

**Final Environmental Assessment for a Fiber-Optic Telecommunications Cable
Corridor along Highway 80 in Tombstone, Cochise County, Arizona**

EA No. AZA34640

Prepared for:

Bureau of Land Management
Tucson Field Office
12661 East Broadway
Tucson, Arizona 85748-7208

and

Cox Communications
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1440 East 15th Street
Tucson, Arizona 85719

Prepared by:

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Tierra Project No. 8T0-037
August 13, 2009

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TABLE OF CONTENTS

LIST OF FIGURES.....	iii
LIST OF TABLES	iii
INTRODUCTION.....	1
Background	1
Purpose and Need.....	1
Conformance with Land Use Plan.....	1
Relationship to Statutes, Regulations, or Other Plans and Policies.....	3
PROPOSED ACTION AND ALTERNATIVES.....	3
Description of the Proposed Action	3
No Action Alternative	4
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES.....	4
Critical Elements	5
Air Quality	6
Soil Resources.....	7
Water Resources.....	7
Wildlife Habitat and Threatened and Endangered Species	8
Cultural and Paleontological Resources	10
Vegetation	11
Visual Resources	13
Socio-Economics	13
Hazardous Materials	13
Cumulative Impacts	14
General Stipulations.....	14
Mitigation Measures:.....	14
Cultural Resources	14
Threatened and Endangered Species	15
Visual Resources	15
Invasive and Noxious Weeds.....	15
Revegetation	15
Erosion Control.....	15
Hazardous Materials.....	16
Compliance and Area Monitoring	16
Residual Impacts.....	16
PREPARERS AND REVIEWERS	17
PERSONS AND AGENCIES CONSULTED.....	17
LITERATURE CITED.....	18
Appendix A. ADOT Consent Documentation.....	A.1
Appendix B. Representative Telecommunications Cable Placement Diagrams	B.1
Appendix C. Directional Boring Brochure	C.1
Appendix D. Diagram Indicating Telecommunications Cable Bore Placement on BLM Land.....	D.1
Appendix E. APS Consent Documentation	E.1
Appendix F. Project Corridor Agave Location Map.....	F.1
Appendix G. Vegetation to be Disturbed on ASLD Land and Estimates of the Vegetation to be Disturbed on BLM Land and in the Overall Corridor	G.1
Appendix H. BLM Stumpage Fees	H.1

LIST OF FIGURES

Figure 1. Project location.....	2
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LIST OF TABLES

Table 1. Corridor Length and Disturbance Acreage by Management Agency.....	4
Table 2. Critical Elements Not Affected by the Proposed Action.....	5
Table 3. Special Status Species Potentially Occurring in Cochise County, Arizona	9
Table 4. List of Preparers.....	17
Table 5. List of Reviewers	17

EA No. AZA34640

Project Name: Cox Communications Tombstone Highway 80

Contact Person: Ike Cruse

Legal Description and Map Names: Portions of Sections 17–21, 27, 28, and 34, Township 19 South, Range 22 East, and Sections 2, 3, and 11, Township 20 South, Range 22 East, Gila and Salt River Baseline and Meridian (G&SRB&M), as indicated on the Haberstock Hill, Arizona (1991); Land, Arizona (1991); and Tombstone, Arizona (1991), U.S. Geological Survey (USGS) 7.5-minute 1:24,000 topographic quadrangles.

INTRODUCTION

Background

Cox Communications (Cox) proposes to install buried and aerial segments of a 9.61-km-long (5.96-mile-long) fiber-optic telecommunications cable in and north of Tombstone, Cochise County, Arizona, within the Arizona Department of Transportation (ADOT) right-of-way (ROW) of Highway 80 on lands managed by the Arizona State Land Department (ASLD) and the Bureau of Land Management (BLM), as well as within Tombstone municipal utility ROW (Figure 1).

ADOT granted consent for this Proposed Action in May 2008 (see Appendix A). ASLD consent is expected to be granted in March 2009 (Ike Cruse, Cox Communications, personal communication, March 5, 2009).

Purpose and Need

The purpose for BLM action is to respond to a request for a ROW from Cox across public land managed by the BLM. The requested ROW is for a buried fiber-optic telecommunications cable, .77 km (0.47 miles) long, 3.0 m (10 feet) wide, and 1.2 m (4 feet) deep. The requested BLM ROW is within T. 19S, R. 22E., sec. 21 SW1/4SW1/4SW1/4, and sec. 28 NW1/4NW1/4. The need for BLM action is established by the BLM's responsibility under the Federal Land Policy and Management Act (FLPMA) of 1976 to respond to a request for a ROW Grant.

Conformance with Land Use Plan

The Proposed Action is subject to the *Safford District Resource Management Plan* (RMP), approved in part through Records of Decision in September 1992 and September 1994 (BLM 1992).

This Proposed Action has been reviewed to determine if it conforms to the land use plan terms and conditions required by 43 CFR 1610.5, BLM MS 1617.3, Title V of the FLPMA, and 43 CFR 2800.

No portions of the Proposed Action are within a BLM Area of Critical Environmental Concern (ACEC).

As stated in the Lands and Realty section of the Safford RMP, rights-of-way for utility facilities will be granted when identified need and stipulations to protect natural and cultural resources are provided by the applicant. Therefore, the Proposed Action conforms to the land use terms and conditions of the Safford RMP.

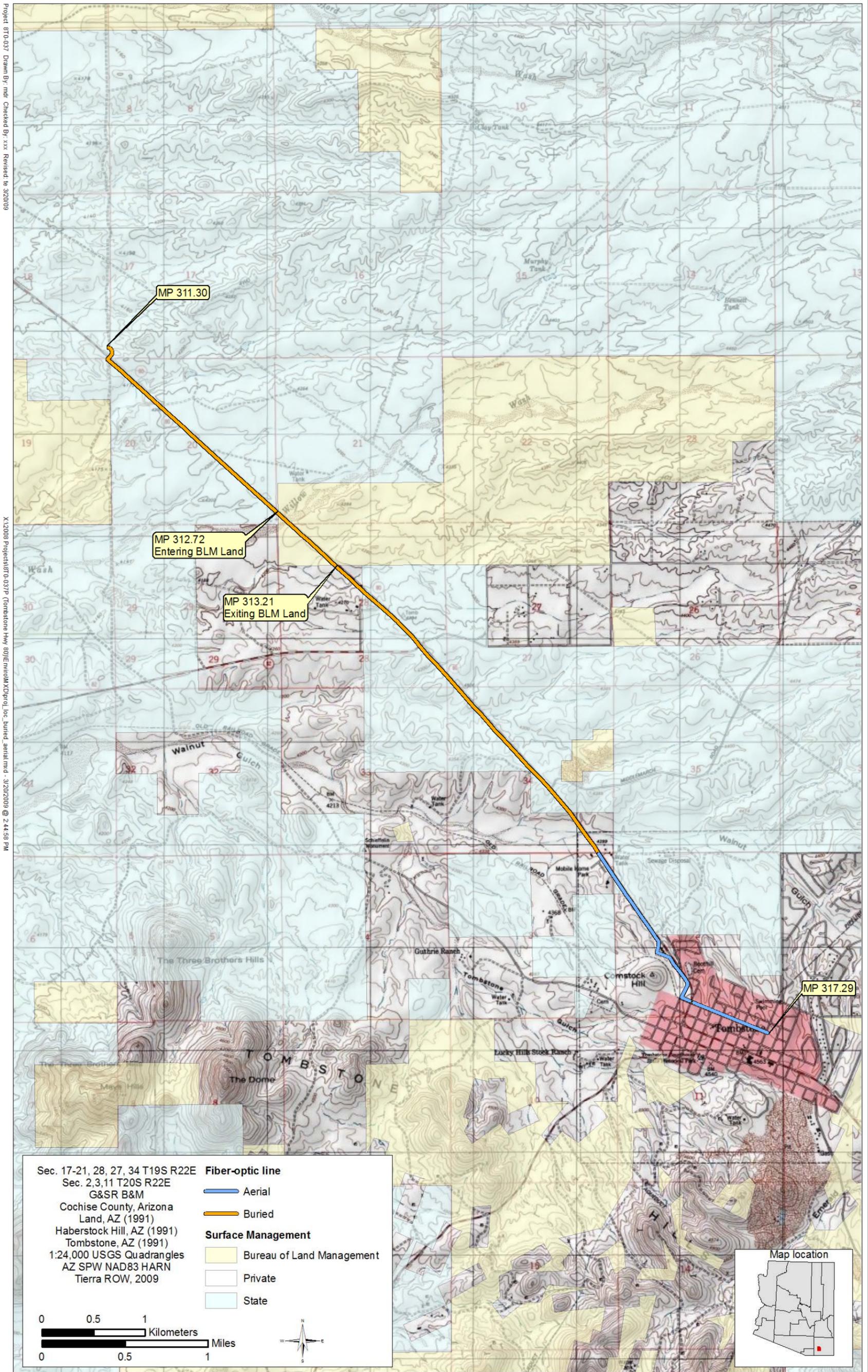


Figure 1. Project location.

Relationship to Statutes, Regulations, or Other Plans and Policies

By virtue of being in conformance with the Safford RMP, the Proposed Action is in general conformance with associated statutes, regulations, and other plans and policies.

PROPOSED ACTION AND ALTERNATIVES

Because of the limited extent of the Proposed Action, only the Proposed Action and the No Action Alternative will be addressed in this Environmental Assessment (EA).

Description of the Proposed Action

The north boundary of the Proposed Action is located at the intersection of Highway 80 and an unnamed dirt road at the Highway 80 milepost 311.33 (MP 311.33). The proposed telecommunications cable will be buried within the west ROW of Highway 80 following the highway southeasterly to MP 315.57, at which point the cable will be installed aerially on existing overhead utility poles within the west ROW to MP 316.23. At MP 316.23, the project corridor will exit the west ADOT ROW of Highway 80 and will be redirected west-southwest around two commercial properties. After passing to the west of the commercial properties, the project corridor returns to the west ADOT ROW of Highway 80 at MP 316.36. The project corridor continues south in the west ROW for 209 m (686 feet) before leaving the ADOT ROW again at MP 316.49. The project corridor then continues south-southwest 186 m (609 feet) to the intersection of Haskell Street and Bruce Street and follows the north side of Bruce Street 98 m (323 feet) to Highway 80 MP 316.63. The telecommunications cable will be bored beneath the highway for a distance of 85 m (278 feet) and the aerial installation will resume, continuing east-southeast along the north side of Bruce Street 0.76 km (0.47 miles) to terminate at an existing utility pole located at the northeast corner of the intersection of Bruce Street and 7th Street. Prior to any construction activities, Cox will contact Arizona Blue Stake to have all existing utilities in the project corridor marked. Representative diagrams of the proposed telecommunications cable placement within the highway ROW are included in Appendix B.

Cox estimates that the Proposed Action will commence in the first quarter (January–March) of 2010 and will take approximately 60 days to complete. Buried portions of the proposed telecommunications cable installation will be installed using conventional plowing methods, with the cable installed at a nominal depth of 1.2 m (4 feet). Eighteen washes and five roadways will be bored beneath during the cable installation using directional boring techniques.

Directional boring is a method used to install underground utilities without the need for trenching. Typically, it is used to install utility lines under waterways, roads, and other areas where the avoidance of surface disturbance is desirable. Directional boring machines are essentially horizontal drilling rigs and have a drill bit that is steerable. The drill bit is guided by the operator as it progresses along the desired boring path. After boring, the drill pipe is pulled out and conduit is threaded through the bore. In ‘drill and leave’ installations, the drill pipe is left in place and serves as the conduit. A brochure detailing directional boring can be found in Appendix C.

Boring pits associated with the boring operations at the 18 washes will be located well outside the ordinary high water marks of the washes. All bores under washes will be a minimum of 2.4 m (8 feet) below the surface of the washes’ bed. Two bores totaling 92 m (300 feet) in length are to occur on BLM land (see Appendix D). These bores will be of sufficient diameter to contain a 5-cm-

diameter (2-inch-diameter) conduit and will be drilled using drilling fluid “mud.” This mud is non-toxic, consisting of clay, bentonite, and water; it will be disposed of accordingly.

The aerial portion of the proposed telecommunications cable installation will occur on existing utility poles owned by Arizona Public Service (APS). Documentation detailing APS consent for Cox to use APS utility poles for the purposes of the Proposed Action is included in Appendix E.

Equipment used for the proposed telecommunications cable installation will include two bulldozers, a backhoe, a directional boring machine, a water truck equipped with a spray bar for dust control, and various light- and medium-duty trucks for personnel and cable transport. Water for dust control and boring purposes will be provided by the City of Tombstone. The estimated water requirement of the Proposed Action is 200,000 gallons. No staging areas for equipment will be required in the Proposed Action area.

Disturbance associated with the entire length of the buried installation, including the 0.21-km-long (0.13-mile-long) aerial section on ASLD land, will be limited to a requested temporary and permanent ROW width of 3.0 m (10 feet). The aforementioned ASLD aerial section will undergo disturbance during construction due to equipment access. The remaining aerial portions of the project corridor will not require new disturbances, as they are located adjacent to existing roads. Corridor length and disturbance acreage by management agency for the proposed installation are summarized in Table 1.

Table 1. Corridor Length and Disturbance Acreage by Management Agency

Surface Management	Buried Installation		Aerial Installation	
	Length	Disturbance	Length	Disturbance
ASLD	5.33 km (3.31 miles)	4.01 acres	0.21 km (0.13 miles)	0.16 acres
BLM	0.77 km (0.47 miles)	0.57 acres	n/a	n/a
Private	0.84 km (0.52 miles)	0.63 acres	2.46 km (1.53 miles)	0.00 acres ^a
Total	6.94 km (4.30 miles)	5.21 acres	2.67 km (1.66 miles)	0.16 acres

^a No new disturbances

No Action Alternative

Under the No Action Alternative, Cox Communications will not install a 9.61-km-long (5.96-mile-long) fiber-optic telecommunications cable in and in the vicinity of Tombstone as described above.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The Proposed Action is located within the Chihuahuan Desertscrub biotic community as described by David E. Brown in *Biotic Communities: Southwestern United States and Northwestern Mexico* (1994). Elevations within the project corridor range from between 1,347 and 1,433 m (4,190 and 4,530 feet)

above mean sea level, with lower elevations being found at the northern end of the Proposed Action.

Dominant overstory plants observed in the Proposed Action area include Honey Mesquite (*Prosopis glandulosa*) and Arizona Ash (*Fraxinus velutina*), the latter of which was only present in Walnut Gulch. Common shrub species include White-thorn Acacia (*Acacia constricta*), Creosote (*Larrea tridentata*), Tarbush (*Flourenzia cernua*), Warnock’s Condalia (*Condalia warnockii*), and Desert Lavender (*Hyptis emoryi*). Cacti observed include Engelmann Prickly Pear (*Opuntia engelmannii*), Fishhook Barrel (*Ferocactus wislizenii*), Hedgehog (*Echinocereus fasciculatus*), and Cane Cholla (*Cylindropuntia spinosior*). Common herbaceous plants and grasses include Range Ratany (*Krameria parvifolia*), Alkali Sacaton (*Sporobolus airoides*), Lehmann’s Lovegrass (*Eragrostis lehmanniana*), Desert Zinnia (*Zinnia acerosa*), and Bush Muhly (*Muhlenbergia porteri*). A complete list of vegetation identified in the Proposed Action area during Tierra Right of Way Services, Ltd.’s (Tierra’s) 2008 survey can be found in Appendix C of the Biological Evaluation and Assessment (Jordan 2008, under separate cover).

Wildlife species observed in the Proposed Action area includes Desert Cottontail (*Sylvilagus audubonii*), Common Raven (*Corvus corax*), Blue-gray Gnatcatcher (*Polioptila caerulea*), and Northern Harrier (*Circus cyaneus*). The scat of horned lizard (*Phrynosoma* sp.), Coyote (*Canis latrans*), and Black-tailed Jackrabbit (*Lepus californicus*) was also identified in the Proposed Action area. A complete list of wildlife species and sign identified in the Proposed Action area during Tierra’s 2008 survey can be found in Appendix D of the Biological Evaluation and Assessment (Jordan 2008).

Critical Elements

An analysis of the critical elements identified in the Safford RMP and how they relate to the Proposed Action follows. The following critical elements are not affected by the Proposed Action because they do not occur in the Proposed Action area or are outside the nature of the Proposed Action:

Table 2. Critical Elements Not Affected by the Proposed Action

Issue	Reason for No Effect
Geology	No concerns were identified.
Economic Geology	No concerns were identified.
Lands and Realty	No land status changes (sale/exchange) are anticipated.
Livestock Grazing	No concerns were identified.
Outdoor Recreation	No concerns were identified.
ACECs	The project area is not in or adjacent to an ACEC.
Wild and Scenic Rivers	No concerns were identified.
Wilderness	No concerns were identified.
Fire Management	No concerns were identified.
Environmental Justice	The proposed action does not disproportionately affect minorities or low-income populations.

The following elements are addressed in the EA:

- Air Quality
- Soil Resources
- Water Resources
- Wildlife Habitat and Threatened and Endangered Species
- Cultural and Paleontological Resources
- Vegetation
- Visual Resources
- Socio-Economics
- Hazardous Materials

Air Quality

The Federal Government has enacted, and the State of Arizona has adopted, National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) as the region's air quality criteria. Primary standards were established to protect public health, and secondary standards provide protection for the public's welfare, including wildlife, climate, recreation, transportation, and economic values. Regulations under the Clean Air Act (CAA) Prevention of Significant Deterioration (PSD) provisions (40 CFR Part 52-PSD of Air Quality) were enacted to maintain or improve the existing air quality in all Intrastate Air Quality Control Regions (IAQCRs) and national rural and wilderness areas by creating various classifications using the existing NAAQS pollutants. These classifications relate to the allowable increment above an established baseline concentration of a pollutant within which some increase would be allowed; Class 1 is the most restrictive (smallest allowable increment), and Class 3 is the least restrictive (largest allowable increment).

Review of the Arizona Department of Transportation *ADOT Engineering Districts with Nonattainment and Maintenance Area Boundaries* map (ADOT 2008) revealed that the Proposed Action area is located in an area that conforms to all NAAQS.

Impacts of the Proposed Action

Construction equipment used in the Proposed Action area will be fueled by diesel and gasoline.

