towers. Roads within the CNF, private and other Federal lands may be maintained by these various entities depending upon land management strategies or plans.

Aesthetic resources vary throughout the project corridor, which includes vast open areas of arid desert land, mountains and diverse ecosystems. Areas within the project corridor visited for their natural setting and aesthetic values include the CNF, the Tumacácori EMA, the Sky Islands, and the Tumacácori-Santa Rita Linkage. Tumacácori EMA provides recreation opportunities such as bird viewing and a space for quiet and solitude. The Tumacácori EMA is a rugged, vast landscape with great

aesthetic appeal. The Sky Islands, forested mountain "islands", are surrounded by vast expanses of desert and grassland plains and host a variety of diverse ecosystems. The Tumacácori-Santa Rita Linkage provides a valuable corridor for wildlife to travel between the Sky Islands of southeastern Arizona. As previously noted, TCA-NGL-316 is located within Tumacácori-Santa Rita Linkage land.

3.16.2 Environmental Consequences

3.16.2.1 No Action Alternative

No additional impacts to aesthetics in the project area would occur under the No Action Alternative.

3.16.2.2 Proposed Action

The proposed towers would be located on high points (i.e., ridges) and are typically visible from long distances. Installation of towers could detract from the aesthetic resources of the project area. Towers currently exist within the project area and are generally commercial or CBP communication towers. A viewshed analysis was conducted for proposed tower site TCA-NGL-141 and 316, and TCA-SON-314. A total of five observation points were randomly located along roads, populated areas, and higher elevation points and (i.e., Saucito Mountain), and where the public would visit for a wilderness experience. A total of 15 observation points were designated in the project area. Maps depicting each observation point and the viewshed from that point are provided in Appendix E. Proposed towers site TCA-NGL-316 would be visible from areas east of I-19. Specifically the tower would be visible from Tubac Presidio State Historical Park. However, both the proposed tower site TCA-NGL-316 and the historical park are located adjacent to I-19 and development along I-19 is common. Further, although TCA-NGL-316 is in the Tumacácori-Santa Rita Linkage, the impacts would not be expected to significantly degrade aesthetic resources in the area as the tower site is located within 0.5 mile of I-19. Proposed tower site TCA-NGL-141 is located in an undeveloped area east of Nogales. The proposed tower would be visible from four observation points located north and east of the proposed tower site. Specifically, the tower would be visible from Mt. Washington in the Patagonia Mountains. Based on the

undeveloped nature of the proposed tower site location and surrounding lands, the proposed tower would be expected to have a moderate impact on aesthetic resources. Proposed tower site TCA-SON-314 is located in the Patagonia Mountains on the CNF. The area is undeveloped with the exception of historic mine. The proposed tower site would be visible from three of the observation points in the Patagonia Mountains. Based on the undeveloped nature of the proposed tower site location and surrounding lands, the proposed tower would be expected to have a moderate impact on aesthetic resources. Therefore, overall impacts on aesthetic quality of the area would be minor to moderate and would not be considered significant impacts.

3.16.2.3 Alternative 1

Alternative 1 would result in impacts similar to those described for the Proposed Action.

3.17 HAZARDOUS MATERIALS

3.17.1 Affected Environment

Solid and hazardous wastes are regulated in Arizona by a combination of laws promulgated by the Federal, state and regional Councils of Government. All proposed tower sites had a search conducted on the USEPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). CERCLIS contains information on hazardous waste sites, potential hazardous waste sites, and remedial activities, including sites that are on the National Priorities List (NPL) or being considered for the NPL. The search found nine sites in Santa Cruz County; however, none of those sites are active NPL sites (USEPA 2009a and 2009b).

3.17.2 Environmental Consequences

3.17.2.1 No Action Alternative

Under the No Action Alternative, construction of the three proposed new towers and associated access road construction and improvements, and upgrades to tower site TCA-SON-057 would not occur. Therefore, no solid or hazardous waste would be

generated as part of constructing the project and no adverse impact to the natural and human environment from solid or hazardous waste would occur.

The No Action Alternative would not result in any indirect beneficial impacts to the environment through the reduction of solid and hazardous waste. Abandoned vehicles and other solid or hazardous waste associated with illegal cross border activities would continue to occur within the project area.

3.17.2.2 Proposed Action

Construction Activities

During construction of the proposed towers, access and approach roads, a potential exists for petroleum, oils, and lubricants (POL) contamination at the construction sites due to storage of POL material for maintenance and refueling of vehicles and fuel storage tanks. However, these activities would include primary and secondary containment measures. Clean-up materials (e.g., oil mops) would be maintained at each site for appropriate spill response and cleanup in case an accidental spill occurs. Drip pans would be provided for the power generators and other stationary equipment to capture any POL that is accidentally spilled during maintenance activities or leaks from equipment. A SPCCP would be in place prior to the start of construction activities as outlined in Section 5.0.

Portable sanitary facilities would be provided during construction activities and waste products would be collected and disposed of by licensed contractors. Disposal contractors would use only established roads to transport equipment and supplies, and all waste would be disposed of in compliance with Federal, state, and local regulations, and in accordance with contractors' permits.

Maintenance and Operations Activities

Additionally, all solid and hazardous wastes and materials, including universal waste (such as batteries, fluorescent light bulbs, etc.), would be handled in accordance with applicable Federal and state laws and guidelines governing these items.

3.17.2.3 Alternative 1

Impacts resulting from the Alternative 1 would be similar to those described for the Proposed Action.

3.18 SOCIOECONOMICS

The Region of Influence (ROI) of the Proposed Action Alternative consists of Santa Cruz County, Arizona. This discussion supplements and updates the socioeconomic analysis conducted for the 2008 EA (CBP 2008a).

The population and racial mixes of the ROI and Arizona are presented in Table 3-10. Population in Santa Cruz County was 48,196 in the 3-year census ending in 2007 (U.S. Census Bureau 2007a and 2007b). Approximately 15 percent of Santa Cruz County and 29 percent of Arizona reported having populations of (or populations with) Hispanic origin in the 3-year census ending in 2007, while 12.4 percent of Santa Cruz County and 3.4 percent of Arizona reported being African American.

Table 3-10. 3-Year Census Ending in 2007 Population and Race Estimates within the Region of Influence

	Arizona	Santa Cruz County*
White	4,701,013 (76.4%)	31,137 (74.1%)
African American	210,069 (3.4%)	5,210 (12.4%)
Native American	276,132 (4.5%)	336 (0.8%)
Asian	144,389 (2.3%)	1,807 (4.3%)
Native Hawaiian	8,878 (0.1%)	42 (0.1%)
Some Other Race	661,797 (10.8%)	2,605 (6.2%)
Two or More Races	149,897 (2.4%)	882 (2.1%)
Hispanic Origin	1,785,737 (29.0%)	6,177 (14.7%)
Total Population	7,937,912	48,196

Sources: U.S. Census Bureau 2007a and 2007b.
* Actual numbers of persons in each of the race categories were not provided, percentages were estimated; therefore these values are estimates of persons in each of the categories.

3.18.1 Employment and Income

Table 3-11 summarizes the total number of jobs in the ROI and Arizona. The number of jobs in Santa Cruz County increased 26.1 percent between 1997 and 2007 (a gain of 3,946 jobs). However, in a 2-year period (from 2007 to May 2009), the number of jobs in Santa Cruz County has decreased 20 percent, which is comparable to the percentage of jobs lost in the state during the same time period (22 percent). The decrease in jobs in the last year, from May 2008 until May 2009, was 6.9 percent in Santa Cruz County, but only 3.2 percent in the state. The trade, transportation, and utilities sectors provided the most jobs in Santa Cruz County in May 2009 (5,450 jobs) followed by government and other private service-providing entities (Arizona Department of Commerce Research Administration 2009).

Table 3-11. Total Number of Jobs within the Region of Influence

Location	1997	2007	May 2008	May 2009	Percent Change from May 2008 – May 2009
Arizona	2,515,360	3,520,657	2,986,500	2,890,100	-3.23%
Santa Cruz County	15,108	19,054	17,050	15,875	-6.89%

Sources: U.S. Bureau of Economic Analysis 1997a, 1997b, 2007a and 2007b, Arizona Department of Commerce Research Administration 2008 and 2009.

The unemployment rate decreased slightly in Arizona between 1997 and 2007 (Table 3-12) but has steadily increased since 2007. In Santa Cruz County, between 1997 and 2007, there was a 13.2 percent decrease in the unemployment rate. Since 2007, the unemployment rate has been climbing, although the increase between 2008 and the present (1.8 percent) is not as much as the increase was for the state (2.5 percent).

Table 3-12. Unemployment Rate within the Region of Influence

Location	1997	2007	2008	May 2009
Arizona	4.6%	3.8%	5.5%	8.0%
Santa Cruz County	20.5%	7.3%	10.0%	11.8%

Sources: Arizona Department of Commerce Research Administration 2009 and Real Estate Center 2008a and 2008b.

The 2007 per capita personal income (PCPI) for Santa Cruz County was $23,744 and ranked 9^{tht} in the state (Table 3-13; U.S. Bureau of Economic Analysis 2007c). This PCPI was 72 percent of the state average ($32,833) and 61 percent of the National average ($38,615). The 1997 to 2007 average annual growth rate in the ROI was 4.6, greater than both the average annual growth rate for the state (4.2 percent) and the Nation (4.3 percent) (U.S. Bureau of Economic Analysis 2007c).

Table 3-13. Income Median Household Income for the U.S., Arizona, and Santa Cruz County

Location	2007 Per Capita Personal Income (PCPI)	PCPI 1997-2007 Average Annual Growth Rate (percent)	2007 Median Household Income
U.S.	$38,615	4.3	$50,740
Arizona	$32,833	4.2	$49,923
Santa Cruz County	$23,744	4.6	$35,661

Source: U.S. Bureau of Economic Analysis 2007c.

In 1997, the median household income in Santa Cruz County was $26,515, with 25.8 percent of the population living below poverty (U.S. Census Bureau 1997); the percentage of persons living in poverty decreased over 5 percentage points to 20.1 percent in 2007 and the median household income increased nearly 35 percent to $35,661 (U.S. Census Bureau 2007c). In 1997, the State of Arizona experienced a median household income of $34,751, with 15.5 percent of the population living below poverty (U.S. Census Bureau 1997). The percentage of persons living below poverty in 2007 remained the same at 15.5 percent and the median household income increased by 44 percent to $49,923 in 2007 (U.S. Census Bureau 2007c).

Housing

The total number of housing units in the ROI in the 3-year census ending 2007 was 16,237, with a 33 percent vacancy, which is a vacancy rate more than twice that of the

State of Arizona (Table 3-14). There are a higher percentage of owner-occupied houses in the state than in the ROI.

Table 3-14. Housing Units by Location (3-year Census Ending 2007)

Location	Vacant Housing Units	Occupied Housing Units		Total Housing Units
		Owner	Renter	
Arizona	380,590 (14.7%)	1,520,037 (68.6%)	695,724 (31.4%)	2,596,351
Santa Cruz County	5,360 (33.0%)	8,534 (76.8%)	2,523 (23.2%)	16,237

Sources: U.S. Census Bureau 2007a and 2007b.

3.18.1 Environmental Consequences

3.18.1.1 No Action Alternative

No additional beneficial impacts to economics would occur in the project as a result of purchasing liquid propane to fuel generators at the towers sites proposed as part of the Proposed Action.

3.18.1.2 Proposed Action Alternative

The labor for the Proposed Action Alternative would be provided by private contractors, resulting in only temporary increases in the population of the project area. When possible, materials and other project expenditures would predominantly be obtained through merchants in the local community resulting in minor, temporary economic benefits. All construction activities, regardless of the area, would be limited to daylight hours only, to the maximum extent practicable. Safety buffer zones would be designated around all construction sites to ensure public health and safety. No displacement of residential or commercial properties would result from this action.

Adequate housing and contracting resources are available in the ROI for private contractor involvement in constructing the proposed towers. Only minor direct impacts to housing or employment in the project areas would result from temporary, short-term increases in the tower construction workforce that would last for the approximate 4 week construction work schedule. No changes to local employment rates, poverty levels, or local incomes would occur as a result of this program.

The increased surveillance and improved CBP response times to apprehend CBVs would reduce illegal traffic in the project area. Reductions in illegal traffic resulting from increased surveillance from the implementation of the proposed towers are expected to reduce crime in the area and enhance the safety of U.S. residents.

3.18.1.3 Alternative 1

Alternative 1 would result in impacts similar to those described for the Proposed Action.

3.19 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

3.19.1 Affected Environment

3.19.1.1 Executive Order 12898, Environmental Justice

Environmental Justice and Protection of Children were discussed in the 2008 EA and are incorporated herein by reference (CBP 2008a). Santa Cruz County has approximately 14.7 percent of their population claiming Hispanic or Latino origin (see Table 3-10). Furthermore, Santa Cruz County has a greater percentage of its population in poverty relative to both Arizona and the Nation (Table 3-15).

Table 3-15. 2007 Poverty Data for the Nation, Arizona, and the ROI

Location	Percent of All Ages in Poverty
United States	13.0
Arizona	14.1
Santa Cruz County	20.1

Source: U.S. Census Bureau 2007c.

3.19.1.2 Executive Order 13045, Protection of Children

In Santa Cruz County, 13,538 individuals, or 32.2 percent of the population, are children under the age of 18 (U.S. Census Bureau 2007b). The potential for impacts to the health and safety of children would be greater where projects are located near residential areas.

3.19.2 Environmental Consequences

3.19.2.1 No Action Alternative

The No Action Alternative would not result in disproportionately high or adverse environmental health or safety impacts on minority or low-income populations or children.

3.19.2.2 Proposed Action

The Proposed Action would beneficially affect the ROI, regardless of race and income level due to a reduction in CBV activities. The Proposed Action would not result in disproportionately high or adverse environmental health or safety impacts to minority or low-income populations or children. This conclusion is based on the fact that the project area is not in proximity to any populations and there would be no displacement of persons (minority, low-income, children, or otherwise) as a result of implementing the Proposed Action.

