HILGARTWILSON
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INFRASTRUCTURE ASSESSMENT REPORT

FOR

PARADISE RIDGE – PARCEL 6

PHOENIX, ARIZONA

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Project No. 2074.02

EXECUTIVE SUMMARY

The Arizona State Land Department (ASLD) contracted HILGARTWILSON to evaluate the cost of the backbone infrastructure for the development of Paradise Ridge – Parcel 6 (the Project). This Infrastructure Assessment Report is based on a proposed land use plan that has been previously reviewed by ASLD. This proposed land use plan consists of approximately 29.7 acres of a commerce/business park development and associated roadway expansion.

The Project is a single parcel within the greater Paradise Ridge Planned Community District (PCD). ASLD prepared the *Desert Ridge, Paradise Ridge, and Azara Infrastructure Masterplan* (the PCD Masterplan) in 2008, which identified the development's constraints and provided an overview of the various aspects of the PCDs infrastructure including; land use, water, waste water, roadway, and drainage corridor plans. The PCD Masterplan has been utilized to develop several parcels near the Project, and provided preliminary information to assist ASLD in the evaluation and potential disposition of the Project. The findings in this report are based on a review of the due diligence material provided by the Client, correspondence and materials obtained from utility companies and information provided by the City of Phoenix.

The purpose of this study is to present the proposed infrastructure associated with the development of the Project and to provide recommendations for development and a cost analysis of the proposed infrastructure. The total cost of the necessary infrastructure improvements has been preliminarily estimated to be approximately $2,730,000. A summary of the preliminary cost analysis and assumptions are provided in the Total Cost Summary section below.

This report presents several master plans for the Project including the Master Roadway Plan, Master Drainage Plan, Master Water Plan, and the Master Wastewater Plan. The Infrastructure Master Plans provide a framework for the development of the site, and have been prepared in accordance with the Paradise and approved Master Plans and all other relevant plans and standards by the City of Phoenix.

TOTAL COST SUMMARY

Construction costs have been estimated for the major infrastructure items that are currently anticipated for the Project's development. Constructions costs are based on items, quantities, and unit price. Major infrastructure items are shown on the Master Plans. These items include roadway improvements (concrete, pavement, traffic signals, etc.), drainage improvements, water, wastewater, and dry utility costs. Costs have been based off construction costs only and do not consider development impact fees collected by the City of Phoenix, nor impact credits. These costs also do not incorporate soft costs, including engineering and permitting. It should be noted that the Project is located within the North Area Major Arterial Impact Fee Area, and could potentially benefit from reimbursement for the Mayo Boulevard improvements.

ITEM	COST
Paving – Mayo Boulevard	$568,002
Paving – General	$112,000
Drainage	$1,535,750
Water	$19,630
Wastewater	$16,375
Dry Utilities	$5,385
Environmental/Cultural	$225,000
Sub Total	$2,482,142
Contingency (10%)	$248,214
Grand Total	**$2,730,356**

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Infrastructure Report

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1.0 INTRODUCTION

This Infrastructure Assessment Report presents the master infrastructure plans for Paradise Ridge - Parcel 6 (the Project), a single parcel within the Paradise Ridge Planned Community District. The Project consists of approximately 29.7 acres planned for a business or commercial campus located at the northeast corner of 64th Street and Mayo Boulevard in the City of Phoenix (the City), Arizona. Refer to the Vicinity Map (Exhibit 1 of Appendix A).

The Project is bound by Mayo Boulevard to the south, 64th Street to the west, Loop 101 to the north, and a natural wash to the east. The property is located within Section 27, Township 4 North, Range 4 East of the Gila and Salt River Meridian. The Project site is owned by the State of Arizona and managed by the Arizona State Land Department (ASLD) (Client).

This report provides an assessment of the major infrastructure requirements for the Project within the context of existing facilities and the approved PCD Master Plans and based on ASLD's and City of Phoenix's criteria and requirements. The land use and infrastructure master plans are the primary basis for an estimate of major infrastructure costs and development fees. It should be noted that the Infrastructure Master Plans presented in this report are based on the proposed land use, and assumes that per Phoenix Zoning Ordinance Section 626, this site would support up to approximately 300,000 square feet of a commerce/business facility and the associated access to parking and utilities consistent with a facility of this size. The site layout is subject to change and should not be considered final, and the actual cost of development is dependent on the developed land use and site plan.

2.0 LAND USE PLAN

The land use for Paradise Ridge Parcel 6 is based on the PCD Land Use Master Plan. The Project area has been designated as CP/BP (Commerce Park/Business Park) as described within Sections 626 of the City of Phoenix Zoning ordinance are as follows:

Commerce Park Business Park option provides for employment locations such as an office, and permits assembly, warehousing and shipping activities along with retail services selected to support these broader activities. These activities are often on a site providing substantial visual amenities, and which can function in areas close to residential areas as well as with other Commerce Park options.

Table 1 provides a summary of the anticipated land use. The preliminary cost estimate provided in this report is based on the anticipated land use. Actual cost of development is dependent on the developed land use and site plan.

Table 1: Site Data Table

Parcel	Gross Acres	Zoning District	Gross Commercial Leasable Area (Sq. Ft.)	Maximum Building Height
6	29.7	CP/BP	300,000	56’

The Project will also dedicate an additional 2,245 linear feet of Right-Of-Way (ROW) for 64th Street from the existing ADOT traffic interchange at Loop 101 north to Deer Valley Road. The dedication will include applicable slope and drainage easements from the limits of the existing interchange tapering to a minimum 200’ ROW to Deer Valley Road. It should be noted that although the City has stated that the minimum ROW width for this portion of 64th Street is 140’, ASLD has requested HILGARTWILSON extend the minimum width to 200’, as the ultimate 64th Street roadway may need to be constructed to conform to the typical Parkway cross-section. In total, this area is approximately 12.5 acres. Additionally, the Project will dedicate a ROW taper from the 66th Street curb return on the northwest corner of 66th Street and Mayo Boulevard to the existing 66th Street eastern half-street ROW, approximately 0.11 acres. Although the 64th Street and 66th Street ROW areas shall be dedicated with this parcel, the developer will not be responsible for any construction associated with future improvements within these two areas. The limits of the ROW dedications are illustrated in Plan 1 and Plan 2. The 66th Street Legal Description provided in Appendix D is only an approximation, and the final ROW location, configuration, and acreage are to be determined by future design work. Any ROW not utilized shall revert back to ASLD ownership.

It should be noted that in addition to the aforementioned ROW dedications, approximately 333 additional acres of undeveloped land north of Loop 101 are to be dedicated with this Project. The approximate limits of the ROW are shown in Plan 2 and an exhibit included in the excerpts of the *Rawhide Wash Channelization Design Concept Report (DCR)* in Appendix D. Although the ROW shall be dedicated with this parcel, the developer will not be responsible for any construction associated with the proposed improvements to the Rawhide Wash corridor. It should be noted that the ROW area to be dedicated with this parcel

represents a conservative approximation of the area which may be utilized by the future channelization improvements, and the actual ROW required for the final channel corridor is anticipated to require a smaller footprint. In the aforementioned DCR, AECOM delineated approximately 129.91 acres to be required for the future channelization corridor ROW, as illustrated in Plan 2. This area delineated by AECOM does not represent the final ROW limits, as the ultimate location, configuration, and acreage are to be determined by future design work for the Rawhide Wash Flood Control Project. Any ROW not utilized shall revert back to ASLD ownership.

3.0 EXISTING SITE CONDITIONS

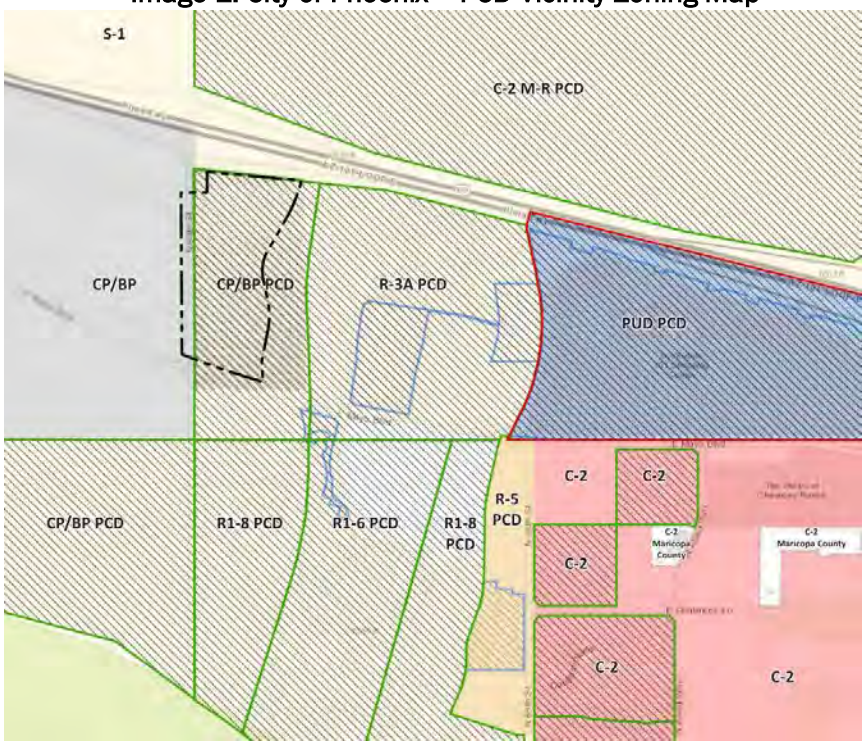
Currently, the Project is predominantly undeveloped desert land draining to the south at approximately 1%. Topographic mapping reference two sources used to determine surface elevations for the Project. Topographic data was obtained from the FCDMC on May 19th, 2016 and data obtained from Survey Innovation Group, Inc. (SIG) collected in July 2015. Survey data of various monuments, benchmarks, and culvert invert elevations were also collected by HILGARTWILSON in June, 2016 used in the modeling analysis as well as to confirm elevations from the FCDMC and SIG. The mapping contains detailed topography at 1-foot intervals and if not originally, all collected contour data was converted to National Geodetic Vertical Datum of 1929 (NGVD 29).

An NSPS/ALTA Land Title Survey was prepared by Wood, Patel & Associates in December, 2019. The ALTA survey identifies rights-of-way, easements, and improvements on and adjacent to the Project. The survey reflects the drainage easement along the eastern side of 64th Street along with various utility easements around the Project site.

3.1 ZONING

The Project is currently Zoned S-1 (Ranch or Farm Residence), but was approved for Zone CP/BP (Commerce Park/Business Park) as described previously. The approval of Rezoning Case No. Z-87-03 established the zoning districts as part of the Paradise Ridge PCD. The City uses districts to establish zoning and the corresponding development standard. The land use district CP/BP dictates the permitted uses and minimum development standards.

Image 1: City of Phoenix – PCD Vicinity Zoning Map



The CB/BP zoning district permits several uses. Some of the more frequently utilized permitted uses, among other, are listed below:

- Offices for professional use or for administrative, clerical, or sales services
- Research Laboratories
- Warehousing
- Financial institutions

3.2 TRANSPORTATION

The northern boundary of the site is formed by the on ramp to eastbound Loop 101, and has been fully constructed. There is no available access to the site from Loop 101. The western boundary of the site is formed by 64th Street which has been built to the full width as planned per the City's regional transportation plan, while Mayo Boulevard, which forms the southern boundary of the site, is only partially improved. Currently, the southern half of Mayo Boulevard (eastbound) has been constructed to include two primary lanes, a bike lane, and curb and gutter improvements. The northern half-street (westbound) consists of a single primary lane and a right-turn lane (to 64th Street) which begins at the southeast corner of the site. Southbound traffic from 64th Street must continue east or west on Mayo Boulevard, as the roadway does not continue south of the intersection. Traffic at the intersection is controlled by interim condition traffic signals. Existing road conditions are shown in Plan 1 of Appendix B.

3.3 DRAINAGE

As described previously, the Project and the surrounding area generally drains to the south. Runoff generated north of Loop 101 is conveyed underneath the roadway through several existing culverts, shown in Plan 3. The majority of this runoff drains south in a channel forming the eastern boundary of the property, to an existing culvert crossing consisting of three (3) – 40" W x 52" H elliptical corrugated metal pipes, which convey the flow within the channel beneath the roadway, ultimately discharging south of Mayo Boulevard. It should be noted that during larger storm events, the capacity of this culvert crossing is exceeded, and runoff overtops Mayo Boulevard. The excess flows continue south across the roadway, ultimately draining back to the channel on the south side of Mayo Boulevard.

One existing culvert conveys a portion of the runoff generated north of Loop 101 beneath the roadway, discharging near the northern boundary of the site, where the runoff drains southwest through the site as shallow unconcentrated flow. A series of channels, basins and culverts located immediately east of 64th Street manage the runoff generated by the adjacent half-street. Under existing conditions, the aforementioned runoff draining through the site breaks over into these channels. Flows captured within the existing channels and basins are conveyed beneath 64th Street, ultimately discharging southwest of the intersection of 64th Street and Mayo Boulevard. Existing drainage infrastructure and flow patterns are illustrated in Plan 2 of Appendix B.

3.3.1 DRAINAGE WAYS

The *Pinnacle Peak West Area Drainage Master Study* (ADMS) was prepared by JE Fuller in June 2013 on behalf of the FCDMC that details the regional hydrologic and hydraulic conditions which included the Project

area. The ADMS determined that a flow of 1,988 cfs are conveyed in the existing wash along the eastern boundary of the Project. The wash has been designated as a 404 Natural Wash Corridor #66 in the PCD Wash Corridor Plan. This wash is one of many such drainage ways in the vicinity which provide a means of routing regional flows to the historic outfall at the Bureau of Reclamation Reach 11.

3.3.2 EXISTING FLOODPLAIN DESIGNATIONS

The Property is located within the Federal Emergency Management Agency's (FEMA) Special Flood Hazard Area (SFHA) Zone AO as delineated on the FEMA Flood Insurance Rate Maps (FIRMs) panel numbers 04013C1315L and 04013C1320L, revised October 16, 2013, which are presented in Exhibit 2 (FEMA FIRM).

Special Flood Hazard Areas:

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

Zone AO:

The flood insurance rate zone that corresponds to areas subject to inundation by 1-percent annual chance (100-year storm event) shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown in this zone.

3.4 POTABLE WATER

Paradise Ridge Parcel 6 lies within the City of Phoenix's pressure zone 5E. The water infrastructure needs for this area are based on the City of Phoenix Water Master Plan, the PCD Masterplan Potable and Non-Potable Water Plans (included in Appendix D), and discussions with the City of Phoenix water department staff. A description of the existing water infrastructure is provided below.

3.4.1 WATER SOURCE

The nearest available source for water is the Union Hills Water Treatment Plant. The existing Union Hills Water Treatment Plant (UHWTP) will provide water to the Paradise Ridge development area through a network of existing and proposed water infrastructure.

3.4.2 WATER TRANSMISSION MAINS

The City of Phoenix has a looped water system where most of the pressure zones are interconnected by booster pumps and pressure reducing valves (PRV). However, each pressure zone has a dedicated water infrastructure system which can function as an isolated subsystem. Per discussion with the City and investigations of as-built documentation, there are several

existing water mains in the vicinity of the project. A 12-inch DIP water distribution main is located within Mayo Boulevard, and a 16-inch DIP water distribution main is being installed within Mayo Boulevard from 64th Street to the west, ending at the western property line. The City has identified an existing 24-inch water transmission main within Mayo Boulevard and a 24-inch water transmission main stub within 64th Street which may not be utilized for the Project.

There are currently no connection points or water taps to the Project site. No additional water main extensions or upsizing are anticipated to be required for the development of the site. Existing water infrastructure is illustrated in Plan 3.

3.5 WASTEWATER

The Paradise Ridge Parcel 6 conceptual wastewater plan is based on the existing sewer network in the vicinity, the City of Phoenix Wastewater Master Plan, and the PCD Masterplan Wastewater Plan. There is an existing 15-inch sewer main located within Mayo Boulevard, although there are no existing sewer taps or connections to the site, and no extensions or upsizing of sewer mains are anticipated to be required for the development of the site. Existing wastewater infrastructure is illustrated in Plan 4.

3.6 ENVIRONMENTAL CONDITIONS

Reviews were completed to identify existing conditions and preliminary environmental compliance needs for consideration during development. The findings are discussed below.

3.6.1 SECTION 404 PERMITTING

The Project is located within the administrative area of ASLD's Paradise Ridge Master Planned Development Section 404 Permit (Permit) (File No. 1999-16129-RWF) held with the US Army Corps of Engineers (USACE). Development within the Project area will require compliance with the Permit terms and conditions and the corresponding Habitat Mitigation and Monitoring Plan (HMMP). The eastern boundary of the Project includes Mitigation Corridor No. 66.

The HMMP indicates that this mitigation corridor is to be preserved in place and essentially undisturbed. If a future transferee chooses to complete permittee-responsible mitigation for impacts to the mitigation corridor, rather than the purchase of mitigation bank credits or the payment of in-lieu fees, compliance with the HMMP will be necessary. Ultimately, the land owner will be required to record a restrictive covenant to ensure the long-term preservation of the corridor. Alternately, the reissued Permit (May 2, 2017), allows the option to purchase of mitigation bank credits or payment of in-lieu fees at an approximate 4.95 acres to 1 acre ratio to the area of the mitigation corridor (February 2016 modification. Mitigation bank credits or the payment of an in-lieu fee could be used to comply with the Permit and relieve future legal and management requirements associated with the preservation and maintenance of the mitigation corridor.

When title to the project area is transferred to a developer or other third party, the Permit requires transfer validation forms acknowledging acceptance and required compliance with the terms and conditions. Transfer forms are included in the CD Appended with this report.

3.6.2 CULTURAL RESOURCES

In consultation with the Arizona State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (ACHP), the USACE determined that issuance of the Permit may have an adverse effect on historic properties that have been previously identified and evaluated within the Permit planning area. These historic properties include Site AZ U:5:33(ASM), also known as the Last Ditch Site, which overlies the Project area. The Last Ditch Site area is illustrated in Exhibit 3 of Appendix A.

ASLD has completed test excavations at the Last Ditch to evaluate the nature and extent of subsurface deposits. These excavations are documented in the report titled *Archaeological Testing Results and Treatment Plan for the Last Ditch Site, AZ U:5:33(ASM), Phoenix, Arizona* (2007). In addition to reporting the results of the test excavations, the report presented a Historic Properties Treatment Plan (HPTP) for data recovery excavations. The HPTP identified Data Recovery Areas where additional excavation would be required prior to ground disturbance.

A Programmatic Agreement (PA) developed by the USACE, ASLD, and SHPO includes responsibilities under the National Historic Preservation Act and the Arizona State Historic Preservation Act. Fulfillment of the stipulations of the PA are required as a condition of the Permit. Per the PA, ASLD must consult with SHPO and USACE prior to disposing, leasing or permitting of lands within the Permit planning area. ASLD or a transferee must continue consultation with SHPO and USACE regarding the proposed disposition of the historic properties and execution of the HPTP.

3.6.3 PHASE I ENVIRONMENTAL SITE ASSESSMENT

A Phase I Environmental Site Assessment (ESA) was prepared in general accordance with the scope and limitations of ASTM E1527-13 (HILGARTWILSON, 2019c). A site reconnaissance and other measures required by the ASTM standard were conducted to evaluate the potential for recognized environmental conditions to occur. The Phase I ESA concluded that the site and adjacent parcels do not contain Recognized Environmental Conditions.

3.6.4 BIOLOGICAL RESOURCES

The Project is located within the Basin and Range Physiographic Province. Extending through much of the central western U.S. and into Sonora, Mexico, this province is characterized by rugged, generally north-south trending mountains interspersed with broad and flat alluvial valleys.

The Project lies in a broad, alluvial valley between the McDowell Mountains to the east and the Union Hills to the northwest. Elevation varies from approximately 1,590 feet at points along the northern boundary of the Project to approximately 1,570 feet at the southern boundary, with an average slope toward the south of around 1 percent.

The Project is within the Lower Colorado River subdivision of the Sonoran Desert Scrub biotic community, as defined by Brown.[1] The Lower Colorado River subdivision is the hottest and driest of the Sonoran desertscrub subdivisions. With competition for water, plants are widely spaced and are generally more concentrated along drainage channels. Characteristic plants include creosotebush (*Larrea tridentata)*, white bursage (*Ambrosia dumosa*), ocotillo (*Fouquieria splendens*), brittlebush (*Encelia farinosa*), catclaw acacia (*Senegalia greggii*), cholla (*Cylindropuntia* spp.), desert saltbush (*Atriplex* spp.), and pricklypear (*Opuntia* spp.) and mixed, more diverse vegetation along washes including velvet mesquite (*Prosopis velutina*), desert willow (*Chilopsis linearis*), ironwood (*Olneya tesota*), and blue and foothills palo verde (*Parkinsonia* spp.). Project vegetation includes sparse creostobush and brittlebush with denser corridors of mesquite, blue and foothills paloverde, and ironwood along the ephemeral drainage features. No wetlands or other special aquatic sites are present.

HILGARTWILSON conducted a query of the U.S. Fish and Wildlife Service Information (USFWS) for Planning and Conservation (IPaC) online database to identify federally listed species that have the potential to occur within the Project area. The IPaC report lists three threatened and endangered species that have the potential to occur: California least tern (*Sterna antillarum browni),* yellow-billed cuckoo (*Coccyzus americanus*), and desert pupfish (*Cyprinodon macularius*). The Project area does not contain suitable habitat for these species, and thus, no federally listed species would occur in the project area. In addition, there is no critical habitat on or near the Project area.

Prior to development, compliance with Arizona Native Plant law would be required. This entails a Notice of Intent to Clear Land, and a review of Arizona protected native plants on the Project area. Protected species are anticipated to include cacti, yucca, ironwood, palo verde, and mesquite. In most cases, salvage or destruction of protected plants can be coordinated through the Arizona Department of Agriculture.

3.7 GEOLOGICAL CONDITIONS

HILGARTWILSON gathered available information from the Arizona Geological Survey, the National Resources Conservation Service (NRCS) Soil Survey (USDA NRCS, 2020) and geotechnical evaluations performed in the surrounding area to gain an understanding of the existing conditions of the Project's geology. Based upon the available information, HILGARTWILSON does not anticipate any unique geological

[1] Brown, D. E. (1994). *Biotic Communities of the Southwestern United States and Northern Mexico.* Salt Lake City, Utah: University of Utah Press.

conditions. Development in the area has been able to proceed using conventional engineering and construction means. However, the specifics of what will be needed for the Project will not be known until a full geotechnical investigation is prepared for the site. It is recommended that a geotechnical report be prepared by a geotechnical firm that specializes in commercial development.

4.0 ESTIMATED CONSTRUCTION COSTS

Construction costs have been estimated for the major infrastructure items that are currently anticipated for the Project's development. Constructions costs are based on items, quantities, and unit price. Major infrastructure items are shown on the Master Plans (Plans 1-5 of Appendix B). These items include roadway improvements (concrete, pavement, traffic signals, etc.), drainage improvements, water, wastewater, and dry utility costs. A summary of the costs is included in Table 2 below.

Table 2: Summary of Infrastructure Costs

ITEM	COST
Paving – Mayo Boulevard	$568,002
Paving – General	$112,000
Drainage	$1,535,750
Water	$19,630
Wastewater	$16,375
Dry Utilities	$5,385
Environmental/Cultural	$225,000
Sub Total	$2,482,142
Contingency (10%)	$248,142
Grand Total	**$2,730,356**

Costs have been based off construction costs only and do not consider development impact fees collected by the City of Phoenix, nor impact credits. These costs also do not incorporate soft costs, including engineering and permitting. It should be noted that the Project is located within the North Area Major Arterial Impact Fee Area, and could potentially benefit from reimbursement for the Mayo Boulevard improvements. The preliminary infrastructure cost estimate is included in Appendix C.

5.0 INFRASTRUCTURE MASTER PLANS

The Infrastructure Master Plans described in the sections below provide a framework for the development of the Project. The master plans have been prepared in accordance with the PCD Masterplans and all other relevant plans and standards by the City of Phoenix. As described previously, the conceptual site plan used for developing a preliminary cost analysis is based on the proposed commerce/business park. The actual cost of development will reflect the future developed land use and site layout. All assumptions made for the Infrastructure Master Plans are explained in the following sections.

5.1 MASTER ROADWAY PLAN

The Project is located immediately south of Loop 101, however no direct access is proposed from the site, and no additional roadway improvements are anticipated. As stated in Section 3.2 of this report, 64th Street has already been constructed to the full width per the City of Phoenix Street Classification Map. At this time, no access to the site is planned off of 64th Street, and no additional improvements are required. In the event that a future owner desires an access point from 64th Street, the owner and/or developer will be required to coordinate with the City Transportation Division and ADOT. Although there is no construction anticipated, approximately 2,245 linear feet of ROW shall be dedicated for the future extension of 64th Street north of the Loop 101 interchange. The ROW shall extend from the ADOT traffic interchange north to Deer Valley Road, tapering from the existing interchange to a minimum of 200' wide. Similarly, a portion of the ROW area planned for the western half-street of 66th Street shall be dedicated with the Project, but the developer of this parcel shall not be responsible for improvements in these areas. This ROW area is tapered from the 66th Street curb return on the northwest corner of 66th Street and Mayo Boulevard to the existing 66th Street eastern half-street ROW. The anticipated roadway improvements and ROW dedication are shown on Plan 1 and Plan 2.

As described in Section 3.2, Mayo Boulevard has not been constructed to the City Street Classification Map specifications. Mayo Boulevard shall be expanded to reflect the typical Major Arterial Road cross section, including a 24' wide landscaped median island, 40' paved roadway, a 5' sidewalk set back 8' from the back of curb, and a 20' landscaped tract. A typical roadway cross section is included in Plan 1. The improved Mayo Boulevard roadway will extend from 64th Street to 66th Street. Additional roadway improvements include a deceleration and turn lane for both east and westbound traffic associated with a driveway providing access to the site from Mayo Boulevard. In general, the proposed deceleration and turn lanes have been located considering setbacks from the intersections to benefit the addition of access to adjacent parcels which may be developed in the future. All improvements to adjacent roadways shall include a gutter and vertical curb, applicable ADA improvements, street lighting, signing, and striping. It should be noted that the location and extent of roadway improvements are for illustrative purposes only, and the future owner and/or developer could modify the design with City approval.

Traffic at the intersection of 64th Street and Mayo Boulevard is currently managed through a traffic light system suspended over the lanes. The development is responsible for reconstructing the traffic signals to account for the expanded

roadway. Additionally, a traffic study must be prepared to account for the additional local traffic and to maximize efficiency of the proposed signal timing. Applicable signage must be provided in compliance with Table D-1 in Section 705 of the City of Phoenix Municipal Code.

5.2 MASTER DRAINAGE PLAN

The area north of Loop 101 is generally native desert land, draining southwest as sheet flow or concentrated in wash corridors. As mentioned previously, the site and the surrounding area are within FEMA SFHA Zone AO. The City, FCDMC, and ASLD are currently involved in efforts to design a channel system to control the storm event flows in this area, potentially leading to the removal of the Project from the effective floodplain. This plan is documented in the *Rawhide Wash Channelization Design Concept Report (DCR)*, prepared by AECOM in August, 2019. As illustrated in the DCR, the area planned for channelization is entirely located north of Loop 101, and will utilize existing culvert crossings to convey the flows to the south side of the roadway. The wash immediately east of the Project will continue to convey the offsite flows south consistent with existing conditions. Therefore, the proposed channelization is not anticipated to result in a significant impact to the Project. In the event that the channel is not constructed prior to the development of the Project, and the effective FEMA flood zones are not revised, all constructed buildings must be elevated at least two feet above the highest adjacent natural grade in order to comply with FEMA regulations. As noted previously, approximately 333 acres of ROW shall be dedicated with this parcel for the Rawhide Wash channelization project, but the developer shall not be responsible for any improvements associated with the project. As described previously, the actual ROW required for the final design of the channelization is anticipated to be much smaller than the area dedicated with this parcel, and any excess ROW shall revert to ASLD ownership.

The wash forming the eastern boundary of the site conveys approximately 1,988 cfs, and has been designated a 404 jurisdictional mitigation corridor. Erosional protection measures may be required, but are dependent upon the extent of the future development of the parcel and therefore is not included in the preliminary cost analysis. However, if the development grading is required to extend into the 404 wash area, the developer shall coordinate directly with ASLD. The wash conveys the offsite runoff discharged from culverts south of Loop 101 to an existing culvert crossing at Mayo Boulevard. The existing culvert crossing consists of three (3) – 40” W x 52” H elliptical corrugated metal pipes. According to the hydraulic analysis prepared by HILGARTWILSON in *The Master Drainage Report for Paradise Ridge PCD FS6*, the runoff splits as it approaches Mayo Boulevard, and approximately 1,075 cfs continues in the channel to the culvert crossing, while 913 cfs breaks east toward the Camden Mayo development and overtops Mayo Boulevard at a low point in the roadway. The existing culvert conveys a maximum of approximately 226 cfs below the roadway, while the remaining flows break over Mayo Boulevard and continue to drain south. In order to minimize the potential for the flows within the channel to overtop Mayo Boulevard, the existing culvert should be replaced or supplemented with culverts capable of providing a dry crossing for Mayo Boulevard. Previous analysis has indicated that six (6) – 10’W x 6’H box culverts could have the potential to convey the offsite flows without overtopping the roadway. It is anticipated that the

existing culvert crossing will be removed and a culvert with adequate capacity to convey these offsite flows beneath the roadway will be constructed with the Project.

As described previously, an existing system of channels, basins and culverts are located immediately east of 64th Street to manage runoff generated within the eastern half-street. Under existing conditions, a small portion of runoff which currently drains southwest through the site also enters the channel system. One channel extends nearly the length of the adjacent half-street, discharging runoff to a small stilling basin. This basin directs flows through a 4' x 6' box culvert which conveys flows west under the roadway, discharging immediately west of 64th Street. The second channel begins immediately south of the aforementioned basin, continues to a culvert which similarly discharges flows via 2-30" concrete pipe culverts immediately west of 64th Street. Each existing channel has 6:1 side slopes adjacent to 64th Street, an 8' bottom width, and 4:1 side slopes adjacent to the Project. Runoff within the roadway is intercepted by a pair of catch basins located immediately north of the 2-30" culvert crossing. The existing drainage infrastructure along 64th Street is not anticipated to be modified as a result of the Project.

5.2.1 RETENTION REQUIREMENTS

It is anticipated that runoff generated onsite will be primarily managed by a storm drain network. Inlets will be located at low points located throughout the site, which will remove runoff from the surface, and discharge to an onsite retention system. Retention facilities may consist of surface basins, underground tanks, or a combination of surface and subsurface storage. Generally, the City requires the runoff generated onsite during a 100-year, 2-hour design storm to be retained. Due to the Project's proximity to a major regional drainage corridor, a reduced retention waiver could be pursued by the developer. The surrounding developments have pursued such a waiver and were subsequently approved. While the possibility of reduced retention requirements has not been considered in the preliminary cost analysis, the ability to pursue such a waiver has the potential to provide significant savings to the cost of development. If approved, the required infrastructure and footprint devoted entirely to retention is greatly reduced, and the associated costs of maintaining underground tanks and fewer drywells adds great value to the site.

5.3 MASTER WATER PLAN

As described in Section 3.4, an existing 12" DIP water distribution main is located within Mayo Boulevard adjacent to the Project. Per City Design Standards, a commercial site such as the proposed development utilizes an average daily flow of 115 gallons per 1000 square feet. The proposed water infrastructure to serve the Project will consist of an onsite looped 8" water main connecting to the existing 12" line at two locations along the southern boundary of the site. The upstream connection is located near the proposed driveway, while the downstream connection is located approximately 380' to the west. Backflow preventers will be installed where the proposed water main both enters and exits the site. The proposed water infrastructure has been preliminarily sized to serve the projected domestic and fire-flow demands, and satisfy the City's design criteria. Per City correspondence and

investigation, the existing water main will not require extension or increased pipe size to account for the increased demand associated with the Project. The existing and proposed water infrastructure are shown in the Master Water Plan, Plan 4.

5.4 MASTER WASTEWATER PLAN

The Project is located within the City of Phoenix wastewater service area. An existing 15" sewer main is located with Mayo Boulevard. A proposed 8" sewer main connects to the existing 15" line near the proposed driveway on Mayo Boulevard and the proposed upstream water main connection described above. The proposed 8" line will service the entire Project and has been sized accordingly. Per City correspondence and investigation, the existing 15" sewer main does not require an extension or an increase in pipe size to account for the increased flow associated with the Project. All onsite sewer infrastructure has been designed in accordance with the City's design criteria. The existing and proposed sewer infrastructure are shown in the Master Wastewater Plan, Plan 5.

6.0 CONCLUSIONS

HILGARTWILSON is of the opinion that the proposed Project is well suited for development with no major impediments to development.

7.0 REFERENCES

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PaleoWest. (2020). *Paradise Ridge Parcel 6, Archaeological Site Mitigation for AZ U:5:33(ASM), the Last Ditch Site*. June 12, 2020. Phoenix, Arizona.

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APPENDIX A
EXHIBITS

LEGEND

PROJECT LOCATION

0 1,000' 2,000'

North Scale: 1"=2,000'

PARADISE RIDGE-PARCEL 6 APR 2020

EXHIBIT 1 - VICINITY MAP Proj. 2074

HILGARTWILSON
ENGINEER | PLAN | SURVEY | MANAGE

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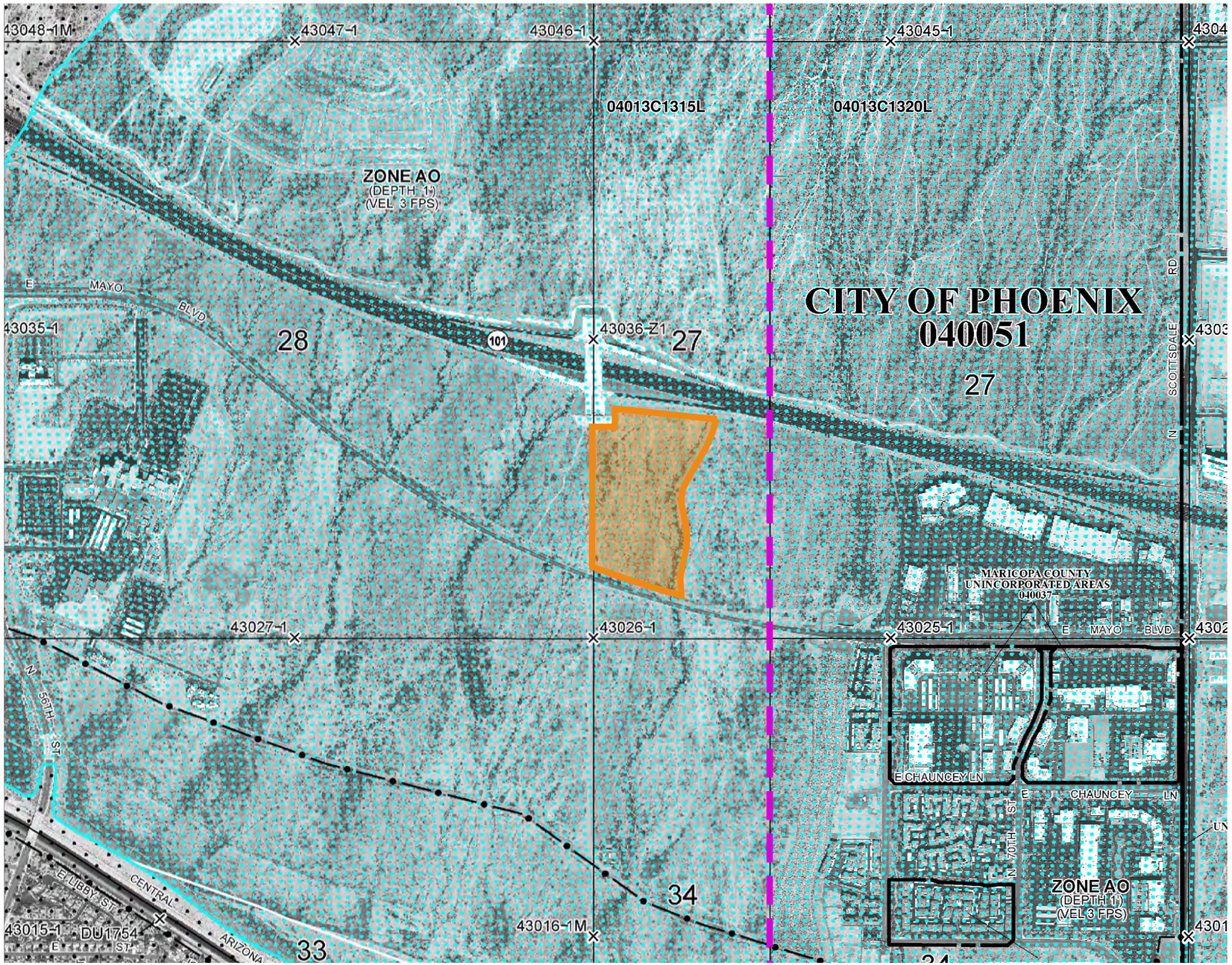

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1315L

FIRM
FLOOD INSURANCE RATE MAP
MARICOPA COUNTY, ARIZONA
AND INCORPORATED AREAS

PANEL 1315 OF 4425
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PHOENIX, CITY OF	040051	1315	L

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
04013C1315L

MAP REVISED
OCTOBER 16, 2013

Federal Emergency Management Agency

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1320L

FIRM
FLOOD INSURANCE RATE MAP
MARICOPA COUNTY, ARIZONA
AND INCORPORATED AREAS

PANEL 1320 OF 4425
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1320	L
PHOENIX, CITY OF	040051	1320	L
SCOTTSDALE, CITY OF	045012	1320	L

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
04013C1320L

MAP REVISED
OCTOBER 16, 2013

Federal Emergency Management Agency

LEGEND

PROJECT LOCATION

FEMA MAP LIMITS

North

0 100' 200'

Scale: 1"=200' (11 x17)

PARADISE RIDGE - PARCEL 6

APR2020

Proj. 2074

EXHIBIT 2 - FEMA FLOOD MAP

HILGARTWILSON
ENGINEER | PLAN | SURVEY | MANAGE

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Page 25 of the **Infrastructure Assessment Report for Paradise Ridge - Parcel 6** contains restricted cultural resource information. To request access to this information, please contact ASLD's Cultural Resource Manager.

APPENDIX B
MASTER PLANS

64TH ST ROW TO BE DEDICATED NORTH TO DEER VALLEY ROAD (SEE PLAN 2)

ARIZONA 101

EXISTING 24' MEDIAN

ROW LIMITS PER STATE LAND ROW #16-115118

INTERIM INTERSECTION TRAFFIC SIGNAL TO BE RECONSTRUCTED

APPROXIMATE LIMITS OF 66TH ST ROW DEDICATION

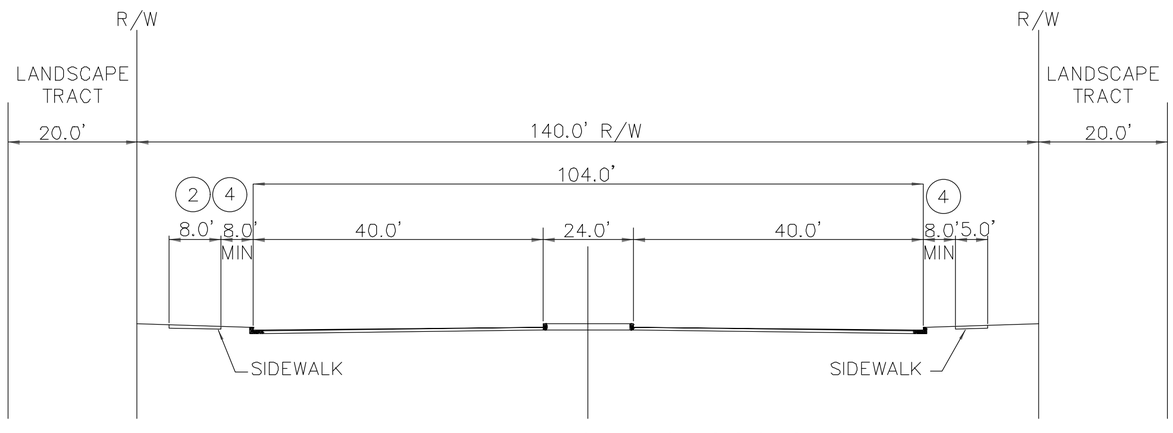
POTENTIAL DRIVEWAY LOCATION

DECEL LANE

HALF-STREET IMPROVEMENTS INCLUDING 24' MEDIAN

MAYO BOULEVARD

70' ROW ON EACH SIDE OF CENTERLINE PER STATE LAND ROW #16-101147



MAJOR ARTERIAL ROAD CROSS-SECTION

NTS

LEGEND

PROJECT BOUNDARY

RIGHT-OF-WAY DEDICATION

EXISTING ROW LIMITS

North

0 75' 150' 300'

Scale: 1"=150'

PARADIS RIDGE - PARCEL 6

MAY 2020

Proj. 2074

PLAN 1: MASTER STREET PLAN

HILGARTWILSON

ENGINEER | PLAN | SURVEY | MANAGE

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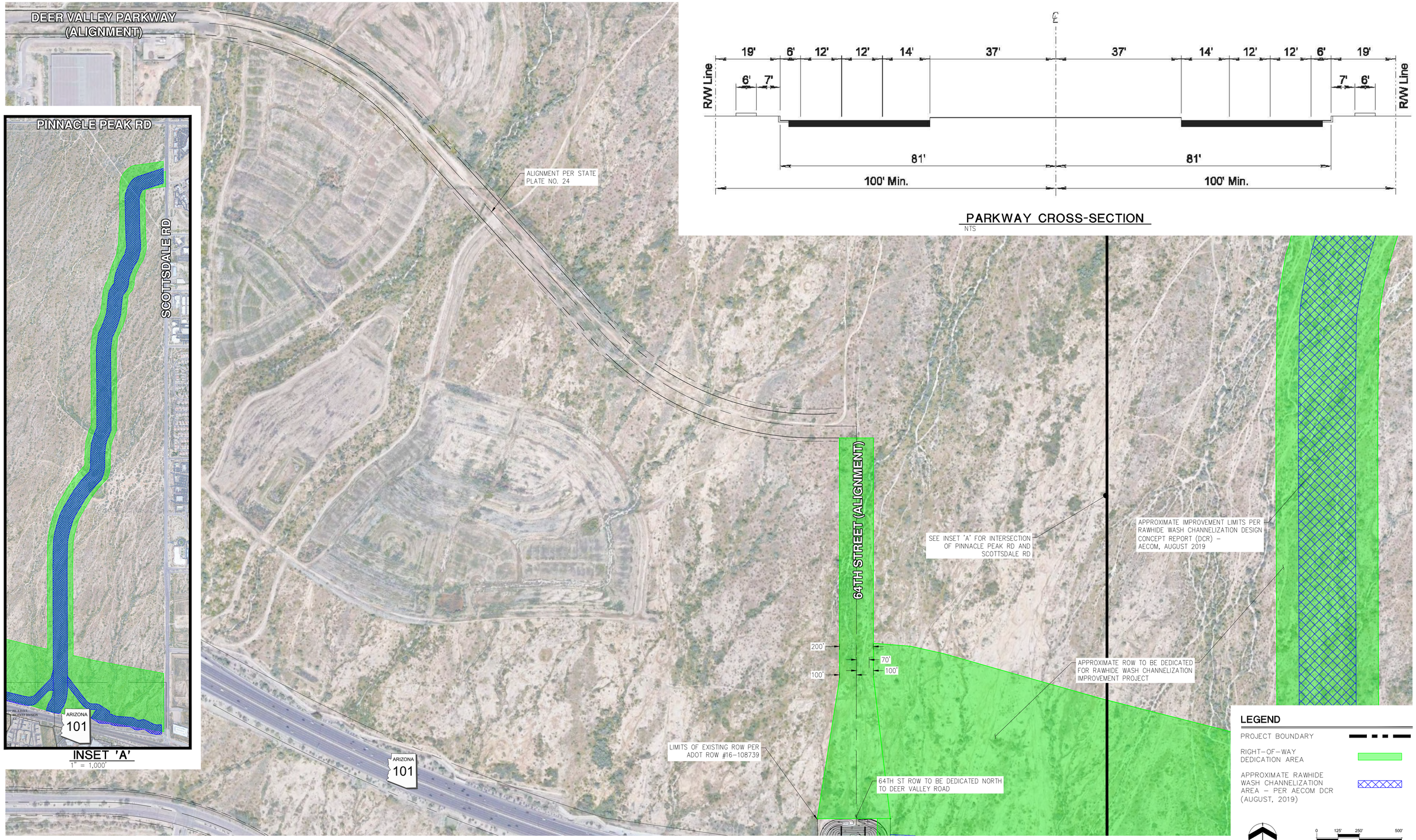

PARKWAY CROSS-SECTION
NTS

PARADISE RIDGE - PARCEL 6

JUL 2020

Proj. 2074

PLAN 2: PROPOSED RIGHT-OF-WAY DEDICATION - 64TH STREET & LOOP 101 TO DEER VALLEY ROAD

HILGARTWILSON
ENGINEER | PLAN | SURVEY | MANAGE

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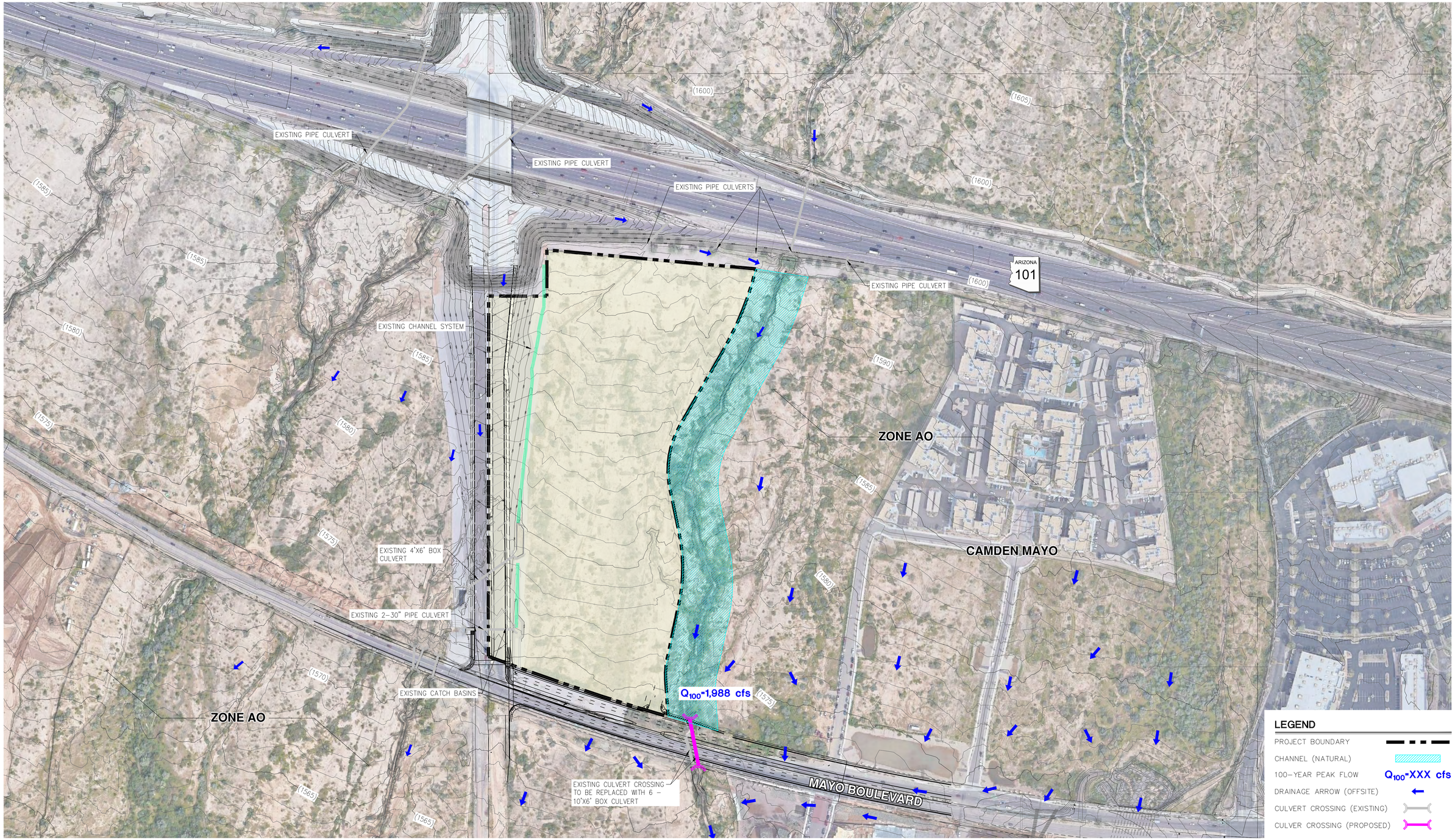

LEGEND

PROJECT BOUNDARY	
CHANNEL (NATURAL)	
100-YEAR PEAK FLOW	Q_{100}=XXX cfs
DRAINAGE ARROW (OFFSITE)	
CULVERT CROSSING (EXISTING)	
CULVER CROSSING (PROPOSED)	

North

0 75' 150' 300'

Scale: 1"=150'

PARADISE RIDGE - PARCEL 6

MAY 2020

Proj. 2074

PLAN 3: MASTER DRAINAGE PLAN

HILGARTWILSON
ENGINEER | PLAN | SURVEY | MANAGE

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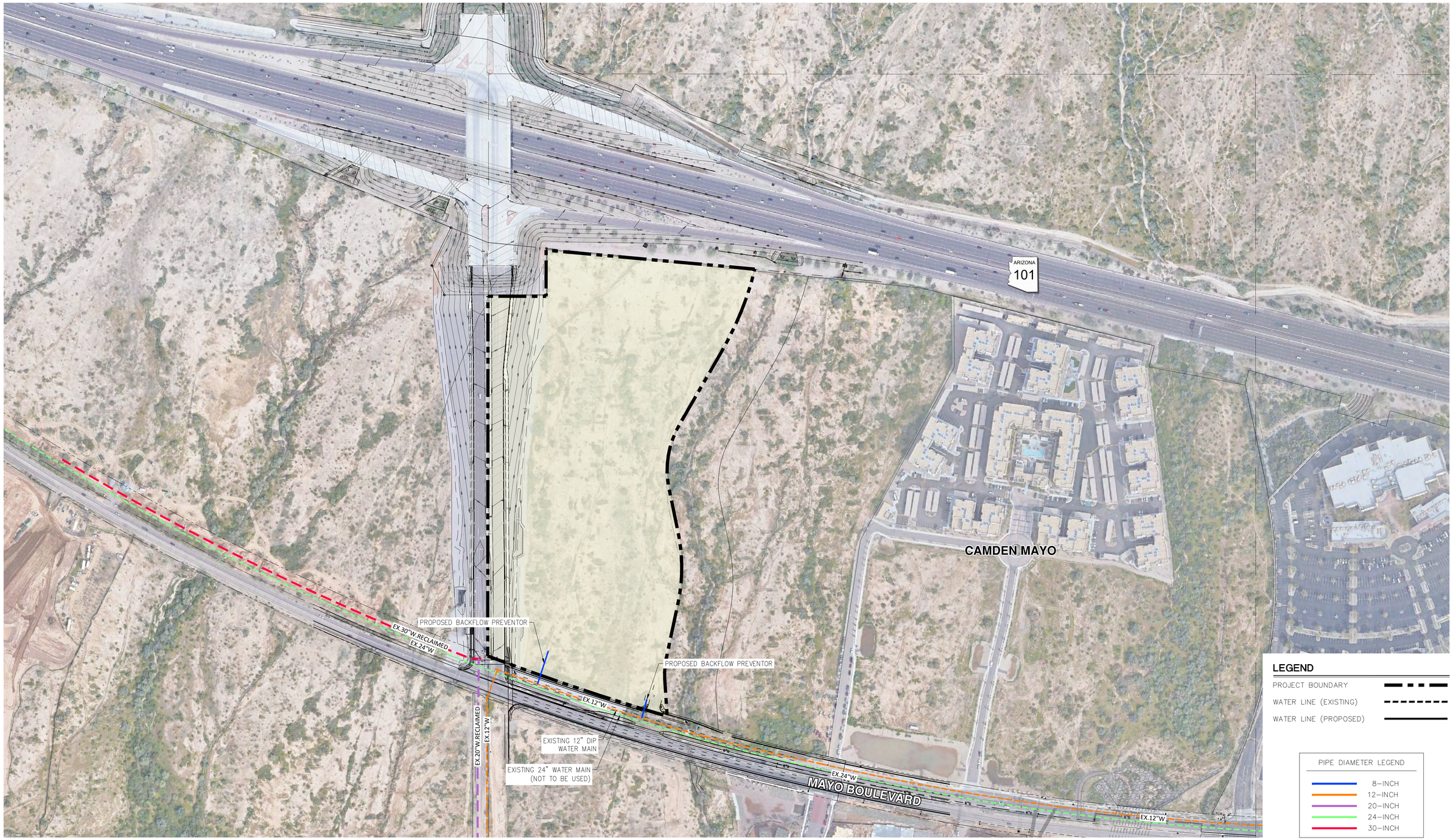

PARADISE RIDGE - PARCEL 6

MAY 2020

Proj. 2074

North

Scale: 1"=150'

PLAN 4: MASTER WATER PLAN

HILGARTWILSON
ENGINEER | PLAN | SURVEY | MANAGE

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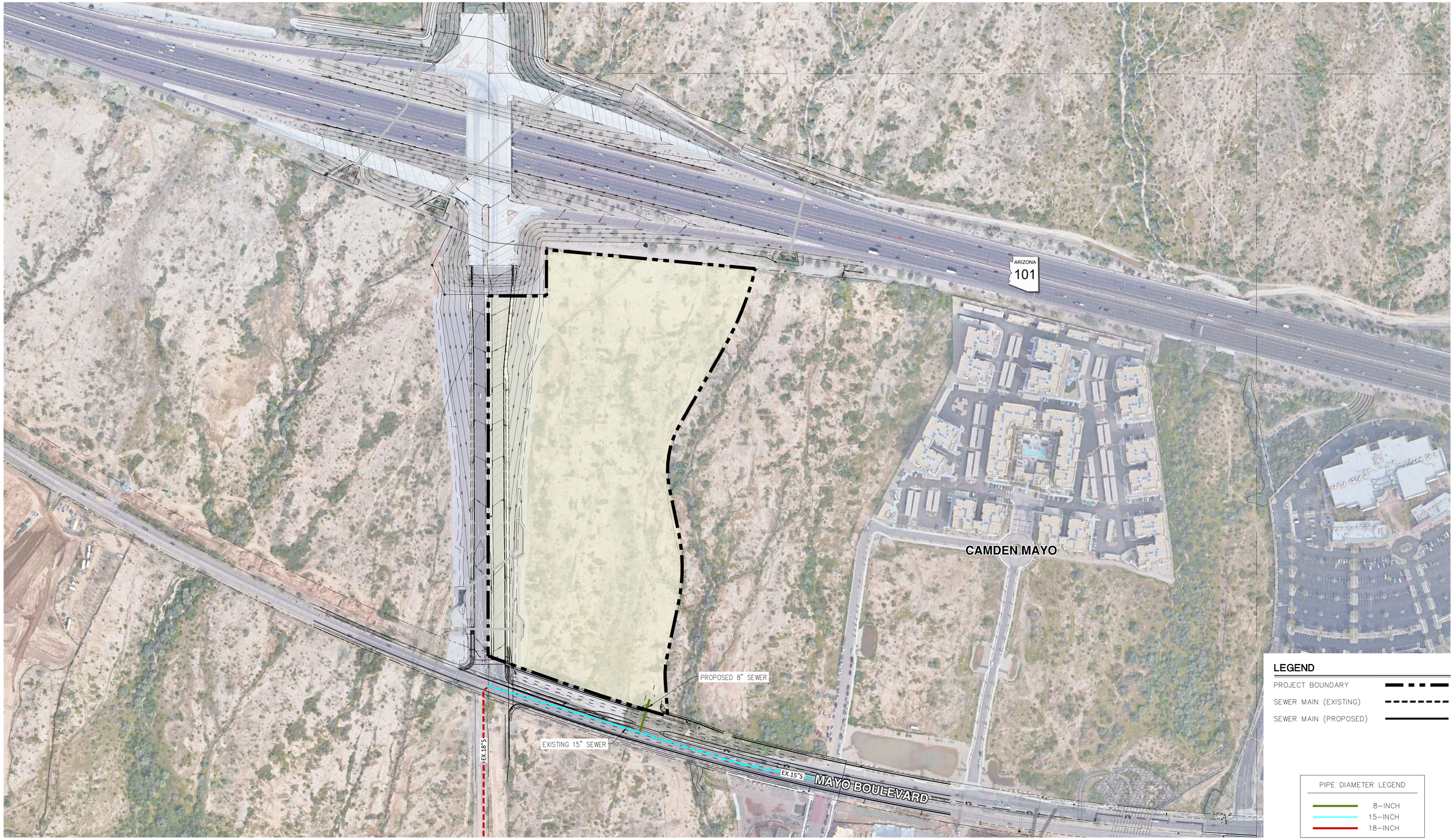

PARADISE RIDGE - PARCEL 6

MAY 2020

Proj. 2074

North

Scale: 1"=150'

PLAN 5: MASTER WASTEWATER PLAN

HILGARTWILSON
ENGINEER | PLAN | SURVEY | MANAGE

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APPENDIX C
COST ESTIMATE

PARADISE RIDGE - PARCEL 6

City of Phoenix

HilgartWilson No. 2074

Preliminary Infrastructure Cost Estimate

June 16, 2020

Paving	Units	Quantity	Unit cost	Cost
Mayo Boulevard				
Roadway Grading	SY	14,534	$ 4.50	$ 65,401.00
Construct Pavement Section (6" AC on 6" ABC)	SY	11,844	$ 31.00	$ 367,164.00
Install 6" Vertical Curb & Gutter	LF	3,633	$ 18.00	$ 65,394.00
5' Sidewalk	SF	6,055	$ 2.65	$ 18,165.00
Install Sidewalk Ramp	EA	5	$ 2,100.00	$ 10,500.00
Construct Concrete Valley Gutter	SF	120	$ 8.00	$ 960.00
Sawcut Asphalt Edge and Remove Pavement	LF	1,355	$ 8.00	$ 10,840.00
24' Landscaped Median Island w/ Irrigation	SY	2,667	$ 1.25	$ 2,667.00
20' Wide Landscape Tract	SY	2,691	$ 1.25	$ 2,691.00
Striping/Signing	LF	1,211	$ 20.00	$ 24,220.00
Subtotal				**$ 568,002.00**
General				
Traffic Signal at SEC Mayo/64th	LS	1	$ 100,000.00	$ 100,000.00
Street Lights - Every 200'	EA	3	$ 4,000.00	$ 12,000.00
Subtotal				**$ 112,000.00**
Subtotal				**$ 680,002.00**

Drainage	Units	Quantity	Unit cost	Cost
Demo Existing Culverts and Headwalls (Mayo)	LS	1	$ 30,000.00	$ 30,000.00
6 - 10' X 6' Box Culvert w/ Backfill (Mayo Dry Crossing)	LF	960	$ 1,200.00	$ 1,152,000.00
Headwall for 6 Barrel 10' X 6' Box Culvert	EA	2	$ 15,000.00	$ 30,000.00
Gabion Mattress 1' Deep at N&S side of Mayo	CY	1,850	$ 175.00	$ 323,750.00
Subtotal				**$ 1,535,750.00**

Water	Units	Quantity	Unit cost	Cost
8" PVC Schedule 40 Waterline	LF	150	$ 50.00	$ 7,500.00
12" x 8" Tapping Sleeve and Valve	EA	2	$ 3,250.00	$ 6,500.00
8" Valve Box and Cover	EA	2	$ 1,015.00	$ 2,030.00
8" Backflow Preventor	EA	2	$ 1,800.00	$ 3,600.00
Subtotal				**$ 19,630.00**

Wastewater	Units	Quantity	Unit cost	Cost
8" SDR-35 Sewerline	LF	125	$ 35.00	$ 4,375.00
Connection to Existing 15" Sewer Line	LS	1	$ 6,500.00	$ 6,500.00
5' Diameter Manhole	EA	1	$ 5,500.00	$ 5,500.00
Subtotal				**$ 16,375.00**

PARADISE RIDGE - PARCEL 6

City of Phoenix

HilgartWilson No. 2074

Preliminary Infrastructure Cost Estimate

June 16, 2020

Dry Utilities	Units	Quantity	Unit cost	Cost
Utility Trenching	LF	300	$ 7.50	$ 2,250.00
Conduit	LF	750	$ 2.50	$ 1,875.00
Dry Utility Misc (12% of Trenching/Conduit)	LF	1,050	$ 1.20	$ 1,260.00
Subtotal				$ 5,385.00

Environmental/Cultural	Units	Quantity	Unit cost	Cost
Cultural Phase 2 Data Recoverty	LS	1	$ 225,000.00	$ 225,000.00
Subtotal				$ 225,000.00

TOTAL	$ 2,482,142.00
CONTINGENCY (10%)	$ 248,214.00
GRAND TOTAL	$ 2,730,356.00

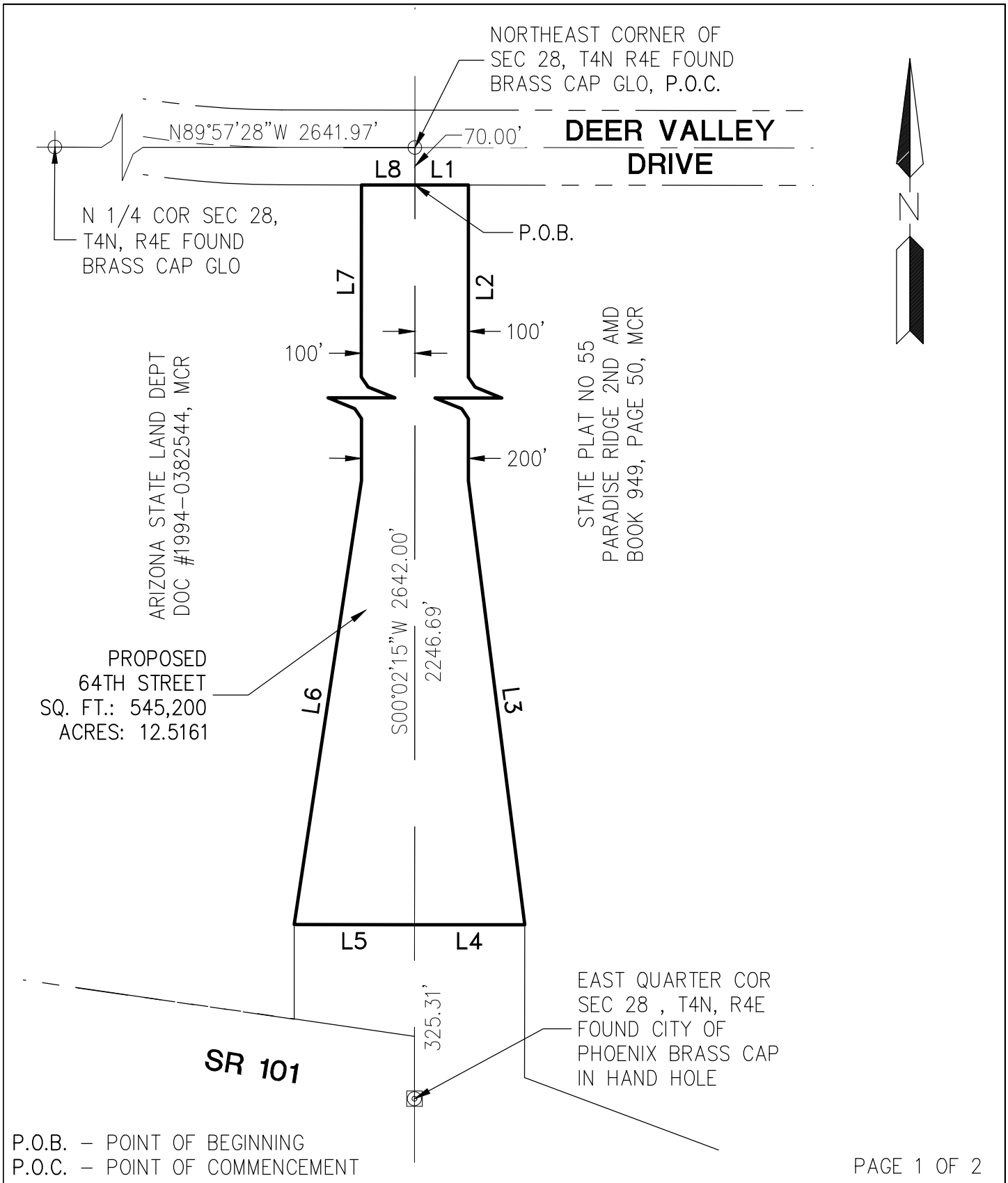
NOTE:

(1) It should be noted that the Project is located within the North Area Major Arterial Impact Fee Area, and could potentially benefit from reimbursement for the Mayo Boulevard improvements.