All diesel and gasoline engines produce pollutants as by-products of combustion, or, more accurately described, incomplete combustion. If combustion were complete, the only by-products of burning hydrocarbon-based fuels, such as gasoline or diesel, would be water vapor and carbon dioxide. The pollutants released by diesel and gasoline combustion are hydrocarbons (HC), carbon monoxide (CO), oxides of nitrogen (NO_x), and various other organic compounds.

Hydrocarbons present in the exhaust of internal combustion engines are simply unburned fuel and result from rich (excess fuel, little air) mixtures. Carbon monoxide forms from partially combusted fuel, and oxides of nitrogen are formed when lean (little fuel, excess air) mixtures raise the temperature of combustion to the point where nitrogen, a normally very stable and nonreactive element, begins to bond with the excess oxygen molecules in the combustion chamber.

Diesel engines typically run on leaner mixtures than their gasoline counterparts and, therefore, have low HC emissions. CO and NO_x are still an issue with diesel fuel combustion, as are particulates (smoke). Sulfur dioxide (SO₂) is also present in diesel exhaust because it is present in the diesel fuel

that is currently available in the United States. There is currently legislation to lower the allowable sulfur levels in diesel fuel because SO₂ has been shown to be a major contributor (along with NO_x) to the formation of acid rain. Properly maintained diesel (and gasoline) engines will produce a minimum of pollutants.

Impacts to air quality are expected as a result of the Proposed Action. These impacts will be from vehicle and equipment exhaust as well as from dust produced by construction activities. Fugitive dust will be limited by dust control measures, such as watering of disturbed areas by a spray bar-equipped water truck, as specified by ADEQ, local ordinances, and/or management agencies' requirements. Therefore, impacts to air quality due to the Proposed Action should be minimal.

Impacts of the No Action Alternative

The No Action alternative would result in no changes to the current air quality in the area of the Proposed Action.

Soil Resources

Soils in the project area are classified as the Tombstone-Stronghold-Jerag series. The Tombstone series consists of very deep, somewhat excessively drained soils that formed in fan alluvium; the series is found on fan and stream terraces. Slopes are 1 to 50 percent. The Jerag series consists of shallow, well drained soils that formed in alluvium modified by eolian sands; the series is found on fan piedmonts. Slopes are 0 to 10 percent. The Stronghold series consists of very deep, well drained soils that formed in fan alluvium from mixed sources; this series is found on fan terraces. Slopes are 1 to 30 percent (Natural Resources Conservation Service [NRCS] 2007).

Impacts of the Proposed Action

The Proposed Action involves the disturbance of soils in a 3-m-wide (10-foot-wide) and 7.15-km-long (4.43-mile-long) corridor with an area of 2.17 ha (5.37 acres). Therefore, the Proposed Action would impact soils in the Proposed Action area.

Impacts of the No Action Alternative

The No Action Alternative would result in no soil impacts in the Proposed Action area.

Water Resources

Management goals concerning water resources are primarily concerned with the maintenance or increase of the quality of surface, ground, and unique waters. The maintenance of riparian areas for their unique habitat qualities is also a goal of water resources management.

Impacts of the Proposed Action

Installation of the buried portion of the Proposed Action will result in vegetation removal (see Vegetation section below for details), thereby reducing soil cover and increasing the potential for erosion in the project corridor. However, the project area will be reseeded after construction is complete. Additionally, during construction, appropriate Best Management Practices (BMPs) as outlined in a Storm Water Pollution Prevention Plan (SWPPP), under separate cover, will be followed. These SWPPP guidelines, when followed, will help minimize erosion by stabilizing the soil disturbed by construction activities, and therefore, impacts on watershed condition due to the Proposed Action will be minimal.

Impacts of the No Action Alternative

The No Action Alternative would result in watershed conditions in the area of the Proposed Action remaining as they are at the present time.

Wildlife Habitat and Threatened and Endangered Species

Priority species are those considered sensitive, threatened, or endangered by federal and state regulatory agencies. Review of the U.S. Fish and Wildlife (FWS) threatened and endangered species list for Cochise County, Arizona, and the Arizona Game and Fish Department (AZGFD) Heritage Data Management System (HDMS) list provided a list of 51 special status species occurring in Cochise County (Table 3). The AZGFD HDMS list was also able to provide a list of the applicable BLM Sensitive species required in the Biological Evaluation and Assessment. Of the 51 listed species, 15 are listed as threatened or endangered and therefore warrant full protection under the Endangered Species Act (ESA). The remaining species are listed as proposed, candidate, or species of concern by the FWS and/or as sensitive species by the BLM.

Impacts of the Proposed Action

No listed threatened, endangered, or other special status species were observed in the project area during Tierra's survey (Jordan 2008). The project area contains marginal foraging habitat for two federally listed wildlife species, Aplomado Falcon and Lesser Long-nosed Bat, and one BLM sensitive wildlife species, Fringed Myotis. Suitable general habitat for Texas Horned Lizard, another BLM sensitive species, is also present in the project area. Additionally, the project area contains suitable habitat for the federally listed Cochise Pincushion Cactus and the BLM sensitive San Pedro River Wild Buckwheat. However, no individuals or definitive sign of any of these six species was identified in the Proposed Action area at the time of the survey.

In order to prevent any potential impacts to Lesser Long-nosed Bat, all agaves in the project area are to be avoided during the proposed construction activities. If avoidance is not possible, any affected agaves are to be transplanted next to the project corridor. A map indicating the locations of agaves identified in the project corridor can be found in Appendix F.

The Proposed Action will negatively impact approximately 5.4 acres of general wildlife habitat. Avian, mammalian, and reptilian species could expect a reduction in available foraging and nesting habitat.

It is expected that mobile species will be able to relocate in response to the Proposed Action to some extent. However, the mortality of some individuals will be unavoidable as a result of the Proposed Action. Therefore, the Proposed Action will have a moderate impact on wildlife habitat.

Impacts of the No Action Alternative

The No Action Alternative would result in no potential negative impacts to Lesser Long-nosed Bat or to general wildlife habitat.

Table 3. Special Status Species Potentially Occurring in Cochise County, Arizona

Scientific Name	Common Name	Status
Amphibians		
<i>Ambystoma tigrinum stebbinsi</i>	Sonora Tiger Salamander	E, WSC
<i>Rana chiricahuensis</i>	Chiricahua Leopard Frog	T, WSC
Birds		
<i>Athene cunicularia hypugaea</i>	Western Burrowing Owl	S
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo	C
<i>Empidonax trailii extimus</i>	Southwestern Willow Flycatcher	E, WSC
<i>Falco femoralis septentrionalis</i>	Northern Aplomado Falcon	E
<i>Haliaeetus leucocephalus</i>	Bald Eagle	DM, WSC
<i>Pelecanus occidentalis</i>	Brown Pelican	DM, E
<i>Strix occidentalis lucida</i>	Mexican Spotted Owl	T, WSC
Fish		
<i>Agosia chryogaster chryogaster</i>	Gila Longfin Dace	S
<i>Agosia chryogaster</i> sp.1	Yaqui Longfin Dace	S
<i>Catostomus clarki</i>	Desert Sucker	S
<i>Catostomus insignis</i>	Sonora Sucker	S
<i>Cyprinella formosa</i>	Beautiful Shiner	T, WSC
<i>Gila intermedia</i>	Gila Chub	PE, WSC
<i>Gila purpurea</i>	Yaqui Chub	E, WSC
<i>Ictalurus pricei</i>	Yaqui Catfish	T, WSC
<i>Rhynchichthys osculus</i>	Speckled Dace	S
Invertebrates		
<i>Cicindela orgona maricopa</i>	Maricopa Tiger Beetle	S
Mammals		
<i>Idionycteris phyllotis</i>	Allen's Big-eared Bat	S
<i>Leopardus pardalis</i>	Ocelot	E
<i>Leptonycteris curasoae yerbabuena</i>	Lesser Long-nosed Bat	E, WSC
<i>Myotis ciliolabrum</i>	Western Small-footed Myotis	S
<i>Myotis occultus</i>	Arizona Myotis	S
<i>Myotis thysanodes</i>	Fringed Myotis	S
<i>Myotis velifer</i>	Cave Myotis	S
<i>Myotis volans</i>	Long-legged Myotis	S
<i>Nyctinomops femorosaccus</i>	Pocketed Free-tailed Bat	S
<i>Nyctinomops macrotis</i>	Big Free-tailed Bat	S
<i>Panthera onca</i>	Jaguar	E, WSC

Scientific Name	Common Name	Status
Molluscs		
<i>Pyrgulopsis bernardina</i>	San Bernardino Springsnail	S
<i>Pyrgulopsis thompsoni</i>	Huachuca Springsnail	C, S
Reptiles		
<i>Aspidocelsis burti stictogrammus</i>	Giant Spotted Whiptail	S
<i>Crotalus willardi obscurus</i>	New Mexico Ridgenose Rattlesnake	T
<i>Phrynosoma cornutum</i>	Texas Horned Lizard	S
Plants		
<i>Asplenium dalbousiae</i>	Dalhouse Spleenwort	S
<i>Astragalus hypoxylus</i>	Huachuca Milkvetch	S, SR
<i>Carex ultra</i>	Arizona Giant Sedge	S
<i>Coryphantha robbinsorum</i>	Cochise Pincushion Cactus	T, HS
<i>Erigeron lemmonii</i>	Lemmon Fleabane	C, HS
<i>Eriogonum terrenatum</i>	San Pedro River Wild Buckwheat	S
<i>Graptopetalum bartramii</i>	Bartram Stonecrop	S, SR
<i>Heterotheca rutteri</i>	Huachuca Golden Aster	S
<i>Hexalectris revoluta</i>	Chisos Coral Root	S, SR
<i>Hexalectris warnockii</i>	Texas Purple Spike	S, HS
<i>Lilaeopsis schaffneriana</i> var. <i>recurva</i>	Huachuca Water Umbel	E, HS
<i>Penstemon discolor</i>	Catalina Beardtongue	HS
<i>Rumex orthoneurus</i>	Blumer's Dock	SC, HS
<i>Salvia amyssa</i>	Aravaipa Sage	S
<i>Senecio multidentatus</i> var. <i>huachucanus</i>	Huachuca Groundsel	HS
<i>Spiranthes delitescens</i>	Canelo Hills Ladies' Tresses	E, HS

Key: T = threatened, E = endangered, C = candidate, PE = proposed endangered, SC= species of concern, DM = delisted/monitoring, S = BLM sensitive, WSC = AZGFD Wildlife of Special Concern, HS = Arizona Native Plant Law highly safeguarded, SR = Arizona Department of Agriculture salvage restricted

Cultural and Paleontological Resources

Tierra archaeologists surveyed only a small portion of the overall Proposed Action area because most of it was satisfactorily surveyed in 2000 (Punzmann and Jackman 2000). Tierra's findings are included in the following publication (under separate cover):

A Class III Cultural Resource Survey/Assessment of a 6-mile-long Communication Line Corridor Running Along Arizona Highway 80, Near Tombstone, Cochise County, Arizona. Tierra Archaeological Report No. 2008-58, by David P. Doak, Tierra Right of Way Services, Ltd., Tucson. 2008.

Impacts of the Proposed Action

Tierra identified four sites within the Proposed Action area.

AZ EE:4:76(ASM) is a small historical artifact scatter. It lacks significant associations or the potential to yield significant information on history. Following Punzmann and Jackman, Tierra recommends that this site be determined ineligible for inclusion in the National Register of Historic Places (NRHP) and that no further archaeological work be required in connection with the property.

AZ EE:8:73(ASM) is the City of Tombstone's historic district, which has been listed in the NRHP since 1966. Because Tierra did not see any historical artifacts within the boundaries of this district during the survey, and because none of the historical buildings would be endangered by direct or vibratory effects from the installation of a buried communications line, Tierra is recommending that installation of the line be allowed to proceed without further work being required in advance, although Tierra does recommend that the presence of a monitor be required during installation.

AZ EE:8:300(ASM) is a historical artifact scatter, one locus of which lies along the currently proposed communications line. This locus contains thousands of historical artifacts but no other discernable features. The site has already been determined eligible for inclusion in NRHP. However, because this appears (based on what was seen in road cuts) to be purely a surface scatter, because large portions of the site have been comprehensively inventoried, and because an examination of areas that were not comprehensively inventoried suggests that further inventory work would add little to the picture of the site, Tierra recommends that installation of the line be allowed to proceed without further archaeological work being required in advance, although Tierra does recommend that the presence of a monitor be required during installation.

AZ FF:9:17(ASM) is Arizona Highway 80. This road dates back to the 1920s or earlier and has followed its current alignment since the 1930s. The road has been determined eligible for inclusion in the NRHP. Punzmann and Jackman (2000) have argued that the segment of the road near Tombstone has lost its integrity because of upgrades (widening, modifications to grade, etc.) and should, therefore, not be regarded as an element that contributes to the National Register characteristics of the property.

Tierra disagrees with their assessment, but nonetheless believes that no further archaeological work should be required in connection with the property. The current line is to be installed along an alignment well removed from the road pavement, so installation of the line should not result in any significant impacts to the site. Tierra recommends that installation of the line be permitted without the presence of a monitor being required in connection with this site.

Impacts of the No Action Alternative

The No Action Alternative would have the same result as the Proposed Action because no impacts to cultural resources would occur.

Vegetation

Vegetation will be removed as a result of the Proposed Action. Typical vegetation found in the Proposed Action area is described on page 4, and a complete list of species identified can be found in Appendix C of the Biological Evaluation and Assessment (Jordan 2008).

The Arizona Wildlands Invasive Plant Working Group (AZWIPWG) has developed categorized lists that are useful in assessing the varying degrees of invasiveness of plant species, using ratings of High, Medium, and Low. These ratings are as follows:

High: These species have severe ecological impacts on ecosystems, plant and animal communities, and vegetational structure; invasiveness attributes are conducive to moderate to high rates of dispersal and establishment; and species are usually widely distributed, both among and within ecosystems/communities.

Medium: These species have substantial and apparent ecological impacts on ecosystems, plant and animal communities, and vegetational structure; invasiveness attributes are conducive to moderate to high rates of dispersal, often enhanced by disturbance; and ecological amplitude and distribution range from limited to widespread.

Low: These species have minor yet detectable ecological impacts; invasiveness attributes result in low to moderate rates of invasion; ecological amplitude and distribution are generally limited, but the species can be problematic locally (AZWIPWG 2005).

Two ADOT-listed weed species, Russian Thistle (*Salsola kali*) and Johnson Grass (*Sorghum halapense*), were observed in the Proposed Action area, the latter of which is rated High by the AZWIPWG and is listed as a BLM invasive weed species of concern. Russian Thistle was found at the southwest corner of the Highway 80/82 junction and Johnson Grass was found in some of the lower areas in the project corridor. A second BLM-listed and AZWIPWG High-rated weed, Lehmann's Lovegrass (*Eragrostis lehmanniana*), was observed throughout the project corridor

Impacts of the Proposed Action

Approximately 5.4 acres of land will be disturbed as a result of the Proposed Action. This represents a negative impact to vegetation in the Proposed Action area; it will be partially mitigated for by reseeded efforts after construction activities are complete.

Tierra performed a 100 percent inventory of the vegetation present on the ASLD portions of the project corridor, which represent approximately 78 percent of the total project corridor that is to be disturbed by the Proposed Action. Details of this inventory, including estimates of the total amount of vegetation and the amount of vegetation on BLM land to be disturbed in the project corridor, can be found in Appendix G.

The Proposed Action may disperse weed seeds during construction activities. Appropriate non-chemical measures, including reseeded after construction and washing equipment before entering and prior to leaving the Proposed Action area, per ADOT requirements, will be taken to minimize the negative impact of weed propagation to surrounding areas.

Impacts of the No Action Alternative

The No Action Alternative would result in no changes to the vegetation in the area of the Proposed Action.

The No Action Alternative would result in the noxious weed status remaining as it currently is in the area of the Proposed Action.

Visual Resources

The BLM uses a visual management system to regulate potential aesthetic impacts to public lands. Management classes describe the degree of landscape modification permissible. The Visual Resources Management (VRM) system classifies all agency-owned lands into four VRM classes. The most restrictive classification in the BLM's system is Class 1. Class 1 VRM ratings preserve the existing character of the landscape. Natural changes and limited disturbances are allowed. Class 2 VRM ratings strive to maintain the existing character of the landscape. Changes within these areas can be seen, but should not attract the attention of the casual observer. Additionally, all changes should repeat the basic elements of form, line, color, and texture that are found in the predominant natural features of the surrounding characteristic landscape. Class 3 and 4 VRM ratings are less restrictive, but are still managed for visual impacts. Class 3 VRM ratings partially retain the existing character of the landscape. The activity may attract the attention of the casual observer, but should not dominate the view. Class 4 VRM ratings allow for major modification of the landscape and may dominate the view of the landscape (BLM 1988). The Proposed Action is located in a Class 3-rated area (Francisco Mendoza, Tucson BLM, personal communication 2009).

Impacts of the Proposed Action

The Proposed Action involves the installation of an underground and aerial telecommunications cable. The aerial portions of the new cable will be visible once installed, but will be among other cables and will not represent a significant additional visual impact. The buried installation will involve the removal of vegetation with a resulting visual impact that will lessen with time due to reseeded and the regrowth of vegetation. Therefore, the Proposed Action will result in a moderate and temporary visual impact to the Proposed Action area.

Impacts of the No Action Alternative

The No Action Alternative would result in no changes to the present visual resources found in the area of the Proposed Action.

Socio-Economics

Socio-Economics address the human concerns of social and economic effects.

Impacts of the Proposed Action

The Proposed Action will provide enhanced telecommunications services to Cox customers in Tombstone and the surrounding areas.

Impacts of the No Action Alternative

The No Action Alternative would result in no changes to the current socio-economic status in the area of the Proposed Action.

Hazardous Materials

Equipment used for the installation of the telecommunications cable will require petroleum products for operation and maintenance. These petroleum products will include diesel fuel, gasoline, and various lubricants such as engine oil, gear oil, and lithium and/or moly grease.

During Tierra's biological survey, no obvious sign of existing hazardous materials was observed in the Proposed Action area.

Impacts of the Proposed Action

During construction of the Proposed Action, heavy equipment, such as bulldozers, will be refueled and lubricated on-site, but other equipment, such as trucks, will be fueled off-site. All on-site refueling and maintenance operations will be carried out in such a way as to avoid or minimize any spillage, and all maintenance vehicles will be equipped with appropriate spill response kits. No hazardous materials will be stored in the Proposed Action area. If suspected hazardous materials are encountered during construction or a spill occurs due to an unforeseen circumstance such as an equipment malfunction, Cox and/or their subcontractor will notify the BLM. Therefore, impacts to the Proposed Action area due to hazardous materials will be negligible.