3.19.2.3 Alternative 1

Alternative 1 would result in similar impacts compared to the Proposed Action.

3.20 SUSTAINABILITY AND GREENING

3.20.1 Affected Environment

EO 13423 – *Strengthening Federal Environmental, Energy, and Transportation Management* (72 FR 3919), was discussed in the 2008 EA and is incorporated herein by reference (CBP 2008a). New facility construction would comply with the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* set forth in the *Federal Leadership in High Performance and Sustainable Memorandum of Understanding*. DHS will also reduce total consumption of petroleum products as set forth in the EO and use environmentally sound practices with respect to the purchase and disposition of electronic equipment.

3.20.2 Environmental Consequences

3.20.2.1 No Action Alternative

Under the No Action Alternative, CBP would continue to implement Federal sustainability and greening practices, to the extent practicable as part of other CBP projects.

3.20.2.2 Proposed Action

Under the Proposed Action, the Federal sustainability and greening practices would be implemented, to the extent practicable. CBP intends to obtain the goal of reducing petroleum-based product use with a Fleet Management Plan facilitated through CBP's Asset Management Division. This project would adhere to this management plan.

3.20.2.3 Alternative 1

Alternative 1 would result in impacts similar to those described for the Proposed Action.

SECTION 4.0
CUMULATIVE IMPACTS

4.0 CUMULATIVE IMPACTS

The NEPA regulations define cumulative impacts as an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time by various agencies (Federal, state, and local) or individuals. Informed decision-making is served by consideration of cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future.

This cumulative impacts analysis summarizes expected environmental effects from the combined impacts of past, current, and reasonably foreseeable future projects within the Proposed Action areas. Projects were identified for this analysis by reviewing CBP documents, news/press releases and published media reports, and through consultation with planning and engineering departments of local governments, and state and Federal agencies, including DHS/CBP/SBI and SBI*net* project proponents. Projects not planned in proximity to the proposed tower sites would not contribute to cumulative impacts within the project area and were not considered. Since the ROI for the proposed tower locations is Santa Cruz County, Arizona, the following analyses will address cumulative impacts only within the central portion of Tucson Sector.

4.1 REASONABLY FORESEEABLE CBP PROJECTS WITHIN AND NEAR THE TUCSON SECTOR

CBP has been conducting law enforcement actions along the U.S./Mexico border since its inception in 1924, and has continually transformed its methods as new missions, CBV modes of operations, agent needs, and national enforcement strategies have evolved. Development and maintenance of training ranges, station and sector facilities, detention facilities, and roads and fences have affected thousands of acres with

synergistic and cumulative impacts on soils, wildlife habitats, water quality, and noise. Beneficial effects have resulted from the construction and use of these roads and fences, including but not limited to: increased employment and income for border regions and surrounding communities, protection and enhancement of sensitive resources north of the border; reduction in crime within urban areas near the border; increased land value in areas where border security has increased; and increased knowledge of the biological communities and pre-history of the region through numerous biological and cultural resources surveys and studies.

With continued funding and implementation of CBP's environmental conservation measures, including environmental education and training of its agents, use of biological and archaeological monitors, wildlife water systems, wildlife forage plots, and restoration activities, adverse impacts of future and ongoing projects would be prevented or minimized. However, recent, ongoing, and reasonably foreseeable proposed projects would result in cumulative impacts. In particular, the FY 2007 DHS Appropriations Act provided $1.2 billion for the installation of fencing, infrastructure, and technology along the border. In FYs 2008 and 2009, CBP completed construction of approximately 338 miles of primary fence in the CBP Sectors of Rio Grande Valley, Marfa, Del Rio, and El Paso, Texas; Tucson and Yuma, Arizona; El Centro and San Diego, California.

Another CBP initiative, entitled Vehicle Fence 300 (VF 300), constructed approximately 298 miles of vehicle fence in California, Arizona, and New Mexico in FYs 2008 and 2009. Approximately, 15 miles of vehicle fence was constructed on Cabeza Prieta National Wildlife Refuge (CPNWR). Projects recently completed or reasonably foreseeable in the near future in the Tucson Sector are presented in Table 4-1.

CBP would continue with the construction of 54 towers as part of the SBI*net* Tucson West Tower Project. In FY 2009, CBP constructed 14 towers in the USBP Tucson Station's AOR as part of the SBI*net* Tucson West Tower Project. The majority of these towers were constructed on the CNF and Buenos Aires National Wildlife Refuge.

Projects recently completed or reasonably foreseeable in the near future in the Tucson Sector are presented in Table 4-1.

Table 4-1. Recently Completed or Reasonably Foreseeable CBP projects within and near the Tucson Sector

Project	Approximate Acres Permanently Impacted
Recent construction of 36 miles of hybrid barrier and the proposed construction of 35 miles of patrol and drag road, eight water wells, two new temporary staging areas, five existing staging areas, and approximately 7.5 miles of improvements to north-south access roads on the Barry M. Goldwater Range (BMGR)	189
Proposed expansion of the USBP Ajo Station in Why, Arizona	30
Proposed widening of the El Camino Del Diablo to approximately 18-feet wide.	62
Construction of approximately 15 miles of vehicle fence and north-south access road improvements on the CPNWR (VF 300).	115
Construction of approximately 37 miles of permanent vehicle barrier, improvements to approximately 37 miles of access road, construction of 1-mile of new road, and installation of approximately 1.5 miles of temporary vehicle barriers on the CPNWR.	186
Construction and upgrade of 54 towers, including construction, repair and improvement of associated roads for SBI*net* Tucson West project	43
Improvement of 80 miles of all weather patrol road and construction of 50 miles of permanent vehicle barriers (PVB) on Tohono O'odham Nation as well as a construction access road for the installation and maintenance of the PVBs.	72
Leased an 80-acre parcel of land near the Mariposa POE for CBP operations (portable lights and maintenance of roads)	80
Proposed construction and maintenance of approximately 11.7 miles of all-weather roads, which includes 8.5 miles of drag roads, low-water crossings, and drainage structures on either side of Nogales	40
Restoration of Ephraim Ridge near Nogales	1
Construction and improvement of 3 miles of new patrol road, including 0.3 mile of drag road, low-water crossings, and drainage structures west of the Mariposa commercial Port of Entry (POE) in the Tucson Sector, Nogales Station's AOR.	37
Expansion of CBP checkpoint facilities near Three-Points	5
Proposed construction of vehicle fence on the Tohono O'odham Nation (VF 300)	41
Proposed tower construction and access roads for SBI*net* Yuma/BMGR Project	15*
Proposed tower construction and access roads for SBI*net* CPNWR Project	15*
Proposed tower construction and access roads for SBI*net* Tucson EastProject	40*
Proposed tower construction and access roads for SBI*net* Ajo-1 Station Tower Project	13
Proposed tower construction and access roads for SBI*net* Tohono O'odham Project	15*
Tower construction and access roads for SBI*net* Tucson West Project	41
TOTAL	1,040

* These are only initial planning estimates based on tower impacts and currently does not include roads.

Other SBI*net* tower projects are currently in the planning phase for Arizona and would include tower construction and access roads in the Naco, Douglas and Wilcox AORs (Tucson East, 29 proposed towers), Tohono O'odham Nation (30 proposed towers), and in the Ajo and Yuma Sector's Wellton Station AORs (CPNWR, 11 proposed towers). The number of proposed towers for these projects may change based on the development of final planning and analysis designs.

CBP is planning the implementation of the CTIMR program for the maintenance and repair of CBP TI and all roads associated with CBP tactical infrastructure and SBI*net* projects required to ensure full-time access to the towers and other T). In general, roads would be maintained to the original construction condition.

In addition to these phased projects, CBP might be required to implement other activities and operations that are currently not foreseen or not within the ROI and therefore not discussed in this document. These actions could be in response to national emergencies or security events like the terrorist attacks on September 11, 2001, or to changes in the mode of operations of CBVs.

4.2 OTHER AGENCY/ORGANIZATIONS PROJECTS

Plans by other agencies that would also affect the region's natural and human environment include various road improvements by ADOT and/or Santa Cruz County. The majority of these projects would be expected to occur along existing corridors and/or within previously disturbed sites. The magnitude of the impacts would depend upon the length and width of the road right-of-way (ROW) and the extant conditions within and adjacent to the ROW.

ADOT planned improvements for Santa Cruz County through 2009 are to perform pavement preservation along State Route 83 Sonoita North (MohaveBusiness.com 2009 and ADOT 2009).

In addition, projects are currently being planned by other Federal entities which could affect areas in use by CBP. CBP should maintain close coordination with these agencies to ensure that CBP activities do not conflict with other agencies' policies or management plans. CBP would consult with applicable state and Federal agencies prior to performing any construction activities and would coordinate operations so that they do not inappropriately impact the mission of other agencies. Other agencies, such as BLM and USFS routinely prepare or update Resource Management Plans for the resources they manage.

CBP activities have had many positive cumulative impacts. For example, construction and maintenance activities resulting in reductions in illegal drug smuggling have had cumulative positive impacts on socioeconomic resources within the border area. INS (now CBP) activities completed from 1994 to 2002 have provided information on over 100 new cultural resources sites potentially eligible for NRHP listing.

A summary of the anticipated cumulative impacts of the Proposed Action (i.e., construction of three towers in the SBI*net* Tucson West portion of the Tucson Sector) is presented in the following sections. Discussions are presented for each of the resources described previously.

4.3 IDENTIFICATION OF CUMULATIVE EFFECTS ISSUES

4.3.1 Water, Soils, and Air

The pollution of water, soils, and air resulting from independently small actions can have additive and synergistic effects on single resources, ecosystems, and human communities when combined with the cumulative effects of similar actions in a region. The effects of water pollution on wildlife, sensitive fish, migratory birds, and the Sonoran Desert ecosystem have been significant. Water quality in the river basins is generally affected by agricultural uses north of the project area. Planned and existing improvements to agricultural practices can reduce pollutants and reduce effects on resources ecosystems, and human communities. The Proposed Action and other

similar development actions would most likely occur on managed lands, primarily because the majority of the ROI is either under Federal or state management.

Each development action in the southwestern Arizona river basins would likely implement mitigation measures to reduce the potential effects of pollutants associated with the handling of POLs, volatile organic compounds, and hazardous materials. Each new development would also likely comply with wastewater treatment regulations, and most would probably connect to the existing wastewater treatment system. Therefore, the point- and non-point sources of pollution created by the Proposed Action and other similar developments would not result in cumulative effects.

Construction of the towers and access roads would add to CBP's cumulative impact of 1,040 acres on soils. However, CBP and other agency projects are spread throughout the region and have occurred since the inception of USBP and other Federal land management agencies. Therefore, impacts to soils would not be a significant cumulative impact due to the distribution of projects over time and space.

4.3.2 Floodplains

Most of the 100-year floodplain in Santa Cruz County is occupied by rangeland, forest lands, and Federal and state lands; and minimal development has occurred within the floodplain. Federal and local laws governing floodplains limit development within the 100-year floodplain. The Proposed Action and other developments are not expected to result in substantial impacts to the 100-year floodplain. Therefore, there is no potential for the Proposed Action, when combined with other similar developments, to cumulatively affect floodplains.

4.3.3 Vegetation Communities and Wildlife

The proposed tower sites are located in semidesert grassland, Sonoran desertscrub, and Madrean evergreen woodland vegetation communities. The Proposed Action and other similar developments are not expected to result in substantial new development of previously undisturbed lands. The majority of the project area is currently undisturbed.

The proposed towers when considered with other CBP infrastructure projects and other agencies actions would impact habitat and potentially disturb wildlife. Design measures incorporated as part of the Proposed Action would reduce additional opportunities for the spread of invasive plants and noxious weeds. Further, BMPs implemented as part of CBP infrastructure projects would minimize potential effects to habitat and wildlife. The Proposed Action when considered with other recently completed and foreseeable CBP would have a moderate cumulative impact on vegetation and wildlife.

4.3.4 Sensitive Species

Past and on-going CBP projects and other Federal projects have had a cumulative impact on sensitive species. However, all Federal actions require Section 7 Consultation in accordance with the ESA and potential impacts to Federal species are avoided or minimized through the consultation process. Therefore, the cumulative impact to sensitive species have been minor. Further, CBP actions have reduced illegal traffic and subsequent USBP enforcement actions, thus, reducing habitat degradation and disturbance to sensitive species. Additionally, off-setting measures developed through Section 7 Consultation have had a beneficial impact on sensitive species as a result of habitat restoration, habitat protection, habitat enhancement (i.e., food plots), and species protection.

4.3.5 Cultural Resources

The VF 300 and primary fence projects were authorized under a waiver authorized by the Secretary of DHS on April 1, 2008. The waiver authorized the expeditious construction of tactical infrastructure without strict compliance with environmental laws and regulations; however, as part of CBP's environmental stewardship commitments cultural resources surveys of project sites were conducted and cultural resources monitors were present during construction activities. As a result, adverse potential impacts to cultural resources may have occurred during the construction of VF and primary fence projects. Thus, past CBP projects have had a cumulative impact on cultural resources. Much of the land within the immediate vicinity of the tower sites and access roads is located on Federal lands and all actions on these lands would require

NEPA and Section 106 compliance. Consequently the impacts to cultural resources would be avoided and or impacts to cultural resources would be mitigated through appropriate measures. Cultural resources surveys and data recovery efforts associated with past and current CBP projects, including projects covered under the waiver have avoided or minimized impacts to cultural resources and provided valuable information regarding cultural resources of the region. Future developments are expected to conduct surveys and assess the potential for impacts to cultural resources if a Federal action (including financial aid or assistance, permits, or land) is required. Section 106 compliance has been met and the Proposed Action is not expected to contribute to cumulative impacts on cultural resources.