(2) The above is only an engineer's opinion of probable construction cost for the proposed site improvements. HILGARTWILSON has no control over the cost or availability of labor, equipment or materials, or over market conditions or the Contractor's method of pricing. HILGARTWILSON makes no warranty, express or implied, that the cost of the work will not vary from our opinion of probable cost.

APPENDIX D
ADDITIONAL DOCUMENTATION

APPENDIX D.1:
ALTA/NSPS LAND TITLE SURVEY DOCUMENTATION



P.O.B. – POINT OF BEGINNING
P.O.C. – POINT OF COMMENCEMENT

PROJ.NO.: 2074	PARADISE RIDGE 64TH STREET RIGHT OF WAY PHOENIX, ARIZONA	HILGARTWILSON 2141 E. HIGHLAND AVE., STE. 250 PHOENIX, AZ 85016 P: 602.490.0535 / F: 602.368.2436
DATE: JULY 2020		
SCALE: N.T.S.		
DRAWN BY: GS/DSP	EXHIBIT	
CHECKED BY: BJB		

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LINE TABLE		
LINE NO.	DIRECTION	LENGTH
L1	S89°55'29"E	100.00'
L2	S00°02'15"W	1416.63'
L3	S07°14'25"E	836.74'
L4	N89°57'45"W	206.00'
L5	N89°57'45"W	225.00'
L6	N08°36'08"E	839.36'
L7	N00°02'15"E	1416.70'
L8	S89°57'28"E	100.00'

PROJ.NO.: 2074	PARADISE RIDGE 64TH STREET RIGHT OF WAY PHOENIX, ARIZONA	HILGARTWILSON 2141 E. HIGHLAND AVE., STE. 250 PHOENIX, AZ 85016 P: 602.490.0535 / F: 602.368.2436
DATE: JULY 2020		
SCALE: NONE		
DRAWN BY: GS/DSP	EXHIBIT	
CHECKED BY: BJB		

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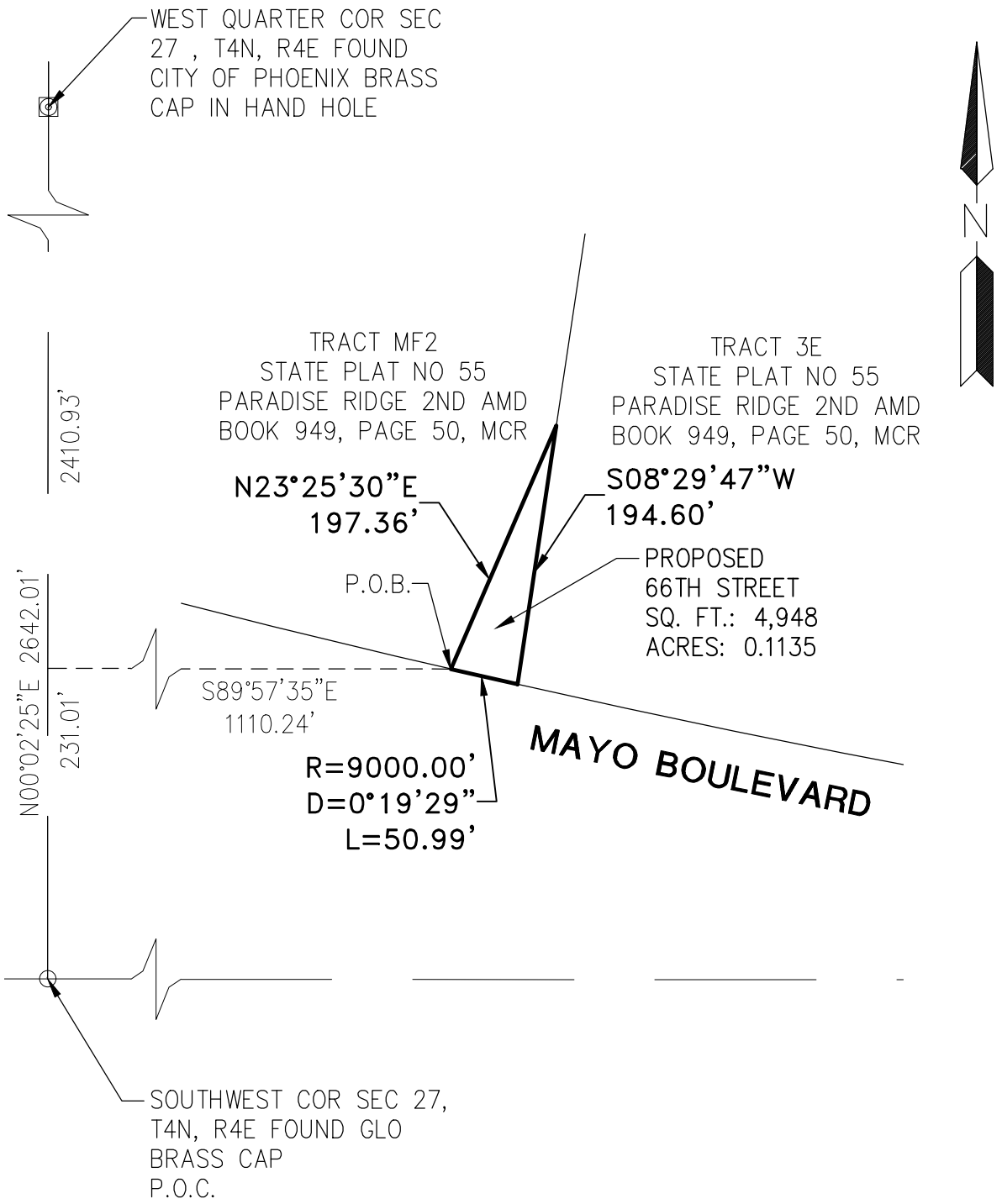

P.O.B. – POINT OF BEGINNING
P.O.C. – POINT OF COMMENCEMENT

PROJ.NO.: 2074	PARADISE RIDGE 66TH STREET RIGHT OF WAY PHOENIX, ARIZONA	HILGARTWILSON 2141 E. HIGHLAND AVE., STE. 250 PHOENIX, AZ 85016 P: 602.490.0535 / F: 602.368.2436
DATE: JULY 2020		
SCALE: N.T.S.		
DRAWN BY: GS/DSP	EXHIBIT	
CHECKED BY: BJB		

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DESCRIPTION

TRACT 6, STATE PLAT NO. 55, PARADISE RIDGE AMENDED, ACCORDING TO THE PLAT OF RECORD IN THE OFFICE OF THE COUNTY RECORDER, MARICOPA COUNTY ARIZONA RECORDED IN BOOK 924 OF MAPS, PAGE 3 AND AS AMENDED BY STATE PLAT NO. 55, PARADISE RIDGE SECOND AMENDED, RECORDED IN BOOK 949 OF MAPS, PAGE 50, LOCATED IN SECTION 27, TOWNSHIP 4 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY ARIZONA.

EXCEPT THAT PORTION LYING EASTERLY OF THE WESTERLY LINE (AND THE SOUTHERLY PROLONGATION THEREOF) OF THE FOLLOWING DESCRIBED PROPERTY:

WASH NO. 66

A PORTION OF TRACT 6 OF "STATE PLAT NO. 55, PARADISE RIDGE SECOND AMENDED", BEING RECORDED IN BOOK 949 OF MAPS, PAGE 50, RECORDS OF MARICOPA COUNTY, ARIZONA, AND BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 27, TOWNSHIP 4 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID TRACT 6:

THENCE NORTH 03 DEGREES 37 MINUTES 52 SECONDS WEST, ALONG THE EASTERLY LINE OF SAID TRACT 6, A DISTANCE OF 73.95 FEET TO THE BEGINNING OF A NON-TANGENT CURVE WHOSE RADIUS BEARS NORTH 15 DEGREES 15 MINUTES 13 SECONDS EAST, A DISTANCE OF 8,930.16;

THENCE WESTERLY 95.30 FEET ALONG THE ARC OF SAID CURVE, BEING PARALLEL WITH AND 70.00 FEET NORTHERLY OF THE SOUTHERLY LINE OF SAID TRACT 6, BEING CONCAVE TO THE NORTH, THROUGH A CENTRAL ANGLE OF 00 DEGREES 36 MINUTES 41 SECONDS, SAID POINT BEING THE POINT OF BEGINNING OF A 180.00 FOOT WIDE CORRIDOR, 90.00 FEET LYING ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE;

THENCE NORTH 03 DEGREES 37 MINUTES 52 SECONDS WEST, A DISTANCE OF 97.51 FEET TO THE BEGINNING OF A TANGENT CURVE;

THENCE NORTHERLY 95.67 FEET ALONG THE ARC OF SAID CURVE, BEING CONCAVE TO THE EAST, HAVING A RADIUS OF 350.00 FEET, THROUGH A CENTRAL ANGLE 0F 15 DEGREES 39 MINUTES 43 SECONDS;

THENCE NORTH 12 DEGREES 01 MINUTES 51 SECONDS EAST, A DISTANCE OF 193.98 FEET TO THE BEGINNING OF A TANGENT CURVE;

THENCE NORTHERLY 207.19 FEET ALONG THE ARC OF SAID CURVE, BEING CONCAVE TO THE WEST, HAVING A RADIUS OF 500.00 FEET, THROUGH A CENTRAL ANGLE OF 23 DEGREES 44 MINUTES 30 SECONDS;

THENCE NORTH 11 DEGREES 42 MINUTES 40 SECONDS WEST, A DISTANCE OF 156.41 FEET TO THE BEGINNING OF A TANGENT CURVE;

THENCE NORTHERLY 290.69 FEET ALONG THE ARC OF SAID CURVE, BEING CONCAVE TO THE EAST, HAVING A RADIUS OF 400.00 FEET, THROUGH A CENTRAL ANGLE OF 41 DEGREES 38 MINUTES 18 SECONDS;

THENCE NORTH 29 DEGREES 55 MINUTES 39 SECONDS EAST, A DISTANCE OF 297.27 FEET TO THE BEGINNING OF A TANGENT CURVE;

THENCE NORTHEASTERLY 228.52 FEET ALONG THE ARC OF SAID CURVE, BEING CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 1,000.00 FEET, THROUGH A CENTRAL ANGLE OF 13 DEGREES 05 MINUTES 35 SECONDS ;

THENCE NORTH 16 DEGREES 50 MINUTES 03 SECONDS EAST, A DISTANCE OF 58.85 FEET TO THE POINT OF ENDING.

SCHEDULE "B" ITEMS

1. The real property is assessed at $0.00 for the year 2019.

   APN: 215-04-716A 3

2. Any additional taxes which may become a lien by reason of the county assessor reassessing the within described premises for the year(s) 2019.

3. Oil and Gas Lease No. 13-062998, executed by the Arizona State Land Department as lessor and The Anschutz Corporation as lessee, for the purpose of exploration and production of oil and gas and having a term Of indefinite duration.

   A copy was recorded August 14, 1978 as Docket 13087, Page 48.

4. Restrictions, dedications, conditions, reservations, easements and other matters shown on the plat of State Plat No. 34 Paradise Ridge, as recorded in Plat Book 416 of Maps, Page(s) 12 and Affidavit of Correction recorded November 12, 1996 as 96-797420 of Official Records, but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status or national origin to the extent such covenants, conditions or restrictions violate 42 USC 3604(c).

5. Restrictions, dedications, conditions, reservations, easements and other matters shown on the plat of State Plat No. 55, Paradise Ridge, as recorded in Plat Book 924 of Maps, Page(s) 3 and Affidavit of Correction recorded June 1, 2007 as 2007-636862 of Official Records, but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status or national origin to the extent such covenants, conditions or restrictions violate 42 USC 3604(c).

6. Restrictions, dedications, conditions, reservations, easements and other matters shown on the plat of State Plat No. 55, Paradise Ridge Second Amended, as recorded in Plat Book 949 of Maps, Page(s) 50, but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status or national origin to the extent such covenants, conditions or restrictions violate 42 USC 3604(c).

7. Right-of-Way No. 16-101147 granted by the Arizona State Land Department to Mayo Foundation for Medical Education and Research, a Minnesota corporation for public roadway and underground utilities and having a term of perpetual duration.

   A copy recorded January 10, 1996 as 1996-19713 of Official Records.
   the grantee's interest was assigned to the City of Phoenix by Assignment dated September 29, 2014.

8. The effect of resolutions adopting State Route Plan for the Pima Freeway Route 101 and any Amendments thereto for the purpose of controlling access and acquiring lands in advance for rights-of-way, recorded in 2000-171191 of Official Records and as 2005-692013 of Official Records and as 2006-246120 of Official Records and as 2018-324357 of Official Records. .

9. Pima Freeway Route 101, as disclosed by the Arizona State Land Department Right of Way no. 16-108739 a copy of which recorded October 8, 2008 as 2008-870002 of Official Records.

10. Right-of-Way No. 16-115118 granted by the Arizona State Land Department to City of Phoenix for public road and underground utilities and drainage and having a term commencing November 29, 2011 and running for a perpetual term.

    and recorded February 27, 2013 as 2013-183534 of Official Records.

    an Amendment filed August 14, 2014 recorded August 28, 2014 as 2014-571142 of Official Records.

11. Water rights, claims or title to water, whether or not shown by the public records.

NOTES

1) ALL TITLE INFORMATION IS BASED ON A SPECIAL REPORT PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY REPORT NO. NCS-875108-PHX1 DATED NOVEMBER 14, 2019 RECEIVED ON DECEMBER 10, 2019.

2) THE HORIZONAL DATUM FOR THIS SURVEY IS BASED ON THE MARICOPA COUNTY DEPARTMENT OF TRANSPORATION (MCDOT) GEODETIC DENSIFICATION AND CADASTRAL SURVEY (GDACS) WEBSITE "WWW.MCDOT.MARICOPA.GOV", UNDER THE SURVEY INFORMATION LINK ON AUGUST 30, 0217.

   PROJECTION: ARIZONA CENTRAL ZONE, NAD 83, (EPOCH 2010)
   DATUM: GRS-80
   UNITS: INTERNATIONAL FEET
   GEOID MODEL: GEOID 12A
   HORIZONTAL ADJUSTMENT: NONE
   HORIZONTAL ROTATION: NONE

   CONTROL POINT 2CE1
   PID AJ3646
   LATITUDE: N33°17'41.46422"
   LONGITUDE: W112°05'59.29592
   ELLIPSOID HEIGHT: 329.524 (METERS)
   DESCRIPTION: STAINLESS STEEL ROD IN CONCRETE SLEEVE

   MODIFIED TO GROUND AT (GRID) N: 965916.898, E: 689439.911,
   USING A SCALE FACTOR OF 1.0001695411.

3) THIS SURVEY WAS PERFORMED WITH GLOBAL POSITIONING SYSTEM EQUIPMENT UTILIZING REAL TIME KINEMATICS SURVEYING METHODS. THE MONUMENTS LOCATED ARE WITHIN THE POSITIONAL TOLERANCES RECOMMENDED IN THE ALTA/NSPS SURVEY REQUIREMENTS ADOPTED FOR USE IN 2016 BY THE AMERICAN LAND TITLE ASSOCIATION AND THE NATIONAL SOCIETY OF PROFESSIONAL SURVEYORS.

4) AREA OF PARCEL 1 IS 1,047,176 SQUARE FEET OR 24.0399 ACRES, MORE OR LESS.

5) UNDERGROUND UTILITIES SHOWN ARE FROM FIELD LOCATED BLUESTAKE MARKINGS OBSERVED IN THE PROCESS OF CONDUCTING THE SURVEY AND MAPS PROVIDED BY THE UTILITY COMPANIES. NO UNDERGROUND INVESTIGATION WAS PERFORMED.

6) THE ABBREVIATIONS THAT APPEAR WITH THE RECORD INFORMATION REPRESENT THE FOLLOWING:
   (R) ABOVE NAMED SPECIAL REPORT
   (R1) BOOK 494, PAGE 50, M.C.R.

7) ACCORDING TO FEMA FLOOD INSURANCE RATE MAP NO. 040131C1315L DATED OCTOBER 16, 2013, THE SUBJECT PROPERTY IS LOCATED IN ZONE A0. ZONE A0 IS DESCRIBED AS: "FLOOD DEPTHS OF 1 TO 3 FEET (USUALLY SHEET FLOW ON SLOPING TERRAIN); AVERAGE DEPTHS DETERMINED. FOR AREAS OF ALLUVIAL FAN FLOODING VELOCITIES ALSO DETERMINED."

8) ANY DISTANCES, BEARINGS, DESCRIPTIONS, ETC., WHICH MAY VARY FROM THE PROVISIONS OF THE RECORD INFORMATION NOTED ABOVE REFLECT ACTUAL MEASURED DATA, OR THE BEST INTERPRETATION OF THE UNDERSIGNED.

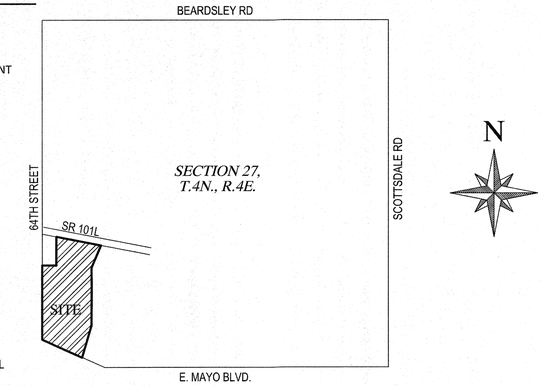
9) ADJOINING OWNER INFORMATION IS PER THE MARICOPA COUNTY ASSESSOR'S OFFICE GEOGRAPHIC INFORMATION SYSTEM (GIS) WEBSITE ON DECEMBER 13, 2019.

10) SCHEDULE B ITEMS 3, 4, 5 AND 6 ARE BLANKET IN NATURE AND APPEAR TO AFFECT SUBJECT PROPERTY.

11) SCHEDULE B ITEMS 1, 2 AND 11 ARE NOT PLOTTABLE. HOWEVER, SAID SCHEDULE B ITEM(S) MAY OR MAY NOT AFFECT SUBJECT PROPERTY.

12) NO EVIDENCE OF EXISTING ADDRESS WAS OBSERVED IN THE PROCESS OF CONDUCTING THE SURVEY OR IN RECORD DOCUMENTS PROVIDED.

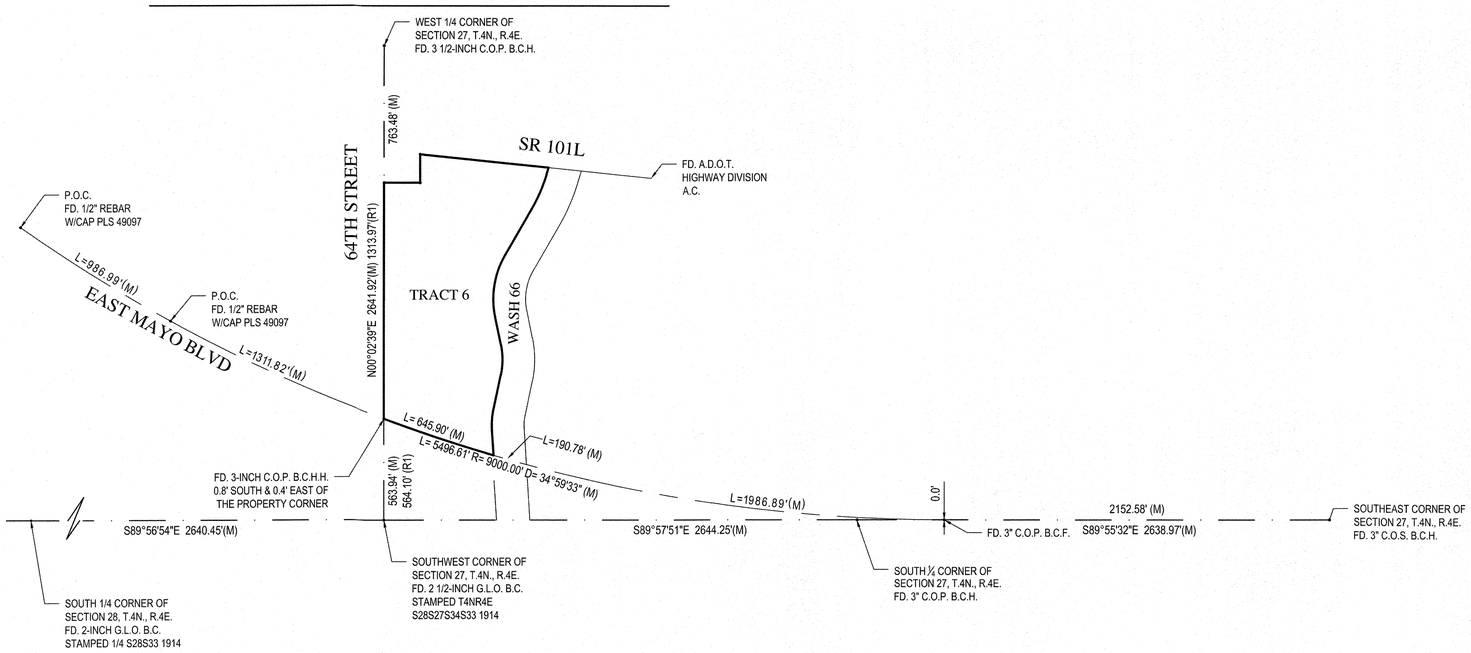
13) SUBJECT PROPERTY CONTAINS TRAILS, VEGETATION AND WASHES THAT ARE CONSISTENT WITH LOCAL DESERT TERRAIN.



VICINITY MAP

N.T.S.

SECTION & CENTER LINE TIE DETAIL



CERTIFICATION

TO: STATE OF ARIZONA
FIRST AMERICAN TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 8, AND 11 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON NOVEMBER 12, 2019.

THOMAS R GETTINGS
ARIZONA REGISTERED LAND SURVEYOR, #27239
WOOD, PATEL & ASSOCIATES, INC.
2051 WEST NORTHERN AVENUE, SUITE 100
PHOENIX, ARIZONA 85021
SURVEYOR@WOODPATEL.COM

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ALTA/NSPS LAND TITLE SURVEY

64TH STREET AND LOOP 101

A PORTION OF TRACT 6, STATE PLAT NO. 55, PARADISE RIDGE AMENDED, RECORDED IN BOOK 949 OF MAPS, PAGE 50,
LOCATED IN SECTION 27, TOWNSHIP 4 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY ARIZONA

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
27239
THOMAS R.
GETTINGS
Date Signed 12-17-19
ARIZONA U.S.A.

EXPIRES 06-30-20

COMPLETED SURVEY FIELD WORK ON	11/22/2019
CHECKED BY	TRG
CAD TECHNICIAN	ERM
SCALE	1" = 100'
DATE	12/17/2019
JOB NUMBER	WP#174741.80
SHEET	1 OF 2

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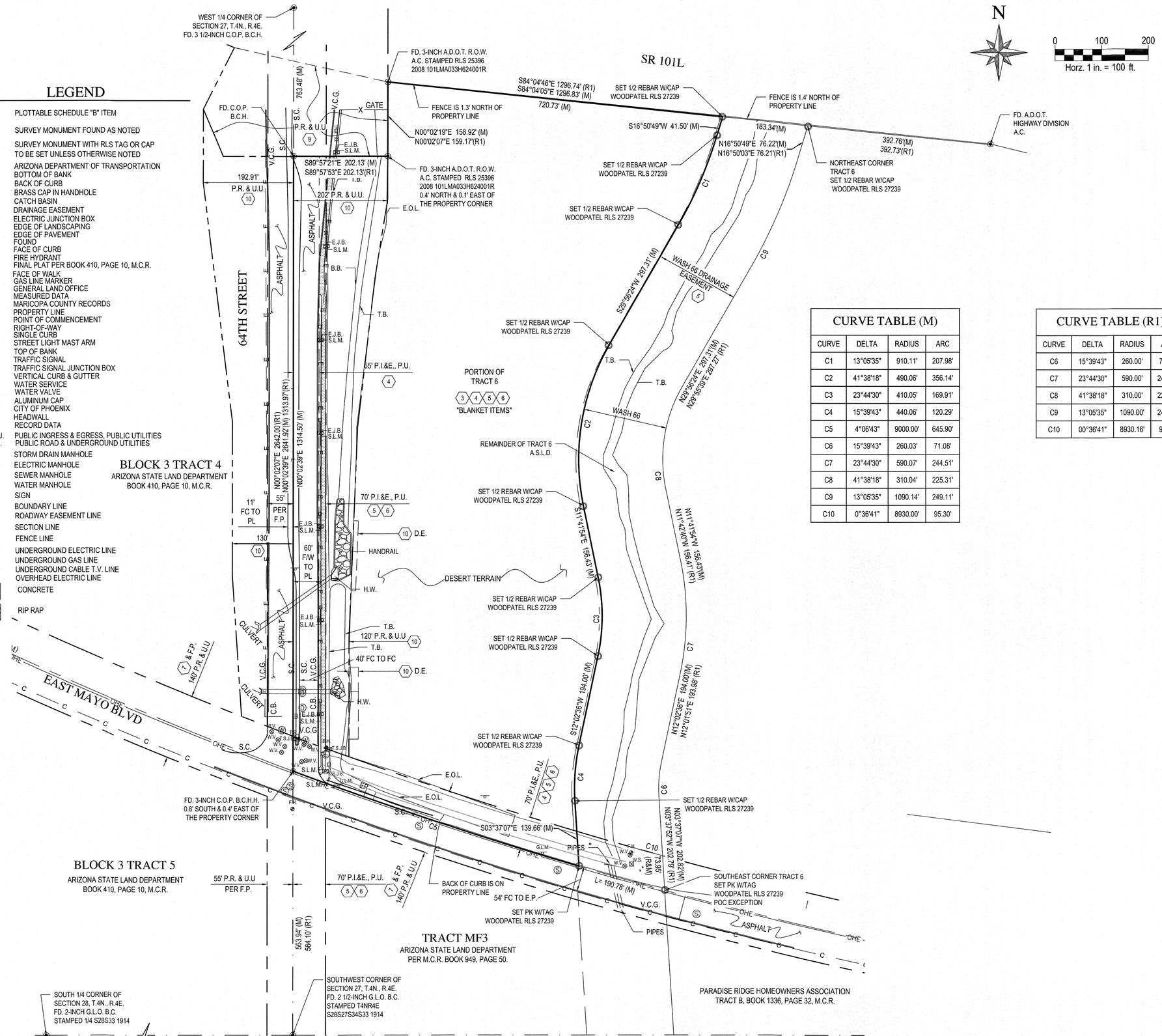
LEGEND

#	PLOTTABLE SCHEDULE "B" ITEM
	SURVEY MONUMENT FOUND AS NOTED
	SURVEY MONUMENT WITH RLS TAG OR CAP TO BE SET UNLESS OTHERWISE NOTED
A.D.O.T.	ARIZONA DEPARTMENT OF TRANSPORTATION
B.B.	BOTTOM OF BANK
BC	BACK OF CURB
B.C.H.	BRASS CAP IN HANDHOLE
C.B.	CATCH BASIN
D.E.	DRAINAGE EASEMENT
E.J.B.	ELECTRIC JUNCTION BOX
E.O.L.	EDGE OF LANDSCAPING
E.P.	EDGE OF PAVEMENT
FD.	FOUND
FC	FACE OF CURB
F.H.	FIRE HYDRANT
F.P.	FINAL PLAT PER BOOK 410, PAGE 10, M.C.R.
F/W	FACE OF WALK
G.L.M.	GAS LINE MARKER
G.L.O.	GENERAL LAND OFFICE
(M)	MEASURED DATA
M.C.R.	MARICOPA COUNTY RECORDS
PL	PROPERTY LINE
P.O.C.	POINT OF COMMENCEMENT
R/W	RIGHT-OF-WAY
S.C.	SINGLE CURB
S.L.M.	STREET LIGHT MAST ARM
T.B.	TOP OF BANK
T.S.	TRAFFIC SIGNAL
T.S.J.B.	TRAFFIC SIGNAL JUNCTION BOX
V.C.G.	VERTICAL CURB & GUTTER
W.S.	WATER SERVICE
W.V.	WATER VALVE
A.C.	ALUMINUM CAP
C.O.P.	CITY OF PHOENIX
H.W.	HEADWALL
(R)	RECORD DATA
P.I.&E., P.U.	PUBLIC INGRESS & EGRESS, PUBLIC UTILITIES
P.R. & U.U.	PUBLIC ROAD & UNDERGROUND UTILITIES
Ⓓ	STORM DRAIN MANHOLE
Ⓔ	ELECTRIC MANHOLE
Ⓢ	SEWER MANHOLE
Ⓦ	WATER MANHOLE
	SIGN
	BOUNDARY LINE
	ROADWAY EASEMENT LINE
	SECTION LINE
X	FENCE LINE
E	UNDERGROUND ELECTRIC LINE
G	UNDERGROUND GAS LINE
C	UNDERGROUND CABLE T.V. LINE
OHE	OVERHEAD ELECTRIC LINE
	CONCRETE
	RIP RAP



CURVE TABLE (M)

CURVE	DELTA	RADIUS	ARC
C1	13°05'35"	910.11'	207.98'
C2	41°38'18"	490.06'	356.14'
C3	23°44'30"	410.05'	169.91'
C4	15°39'43"	440.06'	120.29'
C5	4°06'43"	9000.00'	645.90'
C6	15°39'43"	260.03'	71.08'
C7	23°44'30"	590.07'	244.51'
C8	41°38'18"	310.04'	225.31'
C9	13°05'35"	1090.14'	249.11'
C10	0°36'41"	8930.00'	95.30'

CURVE TABLE (R1)

CURVE	DELTA	RADIUS	ARC	
C6	15°39'43"	260.00'	71.07'	
C7	23°44'30"	590.00'	244.48'	
C8	41°38'18"	310.00'	225.29'	
C9	13°05'35"	1090.00'	249.09'	
C10	00°36'41"	8930.16'	95.30'	(R)

WOOD PATEL

Wood, Patel & Associates, Inc.

Civil Engineering
Water Resources
Land Survey
Construction Management

602.335.8500

www.woodpatel.com

ALTA/NSPS LAND TITLE SURVEY

64TH STREET AND LOOP 101

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Date Signed 12-17-19
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EXPIRES 06-30-20

COMPLETED SURVEY FIELD WORK ON	11/22/2019
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SHEET	2 OF 2

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Mayo Blvd.

LS_INQUIRY 02-MAY-2017 10:50:28 [GNICHOLS]

Go | Clear | Inquiry | List | Help | Back

KE Lease# 016 101147 00 ? VC Effdate 02-JAN-1996 Expdate PERPETUAL Perpetual Y Last Maint 14-JUL-2016

Rolodex# 15774 Phone

Name PHOENIX CITY OF

Address ATTN REAL ESTATE DIVISION
251 W WASHINGTON ST 8TH FLOOR
PHOENIX AZ 85003

Contact# Phone

Name

Sublease N
Filing N
Improvement N
Bond N
Land Treatment N
Mineral Claims 0

Comments PART OF LAND SOLD - PER PATENT 53-109597-01 & 53-117898-01 & CP 53-118055

Total Acres 20.390 C.O. Date
Total AUs 0.000 Amend# 5 C.O. Type

Bill Purpose
? 5920 BILL PER DEFAULTS FOR THIS KE

Beneficiary-Funds

Purpose Codes
(#2) 5309 ROAD-PUBLIC
(#3)
(#4)
(#5)

Land Numbers | Lease History | Canceled Leases
Improvement by KE Lease#
Fin. Hist by KELse/Date | Fin. Hist by KELse/AR Doc# | Rev. Hist by FY and SUB

Arizona State Land Department
1616 W Adams Street Phoenix, AZ 85007

ATTORNEY-CLIENT PRIVILEGED DOCUMENTS*

UNDER SEPARATE COVER

File No. 16 - 10147

*A.R.S. § 12-2234

ASSIGNMENT OF RIGHT-OF-WAY

The State Land Commissioner hereby consents to the Assignment of Right-of-Way Number 16-101147 which runs for a perpetual term
(Date of expiration)
and hereby orders that the right of way and all rights therein are hereby assigned and transferred to:

CITY OF PHOENIX, an Arizona municipal corporation

200 West Washington Street
Phoenix, Arizona 85003

This assignment is made pursuant to application to assign the right-of-way made by ASSIGNOR(S):

MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH,
a Minnesota non-profit corporation

and pursuant to application for the assumption of said right-of-way made by ASSIGNEE(S):

CITY OF PHOENIX, an Arizona municipal corporation,
effective as of January 3, 1996 per Additional Condition No. 1 in the right-of-way

and in accordance with the laws of the State of Arizona and the rules of the State Land Department.

This assignment is made without waiver or relinquishment of any rights of the State of Arizona which may exist under the Right of Way assigned and does not initiate any new rights to the assignee of this Right of Way other than the rights as are set forth in the existing Right of Way. The assignee(s) hereby assumes and agrees to perform all obligations of the grantee under the Right of Way and accepts the Right of Way subject to all existing terms and conditions.

Dated this 29th day of September, 2014.

State of Arizona
State Land Commissioner

ARIZONA STATE LAND DEPARTMENT 1915

By: _____

Assg R/W -02/95

STATE LAND DEPARTMENT
STATE OF ARIZONA

RIGHT-OF-WAY
SOLD AT PUBLIC AUCTION

R/W No. 16 - 101147

THIS INDENTURE, made this 3rd day of January, 19 96, by and between the State of Arizona, hereinafter called the Grantor, and
MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH,
a Minnesota Corporation
hereinafter called the Grantee.

WITNESSETH, that in accordance with the provisions of A.R.S. §37-461, the Grantee herein has filed with the State Land Commissioner an application for a right-of-way for the purpose of constructing, operating, and maintaining

a public roadway and underground utilities

and

WHEREAS, the said map and field notes thereon have been adopted by the Grantee herein as the line of definite location of the aforesaid Right-of-Way, and which said right-of-way map is herein referred to and made a part hereof as fully as though set out herein, and

WHEREAS, it is understood and agreed by the Grantee herein that, as a condition precedent to the granting of the Right-of-Way applied for, the land covered by the said Right-of-Way shall be used for no purpose other than the location, construction and maintenance of said Right-of-Way over and across the following State lands, to-wit described in Appendix A.

TO HAVE AND TO HOLD the same for so long as it may be used for the purpose designated, and subject to the conditions and reservations set forth herein.

C-11

IT IS UNDERSTOOD AND AGREED that in case the necessity for the Right-of-Way shall no longer exist, or the Grantee should abandon or fail to use the same, then this grant shall become void, and the right to use the land and all the rights granted hereunder shall revert to the State of Arizona or it's successor in interest in the property, whereupon the Grantee agrees to execute and deliver a complete release of all right, title and interest therein.

This grant is, and shall be binding upon the said Grantee, his successors and assigns.

IT IS FURTHER UNDERSTOOD AND AGREED that this Right-of-Way conveys no fee to the land described herein and no rights to any of the minerals, oil, gas, coal, natural products, etc., in said land and the State of Arizona reserves the right to grant mineral and/or oil and gas leases upon said land.

IT IS FURTHER UNDERSTOOD AND AGREED that the said Grantee shall not fence the said Right-of-Way, nor exclude from the use of the surface thereof the State of Arizona or its lessees or grantees.

THE SAID GRANTOR further reserves the right to grant to others, easements and rights-of-way over and across the lands described.

NOW THEREFORE, in accordance with the provisions of A.R.S. §37-461 and agreeable to the conditions heretofore set forth, the Grantee herein is hereby authorized to locate, construct, operate and maintain said Right-of-Way over and across the State land described herein.

Grantee agrees to indemnify, hold and save Grantor harmless against all loss, damage, liability, expense, costs and charges incident to or resulting in any way from any injuries to person or damage to property caused by or resulting from the use, condition or occupation of the land.

EASEMENT CONDITIONS

1. With regard to the location, construction and maintenance of the Right-of-way:

   (a) Grantee shall ensure full compliance with the terms and conditions of this grant by its agents, employees and contractors (including sub-contractors of any tier), and the employees of each of them.

   (b) Unless clearly inapplicable, the requirements and prohibitions imposed upon Grantee by these terms and conditions are also imposed upon Grantee's agents, employees, contractors, and sub-contractors, and the employees of each of them.

(c) Failure or refusal of Grantee's agents, employees, contractors, sub-contractors, or their employees to comply with these terms and conditions shall be deemed to be the failure or refusal of Grantee.

(d) Grantee shall require its agents, contractors or sub-contractors to include these terms and conditions in all contracts and sub-contracts which are entered into by any of them, together with a provision that the other contracting party, together with its agents, employees, contractors and sub-contractors, and the employees of each of them, shall likewise be bound to comply with these terms and conditions.

2. All access roads over State land outside the Right-of-Way must be applied for and authorized in accordance with applicable regulations.

3. No material may be removed by Grantee or its contractors without the written approval of the Commissioner.

4. Grantee shall promptly notify the Commissioner of the amount of flora, if any, which will be cut, removed, or destroyed in the construction and maintenance of the project and shall pay the State Land Department such sum of money as the Commissioner may determine to be the full value of the flora to be so cut, removed or destroyed. Grantee shall notify the State Land Department and the Department of Agriculture 30 days prior to any destruction or removal of native plants to allow salvage of those plants where possible.

5. Grantee shall conduct all construction and maintenance activities in a manner that will minimize disturbance to all land values including, but not limited to vegetation, drainage channels, and streambanks. Construction methods shall be designed to prevent degradation of soil conditions in areas where such degradation would result in detrimental erosion or subsidence. Grantee shall take such other soil and resource conservation and protection measures on the land under grant as determined necessary by the State Land Department.

6. Grantee shall be required, upon completion of right-of-way construction, to make such rehabilitation measures on the State lands, including, but not limited to, restoration of the surface, revegetation, and fencing as determined necessary by the State Land Department.

7. Upon revocation or termination of the Right-of-Way, the Grantee shall remove all equipment or facilities and, so far as is reasonably possible, restore and/or rehabilitate the land to its original condition, to the satisfaction of the Commissioner.

8. Costs incurred by the Grantee in complying with restoration and rehabilitation requirements as determined by the State Land Department on State trust lands shall be borne by the Grantee.

9. Prior to surface disturbance, the Grantee hereof shall provide evidence of archaeological clearance to the Arizona State Land Department. Archaeological surveys and site mitigation must be conducted in accordance with rules and regulations promulgated by the Director, Arizona State Museum. In the event additional archaeological resources are detected by Grantee after receipt of archaeological clearance, all work shall cease and notification shall be given to the Director, Arizona State Museum.

10. **THIS DOCUMENT** is submitted for examination and shall have no binding effect on the parties unless and until executed by the Grantor (after execution by the Grantee), and a fully executed copy is delivered to the Grantee.

11. **IN THE EVENT OF A DISPUTE** between the parties to this Agreement, it is agreed to use arbitration to resolve the dispute but only to the extent required by A.R.S. §12-1518; and, in no event shall arbitration be employed to resolve a dispute which is otherwise subject to administrative review by the Department pursuant to statute or Department Administrative Rule.

12. Grantor reserves the right to relinquish to the United States pursuant to the U.S. Act of August 30, 1890, land needed for irrigation works in connection with a government reclamation project.

13. **Notice of authority to cancel this contract:**

This contract is subject to cancellation pursuant to A.R.S. §38-511.

14. **Native Plant Law:**

If the removal of plants protected under the Arizona Native Plant Law is necessary to enjoy the privilege of this Document, the Grantee hereunder must previously acquire the written permission of the Arizona State Land Department and Arizona Department of Agriculture to remove those plants.

ENVIRONMENTAL INDEMNITY

Grantee shall protect, defend, indemnify and hold harmless the Grantor from and against all liabilities, costs, charges and expenses, including attorneys' fees and court costs arising out of or related to the presence of or existence of any substance regulated under any applicable federal, state or local environmental laws, regulations, ordinances or amendments thereto because of: (a) any substance that came to be located on the Right-of-Way due to Grantee's use or occupancy of the lands by the Grantee before or after the issuance of the Right-of-Way; or (b) any release, threatened release or escape of any substance in, on, under or from said Right-of-Way that is caused, in whole or in part, by any conduct, actions or negligence of the Grantee, regardless of when such substance came to be located on the Right-of-Way.

For the purposes of this Right-of-Way, the term "regulated substances" shall include substances defined as "regulated substances", "hazardous waste", "hazardous substances", "hazardous materials", "toxic substances" or "pesticides" in the Resource Conservation and Recovery Act, as amended by the Hazardous and Solid Waste Amendments of 1984, the Comprehensive Environmental Response, Compensation and Liability Act, the Hazardous Materials Transportation Act, the Toxic Substance Control Act, the Federal Insecticide, Fungicide and Rodenticide Act, the relevant local and state environmental laws, and the regulations, rules and ordinances adopted and publications promulgated pursuant to the local, state and federal laws. This indemnification shall include, without limitation, claims or damages arising out of any violations of applicable environmental laws, regulations, ordinances or subdivisions thereof, regardless of any real or alleged strict liability on the part of Grantor. This environmental indemnity shall survive the expiration or termination of this Right-of-Way and/or any transfer of all or any portion of the Premises and shall be governed by the laws of the State Of Arizona.

In the event any such action or claim is brought or asserted against the Grantor, the Grantee shall have the right, subject to the right of the Grantor to make all final decisions with respect to Grantor's liability for claims or damages, (i) to participate with Grantor in the conduct of any further required cleanup, removal or remedial actions and/or negotiation and defense of any claim indemnifiable under this environmental indemnity provision, having reasonable regard to the continuing conduct of the operation/business located on the Premises and (ii) to participate with the Grantor in negotiating and finalizing any agreement or settlement with respect to any such claim or cleanup.

ADDITIONAL EASEMENT CONDITIONS

The State of Arizona, through its State Land Department, retains ownership of the land. The use of this Right-of-Way is to be non-exclusive. This easement is sold SUBJECT to existing reservations, easements or rights-of-way heretofore legally obtained and now in full force and effect.

The Department does not represent or warrant that access exists over other State lands which intervene respectively between this Right-of-Way easement and the nearest public roadway.

SUBJECT to the express condition that when the lands cease to be put to the stated purpose, said easement shall cease and terminate. Said termination shall be effected through judicial proceedings instituted by or on behalf of any officer or employee of the State of Arizona in a court of general jurisdiction of the State.

ADDITIONAL CONDITIONS
16-101147

1. The Grantee shall assign this easement to the City of Phoenix within 90 days from the date of sale.

2. The Grantee or assignee shall provide the Department with a completed certificate of construction for the South Half of subject roadway when construction is completed. An acceptable form of Certificate of Construction is attached hereto.

3. The Grantee shall comply with the Desert Ridge Specific Plan and the City approved Paradise Ridge Master Plan and the covenants, conditions and restrictions.

4. The Grantee or assignee shall build the subject public roadway to City of Phoenix standards.

September 26, 1995
Mayo at Desert Ridge
Mayo Blvd to East From Site
Total Acreage - 20.391
BRW #3148K02

LEGAL DESCRIPTION

PARCEL "M-G"

That portion of of Tract 1 Block 3 in State Plat Number 24, Desert Ridge Amended, as recorded in Book 376 of Maps on Page 26, records of Maricopa County, Arizona, and located in Section 28, Township 4 North, Range 4 East, Gila and Salt River Meridian, described as follows:

COMMENCING at the southeast corner of said Section 28; thence N00°02'18"E 489.58 feet along the east line of said Section 28 to the POINT OF BEGINNING; thence continuing N00°02'18"E 149.36 feet along said east line to a non-tangent curve having a radius that bears N20°35'38"E 8,930.00 feet distant; thence northwesterly 2,292.39 feet along the arc of said curve, being concave northeasterly,through a central angle of 14°42'30"; thence S06°42'28"W 159.08 feet to a non-tangent curve having a radius that bears N34°49'16"E 9,070.00 feet distant; thence southeasterly 2,304.63 feet along the arc of said curve, being concave northeasterly, through a central angle of 14°33'31" to the POINT OF BEGINNING.

Parcel contains 7.387 acres, more or less.

PARCEL "M-H"

That Portion of Section 27, Township 4 North, Range 4 East, Gila and Salt River Meridian, recorded in Book 386, Page 7, records of Maricopa County, Arizona, described as follows:

COMMENCING at the southwest Corner of said Section 27; thence N00°02'18"E 489.58 feet along the west line of said Section 27 to the POINT OF BEGINNING; thence continuing N00°02'18"E 149.36 feet along said west line to a non-tangent curve having a radius that bears N20°31'39"E 8,930.00 feet distant; thence southeasterly 3,199.37 feet along the arc of said curve, being concave northeasterly, through a central angle of 20°31'39" to the north line of the south 70.00 feet of said Section 27; thence S89°56'01"E 2,151.99 feet along said north line to the east line of said Section 27; thence S00°02'21"E 70.00 feet along said east line to the southeast corner of said Section 27;

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
17548
EDWARD F.
VINCENT
Date Signed 9-26-95
ARIZONA U.S.A.

EN-M-GHI.lgl

thence N89°56'01"W 2639.01 feet to the south Quarter Corner of said Section 27; thence N89°58'31"W 634.09 feet along the south line of said Section 27 to a non-tangent curve having a radius that bears N07°09'57"E 9,070.00 feet distant; thence northwesterly 2,073.23 feet along the arc of said curve, being concave northeasterly, through a central angle of 13°05'48" to the POINT OF BEGINNING.

Parcel contains 12.535 acres, more or less.

PARCEL "M-I"

That Portion of Section 34, Township 4 North, Range 4 East, Gila and Salt River Meridian, recorded in Book 386, Page 7, records of Maricopa County, Arizona, described as follows:

BEGINNING at the North Quarter Corner of said Section 34; thence N89°58'31"W 634.09 feet along the north line of said Section 34 to a non-tangent curve having a radius that bears N07°09'57"E 9,070.00 feet distant; thence southeasterly 636.80 feet along the arc of said curve, being concave northeasterly, through a central angle of 04°01'22 to the east line of the northwest quarter of said Section 34; thence N00°00'12"W 56.93 feet along said east line to the POINT OF BEGINNING.

Parcel contains 0.469 acres, more or less.

.47

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
17548
EDWARD F
VINCENT
Date Signed 9.26.
ARIZONA, U.S.A.

EA-M.GHI.jgl

STATE OF ARIZONA LAND DEPARTMENT
1616 W. ADAMS
PHOENIX, AZ 85007

RUN DATE: 20-dec-1995
RUN TIME: 16:05:50

KE LEASE NUMBER: 016-101147-00-000
AMENDMENT NUMBER: 0

LAND#	LEGAL DESCRIPTION	C.C.	ACREAGE
04.0-N-04.0-E-27-07-031-9006	M&B THRU S2S2	0.0	12.530
04.0-N-04.0-E-28-07-031-9009	M&B THRU TRACT 1 BLOCK 3 STATE PLAT 24 AMD	0.0	7.390
04.0-N-04.0-E-34-07-031-9005	M&B IN NW	0.0	0.470
	TOTALS:	0.0	20.390

IN WITNESS HEREOF, the parties hereto have signed this Document effective the day and year set forth previously herein.

STATE OF ARIZONA, GRANTOR
Arizona State Land Commissioner

By: 1/9/96
Date

(SEAL)

MAYO FOUNDATION FOR
MEDICAL EDUCATION
AND RESEARCH
GRANTEE Date

1-5-96
By John H. Herrell Date
Vice Chair

By Robert D. Martin, Ass't. Sec.
13400 East Shea Boulevard
Address

Scottsdale, AZ 85259
City State Zip

ARIZONA
STATE LAND
DEPARTMENT

96 FEB -8 PM 12: 38

Arizona
State Land Department
1616 WEST ADAMS
PHOENIX, ARIZONA 85007

FIFE SYMINGTON
GOVERNOR

M.J. HASSELL
STATE LAND COMMISSIONER

GRANTEE'S CERTIFICATE OF CONSTRUCTION

RIGHT OF WAY NUMBER:_____

NAME OF GRANTEE:_____

DATE OF GRANT: _____

PERMITTED USE: _____

STATE R/W AGENT:_____

DATE CONSTRUCTION STARTED:_____

DATE CONSTRUCTION COMPLETED:_____

I hereby certify that the facilities authorized by the State Land Commissioner, were actually constructed and tested in accordance with the terms of the grant, in compliance with any required plans and specifications, and applicable Federal and State laws and regulations.

_____ _____
Grantee's Signature Date

_____
Title

PUBLIC AUCTION SALE NOS. 53-101025 & 16-101146, 16-101147, 16-101148
LAND SALE & PERPETUAL RIGHT OF WAY EASEMENTS

Pursuant to Title 37, A.R.S., notice is hereby given that the State of Arizona through its State Land Department (herein called Department), will sell at Public Auction to the highest and best bidder (herein called buyer) at the State Land Department office, on Wednesday, January 3, 1996 at 10:00 a.m. at 1616 W. Adams, Room 321, Phoenix, Arizona, trust lands and perpetual right-of-way easements for the purposes of a public roadway, drainage, and underground utilities, situated in Maricopa County, to wit:

SALE NO. 53-101025 (Land Sale)

TOWNSHIP 4 NORTH, RANGE 4 EAST, G&SRM, MARICOPA COUNTY, ARIZONA

PARCEL: M & B IN SECTIONS 28, 29 AND 33 CONTAINING 241.77 ACRES, MORE OR LESS.

The land has been appraised at $12,320,000.00 and consists of 241.77 acres, more or less. There are no improvements for purposes of reimbursability.

The above described lands are sold subject to existing reservations, easements or rights-of-ways.

SALE NO. 16-101146 (Underground Utilities)

PARCEL: M & B THRU SECTIONS 28 & 29 CONTAINING 7.42 ACRES MORE OR LESS.

This right-of-way has been appraised at $169,176.00 and consists of 7.42 acres more or less.

SALE NO. 16-101147 (Public Roadway and Underground Utilities)

PARCEL: M & B THRU SECTIONS 27, 28 AND 34 AND CONTAINS 20.39 ACRES MORE OR LESS.

This right-of-way has been appraised at $1,150,608.00 and consists of 20.39 acres more or less.

SALE NO. 16-101148 (Drainage Easement)

TOWNSHIP 4 NORTH, RANGE 4 EAST, G&SRM, MARICOPA COUNTY, ARIZONA

PARCEL: M & B THRU SECTION 28 AND CONTAINS 17.37 ACRES.

This right-of-way has been appraised at $841,577.00 and contains 17.37 acres more or less.

THE COMBINED TOTAL APPRAISED VALUE OF THE LAND AND RIGHTS-OF-WAY IS $14,481,361.00.

Pursuant to the provisions of the Arizona Revised Statues 37-231, the following substances not heretofore retained and reserved by a predecessor in title to the State of Arizona, all oil, gas, other hydrocarbon substances, helium or other substances of a gaseous nature, geothermal resources, coal, metals, minerals, fossils, fertilizer of every name and description, together with all uranium, thorium, or any other material which is or may be determined by the laws of the United States, or of this state, or decisions of court, to be peculiarly essential to the production of fissionable materials, whether or not of commercial value, and the exclusive right thereto, on, in, or under the above described lands, shall be and remain and are hereby reserved in and retained by the State of Arizona, together with the right of the State of Arizona, its lessees or permittees to enter upon those lands for the purpose of exploration, development and removal of the above described substances as provided by the rules and regulations of the Department and the laws of the Arizona.

The Department does not represent or warrant that access exists over non-State lands which intervene respectively between the above parcels and the nearest public roadway. No utilities will be installed by the Department on any of said parcels.

After sale by the Department the foregoing lands become subject to the laws, rules and regulations which regulate the use of private land.

The time of sale shall be deemed to be the time of declaration of the highest and best bidder.

TERMS OF SALE - (A) *At the time of sale* the buyer must pay the following in cashier's check: (1) the appraised value of the land and rights of way, which is $14,481,361.00. (2) Selling and Administrative Expenses fee of 2.75% of the appraised value of the land and rights of way, which is $398,237.00. (3) Certificate of Purchase fee in the amount of $100.00. (4) Patent fee in the amount of $100.00. The total amount due at the time of sale is $14,879,798.00.

(B) Within 30 days after the time of sale the buyer must pay the full balance of the amount bid for the land and rights-of-way and pay (for Selling and Administrative Expenses fee) 2.75% of the purchase price paid for the land and rights-of-way sold less the amount paid under (A) (2) above.

(C) Within 10 days after the time of sale the successful bidder or bidders shall be required to reimburse the applicant for prepaid estimated advertising fees of $5,000.00. In addition to the estimated $5,000.00 the successful bidder shall be required to pay actual advertising cost over and above the estimated amount.

(D) In addition to payment made at the time of sale, the successful bidder or bidders shall be billed immediately following the sale for the cost of the certified survey. If the successful bidder is the applicant, no payment for the certified survey is required.

(E) In the event no bids are received at the time of the auction, the Department will not reimburse the applicant for the cost of the certified survey.

STANDARD CONDITION:

It is the responsibility of the bidder to research the records of the local jurisdiction to ascertain the amount of additional costs the City may levy against this property prior to development.

ADDITIONAL CONDITIONS:

(A) The successful bidder is required to conform to the development plan or subsequent amendments thereto, as approved by the State Land Commissioner and to honor any covenants and restrictions as deemed necessary by the Commissioner to implement the approved development plan. In addition, the successful bidder will be required to comply with any covenant, restriction or condition of sale which is made part of the Patent pursuant to A.R.S. 37-335-H

(B) The successful bidder shall comply with the Desert Ridge Specific Plan as amended and the Superblock 3 CC&R's, as made part of the Sale and Right-of-Way auction package.

(C) The successful bidder shall enter into an infrastructure contract for acquisition and the construction of drainage facilities as made part of the Sale and Right-of-Way auction package.

(D) The successful bidder shall be required to make a participation payment to the State of Arizona if the property or a portion thereof, is sold, except to an affiliated entity. Such payment shall be 33 1/3% of gross sale price of the land, at the flat rate for the first 10 years, thereafter reduced by 20% per year for years 11-15.

(E) **Conveyance Requirements:**

The successful bidder will be required to convey and or dedicate to the City of Phoenix the following areas:

1. Underground Utility Easement #16-101146 - (Parcels M-K and M-L2).

2. Public Roadway and Underground Utility Easement #16-101147 - (Parcels M-G, M-H and M-I).

3. Public Roadway and Underground Utility Easement for 56th Street (Parcels M-C, M-D and M-E).*

4. Public Roadway and Underground Utility Easement for Avenue K (Parcel M-F).*

5. Underground Utility Easement - (Parcel M-J and extended to the east boundary of sale area 53-101025).*

   * Parcels are within Sale area 53-101025.

6. Conveyance requirements are also associated with land Sale 53-101139, Right-of-Way 16-101136 and Right-of-Way 16-101138.

   Some or all of the following public auctions may be included in this Sale:

   Land Sale 53-101139, Right-of-Way 16-101136 and Right-of-Way 16-101138, all are presently scheduled for public auction on December 12, 1995, but may be continued to the date of this auction.

   a. 53-101139 ..... $ 57,350.00
   b. 16-101136 ..... $ 39,516.00
   c. 16-101138 ..... $ 70,300.00
   Total $167,166.00

   Information regarding these auctions may be obtained from the Arizona State Land Department, 1616 W. Adams, Phoenix, Arizona, 85007.

(F) **Construction Requirements:**

The successful bidder shall construct or cause to be constructed, to City of Phoenix standards, the following infrastructure to serve the Sale area:

1. Improve the east half of 56th Street, from the B.O.R. Reach Detention Facility to the Pima Outerloop Freeway.

2. Improve the south half of Avenue K from 56th Street to the east boundary of Sale parcel 53-101025, including the south half of the bridge over the 60th Street Drainage Easement.

3. The 24" water main from the Sale area to the existing water reservoir site north of the Pima Outerloop, to be located in Right-of-Way 16-101138.

4. A water pressure reduction station located within parcel "M-U" in Right-of-Way 16-101138.

5. A 24" water main from the Sale area to the sewer lift station site, (53-101139), located within Right-of-Way 16-101146, and continuing to Tatum Boulevard, within Right-of-Way 16-101136 then north along Tatum Boulevard to the existing sewer line near the Pima Outerloop.

6. A sewer lift station located within sale are 53-101139.

7. Interim drainage channel from the Pima Outerloop Freeway to the B.O.R. Reach Detention area within Right-of-Way 16-101148. This facility shall also accept surface drainage from Superblock 3.

All construction requirements stipulated herein (except number 7 above) shall be completed by January 1, 2000, subject to a Force Majeure clause which shall be contained in the Patent. The construction requirements for No. 7 are contained in the Infrastructure Agreement.

BIDDING PROCEDURES:

(1) All bidders will be required to show proof of a cashier's check in the amount specified under "Terms of Sale" prior to bidding.

(2) All bidders will be required to sign affidavits that they have inspected the land, the Development Plan, the Development Documents, (Superblock 3 CCR'S, Infrastructure Agreement) and pertinent records/files of the Land Department and the local jurisdiction and sign a Certification Statement pursuant to A.R.S. Title 37 and the Rules of Arizona State Land Department, A.A.C. Title 12, Chapter 5.

(3) The auction will consist of verbal bidding and begin with the combined total appraised value of the right-of-way easements and the land.

(4) Bidding shall be a minimum of $100,000.00 increments thereafter.

(5) Bidding will include both the land and the right-of-way easements. Separate bids will not be considered.

(6) A bid for less than the appraised value of the land and right-of-way easements or by a party who has not previously inspected the property, the Development Plan or the Development Documents will not be considered.

The Development Plan, Development Documents, complete legal description and other pertinent records/files of the Land Department may be viewed at the Arizona State Land Department office, Planning and Disposition Division, 1616 W. Adams, Phoenix, Arizona, Monday through Friday 8:00 a.m. to 5:00 p.m., exclusive of holidays and week-ends.

The Department may cancel this sale in whole or in part at any time prior to the acceptance of a final bid.

A protest to this sale must be filed within 30 days after the first day of publication of this announcement and in accordance with A.R.S. § 37-301.

Any objections to the auction proceedings on the day of sale must be received in writing at the State Land Department office, 1616 W. Adams, Phoenix, Arizona, 85007, within 30 days after the sale date.

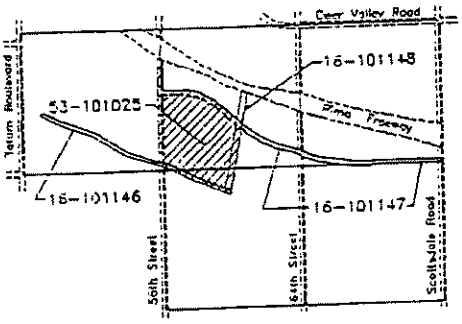
Information regarding this sale may be obtained from the Arizona State Land Department, 1616 W. Adams, Phoenix, Arizona, 85007.

In accordance with the American Disabilities Act, individuals with disabilities who require an accommodation to attend or participate in this auction may contact ADA Coordinator at 542-4634 at least 72 hours prior to the auction.

Sandra R. Jacobs

Sandra R. Jacobs
(for) William P. Foster
(for) M.J. Hassell
State Land Commissioner

October 23, 1995



T 4 N, R 4 E
SECTIONS 27, 28, 29, 33 & 34

56th St in R/W 16-101147
W 55' South of Mary Blvd Existing
Sec 28 T4N 4E

E 55' Sec. 29 South of
Mary Blvd. for 56th ST.

105262

STATE LAND DEPARTMENT
STATE OF ARIZONA

AMENDMENT TO RIGHT OF WAY

NO. 16-108739

The Right of Way between the State of Arizona, Grantor, and _____

ARIZONA DEPARTMENT OF TRANSPORTATION

Grantee, by mutual consent, has been amended as follows:

> **0.36 acre described as M&B thru Pima Freeway in State Plat 55 2nd AMD in Section 27; and 0.33 acre described as M&B thru Tract 2 Block 2 State Plat 24 AMD in Section 28, Township 4 North, Range 4 East have been added as requested.**

This Right of Way Amendment and Additional Conditions, when executed by the State Land Commissioner (Grantor) and the above mentioned Grantee and is affixed to the original Right of Way, shall be in full force and effect. All other terms and conditions of the Right of Way apply and shall remain in full force and effect.

IN WITNESS HEREOF, the parties hereto have signed this Document effective the day and year set forth below.

STATE OF ARIZONA, GRANTOR
Arizona State Land Commissioner

By: April Brasel 10-10-12
Date

ARIZONA DEPT. OF TRANSPORTATION
GRANTEE

Paula Gibson 10-9-2012
Authorized Signature Date

Chief Right of Way Agent
Title

205 S. 17th Avenue, MD 612E
Address

Phoenix, AZ 85007-3212
City State Zip

APPENDIX A

STATE OF ARIZONA LAND DEPARTMENT
1616 W. ADAMS
PHOENIX, AZ 85007

RUN DATE: 20 September 2012
RUN TIME: 23:15 PM
PAGE: 1

KE-LEASE# 016-108739-00-001 APPTYPE: AMENDMENT
AMENDMENT#: 0

LAND#	LEGAL DESCRIPTION	AUS	ACREAGE
04.0-N-04.0-E-27-07-031-9045	M&B THRU PIMA FREEWAY IN STATE PLAT 55 2ND AMD BOOK 949 P.50	0.00	1.960
04.0-N-04.0-E-28-07-031-9026	M&B THRU TRACT 2 BLOCK 2 STATE PLAT 24 AMD AND TRACT 4 BLOCK 3 IN STATE PLAT 36	0.00	1.800
	TOTALS	0.00	3.760

ADDITIONAL CONDITIONS
#16-108739

1. **LEGAL DESCRIPTION:** The legal description for this right of way is detailed as follows: See one (1) page legal description and map exhibit attached hereto.

   Subject to Grantor's rules and policies then in place and as a result of construction related restrictions, Grantor and Grantee may agree to modify the legal description by Grantee submitting "as Built" or "proposed realignment" legals, depending on the situation, to the Grantor for Grantor's review. If approved by Grantor and additional acreage is impacted, Grantee agrees to pay an appraised or pro-rated charge as the Grantor determines is appropriate. No refund will be made for a reduction in acreage.

2. **ENGINEERING:** Grantee shall comply with the existing Desert Ridge 404 permit #984-0030-RWF (permit 1) and the existing Paradise Ridge 404 permit #1999-16129-RWF (permit 2) by the United States Army Corps of Engineers in regards to any construction activity associated within their right-of-way. This includes, but is not limited to, a review by the Technical Review Team (TRT), along with a submittal of detailed information, a memo stating mitigation obligations, and 404 Transferee Forms to ASLD so that it can be transmitted to the Corps for approval prior to construction.

   Archaeological conditions apply for any ground disturbing activities per *special condition e* of permit 1 and *special condition h* of permit 2.

   The Grantee shall ensure there will be no adverse impact to drainage or property downstream, including erosion or sedimentation, that would occur during any construction activities.

   The Grantee is responsible for identifying all existing wet and dry utilities that could be impacted by the project and for resolution of any conflicts with these utilities during maintenance/construction activities.

R/W PROJECT
101L MA 032 H4845 01R
M-600-1-731

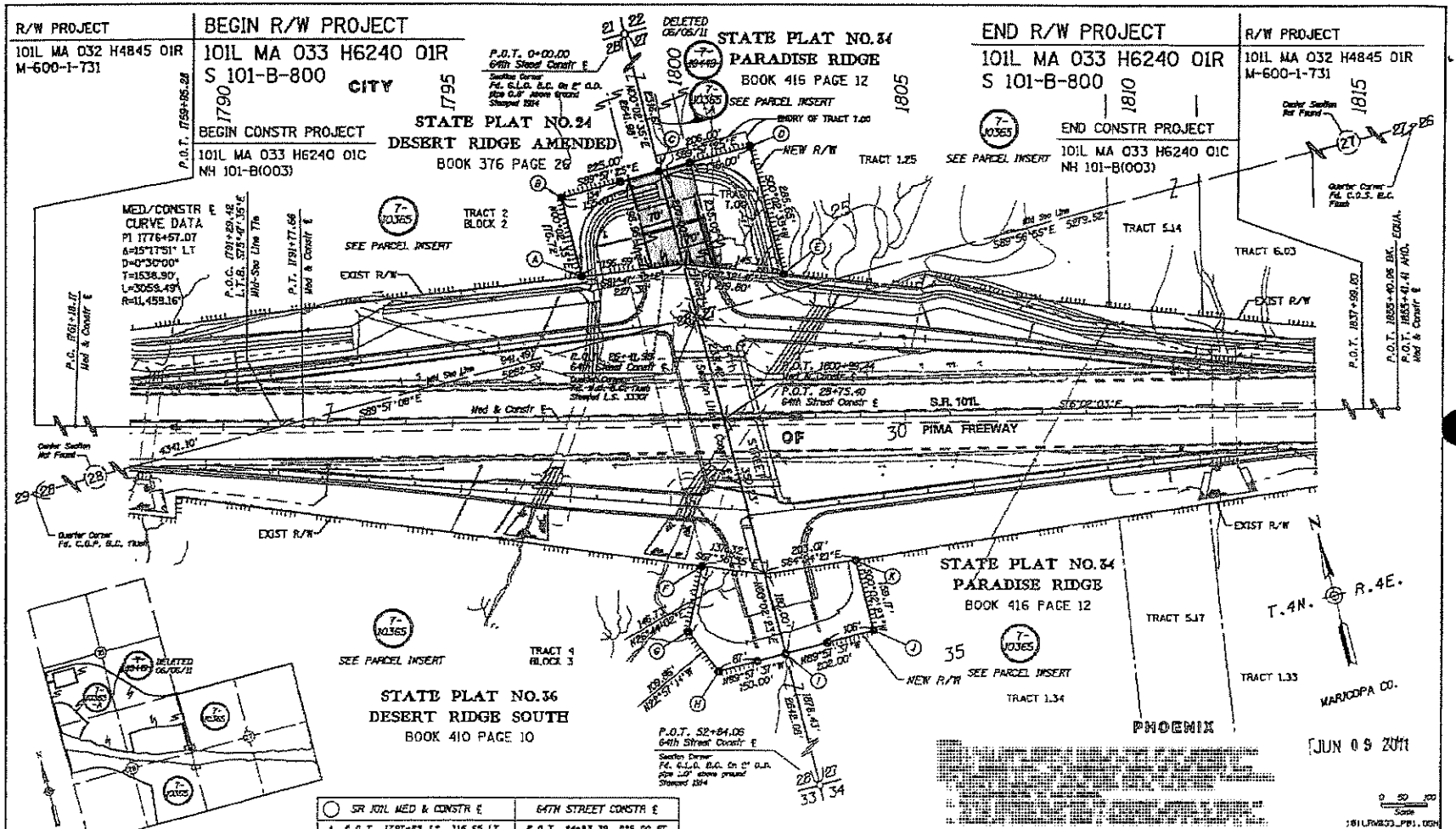
BEGIN R/W PROJECT
101L MA 033 H6240 01R
S 101-B-800

BEGIN CONSTR PROJECT
101L MA 033 H6240 01C
NH 101-B(003)

END R/W PROJECT
101L MA 033 H6240 01R
S 101-B-800

END CONSTR PROJECT
101L MA 033 H6240 01C
NH 101-B(003)

R/W PROJECT
101L MA 032 H4845 01R
M-600-1-731



PARCEL INSERT
N.T.S.