Impacts of the No Action Alternative

The No Action Alternative would result in no impacts from hazardous materials potentially being brought into the area of the Proposed Action.

Cumulative Impacts

Cumulative impacts are described as the impact on the natural environment that results from the incremental impact of the Proposed Action when added to other past, present, and foreseeable future actions.

Cumulative Impacts of the Proposed Action

The Proposed Action involves the removal of vegetation. This impact will contribute to the overall cumulative impacts, such as the prior removal of vegetation during road construction and the installation of utilities, which the Proposed Action area has been subject to.

Cumulative Impacts of the No Action Alternative

The No Action Alternative would result in no additional cumulative impacts to vegetation in the area of the Proposed Action.

General Stipulations

The BLM will mandate general stipulations in the ROW grant. All stipulations will be followed by Cox and their subcontractor(s).

Mitigation Measures:

Mitigation measures are those measures that when implemented can remove or otherwise minimize the effects of an action on affected environmental concerns. Mitigation measures are outlined by concern:

Cultural Resources

Tierra recommends that an archaeological monitor be present when the telecommunications cable is installed in areas of the following referenced cultural resource sites:

- AZ EE:8:73(ASM)
- AZ EE:8:300(ASM)

If previously unidentified cultural resources are identified during construction, work will cease at that location and the ADOT District Environmental Coordinator will be notified. The applicant will arrange for proper treatment of these resources. A treatment plan shall be approved by the ADOT District Environmental Coordinator.

Should any cultural resource be incidentally encountered on the half-mile stretch of the Highway 80 ROW that runs across BLM-administered land during installation of the line or any subsequent ground-disturbing activities, in accordance with the Archaeological Resources Protection Act of 1979 (ARPA) (Public Law 96-95; 16 U.S.C. 470aa-mm), “no person may excavate, remove, damage, or otherwise alter or deface or attempt to deface any archaeological resource located on public lands or Indian lands,” without a permit issued by the Federal land manager having authority over the land in question, meaning that should *any* cultural materials be found, whether related to a burial or not, the archaeologist for the BLM’s Tucson Field Office must be contacted immediately, and all work in the immediate vicinity of the finding must be stopped.

Threatened and Endangered Species

In order to prevent any potential impacts to Lesser Long-nosed Bat, all agaves in the project area are to be avoided during the proposed construction activities. If avoidance is not possible, any affected agaves are to be transplanted next to the project corridor.

Visual Resources

In order to minimize the visual impact of the buried cable installation, the project corridor will be reseeded after construction.

Disturbed areas of the Proposed Action area should be re-contoured to restore the site to the approximate preconstruction contour, as specified in use permits or ROW instruments. To the extent feasible, re-contouring should be accomplished using the topsoil removed by the plowing and boring processes.

Invasive and Noxious Weeds

All equipment shall be washed off-site prior to delivery to the construction area and washed prior to leaving the construction area to minimize noxious weed dispersal as required by special use permits, easement authorizations, or ROW instruments. Additionally, all disturbed areas shall be reseeded per ADOT requirements following construction.

Vegetation

Vegetation removed from BLM land will be subject to stumpage fees (see Appendix G). Stumpage fees are to be calculated at rates as specified by ASLD and are summarized in Appendix H.

Revegetation

Reseeding shall occur in all areas disturbed by the telecommunications cable installation. Reseeding mixtures shall be as stipulated by ADOT.

Erosion Control

Disturbed areas of the Proposed Action area should be re-contoured to restore the site to the approximate preconstruction contour, as specified in use permits or ROW instruments. To the

extent feasible, re-contouring should be accomplished using the topsoil removed by the plowing and boring processes.

In severely sloping and steep terrain, erosion control structures such as drainage swales, diversion channels, and terraces should be constructed to divert water away from the project area and thereby reduce soil erosion along the ROW.

Typical spacing intervals of erosion control structures are:

<u>Percent Slope</u>	<u>Spacing Interval</u>
Less than 1 percent	400 feet
1 to 5 percent	300 feet
5 to 15 percent	200 feet
15 to 25 percent	100 feet

If diversion of water from the project ROW would result in accelerated erosion in adjacent areas, drainage swales or other diversions shall not be constructed. The authorizing officer shall approve exceptions, if any, to the spacing intervals of erosion control structures.

Suitable mulches and other soil-stabilizing practices should be used on all reseeded and topsoil enhanced areas to: (1) protect them from wind and water erosion; (2) improve water absorption; and (3) prevent degradation of water quality in adjacent fish habitat. These measures shall be specified by ADOT and shall be consistent with the protection of resources.

Hazardous Materials

If suspected hazardous materials are encountered during construction or a spill occurs due to an unforeseen circumstance such as an equipment malfunction, Cox and/or their subcontractor will notify the BLM. In the event of a hazardous materials spill, Cox and/or their subcontractor will take appropriate measures to remove the contaminated soil and properly dispose of the contaminated soil at a certified hazardous materials disposal facility.

Compliance and Area Monitoring

Cox Communications shall comply with all general stipulations and mitigation measures contained herein. Compliance will be regulated by the BLM and maintained by Ike Cruse, Cox Communications' Construction Manager.

Cox Communications will self-monitor their operations and welcomes regular monitoring by the BLM.

Residual Impacts

Residual impacts are those impacts that remain after the implementation of mitigation. No residual impacts are anticipated, and visual impacts due to the Proposed Action will be temporary.

PREPARERS AND REVIEWERS

Table 4. List of Preparers

Name	Title
David Doak	Archaeologist/Tierra Right of Way Services, Ltd.
Ike Cruse	Construction Manager/Cox Communications
Tim Jordan	Senior Biologist/Tierra Right of Way Services, Ltd.

Table 5. List of Reviewers

Name	Title
Linda Hughes	Acting Assistant Field Manager – Natural Resources/BLM
Darrel Tersey	Natural Resources Specialist/BLM
Susan Bernal	Realty Specialist/BLM

PERSONS AND AGENCIES CONSULTED

- FWS – through online consultation
- AZGFD – through online consultation
- ASLD – David Witte
- BLM – Linda Hughes, Tom Dabbs, Francisco Mendoza

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1992 *Final Safford District Resource Management Plan and Environmental Impact Statement*. U.S. Department of the Interior, Bureau of Land Management, Safford District. 503 pp.

APPENDIX A
ADOT CONSENT DOCUMENTATION



received
5-27-2008

Arizona Department of Transportation
Intermodal Transportation Division
206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janet Napolitano
Governor

Sam Elters
State Engineer

Victor M. Mendez
Director

May 13, 2008

TB0001-2-3

Ike Cruse
COX COMMUNICATIONS, INC.
1440 E. 15th Street
Tucson, Az 85719

Re: Permit Number 1201600-Underground, bore, trench to place buried fiber, place aerial and overhead fiber, SR-80(EB) @ 311.330-316.630 Station: 815+55 - 1475+38

Mr. Cruse:

Your permit application to use State Highway right-of-way is approved and a copy of the permit is attached. Please read the permit and the attached specifications and standards, prior to performing any permitted work in order to comply with all ADOT requirements.

Please contact Mr. James Reindl, Highway Operations Supervisor **seven (7) days prior to beginning** permitted work; and within **three (3) days of completing** permitted work, by phone 520-720-4751 or by e-mail JReindl@azdot.gov .

The safety of your employees and the traveling public are of great concern to us. Prior to beginning your permitted work, please ensure compliance with the Traffic Control requirements of this permit.

Sincerely,

Armando J. Membrilla, CPM
ADOT Safford District Office
2082 E. Highway 70
Safford, Az 85546
520-432-4915 – office
928-428-7523 – fax
amembrilla@azdot.gov

Attachments

cc: James Reindl, Highway Operations Supervisor
Central Maintenance Permits
File



2001 Award Recipient



ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
Highway Encroachment Permit Application
(Application for Permission to Use State Highway Right-of-Way)

A.D.O.T.
SAFFORD DISTRICT OFFICE

FOR ADOT USE

PERMIT NUMBER: 1201600 ROUTE: SR 80 MILEPOST: 311.33-316.63

ADOT PROJECT NUMBER: F-016-1 (2)

ADOT ENGINEERING STATION: 798+13 - 1442+12

Name of Encroachment Owner
COX COMMUNICATIONS, INC.

Name of Applicant (If other than the Encroachment Owner)

Address of Owner
1440 E 15th Street

Mailing Address
1440 E 15th Street

City: Tucson

City: Tucson

State AZ Zip 85719

State AZ Zip 85719

Phone: (520) 867-7403

Phone: (520) 867-7403

E-mail address:
Dwight.Cruse@cox.com

Legal Relationship to Owner:
Field Systems Manager

City (in or near) Tombstone Side of Highway: N S E W (check one)

Highway Route No. 80 Approximately 1803' & 1278' Feet N S E W (check one) of Milepost No. 311 & 316

Applicant's Project No. AZ-TB0001-2-3 Project Duration : 1 YEAR

Description of the proposed work or activity in the right-of-way: Bore, trench to place buried fiber and to place aerial fiber.
Approximately 28,786 feet (5.45 miles) of bore and trenching along Hwy 80 south to Tombstone ending at Hwy 80 and E Bruce St intersection.

See Construction Drawings attached for the whole project.

Starting point: Township: 19S, Range: 22E, Section/Quarter: SE18, SW17, NE19, NW20

Ending Point: Township: 20S, Range: 22E, Section/Quarter: SW2

The Encroachment Owner will be the Permittee. By signing this application, the Encroachment Owner acknowledges that the information given and statements made in this application are true and correct to the best of his/her knowledge. The Encroachment Owner agrees as the Permittee to accept the following General Obligations and Responsibilities as described on page 2 of the application. By accepting an approved encroachment permit, the Permittee agrees to the requirements described in the permit, to be responsible for all permit requirements, and to comply with ADOT's requirements as set out in the permit. An approved permit consists of this application, final supporting documentation approved by ADOT, and any requirements set by ADOT. If the Permittee disagrees with the requirements, the Permittee shall return the permit immediately to the District Office.

NO WORK SHALL TAKE PLACE INSIDE THE RIGHT OF WAY WITHOUT AN APPROVED PERMIT ON SITE.

Encroachment Owner (Print Name and Sign)

Applicant (Print Name and Sign)

Ike Cruse, Cox Communications, Inc.

Ike Cruse, Const. Serv. Manager, Miki Abatecola, Permit Coordinator

Date 4/25/03

Date 4/25/03

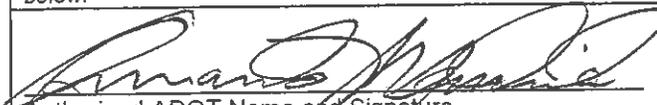
GENERAL OBLIGATIONS AND RESPONSIBILITIES

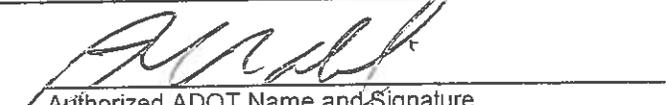
THE PERMITTEE AGREES TO THE FOLLOWING:

1. Assume all legal liability and financial responsibility for the encroachment activity for the duration of the encroachment, including indemnify, defend, and hold ADOT and the State of Arizona and any of its agents, directors, officers, employees harmless from and against any and all claims, actions, losses, liabilities, costs, damages, or expenses, including court costs, reasonable attorney's fees, and costs of claim processing and investigation, arising out of bodily injury or death of any person, or tangible or intangible property damage, caused, or alleged to be caused, in whole or in part, by the negligent or willful acts, or omissions of the Permittee, any of its directors, officers, agents, employees, or volunteers, or its contractor or subcontractors. This indemnity includes any claim or amount arising out of or recovered under the Workers' Compensation Law or arising out of the contractor's failure to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. The Permittee is not responsible for claims arising solely from ADOT's negligent or willful acts or omissions. The Permittee and/or contractors and subcontracts may be required to procure insurance with specified limits naming the State of Arizona and ADOT as additional insureds.
2. Comply with Environmental Laws.
 - A. Environmental Laws refers collectively to any and all federal, state, or local statute, law, ordinance, code, rule, regulation, permit, order, or decree regulating, relating to, or imposing liability or standards of conduct on a person discharging, releasing or threatening to discharge or release or causing the discharge or release of any hazardous or solid waste or any hazardous substance, pollutant, contaminant, water, wastewater or storm water, and specifically includes, but is not limited to: The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act; the Comprehensive Environmental Response, Compensation and Liability Act, as amended; the Toxic Substances Control Act; the Clean Water Act (CWA); the Clean Air Act; the Occupational Safety and Health Act; the Arizona Water Quality Act Revolving Fund Act, the Arizona Hazardous Waste Management Act, any applicable National Pollutant Discharge Elimination System (NPDES) or Arizona Pollution Discharge Elimination System (AZPDES) permit, any applicable CWA Section 404 permit, or any local pretreatment or environmental nuisance ordinance.
 - B. The Permittee specifically agrees that in the course of performing any activity for which this Permit is necessary:
 - i. To comply with any and all Environmental Laws;
 - ii. To ensure that no activity under this Permit shall cause ADOT to be in violation of any Environmental Laws;
 - iii. That if the Permittee fails or refuses to comply with any Environmental Laws, or causes ADOT to be in violation of any Environmental Laws, ADOT may at its sole and unreviewable discretion, (1) revoke this Permit; (2) require the Permittee to undertake corrective or remedial action to address any release or threatened release or discharge of the hazardous substance, pollutant or contaminant, water, wastewater or storm water; and (3) expressly consents to entry of injunctive relief to enforce any listed remedies.
 - iv. To indemnify ADOT for any losses, damages, expenses, penalties, liabilities or claims of any nature whatsoever suffered by or asserted against ADOT as a direct or indirect result of the disposal, escape, seepage, leakage, spillage, discharge, emission, or release of any hazardous waste, solid waste, hazardous substance, pollutant or contaminant, water, wastewater or storm water and losses, damages, expenses, penalties, liabilities and claims asserted or arising under the Environmental Laws, or for ADOT's costs in undertaking corrective action pursuant to an order of or settlement with a duly authorized regulatory agency or injured third party or for any penalties associated with Permittee's activities;
3. Be responsible for any repair or maintenance work to the encroachment for the duration of the encroachment;
4. Comply with ADOT's traffic control standards;
5. Obtain written approval from the abutting property owner if the encroachment encroaches on abutting property;
6. Upon notice from ADOT, repair any aspect or condition of the encroachment that causes danger or hazard to the traveling public;
7. Remove the encroachment and restore the right-of-way to its original or better condition if ADOT cancels the encroachment permit, and terminates all rights under the permit;
8. Reimburse ADOT for costs incurred or deposit with ADOT money necessary to cover all costs incurred for activities related to the encroachment, such as inspections, restoring the right-of-way to its original or better condition, removing the encroachment, or repair encroachment to originally permitted condition;
9. Notify a new owner to apply for an encroachment permit, as required by Arizona Administrative Rule R17-3-502(D);
10. Apply for a new encroachment permit if the use of the permitted encroachment changes;
11. Keep a copy of the encroachment permit at the work site or site of encroachment activity;
12. Construct the encroachment according to plans that ADOT approves as part of the final permit;
13. Obtain required permits from other government agencies or political subdivisions;
14. Remove any defective materials, or materials that fail to pass ADOT's final inspection, and replace with materials ADOT specifies.
15. If the permit application is denied, applicant has a right to a hearing as prescribed in Arizona Administrative Rule, R17-3-509.

FOR ADOT USE
 PERMIT TO USE STATE HIGHWAY RIGHT-OF-WAY

This application is approved as a permit and a permit is issued to the Permittee. Construction is authorized only for the period indicated below.


 Authorized ADOT Name and Signature
 Armando J. Membrilla, CPM


 Authorized ADOT Name and Signature
 Paul David, PE

Issue Date 05-13-2008

Permit work to be completed by: 05-13-2009

GENERAL REQUIREMENTS

GR-1 All permitted work shall be accomplished and completed in accordance with current Arizona Department of Transportation (ADOT) standards, specifications, approved plans attached hereto and part of this permit; and under the supervision of the inspecting authority designated in GR-2.

GR-2 No permitted work shall begin, prior to notification of Mr. James Reindl, Highway Operations Supervisor, by phone at 520-720-4751 or e-mail jreindl@azdot.gov. Notification is required seven (7) days prior to start of ADOT permitted work, and within three (3) days after completion of ADOT permitted work for final inspection. Failure to comply with this requirement shall result in work stoppage.

GR-3 A complete permit package including specifications, drawings, approved site plans, and traffic control plans shall be present at the job site during all permitted work activities. Failure to produce an approved permit shall result in work stoppage by the designated inspector.

GR-4 Permittee shall be responsible to acquire all licenses, pay all charges, fees, and taxes, and give notices necessary and incidental to the due and lawful prosecution of the ADOT permitted work. If the permitted work includes excavation, see Attachment A attached hereto and part of this permit.

GR-4-A The permittee shall be responsible to acquire, and to comply with the following permits when applicable: 1) Section 404 of the Federal Clean Water Act, Section 404 Permits and Section 404 Certifications. 2) The National Pollution Discharge Elimination System (NPDES), 3) Storm Water and Storm Water Pollution Prevention Plan (SWPPP).

GR-4-B The permittee shall be responsible to investigate, and when necessary obtain additional permits or approvals from other agencies, i.e., towns, cities, counties, United States Forest Service, Bureau of Land Management, Tribal, and State Land. Applicant should be attentive to the building and zoning regulations in concurrence with this permit.

GR-5 The State shall not be liable to Permittee or Licensee for any damage of any nature whatsoever, or to refund any moneys paid hereunder, in case of eviction of Permittee or Licensee by anyone owning or claiming title to, or interest in said premises or any part thereof.

GR-6 Permittee agrees to comply with ARS 40.360 for Underground and Overhead facilities. Permittee shall assume full responsibility in acquiring clearances from utility companies and shall be responsible for any damage to any utility line. Permittee shall call BLUE STAKE AT 1-800-STAKE-IT two (2) working days prior to any excavation, this is STATE LAW. Please provide your ADOT permit number 1201600 to the blue stake operator. If Blue Stake is not available; the permittee shall be responsible for contacting all utility companies directly, two working days prior to any excavation.