4.3.6 Land Use and Socioeconomics

Past CBP projects have had a cumulative impact to land use along the U.S./Mexico border in the Tucson Sector. When considered with past, current, and reasonably foreseeable projects the Proposed Action would have a cumulative impact of approximately 1,042 acres to land use in the Tucson Sector.

Other socioeconomic/human resources, including noise, local economy, and housing have been impacted by past and on-going development. Impacts to noise and local economy are temporary and the effects are only present during construction of a project and are not considered cumulative. However, CBP projects reduce illegal cross border activities, crime within the U.S., and the social costs associated with these illegal activities. Therefore, the Proposed Action would contribute to the beneficial cumulative impact associated with other CBP projects.

4.3.7 Aesthetics

Past and on-going CBP infrastructure projects have developed infrastructure in undeveloped areas valued for their aesthetic qualities. In some areas more than one infrastructure may be visible from a given viewpoint; therefore, CBP infrastructure projects have had cumulative impacts on aesthetics in the region.

4.4 DEFINING CUMULATIVE EFFECTS ASSESSMENT GOALS

Three cumulative effects issues, two resource related (cultural and aesthetics) and one related to human communities (land use), have been identified as potentially substantial. These issues are inter-dependent since cultural resources, aesthetics and land use would be affected primarily by urban development. Ultimately, the construction, operation and maintenance of the proposed towers represent a minimal proportion of the planned and reasonably foreseeable growth in southern Arizona, which would occur regardless of the action implemented by SBI*net*. No cultural resources sites would be affected under the Proposed Action, the action would not cause *de minimis* thresholds to be exceeded, and the conversion of 2.34 acres of land for enforcement use would be negligible. Therefore, relative to the baseline conditions (i.e., No Action Alternative), implementation of the Proposed Action would have a minimal cumulative effect on air quality, cultural resources or land use.

4.5 SUMMARY OF OTHER PROJECTS CONTRIBUTING TO CUMULATIVE EFFECTS ISSUES

The following sections describe current and Proposed Actions by CBP and other entities which, when combined with the Proposed Action, could result in cumulative impacts to the natural and human environment.

4.6 CUMULATIVE ENVIRONMENTAL EFFECTS

4.6.1 Proposed Action

A summary of the anticipated cumulative impacts relative to the Proposed Action (i.e., construction, operation and maintenance of three tower sites and modification of one tower site) is presented below. These discussions are presented for each of the resources described previously.

4.6.2 Land Use

A significant impact would occur if any action is inconsistent with adopted land use plans or an action would substantially alter those resources required for, supporting or benefiting the current use. The Proposed Action Alternative would permanently affect land use on approximately 2.34 acres but these effects would not be inconsistent with the Federal or state land use plans. The additional 2.34 acres of impacts to land use associated with the Proposed Action would not have a significant cumulative impact.

4.6.3 Air Quality

Emissions generated during construction of the towers and associated access and approach roads would be short-term and minor. It should be noted that construction of those projects mentioned in Table 4-1 have or would occur over time and have or would not be constructed at the same time. Operation of the towers would generate emissions that would be long-term but intermittent in nature. Although maintenance of the towers and access road repairs would result in minor cumulative impacts to the region's air shed, these impacts would not be considered significant even when combined with other proposed developments in the border region of Arizona because the counties in the Proposed Action area are in attainment. Liquid propane gas generators would be used only sporadically and emissions from these generators would be negligible. Deterrence of, and improved response time to, CBVs created by the operation of the towers are anticipated to reduce off-road enforcement actions currently required by CBP agents.

4.6.4 Aesthetics

No major impacts to visual resources would occur from implementing the Proposed Action, due in part to the small footprint of the towers and access roads, and the large amount of undeveloped land, and border infrastructure that exists within vicinity of the project area. The tower selection process placed as many towers as possible at existing communications or sensor tower locations. The relatively low tower heights could also alleviate the potential for the proposed project to obstruct aesthetic vistas or otherwise impact visual resources of the project area. Additionally, the proposed towers

would be constructed several miles apart. So, depending on topography, no viewshed would be impacted by more than one or two towers. Construction, operation, and maintenance of the proposed towers, when considered with existing and proposed developments (e.g., primary fence, VF, and other towers) in the surrounding area, could result in minor to moderate cumulative impacts to the visual quality of the specific localities. These cumulative impacts would not be regionally significant because the proposed developments are spread out across the viewshed.

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SECTION 5.0
MITIGATION MEASURES

5.0 MITIGATION MEASURES

It is CBP's policy to reduce impacts through a sequence of avoidance, minimization, mitigation, and compensation. This chapter describes those measures that would be implemented to reduce or eliminate potential adverse impacts to the human and natural environment. Many of these measures have been incorporated as standard operating procedures by CBP on past projects. Mitigation measures are presented for each resource category potentially affected. These are general mitigation measures; development of specific mitigation measures would be required for certain activities implemented under the Proposed Action. The specific mitigation measures would be coordinated through appropriate agencies and land managers or administrators, as required. Mitigations vary and include activities such as restoration of habitat in other areas, acquisition of lands, implementation of BMPs, and are typically coordinated with the USFWS and other appropriate Federal and state resource agencies.

5.1 PROJECT PLANNING/DESIGN COMMUNICATION

The following measures were adapted from the *Interim Guidance on Siting, Construction, Operation, and Decommissioning of Communication Towers* (USFWS 2000).

- CBP will minimize bird perching and nesting opportunities for new towers.
- Proposed tower sites are not in or near wetlands, other known bird concentration areas (e.g., state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. If discovered otherwise, mitigations will be implemented.
- CBP will not use guy wires for tower support to reduce the probability of bird and bat collisions.
- CBP will use security lighting for on-ground facilities and equipment that is down-shielded to keep light within the boundaries of the site.
- CBP will site, design, and construct towers and appurtenant elements to avoid or minimize habitat loss within and adjacent to the tower "footprint." CBP will minimize road access and fencing to reduce or prevent habitat fragmentation and disturbance, and to reduce above-ground obstacles to birds in flight.

- Where feasible, CBP will place electric power lines underground or on the surface as insulated, shielded wire to avoid electrocution of birds and bats. CBP will apply recommendations of the Avian Power Line Interaction Committee for any required above-ground lines, transformers, or conductors. CBP will use raptor protective devices on above ground wires.
- CBP will control noxious weeds using U.S. Environmental Protection Agency approved herbicides.
- If rodent populations on the perimeter of the facility are to be controlled, CBP will not use rodenticides.
- CBP will develop a Fire Management Plan as part of tower construction and in coordination with the landowner and/or land management agency.
- Once CBP has determined that towers are no longer needed, CBP will remove them within 12 months. CBP will restore footprints of towers and associated facilities to natural conditions.

5.2 PROJECT PLANNING/DESIGN – GENERAL

CBP will use disturbed areas or areas that will be used later in the construction period for staging, parking, and equipment storage.

CBP will properly design and locate roads so the potential for entrapment of surface flows within the roadbed due to grading will be avoided or minimized. Depth of any pits created will be minimized so animals do not become trapped.

CBP will properly design and locate roads so the widening of existing or created roadbeds beyond the design parameters due to improper maintenance and use will be avoided or minimized.

CBP will properly design and locate roads so the fewest roads needed for Proposed Actions will be constructed to proper standards. In concurrence with the landowners and/or land management agency, once CBP determines that access roads constructed as part of this Proposed Action are no longer needed for the purpose of this project, CBP will close and restore access roads to natural surface and topography using appropriate techniques. The Global Positioning System (GPS) coordinates of roads that are thus closed will be recorded and integrated into the CBP Geographic

Information System (GIS) database. A record of acreage or miles of roads taken out of use, restored, and revegetated will be maintained.

CBP will develop and implement a stormwater management plan (SWMP or SWPPP). Erosion control measures and appropriate BMPs, as required and promulgated through the SWMP and engineering designs, will be implemented before, during, and after soil disturbing activities. Areas with highly erodible soils will be given special consideration when preparing the SWMP to ensure incorporation of various erosion control techniques such as straw bales, silt fencing, aggregate materials, wetting compounds, and rehabilitation, where possible, to decrease erosion.

Site, design, and construct towers and their associated facilities, including roads, to avoid or minimize habitat loss within or adjacent to the footprint. Minimize access road and fence construction. Minimize the amount of above-ground obstacles associated with the site.

Site rehabilitation conducted by CBP will include re-vegetating or the distribution of organic and geological materials (i.e., boulders and rocks) over disturbed areas per design plans and BMPs in erosion and sediment plans (e.g., SWPPP) to reduce erosion and also allow the area to naturally vegetate. Native seeds or plants, which are compatible with the enhancement of protected species, will be used to revegetate staging areas and other temporarily disturbed areas. Native seed mix will be reviewed by a qualified botanist as part of project planning. Organic material will be collected and stockpiled during construction to be used for erosion control after construction while tower areas naturally re-vegetate. Materials used for on-site erosion control will be free of non-native plant seeds and other plant parts to limit potential for infestation. Because natural materials cannot be certified as completely weed-free, CBP will follow up with the use of such materials and monitoring of rehabilitated sites.

CBP will document any establishment of non-native plants and will implement appropriate control measures.

CBP will ensure that all construction will follow DHS Management Directive 025-01 for waste management.

A CBP-approved spill protection plan (or SPCCP) will be developed and implemented at construction and maintenance sites to ensure that any toxic substances are properly handled and that escape into the environment is prevented. Agency standard protocols will be used. Drip pans underneath equipment, containment zones used when refueling vehicles or equipment, and other measures are to be included.

CBP will incorporate BMPs relating to project area delineation, water sources, waste management, and site restoration into project planning and implementation for road construction and maintenance.

CBP security lighting at facilities will be designed to minimize light pollution beyond the designated security zone while achieving light levels needed for operational purposes. Because directed lighting for security zones can extend ambient light levels well over 900 feet away from the source, the effects of lighting extend beyond the immediate area. Security lights will not shine onto habitat areas at a level greater than 1.5 foot-candles. All security lights will be shielded from the top to prevent uplighting.

CBP will develop and implement erosion control measures and appropriate BMPs before, during, and after soil disturbing activities. To protect areas with highly erodible soils, various erosion control techniques such as straw bales, silt fencing, aggregate materials, wetting compounds, and rehabilitation will be used where possible where possible to decrease erosion.

5.3 GENERAL CONSTRUCTION ACTIVITIES

CBP will clearly demarcate the perimeter of all areas to be disturbed during construction or maintenance activities using flagging or temporary construction fence, and no disturbance outside that perimeter will be authorized.

CBP will construct and maintain the fewest roads needed, using proper construction standards.

The width of all roads that are created or maintained by CBP will be measured and recorded using GPS coordinates and integrated into the CBP GIS database. Maintenance actions will not increase the width of the 12-foot road bed or the amount of disturbed area beyond the 12-foot wide road bed.

CBP will obtain materials such as gravel or topsoil from existing developed or previously used sources, not from undisturbed areas adjacent to the project area.

CBP will minimize the areas to be disturbed by limiting deliveries of materials and equipment to only those needed for effective project implementation.

CBP will use water for construction from wells at the discretion of the landowner (depending on water rights). If local groundwater pumping would create adverse effects to aquatic, marsh, or riparian dwelling Federally listed species, treated water from outside the immediate area will be utilized.

CBP will not use surface water from aquatic or marsh habitats for construction purposes if that site supports aquatic Federally listed species or if it contains non-native invasive species or disease vectors and there is any opportunity to contaminate any Federally listed species' habitat through use of the water at the project site.

CBP will not use surface water from untreated sources, including water used for irrigation purposes, for construction or maintenance projects located within 1 mile of aquatic habitat for Federally listed aquatic species. Groundwater or surface water from a treated municipal source will be used when close to such habitats. This is to prevent the transfer of invasive animals or disease pathogens between habitats if water on the construction site was to reach the Federally listed species habitats.

CBP water tankers that convey untreated surface water will not discard unused water within 2 miles of any aquatic or marsh habitat.

CBP storage tanks containing untreated water will be of a size that if a rainfall event were to occur, the tank (assuming open), will not be overtopped and cause a release of water into the adjacent drainages. Water storage on the project areas will be in on-ground containers located on upland areas, not in washes.

CBP pumps, hoses, tanks and other water storage devices will be cleaned and disinfected with a 10 percent bleach solution at an appropriate facility and before use at another site (this water is not to enter any surface water area). If a new water source is used that is not from a treated or groundwater source, the equipment will require additional cleaning. This is important to kill any residual disease organisms or early life stages of invasive species that may affect local populations of Federally listed species.

CBP will contain nonhazardous waste materials and other discarded materials such as construction waste, until removed from the construction and maintenance sites. This will assist in keeping the project area and surroundings free of litter and reduce the amount of disturbed area needed for waste storage.

To prevent attracting predators of protected animals, CBP will dispose of all food related trash items such as wrappers, cans, bottles, and food scraps in closed containers and remove them daily from the project site.

Waste water is water used for project purposes that is contaminated with construction materials or from cleaning equipment and thus carries oils or other toxic materials or other contaminants as defined in state regulations. CBP will store waste water in closed containers on site until removed for disposal. Concrete wash water will not be dumped on the ground, but will be collected and moved offsite for disposal. This wash water is toxic to aquatic life.

CBP will minimize the number of construction vehicles traveling to and from the project site and the number of trips per day to reduce the likelihood of disturbing animals in the area or injuring an animal on the road.

Construction vehicle speed limits during construction periods will not exceed 35 miles per hour (mph) on major unpaved roads (graded with ditches on both sides) and 25 mph on all other unpaved roads. Construction vehicle night-time travel speeds will not exceed 25 mph, and may be less based on visibility and other safety considerations. Construction at night will be minimized.

If CBP construction or maintenance activities continue at night, all lights will be shielded to direct light only onto the work site and the area necessary to ensure the safety of the workers. The minimum foot-candles necessary will be used, and the number of lights will be minimized. Any light extending beyond the construction or maintenance area will be no greater than 1.5 foot candles.