SR 101L MED & CONSTR ℄				64TH STREET CONSTR ℄		
A	P.O.T. 1797+83.15	316.65	LT	P.O.T. 24+93.39	225.00	RT
B	P.O.T. 1797+46.60	468.17	LT	P.O.T. 23+16.67	225.00	RT
C	P.O.T. 1799+64.99	542.31	LT	P.O.T. 23+16.67	0.00	
D	P.O.T. 1801+64.93	551.88	LT	P.O.T. 23+16.67	206.00	LT
E	P.O.T. 1802+33.67	314.62	LT	P.O.T. 26+02.32	206.00	LT
F	P.O.T. 1800+47.03	318.53	RT	P.O.T. 31+73.41	191.00	RT
G	P.O.T. 1800+15.47	402.92	RT	P.O.T. 33+04.00	192.51	RT
H	P.O.T. 1800+81.46	550.75	RT	P.O.T. 34+05.63	150.00	RT
I	P.O.T. 1802+27.05	514.64	RT	P.O.T. 34+05.63	0.00	
J	P.O.T. 1804+23.11	486.03	RT	P.O.T. 34+05.63	202.00	LT
K	P.O.T. 1803+24.80	311.54	RT	P.O.T. 32+46.46	202.00	LT

CHANGE ORDER REVISIONS			
C.O. NO.	DATE	BY	DESCRIPTION OF REVISIONS
5801	06/08/11	WFM	DELETED PARCEL 7-10449, ADDED PARCEL 7-10365-A.
"	"	"	

DRAWING NO.	D-7-7-962
SURVEY	SEE NOTE
DRAWN/DATE	WFM 06-11
AUT TOTEM	C. Woodberg
AZTEC	
ROUTE NO.	SR 101L
SECTION NAME	64th Street T.I.

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
FRONT OF WAY PLANS SECTION

HIGHWAY NAME: PIMA FREEWAY
STATION DESCRIPTION NO.: S 101-B-800
TRACT NO.: 101L MA 033 H6240 01R

PRELIMINARY
NOT FOR
CONSTRUCTION
OR RECORDING
--CREATED--
6/8/2011
7:44:18 AM

SHEET 4-1

6/8/2011 B:\PHOENIX\PROJECTS\AZSB922_ADOT_89-34_83\33_64THSTREETTI_CO9881\SURVEY\DGN\RW\181LRW033_PB1.DGN

STATE LAND DEPARTMENT
STATE OF ARIZONA

Right of Way

Project No.	S 101-B-800
Parcel No.	7-10365
R/W No.	16-108739

THIS RIGHT OF WAY ("Right of Way") is entered into by and between the State of Arizona (as "Grantor") by and through the Arizona State Land Department and

ARIZONA DEPARTMENT OF TRANSPORTATION

("Grantee"). In consideration of payment and performance by the parties of each of the provisions set forth herein, the parties agree as follows:

EXTENT OF DOCUMENT

"Additional Conditions", "Exhibits", and "Appendixes" are an integral part of this document. In case of a conflict between the printed boiler document and the additional conditions, exhibits, or appendixes, the applicable additional condition, exhibit, or appendix shall be considered the governing document and supersede the printed boiler, but only to the extent necessary to implement the additional condition, exhibit, or appendix, and only if the additional condition, exhibit, or appendix does not conflict with governing state or federal law.

ARTICLE 1
SUBJECT LAND

1.1 Grantor grants to Grantee a Right of Way on, over, through, and across the State lands described in Appendix A attached hereto ("Subject Land").

1.2 Grantee makes use of the Subject Land "as is", and Grantor makes no express or implied warranties as to the physical condition of the Subject Land.

17

ARTICLE 2
TERM

2.1 The term of this Right of Way commences on August 15, 2008 ("Commencement Date"), and runs for a perpetual term ("Expiration Date"), unless sooner canceled or terminated as provided herein or as provided by law.

ARTICLE 3
RENT

3.1 Rental is due in advance for the term of this Right of Way document.

3.2 If the Grantee should fail to pay rental when due, or fail to keep the covenants and agreements herein set forth, the Commissioner, at his option, may cancel said Right of Way or declare the same forfeited in the manner provided by law.

ARTICLE 4
PURPOSE AND USE OF SUBJECT LAND

4.1 The purpose of this Right of Way is the location, construction, operation, and maintenance of:

public road.

4.2 No material may be removed by Grantee or its contractors without the written approval of the Commissioner.

4.3 Grantee shall not exclude from use the State of Arizona, its lessees or grantees, or the general public the right of ingress and egress over this Right of Way.

4.4 Grantee shall acquire required permits prior to construction, and adhere to all applicable rules, regulations, ordinances, and building codes as promulgated by the local jurisdiction and any applicable State or Federal agencies.

4.5 All use of State land outside the Right of Way must be applied for and authorized in accordance with applicable law.

4.6 Grantee shall not sublet or assign this Right of Way or any portion thereof without the written consent of the Grantor.

4.7 The Grantor retains ownership of the Subject Land. The use of this Right of Way is to be non-exclusive. This Right of Way is sold subject to existing reservations, easements, or rights of way heretofore legally obtained and now in full force and effect.

4.8 When necessary for Grantee's reasonable use of this Right of Way for the purposes for which the grant is made, it shall be deemed to include the rights in, upon, over, and across the described Subject Land to erect, construct, reconstruct, replace, repair, and maintain the facilities authorized by this Right of Way.

4.9 Grantee shall have the right to erect, maintain, and use gates in all fences under the control of the Grantor which now cross or shall hereafter cross said Right of Way, and to trim, cut, and clear away trees or brush whenever in its judgment the same shall be necessary for the convenient and safe exercise of the right herein provided.

4.10 Grantee shall not fence any portion of this Right of Way unless specifically authorized in the attached additional conditions without prior written consent of Grantor, nor shall Grantee exclude from the use of the surface thereof the State of Arizona or its lessees or grantees as reserved in Paragraph 10.1.

ARTICLE 5
CONFORMITY TO LAW

5.1 This Right of Way is subject to applicable laws and covenants relating to State lands.

ARTICLE 6
CANCELLATION, TERMINATION AND ABANDONMENT

6.1 This Right of Way is subject to cancellation pursuant to A.R.S. § 38-511.

6.2 If at any time the Right of Way ceases to be used for the purpose for which it was granted, it shall become void, and the right to use the Subject Land and all the rights of Grantee hereunder shall revert to the Grantor.

6.3 Upon revocation or termination of the Right of Way, the Grantee shall remove all equipment or facilities and, so far as is reasonably possible, restore and/or rehabilitate the Subject Land to its original condition, and to the satisfaction of the Commissioner.

ARTICLE 7
INDEMNITY

7.1 This provision is pursuant to the July 12, 2000 memorandum issued by the Risk Management Section of the Arizona Department of Administration applicable to all political subdivisions of the State.

Each party (as "indemnitor") agrees to indemnify, defend, and hold harmless the other party (as "indemnitee") from and against any and all claims, losses, liability, costs, or

expenses (including reasonable attorneys' fees) (hereinafter collectively referred to as "claims") arising out of bodily injury of any person (including death) or property damage, but only to the extent that such claims which result in vicarious/derivative liability to the indemnitee, are caused by the act, omission, negligence, misconduct, or fault of the indemnitor, its officers, officials, agents, employees, or volunteers.

ARTICLE 8
RESERVATIONS; RELINQUISHMENTS

8.1 Grantor reserves the right to grant other rights in, upon, over, and across the described Subject Land for any purpose whatsoever not inconsistent or incompatible with the use allowed by this indenture, and the Grantee agrees not to exclude the Grantor or its lessees or grantees from the use of the Subject Land herein described.

8.2 Grantor reserves all natural resources, timber, and minerals (including oil or gas) in or upon the described Subject Land, and the right to grant leases, permits, easements, and/or rights of way to extract such resources as provided by law and in a manner not inconsistent or incompatible with Grantee rights hereunder. Where inconsistent or incompatible uses exist, the Grantor will require the applicant therefor to indemnify Grantee for loss it might suffer by reason of such use.

8.3 Grantor reserves the right to relinquish to the United States pursuant to the U.S. Act of August 30, 1890, land needed for irrigation works in connection with a government reclamation project.

ARTICLE 9
LOCATION, CONSTRUCTION AND MAINTENANCE

9.1 Grantee shall ensure full compliance with the terms and conditions of this Right of Way by its agents, employees, and contractors (including sub-contractors of any tier), and the employees of each of them and shall include the terms and conditions in all contracts and sub-contracts which are entered into by any of them.

9.2 Failure or refusal of Grantee's agents, employees, contractors, sub-contractors, or their employees to comply with these terms and conditions shall be deemed to be the failure or refusal of Grantee.

ARTICLE 10
NATIVE PLANTS AND ARCHAEOLOGICAL RESOURCES

10.1 If the removal of plants protected under the Arizona Native Plant Law is necessary to enjoy the privilege of this Right of Way, the Grantee hereunder must obtain the written permission of the Grantor and the Arizona Department of Agriculture prior to removal of those plants.

10.2 Grantee shall promptly notify the Commissioner of the amount of flora, if any, which will be cut, removed, or destroyed in the construction and maintenance of said Right of Way and shall pay the Grantor such sum of money as the Commissioner may determine to be the full value of the flora to be so cut, removed, or destroyed. Grantee shall notify the Grantor and the Arizona Department of Agriculture 30 days prior to any destruction or removal of native plants to allow salvage of those plants where possible.

10.3 Prior to surface disturbance, the Grantee hereof shall provide evidence of archaeological clearance to the Grantor. Archaeological surveys and site mitigation must be conducted in accordance with rules and regulations promulgated by the Director, Arizona State Museum. In the event additional archaeological resources are detected by Grantee after receipt of archaeological clearance, all work shall cease and notification shall be given to the Director, Arizona State Museum, and Grantor.

ARTICLE 11
GRANTEE SHALL PROTECT AND RESTORE THE SUBJECT LAND

11.1 Grantee shall be required, upon completion of Right of Way construction, to make such rehabilitation measures on the State lands, including but not limited to restoration of the surface, revegetation, and fencing as determined necessary by the Grantor.

11.2 Grantee shall conduct all construction and maintenance activities in a manner that will minimize disturbance to all land values including, but not limited to vegetation, drainage channels, and streambanks. Construction methods shall be designed to prevent degradation of soil conditions in areas where such degradation would result in detrimental erosion or subsidence. Grantee shall take such other soil and resource conservation and protection measures on the Subject Land under grant as determined necessary by the Grantor.

11.3 Costs incurred by the Grantee in complying with restoration and rehabilitation requirements, as determined by the Department, on State lands shall be borne by the Grantee.

11.4 Grantee shall conduct its operations on the Subject Land in such a manner as is consistent with good environmental practices. Grantee shall exert reasonable efforts to avoid damage of protected flora, and restore the surface to its condition prior to the occupancy thereof by Grantee.

ARTICLE 12
MISCELLANEOUS

12.1 The described Subject Land shall be used only for the purpose stated in Paragraph 4.1, and as may be further detailed elsewhere in this document.

12.2 This Document is submitted for examination and shall have no binding effect on the parties unless and until executed by the Grantor (after execution by the Grantee), and until a fully executed copy is delivered to the Grantee.

12.3 In the event of a dispute between the parties to this Right of Way, it is agreed to use arbitration to resolve the dispute, but only to the extent required by A.R.S. § 12-1518. In no event shall arbitration be employed to resolve a dispute which is otherwise subject to administrative review by the Department.

12.4 Insurance provisions are intentionally omitted from this Permit pursuant to the July 12, 2000 memorandum issued by the Risk Management Section of the Arizona Department of Administration to all political subdivisions of the State.

12.5 The Grantor does not represent or warrant that access exists over other State lands which intervene respectively between the above Right of Way and the nearest public roadway.

12.6 If for any reason the State of Arizona does not have title to any of the Subject Land described herein, this Right of Way shall be null and void insofar as it relates to the land to which the State has failed to receive title.

12.7 Every obligation of the State under this Right of Way is conditioned upon the availability of funds appropriated or allocated for the payment of such obligation. If funds are not allocated and available for the continuance of this Right of Way, this Right of Way may be terminated by the State at the end of the period for which funds are available. No liability shall accrue to the State in the event this provision is exercised, and the State shall not be obligated or liable for any future payments or any damages as a result of termination under this paragraph.

12.8 The parties agree to be bound by applicable State and Federal rules governing Equal Employment Opportunity, Non-discrimination and Disabilities, including Executive Order No. 99-4.

12.9 Within 30 days of project completion, Grantee shall submit a completed certificate of construction (copy attached).

ADDITIONAL CONDITION
16-108739-00-000

1. The legal description of this right-of-way is detailed in Exhibit A. Subject to Grantor's rules and policies then in place and as a result of construction related restrictions, Grantor and Grantee may agree to modify the legal description by Grantee submitting "as built" or "proposed realignment" legals, depending on the situation, to the Grantor for Grantor's review. If approved by Grantor and additional acreage is impacted Grantee agrees to pay an appraised or pro-rated charge as the Grantor determines is appropriate. No refund will be made for a reduction in acreage.

2. Grantor grants vehicular access control to the Grantee for the land described in Exhibit A except for the approximate 159 feet identified on Page 2 of Exhibit A as "non-access controlled" where the City of Phoenix plans to join 64th Street on the south side of this easement.

3. Grantee is advised that this Right-of-Way is subject to the terms and conditions of Permit #1999-16129-RWF issued to Grantor by the United States Army Corps of Engineers pursuant to Section 404 of the Clean Water Act (the "404 Permit"). In connection with the issuance of this Right-of-Way, Grantee shall sign the 404 Permit as a permit transferee, thereby agreeing to comply with all terms and conditions of the 404 permit.

    a. Pursuant to special condition (i) of the 404 Permit, Grantee must provide for archeological monitoring throughout the Right-of-Way during initial mass grading activities. The onsite archeological monitoring activities shall be accomplished by qualified archeologist(s) who regularly engages in this type of field activity. The archeologist shall be responsible for immediately notifying the Corps of Engineers, ASLD and the State Historic Preservation Officer upon discovery of previously unknown historic properties and shall have the authority to stop the ground disturbing construction activities within a minimum of a 50-foot radius of the find until additional direction is provided by the Corps of Engineers.

    b. Grantee hereby expressly agrees to indemnify and hold Grantor harmless, or cause Grantor to be indemnified and held harmless, from and against all liabilities, obligations, damages, penalties, claims, causes of action, costs, charges, and expenses, including attorney's fees and costs, which may be imposed upon or incurred by or asserted against Grantor by reason of Grantee's failure to comply with the terms and conditions of the 404 Permit. If any action or proceeding is brought against Grantor by reason of any such failure of Grantee to comply with the terms of the 404 Permit, Grantee, upon Grantor's written request and at Grantee's expense, will resist and defend such action or proceeding, or cause the same to be resisted either by counsel designated by Grantee or where such is covered by liability insurance, by counsel designated by the insurer.

4. Grantee is advised that this Right-of-Way is subject to the terms and conditions of Permit #984-0030-RWF issued to Grantor by the United States Army Corps of Engineers pursuant to Section 404 of the Clean Water Act (the "404 Permit"). In connection with the issuance of this Right-of-Way, Grantee shall sign the 404 Permit as a co-permittee, thereby agreeing to comply with all terms and conditions of the 404 Permit. Grantee shall also cooperate with Grantor in providing to the Corps of Engineers the information required by Special Condition (f) of the 404 Permit, including Grantee's affirmation that Grantee is aware of and intends to comply with all pertinent provisions of the 404 Permit, including Grantee's affirmation that Grantee is aware of and intends to comply with all pertinent provisions of the 404 Permit. Grantee acknowledges having been provided a copy of the *Implementation Handbook Including Best Management Practices for Complying with the Terms and Conditions of Sections 401 and 404 of the Clean Water Act,* and agrees to comply with all applicable provisions therein.

   a. Pursuant to Special Condition (e) of the 404 Permit, if any part of this Right-of-Way is within Superblocks 2, 3 or 9, Grantee shall not undertake any ground disturbing activities within a minimum of a 50 foot radius around the register-eligible (or potentially register-eligible) archeological sites, as specified in the 404 Permit, until the Corps of Engineers has issued written notification that National Historic Preservation Act concerns have been resolved.

   b. Also pursuant to Special Condition (e) of the 404 Permit, if any part of this Right-of-Way is within Superblocks 2, 3 or 9, Grantee shall obtain the services of a qualified archaeological monitor, as specified in the 404 Permit, who shall observe initial mass grading activities on the portions of this Right-of-Way within Superblocks 2, 3 or 9. The archaeological monitor shall comply with the requirements of the 404 Permit relating to the discovery of previously unknown cultural resources.

   c. Grantee hereby expressly agrees to indemnify and hold Grantor harmless, or cause Grantor to be indemnified and held harmless, from and against all liabilities, obligations, damages, penalties, claims, causes of action, costs, charges and expenses, including attorney's fees and costs, which may be imposed upon or incurred by or asserted against Grantor by reason of Grantee's failure to comply with the terms and conditions of the 404 Permit. If any action or proceeding is brought against Grantor by reason of any such failure of Grantee to comply with the terms of the 404 Permit, Grantee, upon Grantor's written request and at Grantee's expense, will resist and defend such action or proceeding, or cause the same to be resisted either by counsel designated by Grantee or where such is covered by liability insurance, by counsel designated by the insurer.

DESCRIPTION FOR NEW RIGHT OF WAY STATE LAND DEPARTMENT

PARCEL NO. 1:

That portion of Tract 2, Block 2 of STATE PLAT NO. 24, DESERT RIDGE AMENDED, as recorded in Book 376 of Maps, in Page 26, records of Maricopa County, Arizona, located in the Southeast quarter of the Northeast quarter (SE¼NE¼) of Section 28, Township 4 North, Range 4 East, Gila and Salt River Meridian, Maricopa County, Arizona, described as follows:

COMMENCING at a Maricopa County (M.C.) brass cap stamped L.S. 33307 that is flush marking the East quarter corner of said Section 28, being South 00°02'35" West 2641.98 feet from a General Land Office (G.L.O.) brass cap stamped 1914 that is on a 2 inch pipe 0.8 feet above ground marking the Northeast corner of said Section 28;

thence along the East line of said Section 28 North 00°02'35" East 116.31 feet to the existing northerly right of way line of State Route 101L (PIMA FREEWAY);

thence along said existing northerly right of way line of State Route 101L North 81°47'32" West 70.71 feet to the POINT OF BEGINNING on West line of the East 70.00 feet of said Tract 2;

thence continuing along said existing northerly right of way line of State Route 101L continuing North 81°47'32" West 156.59 feet;

thence North 00°02'35" East 176.72 feet;

thence South 89°57'25" East 155.00 feet to said West line of the East 70.00 feet of Tract 2;

thence along said West line of the East 70.00 feet of Tract 2 South 00°02'35" West 198.96 feet to the POINT OF BEGINNING.

AND that portion of Tract 4, Block 3 of STATE PLAT NO. 36, DESERT RIDGE SOUTH, as recorded in Book 410 of Maps, in Page 10, records of Maricopa County, Arizona, located in the Northeast quarter of

(continued)

EXHIBIT "A"

PAGE 1

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JBG

Southeast quarter (NE¼SE¼) of said Section 28, described as follows:

COMMENCING at said East quarter corner of Section 28;

thence along the East line of said Section 28 South 00°02'23" West 583.65 feet to the POINT OF BEGINNING on the existing southerly right of way line of said State Route 101L;

thence continuing along said East line of Section 28 continuing South 00°02'23" West 180.00 feet;

thence North 89°57'37" West 150.00 feet;

thence North 22°57'14" West 109.86 feet;

thence North 26°44'02" East 146.73 feet to said existing southerly right of way line of State Route 101L;

thence along said existing southerly right of way line of State Route 101L South 67°36'35" East 137.32 feet to the POINT OF BEGINNING.

Parcel No. 1 comprises an area of 64,107 square feet, more or less.

PARCEL NO. 2:

That portion of Tract 7.00 of STATE PLAT NO. 34, PARADISE RIDGE, as recorded in Book 416 of Maps, in Page 12, records of Maricopa County, Arizona, located in the Southwest quarter of the Northwest quarter (SW¼NW¼) of Section 27, Township 4 North, Range 4 East, Gila and Salt River Meridian, Maricopa County, Arizona, described as follows:

COMMENCING at a Maricopa County (M.C.) brass cap stamped L.S. 33307 that is flush marking the West quarter corner of said Section 27, being South 00°02'35" West 2641.98 feet from a General Land Office (G.L.O.) brass cap stamped 1914 that is on a 2 inch pipe 0.8 feet above ground marking the Northwest corner of said Section 27;

thence along the West line of said Section 27 North 00°02'35" East 116.31 feet to the existing northerly right of way line of State Route 101L (PIMA FREEWAY);

(continued)

thence along said existing northerly right of way line of said State Route 101L South 69°32'46" East 74.69 feet to the POINT OF BEGINNING on the East line of the West 70.00 feet of said Tract 7.00;

thence along said East line of the West 70.00 feet of said Tract 7.00 North 00°02'35" East 235.05 feet;

thence South 89°57'25" East 136.00 feet;

thence South 00°02'35" West 285.65 feet to said existing northerly right of way line of State Route 101L;

thence along said existing northerly right of way line of State Route 101L North 69°32'46" West 145.11 feet to the POINT OF BEGINNING;

AND that portion of Tract 1.34 of said STATE PLAT NO. 34, PARADISE RIDGE located in the Northwest quarter of the Southwest quarter (NW¼SW¼) of said Section 27, described as follows:

COMMENCING at said West quarter corner of Section 27;

thence along the West line of said Section 27 South 00°02'23" West 583.65 feet to the POINT OF BEGINNING on the existing southerly right of way line of said State Route 101L;

thence continuing along said West line of Section 27 South 00°02'23" West 180.00 feet;

thence South 89°57'37" East 202.00 feet;

thence North 00°02'23" East 159.17 feet to said existing southerly right of way line of State Route 101L;

thence along said existing southerly right of way line of State Route 101L North 84°04'21" West 203.07 feet to the POINT OF BEGINNING.

Parcel No. 2 comprises an area of 69,664 square feet, more or less.

EXHIBIT "A"

PAGE 3

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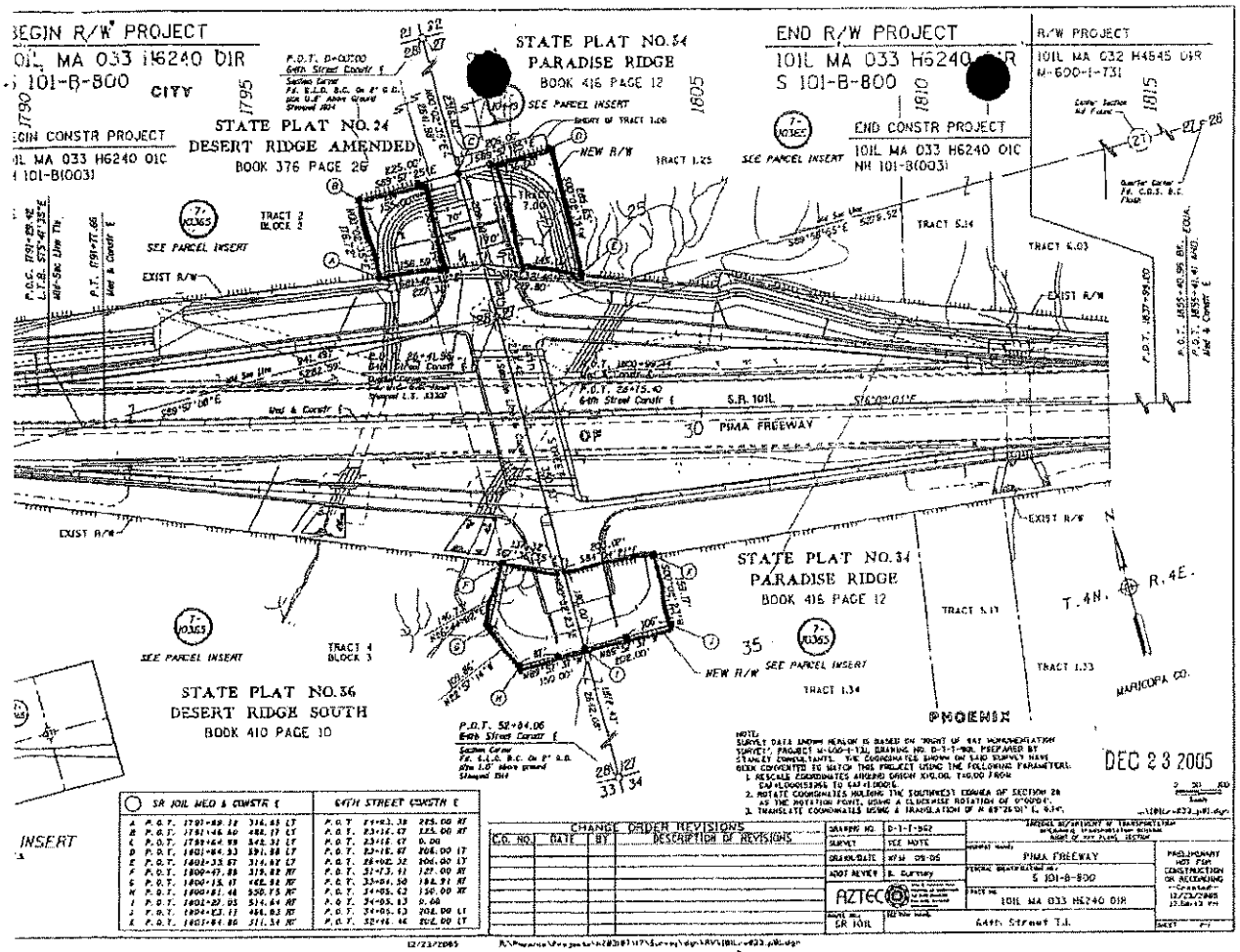


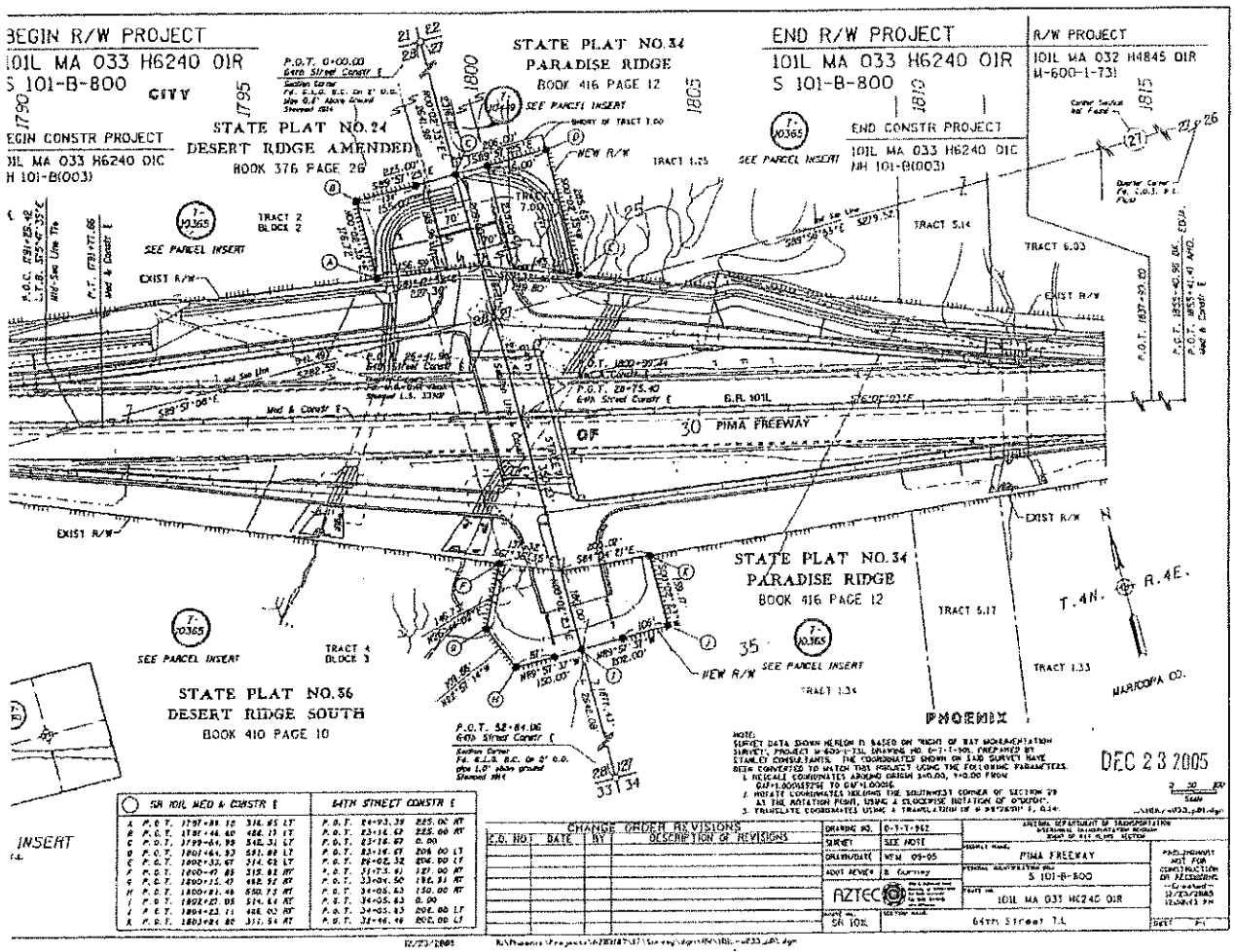


EXHIBIT A
LEGAL DESCRIPTION
16-108739
Page 4 of 4

Rec 4-19-0
JBG

STATE OF ARIZONA LAND DEPARTMENT
1616 W. ADAMS
PHOENIX, AZ 85007

RUN DATE 20-AUG-2008
RUN TIME: 09:38:29
APPENDIX A
PAGE: 001

KE-LEASE#: 016-108739-00-000 APPTYPE: NEW

AMENDMENT#: 0

LAND#	LEGAL DESCRIPTION	AUS	ACREAGE
04.0-N-04.0-E-27-07-031-9022	M&B THRU PIMA FREEWAY IN STATE PLAT 55 2ND AMD BOOK 949 P.50	0.00	1.600
04.0-N-04.0-E-28-07-031-9023	M&B THRU TRACT 2 BLOCK 2 STATE PLAT 24 AMD AND TRACT 4 BLOCK 3 IN STATE PLAT 36	0.00	1.470
	TOTALS:	0.00	3.070

IN WITNESS HEREOF, the parties hereto have signed this Right of Way effective the day and year set forth previously herein.

STATE OF ARIZONA, GRANTOR
Arizona State Land Commissioner

By: _____ SEP 10 2008
Date

ARIZONA STATE LAND DEPARTMENT (SEAL) 1915

AZ DEPT. TRANSPORTATION
GRANTEE

_____ 09/02/08
Authorized Signature **Date**

MANAGER ROW
Title

205 So 17th Ave MD 612E
Address

PHOENIX AZ 85007
City **State Zip**

GRANTEE'S CERTIFICATE OF CONSTRUCTION

RIGHT OF WAY NUMBER: _____

NAME OF GRANTEE: _____

DATE ISSUED: _____

PERMITTED USE: _____

LAND DEPARTMENT ADMINISTRATOR: _____

DATE CONSTRUCTION STARTED: _____

DATE CONSTRUCTION COMPLETED: _____

I hereby certify that the facilities authorized by the State Land Commissioner, were actually constructed and tested in accordance with the terms of the grant, in compliance with any required plans and specifications, and applicable Federal and State laws and regulations.

_____ _____

Grantee's Signature **Date**

Title _____

Return To: **Arizona State Land Department**
R/W Section
1616 W. Adams Street
Phoenix, AZ 85007

STATE LAND DEPARTMENT
STATE OF ARIZONA

AMENDMENT TO RIGHT OF WAY

NO. 16-115118

The Right of Way between the State of Arizona, Grantor, and

CITY OF PHOENIX

Grantee, by mutual consent, has been amended as follows:

0.02 acre in Section 27 and 0.11 acre in Section 28, Township 4 North, Range 4 East have been added to drainage as requested. (See attached Appendix A.)
Purpose is amended to read: Public road and underground utilities and two public road drainage areas. Additional Conditions have been added as required.

This Right of Way Amendment, when executed by the State Land Commissioner (Grantor) and the above mentioned Grantee and is affixed to the original Right of Way, shall be in full force and effect. All other terms and conditions of the Right of Way apply and shall remain in full force and effect.

IN WITNESS HEREOF, the parties hereto have signed this Document effective the day and year set forth below.

STATE OF ARIZONA, GRANTOR
Arizona State Land Commissioner

By: AUG 14 2014
Date

CITY OF PHOENIX
GRANTEE

7.24.14
Authorized Signature **Date**

Mark A. Glock DEPUTY STREET TRANS. DIR.
Printed Name **Title**

1034 E. MADISON STREET
Address

PHOENIX, AZ 85034
City **State** **Zip**

1. LEGAL DESCRIPTION, RENT AND PURPOSE

1.1 A legal description and/or a visual depiction of this Right of Way is/are detailed in EXHIBIT A attached hereto. Subject to Grantor's rules and policies then in place, and as a result of construction-related restrictions, Grantor and Grantee may agree to modify the legal description by the Grantee submitting "as built" or "proposed realignment" legal descriptions, depending on the situation, to Grantor for Grantor's review. If approved by Grantor, and additional acreage is impacted, Grantee agrees to pay an appraised or pro-rated charge as Grantor determines is appropriate. No refund will be made for a reduction in acreage.

1.2 Grantor reserves the right to grant additional access rights, or any other rights not in conflict with the rights granted herein, to other parties at the Grantor's sole discretion.

2. CONSTRUCTION, MAINTENANCE AND OPERATION

2.1 Grantee is responsible for complying with all federal, state and local guidelines in regards to the construction, maintenance and operation of this Right of Way grant and its associated appurtenances.

2.2 Prior to construction, and at the request of the Grantor, Grantee shall provide construction plans (no larger than 11" x 17" format) and applicable drainage report(s), engineering infrastructure report(s) or studies, and any Clean Water Act (CWA) Section 401 or 404 documents to the Grantor for the Grantor's review.

2.3 Grantee shall conduct all construction and maintenance activities in a manner that will minimize disturbance to surface features affecting adjacent land values, including, but not limited to, vegetation, drainage channels and stream banks.

2.4 Grantee agrees that any rubbish or debris from construction and maintenance work shall be removed and properly disposed of at its expense. Disposal of construction-related and maintenance-related materials on State Trust land is strictly prohibited.

2.5 Specific sites where construction and maintenance equipment and vehicles shall not be allowed (e.g. archaeological sites, areas with threatened or endangered species, or fragile watersheds) shall be clearly marked onsite by the Grantee prior to the beginning

of any construction, maintenance or other ground disturbing activities. Grantee shall take any and all steps necessary to ensure that these sites are not touched.

2.6 All equipment shall be removed from the site within seven (7) days of project completion.

2.7 Grantee shall be responsible for weed control on disturbed areas within the limits of this Right of Way, and shall be responsible for consultation with the Grantor and/or local authorities for acceptable weed control methods.

2.8 For construction after Commencement Date of this Right of Way, disturbed areas shall be restored and rehabilitated according to a plan submitted and approved in advance by the Grantor prior to commencement of construction. The plan shall include, but not be limited to, reseeding, reforestation, erosion control, and watershed protection measures.

2.9 For ground disturbance after Commencement Date of this Right of, all rock brought to the surface along with topsoil and overburden from the affected State Trust lands shall be salvaged and stockpiled separately in a manner that replacement shall utilize one hundred (100%) percent of the materials upon project completion. Excess rock unsuitable for scattering shall be disposed of in a manner and location that is authorized by the Grantor.

2.9.1 Disturbed areas shall be restored and rehabilitated according to a plan submitted and approved in advance by the Grantor prior to commencement of construction. The plan shall include, but not be limited to, reseeding, reforestation, erosion control, and watershed protection measures.

2.10 Grantee shall maintain the Right of Way grant area in the manner described above during the term of this easement. Grantee agrees to complete any necessary restoration and rehabilitation to the satisfaction of the Grantor within ninety (90) days of written notification of non-compliance.

2.11 The Grantee shall comply with all terms and provisions of Sections 401 and 404 of the Clean Water Act. In this regard, Grantee is advised that this project is subject to the terms and conditions of *Individual Permits #984-0030-RWF (Desert Ridge) and #1999-16129-RWF (Paradise Ridge)*, including, but not limited to: Grantee shall sign the 404/401

Permit transfer forms prior to issuance of the Right of Way. Grantee shall comply with all parts of the *404/401 Implementation Handbook* for each permit.

2.12 When infrastructure subject to this Right of Way is being constructed as well as after it is constructed, the Grantee shall ensure that there will be no significant adverse impacts to drainage, either on-site or offsite. The Grantee shall use the 100-year storm event in this determination.

2.13 The Right of Way is within an area subject to uplift, shrink-swell, and high lime content. The Grantee shall be responsible to design, construct, and operate the infrastructure subject to this Right of Way in accordance with engineering standards that would mitigate these potential problems. The Grantor shall not be liable for any geotechnical or structural problems.

2.14 The Right of Way is currently within a 100 year floodplain Zone AO. The Grantee will design all infrastrueture subject to this Right of Way in accordance with FEMA floodplain regulations.

2.15 The Grantee shall cause any underground utility installation to be located within the Right of Way to be appropriately sized to serve adjacent Stat Trust land development utilizing the current City General Plan land use (and for water lines, the intended pressure zone) in place at time of approval of this document.

2.16 The Grantee shall design all underground utilities that are approved in this Right of Way that are within a wash boundary with appropriate measures to prevent damage due to scour in accordance with applicable regulations.

3. ENVIRONMENTAL MATTERS AND INDEMNITY

The following conditions shall supplement the terms and provisions governing environmental matters as set forth in the Right of Way boiler to which these Conditions are stated below.

3.1 For purposes of this Right of Way, the term "Environmental Laws" shall include but not be limited to any relevant federal, state or local environmental laws, and the regulations, rules and ordinances, relating to environmental matters, and publications promulgated pursuant to the local, state, and federal laws and any rules or regulations relating to environmental matters. For the purpose of this Right of Way, the term "Regulated Substances" shall include but not be limited to substances defined as

"regulated substance", "solid waste", "hazardous waste", "hazardous materials", "hazardous substances", "toxic materials", "toxic substances", "inert materials", "pollutants", "toxic pollutants", "herbicides", "fungicides", "rodenticides", "insecticides", "contaminants", "pesticides", "asbestos", "environmental nuisance", "criminal littering", or "petroleum products" as defined in Environmental Laws.

3.2 Grantee shall strictly comply with all Environmental Laws, including, without limitation, water quality, air quality; and handling, transportation, storage, treatment, or disposal of any Regulated Substance on, under, or from the Premises. Without limiting the foregoing, compliance includes that Grantee shall: (1) comply with all reporting obligations imposed under Environmental Laws; (2) obtain and maintain all permits required by Environmental Laws, and provide a copy to Grantor within ten (10) business days of receipt of the Right of Way; (3) provide copies of all documentation required by Environmental Laws to Grantor within ten (10) business days of Grantee's submittal and/or receipt of the documentation; (4) during the term of Right of Way, provide copies of all information it receives or obtains regarding any and all environmental matters relating to the Premises, including but not limited to environmental audits relating to the Premises regardless of the reason for which the information was obtained or whether or not the information was required by Environmental Laws; (5) prevent treatment, storage, disposal, handling or use of any Regulated Substances within the Premises without prior written authorization from Grantor.

3.3 Grantee at all times shall employ or designate an existing employee (the "Designated Compliance Officer") who is responsible for knowing all Environmental Laws affecting Grantee and Grantee's business and monitoring Grantee's continued compliance with applicable Environmental Laws. Upon request by Grantor, Grantee shall make the Designated Compliance Officer available to discuss Grantee's compliance, answer any questions, and provide such reports and confirming information as Grantor may reasonably request.

3.4 At any time, Grantor may request Grantee to provide an environmental audit of the Premises performed by an Arizona registered professional engineer or an Arizona registered geologist. Grantee shall pay the entire cost of the audit.

3.5 Hazardous material generated (motor oil, paint, etc.) shall be disposed of properly or used in a way which will minimize impact on vegetation.

3.6 At any time, during the term of the Right of Way, Grantor may require Grantee to obtain one Phase I environmental assessment of the Premises performed by an Arizona registered professional engineer or an Arizona registered geologist. If based upon the Phase I environmental assessment or its own independent investigation, Grantor identifies any possible violation of Environmental Laws or the terms of this Right of Way, Grantor may require Grantee to conduct additional environmental assessments as Grantor deems appropriate for the purpose of ensuring that the Premises are in compliance with Environmental Laws. The Phase I assessment, or any other assessment required by Grantor, shall be obtained for the benefit of both Grantee and Grantor. A copy of the Phase I report shall be provided both to Grantee and Grantor. Grantor, in its sole discretion, shall have the right to require Grantee to perform additional assessments of any damage to the Premises arising out of any violations of Environmental Laws. If Grantee fails to obtain any assessments required by Grantor, Grantee shall pay the entire costs of any and all assessments required by Grantor, notwithstanding the expiration or termination of the Right of Way.

3.7 Prior to the termination of the Right of Way, Grantee shall restore the Premises by removing any and all Regulated Substances. In addition, the restoration shall include, but not be limited to, removal of all waste and debris deposited by Grantee. If the Premises or any portions thereof are damaged or destroyed from the existence or presence of any Regulated Substance or if the Premises or any portions thereof are damaged or destroyed in any way relating to or arising out of the removal, treatment, storage, disposition, mitigation, cleanup or remedying of any Regulated Substance, Grantee shall arrange, at its expense, for the repair, removal, remediation, restoration, and reconstruction to the Premises to the original condition existing on the date that Grantee first occupied the Parcel, to the satisfaction of Grantor. In any event, any damage, destruction, or restoration by Grantee shall not relieve Grantee from its obligations and liabilities under this Right of Way. Grantee's restoration obligations under this Section shall survive the expiration or the termination of the Right of Way.

3.8 Grantee shall defend, indemnify and hold Grantor harmless from and against any and all liability, obligations, losses, damages, penalties, claims, environmental response and cleanup costs and fines, and actions, suits, costs, taxes, charges, expenses and disbursements, including legal fees and expenses of whatever kind or nature (collectively, "claims" or "damages") imposed on, incurred by, or reserved against Grantor in any way relating to or arising out of any non-compliance with any Environmental Laws, the existence or presence of any Regulated Substance, on, under, or from the Subject Land, and any claims or damages in any way relating to or arising out of the removal, treatment,

storage, disposition, mitigation, cleanup or remedying of any Regulated Substance on, under, or from the Subject Land by Grantee, its agents, contractors, or subcontractors.

3.9 This indemnity shall include, without limitation, claims or damages arising out of any and all violations of Environmental Laws regardless of any real or alleged fault, negligence, willful misconduct, gross negligence, breach of warranty, or strict liability on the part of any of the indemnitees. This indemnity shall survive the expiration or termination of this Right of Way and/or transfer of all or any portion of the Subject Land and shall be governed by the laws of the State of Arizona.

3.10 In the event any action or claim is brought or asserted against Grantor which is or may be covered by this indemnity, Grantee shall fully participate, at Grantee's expense, in the defense of the action or claim including but not limited to the following: (1) the conduct of any required cleanup, removal or remedial actions and/or negotiations, (2) the conduct of any proceedings, hearings, and/or litigation, and (3) the negotiation and finalization of any agreement or settlement. Grantor shall retain the right to make all final decisions concerning the defense. Grantee's obligations to participate in the defense under this Section shall survive the expiration or termination of the Right of Way.

4. <u>CULTURAL RESOURCES AND NATIVE PLANTS</u>

4.1 Grantee shall ensure that any prehistoric, historic, or paleontological remains discovered during monitoring, construction or maintenance are reported to the Grantor and the Arizona State Museum, and that any such discoveries are otherwise treated according to A.R.S. § 41-844.

4.2 Grantee shall supply Grantor with any documentation required to consult with the State Historic Preservation Office, as required pursuant to the State Historic Preservation Act (A.R.S. § 41-861 et seq).

4.3 Prior to any ground disturbance, and at the request of Grantor, Grantee agrees to conduct and submit a plant inventory/plant salvage plan to the Grantor. Payment will be required prior to any ground disturbance for any flora cut, removed and/or destroyed.

4.4 Grantee shall minimize the removal of existing vegetation within the project area to the greatest extent possible.

4.5 Grantee shall salvage or replant cactus and other protected plants.

4.6 Grantee is prohibited to blade, scrape or remove any existing vegetation without authorization from Grantor.

5. EXISTING LESSEES

5.1 Grantee shall provide Grantor with documentation of the surface lessee's consent prior to making any alterations to existing improvements.

6. MISCELLANEOUS

6.1 Grantee shall not alter nor cause ponding, nor any damage up or down stream of any water crossing.

6.2 No altering of existing drainages or drainage structures is authorized under this instrument.

6.3 Material for construction and maintenance (i.e. fill dirt, sand and gravel, etc.) may not be acquired from State Trust lands without the proper permits and authorization.

6.4 If any provision or agreement of this Right of Way is found invalid by any tribunal, such invalidity shall not affect the validity of the remaining provisions hereof.

6.5 The following provision shall be deemed added at the end of Section 6.2 of Article 6 of the Right of Way to which these Additional Conditions are attached as if set forth therein verbatim:

> **"Any violation by Grantee of any of the terms of this Right of Way constitutes a breach. Upon a breach by Grantee which is not cured within sixty (60) days after the date a notice of breach is sent by certified mail to Grantee to the most recent address for Grantee as shown in the files of Grantor, this Right of Way shall become void and the right to use the Subject Land and all of the rights of Grantee hereunder shall revert to Grantor at the expiration of the aforesaid sixty (60) day period."**

6.6 Attached hereto as EXHIBIT B is an insurance rider which shall supplement the terms and provisions governing insurance as set forth in the Right of Way form to which these Additional Conditions are attached.

7. EXHIBITS

7.1 The following exhibits are attached to these Additional Conditions and made a part hereof:

EXHIBIT A	**Legal Description and/or Visual Depiction of Right of Way**
EXHIBIT B	**Insurance Rider**

EXHIBIT A

LEGAL DESCRIPTION AND/OR VISUAL DEPICTION OF RIGHT OF WAY

Drainage Easement

A parcel of land located in the Southeast Quarter of Section 28, Township 4 North, Range 4 East of the Gila and Salt River Meridian, Maricopa County, Arizona, more particularly described as follows:

Commencing at the Southeast Corner of said Section 28, from which the East Quarter Corner of said Section 28, bears N 00° 02' 23" E, a distance of 2642.08 feet;

THENCE along the East line of the Southeast Quarter of said Section 28, N 00° 02' 23" E, a distance of 708.16 feet;

THENCE leaving said East line, S 86° 16' 12" W, a distance of 111.57 feet to the Westerly Right-of-Way line of 64th Street and the **POINT OF BEGINNING;**

THENCE leaving said Westerly Right-of-Way line, continuing S 86° 16' 12" W, a distance of 43.03 feet to the Northerly Right-of-Way line of Mayo Boulevard and the beginning of a non-tangent curve concave Northeasterly, having a radius of 8930.00 feet with a radial bearing of N 21° 39' 14" E;

THENCE along said Northerly Right-of-Way line and the arc of said curve, to the right, through a central angle of 00° 15' 49" for an arc length of 41.08 feet;

THENCE leaving said Northerly Right-of-Way line, N 16° 23' 56" E, a distance of 41.34 feet;

THENCE N 59° 40' 27" E, a distance of 56.92 feet;

THENCE N 86° 16' 12" E, a distance of 15.00 feet to said Westerly Right-of-Way line of 64th Street;

THENCE along said Westerly Right-of-Way line, S 03° 43' 44" E, a distance of 82.00 feet to the **POINT OF BEGINNING.**

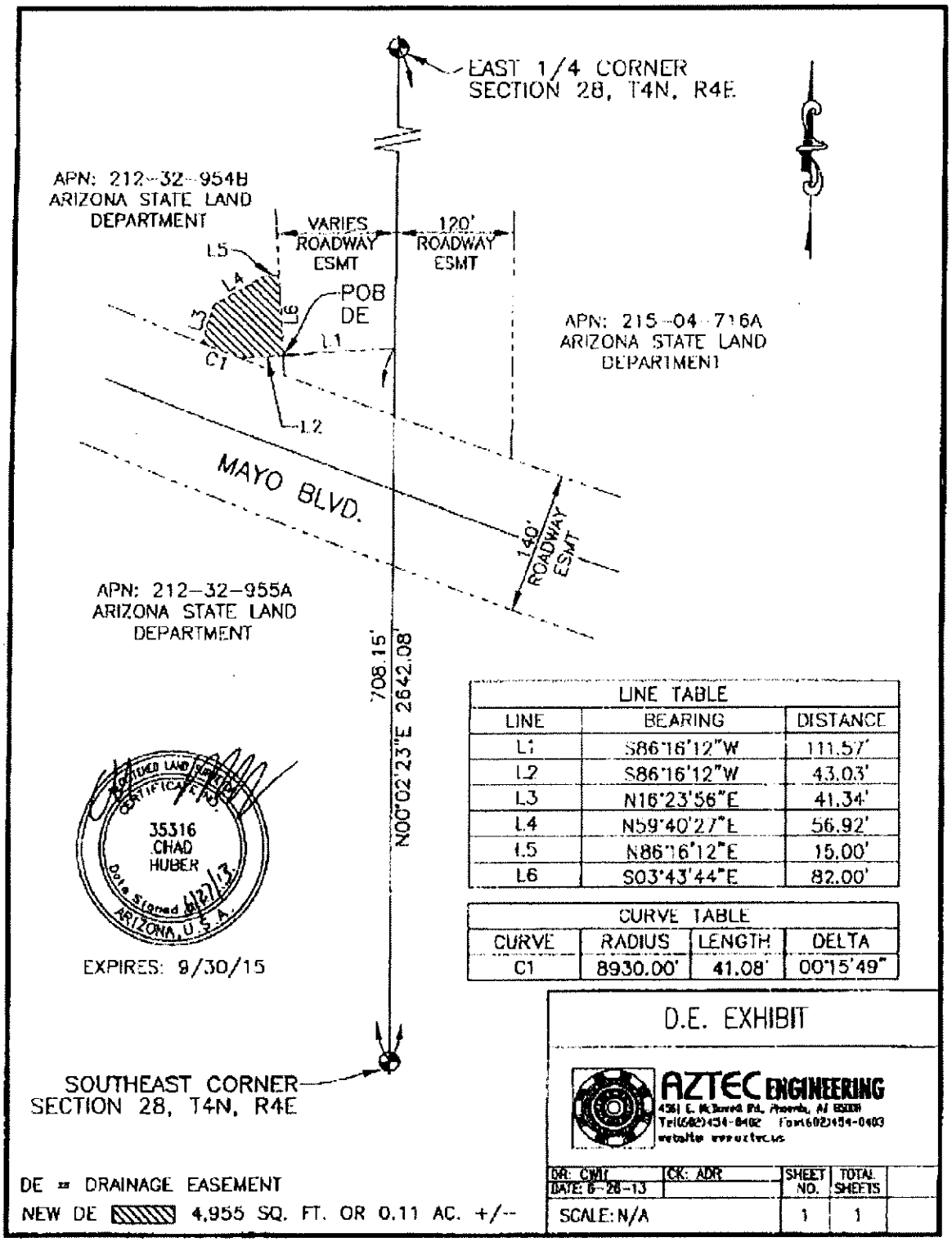
Containing 4,955 sq. ft. (0.11 Ac.) ±.

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
35316
CHAD
HUBER
Date Signed 6/27/13
ARIZONA, U.S.A.

Expires: 09/30/15

EXHIBIT A

LEGAL DESCRIPTION AND/OR VISUAL DEPICTION OF RIGHT OF WAY



LINE TABLE		
LINE	BEARING	DISTANCE
L1	S86°16'12"W	111.57'
L2	S86°16'12"W	43.03'
L3	N16°23'56"E	41.34'
L4	N59°40'27"E	56.92'
L5	N86°16'12"E	15.00'
L6	S03°43'44"E	82.00'

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	8930.00'	41.08'	00°15'49"

EXHIBIT A
LEGAL DESCRIPTION AND/OR VISUAL DEPICTION OF RIGHT OF WAY

Drainage Easement

A parcel of land located in the Southwest Quarter of Section 27, Township 4 North, Range 4 East of the Gila and Salt River Meridian, Maricopa County, Arizona, more particularly described as follows:

Commencing at the Southwest Corner of said Section 27, from which the West Quarter Corner of said Section 27, bears N 00° 02' 23" E, a distance of 2642.08 feet;

THENCE along the West line of the Southwest Quarter of said Section 27, N 00° 02' 23" E, a distance of 733.07 feet;

THENCE leaving said West line, S 89° 57' 37" E, a distance of 120.00 feet to the Easterly Right-of-Way line of 64th Street and the **POINT OF BEGINNING**;

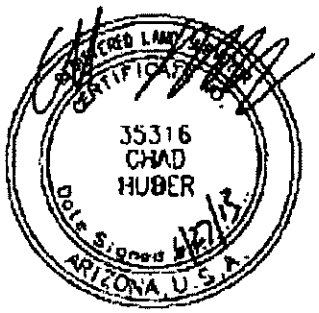
THENCE along said Easterly Right-of-Way line, N 00° 02' 23" E, a distance of 52.30 feet;

THENCE leaving said Easterly Right-of-Way line, S 89° 57' 37" E, a distance of 20.00 feet;

THENCE S 00° 02' 23" W, a distance of 52.30 feet;

THENCE N 89° 57' 37" W, a distance of 20.00 feet to the **POINT OF BEGINNING**.

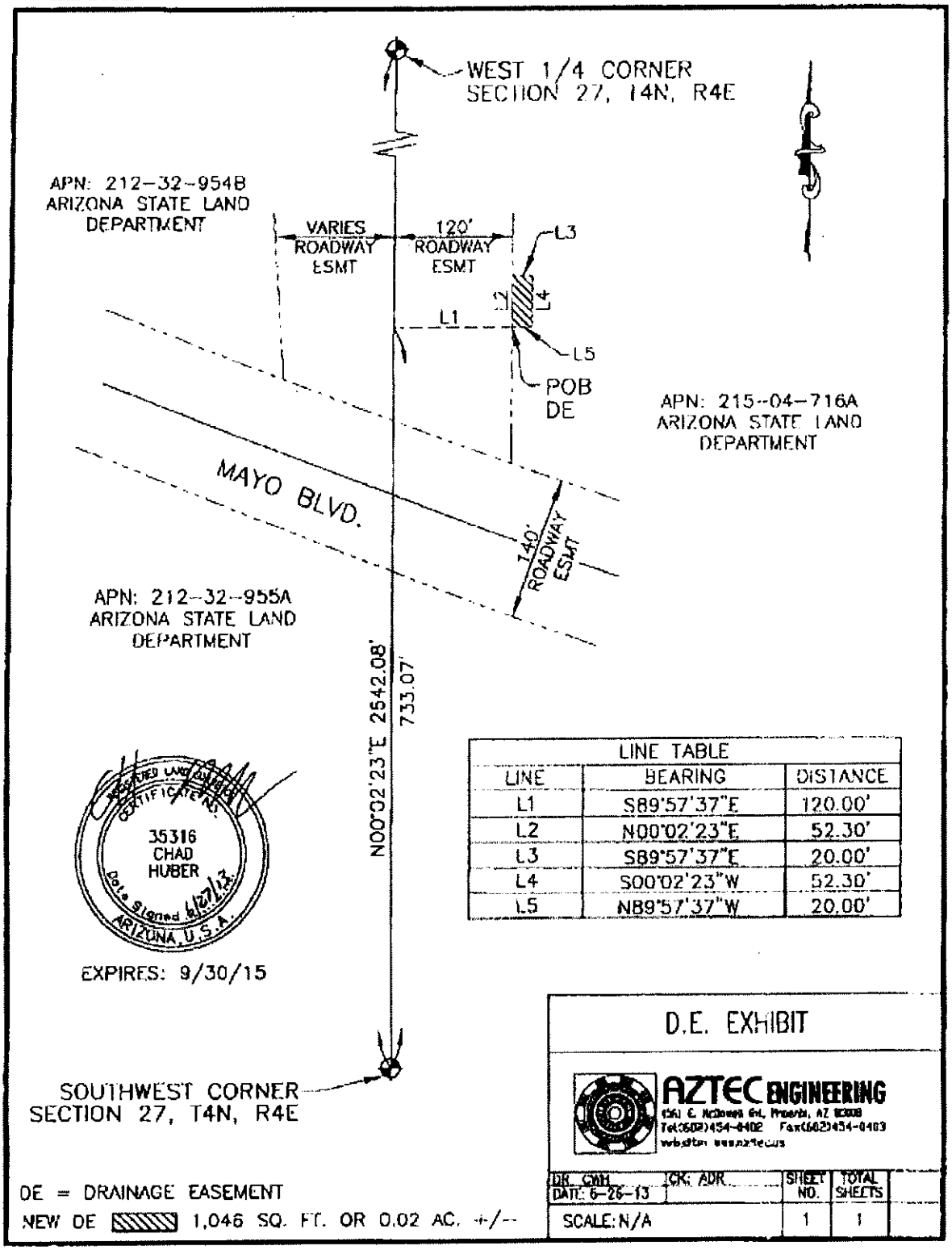
Containing 1,046 sq. ft. (0.02 Ac.) ±.



Expires: 09/30/15

EXHIBIT A

LEGAL DESCRIPTION AND/OR VISUAL DEPICTION OF RIGHT OF WAY



LINE TABLE		
LINE	BEARING	DISTANCE
L1	S89°57'37"E	120.00'
L2	N00°02'23"E	52.30'
L3	S89°57'37"E	20.00'
L4	S00°02'23"W	52.30'
L5	N89°57'37"W	20.00'

EXHIBIT B
INSURANCE RIDER TO STATE LAND DEPARTMENT

This Rider is attached to and made a part of the above-referenced Right of Way as if set forth therein verbatim.

R-1 Indemnity. Each party (as "Indemnitor") agrees to indemnify, defend, and hold harmless the other party (as "Indemnitee") from and against any and all claims, losses, liability, costs, or expenses (including reasonable attorney's fees) (hereinafter collectively referred to as "Claims") arising out of bodily injury of any person (including death) or property damage, but only to the extent that such Claims which result in vicarious/derivative liability to the Indemnitee are caused by the act, omission, negligence, misconduct, or other fault of the Indemnitor, its officers, officials, agents, employees, or volunteers.

In addition, Grantee shall cause its contractor(s) and subcontractors, if any, to indemnify, defend, save and hold harmless the State of Arizona, any jurisdiction or agency issuing any permits for any work arising out of this Agreement, and their respective directors, officers, officials, agents, and employees (hereinafter referred to as "Indemnitee") from and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys' fees, and costs of claim processing, investigation and litigation) (hereinafter referred to as "Claims") for bodily injury or personal injury (including death), or loss or damage to tangible or intangible property caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of Grantee's contractor or any of the directors, officers, agents, or employees or subcontractors of such contractor. This indemnity includes any claim or amount arising out of or recovered under the Workers' Compensation Law or arising out of the failure of such contractor to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. It is the specific intention of the parties that the Indemnitee shall, in all instances, except for Claims arising solely from the negligent or willful acts or omissions of the Indemnitee, be indemnified by such contractor from and against any and all claims. It is agreed that such contractor will be responsible for primary loss investigation, defense and judgment costs where this indemnification is applicable.

R-2 *Insurance Requirements* for Any Contractors Used by a Party to the Intergovernmental Agreement. *(Note: this applies only to Contractors used by a governmental entity, not to the governmental entity itself.)* The *insurance requirements* herein are minimum requirements and in no way limit the indemnity covenants contained in the Intergovernmental Agreement. The State of Arizona in no way warrants that the minimum limits contained herein are sufficient to protect the governmental entity or Contractor from

liabilities that might arise out of the performance of the work under this Right of Way by the Contractor, his agents, representatives, employees or subcontractors, and Contractor and the governmental entity are free to purchase additional insurance.

A. Minimum Scope and Limits of Insurance: Contractor shall provide coverage with limits of liability not less than those stated below.

1. Commercial General Liability – Occurrence Form

Policy shall include bodily injury, property damage, personal and advertising injury and broad form contractual liability.

General Aggregate:	**$2,000,000.00**
Products-Completed Operations Aggregate:	**$1,000,000.00**
Personal and Advertising Injury:	**$1,000,000.00**
Each Occurrence:	**$1,000,000.00**
Blanket Contractual Liability-Written and Oral:	**$1,000,000.00**
Damage to Rented Premises:	**$ 50,000.00**
Each Occurrence	**$1,000,000.00**

The policy shall be endorsed to include the following additional insured language: "The State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees shall be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Contractor." Such additional insured shall be covered to the full limits of liability purchased by the Contractor, even if those limits of liability are in excess of those required by this Right of Way.

Policy shall contain a waiver of subrogation endorsement in favor of the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Contractor.

2. Business Automobile Liability. Bodily Injury and Property Damage for any owned, hired, and/or non-owned vehicles used in the performance of this Right of Way.

- **Combined Single Limit (CSL) $1,000,000**

a. The policy shall be endorsed to include the following additional insured language: "The State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees shall be named as additional

insureds with respect to liability arising out of the activities performed by or on behalf of the Contractor, involving automobiles owned, leased, hired or borrowed by the Contractor". Such additional insured shall be covered to the full limits of liability purchased by the Contractor, even if those limits of liability are in excess of those required by this Right of Way.

b. Policy shall contain a waiver of subrogation endorsement in favor of the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Contractor.

c. Policy shall contain a severability of interest provision.

IF GRANTEE HAS CERTIFIED IN THE APPLICATION ADDENDUM FOR THIS RIGHT OF WAY THAT GRANTEE WILL NOT BE ENGAGED IN THE CONDUCT OF BUSINESS WITHIN THE SUBJECT LAND GRANTEE SHALL NOT BE REQUIRED TO CARRY THE FOREGOING BUSINESS AUTOMOBILE LIABILITY INSURANCE.

3. Worker's Compensation and Employers' Liability

Workers' Compensation	**Statutory**
Employers' Liability	
Each Accident	**$ 500,000**
Disease – Each Employee	**$ 500,000**
Disease – Policy Limit	**$1,000,000**

a. Policy shall contain a waiver of subrogation endorsement in favor of the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Contractor.

b. This requirement shall not apply to: Separately, EACH contractor or subcontractor exempt under A.R.S. § 23-901, AND when such contractor or subcontractor executes the appropriate waiver (Sole Proprietor/Independent Contractor) form.

GRANTEE HAS CERTIFIED IN THE APPLICATION ADDENDUM FOR THIS RIGHT OF WAY THAT GRANTEE WILL NOT BE ENGAGED IN THE CONDUCT OF BUSINESS WITHIN THE SUBJECT LAND GRANTEE SHALL NOT BE REQUIRED TO CARRY THE FOREGOING WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY INSURANCE.

B. Additional Insurance Requirements: The policies are to contain, or be endorsed to contain, the following provisions:

1. The Contractor's policies shall stipulate that the insurance afforded the Contractor shall be primary insurance and that any insurance carried by the

Department, its agents, officials, employees or the State of Arizona shall be excess and not contributory insurance, as provided by A.R.S § 41-621 (E).

2. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability. Coverage provided by the Contractor shall not be limited to the liability assumed under the indemnification provisions of its Contract with the other governmental entity(ies) party to the IGA.

C. Notice of Cancellation: With the exception of (10) day notice of cancellation for non-payment of premium, any changes material to compliance with this Right of Way in the insurance policies above shall require (30) days written notice to the State of Arizona. Such notice shall be sent directly to the Arizona State Land Department, 1616 W. Adams, Phoenix, Arizona 85007, and shall be sent by certified mail, return receipt requested.

D. Acceptability of Insurers: Contractors insurance shall be placed with companies duly licensed in the State of Arizona or hold approved non-admitted status on the Arizona Department of Insurance List of Qualified Unauthorized Insurers. Insurers shall have an "A.M. Best" rating of not less than A- VII or duly authorized to transact Workers' Compensation insurance in the State of Arizona. The State of Arizona in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

E. Verification of Coverage: Contractor shall furnish the State of Arizona with certificates of insurance (ACORD form or equivalent approved by the State of Arizona) as required by this Right of Way. The certificates for each insurance policy are to be signed by an authorized representative.

All certificates and endorsements are to be received and approved by the State of Arizona before work commences. Each insurance policy required by this Right of Way must be in effect at or prior to commencement of work under this Right of Way and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Right of Way, or to provide evidence of renewal, is a material breach of contract.

All certificates required by this Right of Way shall be sent directly to the Arizona State Land Department, 1616 W. Adams, Phoenix, Arizona 85007. The Right of Way number and project description are to be noted on the certificate of insurance. The State of Arizona reserves the right to require complete, certified copies of all insurance policies required by this Right of Way at any time.

F. Subcontractors: Contractor's certificate(s) shall include all subcontractors as insureds under its policies or Contractor shall furnish to the State of Arizona separate certificates for each subcontractor. All coverages for subcontractors shall be subject to the minimum requirements identified above.

G. Approval: Any modification or variation from the *insurance requirements* in any Intergovernmental Agreement must have prior approval from the State of Arizona Department of Administration, Risk Management Division, whose decision shall be final. Such action will not require a formal Right of Way amendment, but may be made by administrative action.

H. Exceptions: In the event the Contractor or sub-contractor(s) is/are a public entity, then the Insurance Requirements shall not apply. Such public entity shall provide a Certificate of Self-Insurance. If the contractor or sub-contractor(s) is/are a State of Arizona agency, board, commission, or university then none of the above shall apply.

THE APPLICATION ADDENDUM IS INCORPORATED INTO THIS RIGHT OF WAY AS IF SET FORTH HEREIN VERBATIM.

STATE LAND DEPARTMENT
STATE OF ARIZONA

Right of Way

R/W No. 16-115118

THIS RIGHT OF WAY ("Right of Way") is entered into by and between the State of Arizona (as "Grantor") by and through the Arizona State Land Department and

CITY OF PHOENIX

("Grantee"). In consideration of payment and performance by the parties of each of the provisions set forth herein, the parties agree as follows:

EXTENT OF DOCUMENT

"Additional Conditions", "Exhibits", and "Appendixes" are an integral part of this document. In case of a conflict between the printed boiler document and the additional conditions, exhibits, or appendixes, the applicable additional condition, exhibit, or appendix shall be considered the governing document and supersede the printed boiler, but only to the extent necessary to implement the additional condition, exhibit, or appendix, and only if the additional condition, exhibit, or appendix does not conflict with governing state or federal law.

ARTICLE 1
SUBJECT LAND

1.1 Grantor grants to Grantee a Right of Way on, over, through, and across the State lands described in Appendix A attached hereto ("Subject Land").

1.2 Grantee makes use of the Subject Land "as is", and Grantor makes no express or implied warranties as to the physical condition of the Subject Land.

ARTICLE 2
TERM

2.1 The term of this Right of Way commences on November 29, 2011 ("Commencement Date"), and runs for a perpetual term ("Expiration Date"), unless sooner canceled or terminated as provided herein or as provided by law.

ARTICLE 3
RENT

3.1 Rental is due in advance for the term of this Right of Way document.

3.2 If the Grantee should fail to pay rental when due, or fail to keep the covenants and agreements herein set forth, the Commissioner, at his option, may cancel said Right of Way or declare the same forfeited in the manner provided by law.

ARTICLE 4
PURPOSE AND USE OF SUBJECT LAND

4.1 The purpose of this Right of Way is the location, construction, operation, and maintenance of:

public road and underground utilities.

4.2 No material may be removed by Grantee or its contractors without the written approval of the Commissioner.

4.3 Grantee shall not exclude from use the State of Arizona, its lessees or grantees, or the general public the right of ingress and egress over this Right of Way.

4.4 Grantee shall acquire required permits prior to construction, and adhere to all applicable rules, regulations, ordinances, and building codes as promulgated by the local jurisdiction and any applicable State or Federal agencies.

4.5 All use of State land outside the Right of Way must be applied for and authorized in accordance with applicable law.

4.6 Grantee shall not sublet or assign this Right of Way or any portion thereof without the written consent of the Grantor.

4.7 The Grantor retains ownership of the Subject Land. The use of this Right of Way is to be non-exclusive. This Right of Way is sold subject to existing reservations, easements, or rights of way heretofore legally obtained and now in full force and effect.

4.8 When necessary for Grantee's reasonable use of this Right of Way for the purposes for which the grant is made, it shall be deemed to include the rights in, upon, over, and across the described Subject Land to erect, construct, reconstruct, replace, repair, and maintain the facilities authorized by this Right of Way.

4.9 Grantee shall have the right to erect, maintain, and use gates in all fences under the control of the Grantor which now cross or shall hereafter cross said Right of

Way, and to trim, cut, and clear away trees or brush whenever in its judgment the same shall be necessary for the convenient and safe exercise of the right herein provided.

4.10 Grantee shall not fence any portion of this Right of Way unless specifically authorized in the attached additional conditions without prior written consent of Grantor, nor shall Grantee exclude from the use of the surface thereof the State of Arizona or its lessees or grantees as reserved in Paragraph 10.1.

ARTICLE 5
CONFORMITY TO LAW

5.1 This Right of Way is subject to applicable laws and covenants relating to State lands.

ARTICLE 6
CANCELLATION, TERMINATION AND ABANDONMENT

6.1 This Right of Way is subject to cancellation pursuant to A.R.S. § 38-511.

6.2 If at any time the Right of Way ceases to be used for the purpose for which it was granted, it shall become void, and the right to use the Subject Land and all the rights of Grantee hereunder shall revert to the Grantor.

6.3 Upon revocation or termination of the Right of Way, the Grantee shall remove all equipment or facilities and, so far as is reasonably possible, restore and/or rehabilitate the Subject Land to its original condition, and to the satisfaction of the Commissioner.

ARTICLE 7
INDEMNITY

7.1 This provision is pursuant to the July 12, 2000 memorandum issued by the Risk Management Section of the Arizona Department of Administration applicable to all political subdivisions of the State.

Each party (as "indemnitor") agrees to indemnify, defend, and hold harmless the other party (as "indemnitee") from and against any and all claims, losses, liability, costs, or expenses (including reasonable attorneys' fees) (hereinafter collectively referred to as "claims") arising out of bodily injury of any person (including death) or property damage, but only to the extent that such claims which result in vicarious/derivative liability to the indemnitee, are caused by the act, omission, negligence, misconduct, or fault of the indemnitor, its officers, officials, agents, employees, or volunteers.

ARTICLE 8
RESERVATIONS; RELINQUISHMENTS

8.1 Grantor reserves the right to grant other rights in, upon, over, and across the described Subject Land for any purpose whatsoever not inconsistent or incompatible with the use allowed by this indenture, and the Grantee agrees not to exclude the Grantor or its lessees or grantees from the use of the Subject Land herein described.

8.2 Grantor reserves all natural resources, timber, and minerals (including oil or gas) in or upon the described Subject Land, and the right to grant leases, permits, easements, and/or rights of way to extract such resources as provided by law and in a manner not inconsistent or incompatible with Grantee rights hereunder. Where inconsistent or incompatible uses exist, the Grantor will require the applicant therefor to indemnify Grantee for loss it might suffer by reason of such use.

8.3 Grantor reserves the right to relinquish to the United States pursuant to the U.S. Act of August 30, 1890, land needed for irrigation works in connection with a government reclamation project.

ARTICLE 9
LOCATION, CONSTRUCTION AND MAINTENANCE

9.1 Grantee shall ensure full compliance with the terms and conditions of this Right of Way by its agents, employees, and contractors (including sub-contractors of any tier), and the employees of each of them and shall include the terms and conditions in all contracts and sub-contracts which are entered into by any of them.

9.2 Failure or refusal of Grantee's agents, employees, contractors, sub-contractors, or their employees to comply with these terms and conditions shall be deemed to be the failure or refusal of Grantee.

ARTICLE 10
NATIVE PLANTS AND CULTURAL RESOURCES

10.1 (a) Pursuant to A.R.S. §§ 41-841 and 41-842, Grantee, Grantee's employees, and Grantee's guests shall not excavate or collect any prehistoric or historic archaeological specimens on the Subject Land without a permit from the Director of the Arizona State Museum and written approval of Grantor pursuant to the terms of this Right of Way. Grantee shall immediately report any unpermitted excavation or collection of archaeological specimens on the Subject Land to the Arizona State Museum and Grantor.

(b) Pursuant to A.R.S. § 41-844, Grantee shall report to the Director of the Arizona State Museum and Grantor any prehistoric or historic archaeological site, or paleontological site, that is discovered on the Subject Land by Grantee, Grantee's

employees, or Grantee's guests, and shall, in consultation with the Director of the Arizona State Museum and Grantor, immediately take all reasonable steps to secure the preservation of the discovery.

10.2 (a) Grantee shall not move, use, destroy, cut or remove or permit to be moved, used, destroyed, cut or removed any timber, cactus, native plants, standing trees or products of the land except that which is necessary for the use of the Subject Land, and then only with the prior written approval of Grantor. For undeveloped land, the Grantee must submit a plant survey prior to the removal of any native plant. If the removal or destruction of plants protected under the Arizona Native Plant Law (A.R.S. § 3-901 et seq., or any successor statutes) is necessary to the use of the Subject Land, Grantee shall also obtain the prior written approval of the Arizona Department of Agriculture. In the event the Grantee removes the native plants, the Grantee must pay a vegetation fee to the Grantor and this fee is not a reimbursable improvement.

(b) Grantee is responsible for treatment of all regulated and restricted noxious weeds listed by the Arizona Department of Agriculture.

ARTICLE 11
GRANTEE SHALL PROTECT AND RESTORE THE SUBJECT LAND

11.1 Grantee shall be required, upon completion of Right of Way construction, to make such rehabilitation measures on the State lands, including but not limited to restoration of the surface, revegetation, and fencing as determined necessary by the Grantor.

11.2 Grantee shall conduct all construction and maintenance activities in a manner that will minimize disturbance to all land values including, but not limited to vegetation, drainage channels, and streambanks. Construction methods shall be designed to prevent degradation of soil conditions in areas where such degradation would result in detrimental erosion or subsidence. Grantee shall take such other soil and resource conservation and protection measures on the Subject Land under grant as determined necessary by the Grantor.

11.3 Costs incurred by the Grantee in complying with restoration and rehabilitation requirements, as determined by the Department, on State lands shall be borne by the Grantee.

11.4 Grantee shall conduct its operations on the Subject Land in such a manner as is consistent with good environmental practices. Grantee shall exert reasonable efforts to avoid damage of protected flora, and restore the surface to its condition prior to the occupancy thereof by Grantee.

ARTICLE 12
MISCELLANEOUS

12.1 The described Subject Land shall be used only for the purpose stated in Paragraph 4.1, and as may be further detailed elsewhere in this document.

12.2 This Document is submitted for examination and shall have no binding effect on the parties unless and until executed by the Grantor (after execution by the Grantee), and until a fully executed copy is delivered to the Grantee.

12.3 In the event of a dispute between the parties to this Right of Way, it is agreed to use arbitration to resolve the dispute, but only to the extent required by A.R.S. § 12-1518. In no event shall arbitration be employed to resolve a dispute which is otherwise subject to administrative review by the Department.

12.4 Insurance provisions are intentionally omitted from this Permit pursuant to the July 12, 2000 memorandum issued by the Risk Management Section of the Arizona Department of Administration to all political subdivisions of the State.

12.5 The Grantor does not represent or warrant that access exists over other State lands which intervene respectively between the above Right of Way and the nearest public roadway.

12.6 If for any reason the State of Arizona does not have title to any of the Subject Land described herein, this Right of Way shall be null and void insofar as it relates to the land to which the State has failed to receive title.

12.7 Every obligation of the State under this Right of Way is conditioned upon the availability of funds appropriated or allocated for the payment of such obligation. If funds are not allocated and available for the continuance of this Right of Way, this Right of Way may be terminated by the State at the end of the period for which funds are available. No liability shall accrue to the State in the event this provision is exercised, and the State shall not be obligated or liable for any future payments or any damages as a result of termination under this paragraph.

12.8 The parties agree to be bound by applicable State and Federal rules governing Equal Employment Opportunity, Non-discrimination and Disabilities, including Executive Order No. 2009-09.

12.9 Within 30 days of project completion, Grantee shall submit a completed certificate of construction (copy attached).

ADDITIONAL CONDITIONS
#16-115118

1. LEGAL DESCRIPTION:

a) The legal description for this right of way is detailed as follows: See eight (8) page legal description and map exhibit for the Right of Way attached hereto.

b) Subject to Grantor's rules and policies then in place and as a result of construction related restrictions, Grantor and Grantee may agree to modify the legal description by Grantee submitting "as Built" or "proposed realignment" legals, depending on the situation, to the Grantor for Grantor's review. If approved by Grantor and additional acreage is impacted, Grantee agrees to pay an appraised or pro-rated charge as the Grantor determines is appropriate. No refund will be made for a reduction in acreage.

2. UNDERGROUND INSTALLATION:

a) All rock brought to the surface along with topsoil and overburden from the affected Trust lands shall be salvaged and stockpiled separately in a manner that re-placement shall utilize one hundred (100) percent of the materials upon project completion. Excess rock that is unsuitable for scattering shall be disposed of in a manner and location as authorized by the Grantor.

3. CONSTRUCTION:

a) All equipment shall be removed from the site within seven (7) days of project completion.

b) In the event the Grantor determines that the affected Trust lands have not been restored and/or rehabilitated to the satisfaction of the Grantor, or the surrounding Trust lands have been adversely affected, Grantee shall amend right of way to include affected Trust lands and remit compensation to the Grantor in an amount representing the greater of actual damages or three (3) times the contract rent within (30) days.

c) Grantee shall maintain the easement area in the manner described above during the term of this easement. Grantee agrees to complete any necessary restoration and rehabilitation to the satisfaction of the Grantor within ninety (90) days of written notification of non-compliance.

4. ENGINEERING:

a) Prior to the construction, the Grantee shall submit to Grantor for approval the design construction plans, a drainage report, applicable engineering infrastructure reports or studies, any Clean Water Act (CWA) Section 404 documents or Federal Emergency Management Act (FEMA) floodplain-related documents, and a geotechnical report for this right of way (ROW) project. The submittals should be at the 30%, 60%, 90%, and 100% level and should allow adequate time for Grantor to review the documents. Both the CWA Sec. 404 and floodplain-related documents shall be submitted to Grantor for approval prior to being submitted to the U.S. Army Corps of Engineers (USACE) or the FEMA agency. The Grantee, or its designee, may submit the documents to Grantor for review at least three months prior to construction to commence or Grantee's requested approval date. All documents and/or reports shall be submitted both electronically and in hardcopy, including any software modeling or CAD/GIS when applicable.

b) The approval by Grantor to commence construction (either for a specific phase or the entire project, as applicable) shall be granted by memo, will list the documents approved, and will be provided to Grantee and/or it's designees within a reasonable time frame.

c) Although Grantor will approve the above documents, the Grantor shall not be responsible nor liable for any problems or inaccuracies associated with these documents that might be determined in the future. Any significant revisions to previously approved documents and/or reports that represent a material change or results in a less strict requirement will require review and approval by Grantor

prior to construction. Note: As-built plans are also required within six months after final acceptance of the project by the City.

d) The Grantee shall be responsible for the construction, operation, and maintenance of this project, including repair of all existing roadway, trail, and other infrastructure if disturbed by these activities. Furthermore, the Grantee will adhere to all applicable federal, state, and local rules and guidance for the public road (including drainage) and underground utilities.

e) The Grantee shall comply with all terms and provisions of Sections 401 and 404 of the Clean Water Act. In this regard, Grantee is advised that this project is subject to the terms and conditions of *Individual Permits #984-0030-RWF (Desert Ridge) and #1999-16129-RWF (Paradise Ridge)*, including, but not limited to: Grantee shall sign the 404/401 Permit transfer forms prior to issuance of the ROW. Grantee shall comply with all parts of the *404/401 Implementation Handbook* for each permit, unless otherwise approved by Grantor in writing. As required by the *Implementation Handbooks*, the Grantee shall employ the services of the 404 Technical Review Team (TRT) (or qualified equivalent as determined by Grantor). All pre-construction approvals by, and correspondence with, the TRT shall be carbon copied to Grantor. Grantee shall cooperate with Grantor in providing to the USACE the detailed information required in the permit's special conditions. If required by the 404 permits, the USACE must approve this information prior to construction. Also, if required by the permits, each new project phase may require approval.

f) When infrastructure subject to this ROW is being constructed as well as after it is constructed, the Grantee shall ensure (unless otherwise allowed by the approved drainage report(s)) that there will be no significant adverse impacts to drainage, either on-site or offsite. The Grantee shall use the 100-year storm event in this determination.

g) The ROW is currently within a 100 year floodplain zone AO. The Grantee will design all infrastructure subject to this ROW in accordance with FEMA floodplain regulations.

h) The ROW is within an area subject to uplift, shrink-swell, and high lime content. The Grantee shall be responsible to design, construct, and operate the infrastructure subject to this ROW in accordance with engineering standards that would mitigate these potential problems. The Grantor shall not be liable for any geotechnical or structural problems.

i) The Grantor shall have access rights to all public roadways that are approved in this ROW if the proposed access is in compliance with local, state, and federal engineering practices and standards and if the access does not present an unsafe condition.

j) The Grantee shall cause any underground utility installation to be located within the ROW to be appropriately sized to serve adjacent State Trust land development utilizing the current City General Plan land use (and for water lines, the intended pressure zone) in place at time of approval of this document.

k) Prior to construction, the Grantee shall be responsible for locating all existing wet and dry utilities that could be impacted by the project (using blue staking or otherwise), and for resolving all existing and future wet and dry utility conflicts with the responsible owner.

l) The Grantee shall design all underground utilities that are approved in this ROW that are within a wash boundary with appropriate measures to prevent damage due to scour in accordance with applicable regulations.

m) Since there is some risk in properly locating an underground utility when future drainage improvements have not yet been constructed, the Grantee shall be solely responsible for any required relocation of the underground utility it constructs due to placement of future culverts.

LEGAL DESCRIPTION

28

EXHIBIT "A"
16-115118

That portion of Section 28, Township 4 North, Range 4 East, of the Gila and Salt River Meridian, Maricopa County, Arizona, also being part of STATE PLAT NO. 36, Desert Ridge South, Tract 4, Block 3, as recorded in Book 410, Page 10, Maricopa County Records, described as follows:

Commencing at a Maricopa County Brass Cap flush, marking the East Quarter Corner of said Section 28, from which a G.L.O. Brass Cap standing 1 foot above ground marking the Southeast Corner of said Section 28, bears South 00°02'23" West, a distance of 2642.08 feet;

Thence South 00°02'23" West, along the East line of said Section 28, a distance of 763.65 feet to a point on the New Southerly Right of Way line of State Route 101L as shown on A.D.O.T. Right-of-Way Project, Tracs NO. 101L MA 033 H6240 01R and the **Point of Beginning**;

Thence continuing South 00°02'23" West, along the East line of said Section 28, a distance of 1239.91 feet, to a point on the Northerly Right of Way line of Mayo Boulevard as shown on said STATE PLAT NO. 36, and the beginning of a nontangent curve to the right, having a radius of 8930.00 feet, a central angle of 00°45'20" and a local tangent bearing of North 69°24'25" W;

Thence along said Northerly Right of Way line of Mayo Boulevard and the arc of said curve, a distance of 117.77 feet;

Thence North 03°43'44" West, a distance of 304.28 feet to a point on the West line of the East 130.00 feet of said Section 28;

Thence North 00°02'23" East, along said West line, a distance of 327.00 feet;

Thence North 06°58'28" West, a distance of 515.20 feet to a point on the West line of the East 192.91 feet of said Section 28;

Thence North 00°02'23" East, along last said West line, a distance of 157.00 feet to a point on said Southerly Right of Way line of S.R. 101L;

Thence South 22°57'14" East, along said Southerly Right of Way line, a distance of 109.86 feet;

Thence South 89°57'37" East, along said Southerly Right of Way line, a distance of 150.00 feet to the **Point of Beginning**.

Containing 4.06ac. (176,782 square feet), more or less.

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
42014
JOSEPH R.
DAVIS
10/12/06
Date Signed
ARIZONA, U.S.A.

LEGAL DESCRIPTION

28

EXHIBIT "A"
16-115118

That portion of Section 28, Township 4 North, Range 4 East, of the Gila and Salt River Meridian, Maricopa County, Arizona, also being part of STATE PLAT NO. 36, Desert Ridge South, Tract 4, Block 3, as recorded in Book 410, Page 10, Maricopa County Records, described as follows:

Comencing at a Maricopa County Brass Cap flush, marking the East Quarter Corner of said Section 28, from which a G.L.O. Brass Cap standing 1 foot above ground marking the Southeast Corner of said Section 28, bears South 00°02'23" West, a distance of 2642.08 feet;

Thence South 00°02'23" West, along the East line of said Section 28, a distance of 763.65 feet to a point on the New Southerly Right of Way line of State Route 101L as shown on A.D.O.T. Right-of-Way Project, Tracs NO. 101L MA 033 H6240 01R;

Thence continuing South 00°02'23" West, along the East line of said Section 28, a distance of 1239.91 feet, to a point on the Northerly Right of Way line of Mayo Boulevard as shown on said STATE PLAT NO. 36, and the beginning of a nontangent curve to the right, having a radius of 8930.00 feet, a central angle of 00°45'20" and a local tangent bearing of North 69°24'25" W;

Thence along said Northerly Right of Way line of Mayo Boulevard and the arc of said curve, a distance of 117.77 feet;

Thence North 03°43'44" West, a distance of 102.28 feet to the **Point of Beginning**;

Thence South 86°16'16" West, a distance of 15.00 feet;

Thence North 03°43'44" West, a distance of 121.00 feet;

Thence North 86°16'16" East, a distance of 15.00 feet;

Thence South 03°43'44" East, a distance of 121.00 feet to the **Point of Beginning**.

Containing 1,815 square feet, more or less.

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
42014
JOSEPH R.
DAVIS
Date Signed 10/12/06
ARIZONA, U.S.A.

LEGAL DESCRIPTION

28

EXHIBIT "A"
16-115118

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Comencing at a Maricopa County Brass Cap flush, marking the East Quarter Corner of said Section 28, from which a G.L.O. Brass Cap standing 1 foot above ground marking the Southeast Corner of said Section 28, bears South 00°02'23" West, a distance of 2642.08 feet;

Thence South 00°02'23" West, along the East line of said Section 28, a distance of 763.65 feet to a point on the New Southerly Right of Way line of State Route 101L as shown on A.D.O.T. Right-of-Way Project, Tracs NO. 101L MA 033 H6240 01R;

Thence continuing South 00°02'23" West, along the East line of said Section 28, a distance of 1239.91 feet, to a point on the Northerly Right of Way line of Mayo Boulevard as shown on said STATE PLAT NO. 36, and the beginning of a nontangent curve to the right, having a radius of 8930.00 feet, a central angle of 00°45'20" and a local tangent bearing of North 69°24'25" West;

Thence along said Northerly Right of Way line and the arc of said curve, a distance of 117.77 feet to the beginning of a tangent curve to the right, having a radius of 8930.00 feet, a central angle of 00°18'19" and the **Point of Beginning**;

Thence continuing along said Northerly Right of Way line and the arc of said curve, a distance of 47.57 feet to the beginning of a nontangent line;

Thence North 86°16'16" East, a distance of 43.03 feet;

Thence South 03°43'44" East, a distance of 20.28 feet to the **Point of Beginning**.

Containing 437 square feet, more or less.

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
42014
JOSEPH R.
DAVIS
Date Signed 10/12/06
ARIZONA, U.S.A.

EXHIBIT "A"
16-115118

→ Probable Box Culvert

J

STATE PLAT NO.36
DESERT RIDGE SOUTH
BOOK 410 PAGE 10
TRACT 4
BLOCK 3

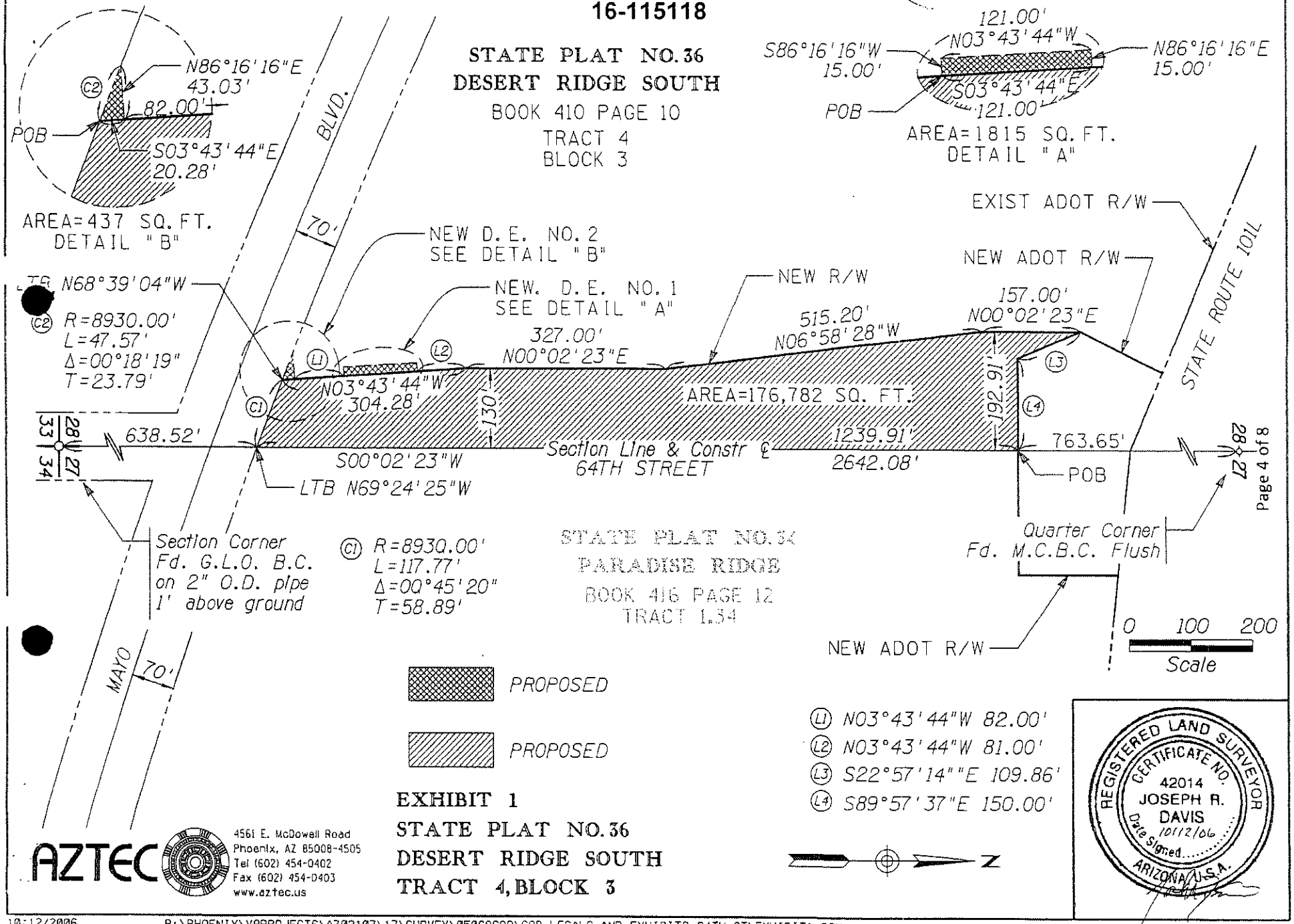

EXHIBIT 1
STATE PLAT NO.36
DESERT RIDGE SOUTH
TRACT 4, BLOCK 3

AZTEC
4561 E. McDowell Road
Phoenix, AZ 85008-4505
Tel (602) 454-0402
Fax (602) 454-0403
www.aztec.us

10/12/2006 R:\PHOENIX\V8PROJECTS\AZ03107\17\SURVEY\05069COP\COP LEGALS AND EXHIBITS 64TH ST\EXHIBIT1.DGN

27

LEGAL DESCRIPTION

EXHIBIT "A"
16-115118

That portion of Section 27, Township 4 North, Range 4 East, of the Gila and Salt River Meridian, Maricopa County, Arizona, also being part of STATE PLAT NO. 34, Paradise Ridge, Tract 1.34, as recorded in Book 416, Page 12, Maricopa County Records, described as follows:

Commencing at a Maricopa County Brass Cap flush, marking the West Quarter Corner of said Section 27, from which a G.L.O. Brass Cap standing 1 foot above ground marking the Southwest Corner of said Section 27, bears South 00°02'23" West, a distance of 2642.08 feet;

Thence South 00°02'23" West, along the West line of said Section 27, a distance of 763.65 feet to a point on the New Southerly Right of Way line of State Route 101L as shown on A.D.O.T. Right-of-Way Project, Tracs NO. 101L MA 033 H6240 01R and the **Point of Beginning**;

Thence South 89°57'37" East, along said Southerly Right of Way line, a distance of 202.00 feet to the East line of the West 202.00 feet of said Section 27;

Thence South 00°02'23" West, along said East line, a distance of 91.00 feet;

Thence South 09°10'42" West, a distance of 170.00 feet;

Thence South 06°38'17" West, a distance of 322.00 feet;

Thence South 02°19'19" West, a distance of 452.00 feet to the East line of the West 120.00 feet of said Section 27;

Thence South 00°02'23" West, along last said East line, a distance of 253.57 feet to a point on the Northerly Right of Way of Mayo Boulevard as shown on said STATE PLAT NO. 34, and the beginning of a nontangent curve to the right, having a radius of 8930.00 feet, a central angle of 00°49'12" and a local tangent bearing of North 70°13'37" West,

Thence along said Northerly Right of Way of Mayo Boulevard and the arc of said curve, a distance of 127.82 feet to a point on the West line of said Section 27;

Thence North 00°02'23" East, along said West line, a distance of 1239.91 feet to the **Point of Beginning**.

Containing 4.27ac (186,149 square feet), more or less.

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
42014
JOSEPH R.
DAVIS
Date Signed 10/12/06
ARIZONA, U.S.A.

27

LEGAL DESCRIPTION

EXHIBIT "A"
16-115118

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Thence South 00°02'23" West, along the West line of said Section 27, a distance of 763.65 feet to a point on the New Southerly Right of Way line of State Route 101L as shown on A.D.O.T. Right-of-Way Project, Tracs NO. 101L MA 033 H6240 01R;

Thence South 89°57'37" East, along said Southerly Right of Way line, a distance of 202.00 feet to the East line of the West 202.00 feet of said Section 27;

Thence South 00°02'23" West, along said East line, a distance of 91.00 feet;

Thence South 09°10'42" West, a distance of 170.00 feet;

Thence South 06°38'17" West, a distance of 322.00 feet;

Thence South 02°19'19" West, a distance of 201.00 feet to the **Point of Beginning**;

Thence South 87°40'41" East, a distance of 10.00 feet;

Thence South 02°19'19" West, a distance of 150.00 feet;

Thence North 87°40'41" West, a distance of 10.00 feet;

Thence North 02°19'19" East, a distance of 150.00 feet to the **Point of Beginning**.

Containing 1,500 square feet, more or less.

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
42014
JOSEPH R.
DAVIS
Date Signed 10/12/06
ARIZONA, U.S.A.

27

LEGAL DESCRIPTION

EXHIBIT "A"
16-115118

That portion of Section 27, Township 4 North, Range 4 East, of the Gila and Salt River Meridian, Maricopa County, Arizona, also being part of STATE PLAT NO. 34, Paradise Ridge, Tract 1.34, as recorded in Book 416, Page 12, Maricopa County Records, described as follows:

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Thence South 00°02'23" West, along the West line of said Section 27, a distance of 763.65 feet to a point on the New Southerly Right of Way line of State Route 101L as shown on A.D.O.T. Right-of-Way Project, Tracs NO. 101L MA 033 H6240 01R;

Thence South 89°57'37" East, along said Southerly Right of Way line, a distance of 202.00 feet to the East line of the West 202.00 feet of said Section 27;

Thence South 00°02'23" West, along said East line, a distance of 91.00 feet;

Thence South 09°10'42" West, a distance of 170.00 feet;

Thence South 06°38'17" West, a distance of 322.00 feet;

Thence South 02°19'19" West, a distance of 452.00 feet to the East line of the West 120.00 feet;

Thence South 00°02'23" West, along last said East line, a distance of 115.00 feet to the **Point of Beginning**;

Thence South 89°57'37" East, a distance of 20.00 feet;

Thence South 00°02'23" West, a distance of 101.00 feet;

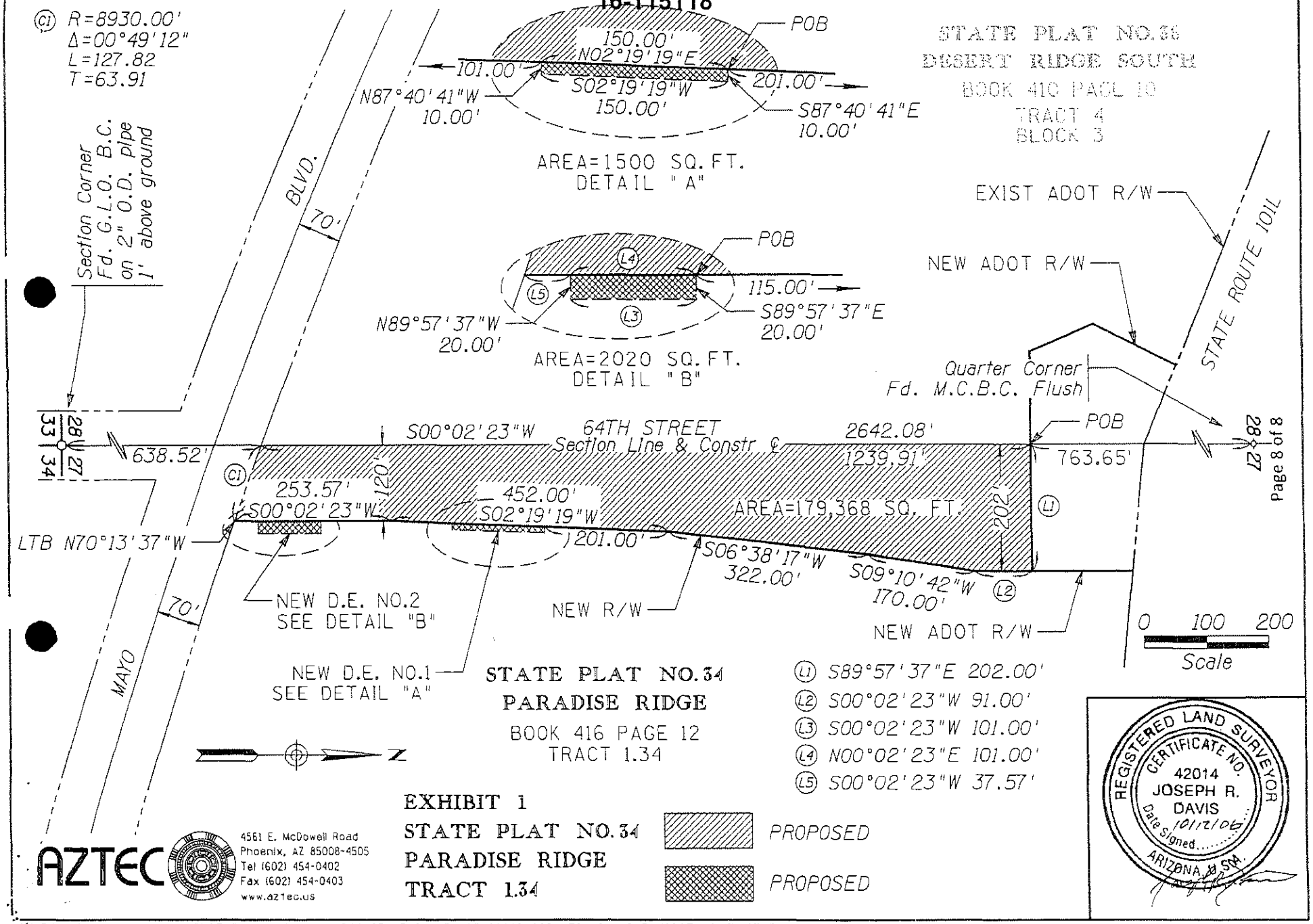
Thence North 89°57'37" West, a distance of 20.00 feet;

Thence North 00°02'23" East, a distance of 101.00 feet to the **Point of Beginning**.

Containing 2,020 square feet, more or less.

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
42014
JOSEPH R.
DAVIS
Date Signed 10/12/06
ARIZONA, U.S.A.

EXHIBIT "A"
16-115118



10/12/2006 R:\PHOENIX\V8PROJECTS\AZ03107\17\SURVEY\05069COP\COP LEGALS AND EXHIBITS 64TH ST\EXHIBIT2.DGN

APPENDIX A

STATE OF ARIZONA LAND DEPARTMENT
1616 W. ADAMS
PHOENIX, AZ 85007

RUN DATE: 16 July 2014
RUN TIME: 19:08 PM
PAGE: 1

KE-LEASE# 016-115118-00-001 APPTYPE: AMENDMENT
AMENDMENT#: 0

LAND#	LEGAL DESCRIPTION	AUS	ACREAGE
04.0-N-04.0-E-27-07-031-9048	M&B THRU TRACT 6 IN STATE PLAT 55 2ND AMD (4.27AC R/W) (0.10AC DRAINAGE)	0.00	4.370
04.0-N-04.0-E-28-07-031-9030	M&B THRU TRACT 4 BLOCK 3 IN STATE PLAT 36 (4.06AC R/W) (0.16AC DRAINAGE)	0.00	4.220
	TOTALS	0.00	8.590

'14 AUG 05 PM 04:01 REC'D ASLD

STATE OF ARIZONA LAND DEPARTMENT
1616 W. ADAMS
PHOENIX, AZ 85007

RUN DATE: 23 May 2012
RUN TIME: 18:07 PM
APPENDIX A
PAGE: 1

KE-LEASE# 016-115118-00-000 APPTYPE: NEW
AMENDMENT#: 0

SUPERSEDED

LAND#	LEGAL DESCRIPTION	AUS	ACREAGE
04.0-N-04.0-E-27-07-031-9044	M&B THRU TRACT 6 IN STATE PLAT 55 2ND AMD (4.27AC R/W) (0.08AC DRAINAGE)	0.00	4.350
04.0-N-04.0-E-28-07-031-9027	M&B THRU TRACT 4 BLOCK 3 IN STATE PLAT 36 (4.06AC R/W) (0.05AC DRAINAGE)	0.00	4.110
	TOTALS	0.00	8.460

RECEIVED
JAN 06 2013

IN WITNESS HEREOF, the parties hereto have signed this Right of Way effective the day and year set forth previously herein.

STATE OF ARIZONA, GRANTOR
Arizona State Land Commissioner

By: FEB 08 2013
Date

CITY OF PHOENIX
GRANTEE

12/12/12
Authorized Signature **Date**

STREET TRANSPORTATION DIRECTOR
Title

200 W. WASHINGTON STREET
Address

PHOENIX, ARIZONA 85003
City **State Zip**

Client#: 51 AMESCONI

ACORD™ # CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 4/18/2014

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. 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).

PRODUCER
MN-COMMERCIAL LINES
COBB STRECKER DUNPHY & ZIMMERMANN
150 S FIFTH ST STE 2800
MINNEAPOLIS, MN 55402

CONTACT NAME:
PHONE (A/C, No, Ext): 612 349-2400 FAX (A/C, No): 612 349 2490
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : TRAVELERS INDEMNITY OF AMERICA	
INSURER B : TRAVELERS PROPERTY CASUALTY CO/	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
AMES CONSTRUCTION INC
2000 AMES DR
BURNSVILLE, MN 55306

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT 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. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE OCCUR X CONTRACTUAL LIAB PER X POLICY FORM AND XCU GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT X LOC			VTC2HCO7408B632	05/01/2014	05/01/2015	EACH OCCURRENCE	$2,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$300,000
							MED EXP (Any one person)	$5,000
							PERSONAL & ADV INJURY	$2,000,000
							GENERAL AGGREGATE	$4,000,000
							PRODUCTS - COMP/OP AGG	$4,000,000
								$
B	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS			VTC2JCAP5834B489	05/01/2014	05/01/2015	COMBINED SINGLE LIMIT (Ea accident)	$2,000,000
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $						EACH OCCURRENCE	$
							AGGREGATE	$
								$
B B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		VTC2JUB6726B789 VTRJUB8364B757 STOP GAP LIABILITY OF: ND OH WA WY	05/01/2014 05/01/2014 ONLY IN	05/01/2015 05/01/2015 STATES	X WC STATU-TORY LIMITS OTH-ER	
							E.L. EACH ACCIDENT	$1,000,000
							E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

14 APR 22 AM 09:13 REC'D HOLD

RIGHT OF ENRY 16-115118 64TH ST MAYO BI TO SR101L
AMES JOB NO 130302

(See Attached Descriptions)

CERTIFICATE HOLDER

ARIZONA STATE LAND DEPARTMENT
1616 W ADAMS
PHOENIX, AZ 85007

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

© 1988-2010 ACORD CORPORATION. All rights reserved.

DESCRIPTIONS (Continued from Page 1)

ADDITIONAL INSURED ONLY IF REQUIRED BY WRITTEN CONTRACT WITH RESPECT TO GENERAL LIABILITY AND AUTOMOBILE LIABILITY APPLIES ON A PRIMARY BASIS, PER FORMS ATTACHED:
THE STATE OF ARIZONA, ITS DEPARTMENTS, AGENCIES, BOARDS, COMMISSIONS, UNIVERSITIES AND ITS OFFICERS, OFFICIALS, AGENTS AND EMPLOYEES

WAIVER OF SUBROGATION ONLY IF REQUIRED BY WRITTEN CONTRACT WITH RESPECT TO GENERAL LIABILITY, AUTOMOBILE LIABILITY AND WORKERS COMPENSATION APPLIES IN FAVOR OF PER FORMS ATTACHED:
THE STATE OF ARIZONA, ITS DEPARTMENTS, AGENCIES, BOARDS, COMMISSIONS, UNIVERSITIES AND ITS OFFICERS, OFFICIALS, AGENTS AND EMPLOYEES

The following supersedes the cancellation wording:
Should any of the above described policies be cancelled or materially changed before the expiration date, 30 Days written notice (10 Days for Non-Payment) will be delivered to the certificate holder.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED – AUTOMATIC STATUS IF REQUIRED BY WRITTEN CONTRACT (CONTRACTORS)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

1. The following is added to **SECTION II – WHO IS AN INSURED:**

   Any person or organization that:

   a. You agree in a "written contract requiring insurance" to include as an additional insured on this Coverage Part; and

   b. Has not been added as an additional insured for the same project by attachment of an endorsement under this Coverage Part which includes such person or organization in the endorsement's schedule;

   is an insured, but:

   a. Only with respect to liability for "bodily injury", "property damage" or "personal injury"; and

   b. Only as described in Paragraph **(1)**, **(2)** or **(3)** below, whichever applies:

      (1) If the "written contract requiring insurance" specifically requires you to provide additional insured coverage to that person or organization by the use of:

      (a) The Additional Insured – Owners, Lessees or Contractors – (Form B) endorsement CG 20 10 11 85; or

      (b) Either or both of the following: the Additional Insured – Owners, Lessees or Contractors – Scheduled Person Or Organization endorsement CG 20 10 10 01, or the Additional Insured – Owners, Lessees or Contractors – Completed Operations endorsement CG 20 37 10 01;

      the person or organization is an additional insured only if the injury or damage arises out of "your work" to which the "written contract requiring insurance" applies;

      (2) If the "written contract requiring insurance" specifically requires you to provide additional insured coverage to that person or organization by the use of:

      (a) The Additional Insured – Owners, Lessees or Contractors – Scheduled Person or Organization endorsement CG 20 10 07 04 or CG 20 10 04 13, the Additional Insured – Owners, Lessees or Contractors – Completed Operations endorsement CG 20 37 07 04 or CG 20 37 04 13, or both of such endorsements with either of those edition dates; or

      (b) Either or both of the following: the Additional Insured – Owners, Lessees or Contractors – Scheduled Person Or Organization endorsement CG 20 10, or the Additional Insured – Owners, Lessees or Contractors – Completed Operations endorsement CG 20 37, without an edition date of such endorsement specified;

      the person or organization is an additional insured only if the injury or damage is caused, in whole or in part, by acts or omissions of you or your subcontractor in the performance of "your work" to which the "written contract requiring insurance" applies; or

      (3) If neither Paragraph **(1)** nor **(2)** above applies:

      (a) The person or organization is an additional insured only if, and to the extent that, the injury or damage is caused by acts or omissions of you or your subcontractor in the performance of "your work" to which the "written contract requiring insurance" applies; and

      (b) The person or organization does not qualify as an additional insured with respect to the independent acts or omissions of such person or organization.

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2. The insurance provided to the additional insured by this endorsement is limited as follows:
   a. If the Limits of Insurance of this Coverage Part shown in the Declarations exceed the minimum limits of liability required by the "written contract requiring insurance", the insurance provided to the additional insured will be limited to such minimum required limits of liability. For the purposes of determining whether this limitation applies, the minimum limits of liability required by the "written contract requiring insurance" will be considered to include the minimum limits of liability of any Umbrella or Excess liability coverage required for the additional insured by that "written contract requiring insurance". This endorsement will not increase the limits of insurance described in Section III – Limits Of Insurance.
   b. The insurance provided to the additional insured does not apply to "bodily injury", "property damage" or "personal injury" arising out of the rendering of, or failure to render, any professional architectural, engineering or surveying services, including:
      (1) The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders or change orders, or the preparing, approving, or failing to prepare or approve, drawings and specifications; and
      (2) Supervisory, inspection, architectural or engineering activities.
   c. The insurance provided to the additional insured does not apply to "bodily injury" or "property damage" caused by "your work" and included in the "products-completed operations hazard" unless the "written contract requiring insurance" specifically requires you to provide such coverage for that additional insured during the policy period.
3. The insurance provided to the additional insured by this endorsement is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the additional insured. However, if the "written contract requiring insurance" specifically requires that this insurance apply on a primary basis or a primary and non-contributory basis, this insurance is primary to other insurance available to the additional insured under which that person or organization qualifies as a named insured, and we will not share with that other insurance. But the insurance provided to the additional insured by this endorsement still is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the additional insured when that person or organization is an additional insured, or is any other insured that does not qualify as a named insured, under such other insurance.
4. As a condition of coverage provided to the additional insured by this endorsement:
   a. The additional insured must give us written notice as soon as practicable of an "occurrence" or an offense which may result in a claim. To the extent possible, such notice should include:
      (1) How, when and where the "occurrence" or offense took place;
      (2) The names and addresses of any injured persons and witnesses; and
      (3) The nature and location of any injury or damage arising out of the "occurrence" or offense.
   b. If a claim is made or "suit" is brought against the additional insured, the additional insured must:
      (1) Immediately record the specifics of the claim or "suit" and the date received; and
      (2) Notify us as soon as practicable.

      The additional insured must see to it that we receive written notice of the claim or "suit" as soon as practicable.
   c. The additional insured must immediately send us copies of all legal papers received in connection with the claim or "suit", cooperate with us in the investigation or settlement of the claim or defense against the "suit", and otherwise comply with all policy conditions.
   d. The additional insured must tender the defense and indemnity of any claim or "suit" to any provider of other insurance which would cover the additional insured for a loss we cover under this endorsement. However, this condition does not affect whether the insurance provided to the additional insured by this endorsement is primary to other insurance available to the additional insured which covers that person or organization as a named insured as described in Paragraph 3. above.
5. The following is added to the **DEFINITIONS** Section:

   "Written contract requiring insurance" means that part of any written contract or agreement under which you are required to include a person or or-

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ganization as an additional insured on this Coverage Part, provided that the "bodily injury" and "property damage" occurs, and the "personal injury" is caused by an offense committed, during the policy period and:

a. After the signing and execution of the contract or agreement by you; and

b. While that part of the contract or agreement is in effect.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BUSINESS AUTO EXTENSION ENDORSEMENT

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

GENERAL DESCRIPTION OF COVERAGE – This endorsement broadens coverage. However, coverage for any injury, damage or medical expenses described in any of the provisions of this endorsement may be excluded or limited by another endorsement to the Coverage Part, and these coverage broadening provisions do not apply to the extent that coverage is excluded or limited by such an endorsement. The following listing is a general coverage description only. Limitations and exclusions may apply to these coverages. Read all the provisions of this endorsement and the rest of your policy carefully to determine rights, duties, and what is end is not covered.

A. BROAD FORM NAMED INSURED

B. BLANKET ADDITIONAL INSURED

C. EMPLOYEE HIRED AUTO

D. EMPLOYEES AS INSURED

E. SUPPLEMENTARY PAYMENTS – INCREASED LIMITS

F. HIRED AUTO – LIMITED WORLDWIDE COVERAGE – INDEMNITY BASIS

G. WAIVER OF DEDUCTIBLE – GLASS

H. HIRED AUTO PHYSICAL DAMAGE – LOSS OF USE – INCREASED LIMIT

I. PHYSICAL DAMAGE – TRANSPORTATION EXPENSES – INCREASED LIMIT

J. PERSONAL EFFECTS

K. AIRBAGS

L. NOTICE AND KNOWLEDGE OF ACCIDENT OR LOSS

M. BLANKET WAIVER OF SUBROGATION

N. UNINTENTIONAL ERRORS OR OMISSIONS

PROVISIONS

A. BROAD FORM NAMED INSURED

The following is added to Paragraph **A.1., Who Is An Insured,** of **SECTION II – LIABILITY COVERAGE:**

Any organization you newly acquire or form during the policy period over which you maintain 50% or more ownership interest and that is not separately insured for Business Auto Coverage. Coverage under this provision is afforded only until the 180th day after you acquire or form the organization or the end of the policy period, whichever is earlier.

B. BLANKET ADDITIONAL INSURED

The following is added to Paragraph **c.** in **A.1., Who Is An Insured,** of **SECTION II – LIABILITY COVERAGE:**

Any person or organization who is required under a written contract or agreement between you and that person or organization, that is signed and executed by you before the "bodily injury" or "property damage" occurs and that is in effect during the policy period, to be named as an additional insured is an "insured" for Liability Coverage, but only for damages to which this insurance applies and only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Section II.

C. EMPLOYEE HIRED AUTO

1. The following is added to Paragraph **A.1., Who Is An Insured,** of **SECTION II – LIABILITY COVERAGE:**

   An "employee" of yours is an "insured" while operating an "auto" hired or rented under a contract or agreement in that "employee's" name, with your permission, while performing duties related to the conduct of your business.

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2. The following replaces Paragraph **b.** in **B.5., Other Insurance**, of **SECTION IV – BUSINESS AUTO CONDITIONS**:

   b. For Hired Auto Physical Damage Coverage, the following are deemed to be covered "autos" you own:

   (1) Any covered "auto" you lease, hire, rent or borrow; and

   (2) Any covered "auto" hired or rented by your "employee" under a contract in that individual "employee's" name, with your permission, while performing duties related to the conduct of your business.

   However, any "auto" that is leased, hired, rented or borrowed with a driver is not a covered "auto".

D. EMPLOYEES AS INSURED

The following is added to Paragraph **A.1., Who Is An Insured**, of **SECTION II – LIABILITY COVERAGE**:

Any "employee" of yours is an "insured" while using a covered "auto" you don't own, hire or borrow in your business or your personal affairs.

E. SUPPLEMENTARY PAYMENTS – INCREASED LIMITS

1. The following replaces Paragraph **A.2.a.(2)**, of **SECTION II – LIABILITY COVERAGE**:

   (2) Up to $3,000 for cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.

2. The following replaces Paragraph **A.2.a.(4)**, of **SECTION II – LIABILITY COVERAGE**:

   (4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to $500 a day because of time off from work.

F. HIRED AUTO – LIMITED WORLDWIDE COVERAGE – INDEMNITY BASIS

The following replaces Subparagraph **(5)** in Paragraph **B.7., Policy Period, Coverage Territory**, of **SECTION IV – BUSINESS AUTO CONDITIONS**:

(5) Anywhere in the world, except any country or jurisdiction while any trade sanction, embargo, or similar regulation imposed by the United States of America applies to and prohibits the transaction of business with or within such country or jurisdiction, for Liability Coverage for any covered "auto" that you lease, hire, rent or borrow without a driver for a period of 30 days or less and that is not an "auto" you lease, hire, rent or borrow from any of your "employees", partners (if you are a partnership), members (if you are a limited liability company) or members of their households.

(a) With respect to any claim made or "suit" brought outside the United States of America, the territories and possessions of the United States of America, Puerto Rico and Canada:

   (i) You must arrange to defend the "insured" against, and investigate or settle any such claim or "suit" and keep us advised of all proceedings and actions.

   (ii) Neither you nor any other involved "insured" will make any settlement without our consent.

   (iii) We may, at our discretion, participate in defending the "insured" against, or in the settlement of, any claim or "suit".

   (iv) We will reimburse the "insured" for sums that the "insured" legally must pay as damages because of "bodily injury" or "property damage" to which this insurance applies, that the "insured" pays with our consent, but only up to the limit described in Paragraph **C.**, Limit Of Insurance, of SECTION II – LIABILITY COVERAGE.

   (v) We will reimburse the "insured" for the reasonable expenses incurred with our consent for your investigation of such claims and your defense of the "insured" against any such "suit", but only up to and included within the limit described in Paragraph **C.**, Limit Of Insurance, of SECTION II – LIABILITY COVERAGE, and not in addition to such limit. Our duty to make such payments ends when we have used up the applicable limit of insurance in payments for damages, settlements or defense expenses.

(b) This insurance is excess over any valid and collectible other insurance available

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to the "insured" whether primary, excess contingent or on any other basis.

(c) This insurance is not a substitute for required or compulsory insurance in any country outside the United States, its territories and possessions, Puerto Rico and Canada.

You agree to maintain all required or compulsory insurance in any such country up to the minimum limits required by local law. Your failure to comply with compulsory insurance requirements will not invalidate the coverage afforded by this policy, but we will only be liable to the same extent we would have been liable had you complied with the compulsory insurance requirements.

(d) It is understood that we are not an admitted or authorized insurer outside the United States of America, its territories and possessions, Puerto Rico and Canada. We assume no responsibility for the furnishing of certificates of insurance, or for compliance in any way with the laws of other countries relating to insurance.

G. WAIVER OF DEDUCTIBLE – GLASS

The following is added to Paragraph **D., Deductible**, of **SECTION III – PHYSICAL DAMAGE COVERAGE:**

No deductible for a covered "auto" will apply to glass damage if the glass is repaired rather than replaced.

H. HIRED AUTO PHYSICAL DAMAGE – LOSS OF USE – INCREASED LIMIT

The following replaces the last sentence of Paragraph **A.4.b., Loss Of Use Expenses**, of **SECTION III – PHYSICAL DAMAGE COVERAGE:**

However, the most we will pay for any expenses for loss of use is $65 per day, to a maximum of $750 for any one "accident".

I. PHYSICAL DAMAGE – TRANSPORTATION EXPENSES – INCREASED LIMIT

The following replaces the first sentence in Paragraph **A.4.a., Transportation Expenses**, of **SECTION III – PHYSICAL DAMAGE COVERAGE:**

We will pay up to $50 per day to a maximum of $1,500 for temporary transportation expense incurred by you because of the total theft of a covered "auto" of the private passenger type.

J. PERSONAL EFFECTS

The following is added to Paragraph **A.4., Coverage Extensions**, of **SECTION III – PHYSICAL DAMAGE COVERAGE:**

Personal Effects

We will pay up to $400 for "loss" to wearing apparel and other personal effects which are:

(1) Owned by an "insured"; and

(2) In or on your covered "auto".

This coverage applies only in the event of a total theft of your covered "auto".

No deductibles apply to this Personal Effects coverage.

K. AIRBAGS

The following is added to Paragraph **B.3., Exclusions**, of **SECTION III – PHYSICAL DAMAGE COVERAGE:**

Exclusion 3.a. does not apply to "loss" to one or more airbags in a covered "auto" you own that inflate due to a cause other than a cause of "loss" set forth in Paragraphs **A.1.b.** and **A.1.c.**, but only:

a. If that "auto" is a covered "auto" for Comprehensive Coverage under this policy;

b. The airbags are not covered under any warranty; and

c. The airbags were not intentionally inflated.

We will pay up to a maximum of $1,000 for any one "loss".

L. NOTICE AND KNOWLEDGE OF ACCIDENT OR LOSS

The following is added to Paragraph **A.2.a.**, of **SECTION IV – BUSINESS AUTO CONDITIONS:**

Your duty to give us or our authorized representative prompt notice of the "accident" or "loss" applies only when the "accident" or "loss" is known to:

(a) You (if you are an individual);

(b) A partner (if you are a partnership);

(c) A member (if you are a limited liability company);

(d) An executive officer, director or insurance manager (if you are a corporation or other organization); or

(e) Any "employee" authorized by you to give notice of the "accident" or "loss".

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M. BLANKET WAIVER OF SUBROGATION

The following replaces Paragraph **A.5., Transfer Of Rights Of Recovery Against Others To Us,** of **SECTION IV – BUSINESS AUTO CONDITIONS:**

5. Transfer Of Rights Of Recovery Against Others To Us

We waive any right of recovery we may have against any person or organization to the extent required of you by a written contract signed and executed prior to any "accident" or "loss", provided that the "accident" or "loss" arises out of operations contemplated by such contract. The waiver applies only to the person or organization designated in such contract.

N. UNINTENTIONAL ERRORS OR OMISSIONS

The following is added to Paragraph **B.2., Concealment, Misrepresentation, Or Fraud,** of **SECTION IV – BUSINESS AUTO CONDITIONS:**

The unintentional omission of, or unintentional error in, any information given by you shall not prejudice your rights under this insurance. However this provision does not affect our right to collect additional premium or exercise our right of cancellation or non-renewal.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CONTRACTORS XTEND ENDORSEMENT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

GENERAL DESCRIPTION OF COVERAGE – This endorsement broadens coverage. However, coverage for any injury, damage or medical expenses described in any of the provisions of this endorsement may be excluded or limited by another endorsement to this Coverage Part, and these coverage broadening provisions do not apply to the extent that coverage is excluded or limited by such an endorsement. The following listing is a general coverage description only. Limitations and exclusions may apply to these coverages. Read all the provisions of this endorsement and the rest of your policy carefully to determine rights, duties, and what is and is not covered.

A. Aircraft Chartered With Pilot

B. Damage To Premises Rented To You

C. Increased Supplementary Payments

D. Incidental Medical Malpractice

E. Who Is An Insured – Newly Acquired Or Formed Organizations

F. Who Is An Insured – Broadened Named Insured – Unnamed Subsidiaries

G. Blanket Additional Insured – Owners, Managers Or Lessors Of Premises

H. Blanket Additional Insured – Lessors Of Leased Equipment

I. Blanket Additional Insured – States Or Political Subdivisions – Permits

J. Knowledge And Notice Of Occurrence Or Offense

K. Unintentional Omission

L. Blanket Waiver Of Subrogation

M. Amended Bodily Injury Definition

N. Contractual Liability – Railroads

PROVISIONS

A. AIRCRAFT CHARTERED WITH PILOT

The following is added to Exclusion **g.**, **Aircraft, Auto Or Watercraft,** in Paragraph **2.** of **SECTION I – COVERAGES – COVERAGE A BODILY INJURY AND PROPERTY DAMAGE LIABILITY**:

This exclusion does not apply to an aircraft that is:

(a) Chartered with a pilot to any insured;

(b) Not owned by any insured; and

(c) Not being used to carry any person or property for a charge.

B. DAMAGE TO PREMISES RENTED TO YOU

1. The first paragraph of the exceptions in Exclusion **j.**, **Damage To Property**, in Paragraph **2.** of **SECTION I – COVERAGES – COVERAGE A BODILY INJURY AND PROPERTY DAMAGE LIABILITY** is deleted.

2. The following replaces the last paragraph of Paragraph **2.**, **Exclusions**, of **SECTION I – COVERAGES – COVERAGE A. BODILY INJURY AND PROPERTY DAMAGE LIABILITY**:

Exclusions **c.** and **g.** through **n.** do not apply to "premises damage". Exclusion **f.(1)(a)** does not apply to "premises damage" caused by:

a. Fire;

b. Explosion;

c. Lightning;

d. Smoke resulting from such fire, explosion, or lightning; or

e. Water;

unless Exclusion **f.** of Section I – Coverage A – Bodily Injury And Property Damage Liability is replaced by another endorsement to this Coverage Part that has Exclusion – All Pollution Injury Or Damage or Total Pollution Exclusion in its title.

A separate limit of insurance applies to "premises damage" as described in Paragraph **6.** of **SECTION III – LIMITS OF INSURANCE**.

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3. The following replaces Paragraph **6.** of **SECTION III – LIMITS OF INSURANCE**:

   Subject to **5.** above, the Damage To Premises Rented To You Limit is the most we will pay under Coverage **A** for damages because of "premises damage" to any one premises. The Damage To Premises Rented To You Limit will apply to all "property damage" proximately caused by the same "occurrence", whether such damage results from: fire; explosion; lightning; smoke resulting from such fire, explosion, or lightning; or water; or any combination of any of these causes.

   The Damage To Premises Rented To You Limit will be:

   a. The amount shown for the Damage To Premises Rented To You Limit on the Declarations of this Coverage Part; or

   b. $300,000 if no amount is shown for the Damage To Premises Rented To You Limit on the Declarations of this Coverage Part.

4. The following replaces Paragraph **a.** of the definition of "insured contract" in the **DEFINITIONS** Section:

   a. A contract for a lease of premises. However, that portion of the contract for a lease of premises that indemnifies any person or organization for "premises damage" is not an "insured contract";

5. The following is added to the **DEFINITIONS** Section:

   "Premises damage" means "property damage" to:

   a. Any premises while rented to you or temporarily occupied by you with permission of the owner; or

   b. The contents of any premises while such premises is rented to you, if you rent such premises for a period of seven or fewer consecutive days.

6. The following replaces Paragraph **4.b.(1)(b)** of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

   (b) That is insurance for "premises damage"; or

7. Paragraph **4.b.(1)(c)** of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS** is deleted.

C. INCREASED SUPPLEMENTARY PAYMENTS

1. The following replaces Paragraph **1.b.** of **SUPPLEMENTARY PAYMENTS – COVERAGES A AND B** of **SECTION I – COVERAGE**:

   b. Up to $2,500 for the cost of bail bonds required because of accidents or traffic law violations arising out of the use of any vehicle to which the Bodily Injury Liability Coverage applies. We do not have to furnish these bonds.

2. The following replaces Paragraph **1.d.** of **SUPPLEMENTARY PAYMENTS – COVERAGES A AND B** of **SECTION I – COVERAGES**:

   d. All reasonable expenses incurred by the insured at our request to assist us in the investigation or defense of the claim or "suit", including actual loss of earnings up to $500 a day because of time off from work.

D. INCIDENTAL MEDICAL MALPRACTICE

1. The following is added to the definition of "occurrence" in the **DEFINITIONS** Section:

   "Occurrence" also means an act or omission committed in providing or failing to provide "incidental medical services", first aid or "Good Samaritan services" to a person.

2. The following is added to Paragraph **2.a.(1)** of **SECTION II – WHO IS AN INSURED**:

   Paragraph **(1)(d)** above does not apply to "bodily injury" arising out of providing or failing to provide:

   (i) "Incidental medical services" by any of your "employees" who is a nurse practitioner, registered nurse, licensed practical nurse, nurse assistant, emergency medical technician or paramedic; or

   (ii) First aid or "Good Samaritan services" by any of your "employees" or "volunteer workers", other than an employed or volunteer doctor. Any such "employees" or "volunteer workers" providing or failing to provide first aid or "Good Samaritan services" during their work hours for you will be deemed to be acting within the scope of their employment by you or performing duties related to the conduct of your business.

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3. The following is added to Paragraph 5. of **SECTION III – LIMITS OF INSURANCE**:

   For the purposes of determining the applicable Each Occurrence Limit, all related acts or omissions committed in providing or failing to provide "incidental medical services", first aid or "Good Samaritan services" to any one person will be deemed to be one "occurrence".