GR-7 All permitted work shall be performed during daylight hours. No permitted work shall be accomplished during weekends or holidays without prior approval by ADOT.

GR-8 Traffic shall be protected in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways 2003 Edition (MUTCD) and the Arizona Supplement to the 2003 MUTCD. Placement, installation and removal of all traffic control devices and flaggers if necessary, are the responsibility of the permittee. Traffic Control Manuals are available from: ADOT, Engineering Records, 1655 W. Jackson, Room 112F, Phoenix, Arizona 85007, phone 602. 712.7498.

GR-9 Dust control through water application, shall be determined by the ADOT inspector.

GR-10 Prior to final inspection by the ADOT inspector, all surplus material shall be removed from the right of way, and the right of way left in a clean and natural state. Any existing ADOT features, i.e. fence, pipes, posts, signs, etcetera, damaged during performance of permitted work shall be repaired or replaced in like kind by the permittee.

GR-11 Upon refurbishing the right of way to its original line and grade, it may be necessary to seed the disturbed areas. Permittee shall at the request of the ADOT inspector seed the disturbances using an approved mixture of two grasses and two wildflowers. ADOT shall provide permittee with an approved seed mixture if required.

GR-12 During the performance of the permitted work should it be determined it will not be possible to complete the permitted work by the permit expiration date, permittee shall submit a written request for a time extension. The request should contain the permit number 1201600; reason for delay, additional time needed, and be submitted to Armando J. Membriola, CPM, for processing.

GR-13 Adjacent property owners accessing a State highway shall be responsible for the construction and maintenance of the driveway to include that portion in the highway right of way; from the right of way line to the outside edge of the highway shoulder, or highway curb line.

UTILITY PERMITS LANGUAGE

The Permittee agrees that they will be liable for, and shall reimburse ADOT for any delay and/or other damages ADOT is required to pay its own contractors or other parties if the encroachment is not installed, relocated or removed in a timely manner.

GENERAL OBLIGATIONS AND RESPONSIBILITIES:

The Encroachment Owner **should** read and **shall be liable** for the obligations and responsibilities as outlined on page two of the ADOT Encroachment Permit for the duration of the Permitted Encroachment. The following are responsibilities often forgotten once the encroachment is constructed.

3. Be responsible for any repair or maintenance work to the encroachment for the duration of the encroachment;
9. Notify a new owner to apply for an encroachment permit, as required by Arizona Administrative Rule R17-3-502(D): Rule R17-3-502(D). A new owner of an existing permitted encroachment shall apply for an encroachment permit in the new owner's name within 30 days from the date of purchase of the abutting real property.
10. Apply for a new encroachment permit if the use of the permitted encroachment changes.

NOTE: MOBILE HOME RESIDENTS TO BE NOTIFIED ONE WEEK PRIOR TO DISRUPTION OF DIRT ACCESS; IF UNABLE TO ACCOMPLISH PLOWING, LAYING AND BACKFILL IN ONE DAY, ACCESS TO BE AVAILABLE AT END OF DAY FOR AS LONG AS IT TAKES.

NOTE: ALL PHYSICAL FEATURES WILL BE REPLACED "IN AS GOOD AS OR BETTER CONDITION" UPON COMPLETION OF WORK WITHIN THE ADOT RIGHT OF WAY.

NOTE: ALL EQUIP. SHALL BE WASHED AT THE CONTRACTORS STORAGE FACILITY PRIOR TO ENTERING THE CONSTRUCTION SITE TO PREVENT THE INTRODUCTION OF INVASIVE SPECIES SEEDS.

ALL EQUIP. SHALL BE WASHED PRIOR TO LEAVING THE CONSTRUCTION SITE TO PREVENT INVASIVE SPECIES SEEDS FROM LEAVING THE SITE.

IF SUSPECTED HAZ MAT ARE ENCOUNTERED DURING CONSTRUCTION, WORK WILL CEASE AT THAT LOCATION AND THE ADOT DISTRICT ENVIRONMENTAL COORDINATOR WILL BE CONTACTED FOR DIRECTION ON DISPOSAL.

IF PREVIOUSLY UNIDENTIFIED CULTURAL RESOURCES ARE IDENTIFIED DURING CONSTRUCTION, WORK WILL CEASE AT THAT LOCATION AND THE ADOT DISTRICT ENVIRONMENTAL COORDINATOR WILL BE CONTACTED FOR DIRECTION.

NOTE: THE APPLICANT WILL FOLLOW THE MITIGATION MEASURES AS PRESCRIBED PER THE CERTIFICATION LETTER BY THE APPLICANTS ENVIRONMENTAL ENGINEERING COMPANY.

NOTE: PRIOR TO VEGETATION REMOVAL, AND COMPLETION OF WORK WITHIN THE ADOT RIGHT OF WAY, THE SAFFORD DISTRICT ENVIRONMENTAL COORDINATOR MUST BE NOTIFIED; MR. GARY MCRAE CAN BE REACHED AT (OFFICE) 928-432-4911, OR (CELL) 928-965-2600.

NOTE: THE APPLICANT SHALL KEEP THE HIGHWAY CLEAN OR MITIGATE MATERIAL (SPILLAGE/OVERFLOW) AND MITIGATE DUST POLLUTION WITHIN THE ADOT RIGHT OF WAY, AS PER THE ATTACHED PLANS, SPECIFICATIONS AND SUPPORTING DOCUMENTS.

NOTE: ALL VEHICLES, EQUIPMENT AND MATERIALS (OTHER THAN TRAFFIC CONTROL) SHALL BE A MINIMUM OF 30' FROM THE PAVEMENT EDGE.

NOTE: THE APPLICANT SHALL JACK/BORE ALL PAVED ROADWAY(S) OR ACCESS WITHIN THE ADOT RIGHT OF WAY; OPEN CUT IS NOT ALLOWED.

NOTE: THIS PERMIT WILL ALLOW THE APPLICANT TO TRENCH, PLOW, JACK/BORE, PLACE CONDUIT AND NEW FIBER OPTIC; TO EXISTING UTILITY POLES, WITHIN THE ADOT RIGHT OF WAY, AS PER THE ATTACHED PLANS, SPECIFICATIONS AND SUPPORTING DOCUMENTS.

Aerial & Aerial Crossings

A-1 Pole placement shall be in accordance with the permit plans or approved revisions.

A-2 Minimum clearances related to ADOT highways for utility lines and poles shall conform to ADOT Standard Drawing D-8.01 attached hereto and part of this permit.

A-3 Excavations, vertical drops, equipment and/or material shall not be left unattended or overnight without proper safety protection, i.e. barricades, fencing, etcetera.

A-4 Temporary stringing poles are not allowed on either side of the highway alignment. Boom trucks used for stringing wire shall be placed just prior to construction and removed as soon as stringing is completed. Boom trucks shall be located no closer than thirty (30) feet from the nearest traveled lane.

A-5 Traffic shall be stopped for a maximum of fifteen (15) minutes during the stringing operation, and only after proper traffic control as per attached Traffic Control Plan is in place.

Underground & Underground Crossings:

UG-1 Utility lines shall be placed within five feet (5') of the right-of-way line unless otherwise approved by a drawing attached hereto and part of this permit.

UG-2 Water meters shall be installed at the property line.

UG-3 Telephone closures shall be placed within one foot (1') of the right-of-way line; and shall be maintained by the permittee including a weed free condition and in a manner to ensure easy visibility to ADOT personnel, and others.

UG-4 Permittee shall secure and provide proper safety protection of any excavation, vertical drop, equipment or material left unattended or overnight, i.e. barricades, fencing, etcetera.

UG-5 The minimum line depth shall be forty-eight inches (48") below the finished grade, natural ground, cut ditch, or borrow ditch, whichever is lower.

UG-6 Utilities relocated for ADOT construction projects shall be at an elevation to ensure forty-eight inches (48) of cover from the new finished grade, cut ditch or drainage ditch whichever is lower.

When relocation is due to conflict with drainage structures, the elevation shall be at a depth to ensure forty-eight inches of clearance (48").

UG-7 For utilities placed closer than thirty feet (30') to the edge of pavement, additional depth shall be required to eliminate conflicts with the installation of ADOT signing. Depth shall be as noted on the approved permit plans attached hereto and part of this permit.

BACKFILL AND COMPACTION:

UG-8 Trench backfill outside the roadway prism and within the ADOT right-of-way may be accomplished in the following way:

1). Conventional backfill shall be placed, watered and compacted in eight inch (8") lifts to not less than 85% of maximum density.

UG-9 Trench backfill within the roadway prism may be accomplished in one of the following two ways:

1). Backfill material shall be 100% aggregate base material, approved by the ADOT inspector. Each lift shall be watered and compacted to a depth not to exceed eight inches (8"). Each lift shall be compacted to a density not less than 95% of the maximum density, up to twelve inches (12") below the surface of the existing asphalt concrete.

The remaining lifts of aggregate base up to the bottom of the Utility Concrete shall be compacted to a density not less than 100% of maximum density. The Utility Concrete Slab shall then be paved with four inches (4") of asphaltic concrete as specified in the current ADOT Standard Drawing C-07.06, attached hereto and part of this permit.

2). A non-shrink backfill as per specifications attached hereto and part of this permit.

NON-SHRINK CEMENT SLURRY BACKFILL

2,600 lbs	Cover Material Sect. 404-2.02
800 lbs	Fine Aggregate Sect. 1006-2.03
94 lbs	Cement
11 gals.	Water

UG-10 Backfill of trenches, and boring or receiving pits, outside the roadway prism shall be at least equal to the density of the adjoining earth.

UG-11 If requested by the ADOT inspector, proof of compaction shall be furnished by the permittee, from a qualified laboratory. Maximum density for each material shall be in accordance with AASHTO-T-99.

Jack or Bore:

UG-12 Prior to beginning any boring operation, the permittee shall notify the referenced ADOT office to ensure an inspector will be on site during this work.

UG-13 Pipe shall be jacked or bored, beneath the paved area. Any voids created by the jack or bore operation shall be filled by pump or grout method with an ADOT approved material.

UG-14 Unsuccessful-boring operations will require the casing be abandoned in place. The ADOT inspector shall approve the backfill and compaction methods prior to the filling of voids.

UG-15 All crossings on paved side roads and paved driveways shall be jacked and bored. Open cuts will only be made with approval of the ADOT inspector and concurrence from the affected property owner.

UG-16 Casings shall be jacked and bored beneath the paved area:

- a.) Plus thirty feet (30') beyond the edge of pavement or to the toe of fill slope, whichever distance is greater.
- b.) From pit sites located outside the control of access lines.
- c.) From pit sites located a minimum of eight feet (8') from the back face of curb or sidewalk in developed urban areas.
- d.) Casings that are intended to carry liquid such as water, sewer, and petroleum lines, shall be water tight and lower on one end.

UG-17 Jack or Bore within the interstate highway system shall be accomplished from control of access to control of access. No jack or bore will be allowed inside the control of access limits.

UG-18 When the permittee is unable to maintain the specified thirty feet (30') from the white shoulder stripe to the bore or receiving pit, and the pit is in the ADOT right-of-way, the permittee shall install temporary concrete barrier per ADOT Construction Standards C-1, C-2, C-3-sheets 1-3 and C-5- sheets 1-2, attached hereto and part of this permit.

UG-19 Bore and receiving pits within the ADOT right-of-way shall be properly barricaded to provide safety for the public.

Open cuts:

UG-20 All pavement cuts shall be saw cut. Pavement cuts including trenches shall be replaced in accordance with the ADOT Utility Manual to include four inches (4") of Asphaltic Concrete over eight inches (8") of Aggregate Base (AB) Class II or match the existing Structural thickness. Permittee shall meet ADOT's minimum design criteria for Asphaltic Concrete as per the ADOT Standard Specifications for Road and Bridge Construction, Section 409 Asphaltic Concrete Miscellaneous Structural. New Asphalt mix shall be rolled to produce a well-compacted, smooth, watertight patch.

NON-SHRINK CEMENT SLURRY BACKFILL

2,600 lbs	Cover Material Sect. 404-2.02
800 lbs	Fine Aggregate Sect. 1006-2.03
94 lbs	Cement
11 gals.	Water

UG-21 The permittee shall have a sufficient number of trench plates on site to cover the entire trench. The permittee shall remove the surface of the roadway to the depth of the thickness of the trench plates twelve inches beyond the edge of the trench on both sides. See modified ADOT Standard C-07.06 attached hereto and part of this permit.

Miscellaneous:

UG-22 Manholes shall be placed in accordance with the ADOT Standard C-18.10, sheets 1-3 attached hereto and part of this permit.

UG-23 Upon completion of an underground installation, the permittee may be required to furnish as-built plans showing the elevations and locations of their facilities, tied to a bench mark furnished by ADOT, or when approved, other adequate reference. ADOT shall receive at the time of notification of completion, as-built or other adequate reference.

UG-24 Permittee shall not at any intersection within the line of sight, install an above ground facility, i.e. cabinets, pedestals, control boxes, water main valves, etcetera, as illustrated in Illustration "E" attached hereto and part of this permit.

UG-25 Encroachment Owner shall be responsible for abandoned lines in the ADOT right-of-way; to include Blue Stake and when necessary to remove. Removal may be for new construction or to make way for another utility.

UG-26 When the permitted work area is under a construction contract all of the permitted work shall be coordinated with the prime contractor so as not to cause conflict or delay to the prime contractor. If the permitted work causes delays to the contractor permittee will be responsible for any monetary claims.

104.15 Providing Magnetic Detection for Underground Facilities:

UG-27 (A) General:

All new underground utility facilities, including service connections, placed within ADOT right-of-way by the contractor must be magnetically detectable with standard locating instruments, such as a Metrotech Model 810 or approved equal. The contractor shall place continuous detectable tracer wire on all underground utility facilities that lack a continuous and integral metallic component capable of detection by standard locating instruments.

A tracer wire will not be required for cables, wires, telephonic or electronic communications, and landscape irrigation lines smaller than two inches (2") in diameter. Salt River Project Water Users Association (S.R.V.W.U.A.) irrigation facilities, no tracer wire will be required, as long as Salt River Project provides their own tracer system.

Tracer wire will be required for non-metallic pipe such as High Density Polyethylene Pipe (HDPE), Vitrified Clay Pipe (VCP); and Polyvinyl Chloride Pipe (PVC) two inches (2") in diameter and larger. Tracer wire will be required where a metallic component is encased within Reinforced Concrete Pipe (RCP), (RGRCP), and Steel Cylinder Concrete Pipe. Tracer wire will also be required for non-metallic cables, service connections, fiber optic lines; empty duct banks and other utility lines containing a utility that is not magnetically detectable, either before or after backfilling; and other facilities as determined by the Engineer.

Cast iron and ductile iron pipes may be non-conductive because of site-specific soil conditions or construction configuration; as a consequence all new installations of cast iron and ductile iron pipes shall also be made detectable with tracer wire.

For all other underground facilities, should the magnetic characteristics be unknown, the contractor shall perform sufficient tests with standard locating instruments to determine if a tracer wire will be necessary, and provide the results to the Engineer. Such tests shall be performed prior to construction.

The contractor shall also provide access points, as specified below, for all facilities that will receive a tracer wire.

(B) Materials:

At a minimum the tracer wire shall be a 12 American Wire Gauge (AWG) of solid copper, shall be coated with a minimum 30-mil polyethylene jacket designed specifically for buried use, and conform to the specifications of the NEC, UL, and other applicable industry standards. Splices as required to promote continuity shall utilize sealed watertight connections.

New access boxes shall be concrete pull boxes in accordance with Subsection 732-2.03 (Number 5 Pull Box, Traffic Standard T.S. 1-1), except that the cover shall be marked with the name of the utility or type of facility.

(C) Construction Requirements:

The contractor shall install tracer wire along the top of the entire length of the underground facilities. The tracer wire shall be attached to the facility at minimum intervals of not more than 20 feet (20'), and shall be secured in such a manner that the wire remains firmly attached throughout the construction period.

Tracer wire shall be made accessible along the facility through appropriate pull boxes or other means as approved by the Engineer. New or existing junction boxes or pull boxes included in the construction of conduit or other transmission facilities shall be utilized as access structures wherever possible. For sanitary and storm sewer pipe, tracer wire shall be constructed into the manhole at the pipe entry point, secured to the inside wall along the full length, and be accessible from above upon removal of the manhole cover. For water lines requiring tracer wire, the contractor shall provide access to the wire within the valve boxes. The contractor shall provide and install new access boxes for all tracer wire that cannot be terminated in a new or existing junction or pull box, or new manhole or valve box.

Pull boxes shall be installed flush with the finished grade.

Tracer wire shall be securely attached to the facility at each access point and extended vertically to the access box. The tracer wire shall be terminated with a minimum of 12 inches (12") of slack above the bottom of the pull box.

Tracer wire installed for each segment of underground utility shall be terminated at each access point within the pull box, junction box, manhole, or valve box. The contractor shall make no connections or splices of tracer wire across access points.

New pull boxes installed exclusively for tracer wire shall be placed directly above the utility line and in easily accessible areas.

For facilities that cross ADOT right-of-way, tracer wire shall be made accessible at the right-of-way line at approved access points.

For facilities placed longitudinally in ADOT right-of-way, access points shall be located between the right-of-way line and the outside edge of the shoulder or grader ditch, or back of sidewalk or curb and gutter as applicable. Access boxes installed exclusively for tracer wire shall be provided at intervals no greater than two thousand feet (2,000'), or as a minimum, at the point each line crosses ADOT right-of-way. If the utility line is placed outside the preferred location of the access box as described above, the box shall be located in the preferred location and tracer wire shall be installed in a suitable conduit and brought up to the pull box.

For jacking and boring, tracer wire shall be placed inside the jacked sleeve and attached to the utility facility

Empty conduits and duct banks shall have a trace wire attached to the outside of the facility.

When sanitary sewer force mains are installed in ADOT right-of-way, tracer wire access shall be accomplished by attaching the wire to the outside of wet wells and terminating the wire in pulls boxes (Number 5, Traffic Standard T.S. 1-1) placed adjacent to the wet well.

(D) Testing:

The contractor shall test all installed tracer wire, and all those facilities determined to be magnetically detectable without tracer wire, with standard locating instruments to verify conductivity, both before and after backfilling, and provide the results to the Engineer. The contractor shall install at no additional cost to ADOT new tracer wire on utilities that fail to be detectable, and on utilities that fail to properly test.