CBP will minimize noise levels for day or night construction and maintenance. All generators will be in baffle boxes (a sound-resistant box that is placed over or around a generator), have an attached muffler, or use other noise-abatement methods in accordance with industry standards.

5.4 SOILS

Vehicular traffic associated with the tower and access road construction activities and operational support activities will remain on established roads to the maximum extent practicable. Areas with highly erodible soils will be given special consideration when designing the proposed project towers and access roads to ensure incorporation of various erosion control techniques such as, straw bales, silt fencing, aggregate materials, wetting compounds, and rehabilitation, where possible, to decrease erosion. Site rehabilitation will include re-vegetating or the distribution of organic and geological materials (i.e., boulders and rocks) over the disturbed area per design plans and BMPS

in erosion and sediment plans (e.g., SWPPP) to reduce erosion while allowing the area to naturally vegetate. Additionally, erosion control measures and appropriate BMPs, as required and promulgated through the SWPPP and engineering designs, will be implemented before, during, and after construction activities.

Road repair or improvements shall avoid, to the greatest extent practicable, creating wind rows with the soils once grading activities are completed. Excess soils from construction activities will be used on-site to raise and shape proposed tower sites and road surfaces.

5.5 VEGETATION

CBP will use materials free of non-native plant seeds and other plant parts to limit potential for infestation for on-site erosion control in uninfested native habitats. Since natural materials cannot be certified as completely weed-free, if such materials are used, there will be follow-up monitoring to document establishment of non-native plants and appropriate control measures will be implemented for a period of time to be determined in the site restoration plan.

CBP fill material brought in from outside the project area will be identified as to source location and will be weed-free.

CBP will remove invasive plants that appear on the tower sites, and along sections of repaired and new road. Removal will be done in ways that eliminate the entire plant and remove all plant parts to a disposal area. Herbicides will be used according to label directions if they are not toxic to Federally listed species that may be in the area. Training to identify non-native invasive plants will be provided for CBP personnel or contractors as necessary.

CBP will avoid removal of riparian vegetation within 100 feet of aquatic habitats to provide a buffer area to protect the habitat from sedimentation.

Construction equipment will be cleaned at the temporary staging areas, in accordance with BMPs, prior to entering and departing the project corridor to minimize the spread and establishment of non-native invasive plant species.

5.6 WILDLIFE RESOURCES

The Migratory Bird Treaty Act (16 U.S.C. 703-712, [1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989]) requires that Federal agencies coordinate with the USFWS if a construction activity would result in the take of a migratory bird. If construction or clearing activities are scheduled during nesting seasons (February 15 through August 31); surveys will be performed to identify active nests. If construction activities will result in the take of a migratory bird; then coordination with the USFWS, FAA, and AGFD will be required and applicable permits would be obtained prior to construction or clearing activities. Another mitigation measure that would be considered is to schedule all construction activities outside nesting seasons negating the requirement for nesting bird surveys. The proposed sensor and communication towers will also comply with USFWS guidelines for reducing fatal bird strikes on communication towers (USFWS 2000) to the greatest extent practicable. Guidelines recommend co-locating new antennae arrays on existing towers whenever possible and to build towers as short as possible, without guy wires or lighting, and use white strobe lights whenever lights are necessary for aviation safety.

CBP will avoid or minimize the potential for entrapment of surface flows within the roadbed due to grading. CBP will minimize the depth of any pits created so animals do not become trapped.

5.7 PROTECTED SPECIES

Several BMPs have been identified to decrease any potential impacts to Federal and state protected species. Many of these measures were developed as part of the Section 7 consultation and included in USFWS's BO (AESO/SE 22410-2008-F-0373)

for the SBI*net* Tucson West Tower Project. Additional conservation measures and BMPs developed as part of formal Section 7 consultation and identified in USFWS's BO will be adhered to by CBP.

- CBP will provide a designated biological monitor on site during the work activities for all construction and maintenance projects in Federally listed species habitats. The biological monitor will be in charge of implementing and documenting construction-related BMPs as designed for the project to reduce the potential for adverse effects to the species or their habitats. CBP will use the reports from the biological monitor will be used for development of the post construction report. The designated biological monitor will notify the construction manager of any activities that may harm or harass an individual of a Federally listed species. Upon such notification, the construction manager will temporarily suspend all subject activities and notify the Contracting Officer, the Administrative Contracting Officer, and the Contracting Officer's Representative of the suspense so that the key personnel may be notified, apprised of the situation, and the potential conflict resolved.

- Where, based on species location maps and/or results of surveys, individuals of a Federally listed species could be present on or near the project site, CBP will have a designated, qualified biological monitor (a person having experience with the species involved and if the task requires handling or species surveys, appropriate Federal and state permits) to be present during the activity to protect individuals of the species from harm. Duties of the biological monitor will include ensuring that activities stay within designated project areas, evaluating the response of individuals that come near the project site, and implementing the appropriate BMP. For some species, there may only be a seasonal need for the biological monitor to be present. This category includes at least the following species for those roads and towers near occupied habitat: Mexican spotted owl, Chiricahua leopard frog and lesser long-nosed bat.

- Where a project could be located within one mile of occupied species habitats but the individuals of the species are not likely to move into the project area, a biological monitor is not needed during construction. However, the construction manager will be aware of the species location and ensure that BMPs designed to minimize habitat impacts are implemented and maintained as planned. This category includes the following species: all aquatic species.

- If an individual of a Federally listed species is found in the designated project area and is in danger of being harmed (e.g. in path of vehicles or foot traffic), work will cease in the area of the species until either a qualified biological monitor can safely remove the individual, or it moves away on its own.

- Individual animals found in the project area in danger of being harmed will be relocated by a CBP qualified biological monitor to a nearby safe location in

accordance with accepted species handling protocols in Federal and state permits.

- Construction equipment will be cleaned prior to entering and departing the project area to minimize the spread and establishment of non-native invasive plant species.
- Soil disturbances in temporary impact areas along roads and staging areas will be re-vegetated with native vegetation from nursery stock or seed.
- Within the designated disturbance area, CBP will limit grading or topsoil removal to areas where this activity is needed to provide the ground conditions for construction or maintenance activities. Minimizing disturbance to soils will enhance the ability to restore the disturbed area after the project is complete. In Pima pineapple cactus habitat, removal of topsoil is a permanent impact.
- CBP will confine vehicular traffic associated with construction activities to established roads (with the exception of new roads being constructed).
- CBP's road maintenance shall avoid making wind rows with the soils once grading activities are completed, and any excess soils will be used on-site to raise and shape the tower sites and/or road surface.
- New roads created or improved by CBP will be located such that the potential for road bed erosion into Federally listed species habitat will be avoided or minimized.
- CBP will monitor, provide corrective maintenance, and document excessive use of unimproved roads that results in their deterioration such that it affects the surrounding Federally listed species habitat in the CBP Project Report.
- New access roads to proposed tower sites will avoid routes which cross occupied threatened and endangered aquatic habitats.
- CBP construction activities occurring in suitable jaguar habitat will use existing roads to avoid further fragmentation of habitat, avoid constructing physical barriers that are impenetrable by jaguars in potential movement corridors.
- All contractors, work crews (including National Guard and military personnel), and CBP personnel in the field performing construction and maintenance activities will receive training. Training would provide information on the habitat and behavior of the specific sensitive species found in the area, including information on how to avoid impacts to these species resulting from construction and operational activities. It will be the responsibility of the construction project manager(s) to ensure that their personnel are familiar with general BMPs, the specific conservation measures presented here, and other limitations and constraints. In addition, training in identification of non-native invasive plants and animals should be provided for contracted personnel engaged in follow-up monitoring of construction sites.
- Road improvements would not widen any driving surface;

- The removal of roadside vegetation would be limited to only those portions of plants necessary to allow the passage of vehicles, material, and equipment;
- All access routes into and out of the disturbance area should be flagged, and no construction vehicle travel outside of those boundaries should be authorized;
- Road repair or improvements shall avoid, to the extent practicable, making wind rows with the soils once grading activities are completed, and any excess soils will be used on-site to raise and shape the tower sites and/or road surface;
- To the extent practicable, areas already disturbed by past activities or those that will be used later in the construction period should be used for staging, parking, and equipment storage;
- The perimeter of all areas to be disturbed during construction should be clearly demarcated using flagging, and no disturbance from construction activities outside that perimeter should be authorized;
- The area to be disturbed should be minimized by limiting deliveries of materials and equipment to only those needed for effective project implementation;
- Within the designated disturbance area, grading or topsoil removal should be limited to areas where this activity is needed to provide the ground conditions necessary for construction or maintenance activities;
- Any vegetation removal outside the actual tower sites should be minimized, and vegetation should be removed using hand tools or controlled by mowing; and

- The number of construction vehicles traveling to and from the project sites and the number of trips per day will be minimized to reduce the likelihood of disturbing animals in the area or injuring an animal on the road. Construction speed limits should not exceed 35 mph on major unpaved roads (graded with ditches on both sides) and 25 mph on all other unpaved roads. Night-time travel speeds should not exceed 25 mph, or less based on visibility and other safety considerations.
- Transmission of disease vectors and invasive non-native aquatic species can occur if vehicles cross infected or infested streams or other waters and water or mud remains on the vehicle. If these vehicles subsequently cross or enter uninfected or noninfested waters, the disease or invasive species may be introduced to the new area. CBP and its contractors will avoid contact with wetted areas. However, if construction vehicles or other equipment use will occur in wetted areas west of Interstate-19 (including ponds, impoundments, or ephemeral or permanent streams) that equipment will be a) cleaned of mud and debris and then sprayed with a 10 percent bleach, 70 percent ethanol, or one percent quaternary ammonium solution, or b) allowed to dry completely, before

moving to another wetted area. Treatments as just described will not be required for travel along paved routes through the project area, as these routes are heavily traveled by the public and cleaning/sterilization of project vehicles will do little to prevent movement of disease via vehicular travel.

Mexican Spotted Owl - Project Planning/Documentation

- Roads, fences, security zones, surveillance sites, staging areas including tower sites, and other facilities that will require land clearing and will have associated noise and artificial light components will be at least 0.25 mile from any known Protected Activity Center (PAC) or CBP will mitigate (See *Post Construction* below). Firebreaks, fuels reduction, or other improved access for fire suppression will be incorporated, as appropriate in the placement of facilities. Facilities will not be located between nests and important forage areas such that movement between the two is compromised, or CBP will mitigate impacts.
- CBP will avoid new roads in the vicinity of PACs and other important habitat areas to reduce effects of human activity near PACs or CBP will mitigate impacts (see *Post Construction* below). Existing roads used by CBP to access new or existing facilities may need to be closed to other access to protect important owl habitat.

Mexican Spotted Owl - During Construction/Maintenance

- CBP will monitor:

  a) construction activities for towers, new roads, and road improvements, between March 1 and August 31, which are closer than 0.25 mile to an owl PAC. Construction activities will be monitored by a qualified biologist provided by CBP.

  b) Mexican spotted owl PACs where towers and increased human use may potentially affect owls and other areas where tower sites are within or less than 0.25 mile from a PAC.

- CBP will develop an MOU with the landowners and/or land management agencies to conduct spotted owl monitoring. Monitoring will be conducted by an experienced and Federally permitted spotted owl surveyor. All Mexican spotted owl disturbances will be documented in the CBP project reports. Corrective actions will be developed and implemented in coordination with USFWS and landowner and/or land management agencies, if effects are detected.
- CBP may conduct maintenance activities for facilities at any time; however, for major work on roads or fences where significant amount of equipment will be required, the September to February period is preferred.
- CBP will monitor affected Mexican spotted owl PACs annually for 3 years (field seasons) from the date construction is completed and towers are fully operational. CBP will develop an MOU with the landowners and/or land management agencies to conduct spotted owl monitoring. Corrective actions should be developed and implemented in coordination with USFWS and

landowner and/or land management agencies, if effects are detected. Corrective actions may include road closures, fencing, gating, and/or site restoration. Monitoring will be conducted by an experienced and Federally permitted spotted owl surveyor.

- CBP will provide sufficient funds to close unauthorized roads and restore habitat near affected Mexican spotted owl PACs in conjunction with USFS travel management planning. For every road repaired or created within 0.25 mile of a Mexican spotted owl PAC, CBP will close and/or restore the same length of road. CBP will update maps showing where improved or new roads were completed. CBP will complete a road closure/restoration plan. Mitigation will be completed within three years of the completion of construction.

Jaguar - Post Construction

- CBP will complete a road closure/restoration plan for review and approval by landowners and/or land management agencies and USFWS that:
  a) identifies and maps new roads where barriers will be placed to prevent public access,
  b) identifies and maps unauthorized roads near potential jaguar movement corridors,
  c) specifies that USFWS will use jaguar monitoring results to assist CBP in determining which unauthorized roads to close,
  d) specifies potential road closure methods,
  e) specifies potential restoration methods for closed roads,
  f) includes a schedule for closure, and
  g) includes a schedule and content of annual reporting.
- CBP will prevent public access of <u>new roads</u> through, physical barriers, fencing, etc., in combination with appropriate signage and in coordination with the landowner and/or land management agencies. CBP will work with the land management agencies to determine the best method to prevent public access on new roads needing barriers. Blocking access will be achieved in a way that does not increase the probability that unauthorized roads will be created nearby.
- CBP will close and/or restore <u>unauthorized roads</u> (if approved by landowner) in or near jaguar movement corridors to help offset the increase in improved or new roads at a ratio of 2:1 (i.e., 2 miles of road closed and/or restored for every 1 mile of road created or repaired). This will require post construction quantification of (a) the number of miles of roads repaired and created, and (b) the area of new and repaired cut and fill. CBP will work with the land management agencies and USFWS to identify unauthorized roads for closure and determine the method most likely to prevent future access. Some road closures will require discing and seeding (using native species), in addition to placement of barriers. Closures will

be achieved in a way that does not increase the probability that unauthorized roads will be created nearby.