4. The following exclusion is added to Paragraph **2., Exclusions,** of **SECTION I – COVERAGES – COVERAGE A BODILY INJURY AND PROPERTY DAMAGE LIABILITY**:

   Sale Of Pharmaceuticals

   "Bodily injury" or "property damage" arising out of the willful violation of a penal statute or ordinance relating to the sale of pharmaceuticals committed by, or with the knowledge or consent of, the insured.

5. The following is added to the **DEFINITIONS** Section:

   "Incidental medical services" means:

   a. Medical, surgical, dental, laboratory, x-ray or nursing service or treatment, advice or instruction, or the related furnishing of food or beverages; or

   b. The furnishing or dispensing of drugs or medical, dental, or surgical supplies or appliances.

   "Good Samaritan services" means any emergency medical services for which no compensation is demanded or received.

6. The following is added to Paragraph **4.b., Excess Insurance,** of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

   The insurance is excess over any valid and collectible other insurance available to the insured, whether primary, excess, contingent or on any other basis, that is available to any of your "employees" or "volunteer workers" for "bodily injury" that arises out of providing or failing to provide "incidental medical services", first aid or "Good Samaritan services" to any person to the extent not subject to Paragraph **2.a.(1)** of Section II – Who Is An Insured.

E. WHO IS AN INSURED – NEWLY ACQUIRED OR FORMED ORGANIZATIONS

The following replaces Paragraph **4.** of **SECTION II – WHO IS AN INSURED**:

4. Any organization you newly acquire or form, other than a partnership, joint venture or limited liability company, of which you are the sole owner or in which you maintain the majority ownership interest, will qualify as a Named Insured if there is no other insurance which provides similar coverage to that organization. However:

   a. Coverage under this provision is afforded only:

      (1) Until the 180th day after you acquire or form the organization or the end of the policy period, whichever is earlier, if you do not report such organization in writing to us within 180 days after you acquire or form it; or

      (2) Until the end of the policy period, when that date is later than 180 days after you acquire or form such organization, if you report such organization in writing to us within 180 days after you acquire or form it, and we agree in writing that it will continue to be a Named Insured until the end of the policy period;

   b. Coverage A does not apply to "bodily injury" or "property damage" that occurred before you acquired or formed the organization; and

   c. Coverage B does not apply to "personal injury" or "advertising injury" arising out of an offense committed before you acquired or formed the organization.

F. WHO IS AN INSURED – BROADENED NAMED INSURED – UNNAMED SUBSIDIARIES

The following is added to **SECTION II – WHO IS AN INSURED**:

Any of your subsidiaries, other than a partnership, joint venture or limited liability company, that is not shown as a Named Insured in the Declarations is a Named Insured if you maintain an ownership interest of more than 50% in such subsidiary on the first day of the policy period.

No such subsidiary is an insured for "bodily injury" or "property damage" that occurred, or "personal injury" or "advertising injury" caused by an offense committed after the date, if any, during the policy period, that you no longer maintain an ownership interest of more than 50% in such subsidiary.

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G. BLANKET ADDITIONAL INSURED – OWNERS, MANAGERS OR LESSORS OF PREMISES

The following is added to **SECTION II – WHO IS AN INSURED**:

Any person or organization that is a premises owner, manager or lessor and that you have agreed in a written contract or agreement to include as an additional insured on this Coverage Part is an insured, but only with respect to liability for "bodily injury", "property damage", "personal injury" or "advertising injury" that:

a. Is "bodily injury" or "property damage" that occurs, or is "personal injury" or "advertising injury" caused by an offense that is committed, subsequent to the execution of that contract or agreement; and

b. Arises out of the ownership, maintenance or use of that part of any premises leased to you.

The insurance provided to such premises owner, manager or lessor is subject to the following provisions:

a. The limits of insurance provided to such premises owner, manager or lessor will be the minimum limits which you agreed to provide in the written contract or agreement, or the limits shown on the Declarations, whichever are less.

b. The insurance provided to such premises owner, manager or lessor does not apply to:

(1) Any "bodily injury" or "property damage" that occurs, or "personal injury" or "advertising injury" caused by an offense that is committed, after you cease to be a tenant in that premises; or

(2) Structural alterations, new construction or demolition operations performed by or on behalf of such premises owner, lessor or manager.

c. The insurance provided to such premises owner, manager or lessor is excess over any valid and collectible other insurance available to such premises owner, manager or lessor, whether primary, excess, contingent or on any other basis, unless you have agreed in the written contract or agreement that this insurance must be primary to, or non-contributory with, such other insurance, in which case this insurance will be primary to, and non-contributory with, such other insurance.

H. BLANKET ADDITIONAL INSURED – LESSORS OF LEASED EQUIPMENT

The following is added to **SECTION II – WHO IS AN INSURED**:

Any person or organization that is an equipment lessor and that you have agreed in a written contract or agreement to include as an insured on this Coverage Part is an insured, but only with respect to liability for "bodily injury", "property damage", "personal injury" or "advertising injury" that:

a. Is "bodily injury" or "property damage" that occurs, or is "personal injury" or "advertising injury" caused by an offense that is committed, subsequent to the execution of that contract or agreement; and

b. Is caused, in whole or in part, by your acts or omissions in the maintenance, operation or use of equipment leased to you by such equipment lessor.

The insurance provided to such equipment lessor is subject to the following provisions:

a. The limits of insurance provided to such equipment lessor will be the minimum limits which you agreed to provide in the written contract or agreement, or the limits shown on the Declarations, whichever are less.

b. The insurance provided to such equipment lessor does not apply to any "bodily injury" or "property damage" that occurs, or "personal injury" or "advertising injury" caused by an offense that is committed, after the equipment lease expires.

c. The insurance provided to such equipment lessor is excess over any valid and collectible other insurance available to such equipment lessor, whether primary, excess, contingent or on any other basis, unless you have agreed in the written contract or agreement that this insurance must be primary to, or non-contributory with, such other insurance, in which case this insurance will be primary to, and non-contributory with, such other insurance.

I. BLANKET ADDITIONAL INSURED – STATES OR POLITICAL SUBDIVISIONS – PERMITS

The following is added to **SECTION II – WHO IS AN INSURED**:

Any state or political subdivision that has issued a permit in connection with operations performed by you or on your behalf and that you are required

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by any ordinance, law or building code to include as an additional insured on this Coverage Part is an insured, but only with respect to liability for "bodily injury", "property damage", "personal injury" or "advertising injury" arising out of such operations.

The insurance provided to such state or political subdivision does not apply to:

a. Any "bodily injury," "property damage," "personal injury" or "advertising injury" arising out of operations performed for that state or political subdivision; or

b. Any "bodily injury" or "property damage" included in the "products-completed operations hazard".

J. **KNOWLEDGE AND NOTICE OF OCCURRENCE OR OFFENSE**

The following is added to Paragraph **2., Duties In The Event of Occurrence, Offense, Claim or Suit**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

e. The following provisions apply to Paragraph **a.** above, but only for the purposes of the insurance provided under this Coverage Part to you or any insured listed in Paragraph **1.** or **2.** of Section II – Who Is An Insured:

(1) Notice to us of such "occurrence" or offense must be given as soon as practicable only after the "occurrence" or offense is known by you (if you are an individual), any of your partners or members who is an individual (if you are a partnership or joint venture), any of your managers who is an individual (if you are a limited liability company), any of your "executive officers" or directors (if you are an organization other than a partnership, joint venture or limited liability company) or any "employee" authorized by you to give notice of an "occurrence" or offense.

(2) If you are a partnership, joint venture or limited liability company, and none of your partners, joint venture members or managers are individuals, notice to us of such "occurrence" or offense must be given as soon as practicable only after the "occurrence" or offense is known by:

(a) Any individual who is:

(i) A partner or member of any partnership or joint venture;

(ii) A manager of any limited liability company; or

(iii) An executive officer or director of any other organization;

that is your partner, joint venture member or manager; or

(b) Any "employee" authorized by such partnership, joint venture, limited liability company or other organization to give notice of an "occurrence" or offense.

(3) Notice to us of such "occurrence" or of an offense will be deemed to be given as soon as practicable if it is given in good faith as soon as practicable to your workers' compensation insurer. This applies only if you subsequently give notice to us of the "occurrence" or offense as soon as practicable after any of the persons described in Paragraphs **e. (1)** or **(2)** above discovers that the "occurrence" or offense may result in sums to which the insurance provided under this Coverage Part may apply.

However, if this Coverage Part includes an endorsement that provides limited coverage for "bodily injury" or "property damage" or pollution costs arising out of a discharge, release or escape of "pollutants" which contains a requirement that the discharge, release or escape of "pollutants" must be reported to us within a specific number of days after its abrupt commencement, this Paragraph e. does not affect that requirement.

K. **UNINTENTIONAL OMISSION**

The following is added to Paragraph **6., Representations**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

The unintentional omission of, or unintentional error in, any information provided by you which we relied upon in issuing this policy will not prejudice your rights under this insurance. However, this provision does not affect our right to collect additional premium or to exercise our rights of cancellation or nonrenewal in accordance with applicable insurance laws or regulations.

L. **BLANKET WAIVER OF SUBROGATION**

The following is added to Paragraph **8., Transfer Of Rights Of Recovery Against Others To Us**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

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If the insured has agreed in a contract or agreement to waive that insured's right of recovery against any person or organization, we waive our right of recovery against such person or organization, but only for payments we make because of:

a. "Bodily injury" or "property damage" that occurs; or

b. "Personal injury" or "advertising injury" caused by an offense that is committed;

subsequent to the execution of that contract or agreement.

M. AMENDED BODILY INJURY DEFINITION

The following replaces the definition of "bodily injury" in the **DEFINITIONS** Section:

3. "Bodily injury" means bodily injury, mental anguish, mental injury, shock, fright, disability, humiliation, sickness or disease sustained by a person, including death resulting from any of these at any time.

N. CONTRACTUAL LIABILITY – RAILROADS

1. The following replaces Paragraph **c.** of the definition of "insured contract" in the **DEFINITIONS** Section:

   c. Any easement or license agreement;

2. Paragraph **f.(1)** of the definition of "insured contract" in the **DEFINITIONS** Section is deleted.

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TRAVELERS

WORKERS COMPENSATION
AND
EMPLOYERS LIABILITY POLICY

ENDORSEMENT WC 00 03 13 (00)

POLICY NUMBER: VTC2JUB6726B789

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit any one not named in the Schedule.

SCHEDULE

DESIGNATED PERSON:

DESIGNATED ORGANIZATION:

ANY PERSON OR ORGANIZATION FOR WHICH THE NAMED INSURED HAS AGREED IN A WRITTEN CONTRACT EXCEUTED PRIOR TO LOSS TO PROVIDE THIS WAIVER.

DATE OF ISSUE: - - ST ASSIGN:

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APPENDIX D.2:
APPROVED ZONING APPLICATION

City of Phoenix
PLANNING DEPARTMENT

January 22, 2004

Gordon Taylor
Arizona State Land Dept
1616 W Adams
Phoenix, AZ 85007

Dear Applicant:

RE: Rezoning Application Z-87-03-2, Northwest corner and southwest corner of Scottsdale Road and Loop 101, (approximately 908.03 acres)

Please be advised that the Phoenix City Council, in accordance with the provisions of Section 506.B.4 of the Zoning Ordinance, as amended, has on November 5, 2003, concurred in the recommendation of the Planning Commission and has ratified on the Consent Agenda Application Z-87-03-2 to approve approximately 908.03 acres to R-3A PCD, CP/BP PCD, C-2 MR PCD, and RH PCD, subject to the following stipulations:

STIPULATIONS:

1. That Master Plan documents may be submitted for portions of the Planned Community District as development occurs per the applicable development agreement.

2. That right-of-way and improvements shall be determined by the final Traffic Impact Study, and a Master Street Plan - Development Agreement between the city, Arizona State Land Department and the City of Scottsdale. Additional right-of -way and/or easements not specifically identified, such as bus bays, turn lanes, landscape/sidewalk easements, slope and construction easements, etc., may be required as determined by the Master Street Plan, or when individual development plans are submitted to Development Services Department for approval.

3. That Scottsdale Road shall be a scenic corridor with an easement width to be determined throughout the Master Street Plan, Drainage Plan, and Landscape Plan for Scottsdale Road.

4. That detailed requirements for potable water, wastewater, and reclaimed water onsite and offsite infrastructure needed to service this project and infrastructure phasing schedules shall be determined at the time of review and approval of the PCD potable water, wastewater, and reclaimed water master plans. Off site infrastructure requirements shall be a function of the amount of major master plan water and sewer lines constructed by other development in the area prior to the initiation of this project.

200 West Washington Street, Phoenix, Arizona 85003 602-262-7131 FAX: 602-495-3793

Recycled Paper

5. That prior to preliminary site plan approvals, site plans and elevations shall be reviewed by the Desert View Village Planning Committee and the Planning Commission for each parcel ensuring the inclusion of the following concepts:

   A. Create a local synergy through stylistic elements with the indoor/outdoor character of the buildings and public spaces that provide a strong pedestrian sense of place.

   B. Incorporate mature desert landscaping, particularly shade along pathways.

   C. Include a variety of paving materials for the sidewalk, appropriately scaled light posts, and decorative lighting elements to enhance the streetscape.

   D. Incorporate various architectural elements for multi-story buildings such as balconies overlooking public spaces and that face view corridors, pop out windows and design elements that compliment the community theme.

6. That the first tier of buildings along Scottsdale Road from Loop 101 to Deer Valley Road shall not exceed 60 feet in height for a width of 300 feet mirroring that of the Stack 40's development on the east side of Scottsdale Road. Should the City of Scottsdale deem it necessary for a greater height, the City of Phoenix shall concur to the additional height.

7. That the core shall be anchored by a department store regional shopping center. In the event the regional shopping center has not commenced construction within a six-year period, the stipulation requiring a regional center shall be reviewed for timeliness and appropriateness by the Desert View Village Planning Committee, the City of Phoenix Planning Commission, and the City Council.

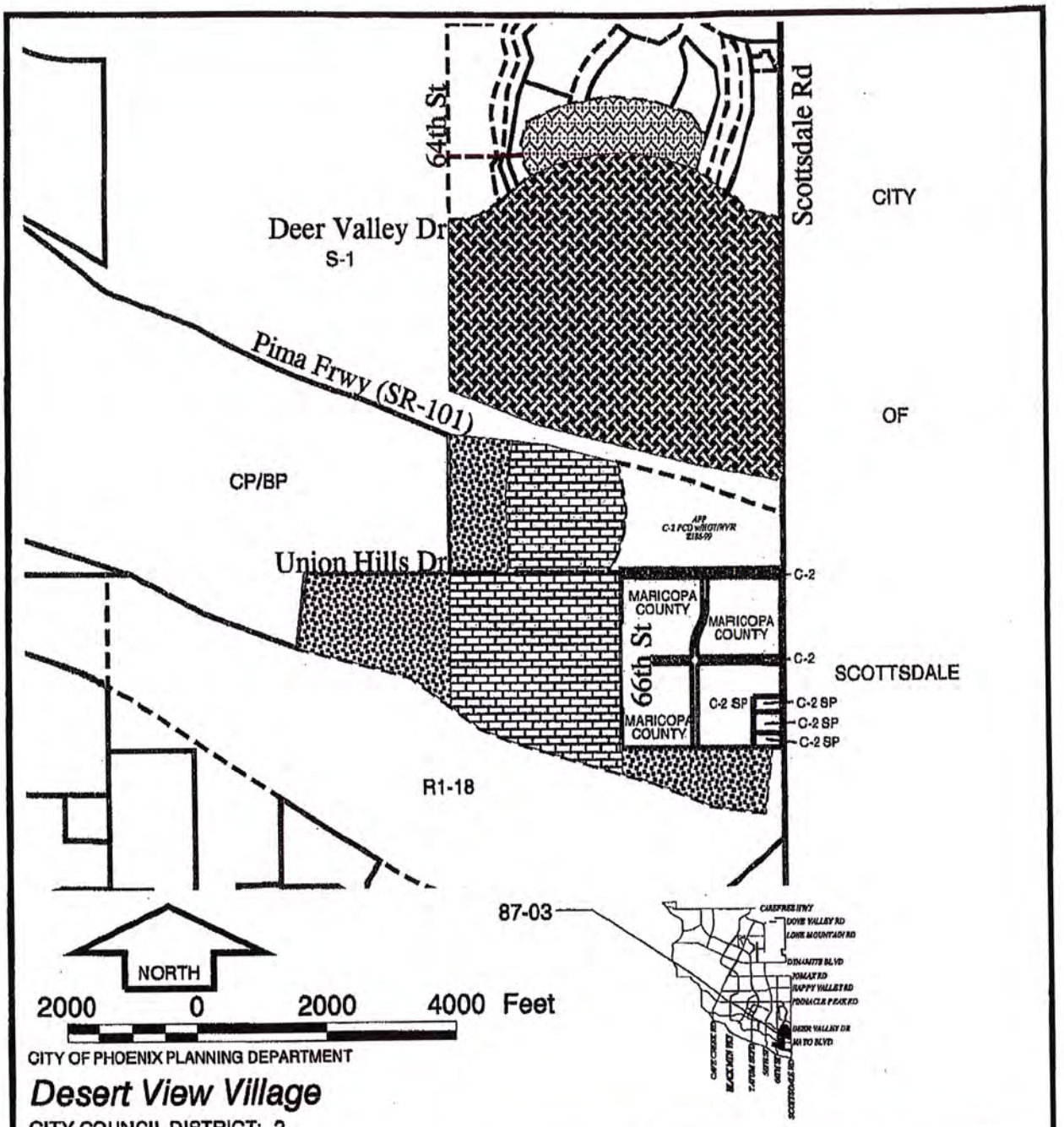
Sincerely,

Michelle Dodds

Michelle Dodds, AICP
Principal Planner

H:\data\hearings\pho\rat\Z-87-03-2

C: City Clerk
Files
Kelly Walker (sent electronically)
E.J. Hynck, Public Transit (sent elec)
Book
Jay Neville (sent electronically)
Ken Black (sent electronically)
Dave Barrier,DSD (sent electronically)
Bernadine Alling (sent electronically)
Lynn West (sent electronically)
City of Phoenix, Planning Department, 200 W Washington, 6th Floor, Phoenix, AZ 85003
Gordon Taylor, Arizona State Land Dept, 1616 W Adams, Phoenix, AZ 85007



CITY OF PHOENIX PLANNING DEPARTMENT

Desert View Village

CITY COUNCIL DISTRICT: 2

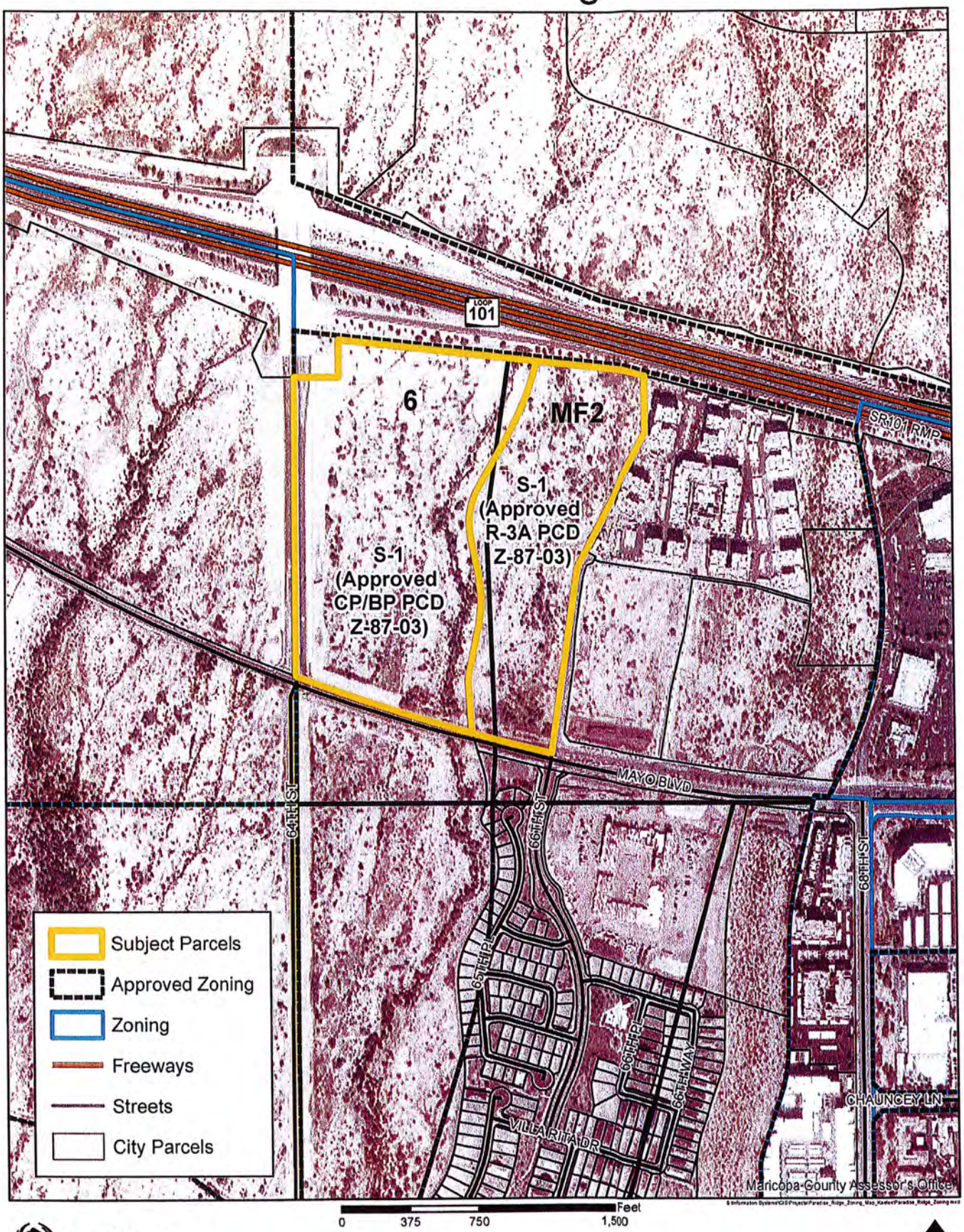
APPLICANT'S NAME:		REQUESTED CHANGE:
City of Phoenix Planning Commission		FROM: S-1 (633.97 ac) & R1-18 (274.16 ac) [Appr. PCD]
APPLICATION NO. 87-03	DATE: 7-28-2003 REVISION DATES:	TO: R-3A PCD (231.48 ac); CP/BP PCD (158.15 ac); C-2 M-R PCD (467.74 ac); RH PCD (50.66 ac)
GROSS AREA INCLUDING 1/2 STREET AND ALLEY DEDICATION IS APPROX. 908.03 Acres	AERIAL PHOTO & QUARTER SEC. NO.: Various / ZONING MAP: M, N, O-12	

MULTIPLES PERMITTED	CONVENTIONAL OPTION	* UNITS P.R.D. OPTION
S-1, R1-18	710 / 534	N/A / 562
R-3A PCD, CP/BP PCD, C-2 M-R PCD, RH PCD	5092 / N/A / N/A / 1013	5347 / N/A / N/A / N/A

* Maximum Units Allowed with P.R.D. Bonus

8-29-2003

Paradise Ridge



City of Phoenix
PLANNING AND DEVELOPMENT DEPARTMENT

NORTH

APPENDIX D.3:
RAWHIDE WASH CHANNELIZATION DCR

Rawhide Wash Channelization Design Concept Report (DCR)
Conceptual Channelization Design
Flood Control District of Maricopa County

Prepared for the:

Prepared by:

AECOM

Registered Professional Engineer (Civil)
CERTIFICATE NO.
34569
SHERRICK
HUDSON
CAMPBELL
Date Signed
ARIZONA U.S.A.
Expires

PRELIMINARY

August 22, 2019

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1.0 Introduction

1.1 Purpose of Study

This report documents the conceptual hydraulic analysis task performed on behalf of the Flood Control District of Maricopa County (District) for the portion of the Rawhide Wash reach located west of Scottsdale Road in the City of Phoenix (COP). The area is generally referred to by the Arizona State Land Department (ASLD) as the Paradise Ridge Planning Area. This exercise is a supplement to the *Data Collection Report* prepared previously by AECOM as part of Work Assignment No. 2 and submitted to the District on February 19, 2019.

The purpose of this Work Assignment is to develop a conceptual alignment for the conveyance of the 100-year design flow within Rawhide Wash from Scottsdale Road to the Bureau of Reclamation's (BOR) Reach 11 Recreation Area. This analysis is intended to provide the following:

- Conceptual level channelization concepts
- Conceptual level hydraulic analysis
- Preliminary opinion of probable cost

The primary goal associated with the Rawhide Wash Channelization DCR is to identify a solution that will accomplish the following:

- Reduce flood risks for existing and future City residents within the Rawhide Wash Floodplain
- Result in a smaller land area that is affected by the flood hazard, which will allow the City to remap the current FEMA Alluvial Fan Floodplain and reduce costs for future development.
- Reduce the mandatory flood insurance requirement for future residents in this area.

Accomplishment of these project goals will provide cost savings for the community, current and future area residents and businesses.

This document has been developed based on the use of the Arizona Department of Water Resource's *State Standard 1-Instructions for Organizing and Submitting Technical Support Data Notebooks (TSDN),* dated August 2012. The information presented herein is considered preliminary and conceptual in nature and subject to change based on more detailed information. More detailed information is expected to include more detailed hydraulic analysis and land use planning information within the Paradise Ridge Planning Area.

1.2 Authority for Study

This conceptual hydraulic analysis is being performed on behalf of the Flood Control District of Maricopa County (District) as part of **Work Assignment No. 3** under **District On-Call Contract 2018C011**. This exercise is a supplement to the Data Collection Report prepared previously as part of Work Assignment No. 2 and submitted to the District on February 19, 2019.

1.3 Location of Study Reach

The subject portion of the Rawhide Wash Study Reach extends from Scottsdale Road downstream toward the BOR Reach 11 Recreation Area, located immediately upstream of the Central Arizona Project (CAP) Canal. The Rawhide Wash Channelization DCR Area of Interest (AOI, *herein referred to as the AOI*) is located in northeastern Maricopa County, within the corporate limits of the COP. The area is generally referred to as the Paradise Ridge Planning Area and is generally bound by Pinnacle Peak Road on the north side, the Central Arizona Project Canal (CAP) on the south side, Scottsdale Road on the east side, and the 56th Street Alignment on the west side.

Features within the AOI that influence stormwater drainage include the following elements, moving from north to south:

1. Rawhide Wash Outfall at Scottsdale Road Bridge
2. Loop 101 Freeway Alignment (associated interception channels and culvert crossings)
3. Mayo Boulevard
4. 404 Mitigation Corridors maintained for flow conveyance
5. Bureau of Reclamation Reach 11 Recreation Area

The AOI is characterized as predominately natural and undeveloped desert with existing commercial and residential land uses located south of the Loop 101 Freeway.

Figure 1 graphically illustrates the location of the AOI within Maricopa County.

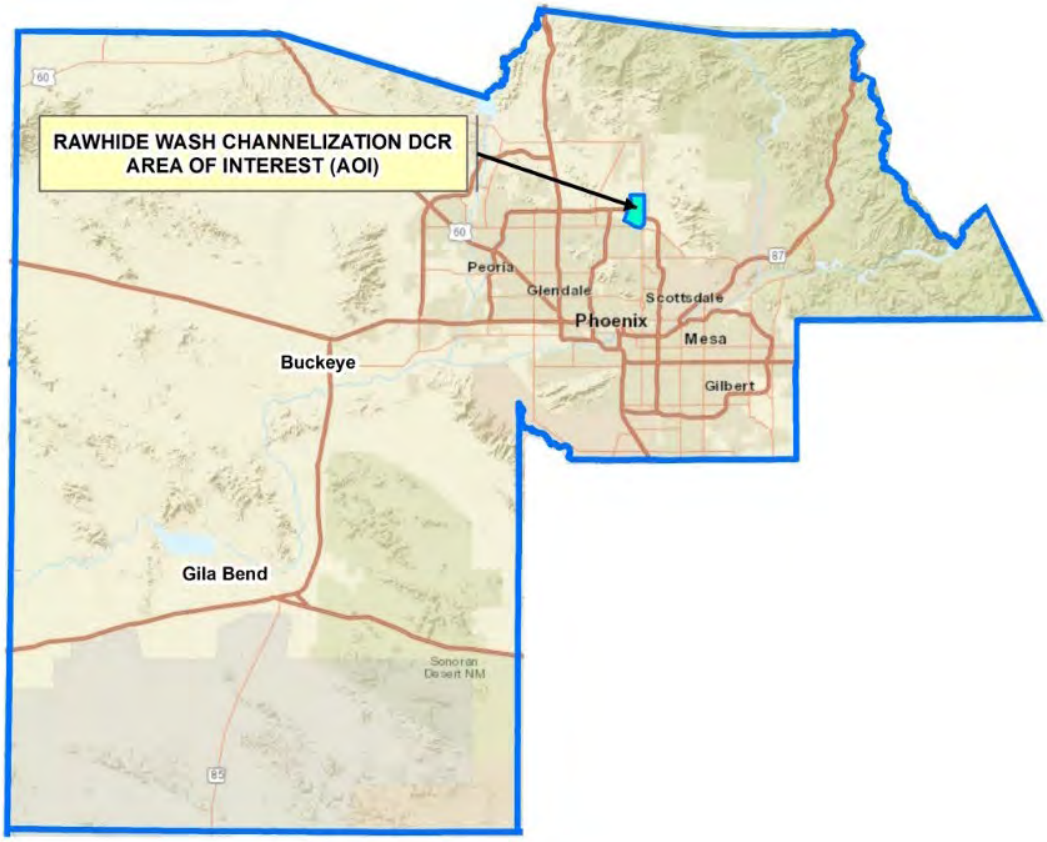


Figure 1: Project Location Map

1.4 Methodology

The conceptual hydraulic analysis presented herein has been based on the use of the U.S. Army Corps of Engineers (USACE) HEC-RAS computer program (Version 5.0.7). Hydrology used as part of the hydraulic analysis is based on the preliminary modeling results being developed concurrently as part of the District's Rawhide Wash Channelization Project located immediately upstream of Scottsdale Road. No new hydrologic analysis has been performed as a part of this effort.

1.5 Study Results

The conceptual alignment and regional drainage concepts presented herein are based on collaboration with ASLD, COP, and the District. The conceptual analysis presented herein includes channelization concepts and associated preliminary opinions of probable cost.

2.0 Study Documentation Abstract

Section 1: Project Contact Information		
1.1	Owner Contact Information -Mailing Address -Phone Number -E-Mail	*Flood Control District of Maricopa County* *Project Manager: Mark Frago, AICP, CFM* *2801 West Durango Street* *Phoenix, Arizona 85009* *(602)506-0750* *Mark.Frago@maricopa.gov*
1.2	Study Contractor Contact Information -Mailing Address -Phone Number -E-Mail	*AECOM* *Project Manager: Sherrick Campbell, P.E., CFM* *7720 North 16th Street, Suite 100* *Phoenix, Arizona 85020* *(602)648-2585* *Sherrick.Campbell@aecom.com*
1.3	Local Technical Reviewer	*Flood Control District of Maricopa County* *-(Mark Frago/Hasan Mushtaq)* *Arizona State Land Department* *-(Mark Edelman/Manny Patel)* *City of Phoenix* *-(Ray Dovalina)*
1.4	Date Study Submitted	*July 19, 2019*
1.5	Date Review Comments Returned	*August 9, 2019*
1.6	Date Study Approved by Local Reviewing Agency	*August 30, 2019*
Section 2: General Information		
Section 2.1: Project Location		
2.1.1	Community	*State Land (Arizona), City of Phoenix*
2.1.2	County	*Maricopa County*
2.1.3	River or Stream Name	*Rawhide Wash*
2.1.4	Reach Description	*Scottsdale Road – Loop 101*
2.1.5	Study Type	*Riverine*
Section 2.2: Project Purpose and Summary of Findings		
2.2.1	Purpose of Study	*Design Concept Report (DCR) for Conveyance of Rawhide Wash Design Flow from Scottsdale Road to Loop 101*
2.2.2	Summary of Hydrology and Hydraulic Methodologies Utilized	*Hydrology: Provided by District* *Hydraulics: U.S. Army Corps of Engineer's HEC-RAS*
2.2.3	Brief Summary Description of the Study Results	*Channelization Concepts for conveyance of Rawhide Wash Design Flow from Scottsdale Road to Reach 11*
2.2.4	Acknowledgements	*Mark Frago, Hasan Mushtaq (District)* *Mark Edelman, Manny Patel (ASLD)* *Ray Dovalina (COP)*

Section 3: Survey and Mapping Information		
3.1	Digital Projection Information -Type / Source -Coordinate System -Date	*GIS data, Rawhide Wash FCD Contract No: 2016C014* *NAD_1983_HARN_StatePlane_Arizona_Central_FIPS_0202_Feet_Intl* *December 8, 2016*
3.2	USGS Quad Sheet(s) with original photo date & latest photo revision date. Current data may be substituted if available.	*N/A*
3.3	Mapping for Hydrologic Study -Type / Source -Scale -Date	*N/A*
3.4	Mapping for Hydraulic Study -Type / Source -Scale -Subcontractor (Aerial) -Date of Aerial Mapping	*N/A*
Section 4: Hydrology		
4.1	Model or Method Used (including vendor and version description)	*Hydrology is based on FLO-2D model (Pro Model Build No. 16.06.16/FLOPRO.exe dated Feb 28, 2017) being developed for Rawhide Wash Channelization Project upstream of Scottsdale Road*
4.2	Storm Duration	*24-hour*
4.3	Hydrograph Type	*Conditions reflect implementation of channelization improvements east of Scottsdale Road*
4.4	Frequencies Determined	*100-year*
4.5	List of Gages Used in Frequency Analysis or Calibration (Location, Years of Record, Gage Ownership)	*N/A*
4.6	Rainfall Amounts and Reference	*N/A*
4.7	Unique Conditions and Issues	*The 100-year, 24-hour peak flows used herein are based on the design flow identified for use as a part of the Rawhide Wash Channelization Project upstream of Scottsdale Road*
4.8	Coordination of Discharges (Agency, Date, Comments)	*N/A*

Section 5: Hydraulics		
5.1	Model or Method Used (including vendor and version description)	*U.S. Army Corps of Engineer's HEC-RAS program, Version 5.0.7*
5.2	Regime	*Mixed*
5.3	Frequencies for Which Profiles Were Computed	*100-year*
5.4	Method of Floodway Calculation	*N/A*
5.5	Unique Conditions and Issues	*Hydraulic characteristics of the conceptual hydraulic analysis presented in the **Palisene Paradise Ridge Conceptual Drainage Plan Report** have been maintained for this effort. These include in part, use of supercritical channel flow velocities in effort to maintain sediment transport characteristics through the corridor.*
Section 6: Erosion, Sediment Transport, and Geomorphic Analysis		
6.1	Summary of Method	*No detailed erosion, sediment transport, or geomorphic analysis was performed as a part of this work assignment. Detailed analyses will be required as a part of the final design of channelization and conveyance of Rawhide Wash*
6.2	Issues Encountered During Study	*Preliminary hydraulic analyses prepared as a part of this work assignment suggest a potential for supercritical flow, high velocities, conveyance and deposition.*
6.3	Summary of Findings	*Future design and construction of channelization and conveyance for Rawhide Wash will require design and analysis of structures including bank protection and grade control structures to protect against channel velocity*
Section 7: Additional Study Information		
	Supplemental study, analysis, and design based on more detailed information will be required	*The information presented herein is conceptual in nature and subject to change based on detailed land use planning, revised Clean Water Act (CWA) Section 404 permitting, hydrology and hydraulic analysis. This information assumes implementation of the channelization of Rawhide Wash upstream of Scottsdale Road is in place.*

3.0 Survey and Mapping Information

Light Detection and Ranging (LiDAR) topography was made available by the District. The mapping was provided relative to the North American Datum of 1983 (NAD83) horizontally and to the North American Vertical Datum of 1988 (NAVD88) vertically. Additional details are provided in the sections below.

3.1 Digital Projection Information

The projected coordinate system information is based on the following.

NAD_1983_HARN_StatePlane_Arizona_Central_FIPS_0202_Feet_Intl

3.2 Field Survey Information

No field survey has been conducted as a part of this work assignment. Additional field survey may be required as a part of final design and analysis.

3.3 Mapping

The extent of the mapping is believed to be sufficient for use in creation of a digital terrain model and the forthcoming development of channelization concepts. Future design may require supplemental survey at structure locations.

Table 3.3: Topographic Mapping Project Summary

Contract No(1)	Contract Name	PROJ ID	Topo Date	Vertical Datum	Horizontal Datum
2016C014	Rawhide Wash	1412-306	10/10/2016	NAVD88	NAD83

The extent of the detailed topographic mapping in relation to the area is illustrated in **Figure 2**.

Figure 2

4.0 Hydrology

Hydrology used for the purposes of this work assignment is based on grid-based two-dimensional modeling being developed on behalf of the District as part of the adjacent Rawhide Wash Channelization Project (FCDMC Contract No. 2018C015). Development of the hydrology and final flow rates are subject to change based on further analysis.

4.1 Method Description

Peak flows being estimated as a part of the upstream Rawhide Wash Channelization (District Project 2018C015) were reviewed to determine the appropriate value(s) for use in this work assignment. No new hydrology was developed as part of this work assignment.

Two distinct inflow locations are considered for the purposes of this work assignment. These locations include the **Rawhide Wash Channel** and the **Deer Valley Road Channel**, located approximately 0.8 miles to the south.

Further characterization of the 100-year frequency flows at both locations were made on the basis of implementation of a Troon Tributary Levee in the upstream watershed. Implementation of the levee is anticipated and is considered the Post-Project Condition. Both individual 100-year peak flows at each location and composite (Rawhide Wash/Deer Valley Channel combined) 100-year peak flows for each levee condition are summarized in **Table 4.1**. Estimated Rawhide Wash flow rates at Scottsdale Road are reportedly lower than the design flow due to attenuation effects within the proposed channel upstream of Scottsdale Road. The composite 100-year peak flow for both levee conditions is less than the 100-year design flow (9,384cfs) being used as part of the upstream District Project 2018C015. Each hydrograph included in **Table 4.1** is included in **Appendix B**.

Table 4.1: 100-Year Peak Flow Summary

Troon Levee Condition [1]	Inflow Location	$Q_{100\text{-Year}}$ [ft^3/sec]	$Q_{100\text{-Year}}$ [ft^3/sec]
Implementation	Rawhide Wash Channel	8,685	9,372
	Deer Valley Channel	1,485	
No Implementation	Rawhide Wash Channel	8,382	9,085
	Deer Valley Channel	1,486	

Notes:

1. Levee Condition indicated is based on “Implementation” and “No Implementation” of Troon Tributary Levee.

4.2 Final Results

The 100-year design flow for Rawhide Wash **(9,384 cfs)** was used for the purposes of this work assignment based on review of the hydrologic modeling results developed as part of District Project 2018C015. Use of this flow rate is consistent with upstream District Project 2018C015. The Deer Valley Road Channel inflow to the south does not impact the selected design flow due to differences in times to peak.

The peak flows used for the purposes of this effort are illustrated on **Figure 3**.

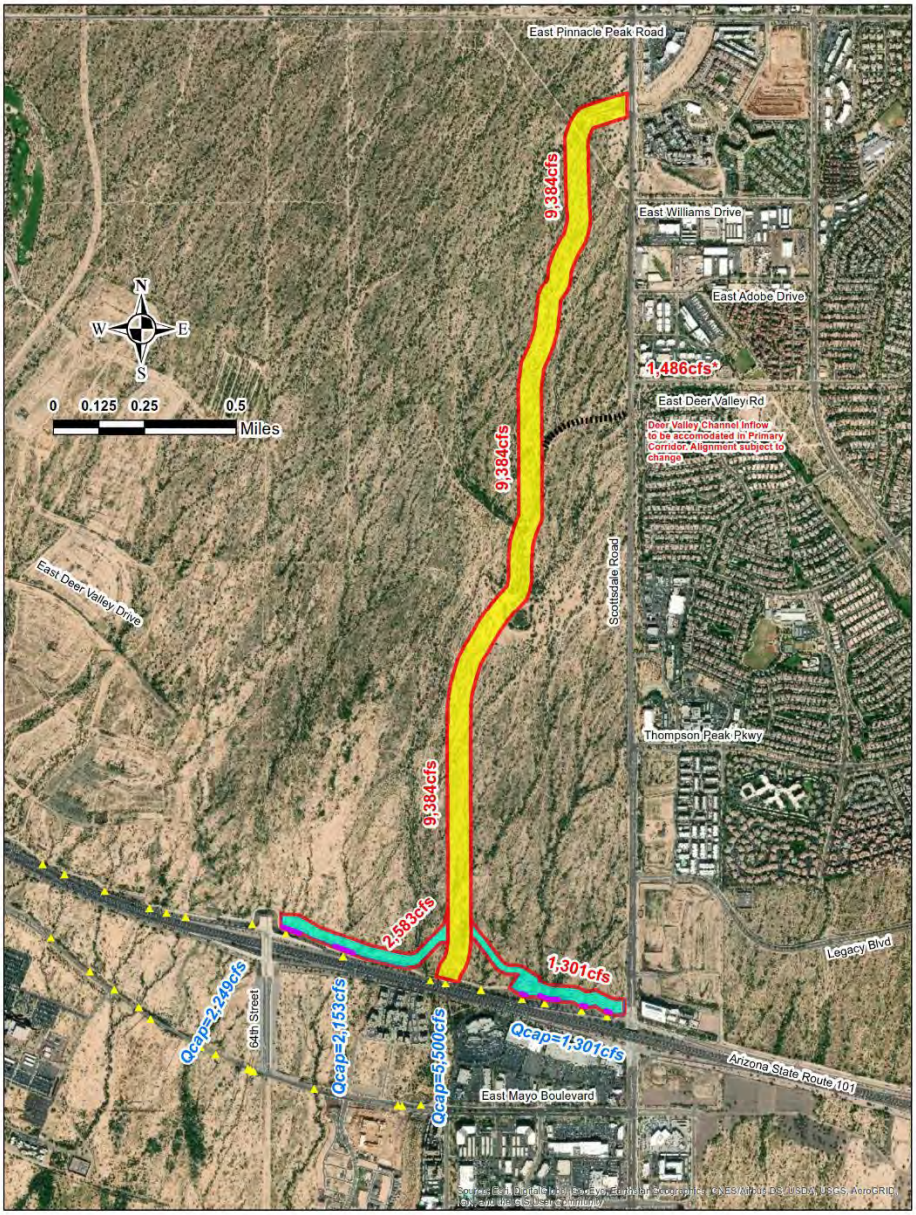


Figure 3: Conceptual Design Flows

5.0 Hydraulics

This work assignment encompasses the development of channelization and conveyance of the 100-year peak flow within Rawhide Wash, from Scottsdale Road to the Loop 101. A preliminary hydraulic analysis has been developed for the conceptual channelization based on the U.S. Army Corps of Engineer's HEC-RAS program (Version 5.0.7).

The conceptual channelization is expected to consist of a primary corridor extending from Scottsdale Road to the Loop 101 with two (2) secondary diversions occurring downstream, near the Arizona Department of Transportation (ADOT) Right-of-Way (ROW). Additional details regarding the development of the alignment and the conceptual hydraulic analysis are included in the following sections.

5.1 Conceptual Alignment

Significant coordination efforts were exercised with the District and stakeholders including ASLD and COP to develop and refine a conceptual channel alignment based on constraints identified during the course of the work assignment. These constraints include the following:

- Origin at Scottsdale Road Bridge
- Section 404 (Clean Water Act) Permit
- Existing box culvert locations along the Loop 101
- Corridor flow capacity limitations downstream of the Loop 101
- Land-Use Planning and Parcel considerations
- Topographic considerations

Each of these constraints are discussed in more detail in the following sections.

5.1.1 Scottsdale Road Bridge

The existing bridge located at the Rawhide Wash Crossing at Scottsdale Road south of Pinnacle Peak Road will serve as the upstream origin for the forthcoming Rawhide Wash Channelization. Existing features downstream of the bridge crossing shall be considered in the development of channelization concepts. Construction of the bridge was encompassed by the City of Scottsdale's *Scottsdale Road, Thompson Peak Parkway to Pinnacle Peak Road, Project No. 410-S0311,* dated September 13, 2012. As-built documentation was prepared for the project on June 9, 2014.

The project encompassed, in part, a three (3) span, 174-foot wide bridge, within City of Scottsdale ROW coupled with the temporary grading of a 700-foot long channel downstream of the crossing with a daylight to existing topography.

5.1.2 Section 404 Permit

A Section 404 Permit (Permit SPL-1999-16129) was developed previously as part of the Paradise Ridge Master Plan Development and originally accepted by the USACE on May 1, 2002. The permit was subsequently extended and modified based on correspondence from the USACE on the following dates.

- May 3, 2007: *Extension of Completion to May 1, 2012*
- March 4, 2011: *Modification of Special Conditions*
- May 1, 2012: *Extension of Completion to May 2, 2017*
- August 19, 2013: *Approval of Parcel Mitigation Corridor*
- *A 10-year renewal to May 2027 has since been granted*

The Permit identified a drainage corridor network for mitigation. The corridors, provided by ASLD, are identified on **Figure 4**. An active permit for the Desert Ridge Development located to the west will require that capability be maintained in any future analysis and design for ordinary flows to drain toward the corridor(s). Contribution of ordinary flow to established Desert Ridge Corridors will need to be maintained and thus considered as part of drainage facility design associated with Rawhide Wash.

Development of a conceptual channelization alignment between Scottsdale Road and Loop 101 utilized the established 404 corridors as a guideline. Some deviation from these established 404 corridors was made based on input from ASLD and COP. Two primary elements of the deviation from existing 404 corridors include the following:

- Identification of a single primary flow corridor for conveyance
- Alignment shift to maintain minimum parcel dimensions

The established 404 corridors include two (2) primary corridors extending south and toward the Loop 101. Channelization and flow conveyance are excluded from the westernmost corridor for the purposes of this work assignment. Exclusion of the westernmost corridor is intended to yield additional developable land.

The northern end of the conceptual alignment was also developed to maintain a minimum parcel depth and offset of 300-feet or more from Scottsdale Road.

While an active permit is in place, ASLD has previously submitted evidence of no Significant Nexus (SN) to the Corps in effort revoke the active permit. ASLD has indicated that future effort will be made to revise the permit and the associated mitigation corridors to better facilitate land planning in the event that the permit remains in place.

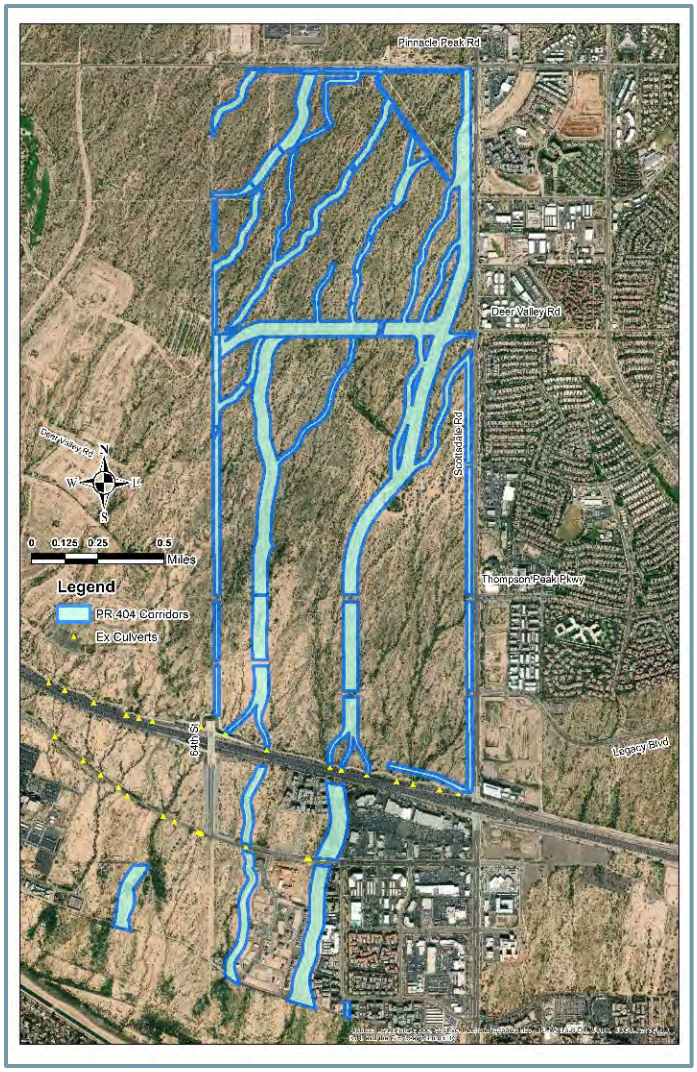


Figure 4: Paradise Ridge 404 Mitigation Corridors

5.1.3 Existing Loop 101 Box Culverts

A series of nine (9) existing concrete box culvert crossings are located along the Loop 101 generally between 64th Street and Scottsdale Road. These culverts convey stormwater runoff accumulating north of the Loop 101 south toward Mayo Boulevard with ultimate outfall into the BOR Reach 11 Recreation Area. The culverts have been constructed with concrete trapezoidal channels that intercept stormwater runoff with conveyance toward the box culverts. A photograph of a typical box culvert with interception channel is shown in **Figure 5**. The existing box culverts located between Scottsdale Road and 64th Street are listed in **Table 5.1.3** and graphically illustrated on **Figure 6.**

Figure 5: Typical Loop 101 Culvert and Interception Channel

Table 5.1.3: Loop 101 Culvert Summary

No.	SR 101L Station	Culvert	$Q_{capacity}$ (1) [ft^3/sec]	Outfall Region
11	1801+50.54	4B-8 X 8	2,750	Southwest
12	1812+00.44	6B-8 X 6	2,850	
13	1825+45.93	8B-10 X 6	4,750	Central
14	1827+42.78	6B-10 X 6	3,600	
15	1832+54.59	6B-10 X 6	3,600	
16	1838+74.67	1B-6 X 6	360	Southeast
17	1842+58.53	5B-6 X 6	1,800	
18	1847+01.44	1B-6 X 6	360	
19	1850+88.58	1B-6 X 6	360	

Notes:

1. Flow capacities indicated are culvert conveyance capacities based on information presented in the *Rawhide Wash Flood Control Alternatives Investigation Memorandum*, dated 3/27/2017.

The existing Loop 101 box culverts in the aggregate will provide ultimate drainage outfall for the Rawhide Wash 100-year peak flow. The existing Loop 101 box culverts were grouped in a series of three general outfall areas identified as **Southwest**, **Central**, and **Southeast** based on location, invert elevation, and other characteristics. Each of the three outfall areas are shown in **Figure 6**.

The culverts in the **Southwest** outfall area consist of those two (2) box culverts located immediately east of the 64th Street Traffic Interchange along Loop 101.

The culverts in the **Central** outfall area consist of those three (3) box culverts located upstream of the centrally located corridor immediately west of the Scottsdale 101 Property.

The culverts in the **Southeast** outfall area consist of those four (4) box culverts located immediately north of the Scottsdale 101 Property at the southwest corner of Scottsdale Road and the Loop 101. The culverts combine to collect flow with conveyance around and south through the Scottsdale 101 Property.

5.1.4 Downstream Corridor Capacity

Research was performed into previous land development exercises for parcels located south of the Loop 101 to identify potential limitations to conveyance capacities. These limiting flows were then considered in the allocation of the Rawhide Wash Design Flow amongst the Loop 101 box culverts. Specific documentation regarding the identification of corridor flow capacities is summarized below in **Table 5.1.4**.

Table 5.1.4: Documentation for Downstream Corridor Flow Capacity

Outfall Region	Document	Date
Southwest	*Offsite Paving Plans with Drainage Facilities for Camden North End, Asbuilts* (Kimley Horn)	March 14, 2018
Central	*Grading and Drainage Plan-404 Wash Improvements, Parcel 4E Paradise Ridge (URS Corporation)*	July 2006
	Master Drainage Report, Camden Mayo NWC 68th Street and Mayo Boulevard (Kimley Horn/URS)	November 2015
Southeast	*Paradise Ridge Phase I Master Drainage Report & Offsite Drainage Report* (Wood Patel)	August 16, 2001

The corridor flow capacities identified are listed in **Table 5.1.5** and graphically illustrated on **Figure 6.**

Table 5.1.5: Downstream Corridor Flow Capacity Summary

Outfall Region	Culvert	$Q_{capacity}$ (1) [ft^3/sec]	Corridor Flow Capacity [ft^3/sec]
Southwest	4B-8 X 8	2,750	4,402(2)
	6B-8 X 6	2,850	
Central	8B-10 X 6	4,750	5,500
	6B-10 X 6	3,600	
	6B-10 X 6	3,600	
Southeast	1B-6 X 6	360	1,301
	5B-6 X 6	1,800	
	1B-6 X 6	360	
	1B-6 X 6	360	

Notes:

1. Capacity indicated based on information presented in the *Rawhide Wash Flood Control Alternatives Investigation Memorandum*, dated 3/27/2017.
2. Corridor capacity indicated is based on combination of 2,249cfs and 2,153 cfs.

The flow capacity of the existing box culverts exceeds the downstream corridor flow capacity**.** The corridor flow capacities were therefore used for consideration in the conceptual design and allocation of the 100-year design flow.

5.1.5 Downstream Flow Allocation

The 100-year design flow was broken into a series of flow components due to flow capacity limitations within existing corridors located downstream of the Loop 101. The conceptual design of the flow allocation includes outfall of the primary corridor at the **Central** Outfall Area and two (2) lateral diversions of flow from the primary corridor to the **Southeast** and **Southwest** outfall areas respectively. Distribution of accumulated flow within the **Southeast** and **Southwest** outfall areas is accommodated by an individual weir unique to each existing box culvert. These outfall manifold areas, existing box culverts, outfall weirs, and downstream corridors are graphically illustrated in **Figure 6**.

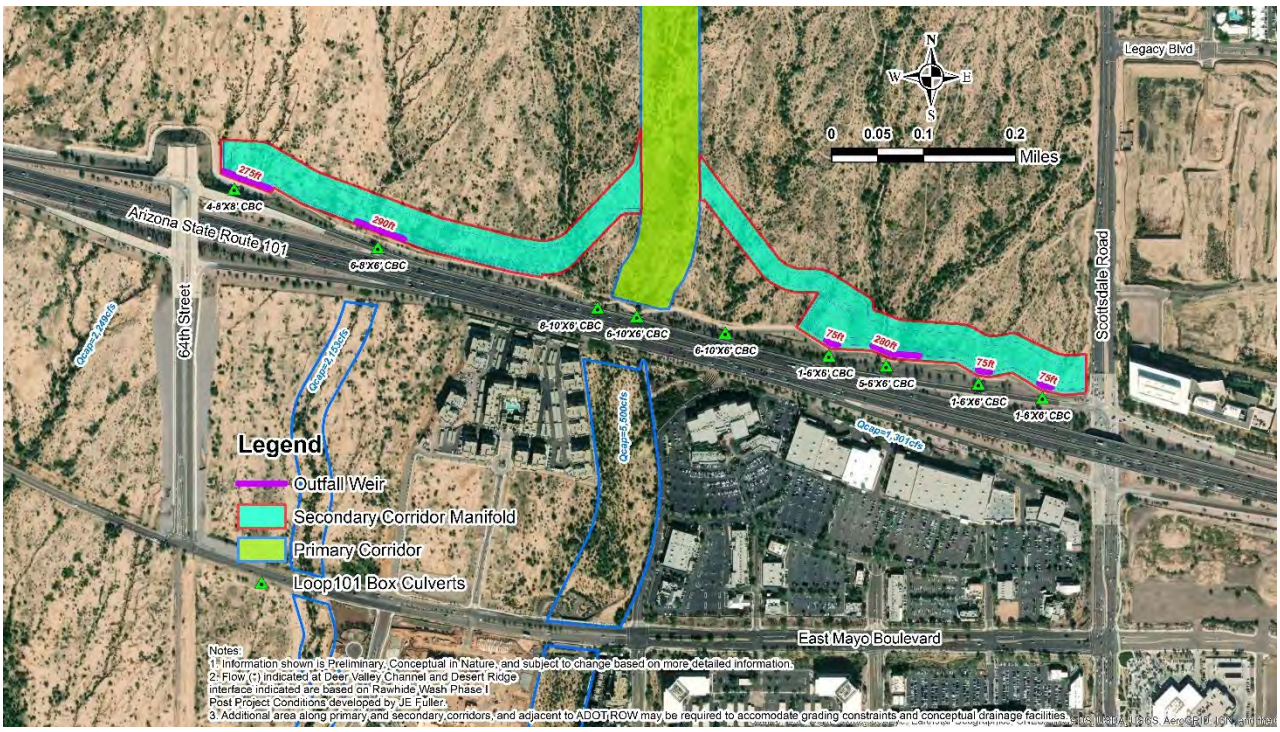


Figure 6 – Outfall Manifold Areas

Elements of the conceptual secondary corridors are summarized in Table 5.1.6.

Table 5.1.6: Secondary Corridor Elements

Corridor	Section	Q_{100} [ft^3/sec]	Bottom Width [ft]	Side Slope	n-value	Depth [ft]
West	Trapezoidal	2,283 cfs	100-ft	5H:1V	0.040	3.78
East	Trapezoidal	1,301 cfs	75-ft	5H:1V	0.040	3.61

5.1.6 Land Use Planning Considerations

ASLD's Mission Statement encompasses management of State Trust Lands to enhance value and optimize economic return for Trust Beneficiaries. Current land use planning within the Paradise Ridge Area may be revised in the future by ASLD to facilitate this goal. In the interim and for the purposes of this work assignment, considerations were made in the development of the conceptual alignment regarding the current land use planning.

Emphasis was generally placed on the following elements:

- Maximizing the existing parcel extents
- Limiting the creation of residual parcels that may be difficult to develop
- Preservation of Scottsdale Road frontage
- Accommodation of Deer Valley Channel Inflow

These elements were facilitated by orienting channel alignment on parcel boundaries where possible and by incorporating a 300-foot minimum offset from Scottsdale Road.

The Deer Valley Channel inflow located approximately 0.8 miles south of Rawhide Wash will require accommodation within future land development efforts and within the primary corridor. A 100-year inflow of 1,486 cfs is currently identified within the Deer Valley Channel as part of District Project 2018C015. Combination of the Rawhide Wash Channel and Deer Valley Channel indicates that the peak flows are not coincidental. Furthermore, the combination of the 100-year flows is less than the design inflow being used as part of the 2018C015 channelization design. Therefore, no increase in peak flow was made to reflect the Deer Valley Channel inflow within the conceptual hydraulic analysis.

The concept presented herein reflects a residual parcel with areas of approximately 6.4 and 2.6 acres on both the east and west side of the primary corridor, respectively, near the location of the flow diversions. Any residual parcels created by the future implementation of the corridors shall be suitable size for development in support of ASLD's mission statement. Parcel sizes may be augmented by shifting of the conceptual diversions either further upstream or downstream. The corridor alignments and location of any flow diversion will ultimately be subject to change based on the needs of future development.

5.1.7 Topographic Considerations

Existing topography is representative of an alluvial fan area with shallow distributary flow patterns and braided flow elements. Topographic slope generally occurs from northeast to southwest at a rate of approximately 2%.

Development of the conceptual channelization alignment generally assumes that the conceptual vertical channel profile will be incised and excavated below grade. An emphasis is placed on location of the vertical profile sufficiently below grade to reduce the potential for embankment and berm creation. The

existing topographic slope is expected to require implementation of a series of drop structures to facilitate longitudinal slopes of 1% or less and mitigate grading constraints. A series of drop structures are reflected in the HEC-RAS model to facilitate grading and reduce overall channel depths. Hydraulic characteristics indicate high velocities near the conceptual drop structures. The design of any drop structures will require additional riprap or other erosion protection considerations.

The conceptual primary and secondary channel corridors are shown on **Figure 7**.

5.2 Method Description

The conceptual hydraulic analysis was developed along the primary corridor based on the U.S. Army Corps of Engineer's HEC-RAS computer program, Version 5.0.6. The conceptual alignment was a series of cross-sections on a 300-foot interval were sampled from the existing surface and along the conceptual alignment to characterize existing grade and elevation. Conceptual section improvements were then incorporated directly into the sections.

Boundary conditions are expected to consist of headwater depth(s) at the interface with the existing Loop 101 box culverts. Estimated headwater depth was therefore used as a known water surface elevation (1602.40) at the primary corridor downstream outfall are based on composite rating curve developed for the three (3) existing box culverts in the Central outfall region.

Figure 7

A mixed flow regime was used for all conceptual section options for the purposes of this work assignment. This assumption is based on flow regime methodology presented in the *Palisene-Paradise Ridge Conceptual Drainage Plan Report*, prepared on behalf of the ASLD and dated October 2006. The methodology identified use of supercritical flow to promote sediment transport. This approach was therefore maintained for the purposes of this exercise.

Hydraulic structures were considered for incorporation in the model. No box culverts were included however due to the design flow magnitude within the Primary Corridor. Two bridge facilities were reflected in the models at the Thompson Peak Boulevard and Deer Valley Road alignments. The conceptual bridge facilities each consist of a three-span bridge with 4-foot diameter bridge piers.

The 100-year flow rate (9,384 cfs) within the primary corridor was reduced to 5,500 cfs to reflect the conceptual diversion of flow toward the secondary corridors due to flow capacity limitations of the existing channel corridors downstream of the Loop 101. Flow limitations in the **Southwest** and **Southeast Outfall Regions** discussed previously are identified as **4,402cfs** (2,249cfs and 2,153cfs) and **1,301 cfs** (192 cfs, 772cfs, 192cfs, and 145cfs) respectively.

5.3 Cross Section Description

Three conceptual channelization section options were developed for the purposes of this work assignment. These options consist of the following:

- Shotcrete lined channel
- Composite channel
- Composite channel with multi-use path

The composite channel sections are similar in nature to sections referred to as the Greenbelt Channel Sections in the *Palisene-Paradise Ridge Conceptual Drainage Plan Report.* Manning's roughness coefficients used for these section options are summarized below in **Table 5.3**.

Table 5.3: Manning's Roughness Coefficient Summary

Cross-Section Option	Description	Section Element(1)	Roughness Coefficient(1)
A	Shotcrete Channel	Channel (wavy section)	0.022
B	Composite Channel	Low Flow (Stony Cobble Bottom)	0.04
		Overbank (Light Shrubs and trees)	0.05
C	Composite Channel (w/ Multi-Use Path)	Low Flow (Stony Cobble Bottom)	0.04
		Overbank (Light Shrubs and trees)	0.05
		Multi-Use Path	0.015

Notes:

1. Coefficients indicated based on values presented in Tables 7.5 and 7.6 per FCDMC's Drainage Design Manual for Maricopa County, Hydraulics, dated August 15, 2013.

The cross-sections sampled from the existing topography extend beyond the limits of the proposed sections and reflect existing topography. This was done with the intent of demonstrating relationship between adjacent grade and the conceptual channel section. Accessory grading along the top of channel bank interface will be required as part of any final design.

The conceptual channel cross sections are shown in **Figure 8**.

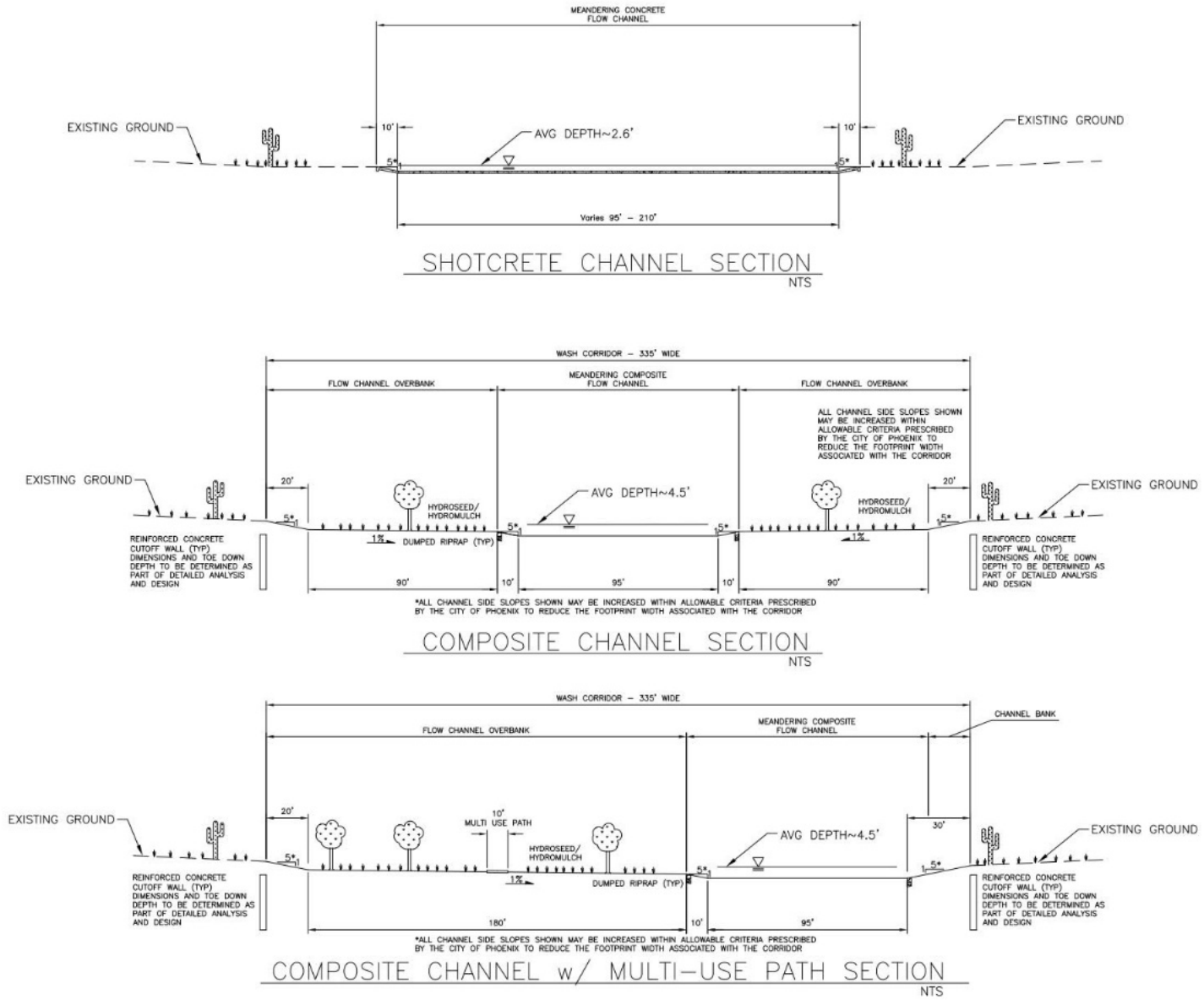


Figure 8 – Conceptual Channel Sections

5.4 Conceptual Results

The conceptual hydraulic analysis modeling results for each option are included in **Appendix C**. These results include summary flow tables, cross-section plots, and a flow profile.