SEEDING REQUIREMENTS – SR 1-3

S-1 It will be necessary, upon refurbishing the right-of-way to its original line and grade, to seed the disturbed areas, to the satisfaction of ADOT as requested by the inspector.

S-2 Usually, mixtures of two grasses are use, and for color two wildflowers.

A. LOW DESERT – Elevation below 2,000 foot.

GRASSES:

1. Leyman's Love Grass
2. Mediterranean

WILDFLOWERS:

1. AZ Lupine
2. Succulent Lupine
3. California or Mexican Poppies
4. Desert Marigolds

B. CHAPARRAL – Elevation of 2,000 to 5,000 foot.

GRASSES:

1. Buffalo Grass
2. Blue Grama
3. Fide Oats
4. Any Grama Types

WILDFLOWERS:

1. Indian Blanket Flower
2. Blue or Red Flax

C. MOUNTAINS – Elevation of 4,400 foot or above.

GRASSES:

1. Western Wheat
2. Sheep Fesque
3. Mt. Muhley

WILDFLOWERS:

1. Gilia
2. Penstemon

S-3 Best time to seed is August through February.

TRAFFIC CONTROL REQUIREMENTS

TC-1 The permittee shall provide for the adequate protection of all vehicular and pedestrian traffic and workers through any portion of the permitted work where work interferes with, obstructs, or creates a hazard to the movement of traffic.

TC-2 Closure of a highway without an approved alternate route or detour will not be allowed. Approval shall be in writing from the ADOT prior to construction.

TC-3 As per the MUTCD 2003 Edition, and associated ADOT Supplement or drawings attached hereto and part of this permit. All traffic control devices necessary for permitted work shall be properly placed and in operation before any permitted work is allowed to start.

TC-4 Permitted work is authorized for daylight hours only. The highway shall be open to its entire width prior to darkness.

TC-5 After proper traffic control has been established, traffic shall be stopped for a maximum of fifteen (15) minutes.

TC-6 During prosecution of the permit, should an **emergency** arise that would close the highway, the permittee shall immediately contact DPS, at 928.428.2505 or 1-800.458.7032, Ext. 4611, and ADOT at 928.432-4900.

Closure of a highway is forbidden without express permission. When the permitted work will require stopping traffic, the permittee shall contact DPS at 928.428.2505 and ADOT District office at 928.432.4900, a minimum of seventy-two (72) hours prior to the required closure, to provide the work schedule and ask DPS for assistance. The permit owner or applicant shall provide a Traffic Control Plan to the ADOT Permit office for approval and acceptance, prior to any highway closure. DPS shall be on site and available to stop traffic prior to placement and removal of traffic control signs.

TC-7 Except as specified herein, all traffic control equipment, devices, procedures, and facilities used by workers, shall conform to the requirements of the MUTCD 2003 Edition and the associated ADOT Supplement.

High Visibility Safety Apparel per MUTCD Section 6E.02

TC-8 Standard: For daytime and nighttime activity, flaggers shall wear apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel" and labeled as meeting the ANSI 107-1999 standard performance for Class 2 risk exposure. The apparel background (outer) material color shall be either fluorescent orange-red or fluorescent yellow-green as defined in the standard. The retroreflective material shall be either orange, yellow, white, silver, yellow-green or a fluorescent version of these colors, and shall be visible at a minimum distance of one thousand feet (1000'). The retro reflective safety apparel shall be designed to clearly identify the wearer as a person.

Guidance: For nighttime activity, safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel" and labeled as meeting the ANSI 107-1999 standard performance for Class 3 risk exposure should be considered for flagger wear (instead of Class 2 safety apparel in the above Standard).

When uniformed law enforcement officers are used, high-visibility safety apparel as described in this Section should be worn by the law enforcement officer.

SPECIFICATIONS FOR PERMIT NUMBER - 1201600

Attachment "A"

Archaeological Clearance Notification

Cultural survey specifications and responsibilities:

In accordance with the Arizona State Historic Preservation Act, ADOT must consider the effects of its actions, including the issuance of permits, on historic properties. It is the Permittee's responsibility to obtain documents indicating that the proposed permit would not affect historic properties or, if it would affect such properties, to provide documentation attesting to the mitigation of those effects, prior to beginning excavation work within ADOT Rights of Ways. Such documentation may include concurrence on the effect from the State Historic Preservation Office or a data recovery plan approved by the Arizona State Museum (in the case of mitigative data recovery).

Archaeological Features:

The attention of the Permittee is directed to the Arizona Revised Statutes §41-841 through 846 and §41-861 through 865. Violation of A.R.S §41-841 through 845 is a Class 2 misdemeanor. Violation of A.R.S. §41-861 through 865 can be classified as either a Class 1 misdemeanor or a Class 5 felony..

Section 6(a) of the Federal Archaeological Resources Protection Act of 1979 specifies that no person may excavate, remove, damage or otherwise alter or deface any archaeological resource located on public (Federal) lands or Indian lands unless such activity is pursuant to a permit issued under Section 4 of the Act. Violations of this act are considered a felony, and are punishable by fine and imprisonment.

Although the permittee will be responsible to make every effort prior to construction to identify all cultural resources in a permit area, previously unidentified archaeological materials could be found during the construction of the permit. When historic or archaeological features are encountered or discovered during any activity related to construction of the permit, the permittee shall stop work immediately at that location, and shall take all reasonable steps to secure the preservation of those features.

The permittee shall immediately contact ADOT's Historic Preservation Team, listed below and the ADOT District Permits Office that issued the permit and make arrangements for the proper treatment of such resources. The permittee shall not resume work until he/she is so directed by the Arizona Department of Transportation.

Environmental Planning Group

Kae Neustadt

1221 S. 2nd AVE.

Tucson, AZ. 85713

Telephone 520.388.4256

kneustadt@azdot.gov

P 1201600

Armando Membrila

From: Gary R. McRae
Sent: Monday, May 12, 2008 1:01 PM
To: Armando Membrila
Subject: Cox Communication Permit for Tombstone, SR80

I briefly looked over the information you provided for the Cox Communication - Tombstone SR80 permit, project # 8TO-037. It appears they have addressed the environmental and historical/cultural resources that will be impacted by this project in a satisfactory manner. They should be commended for the information gathered and the thoroughness of the information they have provided.



P 1201600

Environmental Department

CERTIFICATION LETTER

April 22, 2008

To: Cox Communications
Attn: Ike Cruse
1440 East 15th Street
Tucson, AZ 85719

From: David Taylor, Senior Ecologist
Tierra Right of Way Services
1575 East River Road, Suite 201
Tucson, AZ 85718

RE: Project # 8T0-037
Cox Communications - Tombstone, Highway 80

Project Name: Cox Communication-Tombstone, Highway 80
Project Location: West Right of Way, Highway 80, Mile Post: 311.33-316.63
Disturbed Area: 6.0 Acres

Tierra Right of Way Services (Tierra) has reviewed the project area for compliance with *National Environmental Policy Act documentation, Endangered Species Act, Clean Water Act, Arizona Native Plant Law, Historic Preservation Act and Action Plan of the Arizona Department of Transportation for Non-Federal Permitted Highway Easement Projects.*

Tierra certifies that the project area is in compliance with the above regulations providing the following mitigation measures are met during project construction.

MITIGATION MEASURES

Design Responsibilities

All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity.

Protected native plants were identified within the project area. Table 1 below shows a list of protected native plants identified within the project area.

Table 1. Protected Native Plants Identified in the Project Area.

Scientific Name	Common Name
<i>Cylindropuntia spinosior</i>	Cane Cholla
<i>Ferocactus wislizenii</i>	Fishhook Barrel
<i>Fouquieria splendens</i>	Ocotillo
<i>Opuntia engelmannii</i>	Engelmann's Prickly Pear
<i>Opuntia engelmannii v. linguiformis</i>	Texas Prickly Pear
<i>Opuntia leptocaulis</i>	Desert Christmas Cactus
<i>Opuntia santa-rita</i>	Purple Prickly Pear
<i>Prosopis glandulosa</i>	Honey Mesquite
<i>Yucca elata</i>	Soaptree Yucca

If these plants are not avoidable during construction activities the Permittee shall notify the ADOA at least 30 days prior to the start of construction to afford commercial salvagers or ADOT the opportunity to remove and thereby salvage these plants.

Golden Flower Agave (*Agave chrysantha*) and Toumey's Agave (*Agave toumeyana*) were also observed on site and are protected native plants. However, a review of the U.S. Fish and Wildlife Service's list of threaten and endangered species for Cochise County, Arizona lists the Lesser Long-nosed Bat (*Leptonycteris curasoae yerbabuena*) as an endangered species potentially occurring the project vicinity. Lesser Long-nosed Bats are known to feed on agaves, therefore, all agaves within the project area must be avoided or transplanted on site.

All earth-moving and hauling equipment shall be washed at the contractor's storage facility prior to entering the construction site to prevent the introduction of invasive species seeds.

All earth-moving and hauling equipment shall be washed prior to leaving the construction site to prevent invasive species seeds from leaving the site.

All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity.

The fiber-optic cable installation will result in more than one acre of ground disturbance, therefore an Arizona Pollutant Discharge Elimination System (AZPDES [under authority of the National Pollutant Discharge Elimination System]) permit, a Notice of Intent (NOI) (Attachment 5) and Stormwater Pollution Prevention Plan (SWPPP) (Attachment 5) are required.

Use of best management practices (BMP) for erosion control and soil stabilization shall be utilized to minimize discharges of sediments to waterways. BMPs may include silt fencing, construction entrances/exits of rock, fiber rolls, sand bags, or other ADOT approved methods (excluding the use of hay or straw structures) for controlling sediments during construction operations and storm events.

If suspected hazardous materials are encountered during construction, work will cease at that location and the ADOT District Environmental Coordinator will arrange for proper treatment or disposal of those materials.

If previously unidentified cultural resources are identified during construction, work will cease at that location and the ADOT District Environmental Coordinator will be notified. The applicant will arrange for proper treatment of these resources. Treatment plan shall be approved by the ADOT District Permit Supervisor.

Contractor Responsibilities

The contractor shall ensure all work within the ADOT ROW conforms to current ADOT plans and Specifications.

Golden Flower Agave and Toumey's Agave were also observed on site and are protected native plants. However, a review of the U.S. Fish and Wildlife Service's list of threaten and endangered species for Cochise County, Arizona lists the Lesser Long-nosed Bat as an endangered species potentially occurring the project vicinity. Lesser Long-nosed Bats are known to feed on agaves, therefore, all agaves within the project area must be avoided or transplanted on site.

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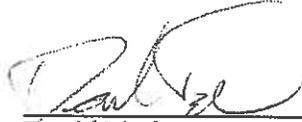
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If previously unidentified cultural resources are identified during construction, work will cease at that location and the ADOT District Environmental Coordinator will be notified. The applicant will arrange for proper treatment of these resources. Treatment plan shall be approved by the ADOT District Permit Supervisor.

Upon completion of work, the Contractor shall notify the ADOT Permit Supervisor and arrange for site inspection by a designated ADOT Inspector.



David Taylor
Assistant Project Manager

7/23/08
Date

P01201600

ACORD™ CERTIFICATE OF LIABILITY INSURANCE		DATE (MM/DD/YYYY) 12/13/07
PRODUCER 1-678-393-5200 Arthur J. Gallagher Risk Management Services, Inc. 1117 Perimeter Center West Suite W201 Atlanta, GA 30338 Gwen Hardin-Fax: (678)393-5240	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
INSURED Cox Communications, Inc. CoxCom, Inc./Cox Communications Arizona P.O. Box 105357 Atlanta, GA 30348	INSURERS AFFORDING COVERAGE	NAIC #
	INSURER A: American Home Assur Co	19380
	INSURER B: New Hampshire Ins Co	23841
	INSURER C: Illinois Natl Ins Co	23817
	INSURER D: Insurance Co Of The State Of PA	19429
	INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR	ADD'L	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A		GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS OF \$500,000 <input checked="" type="checkbox"/> SELF INSURED RETENTION GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	RMGL1595729	01/01/08	01/01/09	EACH OCCURRENCE	\$ 1,500,000
						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 1,500,000
						MED EXP (Any one person)	\$ EXCLUDED
						PERSONAL & ADV INJURY	\$ 1,500,000
						GENERAL AGGREGATE	\$ 30,000,000
						PRODUCTS - COMP/OP AGG	\$ 3,000,000
A		AUTOMOBILE LIABILITY	RMCA1607282 (VA)	01/01/08	01/01/09	COMBINED SINGLE LIMIT (Ea accident)	\$ 2,000,000
A		<input checked="" type="checkbox"/> ANY AUTO	RMCA1607281 (MA)	01/01/08	01/01/09	BODILY INJURY (Per person)	\$
A		ALL OWNED AUTOS	RMCA1607280 (AOS)	01/01/08	01/01/09	BODILY INJURY (Per accident)	\$
		SCHEDULED AUTOS				PROPERTY DAMAGE (Per accident)	\$
		<input checked="" type="checkbox"/> HIRED AUTOS				AUTO ONLY - EA ACCIDENT	\$
		<input checked="" type="checkbox"/> NON-OWNED AUTOS				OTHER THAN AUTO ONLY: EA ACC	\$
						AGG	\$
		GARAGE LIABILITY				EACH OCCURRENCE	\$
		<input type="checkbox"/> ANY AUTO				AGGREGATE	\$
							\$
		EXCESS/UMBRELLA LIABILITY					\$
		<input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE					\$
		DEDUCTIBLE					\$
		RETENTION \$					\$
B		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	RMWC5145078 (AOS)	01/01/08	01/01/09	<input checked="" type="checkbox"/> WC STATUTORY LIMITS	<input type="checkbox"/> OTHER
A		ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?	RMWC5145079 (CA)	01/01/08	01/01/09	E.L. EACH ACCIDENT	\$ 1,000,000
C			RMWC5145080 (FL)	01/01/08	01/01/09	E.L. DISEASE - EA EMPLOYEE	\$ 1,000,000
A		If yes, describe under SPECIAL PROVISIONS below	RMWC5145082 (OR)	01/01/08	01/01/09	E.L. DISEASE - POLICY LIMIT	\$ 1,000,000
		OTHER				SEE ABOVE AMT	OF INSURANCE
D		WORK COMP/EMPLOYERS LIAB	RMWC5145081 (MA)	01/01/08	01/01/09	SEE ABOVE AMT	OF INSURANCE
C		WORK COMP/EMPLOYERS LIAB	RMWC5145084 (WI)	01/01/08	01/01/09	SEE ABOVE AMT	OF INSURANCE
B		WORKERS COMPENSATION	RMWC5145083 (TX)	01/01/08	01/01/09	SEE ABOVE AMOUNT	OF INSURANCE

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

CERTIFICATE HOLDER Arizona Department of Transportation The State of Arizona-Permits Section 1221 S. 2nd Avenue Tucson, AZ 85713-1602 USA	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL <u>30</u> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE <i>[Signature]</i>
---	---

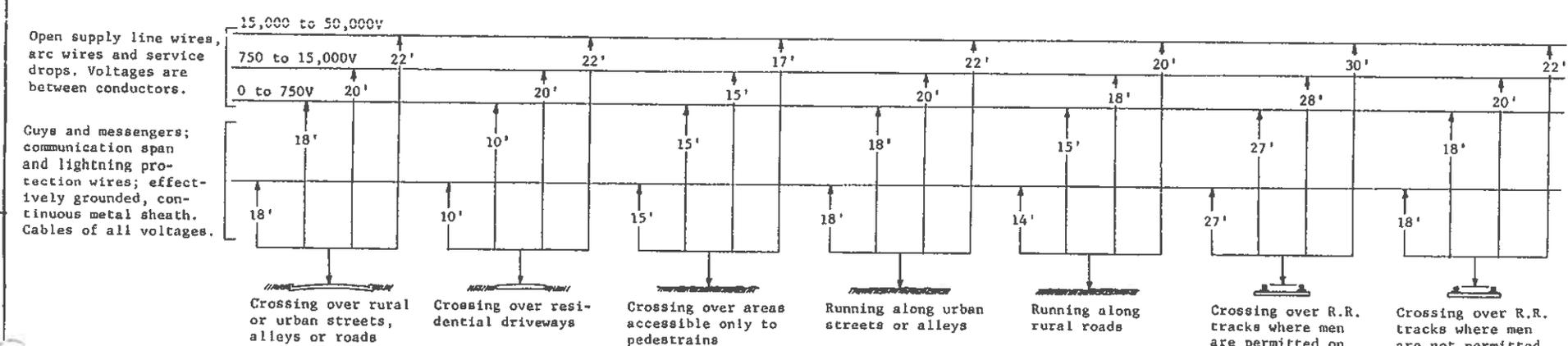
IMPORTANT

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

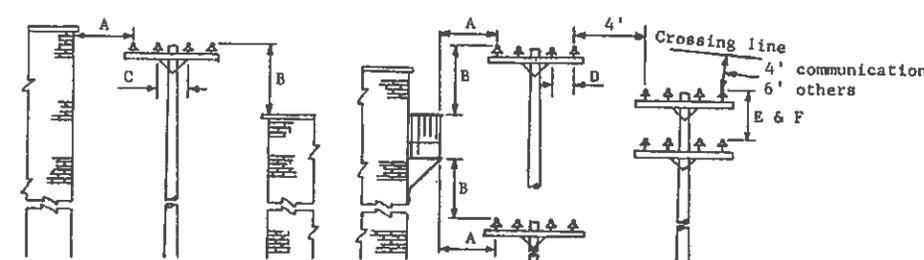
DISCLAIMER

The Certificate of Insurance on the reverse side of this form does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.



*** BASIC MINIMUM GROUND AND RAILROAD RAIL VERTICAL CLEARANCES**

* Increase basic minimums:
 1/2" for each 1000 V over 50,000 V
 6" over ground for each 50' of span over 350' - light or medium loading
 9" over rails for each 50' of span over 350' - light loading
 18" over rails for each 50' of span over 350' - medium loading

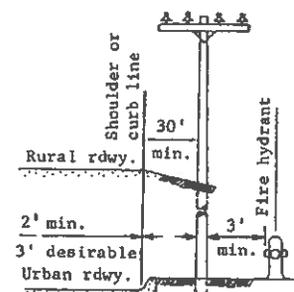


Line Description	A	B	C	D	E	F	
Open supply line wires and service drops	0-750V	3'	8'	18"	12"	2'	4'
	750-15000V	8'	8'	3'	12"	4'	6'
	15000-50000V	10'	10'	3'	15"	4'	6'
Guys and messengers; communication, span and lightning protection wires; effectively grounded, continuous metal sheath. Cables of all voltages.			2'	6"	2'	4'	

- A = Horizontal clearance to buildings and other structures.
- B = Vertical clearance to buildings and other structures.
- C = Climbing space at pole.
- D = Clearance between parallel conductors on same cross arm.
- E = Vertical cross arm separation - same utility.
- F = Vertical cross arm separation - different utilities.