Lesser long-nosed Bat - Project Planning/Documentation

- CBP roads, fences, security zones, surveillance sites, staging areas including tower sites, and other facilities that will require land clearing and have associated noise and high intensity artificial light components, will be located at least one mile from any known roost site or will be mitigated (see *Post Construction* below). The location of the facility will not be located between roosts and known foraging sites such that access between the two is compromised.
- CBP will avoid areas containing columnar cacti (saguaro [*Carnegiea gigantea*], organ pipe [*Stenocereus thurberi*]) or agaves that provide the forage base for the bat or will mitigate effects (see *Post Construction* below).
- During construction or maintenance activities in or within one mile of bat maternity roosts or known summer roosts (or such distance that noise, light, or other effects reach the habitat), a construction monitor with authority to halt construction at any time the appropriate conservation BMPs are not being properly implemented as agreed to will be present on site.

Lesser long-nosed Bat - During Construction/Maintenance

- Construction activities for towers, new roads, and road improvements that are within one mile of a bat roost and occur between May 1 and September 30 will be monitored by a qualified biologist. In some years, bats may arrive earlier and leave later in the year than the May to September time frame. For maternity roosts this will be March through August. For summer roosts, this will be July through October. Any occurrences and/or disturbances of lesser long-nosed bats will be documented and mitigated (see *Post Construction* below).
- CBP may perform maintenance activities for facilities at any time; however, for major work on roads or fences where significant amount of equipment will be required, the October to April period is the minimum period for avoidance.
- CBP will salvage and transplant agaves and columnar cacti. Agaves that have flower stalks will not be salvaged/transplanted. A minimum of 12 to 18 inches of agave and cacti roots will be salvaged. Prior to removal, CBP will mark the orientation on each cactus to be transplanted. CBP will transplant columnar cacti in the same orientation they were removed to increase probability of survival. CBP will relocate plants at least 75 feet from the construction limits. CBP will not plant agaves or columnar cacti in active wash channels. Plants will be watered according to site conditions.
- CBP will count agaves and columnar cacti removed for construction and will replace agaves and columnar cacti at a 2:1 ratio (for every plant removed, two will be replaced).

Lesser long-nosed Bat - Post Construction

- CBP will conduct annual bat surveys at bat roosts within 1.0 mile of tower sites for 2 years from the date towers are fully operational. CBP will compare results with previous years' surveys. If negative effects of the Proposed Action are documented, CBP will take corrective action (e.g. gating, signing, fencing) and will continue to survey annually until negative effects are no longer detected. Surveys will be conducted throughout the season by a lesser long-nosed bat expert.

- CBP will monitor roosts within 1.0 mile of tower sites for direct or indirect effects of the action for 2 years from the date towers are fully operational. CBP will install Hobo data loggers in lesser long-nosed bat roosts most prone to human use to detect changes in temperature, humidity, etc. CBP will take corrective actions in coordination with USFWS and/or the landowners/land management agencies if such effects are detected. This may include road closures, gating, signing, fencing, etc.

- CBP will conduct a telemetry study to locate bat roosts and foraging areas used by those bats found in the vicinity of towers. This study will be conducted for 5 years following tower construction (when towers are fully operational). If occupied mines or caves are found within 1.0 mile of towers, they will be monitored with Hobo data loggers. CBP will telemeter 15 bats per year in early August and will track bats through mid October. CBP will telemeter up to five bats at a time; transmitters have a 2 to 3 week lifespan. CBP will hire five field biologists to conduct the study. The Patagonia Mountains is covered with hundreds of abandoned mines that may be used by lesser long-nosed bats. Tracking bats telemetered near towers in the Patagonia Mountains will determine where these bats are foraging and roosting. If negative effects are found in foraging or roosting areas as a result of this Proposed Action, CBP will take corrective action. This may include road closures, gating, signing, fencing, etc.

- CBP will conduct monitoring to document and assess tower related mortality of lesser long-nosed bats beginning once tower construction is completed and continuing for 5 years after the towers are fully operational. Monitoring will include systematic lesser long-nosed bat searches and use of radar, GPS, infrared, thermal imagery, and/or acoustical monitoring equipment to assess and verify bat movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems. If lesser long-nosed bat mortality is documented at tower or wind turbine sites, CBP will: a) immediately notify USFWS in writing, b) work with USFWS to develop site-specific measures to reduce that mortality, and c) continue monitoring beyond the 5 years until mortality is no longer occurring. Information gained from monitoring will be used to develop tower retrofits to reduce lesser long-nosed bat mortality, if collisions are documented. CBP will incorporate the bat mortality monitoring associated with the Proposed Action into an annual report for a minimum of 5 years.

- Where improved or new roads may increase human use of bat roosts occupied or potentially occupied by lesser long-nosed bats, CBP will prevent access

through gating, fencing, other physical barriers, etc. This includes the State of Texas mine roost. Patagonia Mountains abandoned mines, and other lesser long-nosed bat roosts. Close coordination with USFWS and landowners and/or land management agencies will be necessary, as the design and season of installation is critical to ensure bat gates benefit lesser long-nosed bats.

- CBP will water transplanted agave and columnar cacti if needed and according to site conditions to ensure survival. CBP will monitor annually for survival for five years and will replace dead or dying plants.
- CBP will replace agaves and columnar cacti removed for construction at a 2:1 ratio. CBP will work with landowners and/or land management agencies to determine location for replacement plants. CBP will water plants according to site conditions to ensure survival. CBP will monitor annually for survival for five years and will replace dead or dying plants.

5.8 WATER RESOURCES

Standard construction procedures will be implemented to minimize potential for erosion and sedimentation during construction. All work shall cease during heavy rains and would not resume until conditions are suitable for the movement of equipment and material. All fuels, waste oils, and solvents will be collected and stored in tanks or drums within secondary containment areas consisting of an impervious floor and bermed sidewalls capable of holding the volume of the largest container stored therein. The refueling of machinery will be completed following accepted guidelines, and all vehicles will have drip pans during storage to contain minor spills and drips. No refueling or storage will take place within 100 feet of drainages.

A Construction Stormwater General Permit will be obtained prior to construction, and this would require approval of a site-specific SWPPP and NOI. A site-specific SPCCP will also be in place prior to the start of construction. Other environmental design measures will be implemented such as straw bales, silt fencing, aggregate materials, wetting compounds, and re-vegetation with native plant species, where possible, to decrease erosion and sedimentation.

Prior to the start of construction activities, the construction contractor will review the most up-to-date version of the ADEQ 305(b) and 303(d) report. Additionally, road repair

or improvement activities in wash or drainage crossings will not impede the flow of affected water courses.

5.9 CULTURAL RESOURCES

Should any archaeological artifacts be found during construction, notify the appropriate land management archaeologist immediately. All work in the area will cease until an evaluation of the discovery is made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values.

5.10 AIR QUALITY

Mitigation measures will be incorporated to ensure that fugitive dust and other air quality constituents emission levels do not rise above the minimum threshold as required per 40 CFR 51.853(b)(1). Measures will include dust suppression methods such as road watering to minimize airborne particulate matter created during construction activities. Standard construction BMPs such as routine watering of construction sites as well as access roads to the site will be used to control fugitive dust and thereby assist in limiting potential PM-10 excursions during the construction phase of the proposed project. Additionally, all construction equipment and vehicles will be required to be maintained in good operating condition to minimize exhaust emissions.

5.11 NOISE

During the construction phase, short-term noise impacts are anticipated. All applicable Occupational Safety and Health Administration regulations and requirements will be followed. On-site activities would be restricted to daylight hours to the greatest extent practicable although night-time construction could occur if the construction schedule requires it. Construction equipment will possess properly working mufflers and would be kept properly tuned to reduce backfires. Implementation of these measures will

reduce the expected short-term noise impacts to an insignificant level in and around tower construction sites.

5.12 HAZARDOUS MATERIALS

BMPs will be implemented as standard operating procedures during all construction activities, and will include proper handling, storage, and/or disposal of hazardous and/or regulated materials. To minimize potential impacts from hazardous and regulated materials, all fuels, waste oils and solvents will be collected and stored in tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein. The refueling of machinery will be completed in accordance with accepted industry and regulatory guidelines, and all vehicles will have drip pans during storage to contain minor spills and drips. Although it is unlikely that a major spill would occur, any spill of reportable quantities will be contained immediately within an earthen dike, and the application of an absorbent (e.g., granular, pillow, sock, etc.) will be used to absorb and contain the spill. To ensure oil pollution prevention, a SPCCP will be in place prior to the start of construction activities and all personnel will be briefed on the implementation and responsibilities of this plan as is typical in CBP/SBI projects. All spills will be reported to the designated CBP point of contact for the project. Furthermore, a spill of any petroleum liquids (e.g., fuel) or material listed in 40 CFR 302 Table 302.4 of a reportable quantity must be cleaned up and reported to the appropriate Federal and state agencies.

All waste oil and solvents will be recycled. All non-recyclable hazardous and regulated wastes will be collected, characterized, labeled, stored, transported, and disposed of in accordance with all applicable Federal, state, and local regulations, including proper waste manifesting procedures.

Solid waste receptacles will be maintained at construction staging areas. Non-hazardous solid waste (trash and waste construction materials) will be collected and

deposited in on-site receptacles. Solid waste will be collected and disposed of by a local waste disposal contractor.

Avoid contamination of ground and surface waters by storing concrete wash water, and any water that has been contaminated with construction materials, oils, equipment residue, etc., in closed containers on-site until removed for disposal. This wash water is toxic to wildlife. Storage tanks must have proper air space (to avoid rainfall-induced overtopping), be on-ground containers, and be located in upland areas instead of washes.

Disposal of used batteries or other small quantities of hazardous waste will be handled, managed, maintained, stored, and disposed of in accordance with applicable Federal and state rules and regulations for the management, storage, and disposal of hazardous materials, hazardous waste and universal waste. Additionally, to the extent practicable, all batteries will be recycled, locally.

Where handling of hazardous and regulated materials does occur, CBP will collect and store all fuels, waste oils and solvents in clearly labeled tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein.

SECTION 6.0
REFERENCES

6.0 REFERENCES

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SECTION 7.0
ACRONYMS AND ABBREVIATIONS

7.0 ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter of air
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
AGFD	Arizona Game and Fish Department
AMA	Active Management Area
AOR	area of responsibility
APE	Area of Potential Effect
ASM	Arizona State Museum
ASTL	Arizona State Trust Lands
bgs	below ground surface
BLM	Bureau of Land Management
BMGR	Barry M. Goldwater Range
BMP	best management practices
BO	Biological Opinion
CBP	U.S. Customs and Border Protection
CBV	cross border violator
CEQ	Council on Environmental Quality
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CNF	Coronado National Forest
COP	Common Operating Picture
CPNWR	Cabeza Prieta National Wildlife Refuge
CTIMR	Comprehensive Tactical Infrastructure Maintenance and Repair
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DHS	Department of Homeland Security
DOI	Department of Interior
EA	Environmental Assessment
EMF	electromagnetic field
EMA	Ecosystem Management Area
EO	Executive Order
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FR	Federal Register
GHz	gigaHertz
GIS	Geographic Information System

GPS	Global Positioning Service
GSRC	Gulf South Research Corporation
IA	illegal alien
INS	Immigration and Naturalization Service
JTF-6	Joint Task Force-Six
kW	Kilowatt
MOU	Memorandum of Understanding
MPE	Maximum Permissible Exposure
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NCRP	National Council of Radiation Protection and Measurements
NHPA	National Historic Preservation Act
NOx	Nitrous Oxides
NOA	Notice of Availability
NOI	Notice of Intent
NPL	National Priorities List
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NTIA	National Telecommunications and Information Administration
NWP	Nationwide Permit
OBP	Office of Border Patrol
PAC	Protected Activity Center
PCPI	per capita personal income
PM-10	particulate matter measuring less than 10 microns
POE	port of entry
POL	petroleum, oil, and lubricants
PVB	permanent vehicle barrier
RDT	rapidly deployed tower
RF	radio frequency
ROI	region of influence
ROW	right-of-way
RRVS	radar and remote video system
Santa Cruz	Santa Cruz-Rio Magdalena-Rio Sonoyta
SBI	Secure Border Initiative
SCS	Soil Conservation Service
SEA	Supplemental Environmental Assessment
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
SPCCP	Spill Prevention Control and Countermeasure Plan
SST	self standing tower
SWMP	stormater management plan
SWPPP	Stormwater Pollution Prevention Plan
TI	tactical infrastructure
U.S.	United States
U.S.C.	U.S. Code

1	USACE	U.S. Army Corps of Engineers
2	USBP	U.S. Border Patrol
3	USDA	U.S. Department of Agriculture
4	USEPA	U.S. Environmental Protection Agency
5	USFS	U.S. Forest Service
6	USFWS	U.S. Fish and Wildlife Service
7	USGS	U.S. Geological Survey
8	USIBWC	U.S. Section, International Boundary and Water Commission
9	VF 300	Vehicle Fence 300
10	v/m	Volts per meter
11	WUS	waters of the U.S.
12	WSC	wildlife of special concern

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SECTION 8.0
LIST OF PREPARERS

8.0 LIST OF PREPARERS

The following people were primarily responsible for preparing this Environmental Assessment.