5.5 Preliminary Opinion of Probable Cost

A Preliminary Opinion of Probable Cost was developed for each section option. These estimates are based on the conceptual hydraulic analyses which are both subject to change based on additional detail associated with a street and roadway network, land planning, and more detailed analysis. No costs associated with operations and maintenance, real estate, or property acquisition were included as part of the estimates. Operations and maintenance within the conceptual drainage corridors will be required however due to erosion and sediment transport.

Each estimate includes considerations for design, construction surveying and layout, mobilization, and contingency. Aspects considered as a part of the probable costs include the following:

- Clearing and grubbing
- Earthwork (Cut and Fill) for Primary and Secondary Corridors
- Drop Structures
- Landscape grading
- Landscape hydroseed and hydromulch
- Dumped riprap
- Concrete cutoff wall
- Bridge Crossings (3-span with cylindrical piers)
- Cut earthwork
- Fill earthwork (Earthwork associated with placement of localized fill material immediately adjacent to the proposed corridors and assumed at 10% of cut earthwork)

Preliminary opinions of probable costs for each section option are summarized in **Table 5.5**. Supporting calculations are included in **Appendix D**.

Table 5.5: Conceptual Options - Preliminary Opinion of Probable Cost

Cross-Section Option	Description	Preliminary Opinion of Probable Cost
A	Shotcrete Channel	$72,451,000
B	Composite Channel	$45,548,000
C	Composite Channel (w/ Multi-Use Path)	$46,155,000

As mentioned, no opinion of probable cost for the real estate required to accommodate conceptual channelization and distribution of the Rawhide Wash design flow is included. Significant emphasis is however placed on the cost associated with the real estate aspect. Unit costs associated with the land

near Paradise Ridge are estimated to be approximately $250,000 per acre based on current valuations, recent transactions, and information provided by ASLD. A transaction(s) involving real estate required to accommodate channel corridors will ultimately be based on real estate appraisal at the time of the transaction which is expected to fluctuate either up or down. Acquisition of real estate associated with ultimate drainage corridors will be coordinated with ASLD to ensure that the area is identified as a ROW. The cost associated with the real estate required to accommodate ultimate drainage improvements will be a significant factor in future development considerations.

5.6 Potential Impacts to Preliminary Opinion of Cost

An effort has been made to identify preliminary opinions of probable cost for elements associated with conceptual improvements. This information is subject to change based on more detailed information. More detailed information including channel alignment, channel side slope, channel depth, drop structure implementation, and erosion/grade control protection may be developed subsequent to this conceptual analysis that impacts the ultimate real estate footprint and cost associated with the improvements. The channel treatment at points along the reach may also vary based on land development considerations or other factors.

Efficient use of channel design guidelines based on prescribed criteria will be required to minimize the real estate footprint necessary to accommodate ultimate channelization of Rawhide Wash in accordance with ASLD's mission statement.

5.7 Future Coordination Efforts

The existing box culverts and associated flow interception facilities located along the Loop 101 are expected to be maintained as the means of outfall for the conceptual channelization of Rawhide Wash and distribution of flow. The preliminary concept presented herein reflects the allocation of the Rawhide Wash design flow amongst the existing Loop 101 culverts with overflow facilities located along the ADOT ROW interface. While this or other means of flow allocation may be developed in the future, coordination and permitting efforts with ADOT will be required as a part of the advancement of conceptual channelization and outfall along the Loop 101. These efforts are expected to include permitting and coordination with ADOT's Central District Maintenance and District Engineers.

6.0 Erosion, Sediment Transport, and Geomorphic Analysis

No detailed erosion, sediment transport, and geomorphic analysis calculations were prepared as part of this work assignment.

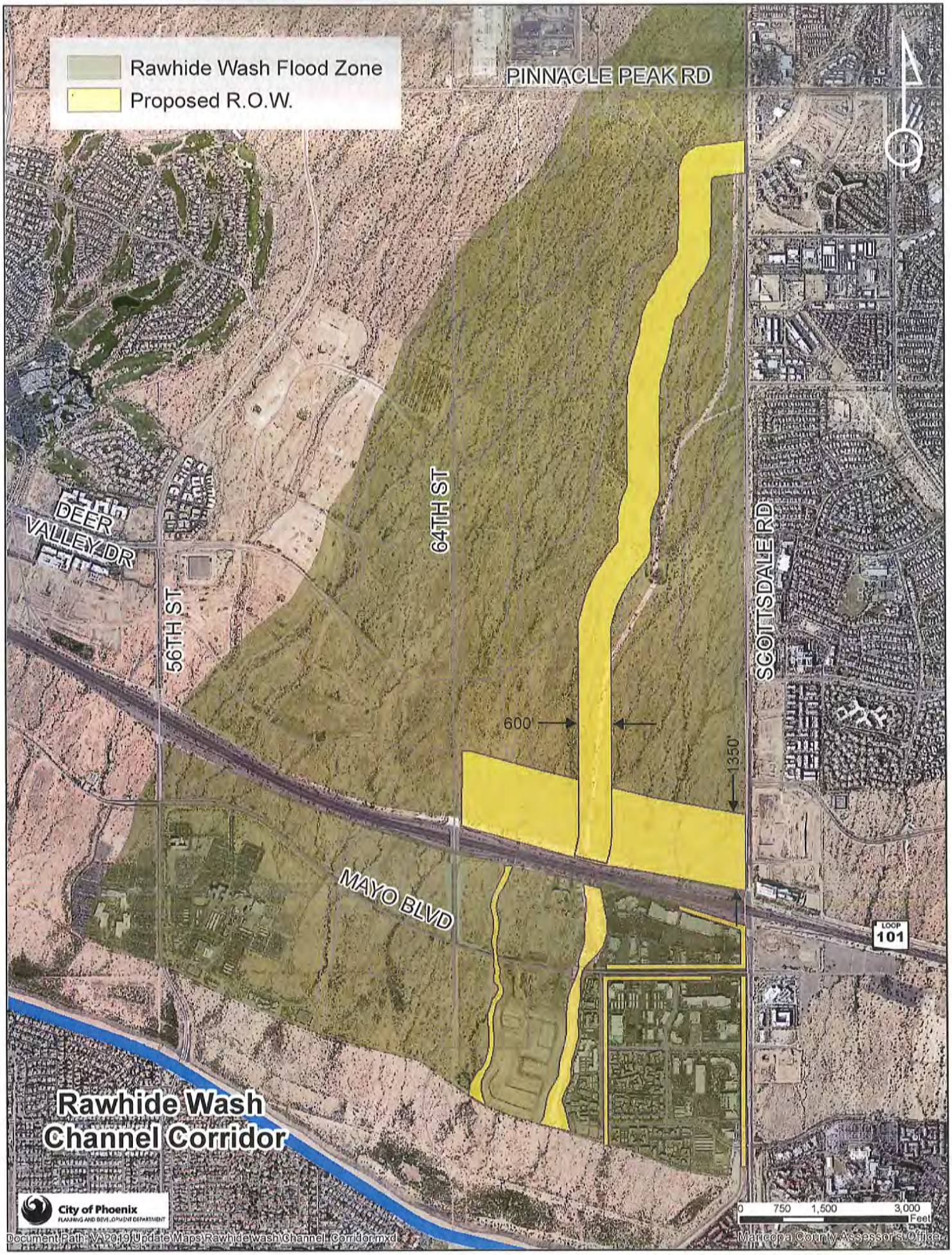
Field reconnaissance within the area indicates that potential for sediment deposition occurs at the existing outfall of Rawhide Wash at Scottsdale Road, just south of Pinnacle Peak Road. The management and conveyance of sediment accumulated at the Scottsdale Road Bridge outfall location will need to be considered as part of the Rawhide Wash Channelization design downstream of Scottsdale Road. Furthermore, detailed analyses will be required in support of detailed design for channel bank protection and associated toe-down depths.

Appendix A
Communications

Appendix B
Hydrologic Analysis Documentation

Appendix C
Hydraulic Analysis Documentation

Appendix D
Preliminary Opinion of Probable Cost


Rawhide Wash Flood Zone
Proposed R.O.W.
PINNACLE PEAK RD
DEER VALLEY DR
56TH ST
64TH ST
SCOTTSDALE RD
600'
1350'
MAYO BLVD
LOOP 101
Rawhide Wash Channel Corridor
City of Phoenix
PLANNING AND DEVELOPMENT DEPARTMENT
0 750 1,500 3,000 Feet
Document Path: VA2019\Update Maps\Rawhidewash\Channel Corridor.mxd
Maricopa County Assessor's Office

APPENDIX D.4:
CITY OF PHOENIX PLANNING AND DEVELOPMENT DEPARTMENT INFRASTRUCTURE REQUIREMENT LETTER

City of Phoenix
PLANNING AND DEVELOPMENT DEPARTMENT

May 19, 2020

Mr. Jim Perry
Division Director – Real Estate
Arizona State Land Department
1616 West Adams Street
Phoenix, AZ 85007

RE: APPLICATION NUMBER 53-119692 – Paradise Ridge Parcels 6
(NEC of 64th Street and Mayo / SEC of 64th Street and Loop 101)

Dear Mr. Perry:

Thank you for the opportunity to comment on Application 53-119692. The subject area is located within the Paradise Ridge PCD.

Staff has reviewed the request and has the following comments:

Planning and Development Department

Zoning
The subject area is zoned S-1 (approved CP/BP) (Ranch or Farm Residence, approved Commerce Park/Business Park). The approval of Rezoning Case No. Z-87-03, established the zoning districts as part of the Paradise Ridge PCD, subject to stipulations. All development shall comply with the provisions outlined in the Paradise Ridge PCD and approved Master Plans. This parcel will be part of a separate functional segment.

Signs
There is not a Comprehensive Sign Plan on file. All signage would need to comply with Table D-1 in Section 705, which outlines the area and height of signage based on use. Freeway signs are only permitted in Industrial and Commercial use/zoned properties that have freeway frontage and must be within three hundred feet of, and oriented to, a freeway, expressway or parkway as identified on the City's street classification map.

Development Fees
This parcel falls in the Paradise Ridge Development Impact Fee (DIF) Area and the Off-Project Water Resources Acquisition Fee (WRAF) Area. As of April 13, 2020, the DIFs will be $16,634 per single-family home or equivalent, and the WRAF will be $583 per single-family home or equivalent. Complete information on the DIFs and WRAF is available on the City's website at: www.phoenix.gov/pdd/devfees/impactfees. Storm Drainage impact fees in the Paradise Ridge area may be modified in accordance with Phoenix City Code Chapter 29-11 (D); that allows certain modifications where it can be demonstrated that a development does not stand to benefit from regional drainage improvements.

In addition, Water and Sewer Development Occupational Fees (DOF) will be assessed against all new water meters. The DOF is currently $600 each for water & sewer ($1,200 total) per single family home. Non-residential DOF charges vary by meter size/type. A complete schedule of Water and Sewer DOF charges is available at the City's website at: www.phoenix.gov/waterservices/devinfo/dev-issues/development-finance/development-occupational-fees. All fees are subject to change without notice. Please contact the Planning and Development, Growth and Infrastructure Section at: impactfees@phoenix.gov with any questions about the City's development fees.

Street Transportation Department

- The Street Transportation Department has the following comments:
- Development will be required to submit a traffic impact analysis at time of development review to determine appropriate locations for ingress and egress and all applicable dedications and infrastructure improvements to accommodate the development.
- Development will be responsible to fund all associated roadway improvements and traffic signal infrastructure as required by the approved traffic impact analysis.
- Development will be responsible for the reconstruction of the interim traffic signal located at the intersection of 64th Street and Mayo Boulevard.
- Any proposed access to 64th Street will be limited and require the approval of the City of Phoenix, Street Transportation Department and Arizona Department of Transportation.
- Any proposed access to and from Mayo Boulevard will follow the City approved *Street Transportation Planning and Design Guidelines* for location and spacing.
- Development to perfect the existing right-of-way easements along 64th Street and Mayo Boulevard respectively.
- Development to construct the north half street of Mayo Boulevard per the City of Phoenix Street Classification Map. Improvements are to consist of paving, curb, gutter, sidewalk, street-lighting, landscaping, twenty-four-foot landscaped median island, associated ADA improvements, off-site pavement tapers and incidentals.
- Development will be responsible to construct the ultimate 100-year storm event box culvert dry crossing of Mayo Boulevard to its full limits including the construction of the upstream and downstream maintenance access ramps
- Development will be responsible for all 404 wash permitting, environmental and archeological assessments and associated easement dedications to construct and maintain the ultimate box culvert dry crossing of Mayo Boulevard.
- Development to dedicate right-of-way for 64th Street from existing ADOT traffic interchange north to Deer Valley Road. Dedication to consist of applicable slope and drainage easements from existing interchange tapering to a minimum 140 foot right of way to Deer Valley Road.
- Development to perform applicable environmental and archeological clearances on all stipulated right-of-way prior to dedication to the City.
- Winning bidder for Paradise Ridge Parcel 6 to dedicate the north half of the Mayo Boulevard ROW adjacent to Parcel MF2 from the Parcel 6-Parcel MF2 boundary to the 66th Street curb return on the NWC of 66th Street and Mayo Blvd, and a ROW taper from the aforementioned curb return to the existing 66th St. eastern half street ROW. Winning bidder for Paradise Ridge Parcel 6 will not be responsible for constructing road, intersection or signal improvements within the Parcel MF2-adjacent ROW being dedicated.

Water Services Department
The Water Services Department has the following comments:

Domestic Water Stipulations:

- Existing System: pressure zone 5E
  - 12-inch DIP water distribution main within E. Mayo Boulevard
  - 24-inch water transmission main within E. Mayo Boulevard (cannot be used)
  - 24-inch water transmission main stub within N. 64th St (cannot be used)
  - 16-inch DIP water distribution main being installed by ASU Health Future Center within Mayo Boulevard from 64th St to the west, ending at the west property line of project site.
- Main Extension and Upsizing Requirement: None
- Connection Points and Water Taps: No water taps to project site
- Easement Stipulation: A water main in an easement shall follow the easement requirements per the DSM, Section 3.2 pages 8-11. No permanent structures are allowed within a water easement.

Fire Flow Stipulations:

- Please provide fire flow requirements for the development according to the City of Phoenix Building/Fire code with the pre-app/ preliminary site plan submittal.
- Fire flow Test Location: When requesting a fire flow test, please request that the 12-inch Zone 5E main within Mayo Blvd to be tested.
- Upsizing Requirement: None

Sewer Stipulations:

- Existing System: 15-inch sewer main within Mayo Boulevard
- Main Extension and Upsizing Requirement: None

Sewer Stipulations (Continued):

- Connection Points and Sewer Taps: No sewer taps to project site
- Easement Stipulation: A sewer main in an easement shall follow the easement requirements per the DSM, Section 3.2 pages 8-11. No permanent structures of any kind are allowed within a sewer easement. Extend the sewer main only to the point of need.

Miscellaneous Stipulations:

- Water / Sewer Repayment Area: None

General Stipulations:

- Per City Code Chapter 37-33, all public streets bounding (along property frontage) and within a proposed development must have public water mains within them, if none exists, developer must install.
- The information contained above is based on existing conditions and circumstances. Please be advised that available capacity is a dynamic condition that can change over time due to a variety of factors. For that reason, the City of Phoenix is only able to provide assurance of water and sewer capacity at the time of preliminary site plan approval, building permit, or PCD master plan requirements approval. If you are in the City's service area, it is our intent to provide water and sewer service. However, the requirements for such water and sewer service are not determined until the time of application for site plan, PCD master plan, or building permit approval. These requirements will be based on the status of our water and sewer infrastructure at the time the application is submitted. For any given property, these requirements may vary over time to be less or more restrictive depending on the status of infrastructure and development in the area.

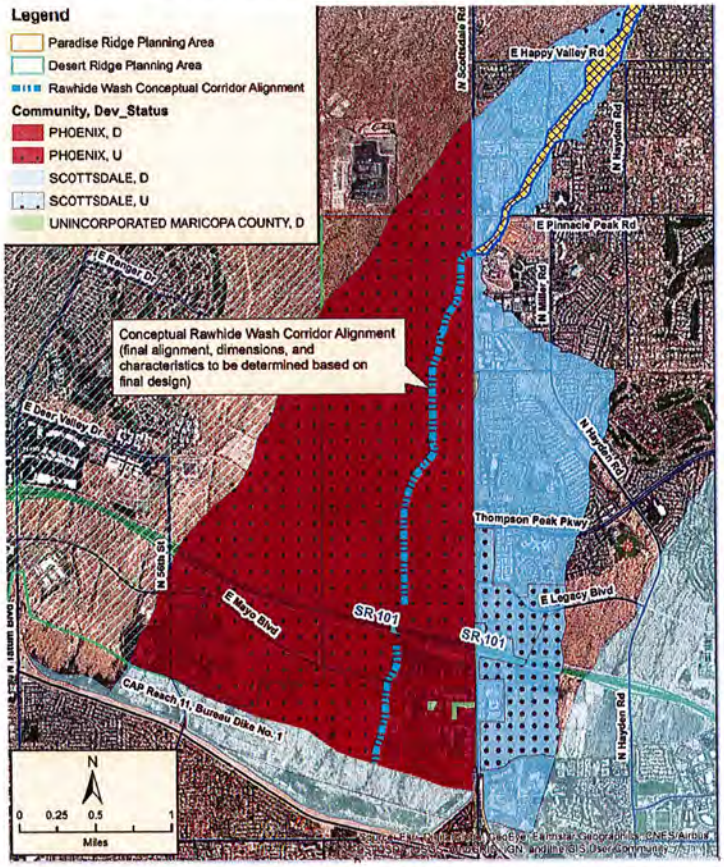
Floodplain Management

This parcel is designated as being in a Federal Emergency Management Agency (FEMA) Zone AO alluvial fan special flood hazard area (SFHA) and as such is vulnerable to flooding threats that trigger a variety of potential mitigation requirements. There are two methods to address this issue: (1) Individual development requirements and (2) Area-wide regional solution. The Individual development requirements likely will include the following:

- Additional construction requirements for residential and non-residential structures that generally include higher elevations;
- Additional site planning and construction requirements associated with the parcel that generally include on-site/off-site water retention, additional drainage structures for streets and parking, and/or additional fill and elevation requirements; and
- Flood insurance to protect structures and associated property.
- Currently, the site is in a FEMA Special Flood Hazard Area AO with a depth of 1 foot. All constructed buildings must be elevated 2 feet above the highest adjacent natural grade. Any development on the site will need to be FEMA compliant.

The City, Flood Control District of Maricopa County (FCDMC), and Arizona State Land Department are currently involved in efforts to construct facilities that would result in the removal of this parcel from the AO floodplain. An intergovernmental agreement (IGA) has been executed for the design of the first of two major projects that would potentially lead to the removal of this parcel from the floodplain by controlling storm event flows associated with Rawhide Wash.

A second project is currently being studied by the FCDMC and a design concept report is anticipated in the first half of 2019 that will provide a preferred alignment for a channel that will move flood waters from Rawhide Wash through Paradise Ridge. Implementation of the second phase will be contingent on the City, ASLD, and the FCDMC establishing a funding and financing solution that meets all relevant parties' requirements. The proposed improvements are shown on the map below:



If the two projects are successfully designed and constructed, it is anticipated that this parcel would be removed from the AO floodplain through a FEMA Letter of Map Revision (LOMR), and construction and insurance costs associated with the new development would be significantly less. If this parcel sells and develops sooner than above projects, than the above described site development improvements would need to be met by the developer.

For any other additional information, please contact Odette Bakker at odette.bakker@phoenix.gov.

Sincerely,

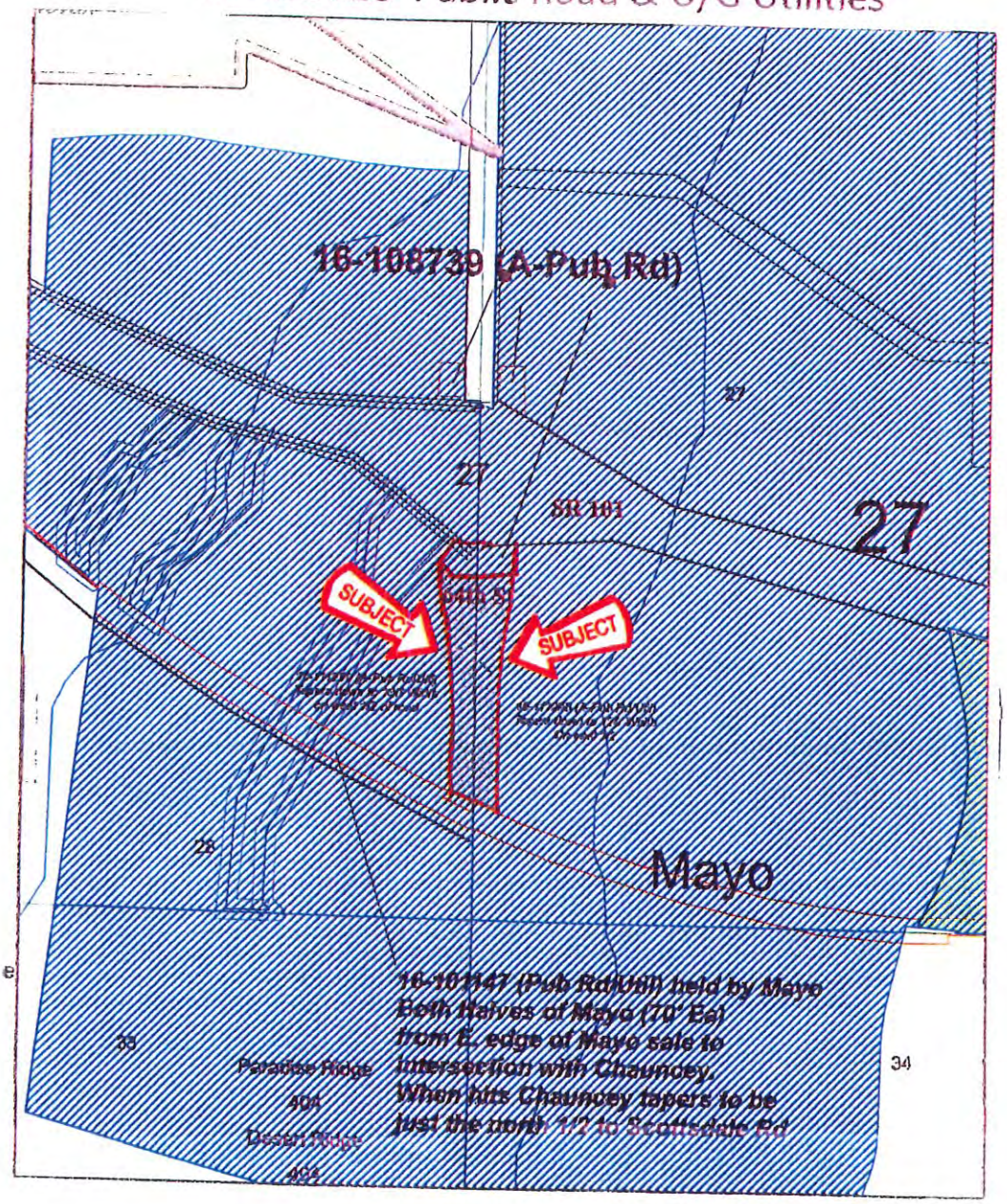
Alan Stephenson
Planning and Development Director

Attachments:
Z-87-03 Approval Letter
NSPS/ALTA Land Title Survey

c: Christopher Kowalsky, Street Transportation Department
Can Xiao, Water Servicies Department
Ray Dovalina, Public Works
Joshua Bednarek, Planning and Development Department
Christine Mackay, Community and Economic Development
Arizona State Land Department File

APPENDIX D.5:
CITY OF PHOENIX STREET TRANSPORTATION DEPARTMENT
64TH STREET PAVING & DRAINAGE LOOP 101 TO MAYO BOULEVARD

16-115118 Public Road & U/G Utilities



Miles
0 0.05 0.1 0.2

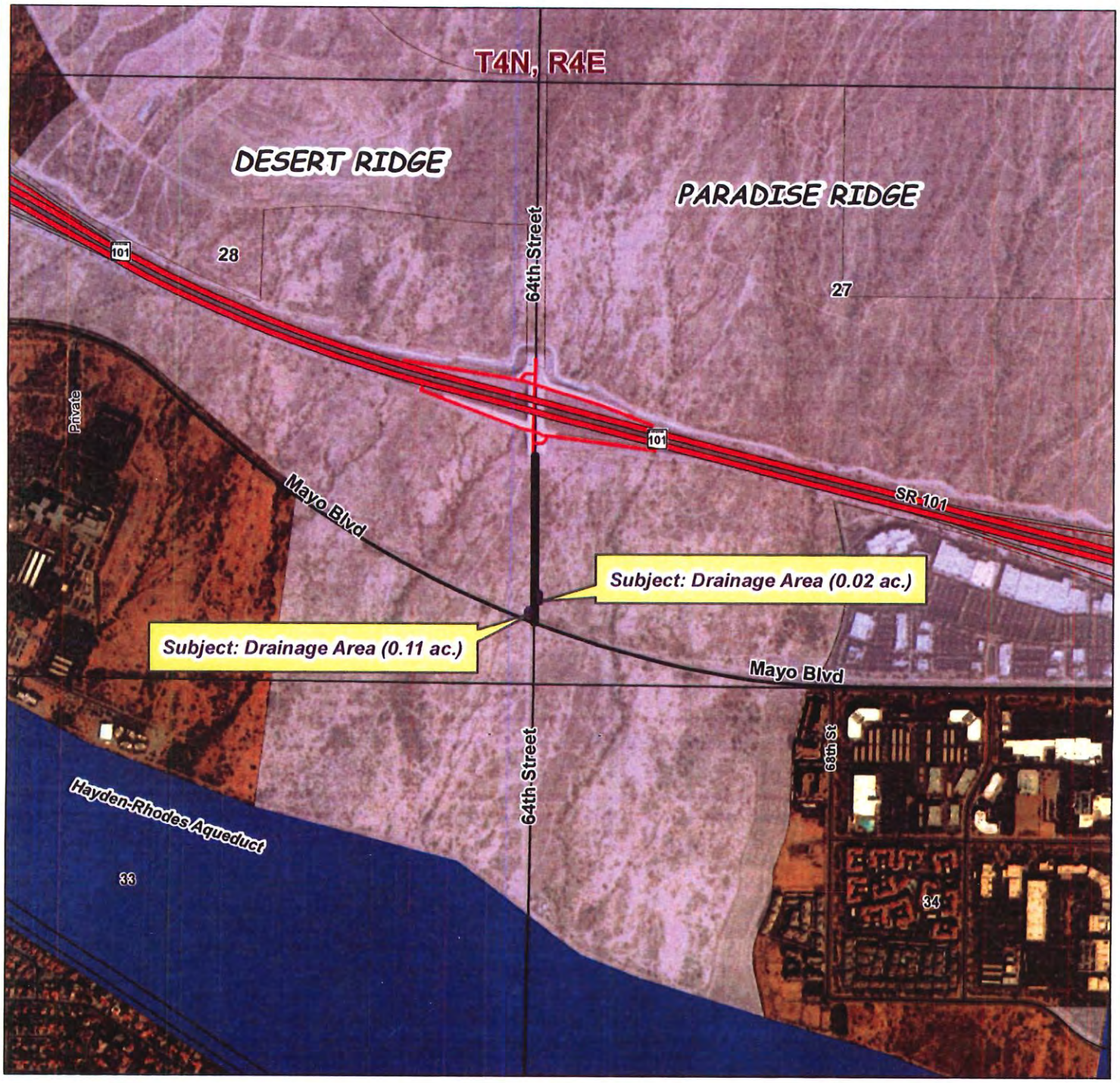
Arizona State Land Department

The Arizona State Land Department makes no warranties, implied or expressed, with respect to the information shown on this map.

Map produced by the Arizona State Land Department December 03, 2009

O:\jgross\RightsOfWay\Mohave\MohaveCiter.mxd
Jim Gross

Application #16-115118 Applicant: City of Phoenix



CAP Canal
Interstate
Highway
Access Ramp
Frontage Road
Arterial
Collector
Residential
Other
Utility Service

ADOT Roads

Road Type

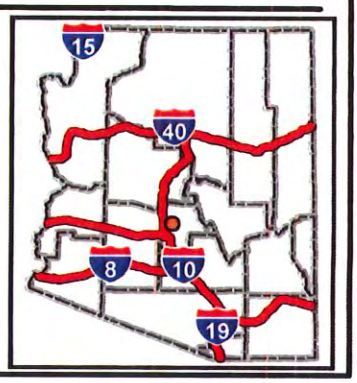
Interstate
State Highway
US Highway
Future Highway
Retired Highway
Highway Ramp
Frontage Road
Streets
State Trust Land

N
W E
S

0.25 0.125 0 0.25 Miles

The Arizona State Land Department makes no warranties, implied or expressed, with respect to the information shown on this map.
Map produced by the Arizona State Land Department
2013

ARIZONA STATE LAND DEPARTMENT 1915



F.H.W.A. REGION	STATE	PROJ. NO	NO	TOTAL	AS BUILT
9	ARIZ	ST85100255	1	32	

AZTEC

DES: DRR DR: JMS CK: CCW DATE: 1/07

NOT FOR CONSTRUCTION

CITY OF PHOENIX
STREET TRANSPORTATION DEPARTMENT
DESIGN & CONSTRUCTION MANAGEMENT DIVISION

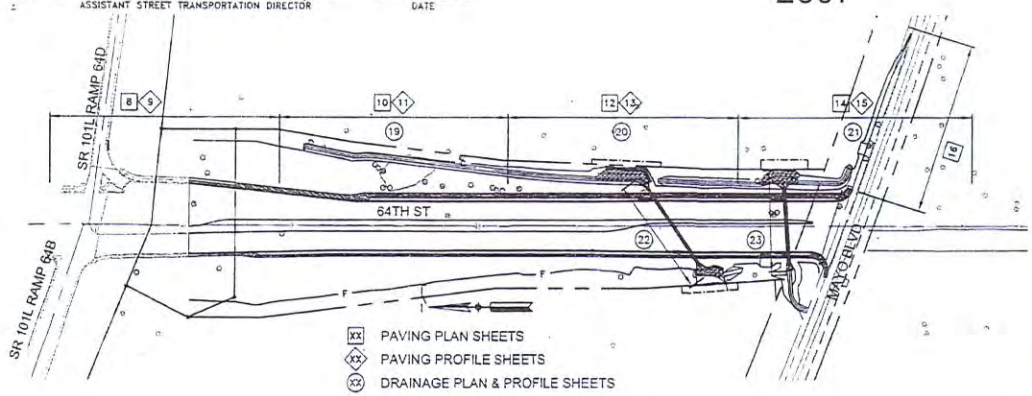
ST85100255
64TH STREET PAVING & DRAINAGE
LOOP 101 TO MAYO BOULEVARD

2/6/06
Copy to Mike Nabor & Craig Meredith (to fwd to Nassim) also sent - pre-final drainage report to ...

VICINITY MAP

2007

APPROVED _____ ASSISTANT STREET TRANSPORTATION DIRECTOR _____ DATE



XX PAVING PLAN SHEETS
XX PAVING PROFILE SHEETS
XX DRAINAGE PLAN & PROFILE SHEETS

KEY MAP

MAYOR
PHIL GORDON

CITY MANAGER
FRANK FAIRBANKS

CITY COUNCIL

DISTRICT NO. 1	DAVE SIEBERT
DISTRICT NO. 2	PEGGY NEELY
DISTRICT NO. 3	PEGGY BILSTEN
DISTRICT NO. 4	TOM SIMPLOT
DISTRICT NO. 5	CLAUDE MATTOX
DISTRICT NO. 6	GREG STANTON
DISTRICT NO. 7	DOUG LINGNER
DISTRICT NO. 8	MICHAEL JOHNSON

INDEX OF SHEETS

1	COVER SHEET
2	GENERAL NOTES & NOTES
3	ROADWAY SUMMARY SHEET
4	TYPICAL SECTIONS
5	64TH STREET DETAILS
6	MEDIAN GEOMETRY & DETAIL SHEET
7	GEOMETRIC SHEET
8-15	64TH STREET PLAN & PROFILE SHEETS
16	MAYO BLVD PLAN & PROFILE SHEET
17	ALTERNATIVE PIPE MATERIAL TABLE
18	STORM DRAIN DESIGN SUMMARY
19-21	STORM DRAIN PLAN SHEETS
22-23	CULVERT PLAN & PROFILE SHEETS
24-25	CONNECTOR PIPE PROFILES SHEET
26-28	DRAINAGE DETAIL SHEETS
29-32	CROSS SECTION SHEETS

BENCHMARKS

BM- TOP OF BRASS CAP IN HAND HOLE AT THE INTERSECTION OF 56TH ST AND MAYO BOULEVARD
ELEV= 1577.12 (C.O.P. DATUM)

BM- TOP OF CURB AT LIGHT POLE #1654603 AT THE INTERSECTION OF 60TH ST AND MAYO BOULEVARD
ELEV= 1579.72 (C.O.P. DATUM)

LENGTH OF PROJECT

LENGTH OF PROJECT = 1429 L.F. = 0.27 MILE

CALL TWO WORKING DAYS BEFORE YOU DIG
CALL FOR THE BLUE STAKES
602-263-1100
1-800-STAKE-IT
OUTSIDE MARICOPA COUNTY

PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX.

64TH ST PAVING & DRAINAGE IMPROVEMENTS - LOOP 101 TO MAYO BLVD

ST85100255

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD

GENERAL LEGEND AND NOTES

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STBG100255	2	32	

1/07
DATE:
AZTEC
DRAWN: JMS DESIGN: DRR CHECKED: DCM

LEGEND

- BENCHMARK
- NEW SURVEY MONUMENT – M.A.G. DETAIL 122-1 TYPE "B"
- NEW SURVEY MONUMENT – M.A.G. DETAIL 120-1 TYPE "A"
- COMBINED CURB & GUTTER – M.A.G. DETAIL 220 TYPE "A"
- BACKFILL TYPE & SQ. YD. PVMT. REPLACEMENT – C.O.P. DETAIL P1200
- EXISTING CONCRETE PAVEMENT OR SIDEWALK
- NEW CONCRETE SIDEWALK – STD. DETAIL P-1230
- NEW CONCRETE DRIVEWAY OR ALLEY ENT. PER DETAIL NO. ON PLANS
- NEW CONCRETE SIDEWALK RAMP PER DETAIL ON PLANS
- AVERAGE GROUND ELEVATION AT R/W LINE
- BACKFILL COMPACTION TYPE
- EXISTING DITCH
- EXISTING IRRIGATION LINE W/SIZE (NOTE PRIVATE, SALT RIVER OR R.I.D.)
- EXISTING IRRIGATION STRUCTURE
- EXISTING IRRIGATION STANDPIPE
- NEW IRRIGATION STANDPIPE – M.A.G. DETAIL 503
- NEW IRRIGATION VALVE – M.A.G. DETAIL 508 W/ CONC. SCOURING BASIN
- IRRIGATION BERM
- NEW IRRIGATION STRUCTURE PER DETAIL ON PLANS
- EXISTING WATER LINE W/SIZE & TYPE (12" AND SMALLER)
- EXISTING WATER LINE W/SIZE & TYPE (GREATER THAN 12")
- ADJUST EXIST. WATER VALVE BOX – C.O.P. DETAIL P1351
- WATER SERVICE W/SIZE AND WATER METER BOX
- EXISTING FIRE HYDRANT
- NEW OR RELOCATED FIRE HYDRANT BY CONTRACTOR
- EXISTING WATER VALVE W/TOP OF OPERATING NUT ELEVATION
- EXISTING SANITARY SEWER LINE W/SIZE & TYPE (12" AND SMALLER)
- EXISTING SANITARY SEWER LINE W/SIZE & TYPE (GREATER THAN 12")
- EXISTING MANHOLE
- NEW MANHOLE
- CATCH BASIN, GUTTER INLET (LENGTH TO SCALE)
- CATCH BASIN, CURB INLET (LENGTH TO SCALE)
- CATCH BASIN, CURB & GUTTER INLET (LENGTH TO SCALE)
- EXISTING STORM DRAIN LINE W/SIZE & TYPE (GREATER THAN 12")
- NEW PIPE FOR STORM DRAIN OR IRRIGATION LINE
- EXISTING GAS LINE W/SIZE
- EXISTING UNDERGROUND ELECTRIC CABLE OR SINGLE CONDUIT
- EXISTING UNDERGROUND ELECTRIC DUCT (SPECIFY NUMBER)
- EXISTING TELEPHONE BURIED CABLE OR SINGLE CONDUIT
- EXISTING UNDERGROUND TELEPHONE DUCT (SPECIFY NUMBER)
- EXISTING UNDERGROUND CABLE TV
- EXISTING UNDERGROUND FIBER OPTIC LINE
- EXISTING TRAFFIC SIGNAL POLE W/MAST ARM & SIGNAL INDICATIONS
- EXISTING STREET OR TRAFFIC SIGN
- EXISTING UTILITY POLE W/LINE INDICATING WIRE DIRECTION
- EXISTING WIRE FENCE
- EXISTING BLOCK FENCE
- EXISTING WOOD FENCE
- MAIL BOX
- EXISTING POWER POLE DOWN GUY ANCHOR
- EXISTING STREET LIGHT & POLE
- EXISTING TREE OR STUMP TO BE REMOVED – MORE THAN 12" DIA.
- EXISTING TREE TO BE TRANSPLANTED BY CONTRACTOR
- EASEMENT LINE
- EXISTING OR NEW R/W LINE
- PAVEMENT CENTER LINE OR MONUMENT LINE
- EXISTING TREE TO BE REMOVED (NON PAY ITEM)
- EXISTING TREE TO REMAIN

NOTES

ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CONTRACT SPECIAL PROVISIONS AND DETAILS, CITY OF PHOENIX SUPPLEMENTS TO MAG STANDARD SPECIFICATIONS AND DETAILS, AND MAG STANDARD SPECIFICATIONS AND DETAILS, IN THAT ORDER OF PRECEDENCE, AT THE TIME OF CONSTRUCTION BID.

ALL STORM SEWER MANHOLES ARE TO BE CONSTRUCTED WITHOUT STEPS.

PIPE CONNECTIONS TO EXISTING CONCRETE PIPE MAINS SHALL BE MADE IN ACCORDANCE WITH DETAILS CALLED OUT ON THE PLANS. CONNECTION TO MAINS SHALL NOT BE CLOSER THAN 5', CENTER TO CENTER.

PIPE CONNECTIONS TO NEW PRECAST CONCRETE PIPE MAINS, SHALL BE MADE WITH FACTORY MADE WYES OR TEES. THE DETAIL OF THE FITTINGS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO MANUFACTURE. PIPE CONNECTIONS TO NEW CAST IN PLACE CONCRETE PIPE MAINS SHALL BE MADE PER C.O.P. DETAIL P-1576.

CATCH BASIN CONNECTOR PIPES SHALL BE LAID ON A STRAIGHT ALIGNMENT AND SLOPE UNLESS OTHERWISE SPECIFIED. IF BREAKS IN ALIGNMENT OR SLOPE ARE NECESSARY TO MEET FIELD CONDITIONS, THE MAXIMUM DEFLECTION SHALL BE 22-1/2°. THE BEND SHALL BE COLLARED ACCORDING TO M.A.G. DETAIL 505. ANY ANGLE BENDS GREATER THAN 22-1/2° SHALL BE PREFABRICATED.
CONNECTOR PIPES SHALL CONNECT TO CATCH BASIN WALLS AT AN ANGLE NOT TO EXCEED 22-1/2° FROM PERPENDICULAR.

FACILITIES WHICH ARE NOT SPECIFICALLY LOCATED WITH ACTUAL VERTICAL AND HORIZONTAL CONTROLS, ARE LOCATED ONLY APPROXIMATELY AND TO THE BEST AVAILABLE INFORMATION PROVIDED BY VARIOUS OWNERS OF THE FACILITIES, AND SUPPLEMENTED BY VISUAL SURFACE INFORMATION WHERE APPROPRIATE. ACCURACY, LOCATION AND COMPLETENESS OF THIS INFORMATION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO INITIATION OF CONSTRUCTION.

TWO WORKING DAYS BEFORE CONSTRUCTION, THE CONTRACTOR SHALL CONTACT BLUESTAKE TO FIND AND FLAG UNDERGROUND UTILITIES. THE CONTRACTOR SHALL CONTACT OTHER APPROPRIATE UTILITIES DIRECTLY IF THEY ARE NOT ON BLUESTAKE SYSTEM.

VERTICAL CONTROL IS BASED ON NATIONAL GEODETIC SURVEY.

UNLESS OTHERWISE NOTED, STATIONS SHOWN ON PIPE PROFILES ARE ALONG CENTERLINE OF PIPE.

UNLESS OTHERWISE NOTED, PIPE SHALL BE BEDDED IN ACCORDANCE WITH CITY OF PHOENIX DETAIL P1200.

CATCH BASINS ARE STATIONED PERPENDICULAR TO THE CENTERLINE OF THE STREET AT THE CENTERLINE OF THE MAINTENANCE BASIN.

SANITARY SEWER MAINS AND TAPS CROSSING OVER STORM DRAIN MAINS SHALL BE SUPPORTED PER M.A.G. DETAIL 403-1, 403-2, OR 403-3.

ALL EXISTING PRECAST CONCRETE SAFETY CURBS AND ALL EXISTING WOODEN PARKING CURBS, WHICH ARE INSIDE THE RIGHT OF WAY AND APPROXIMATELY PARALLEL TO THE NEW CURB LINE, SHALL BE RESET ON THE RIGHT OF WAY DIRECTLY OPPOSITE THEIR EXISTING LOCATION, WITH THE BACK EDGE ON THE RIGHT OF WAY LINE. ALL OTHER PRECAST CONCRETE SAFETY CURBS INSIDE THE STREET RIGHT OF WAY SHALL BE SALVAGED AND STOCK PILED FOR THE OWNER AT THE RIGHT OF WAY LINE.

EXISTING PRECAST CONCRETE SAFETY CURBS OUTSIDE THE RIGHT OF WAY, WHICH ARE DISTURBED BY NEW CONSTRUCTION SHALL BE RESET IN THEIR ORIGINAL POSITION BY THE CONTRACTOR.

ALL EXISTING DRIVEWAYS AND ALL EXISTING ALLEYS SHALL BE GRADED TO MATCH THE NEW WORK IN ACCORDANCE WITH STD. DETAIL P-1164, UNLESS OTHERWISE SPECIFIED. EXISTING SURFACING SHALL BE REMOVED AND REPLACED AS NECESSARY.

UNLESS OTHERWISE PROVIDED ON THE PLANS, EXISTING A.C. OR P.C.C. DRIVEWAYS AND SIDEWALKS WHICH FALL WITHIN OR ABUT THE RIGHT OF WAY SHALL BE CONNECTED TO THE NEW WORK AS FOLLOWS:

NOTES (cont.)

THE SPACE BETWEEN THE BACK OF NEW DRIVEWAY ENTRANCES AND EXISTING A.C. DRIVEWAYS SHALL BE FILLED WITH A MINIMUM OF 3" A.C.S.C. ON 100% COMPACTED NATIVE SOIL. WHERE EXISTING PAVEMENT AND BASE THICKNESS EXCEED THE MINIMUMS, MATCH THE EXISTING.

THE SPACE BETWEEN THE BACK OF NEW SIDEWALKS AND EXISTING PRIVATE SIDEWALKS, AND THE SPACE BETWEEN THE BACK OF NEW DRIVEWAY ENTRANCES AND EXISTING P.C.C. DRIVEWAYS SHALL BE FILLED WITH P.C.C. THE THICKNESS AND CLASS SHALL MATCH THAT OF THE NEW SIDEWALK OR DRIVEWAY ENTRANCE.

UNLESS OTHERWISE PROVIDED ON THE PLANS, THE SPACE BETWEEN THE BACK OF THE NEW SIDEWALKS, AND EXISTING A.C. PARKING LOTS, WHICH FALL WITHIN OR ABUT THE R/W SHALL BE FILLED WITH 2" A.C.S.C. ON 100% COMPACTED NATIVE SOIL.

EXISTING IRRIGATION BERMS DISTURBED BY NEW CONSTRUCTION SHALL BE RECONSTRUCTED AS SHOWN ON PLANS.

M.A.G. ALLEY ENTRANCE DETAILS 250, 251, 252 AND 253, WHICH ARE INDICATED TO BE MODIFIED ON THESE PLANS SHALL BE CONSTRUCTED ACCORDING TO THE DETAIL NUMBER EXCEPT THAT THE SLAB SHALL BE 9" THICK. DRIVEWAYS DESIGNATED ON THE PLANS AS M.A.G. DETAILS 250 AND 251 SHALL BE RESIDENTIAL DRIVEWAYS 5" THICK. ALL OTHER DRIVEWAYS SHALL BE CITY OF PHOENIX DETAILS P1255.

CATCH BASIN ACCESS FRAME AND COVERS SHALL BE CONSTRUCTED PER C.O.P. DETAIL P1561.

STRUCTURAL NOTES

"CLEAR" DIMENSIONS FOR DEPTH OF REINFORCING STEEL ARE FROM FACE OF CONCRETE TO FACE OF BARS.

ALL EXPOSED EDGES OF CONCRETE SHALL BE BEVELED OR ROUNDED.

ALL EXPOSED CONCRETE SURFACES SHALL BE FINISHED IN ACCORDANCE WITH ARIZONA DEPT. OF TRANSPORTATION STANDARD SPECIFICATION 601-3.05 – FINISHING FORMED CONCRETE, UNLESS OTHERWISE SPECIFIED.

ABBREVIATIONS

C&G	CURB & GUTTER	BC	BRASS CAP
G	GUTTER	BM	BENCH MARK
C.O.P.	CITY OF PHOENIX	DE	DRAINAGE EASEMENT
A.C.S.C.	ASPHALT CONCRETE SURFACE COURSE	RE	ROADWAY EASEMENT
TCE	TEMPORARY CONSTRUCTION EASEMENT	TC	TOP OF CURB
EOP	EDGE OF PAVEMENT	SE	SLOPE EASEMENT
B/C	BACK OF CURB	AP	ANGLE POINT
S/W	SIDEWALK	GB	GRADE BREAK
HH	HAND HOLE	FO	FIBER OPTIC
L	LIP OF CURB	SR	STATE ROUTE
[S]	SAWCUT & MATCH EXIST	RCBC	REINFORCED CONCRETE BOX CULVERT
		F/C	FACE OF CURB
		F-F	FACE OF CURB TO FACE OF CURB
		FG	FINISH GRADE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD. BY

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD. BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD. BY	DATE

"PER CITY OF PHOENIX ORDINANCE G-4188, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

GENERAL LEGEND & NOTES

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD

DR. DATE 1/07	JMS DES. DATE 1/07	DRR DR. DATE 1/07	DCM CK. DATE 1/07	SHEET NO.	TOTAL SHEETS	AS BUILT
SCALE: NONE				2	32	

ROADWAY SUMMARY

ITEM No.	DESCRIPTION	UNIT	8	10	12	14	15	19	20	21	22	23	TOTAL
			SHEET NUMBERS										
M2150111	GRADE DRAINAGE DITCH (TRAPAZOIDAL DITCH)	LF						453	477	370			1300
M2205060	GABION MATTRESS, 1'-THICK	SY							393	142			535
M2205062	GABION BASKETS, 3' X 2'	LF							450				450
M2205063	GABION BASKETS, 3' X 3'	LF							91	85			176
M3010001	SUBGRADE PREPARATION	SY	2341	4453	4796	2729	473						14792
M3210115	ASPHALT CONCRETE SURFACE COURSE (0 1/2), 1 1/2" THICK	TON	198	376	405	231	40						1250
M3210360	ASPHALT CONCRETE BASE COURSE (A 1 1/2), 6" THICK	TON	790	1503	1619	921	160						4993
M3290100	EMULSIFIED ASPHALT FOR TACK COAT, TYPE SS-1H	TON	2.0	3.8	4.0	2.3	0.4						12.5
M3400000	CONCRETE MEDIAN NOSE	SF				55							55
M3400400	CONCRETE SIDEWALK, STD. DETAIL P-1230	SF	2473	7671	7500	3823							21467
M3400409	CONCRETE SIDEWALK, STD. DETAIL P-1230 MODIFIED	SF				264							264
	9" THICK, CLASS A CONCRETE												
M3402201	COMBINED CONCRETE CURB & GUTTER, M.A.G.	LF	389	1001	1000	469	5						2864
	STD. DETAIL 220, TYPE "A", H=6"												
M3402201	MOUNTABLE CURB AND GUTTER PER PLANS	LF				24							24
M3402201	MOUNTABLE SINGLE CURB PER PLANS	LF					24						24
M3402221	CONCRETE SINGLE CURB, M.A.G. STD. DETAIL 222, TYPE "A"	LF	390	1000	1002	331	322						3045
M3450020	ADJUST EXISTING MANHOLE FRAME AND COVER, M.A.G	EA				3							3
	STANDARD DETAIL 422												
M3453001	ADJUST EXISTING TYPE "A" WATER VALVE, M.A.G.	EA				9							9
	STANDARD DETAIL P-1391 AND P-1391-1												
M3500010	REMOVE PORTLAND CEMENT CONCRETE	LF				191	351						542
	SINGLE CURB AND CURB AND GUTTER												
M3500060	REMOVE ASPHALT CONCRETE PAVEMENT	SY				52	78						130
M3500110	REMOVE EXISTING FENCE	EA	180	500	500	58							1238
M3513130	3" PVC CONDUIT FOR TRAFFIC SIGNAL	LF				320							320
M3513270	NO. 7 JUNCTION BOX W/ EXTENSION	EA				2							2
M4307010	HYDROSEED, TYPE B, NON-WOODY PLANT MATERIAL	SY											14226
M5050015	CONCRETE SIDEWALK WITH PARAPET PER PLANS	LF	120										120
M5051540	CONCRETE CATCH BASIN, TYPE M-1, L=10	EA							2				2
	PHOENIX SUPP DETAIL P-1569-1												
M5051545	CONCRETE CATCH BASIN, TYPE M-1, L=17	EA								2			2
	PHOENIX SUPP DETAIL P-1569-1												
M5055014	HEADWALL FOR 30" PIPES, MAG STANDARD DETAILS	EA										2	2
	501-1 AND 501-2												
M5057073	CONCRETE INLET WINGS ADOT STANDARD DETAILS B-04.70	CY									14		14
M5057076	CONCRETE OUTLET WINGS ADOT STANDARD DETAILS B-04.50	CY									19		19
M5057121	SINGLE BARREL, 4'X6' REINFORCED CONCRETE BOX	LF							191				191
	CULVERT DETAIL B-02.10 (MODIFIED)												
M6101803	RELOCATE EXISTING WATER METER, BOX AND COVER	EA				1							1
M6108010	RELOCATE EXISTING FIRE HYDRANT	EA				1							1
M6181015	15" CATCH BASIN CONNECTOR PIPE	LF							42	12			54
M6183031	30" RUBBER GASKET REINFORCED CONCRETE PIPE,	LF								310			310
	CLASS III (CULVERT)												
M6186018	30" X 30" X 15" PREFABRICATED TEE	EA								2			2
C3456000	ADJUST FRAMES, COVERS, VALVE BOXES	EA				1							1
	ON EXISTING NON-CITY UTILITIES, CONTINGENT ITEM												

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STBG100255	3	32	

1/07
DATE:

AZTEC

DRAWN: JMS DESIGN: DRR CHECKED: CCW

COMPLETION

"PER CITY OF PHOENIX ORDINANCE G-4398, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

ROADWAY SUMMARY

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD

DR.	DES.	RDR.	CKD.	SHEET NO.	TOTAL SHEETS	AS BUILT
JMS	DRR	CCW	CCW	3	32	
DATE: 1/07	DATE: 1/07	DATE: 1/07	DATE: 1/07			

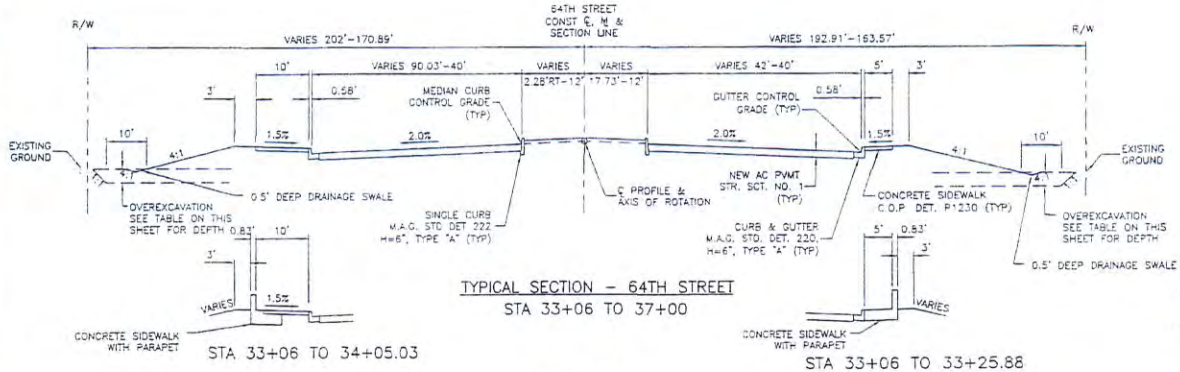
SCALE: NONE

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STR5100255	4	32	

1/07 DATE — AZTEC — DRAWN: JMG — DESIGN: DRR — CHECKED: CDW

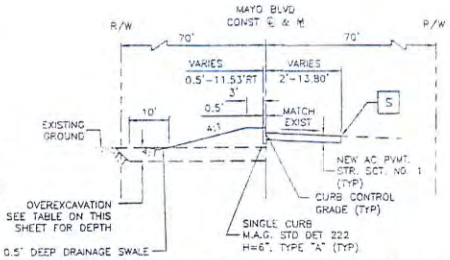
NOT FOR CONSTRUCTION



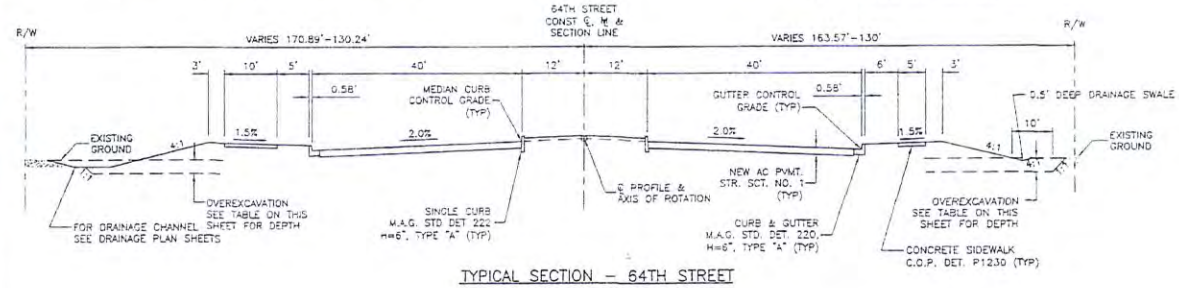
TYPICAL SECTION – 64TH STREET
STA 33+06 TO 37+00

STA 33+06 TO 34+05.03

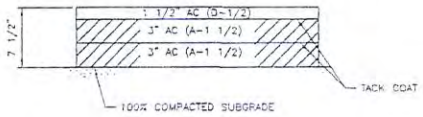
STA 33+06 TO 33+25.88



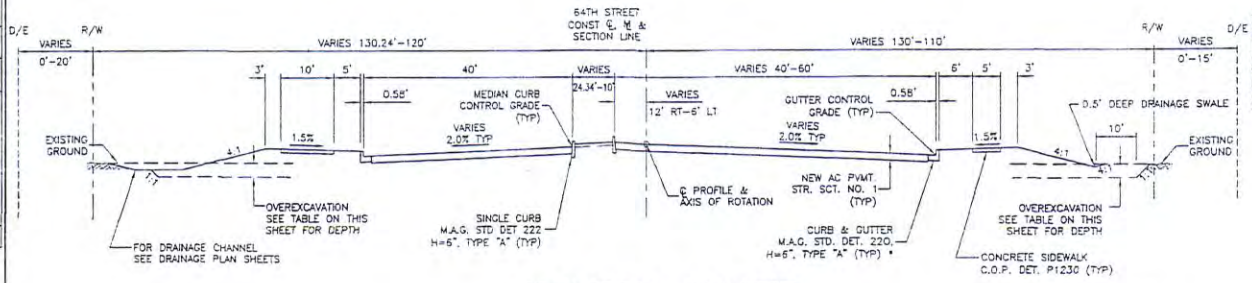
TYPICAL SECTION – MAYO BOULEVARD
STA 129+36.51 TO 132+86.68



TYPICAL SECTION – 64TH STREET
STA 37+00 TO 41+79



PAVEMENT STRUCTURAL SECTION NO. 1
64TH STREET
MAYO BOULEVARD



TYPICAL SECTION – 64TH STREET
STA 41+79 TO 47+48.51

* FROM STA 46+84.26 TO 47+15.59
LEFT– USE REVERSE PAN CURB &
GUTTER– SEE DETAIL ON SHEET 5

OVEREXCAVATION DEPTHS		
ROAD	STATION	DEPTH
64TH ST	33+06 TO 37+00	5'
64TH ST	37+00 TO 47+48.51	3'
MAYO BLVD	129+36.51 TO 132+86.68	3'

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4398, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

TYPICAL SECTIONS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD

DRF	JMG	DES.	DRR	CK.	CDW	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE 1/07	DATE 1/07	DATE 1/07	DATE 1/07					
SCALE: NONE						4	32	

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD. BY	DATE

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD

F.H.W.A. REGION	STATE	PROJ. NO	NO	TOTAL	AS BUILT
9	ARIZ	STBG100255	5	32	

1/07 DATE — AZTEC — DRAWN: JMC DESIGN: GPR CHECKED: CDW

NOT FOR CONSTRUCTION

REVISION BY CITY OF PHOENIX

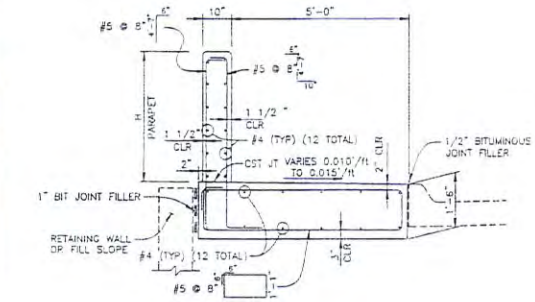
NO.	DESCRIPTION	REV BY	CKD BY	DATE

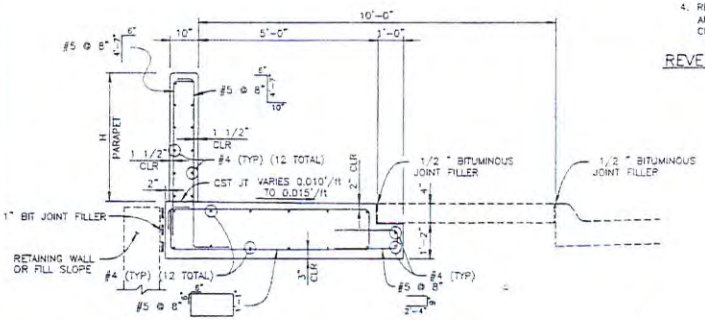
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

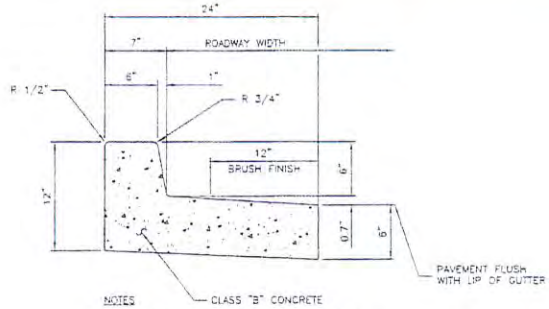




NOTES

1. ALL CONCRETE SHALL BE A.D.O.T. CLASS "S" (f'c=4000 PSI).
2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A615, AND SHALL BE FURNISHED AS GRADE 60.
3. ALL BENDS AND HOOKS SHALL MEET THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS ARTICLE 5.10.2. ALL BAR BEND DIMENSIONS FOR REINFORCING STEEL SHALL BE OUT-TO-OUT OF BARS. ALL PLACEMENT DIMENSIONS FOR REINFORCING STEEL SHALL BE TO CENTER OF BARS UNLESS NOTED OTHERWISE.
4. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS NOTED OTHERWISE.
5. PARAPET SHALL HAVE CONSTRUCTION JOINTS SPACED NOT MORE THAN 30' APART OR AS SHOWN. REINFORCING STEEL SHALL PROJECT THROUGH JOINTS WITH 1'-6" MINIMUM LAP FOR #4 REINFORCING BARS.
6. SIDEWALK SHALL BE FINISHED BY MEANS OF A FLOAT, THEN STEEL TROWELLED AND THEN BROOMED WITH A FINE BRUSH IN A TRANSVERSE DIRECTION.
7. PAINT IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
8. H EQUALS 3'-6" UNLESS OTHERWISE NOTED ON THE PAVING PLANS.

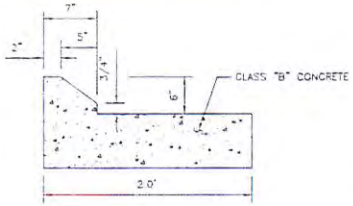
CONCRETE SIDEWALK WITH PARAPET DETAIL



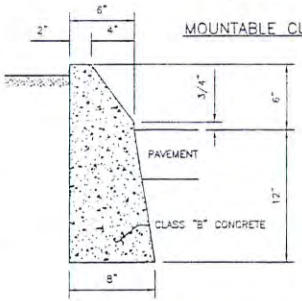
NOTES

1. ALL EXPOSED SURFACES TO BE TROWEL FINISHED EXCEPT AS SHOWN. SEE SECTION 340.
2. CONTRACTION JOINT SPACING 10' MAX
3. EXPANSION JOINT AS PER STD. SECT. 340
4. REVERSE PAN CURB & GUTTER SHALL BE MEASURED AND PAID FOR AS M.A.G. 220, TYPE "A" VERTICAL CURB & GUTTER.