**** BASIC MINIMUM STRUCTURE AND LINE CLEARANCES**

** Increase basic minimums A and B:
 6" for each 50' of span over 150' for 8700 V to 50,000 V
 1/2" for each 1000 V over 50,000, + 10"
 Increase basic minimum D:
 0.4 " for each 1000V over 7500V



Pole Height	DEPTH OF POLE SETTINGS				Solid rock
	Soft Ground		Solid Ground		
	Straight Line	Corner	Straight Line	Corner	
20'	5'	5'	5'	5'	3'
25'	5 1/2'	6'	5'	5 1/2'	3 1/2'
30'	6'	6 1/2'	5 1/2'	6'	3 1/2'
35'	6 1/2'	7'	6'	6 1/2'	4'
40'	7'	7 1/2'	6 1/2'	7'	4'
45'	7'	7 1/2'	6 1/2'	7'	4 1/2'
50'	7 1/2'	8'	7'	7 1/2'	4 1/2'
55'	8'	8 1/2'	7 1/2'	8'	5'
60'	8 1/2'	9'	8'	8 1/2'	5 1/2'
65'	9'	9 1/2'	8 1/2'	9'	6'

POLE CLEARANCE AND DEPTH SETTING DATA

GENERAL NOTES

This Standard represents excerpts from "Safety Rules for Installation and Maintenance of Electrical Supply and Communication Lines", Dept. of Commerce, Bureau of Stds. Handbook No. 81, reprint of May 1, 1966 (approved by Ariz. State Industrial Comm.) and is to be considered as a guide only. The applicable standards established by the governing bodies and commissions shall be considered the final control.

ARIZONA HIGHWAY DEPARTMENT PLANS DIVISION		Rev
MINIMUM CLEARANCES FOR UTILITY LINES & POLES AS RELATED TO HIGHWAYS		
Drawn	D.G. 2-68	Drawing No.
Traced	D.G. 8-68	
Checked	J.P.O. 9/10 4/72	D-8.01
Approved Engr. Plans	<i>J.P.O.</i> 4/72	



COMMUNICATIONS
1440 E 15th Street
Tucson, AZ 85719
520-867-7403

MEMO

DATE: April 28, 2008

TO: Armando J. Membrila, CPM
ADOT Safford District Office

FROM: Cox Communications, Inc.
Miki Abatecola, Permit Coordinator

RE: AZ-TB0001-2-3
Application for Permit

Enclosed are:

- Application form
- Construction Drawing
- Certificate of Liability Insurance
 - Cox Communications, Inc.
- Traffic Control Plans
- Certification Letter
 - Cultural Resource Survey/Assessment Report
 - A Biological Evaluation/Assessment Report
 - Environmental Analysis

We started the make ready review stage with APS (Reference: Preliminary #625, #626 & #627)

Thank you.

RECEIVED

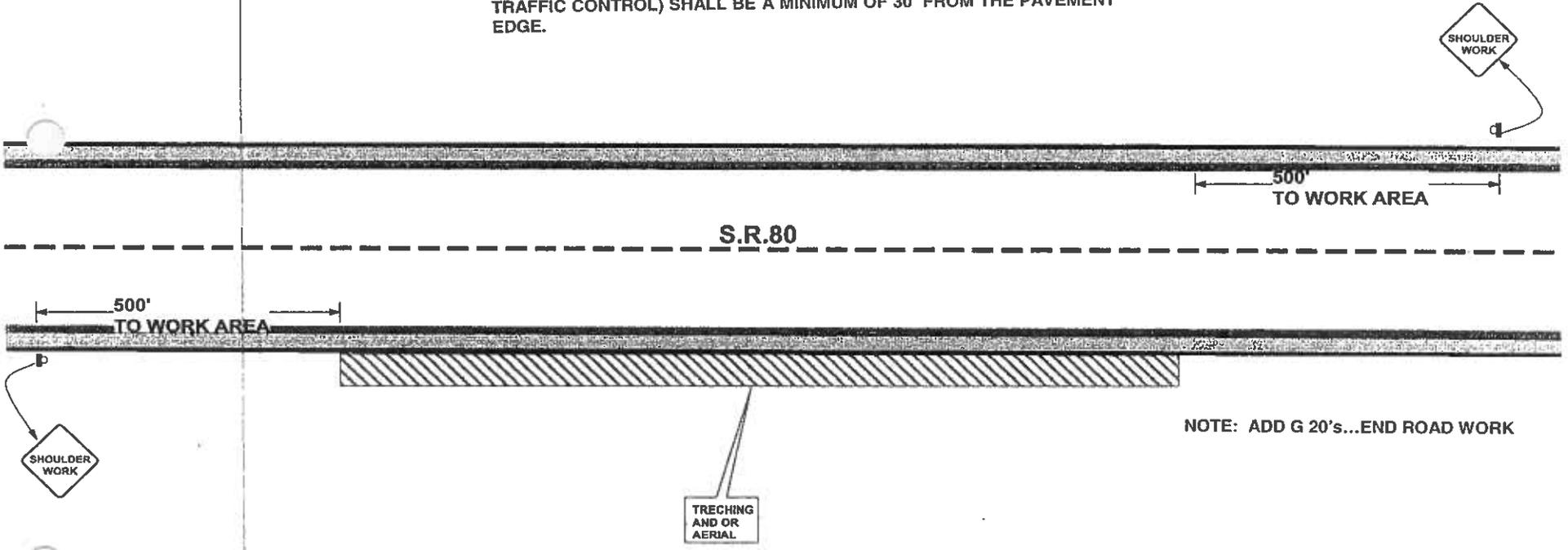
APR 29 2008

A.D.O.T.
SAFFORD DISTRICT OFFICE

NOTE: TYPICAL SHOULDER WORK FOR TRENCHING AND AERIAL
NOTE: CONTRACTOR WILL BE RESPONSIBLE FOR MOVING SIGNS AS WORK PROGRESSES FORWARD

NOTE: SHOULDER WORK SIGNS NEED TO BE 500' AWAY FROM CREW AT ALL TIMES

NOTE: ALL VEHICLES, EQUIPMENT AND MATERIALS (OTHER THAN TRAFFIC CONTROL) SHALL BE A MINIMUM OF 30' FROM THE PAVEMENT EDGE.

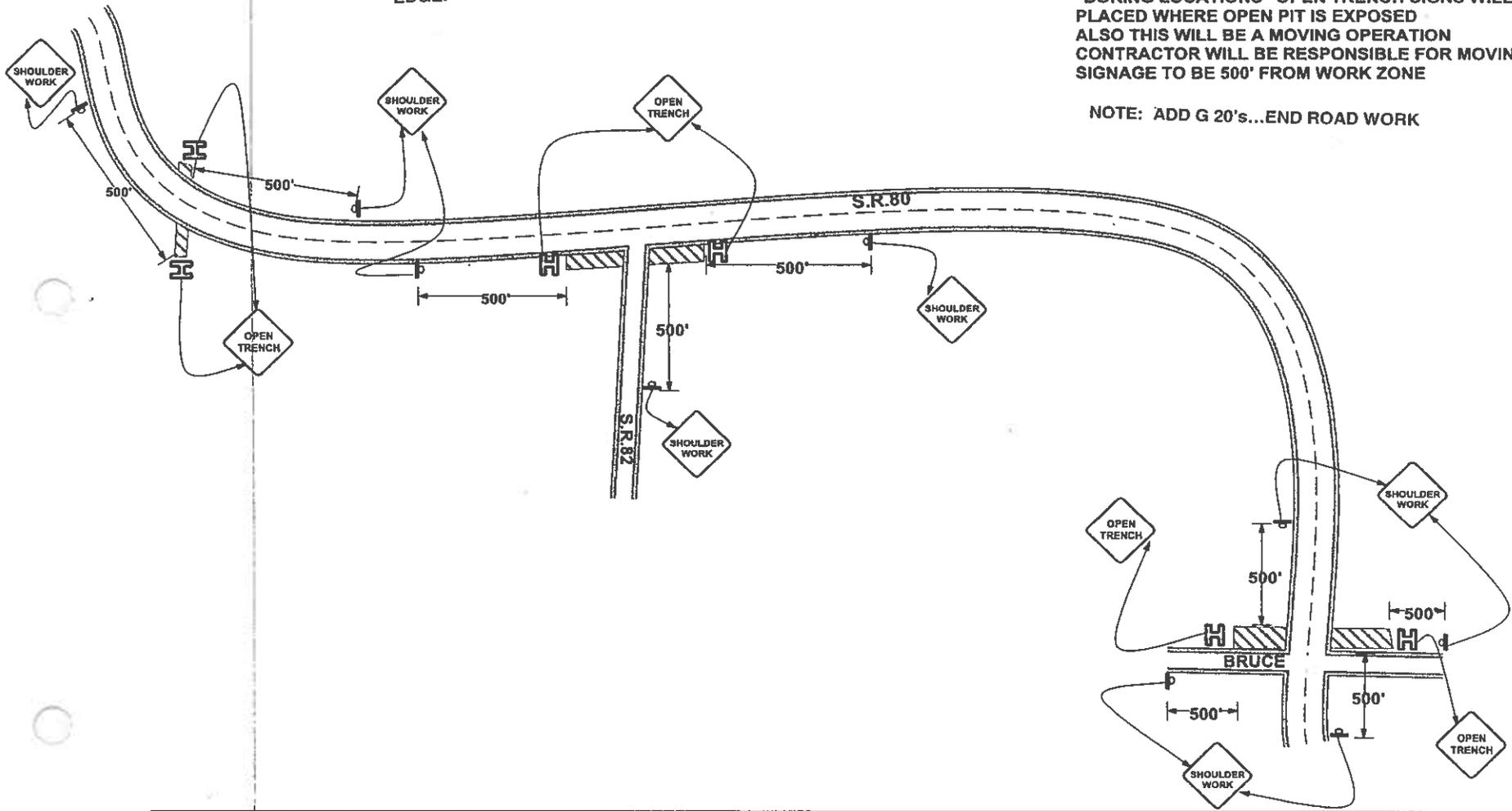


	<p>EXISTING SPEED LIMIT</p>	<p>LEGEND</p> <p>CHANNELIZING DEVICE</p> <p>TARGET ARROW</p> <p>SIGN STAND</p> <p>TYPE III BARRICADE</p> <p>TYPE II BARRICADE</p> <p>SPRING STAND</p> <p>FLAGGER</p> <p>ATTENUATOR TRUCK</p>	<p>Notes:</p> <p>PLAN NOT TO SCALE</p> <ol style="list-style-type: none"> 1. This is a vehicular plan only 2. When traffic is in the opposite lanes, this plan will be similar but opposite. 3. Plan subject to field modifications 4. This plan is not valid without a current permit 5. Number of devices used will vary depending upon modifications in the field 6. All devices used will meet or exceed the NCHRP 350 Criteria 	<p>SHEETING REQUIREMENTS SETUP DETAILS</p> <p><input type="checkbox"/> 36 X 36 Warning Signs Engineer Grade Type I</p> <p><input checked="" type="checkbox"/> 48X48 Warning Signs, Diamond Grade Type IV</p> <p><input checked="" type="checkbox"/> Day Time/No Light</p> <p><input type="checkbox"/> Nighttime/Lights Required</p> <p><input checked="" type="checkbox"/> Maximum Edgeline Spacing Per Section 6C-2 MUTCD</p> <p><input type="checkbox"/> Maximum Taper Spacing Per Section 6C-2 MUTCD</p>		<table border="1"> <tr> <td colspan="2">Owner ADOT</td> </tr> <tr> <td>Project Name HWY 80 PROJECT</td> <td>Project Number</td> </tr> <tr> <td>Prime Contractor COX COMMUNICATIONS</td> <td>Traffic Control Contractor BOB'S BARRICADES, INC</td> </tr> <tr> <td>Phone 520-955-0022</td> <td>Sheet Number 1 OF 1</td> </tr> <tr> <td>Prepared By ROBERT SANCHEZ</td> <td>Date 5/14/08</td> </tr> </table>	Owner ADOT		Project Name HWY 80 PROJECT	Project Number	Prime Contractor COX COMMUNICATIONS	Traffic Control Contractor BOB'S BARRICADES, INC	Phone 520-955-0022	Sheet Number 1 OF 1	Prepared By ROBERT SANCHEZ	Date 5/14/08
Owner ADOT																
Project Name HWY 80 PROJECT	Project Number															
Prime Contractor COX COMMUNICATIONS	Traffic Control Contractor BOB'S BARRICADES, INC															
Phone 520-955-0022	Sheet Number 1 OF 1															
Prepared By ROBERT SANCHEZ	Date 5/14/08															

NOTE: ALL VEHICLES, EQUIPMENT AND MATERIALS (OTHER THAN TRAFFIC CONTROL) SHALL BE A MINIMUM OF 30' FROM THE PAVEMENT EDGE.

NOTE: TYPICAL SHOULDER WORK FOR "BORING LOCATIONS" OPEN TRENCH SIGNS WILL BE PLACED WHERE OPEN PIT IS EXPOSED ALSO THIS WILL BE A MOVING OPERATION CONTRACTOR WILL BE RESPONSIBLE FOR MOVING SIGNAGE TO BE 500' FROM WORK ZONE

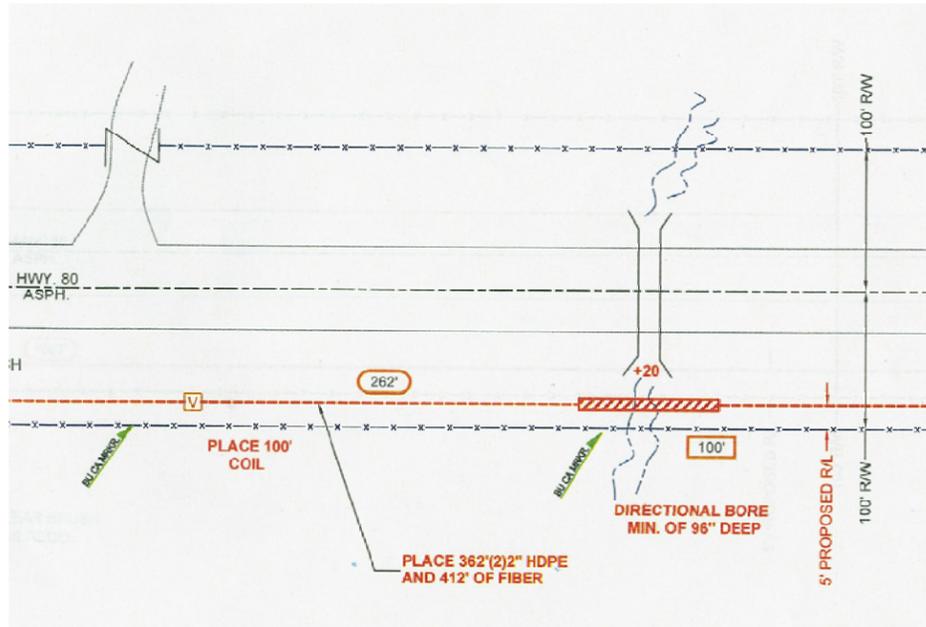
NOTE: ADD G 20's...END ROAD WORK



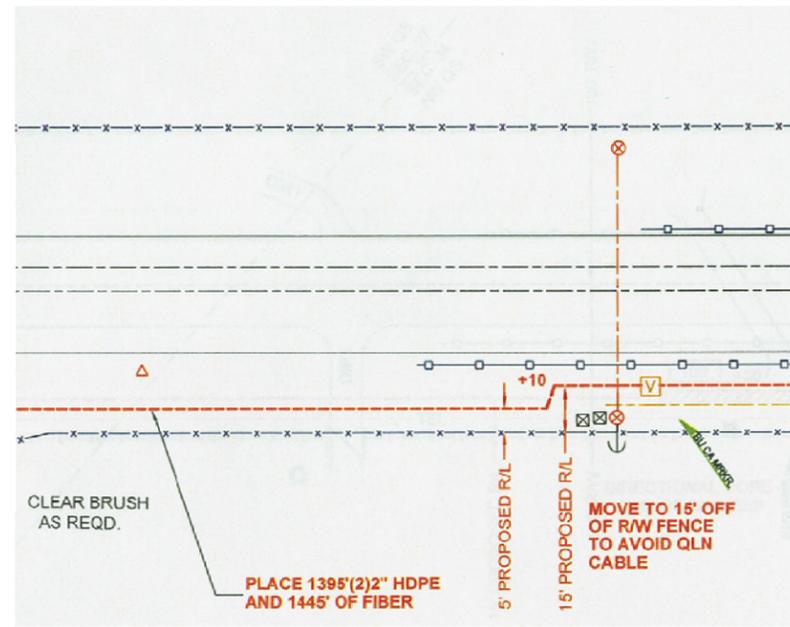
	<p>EXISTING SPEED LIMIT</p> <p>SPEED LIMIT 55</p>	<p>LEGEND</p> <ul style="list-style-type: none"> CHANNELIZING DEVICE TARGET ARROW SIGN STAND SPRING STAND TYPE III BARRICADE TYPE II BARRICADE FLAGGER ATTENUATOR TRUCK 	<p>PLAN NOT TO SCALE</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. This is a vehicular plan only 2. When traffic is in the opposite lanes, this plan will be similar but opposite. 3. Plan subject to field modifications 4. This plan is not valid without a current permit 5. Number of devices used will vary depending upon modifications in the field 6. All devices used will meet or exceed the NCHRP 350 Criteria 	<p>SHEETING REQUIREMENTS SETUP DETAILS</p> <ul style="list-style-type: none"> <input type="checkbox"/> 36 X 36 Warning Signs Engineer Grade Type I <input checked="" type="checkbox"/> 48X48 Warning Signs, Diamond Grade Type IV <input checked="" type="checkbox"/> Day Time/No Light <input type="checkbox"/> NightTime/Lights Required <input checked="" type="checkbox"/> Maximum Edgetine Spacing Per Section 6C-2 MUTCD <input type="checkbox"/> Maximum Taper Spacing Per Section 6C-2 MUTCD 		<p>Owner ADOT</p> <p>Project Name S.R. 80 BORING Project Number</p> <p>Prime Contractor COX COMMUNICATIONS Traffic Control Contractor BOB'S BARRICADES, INC</p> <p>Phone (520)955-0022 Sheet Number 1 OF 1 Date 5/14/08</p> <p>Prepared By ROBERT SANCHEZ</p>
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APPENDIX B
REPRESENTATIVE TELECOMMUNICATIONS CABLE PLACEMENT
DIAGRAMS