NAME	AGENCY/ORGANIZATION	DISCIPLINE/EXPERTISE	EXPERIENCE	ROLE IN PREPARING EA
Patience E. Patterson, RPA	Customs and Border Protection, SBI*net*	Archaeology	30 years professional archaeologist/cultural resource and NEPA manager	EA review
Suna Adam Knaus	Gulf South Research Corporation	Forestry/Wildlife	20 years of natural resources studies and NEPA	EA review
Chris Ingram	Gulf South Research Corporation	Biology/Ecology	32 years EA/EIS studies	EA review
Eric Webb, PhD	Gulf South Research Corporation	Wetland Ecology	17 years of natural resources study and NEPA compliance	EA review
Howard Nass	Gulf South Research Corporation	Forestry/Wildlife	19 years of natural resources studies and NEPA	Project Manager (EA preparation and review)
Shanna McCarty	Gulf South Research Corporation	Forestry	3 years natural resource studies, 2 years NEPA	Co-project Manager (EA preparation: Socioeconomics, Aesthetics, Land Use and review)
Denise Rousseau Ford	Gulf South Research Corporation	Environmental Engineering	Over 15 years of environmental experience	Hazardous Waste
John Lindemuth	Gulf South Research Corporation	Archaeology	16 years professional archaeologist/cultural resources	EA preparation (Cultural Resources)
Steve Kolian	Gulf South Research Corporation	Environmental Studies	10 years experience environmental science	EA preparation (Noise, Water Resources, Floodplains, Air Quality, Roadways and Traffic)
Maria Bernard Reid	Gulf South Research Corporation	Environmental Studies	5 years NEPA and natural resources	EA review
Greg Lacy	Gulf South Research Corporation	Biology/Wildlife	10 years NEPA and natural resources	EA preparation (Soils, Vegetation, Wildlife, and Protected Species) and biological surveys
Chris Cothron	Gulf South Research Corporation	GIS/graphics	3 years GIS/graphics experience	GIS/graphics

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APPENDIX A
CORRESPONDENCE

Comment Response Matrix
Draft Supplemental Environmental Assessment
For the Proposed SBI*net* Tucson West Tower Project
U.S. Border Patrol, Tucson Sector

#	Comment	Reviewer	Response
1	We have communicated with representatives from the Department of Security (DHS), Customs and Border Patrol (CBP), and SBI*net* several times over the course of the last year to raise awareness of the potential impact of their proposed facilities on the research enabled by our observatories. We have appreciated the willingness of CBP and DHS staff to meet with us in the past and look forward to further meetings. See Appendix 2 for references to past meetings.	NOAO	SBI*net* appreciates your participation in the planning of this project.
2	During previous meetings with CBP and DHS personnel, we have discussed useful strategies to minimize the adverse impact of artificial light at night on astronomy. We are pleased to see that the draft EA (under section 2.3, Proposed Action, p. 27, lines 3-5) cites lighting guidelines that indirectly address these issues. We feel the lighting associated with proposed towers during their construction, operation, and maintenance should be assessed for its impact on astronomy activities. An analysis should be based on the proximity and line of sight of individual towers to specific telescopes and arrays used for astronomy.	NOAO	None of the towers proposed require lighting to meet FAA regula and all proposed lighting would follow USFWS (2000) g*uidance Siting, Construction, Operation and Decommissioning of Communications Towers* to reduce night-time atmospheric lightin the potential adverse effects of night-time lighting to migratory bi nocturnal flying species. Although we did not explicitly address lighting with regards to th astronomical observatories we feel that by following similar pract limit night-time atmospheric lighting for birds would also in turn artificial lighting impact on the observatories. Additionally, when lighting is required for CBP operational needs, such as the installa of infrared lighting, or for CBP security purposes, then tower peri lighting would: utilize low sodium bulbs, not illuminate outside th footprint of the tower site, and when possible, be activated by mo detectors. Through the implementation of these USFWS guidelin through the use of the lighting measures mentioned above, SBI*net* believes this would also mitigate any possible effects on the observatories from artificial lighting (Section 2.3).
3	The placement of towers and associated activity by CBP could channel illegal border traffic closer to our observatory sites. A resultant impact that is not assessed in the draft EA is the potential for CBP search vehicles and aircraft to illuminate areas and inadvertently damage or destroy sensitive observatory detectors or observations. (See Appendix 3 for a recent example.) This issue was discussed during the October 22, 2007 visit to our observatories by Frank Woelfle and colleagues from DHS but does not appear in the draft EA.	NOAO	The Tucson West SEA does not include analysis of any search and rescue vehicles but only tower installation and maintenance; however, we understand your concerns with the movement of illegal traffic and the proposed tower sites. Although we acknowledge that there could be indirect impacts on the observatories from illegal traffic attempting to avoid the proposed tower sites, CBP cannot predict where the shift in illegal traffic may occur. However, the overall Common Operating Picture (COP) would provide greater response time and flexibility in deploying CBP agents to most of the areas in the Tucson Sector western region where the observatories are concentrated.

Comment Response Matrix
Draft Supplemental Environmental Assessment
For the Proposed SBI*net* Tucson West Tower Project
U.S. Border Patrol, Tucson Sector

#	Comment	Reviewer	Response
4	When towers are located near observatories (within a few miles), radio transmissions can impact optical as well as radio telescopes since they can affect electronic circuits that read signals from sensitive detectors used for astronomy. The EA should identify this issue as it relates to additionally planned towers (e.g. those on the Tohono O'odham Nation) if their proposed locations are near observatories. One tower is within the Mt. Hopkins observatory site. Frequencies, transmitter power, antenna geometry, and beam patterns should be assessed to calculate the effect on observatory equipment.	NOAO	Radio Frequency emissions will be limited as specified by the National Telecommunications and Information Administration (NTIA) frequency assignments. SBI*net* will communicate frequency assignments with the National Optical Astronomy Observatory/NSF through the NTIA process.
5	The draft EA does not identify and assess the possibility of inadvertent radio frequency interference (RFI) to radio astronomy equipment at the National Science Foundation/National Radio Astronomy Observatory (NSF/NRAO) Very Long Baseline Array site at Kitt Peak (VLBA-KP), or at the Arizona Radio Observatory sites (ARO) on Mount Graham and Kitt Peak. Due to their concern, the NSF?NRAO initiated extensive discussions with Frank Woelfle of DHS and Phil Smith, the SBI*net* Chief Engineer in August of 2007 (Ref. Appendix 2). A detailed propagation analysis of the radar, motion-sensing equipment, and data transmission links to be used on-site during normal operations would determine possible interference. (See Appendix 4 for an example.) We feel that the NSF should be included in this process.	NOAO	Transmitters and sensors will operate below 30 GHz and all frequencies will be coordinated through the NTIA as required by regulation. As part of the overall spectrum management process, the NTIA and the Federal Communications Commission (FCC) have developed radio regulations to help ensure that the various radio services operate compatibly in the same environment without unacceptable levels of radio frequency interference and emissions.
6	We have received and reviewed the information regarding the Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations Area of Responsibilities, U.S. Border Patrol Tucson Sector, Arizona, and we've determined the proposed actions ***will not have an effect*** on the White Mountain Apache tribe's Cultural Heritage Resources and/or historic properties and that **Alternative 1** would be appropriate selection for the project. The project may proceed with the understanding that any ground disturbance should be monitored ***if*** there are reasons to believe that human remains and/or funerary objects are present, if such remains and/or objects are encountered all construction activities are to be stopped and the proper authorities and/or affiliated tribe(s) be notified to evaluate the situation.	White Mountain Apache Tribe Heritage Program	SBI*net* appreciates your participation in the planning of this project.

Comment Response Matrix
Draft Supplemental Environmental Assessment
For the Proposed SBI*net* Tucson West Tower Project
U.S. Border Patrol, Tucson Sector

#	Comment	Reviewer	Response
7	Thank you for the opportunity to comment on the Draft Supplemental Environmental Assessment (SEA) and Proposed Finding of No Significant Impact for the U.S. Customs and Border Protection's project to construct, operate, and maintain three new sensor towers, as part of the communications network in support of the SBI*net* Tucson West common operating picture. The Arizona Department of Environmental Quality, Water Quality Division (ADEQ) appreciates the opportunity to assist in the review of this project. After reviewing the SEA, ADEQ does not see an environmental impact related to water that the SEA did not address.	AZ Department of Environmental Quality	SBI*net* appreciates your participation in the planning of this project.

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

To: NGLSONSEA U.S. Department of Homeland Security / Customs and Border Protection
Date: November 25, 2009
Project: Proposed SBI*net* Tucson West Tower Project, Nogales & Sonoita Stations, Tucson Sector

.....

The White Mountain Apache Historic Preservation Office (THPO) appreciates receiving information on the proposed project, dated November 13, 2009 In regards to this, please attend to the checked items below.

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

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

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

We have received and reviewed the information regarding the Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations Area of Responsibilities, U.S. Border Patrol Tucson Sector, Arizona, and we've determined the proposed actions ***will not have an effect*** on the White Mountain Apache tribe's Cultural Heritage Resources and/or historic properties and that **Alternative 1** would be appropriate selection for the project. The project may proceed with the understanding that any ground disturbance should be monitored ***if*** there are reasons to believe that human remains and/or funerary objects are present, if such remains and/or objects are encountered all construction activities are to be stopped and the proper authorities and/or affiliated tribe(s) be notified to evaluate the situation.

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

Sincerely,

Mark T. Altaha
White Mountain Apache Tribe
Historic Preservation Officer
Email: markaltaha@wmat.nsn.us

Janice K. Brewer
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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

Benjamin H. Grumbles
Director

December 8, 2009

Ms. Patience E. Patterson, RPA
U.S. Department of Homeland Security
U.S. Customs and Border Protection
SBInet Program Management Office
1901 S. Bell Street, Room 7-090
Arlington, VA 22202

SENT VIA E-MAIL: NGLSONSEAcomments@cbp.dhs.gov

Re: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for SBInet Tucson West Tower Project

Dear Ms. Patterson:

Thank you for the opportunity to comment on the Draft Supplemental Environmental Assessment (SEA) and Proposed Finding of No Significant Impact for the U.S. Customs and Border Protection's project to construct, operate, and maintain three new sensor towers, as part of the communications network in support of the SBInet Tucson West common operating picture. The Arizona Department of Environmental Quality, Water Quality Division (ADEQ) appreciates the opportunity to assist in the review of this project. After reviewing the SEA, ADEQ does not see an environmental impact related to water that the SEA did not address.

If you need further information, please contact Wendy LeStarge of my staff at (602) 771-4836 or via e-mail at wl1@azdeq.gov, or myself at (602) 771-4416 or via e-mail at lc1@azdeq.gov.

Sincerely,

Linda Taunt, Deputy Director
Water Quality Division

Buell T. Jannuzi, Director
Kitt Peak National Observatory
950 N. Cherry Ave., P.O. Box 26732
Tucson, AZ 85726-6732
Ph: 520-318-8353
Fax: 520-318-8487
jannuzi@noao.edu

National Optical Astronomy Observatory
Kitt Peak National Observatory • Cerro Tololo Inter-American Observatory • NOAO Gemini Science Center

June 30, 2008

Ms. Patience E. Patterson, RPA
U.S. Department of Homeland Security
SBI*net* Program Management Office
U.S. Customs and Border Protection, Headquarters
1300 Pennsylvania Avenue, NW, Room 7.5B
Washington, D.C. 20229

Dear Ms. Patterson,

In response to the Tucson West Draft Environmental Assessment (EA) and Proposed FONSI, the following comments are submitted on behalf of numerous astronomical observatories in the area affected by the proposed Tucson West Project. (See Appendix 1 for a list of institutions.) The premier astronomy observatories in the continental USA are in Arizona, California, New Mexico, and Texas. They represent a substantial investment by our federal and state governments as well as private enterprises and are a key component of our nation's research infrastructure. The Arizona Arts, Sciences, and Technology Academy recently published an economic impact report citing that by the end of 2006, investment in capital facilities and land in Arizona for astronomy, planetary and space sciences (APSS) had reached well over $1 billion and that in 2006, APSS research returned a total economic impact of well over $250 million in Arizona alone (Ref. http://www.simginc.com/AASTA/).

We are concerned about the potential for harm to our optical and radio astronomy observations and loss of value from that considerable investment because of SBI*net*-produced artificial light at night, degraded air quality, and radio emissions. The SBI*net* radio emissions could cause direct interference with the instruments of both radio and optical telescopes due to the proximity of SBI*net* towers to our facilities. We feel that the EA is incomplete without addressing these previously communicated concerns.

Our submission identifies issues that we feel still need to be addressed.

We have communicated with representatives from the Department of Homeland Security (DHS), Customs and Border Patrol (CBP), and SBI*net* several times over

the course of the last year to raise awareness of the potential impact of their proposed facilities on the research enabled by our observatories. We have appreciated the willingness of CBP and DHS staff to meet with us in the past and look forward to further meetings. See Appendix 2 for references to past meetings.

During previous meetings with CBP and DHS personnel, we have discussed useful strategies to minimize the adverse impact of artificial light at night on astronomy. We are pleased to see that the draft EA (under section 2.3, Proposed Action, p. 27, lines 3-5) cites lighting guidelines that indirectly address these issues. We feel the lighting associated with proposed towers during their construction, operation, and maintenance should be assessed for its impact on astronomy activities. An analysis should be based on the proximity and line of sight of individual towers to specific telescopes and arrays used for astronomy.

The placement of towers and associated activity by CBP could channel illegal border traffic closer to our observatory sites. A resultant impact that is not assessed in the draft EA is the potential for CBP search vehicles and aircraft to illuminate areas and inadvertently damage or destroy sensitive observatory detectors or observations. (See Appendix 3 for a recent example.) This issue was discussed during the October 22, 2007 visit to our observatories by Frank Woelfle and colleagues from DHS but does not appear in the draft EA.

When towers are located near observatories (within a few miles), radio transmissions can impact optical as well as radio telescopes since they can affect electronic circuits that read signals from sensitive detectors used for astronomy. The EA should identify this issue as it relates to additionally planned towers (e.g. those on the Tohono O'odham Nation) if their proposed locations are near observatories. One tower is within the Mt. Hopkins observatory site. Frequencies, transmitter power, antenna geometry, and beam patterns should be assessed to calculate the effect on observatory equipment.

The draft EA does not identify and assess the possibility of inadvertent radio frequency interference (RFI) to radio astronomy equipment at the National Science Foundation/National Radio Astronomy Observatory (NSF/NRAO) Very Long Baseline Array site at Kitt Peak (VLBA-KP), or at the Arizona Radio Observatory sites (ARO) on Mount Graham and Kitt Peak. Due to their concern, the NSF/NRAO initiated extensive discussions with Frank Woelfle of DHS and Phil Smith, the SBI*net* Chief Engineer in August of 2007 (Ref. Appendix 2). A detailed propagation analysis of the radar, motion-sensing equipment, and data transmission links to be used on-site during normal operations would determine possible interference. (See Appendix 4 for an example.) We feel that the NSF should be included in this process.