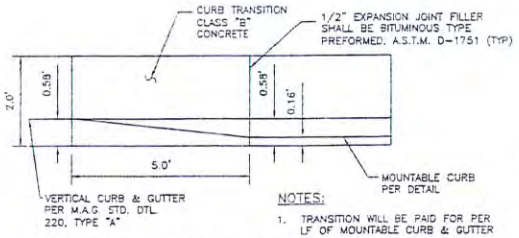
REVERSE PAN CURB AND GUTTER DETAIL



MOUNTABLE CURB & GUTTER DETAIL



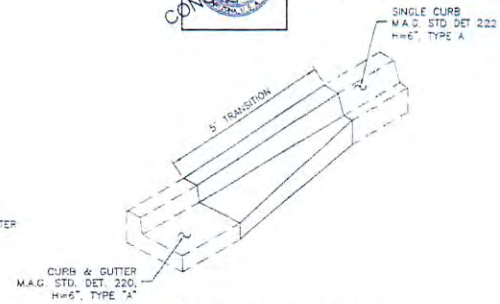
MOUNTABLE SINGLE CURB DETAIL



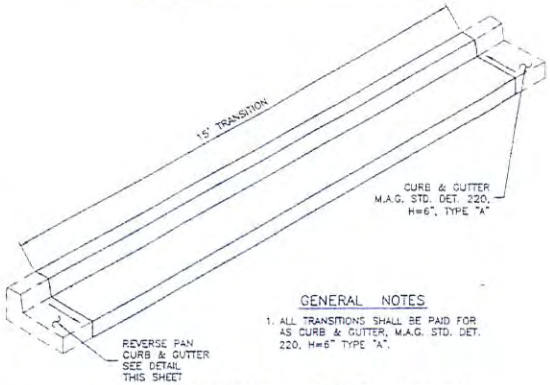
NOTES:

1. TRANSITION WILL BE PAID FOR PER LF OF MOUNTABLE CURB & GUTTER

MOUNTABLE CURB TRANSITION DETAIL



CURB & GUTTER TRANSITION DETAIL



GENERAL NOTES

1. ALL TRANSITIONS SHALL BE PAID FOR AS CURB & GUTTER, M.A.G. STD. DET. 220, H=6" TYPE "A".

CURB & GUTTER TRANSITION DETAILS

602-263-1100
1-800-STAKE-IT

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64TH STREET DETAILS

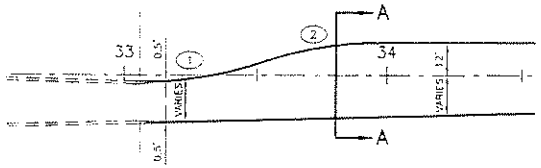
CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

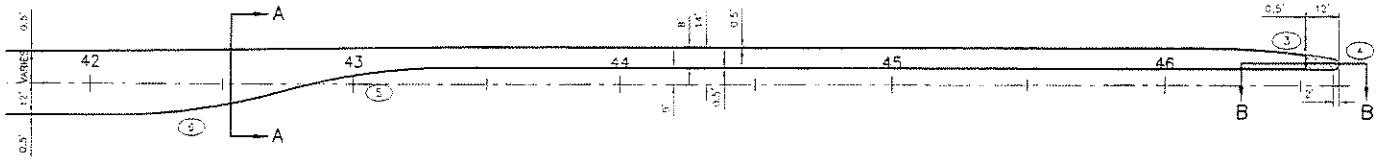
64TH STREET
SR 101L TO MAYO BLVD

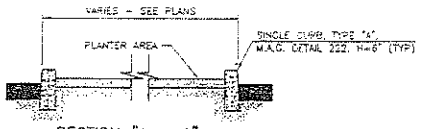
DR. JMC DATE: 1/07	CK. GPR DATE: 1/07	CK. CDW DATE: 1/07	SHEET NO. 5	TOTAL SHEETS 32	AS BUILT

SCALE:

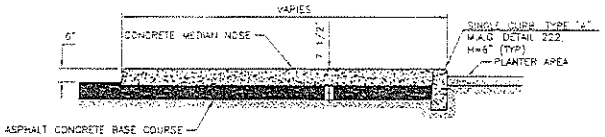
64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD







SECTION "A – A"
NO SCALE



SECTION "B – B"
NO SCALE

CURVE TABLE				
CURVE #	Δ	RADIUS	TANGENT	LENGTH
1	17°44'46"	150.00	23.42	46.45
2	17°44'46"	150.00	23.42	46.45
3	10°18'16"	250.00	22.54	44.95
4	169°41'43"	2.00	22.18	5.92
5	15°25'14"	250.00	33.65	67.28
6	15°25'14"	250.00	33.65	67.28

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MEDIAN DETAILS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	STP-010-(225)	5	32	

1/07
DATE

AZTEC

DRAWN	JMS	DESIGN	DRR	CHECKED	CCW

DRN. JMS	DSN. DRR	CHK. CCW	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE 1/07	DATE 1/07	DATE 1/07			
SCALE NONE			5	32	

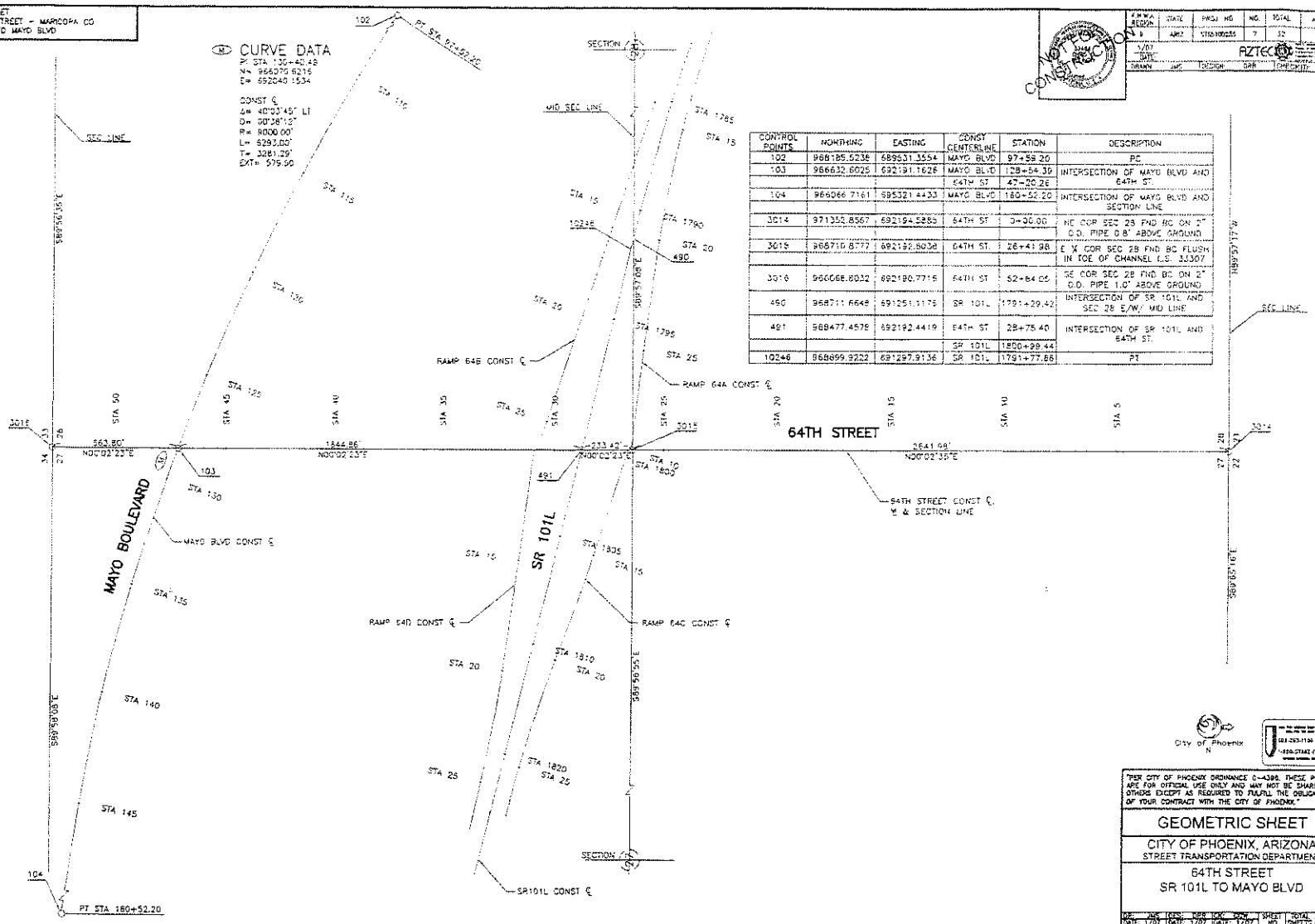
NOT FOR CONSTRUCTION

REVISION BY CITY OF PHOENIX
NO. | DESCRIPTION | REV. BY | CKD. BY | DATE

REVISION BY CITY OF PHOENIX
NO. | DESCRIPTION | REV. BY | CKD. BY | DATE

REVISION BY CITY OF PHOENIX
NO. | DESCRIPTION | REV. BY | CKD. BY | DATE

64TH STREET
PHOENIX STREET - MARICOPA CO
SR 101L TO MAYO BLVD



CONTROL POINTS	NORTHING	EASTING	CONST CENTERLINE	STATION	DESCRIPTION
102	966185.5236	689531.3554	MAYO BLVD	97+59.20	PC
103	966632.6025	692191.1626	MAYO BLVD	128+54.39	INTERSECTION OF MAYO BLVD AND 64TH ST.
			64TH ST	47+20.26	
104	966066.7161	695321.4433	MAYO BLVD	180+52.20	INTERSECTION OF MAYO BLVD AND SECTION LINE
3014	971352.8567	692194.5855	64TH ST	0+00.00	NE COR SEC 28 FND BC ON 2" O.D. PIPE 0.8' ABOVE GROUND
3015	968719.8777	692152.8038	64TH ST	26+41.98	E ¼ COR SEC 28 FND BC FLUSH IN TOE OF CHANNEL L.S. 32307
3016	960068.8032	692190.7715	64TH ST	52+84.05	SE COR SEC 28 FND BC ON 2" O.D. PIPE 1.0' ABOVE GROUND
490	968711.6648	692251.1175	SR 101L	1791+29.42	INTERSECTION OF SR 101L AND SEC 28 E/W/ MID LINE
491	968477.4578	692192.4419	64TH ST	28+75.40	INTERSECTION OF SR 101L AND 64TH ST.
			SR 101L	1800+99.44	
10246	968899.9222	691297.9136	SR 101L	1791+77.86	PT

NOT FOR CONSTRUCTION

APWA REVISION	STATE	PROJ NO	NO.	TOTAL	AS BUILT
0	ARIZ	V750100035	7	32	

AZTECA
DRAWN JMC DESIGN GPR CHECKED

REVISION BY CITY OF PHOENIX
NO. DESCRIPTION REV BY CKD BY DATE

REVISION BY CITY OF PHOENIX
NO. DESCRIPTION REV BY CKD BY DATE

REVISION BY CITY OF PHOENIX
DESCRIPTION REV BY CKD BY DATE

City of Phoenix

"PER CITY OF PHOENIX ORDINANCE G-4398, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

GEOMETRIC SHEET

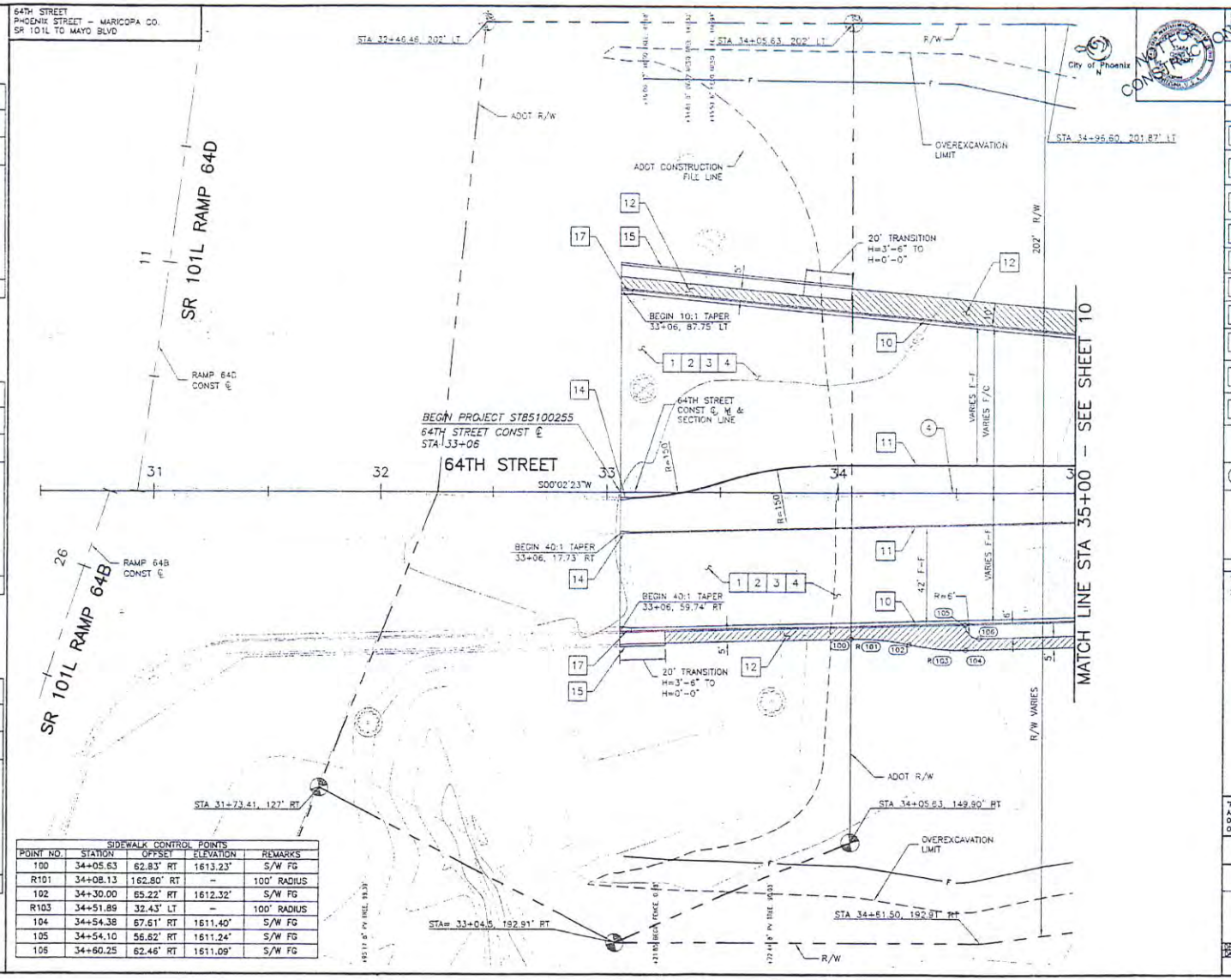
CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD

DR.	JMC	DES.	GPR	CHK.	PMW	SHEET NO	TOTAL SHEETS	AS BUILT
DATE	1/07	DATE	1/07	DATE	1/07	7	32	

SCALE: 1"=200' HORIZONTAL

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD



SIDEWALK CONTROL POINTS				
POINT NO.	STATION	OFFSET	ELEVATION	REMARKS
100	34+05.63	62.83' RT	1613.23'	S/W FG
R101	34+08.13	162.80' RT	–	100' RADIUS
102	34+30.00	65.22' RT	1612.32'	S/W FG
R103	34+51.89	32.43' LT	–	100' RADIUS
104	34+54.38	67.61' RT	1611.40'	S/W FG
105	34+54.10	56.62' RT	1611.24'	S/W FG
106	34+60.25	62.46' RT	1611.09'	S/W FG

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	ST85100255	8	32	

1/07
DATE

AZTEC

DRAWN	JMS	DESIGN	DRN	CHECKED	CPW

CONSTRUCTION NOTES

NO	DESCRIPTION	UNIT	QTY
1	SUBGRADE PREPARATION	SY	2341
2	ASPHALT CONCRETE SURFACE COURSE, (D-1/2), 1 1/2" THICK	TON	198
3	ASPHALT CONCRETE BASE COURSE, (A-1 1/2), 6" THICK	TON	790
4	EMULSIFIED ASPHALT FOR TACK COAT, TYPE SS-1H	TON	2.0
10	CURB & GUTTER, TYPE A, M.A.G. DET 220, H=6"	LF	389
11	SINGLE CURB, TYPE A, M.A.G. DET 222, H=6"	LF	390
12	CONCRETE SIDEWALK C.O.P. DET P1230	SF	2473
14	5' CURB TRANSITION ADOT C-05.10, TYPE A1, H=7" TO MAG DET. 222, TYPE A, H=6"	–	–
15	CONCRETE SIDEWALK WITH PARAPET SEE DETAIL ON SHEET 5	LF	120
17	5' CURB TRANSITION, ADOT C-05.12, TYPE 6 TO MAG DET 220, TYPE A, H=6"	–	–

REMOVAL/ RELOCATION NOTES

4	REMOVE FENCE	LF	180

GENERAL NOTES

1. FOR 64TH ST PROFILE – SEE SHEET 9.
2. FOR MEDIAN ISLAND GEOMETRICS & DETAILS – SEE SHEET 6.

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

PAVING PLAN

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 33+06 TO 35+00

DES. DATE	JMS 1/07	DRN DATE	JMS 1/07	CKD DATE	CPW 1/07	SHEET NO.	TOTAL SHEETS	AS BUILT
SCALE: 1"=20' HORIZONTAL						8	32	

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD

REVISION BY CITY OF PHOENIX

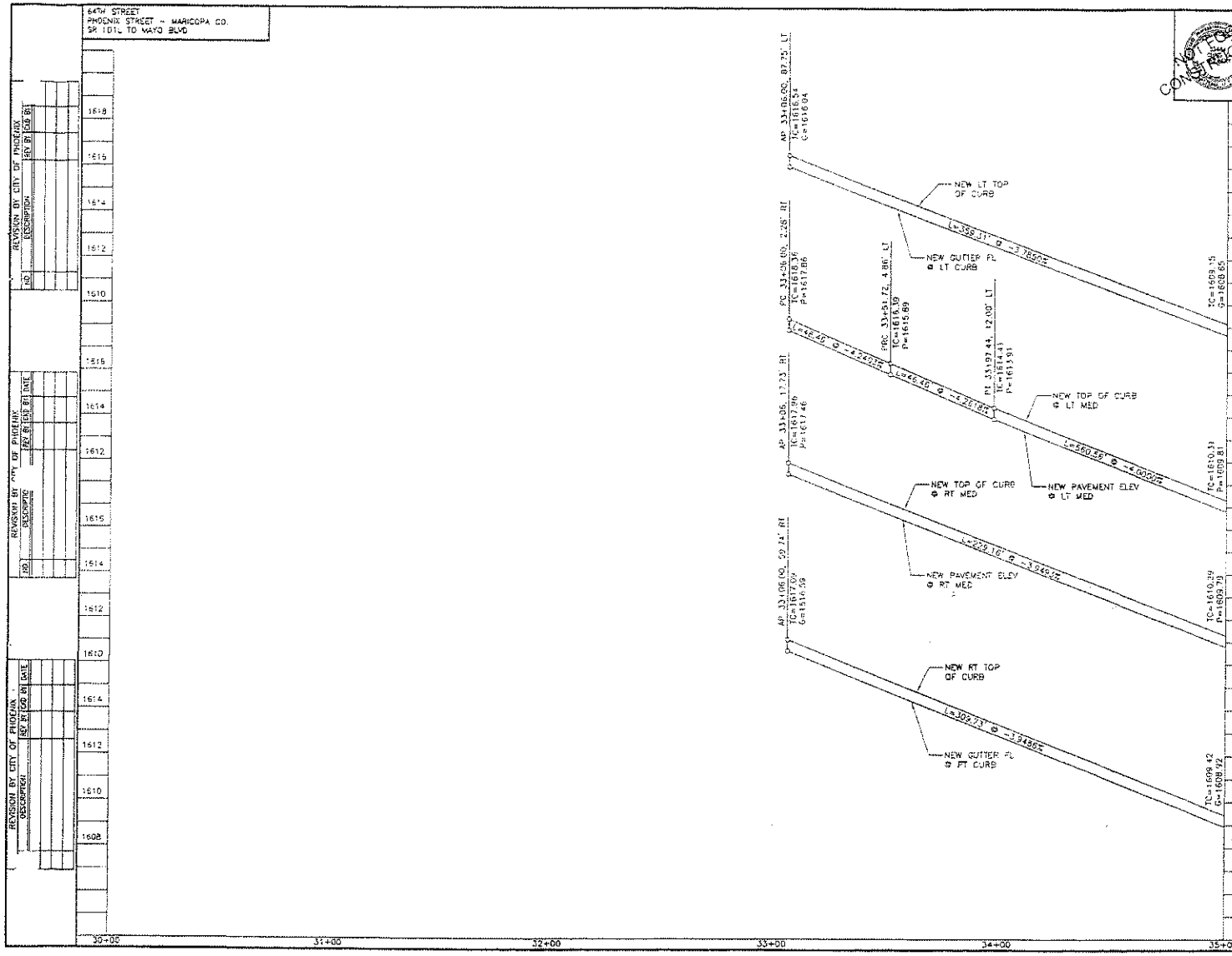
NO.	DESCRIPTION	REV. BY	CKD BY

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD BY	DATE



F.H.W.A. REGION NUMBER	STATE	PROJ. NO	NO.	TOTAL	AS BUILT
9	ARIZ	STP-010-D(235)	9	32	

1/07
DATE

AZTECA

DRAWN	MS	DESIGN	CKM	CHECKED	CDW

NOT FOR CONSTRUCTION

"PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

PAVING PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 33+06 TO 35+00

DES.	MS	TCHK	SDR	TCK	TCW	SHEET	TOTAL	AS BUILT
DOC.	1/07	DATE	1/07	DATE	1/07	NO.	SHEETS	
SCALE	1"=20' HORIZONTAL 1"=2' VERTICAL					9	32	

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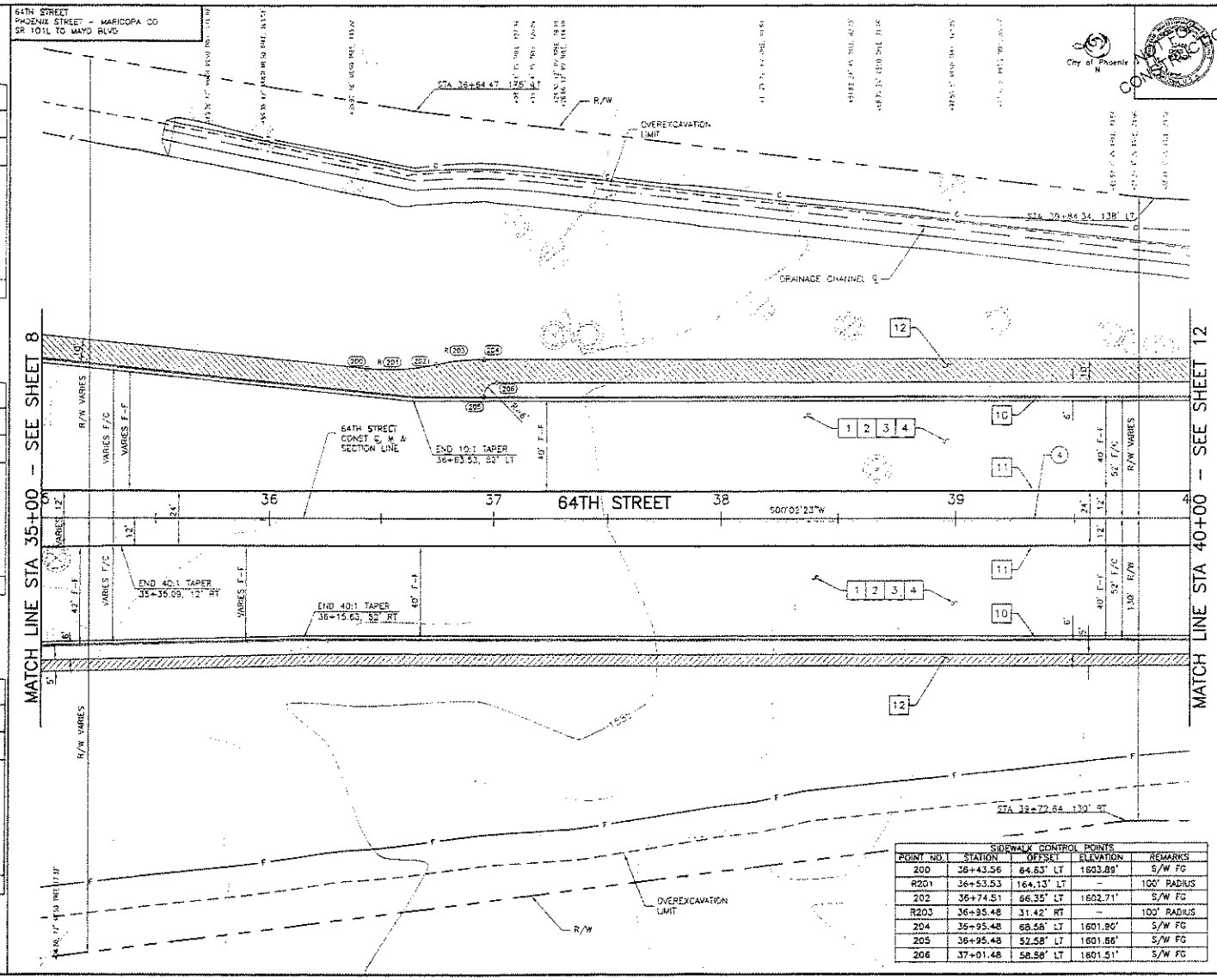
64TH STREET
PHOENIX STREET - MARICOPA CO
SR 101L TO MAYO BLVD



SIDEWALK CONTROL POINTS				
POINT NO.	STATION	OFFSET	ELEVATION	REMARKS
200	36+43.56	64.63' LT	1603.89'	S/W FG
R201	36+53.53	164.13' LT	–	100' RADIUS
202	36+74.51	66.35' LT	1602.71'	S/W FG
R203	36+95.48	31.42' RT	–	100' RADIUS
204	36+95.48	68.58' LT	1601.80'	S/W FG
205	36+95.48	52.58' LT	1601.66'	S/W FG
206	37+01.48	58.58' LT	1601.51'	S/W FG

FHWA REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STP-010-D(235)	10	32	

AZTEC
DRAWN: JMS DESIGN: SRP CHECKED: CDW

CONSTRUCTION NOTES

NO	DESCRIPTION	UNIT	QTY
1	SUBGRADE PREPARATION	SY	4453
2	ASPHALT CONCRETE SURFACE COURSE, (Q-1/2), 1 1/2" THICK	TON	376
3	ASPHALT CONCRETE BASE COURSE, (A-1 1/2), 6" THICK	TON	1503
4	EMULSIFIED ASPHALT FOR TACK COAT, TYPE SS-1H	TON	3.9
10	CURB & GUTTER, TYPE A, M.A.G. DET 220, H=6"	LF	1001
11	SINGLE CURB, TYPE A, M.A.G. DET 222, H=6"	LF	1000
12	CONCRETE SIDEWALK C.O.P. DET P1230	SF	7671

REMOVAL / RELOCATION NOTES

4	REMOVE FENCE	LF	500

GENERAL NOTES

1. FOR 64TH ST PROFILE - SEE SHEET 11.
2. FOR DRAINAGE CHANNEL - SEE SHEET 13.

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PAVING PLAN

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 35+00 TO 40+00

DR.	JMS	DSN.	RPB	CK.	CDW	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE:	1/07	DATE:	1/07	DATE:	1/07	10	32	

SCALE: 1"=20' HORIZONTAL

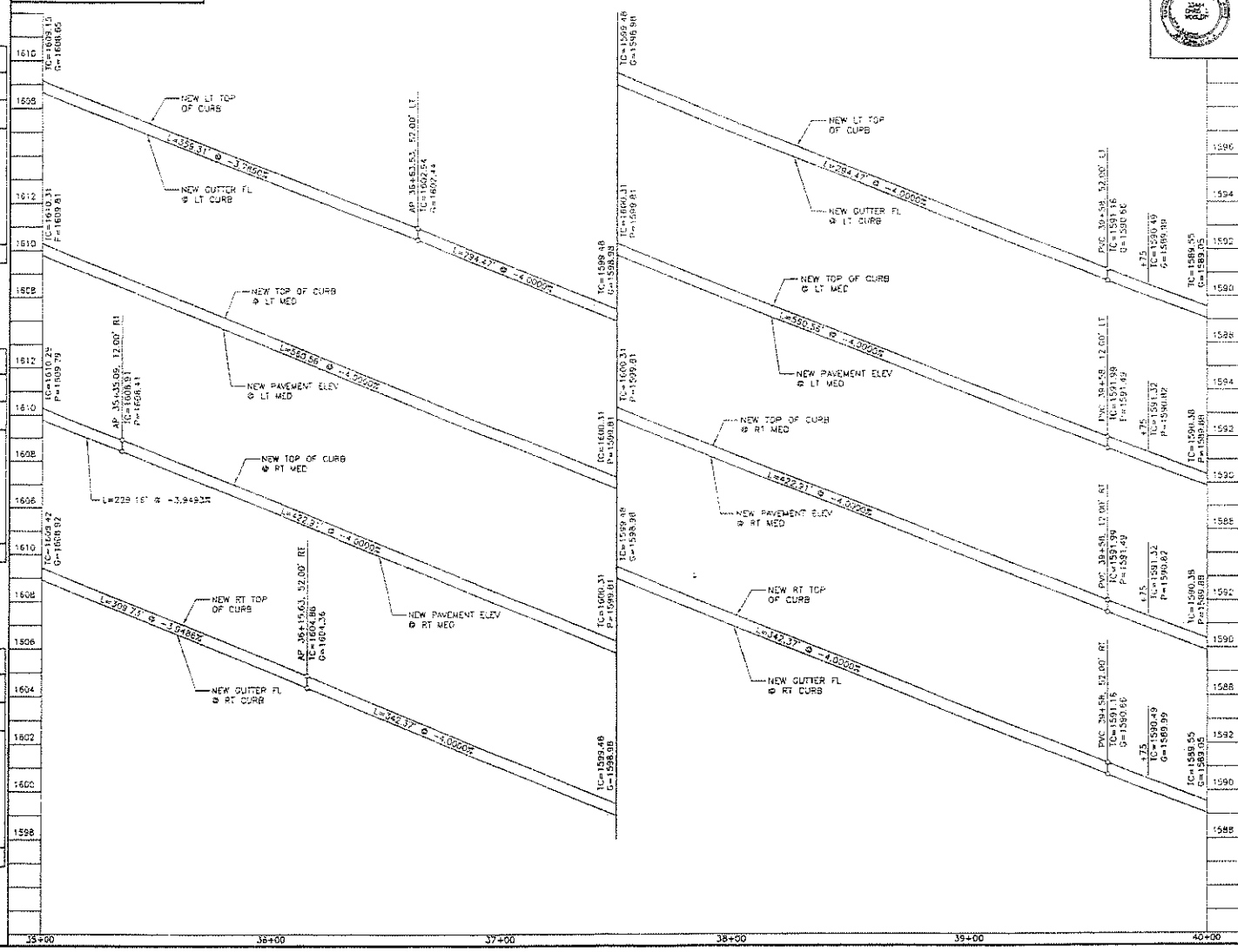
REVISION BY CITY OF PHOENIX
NO. DESCRIPTION REV BY CKD BY DATE

REVISION BY CITY OF PHOENIX
NO. DESCRIPTION REV BY CKD BY DATE

REVISION BY CITY OF PHOENIX
NO. DESCRIPTION REV BY CKD BY DATE

E:\Phoenix\Projects\100288-CDP\CADD\Sheets\Roadway\C0288P10.dwg

64TH STREET
PHOENIX STREET – MARICOPA CO
SR 101L TO MAYO BLVD



REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

FHWA REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STBG-100-D(...)	11	32	

1/07
DATE

AZTECA

DRAWN JMC DESIGN DRF CHECKED CDW

"PER CITY OF PHOENIX ORDINANCE G-4388, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

PAVING PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

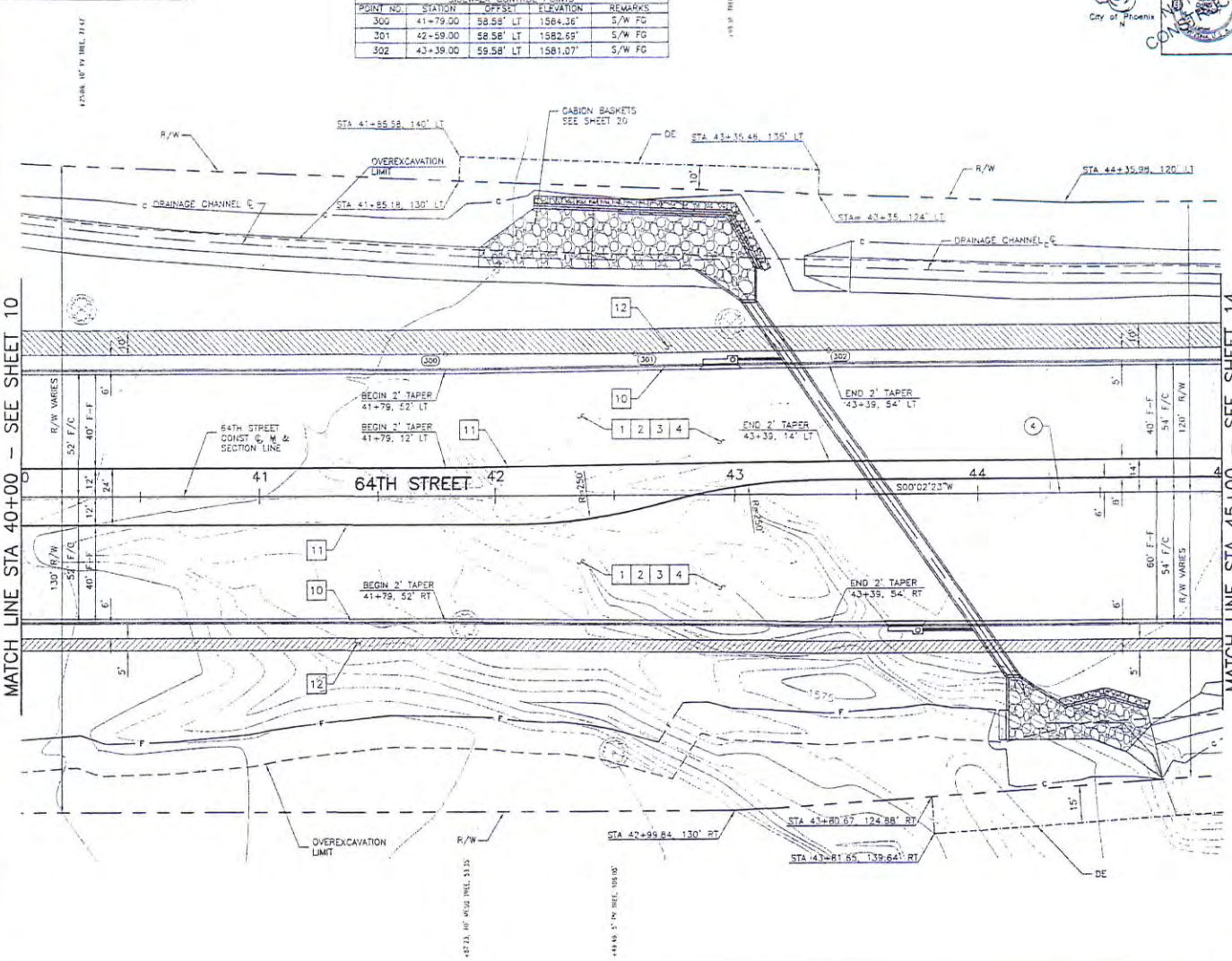
64TH STREET
SR 101L TO MAYO BLVD
STA 35+00 TO 40+00

DR.	DES.	CK.	CHK.	SHEET NO.	TOTAL SHEETS	AS BUILT
1/07	1/07	1/07	1/07	11	32	

SCALE: 1"=20' HORIZONTAL, 1"=2' VERTICAL

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD

SIDEWALK CONTROL POINTS				
POINT NO.	STATION	OFFSET	ELEVATION	REMARKS
300	41+79.00	58.58' LT	1584.36'	S/W FG
301	42+59.00	58.58' LT	1582.69'	S/W FG
302	43+39.00	59.58' LT	1581.07'	S/W FG



City of Phoenix

NOT FOR CONSTRUCTION

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STP-010-(225)	12	32	

1/07 DATE
AZTEC
DRAWN JMS DESIGN DRR CHECKED CDW

CONSTRUCTION NOTES

NO	DESCRIPTION	UNIT	QTY
1	SUBGRADE PREPARATION	SY	4796
2	ASPHALT CONCRETE SURFACE COURSE, (D-1/2), 1 1/2" THICK	TON	405
3	ASPHALT CONCRETE BASE COURSE, (A-1 1/2), 6" THICK	TON	1619
4	EMULSIFIED ASPHALT FOR TACK COAT, TYPE SS-1H	TON	4.0
10	CURB & GUTTER, TYPE A, M.A.G. DET 220, H=6"	LF	1000
11	SINGLE CURB, TYPE A, M.A.G. DET 222, H=6"	LF	1002
12	CONCRETE SIDEWALK C.O.P. DET P1230	SF	7500

REMOVAL/ RELOCATION NOTES

4	REMOVE FENCE	LF	500

GENERAL NOTES

1. FOR 64TH ST PROFILE – SEE SHEET 13.
2. FOR STORM DRAIN – SEE SHEET 20.
3. FOR MEDIAN ISLAND GEOMETRICS & DETAILS – SEE SHEET 6.
4. FOR CULVERT SEE SHEET 22.
5. FOR DRAINAGE CHANNEL – SEE SHEET 20.

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

PAVING PLAN

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 40+00 TO 45+00

DR.	DES.	DRN.	CK.	CDW	SHEET	TOTAL	AS
JMS		DRR			NO.	SHEETS	BUILT
DATE 1/07		DATE 1/07		DATE 1/07	12	32	

SCALE: 1"=20' HORIZONTAL

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

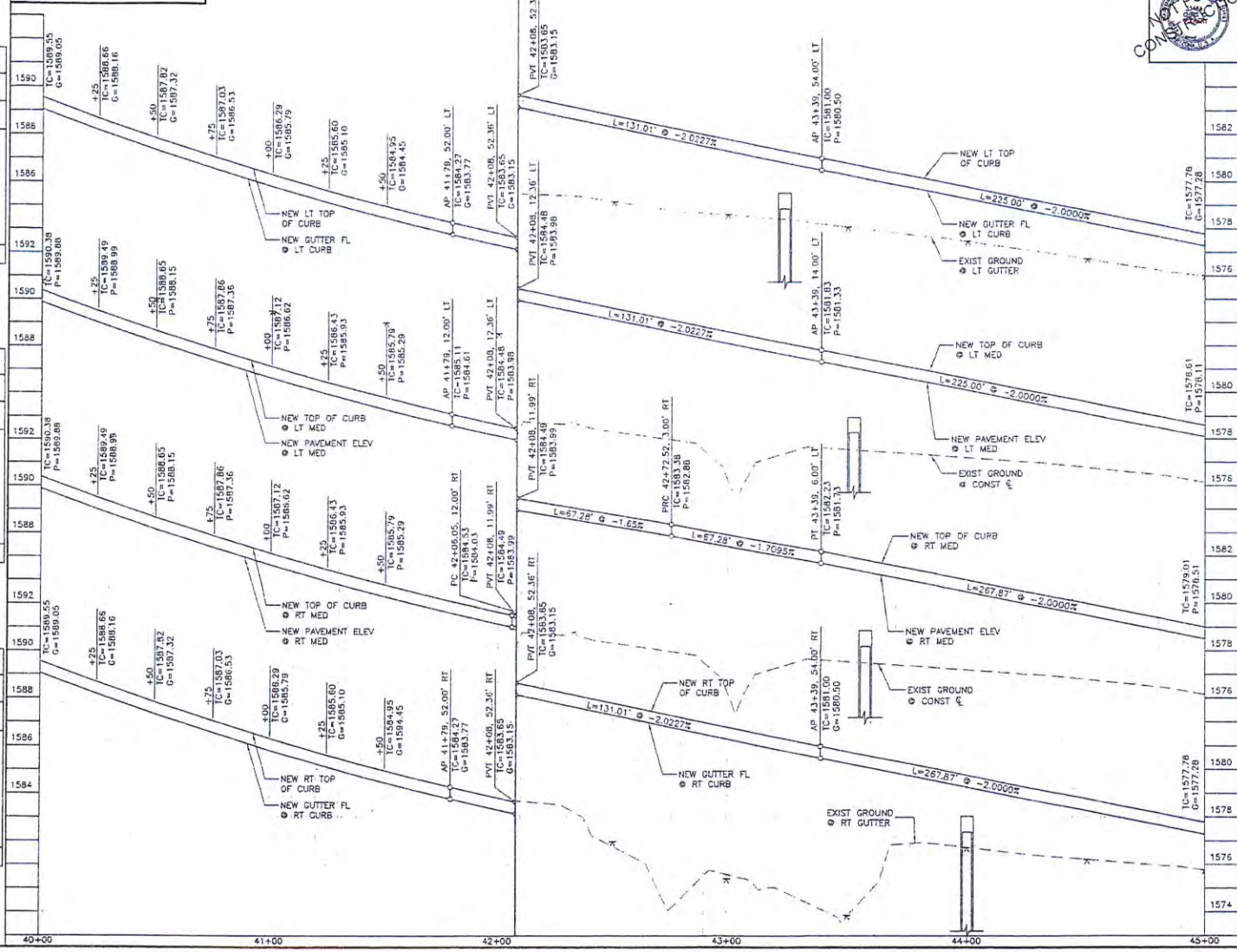
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD



F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STP51100255	13	32	

1/07 DATE

AZTEC

DRAWN: JMS DESIGN: DRR CHECKED: CDW

NOT FOR CONSTRUCTION

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

PAVING PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 40+00 TO 45+00

REC.	DRN.	DES.	CHK.	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE: 1/07	DATE: 1/07	DATE: 1/07	DATE: 1/07			
SCALE: 1"=20' HORIZONTAL 1"=2' VERTICAL				13	32	

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

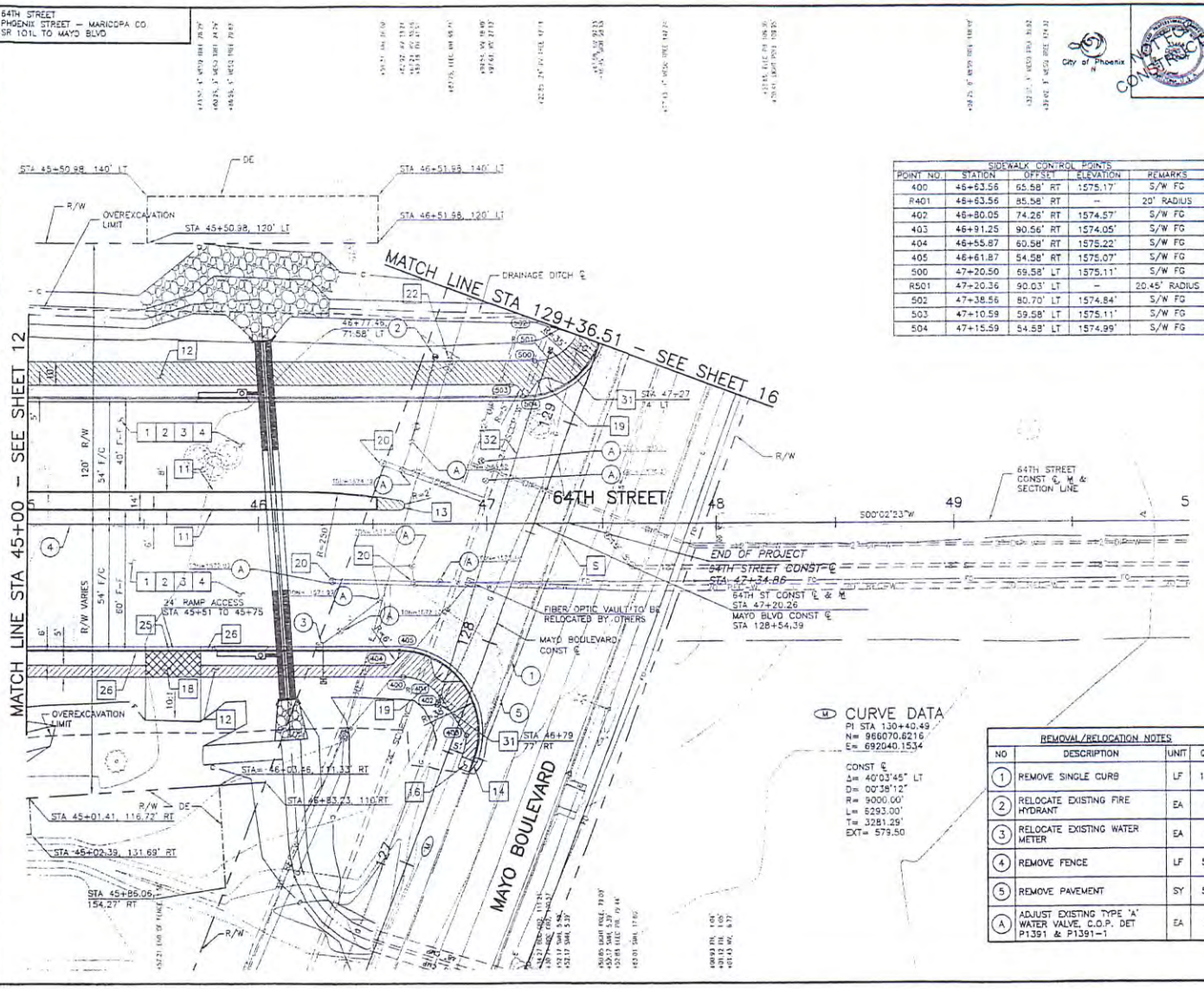
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD



SIDEWALK CONTROL POINTS				
POINT NO.	STATION	OFFSET	ELEVATION	REMARKS
400	46+63.56	65.58' RT	1575.17'	S/W FG
R401	46+63.56	85.58' RT	–	20' RADIUS
402	46+80.05	74.26' RT	1574.57'	S/W FG
403	46+91.25	90.56' RT	1574.05'	S/W FG
404	46+55.87	60.58' RT	1575.22'	S/W FG
405	46+61.87	54.58' RT	1575.07'	S/W FG
500	47+20.50	69.58' LT	1575.11'	S/W FG
R501	47+20.36	90.03' LT	–	20.45' RADIUS
502	47+38.56	80.70' LT	1574.84'	S/W FG
503	47+10.59	59.58' LT	1575.11'	S/W FG
504	47+15.59	54.58' LT	1574.99'	S/W FG

CURVE DATA

PI STA 130+40.49
N= 966070.6216
E= 692040.1534

CONST ℄
Δ= 40°03'45" LT
D= 00°38'12"
R= 9000.00'
L= 5293.00'
T= 3281.29'
EXT= 579.50

REMOVAL/RELOCATION NOTES			
NO	DESCRIPTION	UNIT	QTY
1	REMOVE SINGLE CURB	LF	191
2	RELOCATE EXISTING FIRE HYDRANT	EA	1
3	RELOCATE EXISTING WATER METER	EA	1
4	REMOVE FENCE	LF	58
5	REMOVE PAVEMENT	SY	52
A	ADJUST EXISTING TYPE 'A' WATER VALVE, C.O.P. DET P1391 & P1391-1	EA	9

F.H.W.A. REGION	STATE	PROJ. NO	NO.	TOTAL	AS BUILT
9	ARIZ	STP-101-100255	14	32	

City of Phoenix

NOT FOR CONSTRUCTION

1/07
DATE

AZTEC

DRAWN: JMS DESIGN: DRR CHECKED: CDW

CONSTRUCTION NOTES			
NO	DESCRIPTION	UNIT	QTY
1	SUBGRADE PREPARATION	SY	2729
2	ASPHALT CONCRETE SURFACE COURSE, (D-1/2), 1 1/2" THICK	TON	231
3	ASPHALT CONCRETE BASE COURSE, (A-1 1/2), 6" THICK	TON	921
4	EMULSIFIED ASPHALT FOR TACK COAT, TYPE SS-1H	TON	2.3
10	CURB & GUTTER, TYPE A, M.A.G. DET 220, H=6"	LF	489
11	SINGLE CURB, TYPE A, M.A.G. DET 222, H=6"	LF	331
12	CONCRETE SIDEWALK C.O.P. DET P1230	SF	3823
13	CONCRETE MEDIAN NOSE, SEE DETAIL ON SHEET 6	SF	55
14	5' CURB TRANSITION, MAG DET 220, TYPE A, H=6" TO EXISTING SINGLE CURB	–	–
16	ASPHALT SIDEWALK RAMP	SF	26
18	CONCRETE SIDEWALK FOR 24' DWY C.O.P. DET P1230 MOD 9" THICK, CLASS A CONCRETE	SF	264
19	CONCRETE SIDEWALK RAMP, C.O.P. DET. P1240	–	–
20	ADJUST EXISTING MANHOLE FRAME AND COVER M.A.G. DET 422	EA	3
22	ADJUST FRAMES, COVERS, VALVE BOXES ON EXISTING NON-CITY UTILITIES, CONTINGENT ITEM	EA	1
25	MOUNTABLE CURB AND GUTTER SEE DETAIL ON SHEET 5	LF	24
26	5' MOUNTABLE CURB AND GUTTER TRANSITION SEE DETAIL ON SHEET 5	–	–
31	NO. 7 JUNCTION BOX W/ EXTENSION	EA	2
32	2-3" PVC CONDUITS FOR FUTURE TRAFFIC SIGNAL	LF	320

GENERAL NOTES

1. FOR 64TH ST PROFILE – SEE SHEET 15.
2. FOR STORM DRAIN – SEE SHEET 21.
3. FOR MEDIAN ISLAND GEOMETRICS & DETAILS – SEE SHEET 6.
4. FOR CULVERT SEE SHEET 23.
5. FOR MAYO BOULEVARD IMPROVEMENTS – SEE SHEET 16.
6. FOR DRAINAGE CANNALS– SEE SHEET 21.

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

PAVING PLAN

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 45+00 TO 50+00

INIT.	DATE	DESIGN	DATE	CHK.	DATE	SHEET NO.	TOTAL SHEETS	AS BUILT
JMS	1/07	DRR	1/07	CDW	1/07	14	32	

SCALE: 1"=20' HORIZONTAL

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	QCD BY

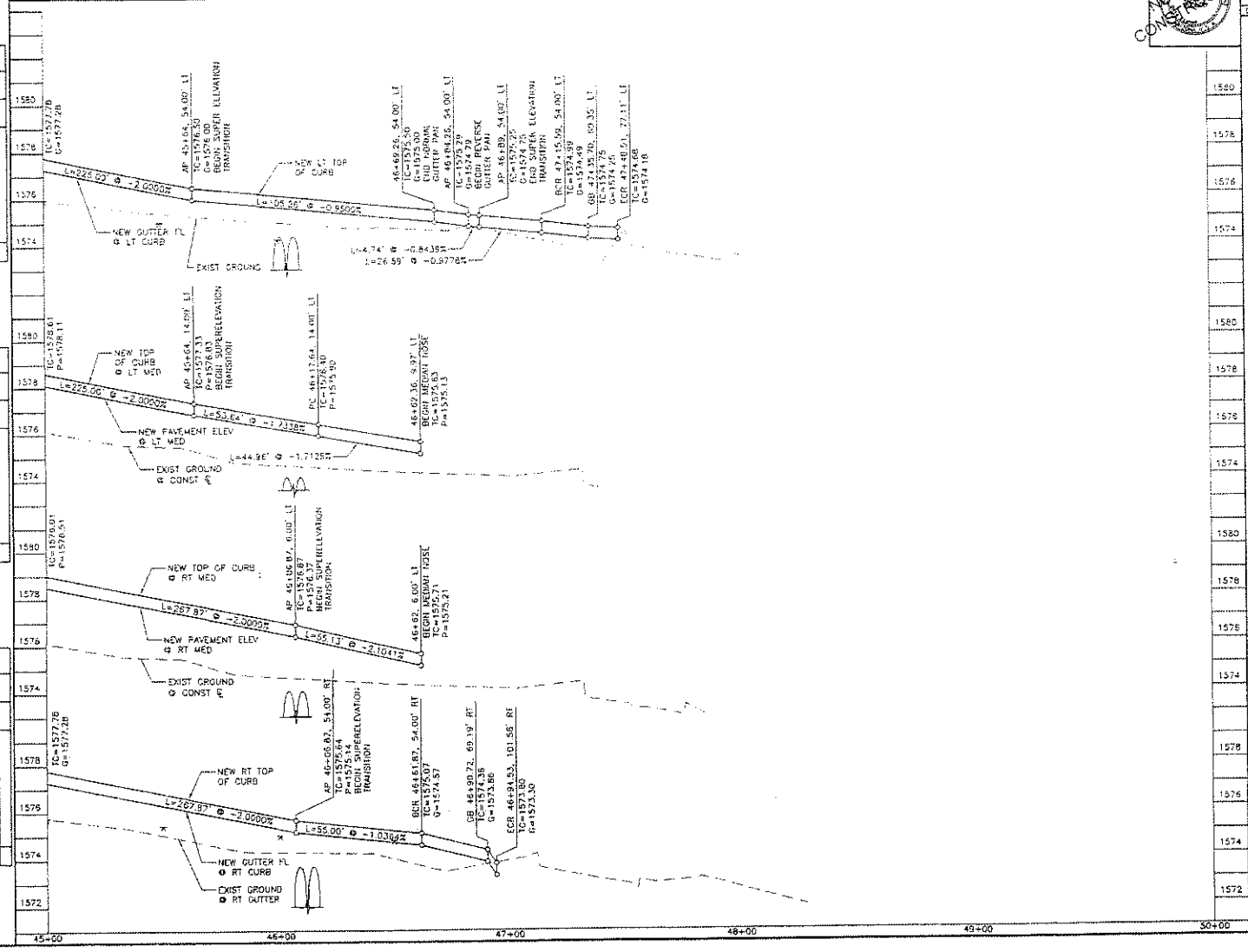
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	QCD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	QCD BY	DATE

64TH STREET
PHOENIX STREET - MARICOPA CO.
SR 101L TO MAYO BLVD



REVISION BY CITY OF PHOENIX

NO	DESCRIPTION	REV BY	EXP BY

REVISION BY CITY OF PHOENIX

NO	DESCRIPTION	REV BY	EXP BY	DATE

REVISION BY CITY OF PHOENIX

NO	DESCRIPTION	REV BY	EXP BY	DATE

F.H.W.A. REGION	STATE	PROJ. NO	NO	TOTAL	AS BUILT
9	ARIZ	STP-010(255)	15	32	

1/07
DATE
AZTEC
DRAWN JWS DESIGN DRR CHECKED CCW

NOT FOR CONSTRUCTION

602-265-1194
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4390, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

PAVING PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 45+00 TO 50+00

DR. JWS DATE 1/07	DS. DRR DATE 1/07	CK. CCW DATE 1/07	SHEET NO. 15	TOTAL SHEETS 32	AS BUILT

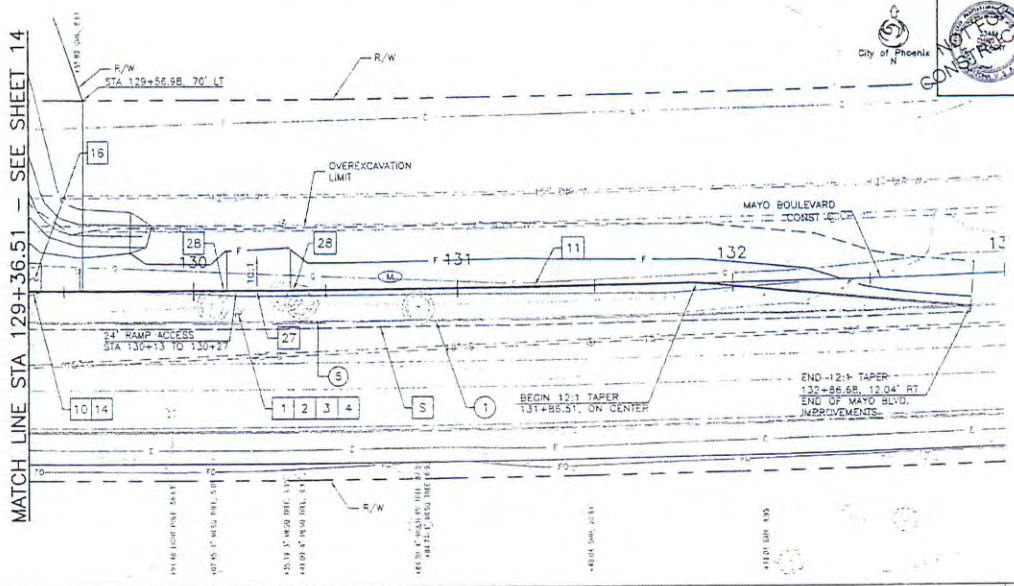
SCALE: 1"=20' HORIZONTAL, 1"=2' VERTICAL

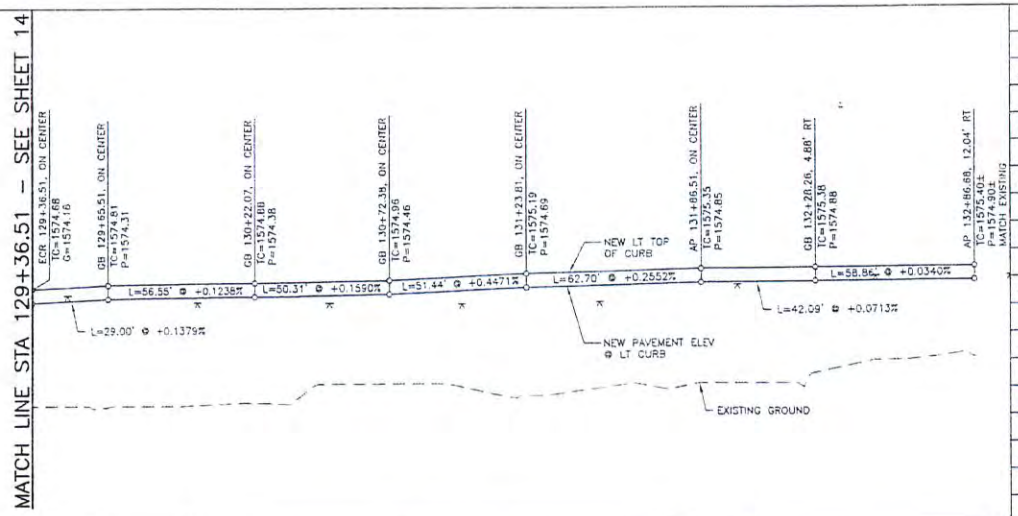
64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD

(V) CURVE DATA

PI STA 130+40.49
N= 966070.6216
E= 692040.1534

CONST ℄
Δ= 40°03'45" LT
D= 00°38'12"
R= 9000.00'
L= 6293.00'
T= 3281.29'
EXT= 579.50





F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STP-101-(255)	16	32	

DATE: 1/07 — AZTEC ENGINEERING GROUP, INC.

DRAWN: JMS | DESIGN: GRR | CHECKED: CDW

CONSTRUCTION NOTES

NO	DESCRIPTION	UNIT	QTY
1	SUBGRADE PREPARATION	SY	473
2	ASPHALT CONCRETE SURFACE COURSE, (D-1/2), 1 1/2" THICK	TON	40
3	ASPHALT CONCRETE BASE COURSE, (A-1 1/2), 6" THICK	TON	160
4	EMULSIFIED ASPHALT FOR TACK COAT, TYPE SS-1H	TON	0.4
10	CURB & GUTTER, TYPE A, M.A.G. DET 220, H=6"	LF	5
11	SINGLE CURB, TYPE A, M.A.G. DET 222, H=6"	LF	322
14	5' CURB TRANSITION, MAG DET 220, TYPE A, H=6" TO EXISTING SINGLE CURB	–	–
16	ASPHALT SIDEWALK RAMP	–	–
27	MOUNTABLE SINGLE CURB SEE DETAIL ON SHEET 5	LF	24
28	5' MOUNTABLE SINGLE CURB TRANSITION, SEE DETAIL ON SHEET 5	–	–

REMOVAL/RELOCATION NOTES

NO	DESCRIPTION	UNIT	QTY
1	REMOVE SINGLE CURB	LF	351
5	REMOVE PAVEMENT	SY	78

GENERAL NOTES

1. FOR DRAINAGE CHANNEL – SEE SHEET 21.

602-263-1100
1-800-STAKE-IT

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PAVING PLAN & PROFILE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 129+36.51 TO 132+86.68

DR. DATE: 1/07	JMS DES. DATE: 1/07	GRR DRR. DATE: 1/07	CDW CK. DATE: 1/07	SHEET NO	TOTAL SHEETS	AS BUILT
SCALE:	1"=20' HORIZONTAL 1"=2' VERTICAL			16	32	

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD

STORM DRAIN
ALTERNATE PIPE MATERIAL

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STR51002255	17	32	

1/07 DATE — AZTEC — DRAWN: KL DESIGN: DB/YMW CHECKED: WJC

CONSTRUCTION

MAIN LINE PIPE

STATION FROM	STATION TO	QUANTITY L.F.	PIPE DIAMETER R.C.P. (I.D.) IN.	PIPE DIAMETER HDPE *** (I.D.) IN.	PIPE DIAMETER CIPP & C.S.P. (I.D.) IN.	DEPTH TO TOP OF PIPE MIN. (FT.)	DEPTH TO TOP OF PIPE MAX. (FT.)	MAX TRENCH WIDTH AT TOP OF PIPE R.C.P. C.S.P. & HDPE *** FT.	REINFORCED CONCRETE PIPE ** MIN. D-LOAD (TO PRODUCE 0.01" CRACK)	CAST-IN-PLACE CONCRETE PIPE **** MINIMUM WALL THICKNESS IN.	CORRUGATED STEEL PIPES $2\frac{2}{3}$" x $\frac{1}{2}$" CORR. TYPE "F"* MIN. GAGE	CORRUGATED STEEL PIPES 3" x 1" CORR. TYPE "F"* MIN. GAGE

CONNECTOR PIPE

LOCATION STATION (LT. or RT.)	QUANTITY L.F.	DEPTH TO TOP OF PIPE MIN. (FT.)	DEPTH TO TOP OF PIPE MAX (FT.)	PIPE DIA. R.C.P., C.S.P., & HDPE *** (I.D.) IN.	R.C.P. ** MIN. D-LOAD (TO PRODUCE 0.01" CRACK)	C.S.P. $2\frac{2}{3}$" x $\frac{1}{2}$" CORR. ALUMINIZED TYPE "2" MIN. GAGE
42+99 LT	20	2.7	3.6	15	1750	
43+75 RT	22	3.4	3.7	15	1750	
45+93 LT	6	2.2	2.2	15	1750	
46+01 RT	6	2.6	2.7	15	1750	

GENERAL NOTES:

1. ONLY PIPE MATERIALS SPECIFIED ON THIS SHEET ARE ACCEPTABLE FOR THIS PROJECT.
2. WHERE MAXIMUM TRENCH WIDTH IS NOTED AS "UNRESTRICTED", PIPE STRENGTHS ARE SPECIFIED FOR A POSITIVE PROJECTING OR EMBANKMENT LOADING CONDITION. TRENCH WIDTH RESTRICTIONS FOR THE CAST-IN-PLACE CONCRETE PIPE OPERATION, SHALL COMPLY WITH SECTION 620.
3. CITY POLICY REQUIRES THAT CAST-IN-PLACE PIPE AND CORRUGATED STEEL PIPE MAINLINES BE UPSIZED A MINIMUM OF 6-INCHES GREATER DIAMETER THAN THE SPECIFIED REINFORCED CONCRETE PIPE DIAMETER. IF EITHER OF THESE OPTIONS ARE USED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESOLVING ANY UTILITY CONFLICTS ASSOCIATED WITH THE INCREASED PIPE DIAMETER. MINIMUM WALL THICKNESS FOR CAST-IN-PLACE PIPE SHALL BE 1/12 OF INSIDE DIAMETER PLUS ONE INCH, BASED ON THE UPSIZED DIAMETER.
4. A MINIMUM OF 14 GAUGE IS REQUIRED FOR ALL CSP BY CITY OF PHOENIX TO OBTAIN DESIGN LIFE REQUIREMENTS OF 75 YEARS TO FIRST PERFORATION.
5. WHERE NEW MAINLINE STORM DRAIN CONNECTION TO EXISTING MAINLINE SYSTEM IS REQUIRED, AND THE NEW MAINLINE IS LARGER THAN THE EXISTING, (SUCH AS NEW 6' OVERSIZED CIPP OR CSP CONNECTING TO EXISTING RCRCP), PIPE INVERTS SHALL BE MATCHED. IN ALL OTHER CASES, INSIDE TOP OF PIPE (CROWN) ELEVATIONS SHALL BE MATCHED.
6. MAX TRENCH WIDTH AT TOP OF PIPE SHALL BE BASED ON MAG PAY WIDTH ON PROJECTS WITH MINIMUM PAVEMENT REPLACEMENT ("PATCH"). ON PROJECTS WITH NEW FULL PAVEMENT (SUCH AS MAJOR ARTERIAL STREET CONSTRUCTION PROJECTS), THE MAX TRENCH WIDTH SHALL BE LABELED, "UNRESTRICTED".

* TYPE "F" – COATED AND CONCRETE LINED CSP
CITY OF PHOENIX SUPPLEMENT TO MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD SPECIFICATIONS.

** RUBBER GASKET PIPE REQUIRED FOR ALL REINFORCED CONCRETE PIPE

*** HIGH DENSITY POLYETHYLENE (HDPE), TYPE "S" WITH WATERTIGHT JOINTS PER AASHTO 252, AASHTO M294, MAG AND CITY SUPPLEMENTS TO MAG. JOINTS SHALL MEET ASTM D-3212 WATERTIGHT REQUIREMENT (10.8 psi). MAXIMUM DIAMETER ALLOWED = 48-INCH.