Sheet 4 of 24

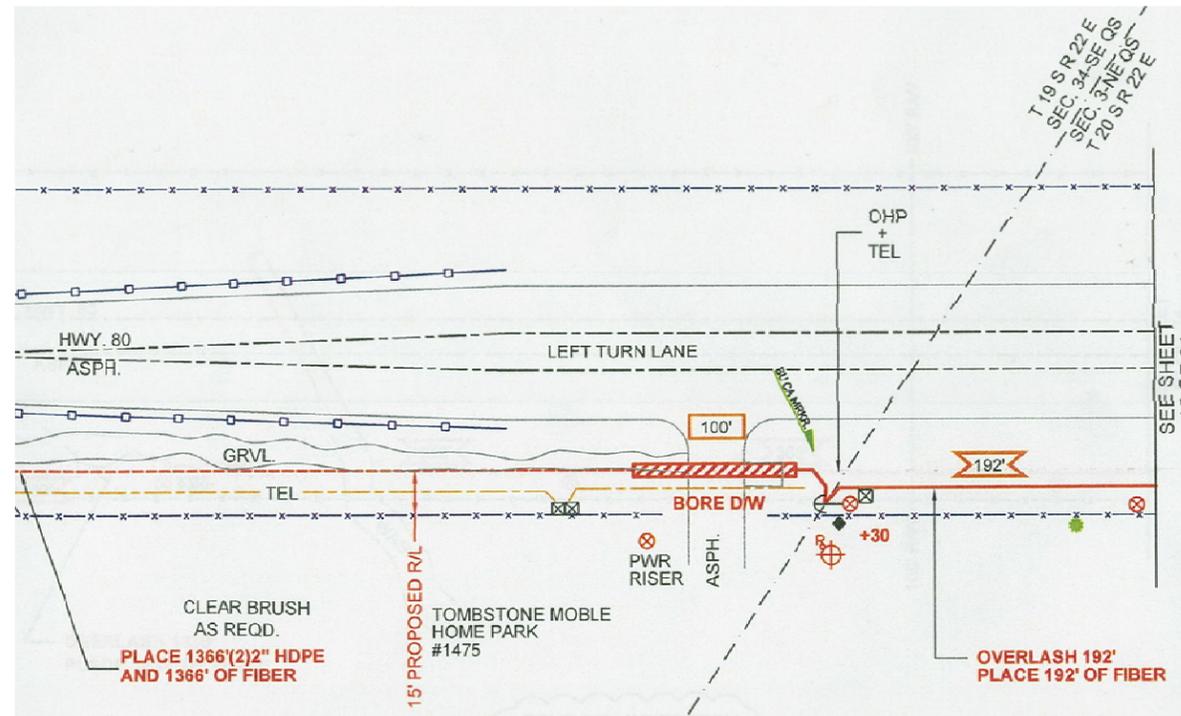


Sheet 11 of 24



LEGEND	
PROPOSED	EXISTING
RISER	FIRE HYDRANT
BORE FOOTAGE	UTILITY VALVE
TRENCH FOOTAGE	WATER METER
ASPHALT CUT FOOTAGE	BRASS CAP
AERIAL FOOTAGE	UTILITY MANHOLE
ASPHALT CUT	CATV PEDESTAL
OVERLASH FIBER	UTILITY PEDESTAL
TRENCH	TRAFFIC SIGNAL
MANHOLE	TRANSFORMER
90 VOLT P/S	STREET LIGHT
VACUUM/DIRT POT	POWER SUPPLY
	UTILITY POLE
	UTILITY CABINET
	JUNCTION BOX
	UTILITY VAULT
	FENCE
	BLOCK WALL

Sheet 17 of 24



Staking sheets provided by:

APPENDIX C

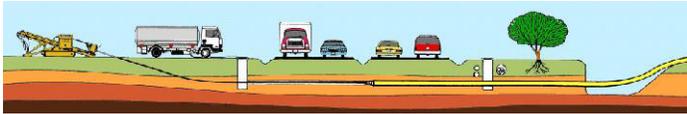
DIRECTIONAL BORING BROCHURE

Available at: <http://www.directionalboringcentral.com/library/dba/dbapamphlet.htm>

Pipe Reaming

A variation of directional boring called pipe reaming can be used to replace existing clay, asbestos cement, non-reinforced concrete and PVC pipe. A reamer is pulled through the existing pipe which cuts the pipe into small pieces. The pipe pieces are flushed out the bore hole with the drilling fluid. A new HDPE or PVC pipe is pulled in behind the reamer.

Pipe reaming can often be used instead of pipe-bursting. The advantages of pipe reaming are lower cost, faster installation, no compaction of the surrounding formation and much greater upsizing capabilities.



Limitations

Directional boring can be used in a wide variety of conditions but is not the optimal method in all conditions. The most difficult ground formation for any method is un-consolidated soils (cobble). In some cases the un-consolidated soils can be grouted and then bored. Directional boring can be used for sanitary sewers but only when ground conditions permit a straight path.

Design Considerations

When designing a project for directional boring it is important to have accurate geo-technical data, sufficient space for the bore rig and support equipment and enough space for laying out the pipe on the other side. It is best to allow extended work-hours for boring operations and is essential for pull-back. Additional considerations may be required for specific projects. Pipe which can be used for directional boring installations includes HDPE, mechanical joint PVC and steel.

Costs

Directional boring has evolved steadily over the last 20 years and is now the preferred method on many installations due to its low cost and low impact on surroundings. It is generally less expensive than other methods such as microtunneling, jack & bore and open trenching in urban areas. In urban areas it can not only save a considerable amount on installation cost it can provide a tremendous amount of public goodwill.

For more information and for assistance on your next project:



Directional boring, commonly called horizontal directional drilling or HDD, is a method of installing underground pipes and conduits along a prescribed bore path from the surface, with minimal impact to the surrounding area. Installation lengths up to 6500' have been completed and diameters up to 48" have been installed in shorter runs.

Applications

The process is used for installing telecommunications & power cable conduits, water lines, sewer lines, gas lines, oil lines, product pipelines and environmental remediation casings. It is used for crossing waterways, roadways, shore approaches, congested areas, environmentally sensitive areas and any area where other methods are more expensive.

Directional boring is used in place of other techniques for the following reasons: **Less traffic disruption**

Lower cost

Deeper installation possible

Longer installation possible

No access pit required

Shorter completion times

Directional capabilities

Safer for the environment

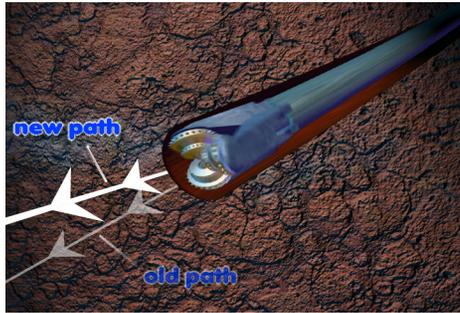
The Process



The process begins when a directional bore machine pushes a bore head connected to hollow pipe into the ground at an angle. As each joint of drill pipe is pushed into the ground a new one is added behind.

Most directional boring machines use drilling fluid (mud) with a few machines designed to use air or air and foam. Air & foam machines are used for rock. Drilling fluid is generally a mixture of bentonite clay and water, with additives used to improve performance. In softer soils the high pressure jet of fluid cuts through the soil, with the cuttings suspended in the fluid. As fluid is pumped down the hole the cuttings are carried back out to the surface where they are either allowed to settle out in a pit or removed mechanically in a cleaning system. Drilling fluid is classified as non-toxic and can be disposed of accordingly.

In softer soils, an angled bit is used and the pipe string is rotated, if necessary, to bore straight. To steer, rotation is stopped, the angle of the bit is aligned to the desired direction and forward thrust is applied. The directed jet of the drilling fluid and forward thrust cuts a new path.



In rock, a mud motor, which converts the hydraulic pressure of the drilling fluid into mechanical rotation, is used to rotate the bit and the drill pipe is not continuously rotated. Steerage is accomplished by aligning the angle of the mud motor to the desired direction.

In cases where the ground is unstable, a washover pipe, or casing, can be pushed down the bore hole to prevent the collapse of the hole walls. Some systems use a dual pipe exclusively.

Upon reaching the exit point, the bit is detached and the end of the drill pipe is attached to a reamer or hole opener (for rock), if the bore hole must be enlarged. The reamer is pulled back while rotating the drill pipe to enlarge the bore hole, with as many consecutive passes as required. Drill pipe is added behind the reamer or hole opener so that there is always drill pipe in the bore hole.

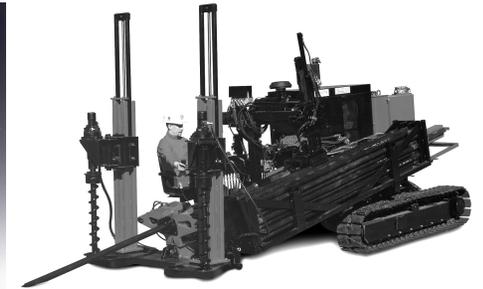
When the bore hole is approximately 25% larger than the pipe to be installed, the end of the drill pipe is connected to a reamer attached to a swivel connected to the product pipe. Drilling fluid is pumped downhole to provide lubrication and the product pipe is pulled in while rotating the drill pipe & reamer. The swivel prevents rotation of the product pipe.

For some telecommunications or power cable projects, the drill pipe itself becomes the conduit and is left in the ground upon reaching the exit point. This type of installation is known as “drill and leave”.

Once the pipe is installed the exit and entry points are excavated if necessary and connections made as needed.

Directional Bore Machines

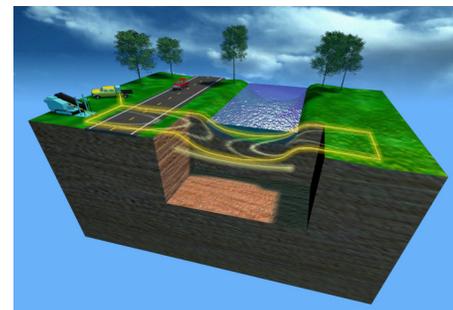
Directional bore machines are rated by thrust and pullback force and rotary pressure. Sizes range from small machines with a few thousands pounds of thrust and pullback to the largest with over a million pounds of pullback force. Rotation is measured in pressure. Most machines are track or trailer mounted with a few smaller machines designed to be used in pits.



Locating & Guidance

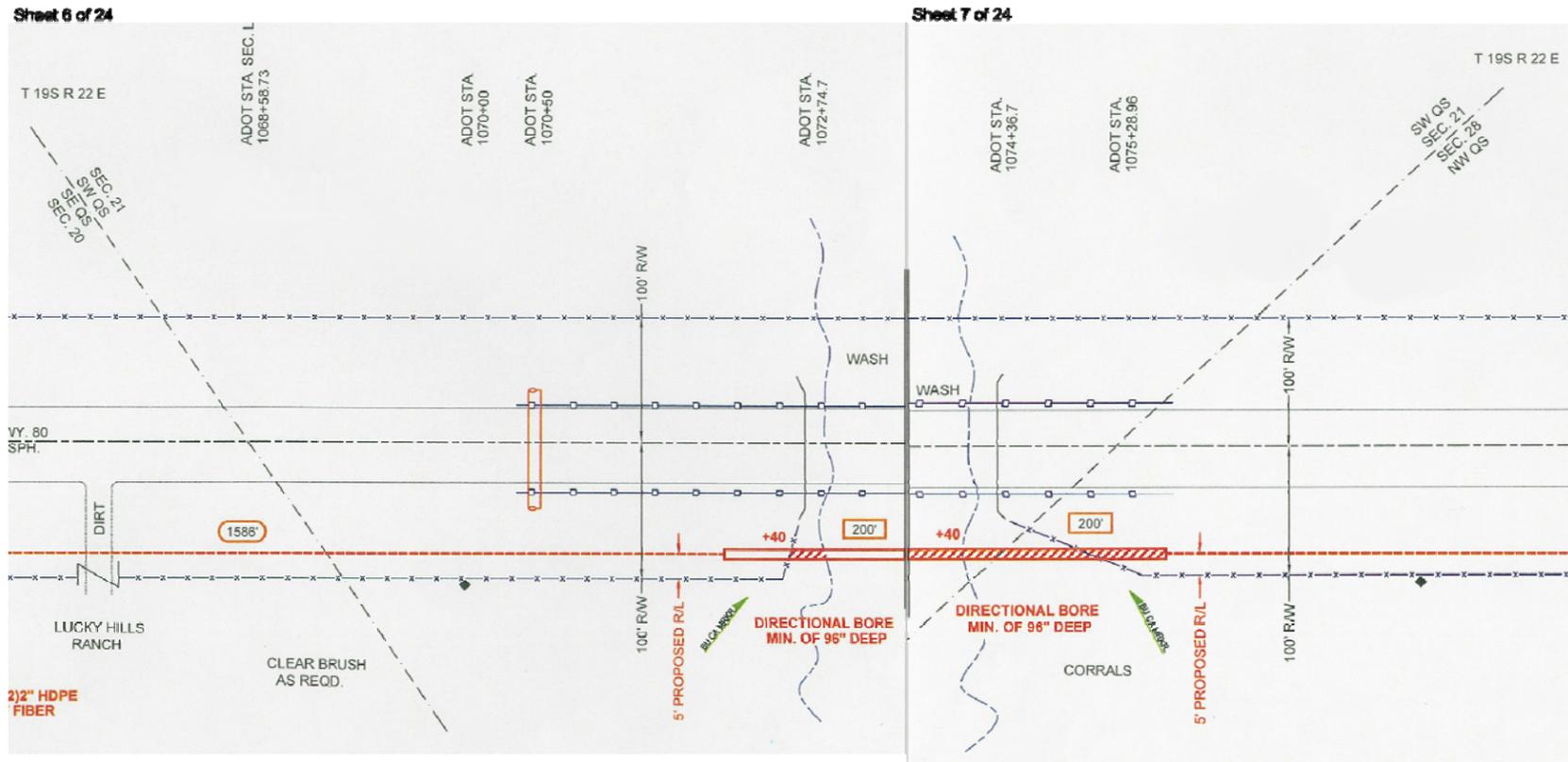
The most commonly used equipment for determining the location of the bore head is called a ‘walk-over’ locating system. A sonde, or transmitter, behind the bore head registers angle, rotation, direction and temperature data. The information is then encoded into an electro-magnetic signal which is transmitted through the ground to the surface. At the surface a receiver is manually positioned over the sonde and the signal decoded and steering directions relayed to the operator of the bore machine.

When conditions do not allow a receiver to be positioned over the sonde or interference causes degradation of the signal, a ‘downhole system’ is used. The most commonly used type of downhole system is called a ‘wire-line’ and uses a wire to transmit the data up the inside of the drill pipe. At the surface the data from the wire is decoded by a computer to provide depth, angle, rotation, direction and other information. Gaining in popularity are newer downhole wireless systems such as the Polaris EM System which transmits the data through the ground by an electro-magnetic signal to a stationary receiver.



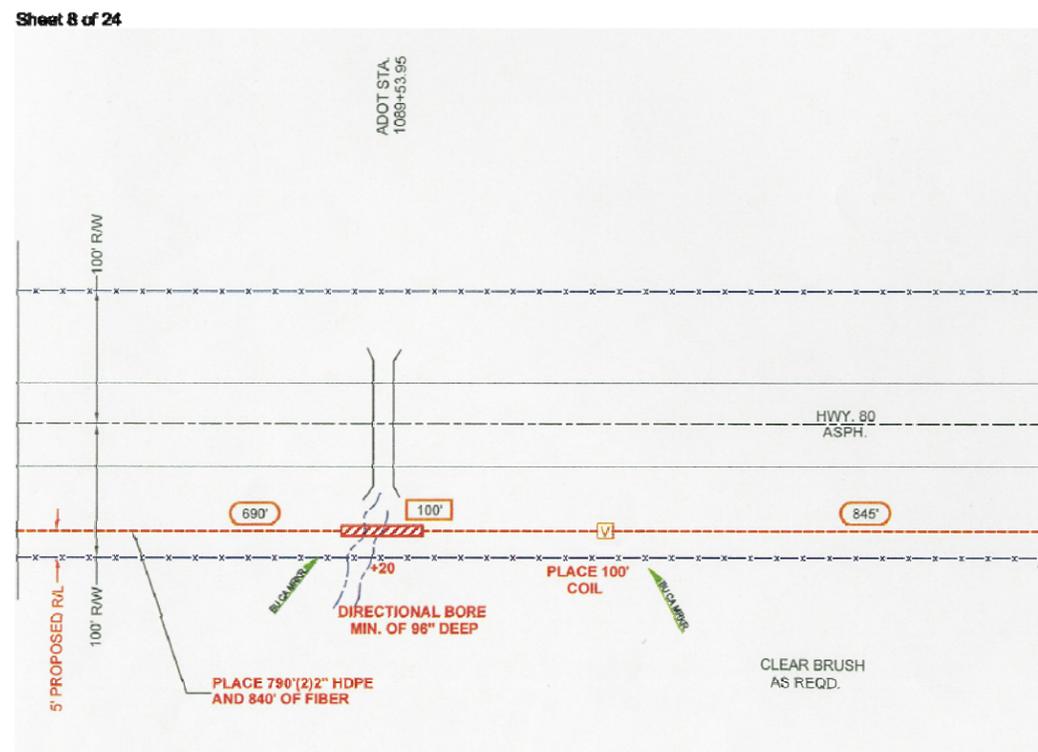
To compensate for potential magnetic interference which might distort magnetic readings in downhole systems, an artificial electro-magnetic grid is created at the surface using what is called a Tru-Traker™ system.