Our observatories have extensive experience working with our neighbors to address lighting and radio frequency interference issues. We offer our assistance

in assessing the issues, but are extremely concerned that they are not identified and assessed as necessary in the current Tucson West Draft Environmental Assessment (EA) and Proposed FONSI. Buell Jannuzi (contact information at the top of this letter) will serve as the single point of contact for questions or comments based on this submission.

Sincerely,

Buell T. Jannuzi, Director
Kitt Peak National Observatory

Christopher J. Corbally, S.J.
Vice Director, Vatican Observatory

Emilio E. Falco, Project Head
Fred Lawrence Whipple Observatory

Jeffrey S. Kingsley
Associate Director
Steward Observatory
The University of Arizona

Robert L. Dickman
Assistant Director for New Mexico Operations
National Radio Astronomy Observatory
(VLA/VLBA)

Faith Vilas, Director
MMT Observatory

Stephen J. Criswell, Project Manager
VERITAS

Richard F. Green, Director
Large Binocular Telescope Observatory

Appendix 1
Observatories on Kitt Peak

National Optical Astronomy Observatory / Kitt Peak National Observatory and
National Solar Observatory
Both are operated by the Association of Universities for Research in Astronomy, Inc. under cooperative agreement with the National Science Foundation.
NOAO telescopes include: 4-meter Mayall, 2.1-meter, 0.9-meter Coude Feed
NSO telescopes include: 1.6-meter McMath-Pierce Solar telescope, 2x 0.9-meter east and west auxiliaries, and the SOLIS (Synoptic Optical Long-term Investigations of the Sun) facility
Public outreach telescopes include: 2x 0.4-meters, 0.5-meter, 0.1-meter Solar telescope

National Radio Astronomy Observatory (25-m Very Long Baseline Array)
A facility of the National Science Foundation operated under cooperative agreement by Associated Universities, Inc.

Burrell-Schmidt Telescope, CWRU (0.6-meter)
Case Western Reserve University, Cleveland, OH

Calypso Observatory, Edgar O. Smith (1.2-meter)
Private observatory founded in 1992

Michigan/Dartmouth/MIT Observatory (1.3-meter and 2.4-meter)
The consortium includes the University of Michigan, Dartmouth College, the Ohio State University, Columbia University, and Ohio University.

RCT (1.3-meter Robotically Controlled Telescope)
Consortium universities and research institutions are The Planetary Science Institute, Western Kentucky University, South Carolina State University, Villanova University, and Fayetteville State University.

Southeastern Association for Research in Astronomy (0.9-meter)
The consortium includes Florida Institute of Technology, East Tennessee State University, Florida International University, University of Georgia, Valdosta State University, Clemson University, Ball State University, Agnes Scott College, University of Alabama, and Valparaiso University.

ARO (Arizona Radio Observatory) 12-meter Telescope
Spacewatch (1.8-meter and 0.9-meter) Telescopes
Bok (2.3-meter) Telescope
University of Arizona, Arizona State University, Northern Arizona University
(ARO includes the Academia Sinica Institute of Astronomy and Astrophysics.)

WIYN Observatory (3.5-meter)
The consortium includes the University of Wisconsin, Indiana University, Yale University, and the National Optical Astronomy Observatory.

WIYN Observatory (0.9-meter)
The consortium includes the University of Wisconsin (Madison, Oshkosh, Stevens Point, Whitewater), Indiana University, Bowling Green State University, Wesleyan University, University of Florida, San Francisco State University, and the Wisconsin Space Grant Consortium.

Observatories on Mt. Hopkins

Fred Lawrence Whipple Observatory, operated by the Smithsonian Astrophysical Observatory, has the following facilities.

MMT 6.5-meter
A joint facility of the Smithsonian Astrophysical Observatory, the University of Arizona, Arizona State University, and Northern Arizona University.

1.5-meter Tillinghast telescope

1.2-meter telescope

PAIRITEL (Peters Automated IR Imaging Telescope) 1.3-meter

VERITAS (Very Energetic Radiation Imaging Telescope Array System)
Member institutions include the Smithsonian Astrophysical Observatory, Purdue University, Iowa State University, Washington University in St. Louis, University of Chicago, University of Utah, University of California, Los Angeles, McGill University, University College Dublin, University of Leeds, Adler Planetarium, Argonne National Lab, Barnard College, DePauw University, Grinnell College, University of California, Santa Cruz, University of Iowa, University of Massachusetts, Cork Institute of Technology, Galway-Mayo Institute of Technology, National University of Ireland, Galway, and the University of Delaware/Bartol Research Institute.

HAT (Hungarian Automated Telescope) network of telescopes
Operated by the Harvard-Smithsonian Center for Astrophysics

Observatories on Mt. Graham

The Mount Graham International Observatory, operated by the University of Arizona, has the following facilities.

The Vatican Observatory (1.8-meter Alice P. Lennon Telescope)

Large Binocular Telescope Observatory (2x 8.4-meter telescope)
The consortium includes the University of Arizona, Arizona State University, Northern Arizona University, Istituto Nazionale di Astrofisica, Osservatorio Astrofisico di Arcetri (Florence), Osservatorio Astronomico di Bologna, Osservatorio Astronomico di Roma, Osservatorio Astronomico di Padova, Osservatorio Astronomico di Brera (Milan), Max-Planck-Institut für Astronomie (Heidelberg, Landessternwarte), Astrophysikalisches Institut Potsdam, Max-Planck-Institut für Extraterrestrische Physik (Munich), Max-Planck-Institut für Radioastronomie (Bonn), the Ohio State University, and Research Corporation (on behalf of the Ohio State University, University of Notre Dame, University of Minnesota, and University of Virginia).

Arizona Radio Observatory (ARO) – 10-meter Heinrich Hertz Submillimeter Telescope
University of Arizona, Arizona State University, Northern Arizona University
(ARO includes the Academia Sinica Institute of Astronomy and Astrophysics.)

Observatories in the Catalinas

1.6-meter Kuiper Telescope
1.5-meter NASA Telescope
1.5-meter Mount Lemmon Observing Facility Telescope
0.4-meter Schmidt Camera
University of Arizona, Arizona State University, Northern Arizona University

The Korean Astronomy and Space Science Institute 1-meter Telescope

University of Minnesota 1.5-meter Telescope

Public outreach telescopes include: 1.0-meter telescope

Appendix 2
Partial List of related meetings / communications

1. A series of email communications were initiated by Dan Brocious on behalf of numerous southern Arizona observatories to make SBI personnel aware of our concerns about potential adverse effects on astronomy research activities.
   a. From: Dan Brocious [mailto:brocious@carpincho.sao.arizona.edu]
      Sent: Wednesday, April 11, 2007 4:07 PM
      To: Giddens, Gregory
      Subject: SBI effects on research sites
      [This email outlined the issues. Mr. Giddens referred us to Mr. Smith.]
   b. From: "Dan Brocious" <brocious@carpincho.sao.arizona.edu>
      To: Charles.P.Smith2@cbp.dhs.gov
      Received: 4/24/2007 2:50:58 PM
      Subject: SBI effects on research sites
   c. From: Dan Mertely dmertely@aoc.nrao.edu,
      To: dfinley@nrao.edu, CHARLES.P.Smith@dhs.gov
      Date: Fri, 11 May 2007 10:23:53 -0600
      Subject: RE: Secure Border Initiative effects on research sites,

2. 19 June 2007, at Fred Lawrence Whipple Observatory offices
Meeting with observatory personnel associated with Mt. Hopkins and Tucson Sector Customs and Border Patrol agents (Lisa Reed - Community Relations Officer, John Fitzpatrick - Assistant Chief Patrol Agent, Tucson Sector, and Chris Petrazack - Nogales Station agent)

3. 23 July 2007, at National Optical Astronomy Observatory headquarters
Meeting with observatory personnel associated with Kitt Peak and Tucson Sector Customs and Border Patrol agents (Lisa Reed- Community Relations Officer and six additional specialists in attendance to answer specific questions)

4. 17 July 2007, Holiday Inn Palo Verde, Tucson, AZ
Public Scoping Meeting for the siting, construction, and operation of a technology-based border security system along a portion of the international border in eastern Arizona.
Attended by observatory personnel representing the Fred Lawrence Whipple Observatory (Mt. Hopkins), the National Optical Astronomy Observatory/Kitt Peak National Observatory, the Mount Graham International Observatory, and the University of Arizona observatories.

5. 22 October 2007, Visit to Mt. Hopkins facilities
Frank J. Woelfle (CBP/DHS) and colleagues meeting with observatory personnel representing Fred Lawrence Whipple Observatory (Mt. Hopkins), the Mount Graham International Observatory, and the National Optical Astronomy Observatory/Kitt Peak National Observatory

Appendix 3

VERITAS is a major, new gamma-ray observatory with an array of four 12-m diameter, optical reflectors located adjacent to the Fred Lawrence Whipple Observatory's offices at the base of Mt. Hopkins. During its first year of operation, VERITAS is already seeing an increase in CBP agent enforcement activity. If all four VERITAS cameras were overloaded by a helicopter or truck-mounted searchlight, the replacement of the array's cameras would be $800,000. Each night of observing lost to such damage would cost the collaboration about $10,000. Helicopter flights over the VERITAS array prompted a meeting by observatory personnel with local CBP agents on June 19, 2007. The same flight illuminated the summit and interrupted observing at the telescopes there as well.

Appendix 4
Propagation analysis example

Subject: Re: SBInet EA review: NRAO, ref VLBA-KP RA site
Date: Tue, 17 Jun 2008 14:52:48 -0600
From: Dan Mertely <dmertely@aoc.nrao.edu>
Organization: NRAO
To: Elizabeth Alvarez del Castillo ealvarez@noao.edu
…
I have reviewed the information … and have the following comments and concerns relating to RF protection of the NSF/NRAO VLBA site at Kitt Peak (VLBA-KP).

… no detailed information is provided in the EA on spectrum usage, so detailed propagation analyses cannot be performed...

As hypothetical examples, Longley-Rice propagation analyses were performed using approximate Latitude and Longitude values for 2 towers (TCA-TUS-103, TCA-TUS-035), at a harmonic of a common federal 2-way communications band (406 - 420 MHz). The latitude and longitude of the two towers were estimated graphically from the maps included in the EA. The results showed the existence of line-of-sight (LOS) propagation from either of the two proposed sites and the VLBA-KP station. Making engineering assumptions as to the power levels and height of any antenna used with a UHF repeater base station on the tower, one finds likely interference to 1665 MHz OH- observing (x4 harmonic of the federal 2-way band) at levels from 11 to 31 dB over the ITU-R-RA.769 recommended levels for VLBI observing at 1665 MHz. Even assuming only mobile radio units in the same band (ground level, 4 W power output), harmonic RFI over the ITU-R-RA.769 recommended levels is still likely.

The above is just one example of the potential for RFI to the VLBA-KP station during construction, and perhaps maintenance. Many other possible RFI situations at primary or harmonic frequencies of SBI*net* tower equipment exist. Lack of information in the EA prevents the analysis of possible interference due to radar, motion-sensing, and data transmission links that would be expected to be used on-site during normal operations.

As a result, I would strongly urge the DHS and SBInet planning and engineering project teams to coordinate any and all proposed RF devices planned for each tower with the NSF and NRAO. We are available for detailed RFI analyses once information on site spectrum usage is forwarded, or included in an addendum to the draft EA.