APPENDIX D
DIAGRAM INDICATING TELECOMMUNICATIONS CABLE BORE
PLACEMENT ON BLM LAND



LEGEND

PROPOSED		EXISTING	
	RISER		FIRE HYDRANT
	BORE FOOTAGE		UTILITY VALVE
	TRENCH FOOTAGE		WATER METER
	ASPHALT CUT FOOTAGE		BRASS CAP
	AERIAL FOOTAGE		UTILITY MANHOLE
	ASPHALT CUT		CATV PEDESTAL
	BORE		UTILITY PEDESTAL
	OVERLASH FIBER		TRAFFIC SIGNAL
	TRENCH		TRANSFORMER
	VAULT		STREET LIGHT
	MANHOLE		POWER SUPPLY
	90 VOLT P/S		UTILITY POLE
	VACUUM/DIRT POT		UTILITY CABINET
			JUNCTION BOX
			UTILITY VAULT
			FENCE
			BLOCK WALL



Staking sheets provided by:

P.O. BOX 351
HEPPE, UT, 84648
PHONE: (435) 423-1155
E-Mail: info@rwt.com

APPENDIX E
APS CONSENT DOCUMENTATION



Mail Station 9505
PO Box 53999
Phoenix, Arizona 85072-3999

March 4, 2009

Ms. Miki Abatecola
Cox Cable Phoenix Incorporated
1440 E. 15th St.
Tucson, Arizona 85719

Dear Ms. Abatecola:

Cox Cable Phoenix Incorporated is authorized to proceed with installation of its facilities on APS poles covered by Applications TB0001, TB0002, and TB0003.

PLEASE NOTE: THIS RELEASE IS GRANTED PRIOR TO QWEST'S WORK COMPLETION AND RELEASE. PLEASE CONTACT QWEST FOR THE STATUS OF WORK REQUIRED. A SEPARATE RELEASE FROM QWEST MUST BE RECEIVED PRIOR TO YOUR ATTACHMENTS.

Please notify me at 602-250-3478 upon completion of your attachments to allow APS to perform a final inspection of your installation.

Sincerely,

Brenda Bayless
Finance Technician, CATV

CC: Colin Barleycorn

APPLICATION FOR POLE LICENSE OR MODIFICATION TO EXISTING CABLE

ARIZONA PUBLIC SERVICE COMPANY
P.O. BOX 53999 STATION 9505
PHOENIX, ARIZONA 85072-3999

Application/Modification No. TB0001

Date 1/25/2008

(Please fill in top portion for initial submittal)

Town Douglas

Application is hereby made for a License to install, maintain, and operate Cable upon APS Poles as specified on the attached drawing(s) and information sheet.

Licensee Cox Cable Phoenix Incorporated

Number of poles to be reviewed

Agreement No. 95-51292

APS Poles Telco Poles

Submitted by MIKI ABATECOLA

32 0

Township Range Quarter Section
20S 22E SW 02

(Please submit separate form for each quarter section)

APPLICATION FOR NEW ATTACHMENT? YES NO

MODIFICATION TO EXISTING CABLE? YES NO

If modification, attached information includes full description of said Modification/New Design.

Actual number of new attachments to APS Poles determined on field survey: 0

Make-Ready Work Required APS TELC NONE

JOB # _____ WA # W404321

Statement of Billing # 244

Total Amount Due \$1,837.95

Certification to be completed

I hereby certify that upon construction completion, Cable will fully comply with the applicable rules of the NESC, other codes and requirements, and good engineering design.

By _____

Title _____

Licensee Representative

A License is hereby granted for attachment/modification of Cable to the APS Poles specified on the attached drawing(s), subject to the terms and conditions of the License Agreement referenced above. This License is conditioned upon receipt of Licensee's payment for Make-Ready Work, if any, and any initial Attachment Fee, per the attached invoice. APS shall not perform any Make-Ready Work until receipt of such payment. Licensee shall not attach or modify its facilities until receipt of written authorization from APS and any other Joint Pole Participant, in the form of a release letter. Licensee intends to construct plant within 120 days of receipt of said release. All attachments/modifications are subject to final inspection by APS.

Date 5-5-08

Arizona Public Service Company
By Brenda Beufless

Licensee Cox Cable Phoenix Incorporated

Date _____

By _____

APPLICATION FOR POLE LICENSE OR MODIFICATION TO EXISTING CABLE

ARIZONA PUBLIC SERVICE COMPANY
P.O. BOX 53999 STATION 9505
PHOENIX, ARIZONA 85072-3999

Application/Modification No. TB00002

Date 1/25/2008

(Please fill in top portion for initial submittal)

Town Douglas

Application is hereby made for a License to install, maintain, and operate Cable upon APS Poles as specified on the attached drawing(s) and information sheet.

Licensee Cox Cable Phoenix Incorporated

Number of poles to be reviewed

Agreement No. 95-51292

APS Poles **Telco Poles**

Submitted by MIKI ABATECOLA

9 0

Township **Range** **Quarter** **Section**
20S 22E SW 02

(Please submit separate form for each quarter section)

APPLICATION FOR NEW ATTACHMENT? YES NO

MODIFICATION TO EXISTING CABLE? YES NO

If modification, attached information includes full description of said Modification/New Design.

Actual number of new attachments to APS Poles determined on field survey: 0

Make-Ready Work Required APS TELC NONE

JOB # _____ **WA #** _____

Statement of Billing # 244

Total Amount Due \$264.33

Certification to be completed
 I hereby certify that upon construction completion, Cable will fully comply with the applicable rules of the NESC, other codes and requirements, and good engineering design.
By _____
Title _____

Licensee Representative

A License is hereby granted for attachment/modification of Cable to the APS Poles specified on the attached drawing(s), subject to the terms and conditions of the License Agreement referenced above. This License is conditioned upon receipt of Licensee's payment for Make-Ready Work, if any, and any initial Attachment Fee, per the attached invoice. APS shall not perform any Make-Ready Work until receipt of such payment. Licensee shall not attach or modify its facilities until receipt of written authorization from APS and any other Joint Pole Participant, in the form of a release letter. Licensee intends to construct plant within 120 days of receipt of said release. All attachments/modifications are subject to final inspection by APS.

Date _____

Arizona Public Service Company

By _____

Licensee Cox Cable Phoenix Incorporated

Date _____

By _____

APPLICATION FOR POLE LICENSE OR MODIFICATION TO EXISTING CABLE

ARIZONA PUBLIC SERVICE COMPANY
P.O. BOX 53999 STATION 9505
PHOENIX, ARIZONA 85072-3999

Application/Modification No. TB0003

Date 1/25/2008

(Please fill in top portion for initial submittal)

Town Douglas

Application is hereby made for a License to install, maintain, and operate Cable upon APS Poles as specified on the attached drawing(s) and information sheet.

Licensee Cox Cable Phoenix Incorporated

Number of poles to be reviewed

Agreement No. 95-51292

APS Poles Telco Poles

Submitted by MIKI ABATECOLA

9 0

Township Range Quarter Section
20S 22E SW 02

(Please submit separate form for each quarter section)

APPLICATION FOR NEW ATTACHMENT? YES NO

MODIFICATION TO EXISTING CABLE? YES NO

If modification, attached information includes full description of said Modification/New Design.

Actual number of new attachments to APS Poles determined on field survey: 0

Make-Ready Work Required APS TELC NONE

JOB # _____ WA # _____

Statement of Billing # 244

Total Amount Due \$264.33

Certification to be completed

I hereby certify that upon construction completion, Cable will fully comply with the applicable rules of the NESC, other codes and requirements, and good engineering design.

By _____

Title _____

Licensee Representative

A License is hereby granted for attachment/modification of Cable to the APS Poles specified on the attached drawing(s), subject to the terms and conditions of the License Agreement referenced above. This License is conditioned upon receipt of Licensee's payment for Make-Ready Work, if any, and any initial Attachment Fee, per the attached invoice. APS shall not perform any Make-Ready Work until receipt of such payment. Licensee shall not attach or modify its facilities until receipt of written authorization from APS and any other Joint Pole Participant, in the form of a release letter. Licensee intends to construct plant within 120 days of receipt of said release. All attachments/modifications are subject to final inspection by APS.

Date 5500

Arizona Public Service Company

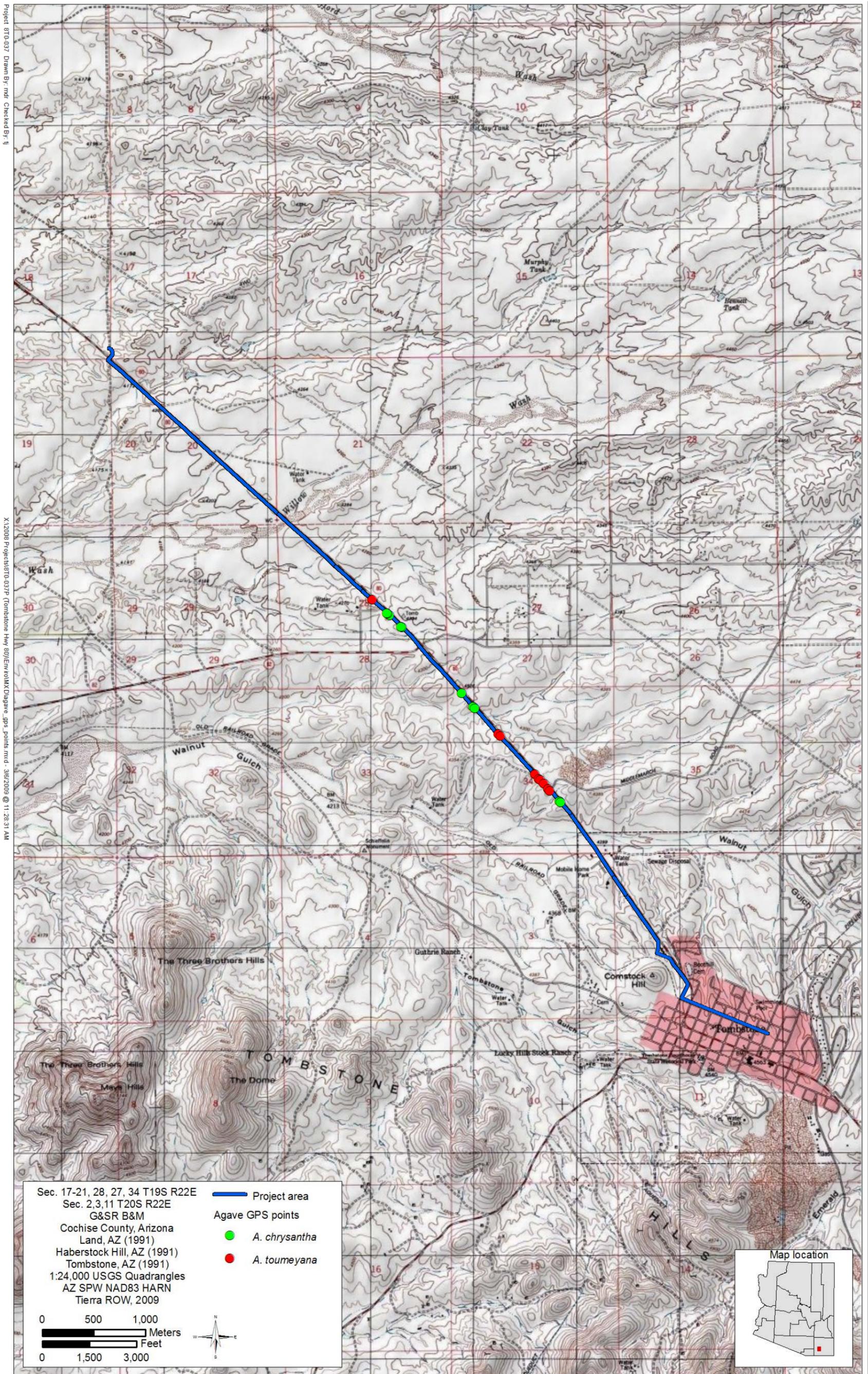
By Brenda Bayler

Licensee Cox Cable Phoenix Incorporated

Date _____

By _____

APPENDIX F
PROJECT CORRIDOR AGAVE LOCATION MAP



APPENDIX G

VEGETATION TO BE DISTURBED ON ASLD LAND AND ESTIMATES OF THE VEGETATION TO BE DISTURBED ON BLM LAND AND IN THE OVERALL CORRIDOR

The following table is based on the analysis that Tierra performed for the Cox Tombstone Highway 80 Native Plant Inventory report submitted to ASLD. All perennial plants in a 10-foot-wide corridor on ASLD land were tallied. Because the vegetation observed in the project corridor was essentially homogenous in species diversity and density and the ASLD portions of the project corridor represented approximately 78 percent of the total corridor, it was determined that reasonably accurate densities (plants per acre) could be calculated from the data collected. These densities were then applied to the total corridor acreage and to the BLM corridor acreage to calculate the estimated numbers of plants to be disturbed by the Proposed Action.

BLM Acres: 0.57

Total Acres: 5.37

ASLD Surveyed Acres: 4.17

Scientific Name	Common Name	No. Surveyed	Density (plant/acre)	Total No. Estimate	BLM No. Estimate
<i>Acacia constricta</i>	White-thorn Acacia	2467	591.61	3177	337
<i>Atriplex canescens</i>	Four-wing Saltbush	38	9.11	49	5
<i>Baccharis sarothroides</i>	Desert Broom	54	12.95	70	7
<i>Coldenia canescens</i>	Shrubby Coldenia	44	10.55	57	6
<i>Condalia wernockii</i>	Warnock's Condalia	97	23.26	125	13
<i>Echinocereus fasciculatus</i>	Hedgehog	1	0.24	1	0
<i>Ephedra trifurca</i>	Ephedra	16	3.84	21	2
<i>Ferocactus wislizenii</i>	Fishhook Barrel	7	1.68	9	1
<i>Flourensia cernua</i>	Tarbush	1209	289.93	1557	165
<i>Fouquieria splendens</i>	Ocotillo	24	5.76	31	3
<i>Gutierrezia sarothrae</i>	Broom Snakeweed	880	211.03	1133	120
<i>Hyptis emoryi</i>	Desert Lavender	29	6.95	37	4
<i>Isocoma tenuisecta</i>	Burrobrush	10	2.40	13	1
<i>Koeberlinia spinosa</i>	Crucifixion Thorn	23	5.52	30	3
<i>Krameria parvifolia</i>	Range Ratany	582	139.57	749	80
<i>Larrea tridentata</i>	Creosote	1686	404.32	2171	230
<i>Lycium pallidum</i>	Wolfberry	35	8.39	45	5
<i>Mimosa biuncifera</i>	Catclaw Mimosa	2	0.48	3	0
<i>Opuntia leptocaulis</i>	Desert Christmas Cactus	9	2.16	12	1
<i>Opuntia santa-rita</i>	Purple Prickly Pear	23	5.52	30	3
<i>Opuntia spinosior</i>	Cane Cholla	22	5.28	28	3
<i>Partbenium incanum</i>	Mariola	536	128.54	690	73
<i>Prosopis glandulosa</i>	Honey Mesquite	62	14.87	80	8
<i>Rhus microphylla</i>	Desert Sumac	88	21.10	113	12

BLM Acres: 0.57

Total Acres: 5.37

ASLD Surveyed Acres: 4.17

Scientific Name	Common Name	No. Surveyed	Density (plant/acre)	Total No. Estimate	BLM No. Estimate
<i>Yucca elata</i>	Soaptree Yucca	65	15.59	84	9
<i>Zinnia acerosa</i>	Desert Zinnia	866	207.67	1115	118
<i>Ziziphus obtusifolia</i>	Graythorn	1	0.24	1	0

APPENDIX H

BLM STUMPAGE FEES

The following table details the stumpage fees for native vegetation to be removed from the project corridor occurring on BLM land. The estimated numbers of each plant to be removed were taken from Appendix G, and the stumpage fees were calculated at rates as specified by ASLD.

Scientific Name	Common Name	Stumpage	Number	Cost
<i>Acacia constricta</i>	Whitethorn Acacia	\$1.00	337	\$337.00
<i>Atriplex canescens</i>	Four-wing Saltbush	\$1.00	5	\$5.00
<i>Baccharis sarothroides</i>	Desert Broom	\$1.00	7	\$7.00
<i>Coldenia canescens</i>	Shrubby Coldenia	\$0.25	6	\$1.50
<i>Condalia warnockii</i>	Warnock's Condalia	\$1.00	13	\$13.00
<i>Echinocereus fasciculatus</i>	Hedgehog	\$2.50	0	\$0.00
<i>Ephedra trifurca</i>	Ephedra	\$2.00	2	\$4.00
<i>Ferocactus wislizenii</i>	Fishhook Barrel	\$3.00	1	\$3.00
<i>Flourencina cernua</i>	Tarbush	\$1.00	165	\$165.00
<i>Fouquieria splendens</i>	Ocotillo	\$3.00	3	\$9.00
<i>Gutierrezia sarothrae</i>	Broom Snakeweed	\$0.25	120	\$30.00
<i>Hyptis emoryi</i>	Desert Lavender	\$1.00	4	\$4.00
<i>Isocoma tenuisecta</i>	Burrobrush	\$0.25	1	\$0.25
<i>Koeberlinia spinosa</i>	Crucifixion Thorn	\$5.00	3	\$15.00
<i>Krameria parvifolia</i>	Range Ratany	\$0.25	80	\$20.00
<i>Larrea tridentata</i>	Creosote	\$2.00	230	\$460.00
<i>Lycium pallidum</i>	Wolfberry	\$1.00	5	\$5.00
<i>Mimosa biuncifera</i>	Catclaw Mimosa	\$1.00	0	\$0.00
<i>Opuntia leptocaulis</i>	Desert Christmas Cactus	\$1.00	1	\$1.00
<i>Opuntia santa-rita</i>	Purple Prickly Pear	\$1.00	3	\$3.00
<i>Opuntia spinosior</i>	Cane Cholla	\$1.00	3	\$3.00
<i>Parthenium incanum</i>	Mariola	\$0.25	73	\$18.25
<i>Prosopis glandulosa</i>	Honey Mesquite	\$5.00	8	\$40.00
<i>Rhus microphylla</i>	Desert Sumac	\$1.00	12	\$12.00
<i>Yucca elata</i>	Soaptree Yucca	\$5.00	9	\$45.00
<i>Zinnia acerosa</i>	Desert Zinnia	\$0.25	118	\$29.50
<i>Ziziphus obtusifolia</i>	Graythorn	\$2.00	0	\$0.00
Total				\$1,230.50