Sincerely;
-Mert
~~~~~~

Daniel J. (Mert) Mertely
National Radio Astronomy Observatory
Interference Protection Office Engineer
P.O. Box o
Socorro, NM 87801
(505) 835-7128
dmertely@nrao.edu
nrao-rfi@nrao.edu
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NOTICE OF AVAILABILITY

DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT (SEA) AND PROPOSED FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR THE PROPOSED SBI*net* TUCSON WEST TOWER PROJECT, NOGALES AND SONOITA STATIONS' AREAS OF RESPONSIBILITY, U.S. BORDER PATROL, TUCSON SECTOR

U.S. Customs and Border Protection (CBP), a component of the Department of Homeland Security (DHS), announces the availability of and invites public comments on a draft SEA and proposed FONSI for the SBI*net* Tucson West Tower Project. Pursuant to the National Environmental Policy Act (NEPA) of 1969, 42 United States Code (U.S.C.) 4321 *et seq.*, CBP has prepared the draft SEA and proposed FONSI to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor towers, and supporting infrastructure components within the Tucson Sector. The location for the Proposed Action, which is known as the SBI*net* Tucson West Tower Project, is the Nogales and Sonoita Stations' areas of responsibility within the Tucson Sector, Santa Cruz County, Arizona.

The draft SEA will be available November 20, 2009 and was prepared in accordance with CBP's obligations under NEPA, the Council on Environmental Quality (CEQ) implementing regulations at 40 Code of Federal Regulations (CFR) Parts 1500–1508, and DHS Management Directive 023-01 (Environmental Planning Program). Copies of the draft SEA and proposed FONSI can be downloaded from the project website at www.cbp.gov/sbi under the link *SBI NEPA Documents for Public Review and Comment*. Additionally, copies will be available in the following libraries for public review:

Nogales-Rochlin Public Library, 518 North Grand Avenue, Nogales, Arizona 85621 (520) 287-3343
Sierra Vista Library, 2600 E. Tacoma Street, Sierra Vista, Arizona 85635 (520) 458-4225
Sonoita Community Library, 3147 State Highway 83, Sonoita, Arizona 85637 (520) 455-5517
Pima County Public Library, 17050 W. Arivaca Rd., Arivaca, Arizona 85701 (520) 594-5600

Pursuant to the NEPA regulations, CBP invites public participation in the NEPA process. The public may participate by reviewing and submitting comments on the draft SEA and proposed FONSI. The public may submit comments by one of three methods described below. CBP will consider all applicable and pertinent comments submitted during the public comment period, and subsequently will prepare the final SEA. CBP will announce the availability of the final EA and FONSI.

Comments on the draft SEA and proposed FONSI should be received no later than December 21, 2009. Please use only one of the following methods:

(1) By Email to: NGLSONSEAcomments@cbp.dhs.gov
(2) By mail to: Ms. Patience E. Patterson, RPA, U.S. Department of Homeland Security, U.S. Customs and Border Protection, SBI*net* Program Management, 1901 S. Bell Street, Room 7-090, Arlington, Virginia 22202
(3) By fax to: (571) 468-7390 (Attention: Ms. Patience E. Patterson

When submitting comments, please include your name and address, and identify your comments as being for the SBI*net* Tucson West Tower Project draft SEA. To request a hard copy of the draft SEA, please use one of the aforementioned contact methods.

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Mr. Steere
Manager
Tohono O'odham Nation
Cultural Affairs Office
Tohono O'odham Nation Administration Building
Sells, Arizona 85634

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Manager Steere:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

The purpose of the Proposed Action is to further CBP's ability to gain operational control of the Nation's borders by providing 24-hour, year-round surveillance capabilities that will help deter illegal entry attempts into the U.S., and enable CBP agents to detect, analyze, and rapidly respond to illegal cross border activity.

The draft SEA was prepared in compliance with provisions of the National Environmental Policy Act (NEPA) of 1969 as amended (42 United State Code 4321, et seq.), the Council on Environmental Quality's NEPA implementing regulations at 40 Code of Federal Regulations Part 1500 et seq., and the U.S. Department of Homeland Security's *Management Directive 023-01, Environmental Planning Program.*

CBP invites your participation in this public process. Comments must be received by December 21, 2009. When submitting your comments, please include name and address, and identify comments as intended for the Tucson West Draft SEA and Proposed Finding of No Significance Impact (FONSI). Comments on the enclosed documents, or questions about them, can be submitted by:

(a) E-mail to: NGLSONSEAcomments@cbp.dhs.gov
(b) Mail to: Ms. Patience E. Patterson, RPA, U.S. Department of Homeland Security, U.S. Customs and Border Protection, SBI*net* Program Management Office, 1901 S. Bell Street, Room 7-090, Arlington, VA 22202
(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland
Security
Washington, DC 20528

Homeland Security

November 13, 2009

The Honorable Ivan Smith
Chairman
Tonto Apache Tribe
Tonto Apache Tribe Reservation # 30
Payson, Arizona 85541

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Chairman Smith:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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CBP invites your participation in this public process. Comments must be received by December 21, 2009. When submitting your comments, please include name and address, and identify comments as intended for the Tucson West Draft SEA and Proposed Finding of No Significance Impact (FONSI). Comments on the enclosed documents, or questions about them, can be submitted by:

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(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

The Honorable Ronnie Lupe
Chairman
White Mountain Apache Tribe
Attn: Mr. Mark Atalha, THPO
White Mountain Apache Tribe Historic Preservation Office
Whiteriver, Arizona 85941

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Chairman Lupe:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

The purpose of the Proposed Action is to further CBP's ability to gain operational control of the Nation's borders by providing 24-hour, year-round surveillance capabilities that will help deter illegal entry attempts into the U.S., and enable CBP agents to detect, analyze, and rapidly respond to illegal cross border activity.

The draft SEA was prepared in compliance with provisions of the National Environmental Policy Act (NEPA) of 1969 as amended (42 United State Code 4321, et seq.), the Council on Environmental Quality's NEPA implementing regulations at 40 Code of Federal Regulations Part 1500 et seq., and the U.S. Department of Homeland Security's *Management Directive 023-01, Environmental Planning Program*.

CBP invites your participation in this public process. Comments must be received by December 21, 2009. When submitting your comments, please include name and address, and identify comments as intended for the Tucson West Draft SEA and Proposed Finding of No Significance Impact (FONSI). Comments on the enclosed documents, or questions about them, can be submitted by:

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(b) Mail to: Ms. Patience E. Patterson, RPA, U.S. Department of Homeland Security, U.S. Customs and Border Protection, SBI*net* Program Management Office, 1901 S. Bell Street, Room 7-090, Arlington, VA 22202
(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

The Honorable Ned Norris, Jr.
Chairman
Tohono O'odham Nation
Attn: Mr. Peter Steere, Cultural Affairs Program Manager
Main Tribal Building Business Loop
Sells, Arizona 85634

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Chairman Norris:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

The purpose of the Proposed Action is to further CBP's ability to gain operational control of the Nation's borders by providing 24-hour, year-round surveillance capabilities that will help deter illegal entry attempts into the U.S., and enable CBP agents to detect, analyze, and rapidly respond to illegal cross border activity.

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CBP invites your participation in this public process. Comments must be received by December 21, 2009. When submitting your comments, please include name and address, and identify comments as intended for the Tucson West Draft SEA and Proposed Finding of No Significance Impact (FONSI). Comments on the enclosed documents, or questions about them, can be submitted by:

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(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

The Honorable Wendsler Nosie, Sr.
Chairperson
San Carlos Apache Tribe
Attn: Ms. Vernelda Grant, THPO
Historic Preservation & Archaeology Department
San Carlos, Arizona 85550

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Chairperson Nosie:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

The Honorable Diane Enos
President
Salt River Pima-Maricopa Indian Community
Attn: Mr. Dan Daggett, Cultural Programs Supervisor or Ms. Dezbah Hatathli
10005 East Osborn Road
Scottsdale, Arizona 85256

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear President Enos:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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(b) Mail to: Ms. Patience E. Patterson, RPA, U.S. Department of Homeland Security, U.S. Customs and Border Protection, SBI*net* Program Management Office, 1901 S. Bell Street, Room 7-090, Arlington, VA 22202
(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

The Honorable Peter Yucupicio
Chairman
Pascua Yaqui Tribe
Attn: Ms. Amalia Reyes, Language and Cultural Preservation Specialist
7474 South Camino de Oeste
Tucson, Arizona 85746

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Chairman Yucupicio:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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(b) Mail to: Ms. Patience E. Patterson, RPA, U.S. Department of Homeland Security, U.S. Customs and Border Protection, SBI*net* Program Management Office, 1901 S. Bell Street, Room 7-090, Arlington, VA 22202
(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

The Honorable Benjamin H. Nuvamsa
Chairman
Hopi Tribal Council
Attn: Marvin Lalo, Acting Director
Hopi Cultural Preservation Office
Kykotsmovi, Arizona 86039

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Chairman Nuvamsa:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

The Honorable William Rhodes
Governor
Gila River Indian Community
Attn: Mr. Barnaby Lewis, Cultural Resource Specialist
315 West Casa Blanco Road
Sacaton, Arizona 85247

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Governor Rhodes:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

The Honorable Sherry Cordova
Chairperson
Cocopah Tribal Council
Attn: Lisa Wanstall, Museum Director
Cocopah Museum
Somerton, Arizona 85350

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Chairperson Cordova:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

The Honorable Louis Manuel
Chairperson
Ak-Chin Indian Community Council
Attn: Ms. Caroline Anton, Cultural Resource Manager
Ak-Chin Him Dak Eco Museum & Archives
Maricopa, Arizona 85239

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Chairperson Manuel:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

The purpose of the Proposed Action is to further CBP's ability to gain operational control of the Nation's borders by providing 24-hour, year-round surveillance capabilities that will help deter illegal entry attempts into the U.S., and enable CBP agents to detect, analyze, and rapidly respond to illegal cross border activity.

The draft SEA was prepared in compliance with provisions of the National Environmental Policy Act (NEPA) of 1969 as amended (42 United State Code 4321, et seq.), the Council on Environmental Quality's NEPA implementing regulations at 40 Code of Federal Regulations Part 1500 et seq., and the U.S. Department of Homeland Security's *Management Directive 023-01, Environmental Planning Program.*

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(a) E-mail to: NGLSONSEAcomments@cbp.dhs.gov
(b) Mail to: Ms. Patience E. Patterson, RPA, U.S. Department of Homeland Security, U.S. Customs and Border Protection, SBI*net* Program Management Office, 1901 S. Bell Street, Room 7-090, Arlington, VA 22202
(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

National Optical Astronomy Observatory
Dr. Buell Jannuzi
P.O. Box 26732
Tucson, Arizona 85726

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Dr. Buell:

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Sierra Club
Attn: Sean Sullivan
758 N. 5th Ave., Suite 214
Tucson, Arizona 85705

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Mr. Sullivan:

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

David Redmond
7037 S. Camino del Garanon
Tucson, Arizona 85747

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Mr. Redmond:

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Gary Haynes
1251 S Quail Pt. St.
Tucson, Arizona 85745

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Mr. Haynes:

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Terry Siggins
3123 S. Calle Pocar
Tucson, Arizona 85730

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Terry:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Steve Hise
P.O. Box 1105
Tucson, Arizona 85702

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Mr. Hise:

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James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Center for Biological Diversity
Attn: Greta Anderson
P.O. Box 710
Tucson, Arizona 85702

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Ms. Anderson:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland
Security
Washington, DC 20528

Homeland
Security

November 13, 2009

International Dark-Sky Association
Robert L. Gent
4204 South Hohokam Drive
Sierra Vista, Arizona 85650

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Mr. Gent:

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Astronomical League
Robert L. Gent
9201 Ward Parkway, Suite 100
Kansas City, Missouri 64114

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Mr. Gent:

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Paul J. Winger
9131 N. Overlook Drive
Tucson, Arizona 85704

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Mr. Winger:

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Vatican Observatory
Attn: Chris Corbally
University of Arizona
Tucson, Arizona 85721

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Chris:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Jake Elkins
1309 E. Lee Street
Tucson, Arizona 85719

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Mr. Elkins:

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CBP invites your participation in this public process. Comments must be received by December 21, 2009. When submitting your comments, please include name and address, and identify comments as intended for the Tucson West Draft SEA and Proposed Finding of No Significance Impact (FONSI). Comments on the enclosed documents, or questions about them, can be submitted by:

(a) E-mail to: NGLSONSEAcomments@cbp.dhs.gov
(b) Mail to: Ms. Patience E. Patterson, RPA, U.S. Department of Homeland Security, U.S. Customs and Border Protection, SBI*net* Program Management Office, 1901 S. Bell Street, Room 7-090, Arlington, VA 22202
(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Border Action Network
Attn: Jennifer Allen
P.O. Box 384
Tucson, Arizona 85702

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Ms. Allen:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Kitt Peak National Observatory
Elizabeth Alvarez del Castillo
950 North Cherry Avenue
Tucson, Arizona 85719

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Ms. Alvarez del Castillo:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Northern Jaguar Project
Attn: Craig Miller
110 Church Street, Suite 4292
Tucson, Arizona 85701

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Mr. Miller:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins on November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Dawn & Shane Johnson and John C. & Tami Blount
6130 NW Michaelbrook Ln
Camas, Washington, 98607

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Dawn, Shane, John, and Tami:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Paul A. and Earlene H. Hathaway
164 Duquesne Road, Unit 5
Nogales, Arizona 85621-9627

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Mr. and Mrs. Hathaway:

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(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Frank Patania, Spokesperson for the beneficiaries of Trust 6356-T
Lawyers Title of AZ 6356
POBox 12646
Tucson, AZ 857352-2646 B006

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Mr. Patania:

Enclosed for your review and comment is the above referenced document. The 30-day review period begins November 20, 2009 and ends on December 21, 2009. U.S. Customs and Border Protection (CBP) has prepared the draft Supplemental Environmental Assessment (SEA) to identify and assess the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communication towers; vehicles; supporting infrastructure components; and technological improvements to existing facilities for CBP along approximately 56 miles of the U.S./Mexico international border, within the Tucson Sector, Arizona (the Proposed Action).

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(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

Your prompt attention to this request is greatly appreciated. If you have any questions, please contact Ms. Patterson via E-mail or the postal address listed above.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Nygard Family LLC
P.O. Box 636
Amado, AZ 85645

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Nygard Family LLC:

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(c) Fax to: (571) 468-7390, Attn: Ms. Patience Patterson

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Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Pima County Library
Attn: Librarian
17050 W Arivaca Road
Arivaca, Arizona 85701
(520) 594-5600

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

Dear Librarian:

U.S. Customs and Border Protection (CBP) requests that your library make available to the public the enclosed *Draft Supplemental Environmental Assessment for the Proposed SBInet Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona*, and the related proposed *Finding of No Significant Impact*, for a 30-day public review period. Please place a copy of this letter and the draft Supplemental Environmental Assessment (SEA) in a location that facilitates public review. The public comment period begins November 20, 2009 and all comments must be received no later than December 21, 2009.

In support of the Secure Border Initiative program, on November 20, 2009, CBP is publishing a Notice of Availability for the draft SEA. The draft SEA identifies and assesses the potential impacts associated with the proposed siting, construction, operation, and maintenance of sensor and communications towers, vehicles, supporting infrastructure components, and technological improvements to existing facilities within the Tucson Sector. The location for the Proposed Action is along approximately 56 miles of the U.S./Mexico international border within the Tucson Sector, Arizona.

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I appreciate your assistance with our efforts to invite public involvement in our decision making process.

Sincerely,

James Riordan
Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Sonoita Community Library
Attn: Librarian
3147 State Highway 83
Sonoita, Arizona 85637
(520) 455-5517

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

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Executive Program Director, SBI*net*

Enclosure(s)

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

November 13, 2009

Sierra Vista Library
Attn: Librarian
2600 E Tacoma Street
Sierra Vista, Arizona 85635
(520) 458-4225

Subject: Draft Supplemental Environmental Assessment and Proposed Finding of No Significant Impact for the Proposed SBI*net* Tucson West Tower Project, Nogales and Sonoita Stations' Area of Responsibility, U.S. Border Patrol Tucson Sector, Arizona

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