**** THE MINIMUM DIAMETER FOR CIPP IS 30 INCHES

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD BY	DATE

602-263-1100
1-800-STAKE-IT

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ALTERNATIVE PIPE TABLE

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD

DR. KL DATE 1/07	DESIGN DB/YMW DATE 1/07	AVERICK DATE 1/07	SUR. DATE 1/07	SHEET NO. 17	TOTAL SHEETS 32	AS BUILT

SCALE:

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD

STREET TRANSPORTATION STORM DRAIN DESIGN SUMMARY SHEET

FAHWA REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STP051002253	18	32	

DATE: 1/07
DRAWN: KL DESIGN: RB/AMM CHECKED: WJC

STORM DRAINAGE DESIGN DATA — PROJECT: 64th STREET — LOCATION: SR 101L TO MAYO BLVD

AREA NO.	INLET NO.	INLET STA.	AREA – ACRES: TOTAL AREA ACRES	C FACTOR	IMPROV. AREA CA	INFILTRATION In. / hr. f_i	FOR CONCENTRATION TIME: STREET SLOPE ft. / ft.	MAX. DIST.	T_c MIN.	INLET i	RUNOFF TO INLET Q = C.i.A.	AVERAGE UPSTREAM GUTTER SLOPE ft. / ft.	CROSS SLOPE AT INLET ft. / ft.	FLOWBY TO THIS CATCH BASIN	FLOW BY + RUNOFF (Q)	DEPTH OF WATER UPSTREAM GUTTER	WIDTH OF WATER IN STREET	GUTTER VELOCITY	DEPTH OF SUMP IF A SUMP	INLET TYPE	Q ACCEPTED BY C.S.	FLOWBY	INLET NO. TO	T_{c2} MAIN STORM DRAIN: TOTAL AREA (MPER)	T_c (MIN.)	MAIN STORM DRAIN: i	Q_2	SLOPE MAIN STORM DRAIN ft. / ft.	SIZE MAIN STORM DRAIN	VELOCITY MAIN STORM DRAIN f.p.s.	LENGTH MAIN STORM DRAIN	Δ T_{c2} MIN.	ELEVATION: CROWN INLET	CROWN OUTLET	HYDRAULIC GRADE LINE: S_f ft. / ft.	H_L ft.	ELEVATION INLET	ELEVATION OUTLET	HEAD DETWEEN 1.0' BELOW LIP GUTTER TO H.G. MAIN ft.	LENGTH CONN. PIPE ft.	DIA. CONN. PIPE in.	DEPTH CATCH BASIN ft.
1	1	43+00	1.32	0.95	1.25				10.0	3.01	3.77	0.0202	0.020	–	–	0.24	9.81	3.75	–	1569-1	3.12	0.65	3											1579.04	1577.87	0.025	1.54	1578.79	1577.21	1.57	20	15	4.0
2	2	43+75	1.33	0.95	1.26				10.0	3.01	3.80	0.0200	0.020	–	3.80	0.24	9.87	3.74	–	1569-1	3.14	0.66	4											1576.57	1576.37	0.009	0.22	1576.26	1576.04	2.53	22	15	5.0
3	3	45+93	0.32	0.95	0.30				10.0	3.01	0.90	0.0095	0.010	0.65	1.59	0.20	7.57	2.29	–	1569-1	1.55	–	–											1573.89	1573.81	0.009	0.17	1573.40	1573.23	1.88	6	15	3.6
4	4	48+01	0.31	0.95	0.29				10.0	3.01	0.88	0.0200	0.020	0.66	1.54	0.18	6.79	3.06	–	1569-1	1.34	–	–											1573.01	1572.93	0.009	0.17	1572.53	1572.36	1.75	6	15	4.0

SEE TIME OF CONCENTRATION COMPUTATIONS IN APPENDIX OF DRAINAGE REPORT

COMPUTATIONS PERFORMED INTERNALLY IN STORM CAD MODEL

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

"PER CITY OF PHOENIX ORDINANCE G-4368, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

STORM DRAIN DESIGN SUMMARY

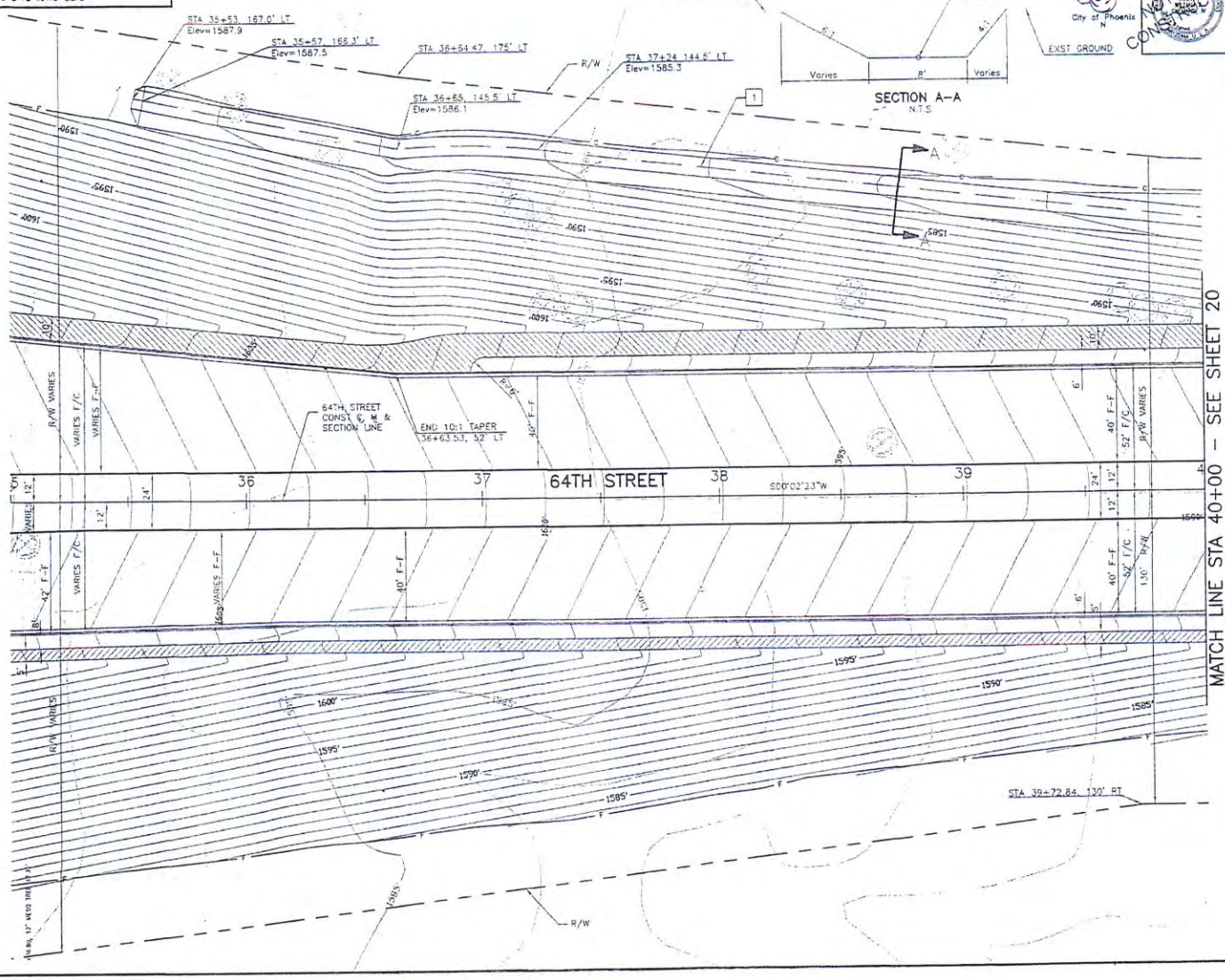
CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD

DR.	KL	DES.	RB/AMM	CK.	WJC	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE:	1/07	DATE:	1/07	DATE:	1/07	18	32	

SCALE:

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD



F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STBG100255	19	32	

1/07
DATE

AZTEC
DRAWN: KL | DESIGN: DB/VWK | CHECKED: WJC

DITCH CONTRUCTION NOTES

NO	DESCRIPTION	QTY (LF)
1	PER DTL A-A	453

NOTES
SEE PAVING PLAN SHEET 10

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

DRAINAGE PLAN

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 35+00 TO 40+00

DR: KL	DES: DB/VWK	CK: WJC	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE: 1/07	DATE: 1/07	DATE: 1/07			
SCALE: 1"=20' HORIZONTAL			19	32	

REVISION BY CITY OF PHOENIX

NO	DESCRIPTION	REV BY	CKD BY	DATE

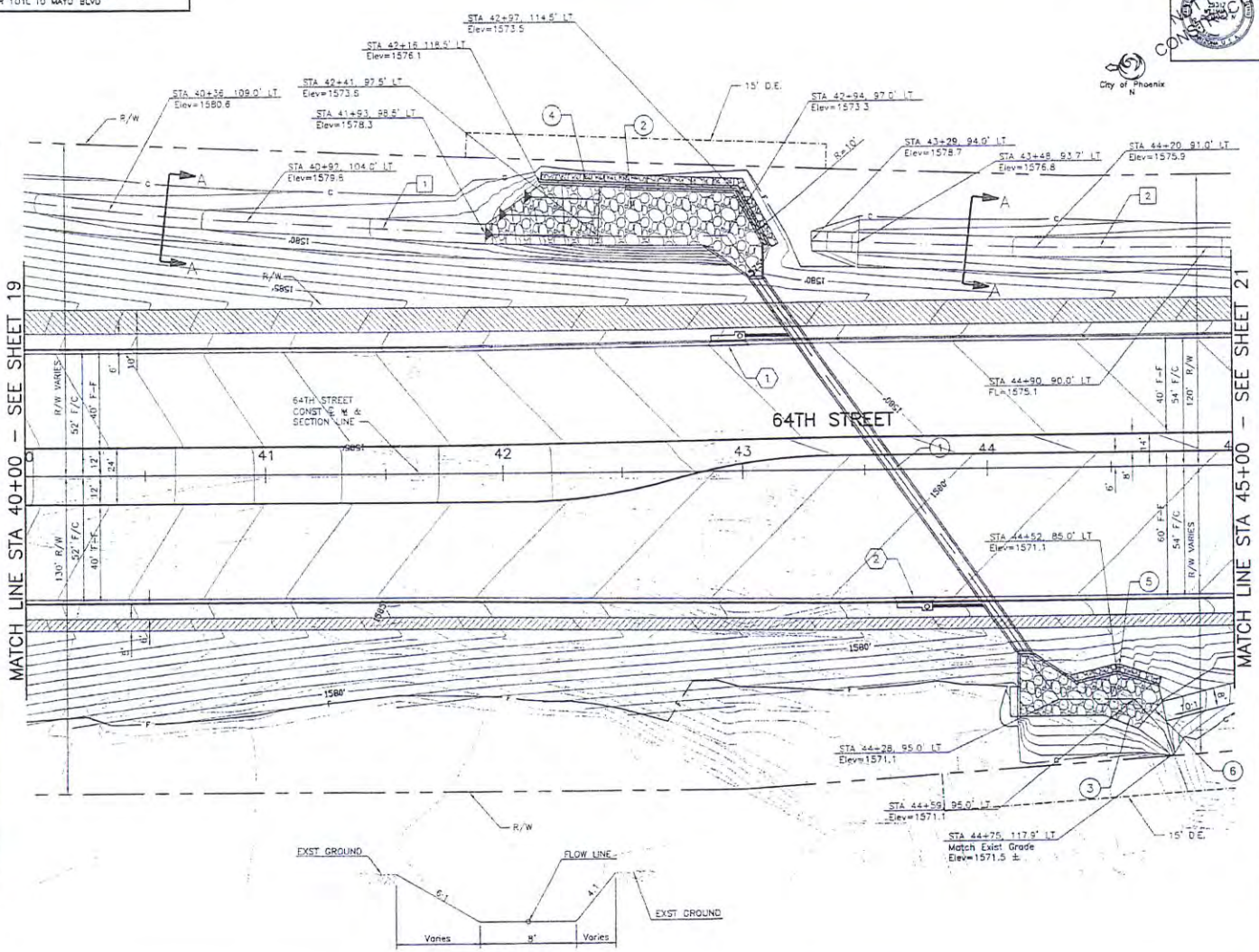
REVISION BY CITY OF PHOENIX

NO	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO	DESCRIPTION	REV BY	CKD BY	DATE

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD



F.H.W.A. REGION	STATE	PROJ NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STBG100235	20	32	

1/07
DATE

AZTEC

DRAWN: KL DESIGN: DB/WW CHECKED: WJC

CATCH BASIN & CONNECTOR PIPES

NO	INLET STA.	INLET TYPE	CONNECTION TYPE	PIPE SIZE	PIPE LF
1	42+99.31	W=1, L=10 C.O.P. DET P-1569-1	SEE DETAIL ON SHT 28	15"	20
2	43+75.00	W=1, L=10 C.O.P. DET P-1569-1	SEE DETAIL ON SHT 28	15"	22

BOX CULVERTS

NO	CULVERT LOCATION	SIZE
1	STA 43+05.84, 80.21' LT IE=1573.20 TO STA 44+15.25, 76.05' RT IE=1571.10	4' X 6' 191 L.F.

GABION MATTRESS

NO	DESCRIPTION	QTY (SY)
2	1' THICK	282
3	1' THICK	111

2'X3' GABION BASKETS

NO	DESCRIPTION	QTY (LF)
4	PER DRAINAGE DTL ON SHT 26	460
5	PER DRAINAGE DTL ON SHT 27	76

3'X3' GABION BASKETS

	DESCRIPTION	QTY (LF)
6	PER DRAINAGE DTL ON SHT 26	15

DITCH CONTRUCTION NOTES

NO	DESCRIPTION	QTY (LF)
1	PER DTL A–A	315
2	PER DTL A–A	162

NOTES
SEE PAVING PLAN SHEET 12
SEE CONNECTOR PIPE PROFILE SHEET 24
SEE CULVERT PLAN AND PROFILE SHEET 22
SEE GABION MATTRESS DETAIL SHEETS 26 & 27

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4395, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

DRAINAGE PLAN

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 40+00 TO 45+00

DR: KL DATE: 1/07	DES: DB/WW/MK DATE: 1/07	CK: WJC DATE: 1/07	SHEET NO. 20	TOTAL SHEETS 32	AS BUILT

SCALE: 1"=20' HORIZONTAL

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

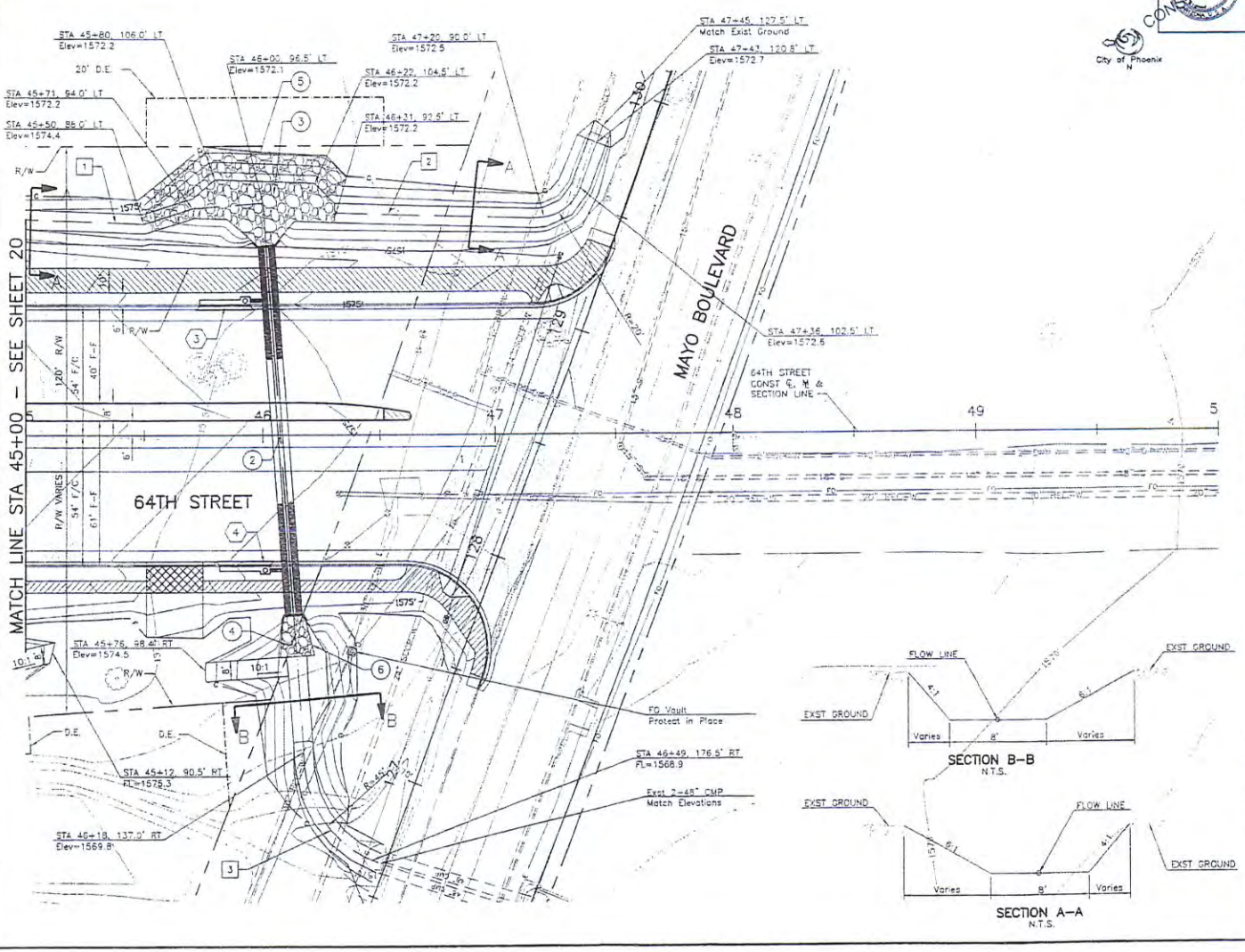
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD



FHWA REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STBG-100(255	21	32	

1/07
DATE

AZTEC

DRAWN KL | DESIGN DB/VMW | CHECKED WJC

CATCH BASIN & CONNECTOR PIPES

NO	INLET STA.	INLET TYPE	CONNECTION TYPE	PIPE SIZE	PIPE LF
3	45+92.78	W=1, L=17 C.O.P. DET P=1569-1	30"x30"x15" TEE	15"	6
4	46+01.14	W=1, L=17 C.O.P. DET P=1569-1	30"x30"x15" TEE	15"	8

PIPE CULVERTS

NO	CULVERT LOCATION	SIZE
2	STA 46+01.71, 78.80' LT* IE=1572.10 TO STA 46+13.17, 75.30' RT IE=1570.90 *LOCATED MIDDLE OF DOUBLE INSTALLATION	2-30" 155 L.F.

GABION MATTRESS

NO	DESCRIPTION	QTY (SY)
3	1' THICK	120
4	1' THICK	22

GABION BASKETS

NO	DESCRIPTION	QTY (LF)
5	PER DRAINAGE DTL ON SHT 27	70
6	PER DRAINAGE DTL ON SHT 26	15

DITCH CONTRUCTION NOTES

NO	DESCRIPTION	QTY (LF)
1	PER DTL A-A	119
2	PER DTL A-A	135
3	PER DTL B-B	115

NOTES
SEE PAVING PLAN SHEET 14
SEE CONNECTOR PIPE PROFILE SHEET 25
SEE CULVERT PLAN AND PROFILE SHEET 23
SEE GABION MATTRESS DETAIL SHEETS 26 & 27

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4386, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

DRAINAGE PLAN

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 45+00 TO 50+00

CK.	PL	HDR/DB/VMW/CK	WJC	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE 1/97	DATE 1/07	DATE 1/07	DATE 1/07			
SCALE 1"=20' HORIZONTAL				21	32	

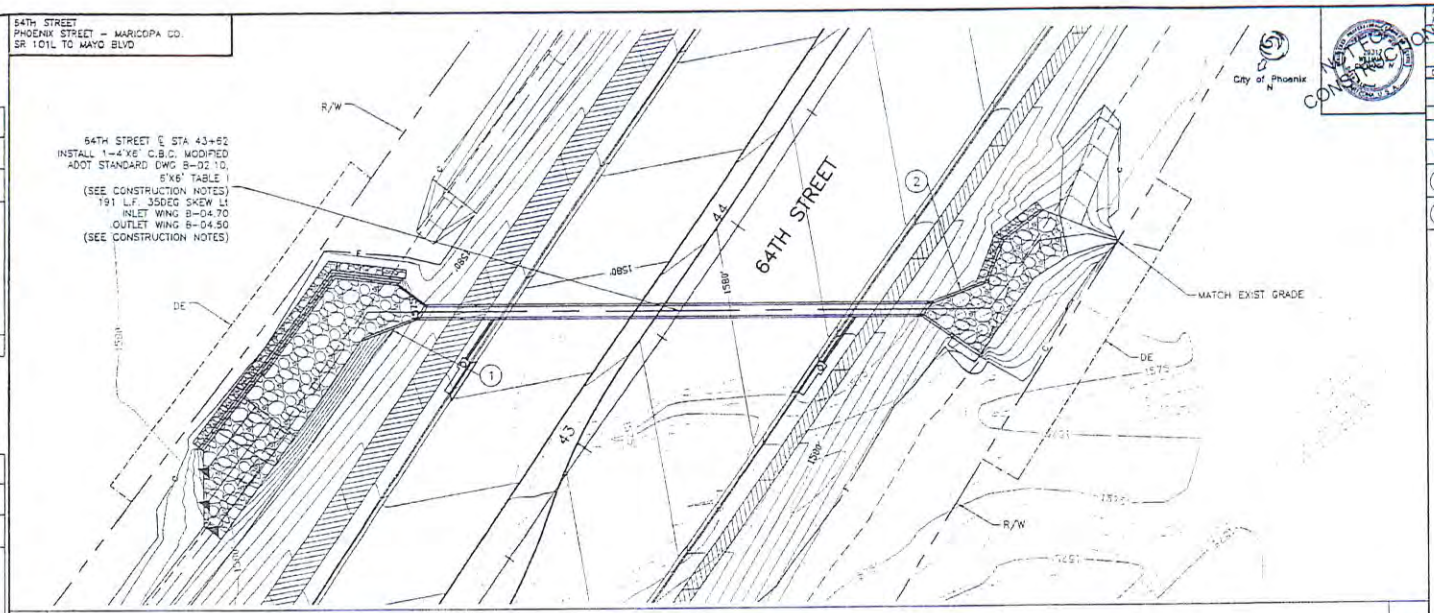
REVISION BY CITY OF PHOENIX
NO | DESCRIPTION | REV BY | CKD BY | DATE

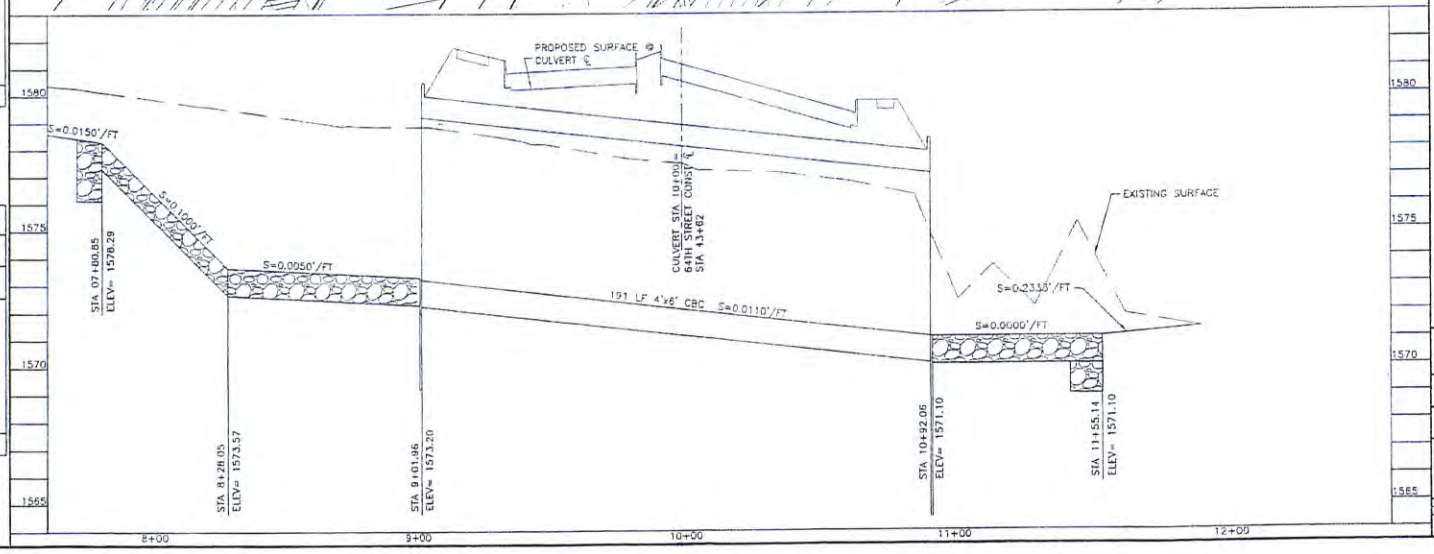
REVISION BY CITY OF PHOENIX
NO | DESCRIPTION | REV BY | CKD BY | DATE

REVISION BY CITY OF PHOENIX
NO | DESCRIPTION | REV BY | CKD BY | DATE

NOT FOR CONSTRUCTION

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD





F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STR-100258	22	32	

1/07
DATE:

AZTEC

DRAWN	KL	DESIGN	DB/VWW	CHECKED	WJC

NOT FOR CONSTRUCTION

CONSTRUCTION NOTES

WING WALL CONSTRUCTION

NO	DESCRIPTION	QTY (CY)
1	ADOT STD DWG B-04.70	14
2	ADOT STD DWG B-04.50	19

CULVERT:

1) CONTRACTOR SHALL CONSTRUCT A SINGLE BARREL BOX CULVERT PER ADOT STANDARD B-2.10 TABLE I, H=6' WITH THE FOLLOWING MODIFICATIONS:

   a) DIMENSION S=4'

   b) ee BAR LENGTH = 5'-2"

   c) #4 gg BARS SHALL BE REDUCED TO 14 TOTAL IN CROSS SECTION

2) NO MODIFICATIONS TO WINGWALLS REQUIRED

ELEVATIONS OF UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR IS TO VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

NOTES
SEE PAVING PLAN SHEET 12
SEE CONNECTOR PIPE PROFILE SHEET 24

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

CULVERT PLAN

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 40+00 TO 45+00

NO.	DATE	DESIGN/VWW/DB	DATE 1/07	WJC	DATE 1/07	SHEET NO.	TOTAL SHEETS	AS BUILT
		SCALE:	1"=20' HORIZONTAL 1"=2' VERTICAL			22	32	

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

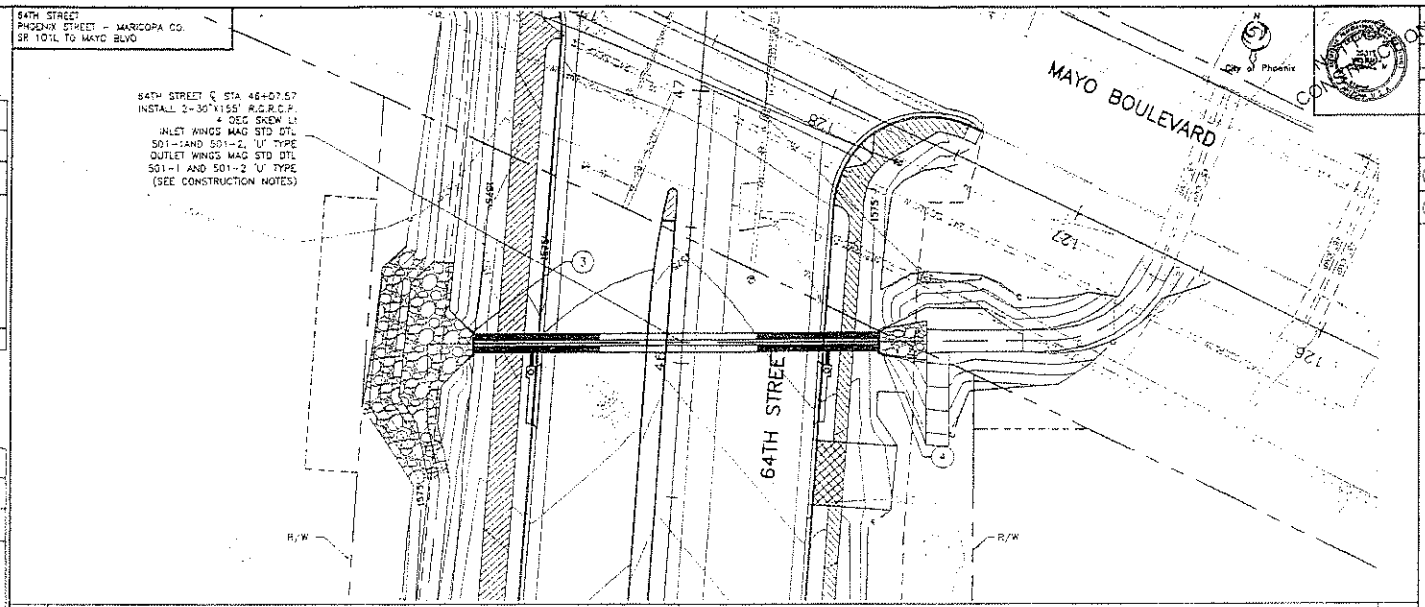
NO.	DESCRIPTION	REV BY	CKD BY	DATE

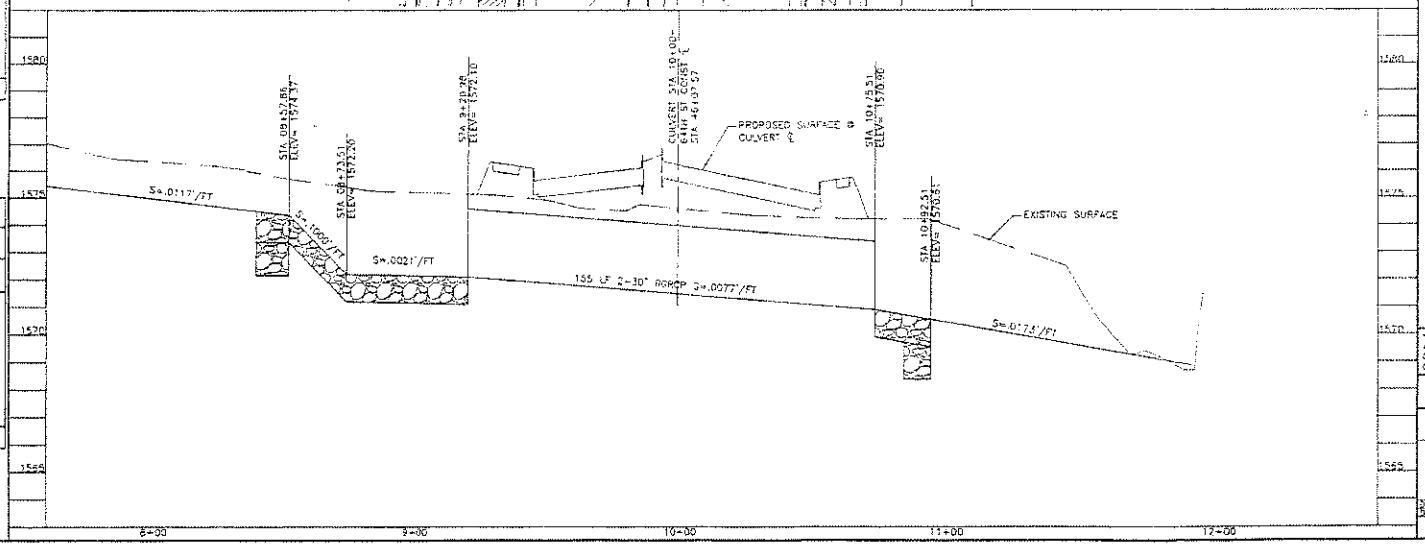
REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

64TH STREET
PHOENIX STREET - MARICOPA CO.
SR 101L TO MAYO BLVD

64TH STREET ℄ STA 46+07.57
INSTALL 2-30"X155' R.C.R.C.P.
4 DEG SKEW L
INLET WINGS MAG STD DTL
501-1 AND 501-2, 'U' TYPE
OUTLET WINGS MAG STD DTL
501-1 AND 501-2 'U' TYPE
(SEE CONSTRUCTION NOTES)





REVISION BY CITY OF PHOENIX

NO	DESCRIPTION	REV BY	CKD BY

REVISION BY CITY OF PHOENIX

NO	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO	DESCRIPTION	REV BY	CKD BY	DATE

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ	STP-STP-100-B(235)	23	32	

1/07
DATE

AZTEC

DRAWN VL | DESIGN GB/VMM | CHECKED | W.C.

WING WALL CONSTRUCTION

NO	DESCRIPTION	QTY (EA)
3	MSD 501-1/ 501-2 ("U" TYPE)	1
4	MSD 501-1/ 501-2 ("U" TYPE)	1

ELEVATIONS OF UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR IS TO VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

NOTES
SEE PAVING PLAN SHEET 14
SEE CONNECTOR PIPE PROFILE SHEET 25

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4396, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

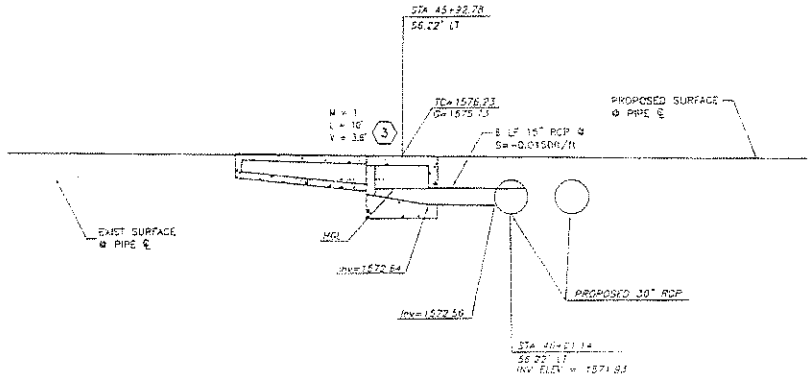
CULVERT PLAN

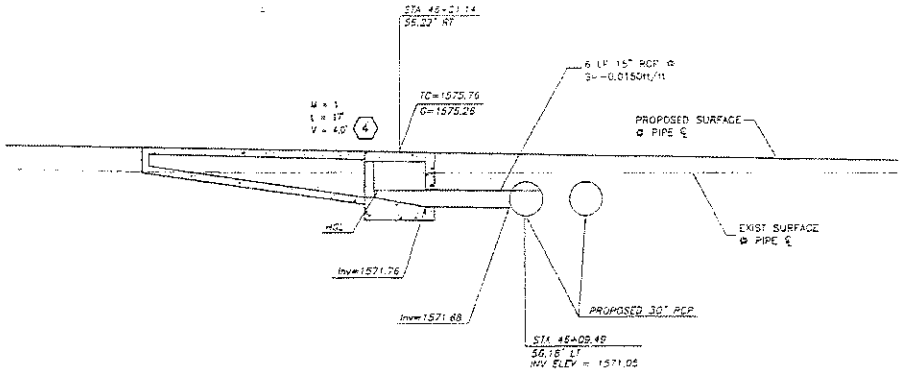
CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 45+00 TO 50+00

DESIGN	DRAWN	CHECKED	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE 1/07	DATE 1/07	DATE 1/07			
SCALE: 1"=20' HORIZONTAL, 1"=2' VERTICAL			23	32	

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD





REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV BY	CKD BY	DATE

NOT FOR CONSTRUCTION

T.M.M.A. DESIGN	STATE	PROJ. NO	NO	TOTAL	AS BUILT
0	ARIZ	STP-010-(224)	25	32	

AZTEC

1/97
DATE
DRAWN KG DESIGN DH/AWW CHECKED WJC

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE S-4398, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

PIPE CONNECTOR SHEET

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD

DR.	PL.	CHECKED	ENG.	SHEET NO	TOTAL SHEETS	AS BUILT
DATE 1/97	DATE 1/97	DATE 1/97	DATE 1/97			
SCALE 1"=4' HORIZONTAL 1"=4' VERTICAL				25	32	

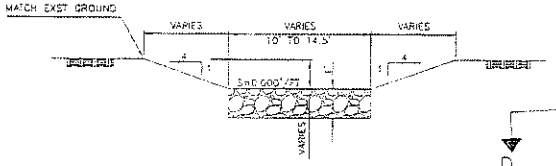
K:\Phoenix\Projects\05089-CDR\CADD\Sheets\Phoenix\C5089P0002.dwg

64TH STREET
PHOENIX, STREET – MARICOPA CO
SR 101L TO MAYO BLVD

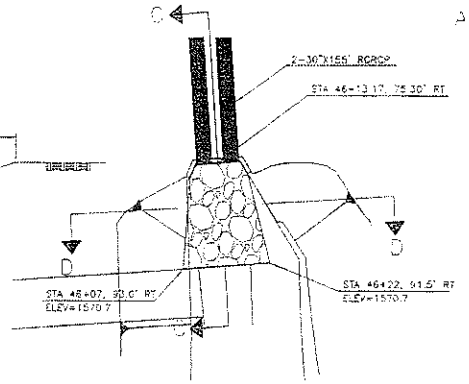
F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
9	ARIZ.	STBG-100235	26	32	

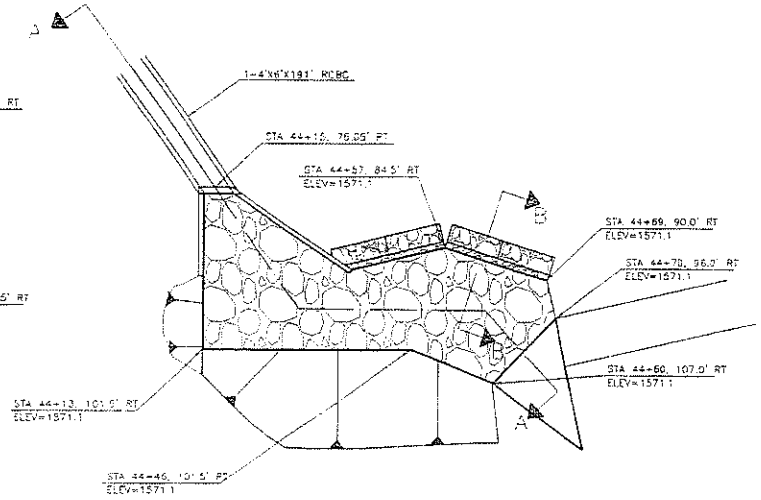
7/07
DATE
DRAWN KL DESIGN GB/VAK CHECKED WJC

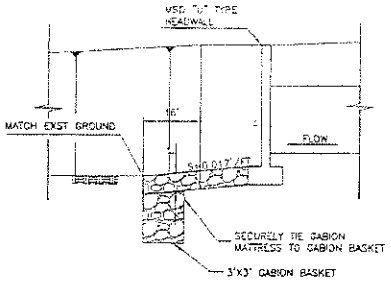
AZTEC



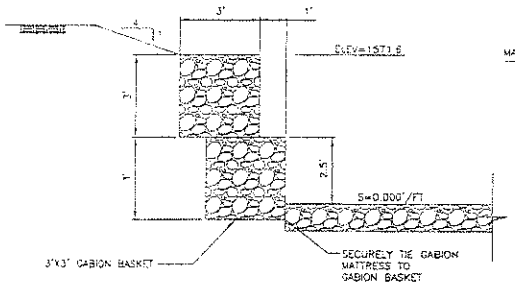
SECTION D–D
N.T.S.



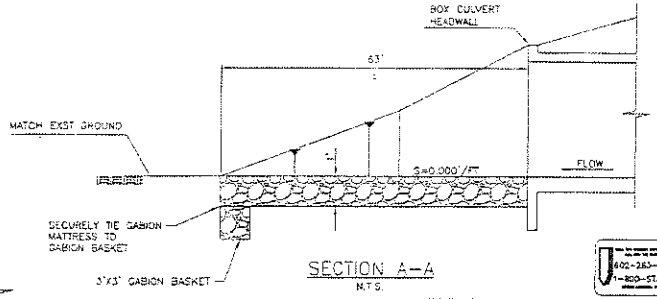




SECTION C–C
N.T.S.



SECTION B–B
N.T.S.



SECTION A–A
N.T.S.

NOTES:

1. STATIONS AND OFFSETS ARE BASED ON 64TH STREET CONSTRUCTION ℄
2. THE GEOMETRIC SHAPE OF THE APRON MAY BE WARPED TO MATCH THE EXISTING WASH.

CULVERT OUTLET RIPRAP DETAIL
N.T.S.

602-263-1100
1-800-STAKE-IT

"PER CITY OF PHOENIX ORDINANCE G-4386, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF YOUR CONTRACT WITH THE CITY OF PHOENIX."

DRAINAGE DETAILS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD

NO.	DATE	REVISION/COMMENT	BY	NO.	DATE	REVISION/COMMENT	BY	NO.	DATE	REVISION/COMMENT	BY

SCALE:	SHEET NO.	TOTAL SHEETS	AS BUILT
NONE	26	32	

REVISION BY CITY OF PHOENIX
NO. DESCRIPTION REV. BY CHD. BY DATE

REVISION BY CITY OF PHOENIX
NO. DESCRIPTION REV. BY CHD. BY DATE

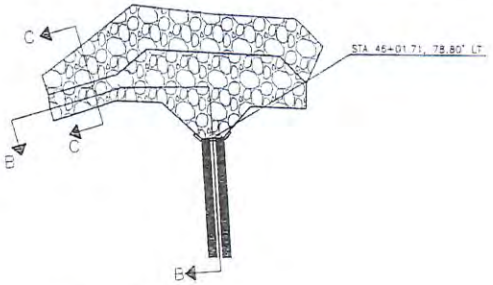
REVISION BY CITY OF PHOENIX
NO. DESCRIPTION REV. BY CHD. BY DATE

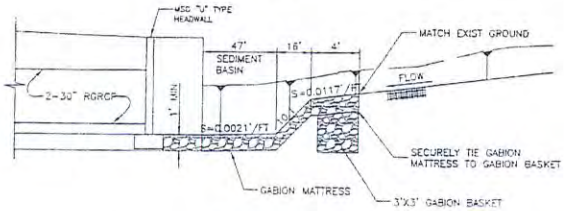
NOT FOR CONSTRUCTION

PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD

NOTES:

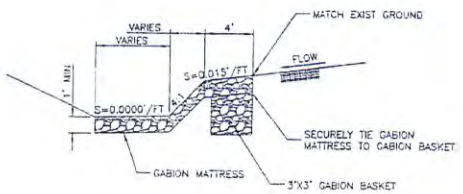
1. ALIGN BASIN WITHIN EXISTING WASH SO THAT THE WASH DISCHARGES INTO THE SEDIMENT BASIN AND THE UPSTREAM EDGE OF THE APRON IS PERPENDICULAR TO THE FLOW LINE OF THE EXISTING WASH.
2. WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL. TOP OF MATTRESS IN FLOOR OF BASIN SHOULD BE LOWER THAN NATURAL CHANNEL BOTTOM.
3. REFER TO MAG DETAIL 555 FOR FRAME WIRE REQUIREMENTS AND ASSEMBLING.
4. STATIONS AND OFFSETS ARE BASED ON 64TH ST CONSTRUCTION ℄.



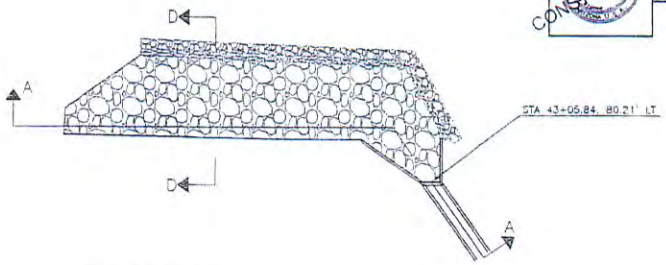


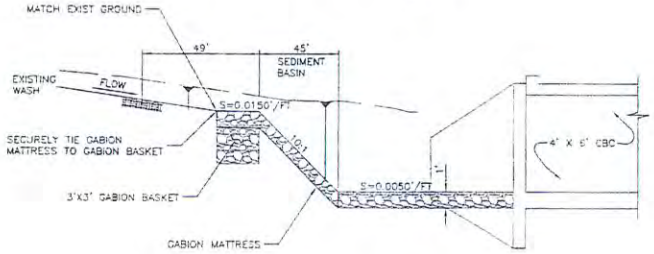
SECTION B–B
N.T.S.

GABION MATTRESS – SEDIMENT BASIN DETAIL
NTS

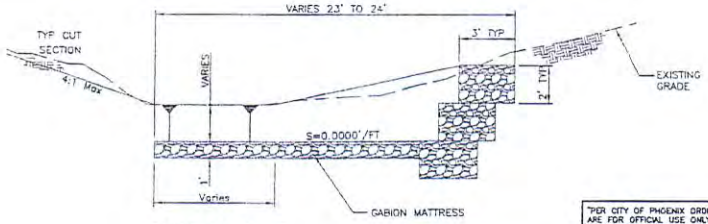


SECTION C–C
N.T.S.





SECTION A–A
N.T.S.



SECTION D–D
N.T.S.

CULVERT INLET RIPRAP DETAIL
N.T.S.

F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUI
9	ARIZ	STBG100253	27	32	

1/07 DATE: AZTEC
DRAWN: KL | DESIGN: DB/WW | CHECKED: WJC

NOT FOR CONSTRUCTION

602-263-1100
1-800-STAKE-IT

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DRAINAGE DETAILS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD

DR. KL DATE: 1/07	DES. DB/WW DATE: 1/07	CK. WJC DATE: 1/07	SHEET NO.	TOTAL SHEETS	AS BUILT
SCALE: NONE			27	32	

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD. BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD. BY	DATE

REVISION BY CITY OF PHOENIX

NO.	DESCRIPTION	REV. BY	CKD. BY	DATE

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD

NOT FOR CONSTRUCTION

F.H.W.A. REGION	STATE	PROJ NO	NO	TOTAL	AS BUILT
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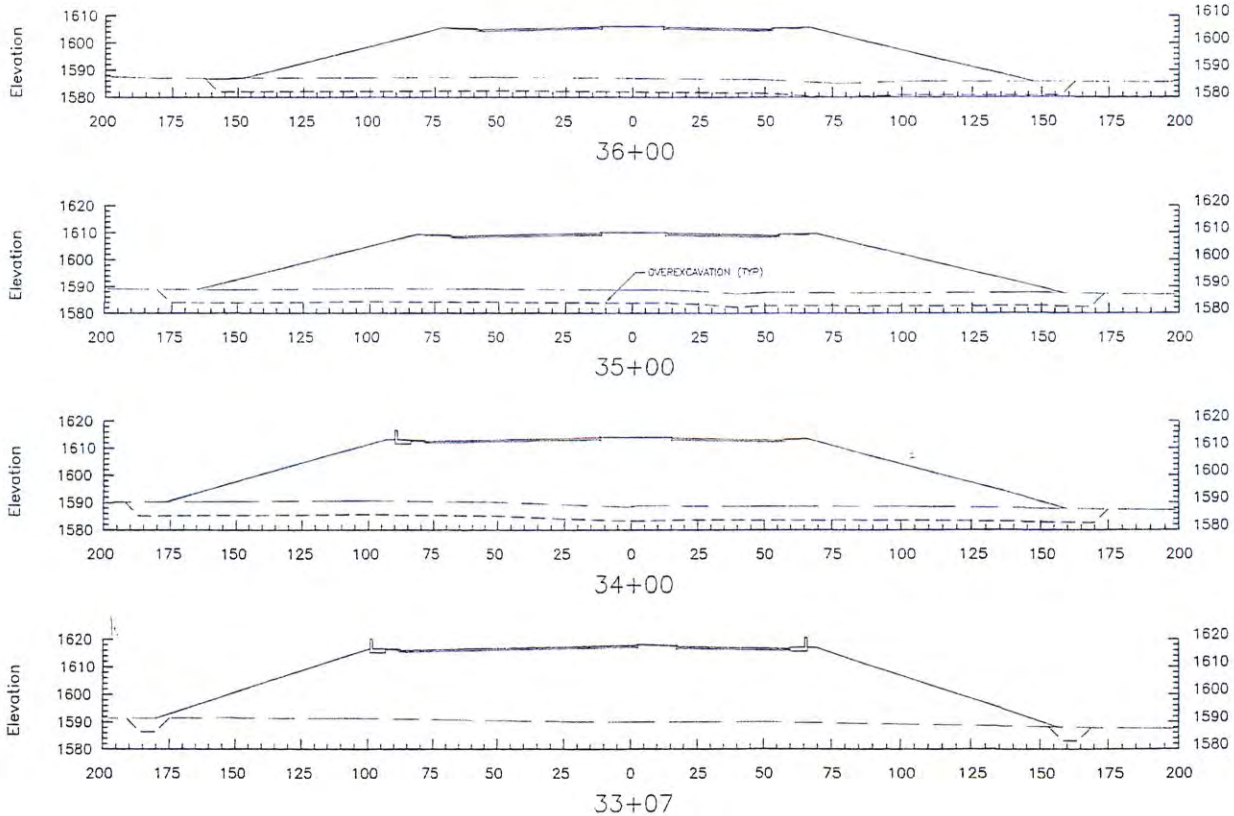
1/07 DATE: AZTEC

DRAWN: JMS DESIGN: DRR CHECKED: CDW



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REVISION BY CITY OF PHOENIX

NO	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

DESCRIPTION	REV BY	CKD BY	DATE

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64TH ST CROSS SECTIONS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 33+07 TO 36+00

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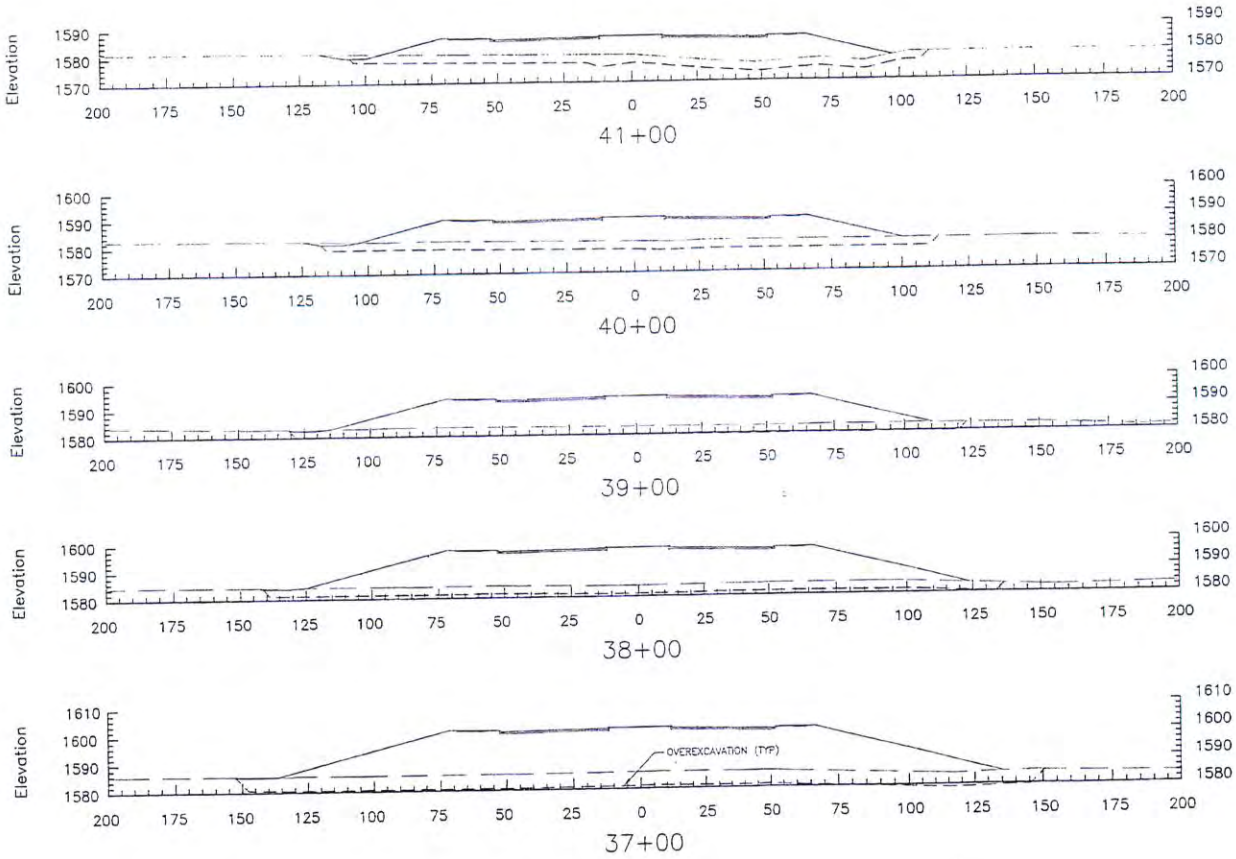
64TH STREET
PHOENIX STREET - MARICOPA CO.
SR 101L TO MAYO BLVD



F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL	AS BUILT
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1/07
DATE

AZTEC

DRAWN: JMS | DESIGN: DRR | CHECKED: CDW

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64TH ST CROSS SECTIONS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 37+00 TO 41+00

DR: JMS DATE: 1/07	DES: DRR DATE: 1/07	CK: CDW DATE: 1/07	SHEET NO.	TOTAL SHEETS	AS BUILT
SCALE: 1"=20' HORIZONTAL 1"=2' VERTICAL			30	32	

REVISION BY CITY OF PHOENIX

NO	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX

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REVISION BY CITY OF PHOENIX

DESCRIPTION	REV BY	CKD BY	DATE

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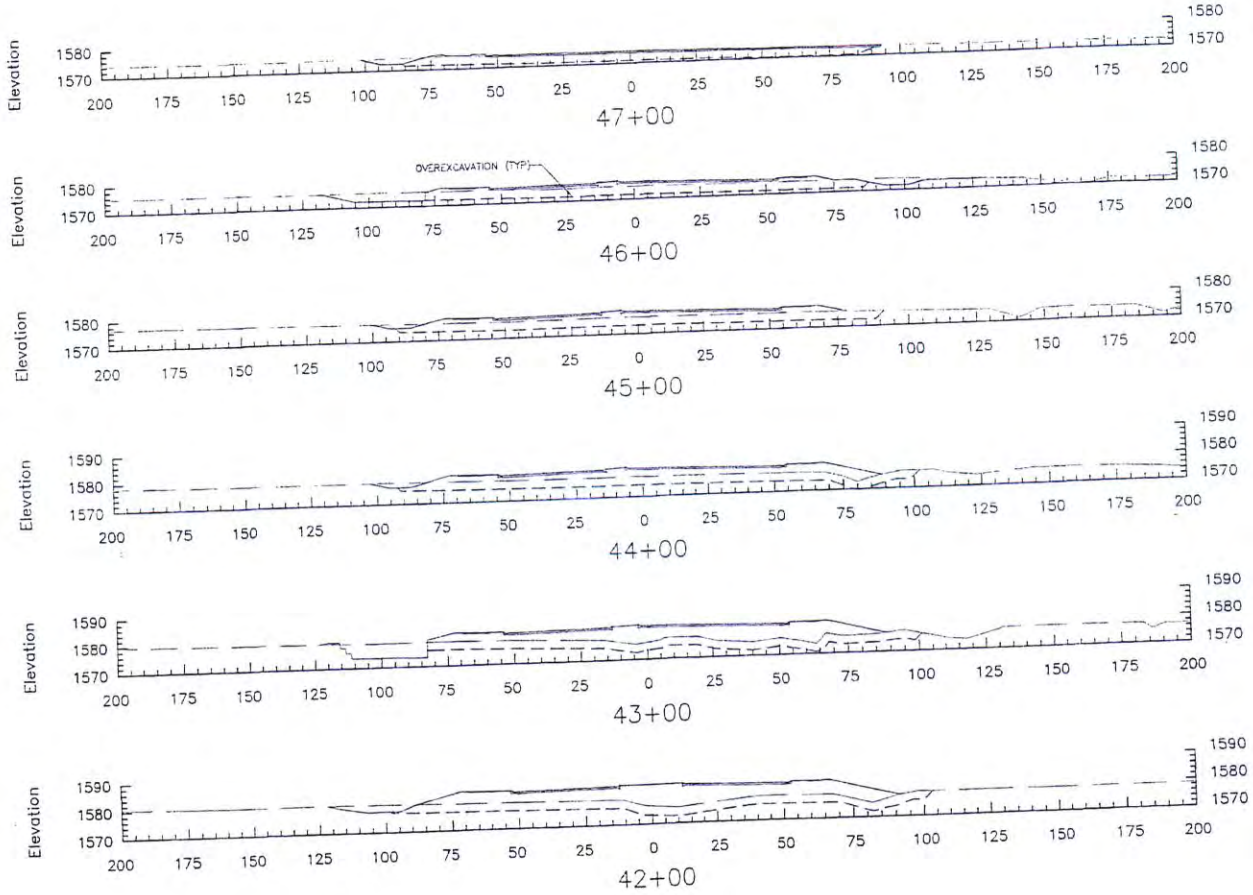
64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD



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REVISION BY CITY OF PHOENIX				
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REVISION BY CITY OF PHOENIX				
NO.	DESCRIPTION	REV BY	CKD BY	DATE

9	ARIZ	2785190235	31	32	
1/07 DATE		AZTEC			
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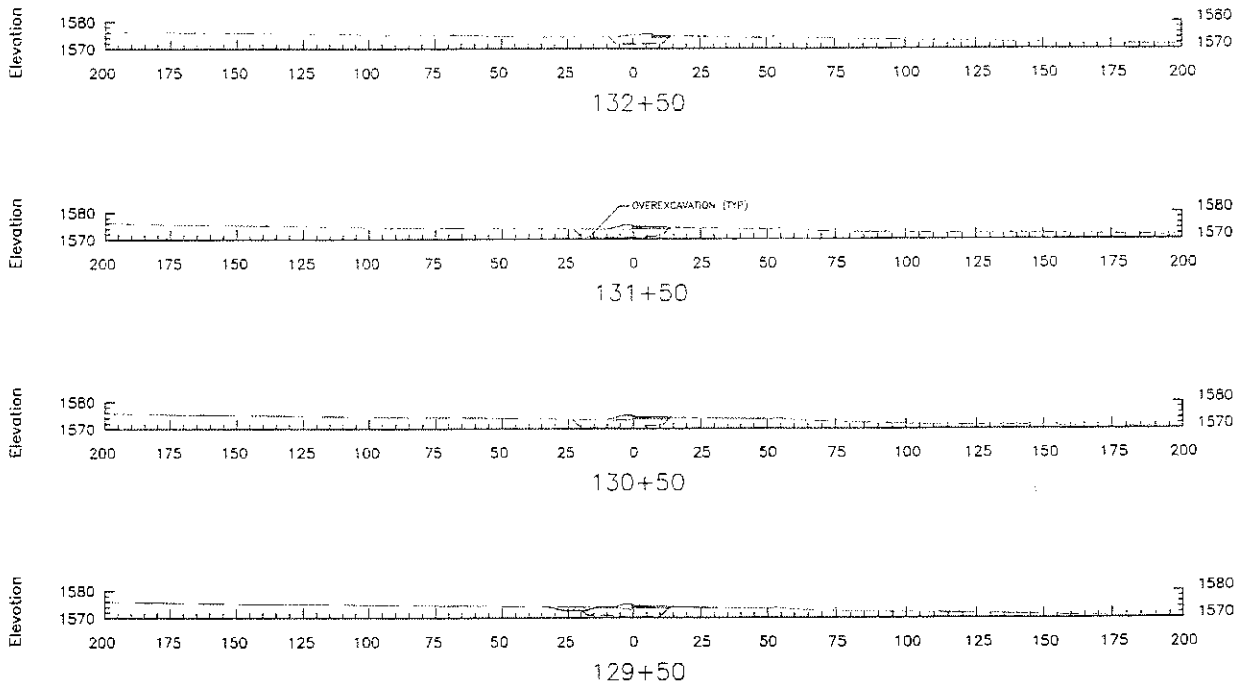
64TH ST CROSS SECTIONS

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 42+00 TO 47+00

DR. JMS	DES. DKH	CK. CCM	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE 1/07	DATE 1/07	DATE 1/07			
SCALE: 1"=20' HORIZONTAL 1"=2' VERTICAL			31	32	

64TH STREET
PHOENIX STREET – MARICOPA CO.
SR 101L TO MAYO BLVD



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REVISION BY CITY OF PHOENIX			
NO.	DESCRIPTION	REV BY	CKD BY	DATE

REVISION BY CITY OF PHOENIX			
NO.	DESCRIPTION	REV BY	CKD BY	DATE

NOT FOR CONSTRUCTION

F.H.W.A. REGION	STATE	PROJ NO	NO	TOTAL	AS BUILT
9	ARIZ	STP-010-(22)	32	32	

1/07
DATE
AZTEC
DRAWN JWS DESIGN DRP CHECKED DOW

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MAYO BLVD CROSS SECTION

CITY OF PHOENIX, ARIZONA
STREET TRANSPORTATION DEPARTMENT

64TH STREET
SR 101L TO MAYO BLVD
STA 129+50 TO 132+50

DR.	DES.	DES.	CK.	DOW	SHEET
DATE 1/07	DATE 1/07	DATE 1/07	DATE 1/07		NO.

SCALE 1"=20' HORIZONTAL
1"=2' VERTICAL

APPENDIX D.6:
MASTER DRAINAGE REPORT FOR PARADISE RIDGE PCD FS6 (FORMERLY 64TH & MAYO)

HILGARTWILSON
ENGINEER | PLAN | SURVEY | MANAGE

MASTER DRAINAGE REPORT
FOR
PARADISE RIDGE PCD FS6

(FORMERLY 64TH AND MAYO)

PHOENIX, ARIZONA

Prepared For:
D·R·HORTON
America's Builder
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Phoenix, AZ 85027
Phone: (480) 483-0006

Prepared By:
HILGARTWILSON, LLC
2141 E. Highland Avenue, Suite 250
Phoenix, AZ 85016
Phone: (602) 490-0535
Fax: (602) 368-2436

KIVA: 16-1496
MPLN: 160019

Registered Professional Engineer (Civil)
CERTIFICATE NO.
59301
BRIAN
BROCKMAN
DATE SIGNED 2/24/17
ARIZONA U.S.A.
Expires: 3/31/18

February 2017 (Rev. 3)
HILGARTWILSON Project No. 1710

HILGARTWILSON
ENGINEER | PLAN | SURVEY | MANAGE

Prepared For:

D.R. Horton
20410 N. 19th Avenue, Suite 100
Phoenix, AZ 85027

Date

Prepared and Submitted By:

2/24/17

HILGARTWILSON
2141 E Highland Avenue, Suite 250
Phoenix, AZ 85016
Contact: Brian Brockman, P.E.

Date

City of Phoenix Approvals:

Planning and Development Director

Date

HILGARTWILSON
ENGINEER | PLAN | SURVEY | MANAGE

Registered Professional Engineer (Civil)
CERTIFICATE NO.
59301
BRIAN
BROCKMAN
DATE SIGNED 2/24/17
ARIZONA U.S.A.
Expires: 3/31/18

MASTER DRAINAGE REPORT
FOR
PARADISE RIDGE PCD FS6

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MASTER DRAINAGE REPORT
FOR
PARADISE RIDGE PCD FS6

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Registered Professional Engineer (Civil)
CERTIFICATE NO.
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BROCKMAN
DATE SIGNED 3/21/13
ARIZONA U.S.A.
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Zone AO:

The flood insurance rate zone that corresponds to areas subject to inundation by 1-percent annual chance (100-year storm event) shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown in this zone.

2.0 PREVIOUS DRAINAGE STUDIES

This section discusses previous hydrology studies detailing the site and surrounding areas impacting the Project, which are used in this drainage report's hydrologic analysis.

2.1 ASLD Desert Ridge, Paradise Ridge, and Azara Infrastructure Masterplan

In June 2008, the ASLD prepared the *Desert Ridge, Paradise Ridge, and Azara Infrastructure Masterplan* summary figures and tables (ASLD 2008) which provided an overview of the various aspects of the PCDs infrastructure including; land use, water, waste water, roadway, and wash corridor plans. The Wash Corridor Plan figure and tables summarized the 404 washes throughout the development, which were referenced from drainage studies published by Robert L. Ward (Ward). Since 1995, Ward has produced numerous drainage studies for the Desert Ridge, Paradise Ridge and Azara developments, hydrologically modeling the existing and developed conditions. Much of the existing drainage infrastructure that has already been constructed was designed to accommodate flows determined by Ward, including the eastern reconstructed 404 wash corridor through the Project which was originally designed to handle 5,500 cubic feet per second (cfs) and a 180-foot wide corridor to the west of the property designed to accommodate 2,153 cfs. Excerpts from the ASLD 2008 Infrastructure Masterplan detailing the reported flows are included in Appendix B.

2.2 FCDMC Pinnacle Peak West Area Drainage Master Study

In June 2013, JE Fuller prepared the *Pinnacle Peak West Area Drainage Master Study* (ADMS) (JE Fuller 2013) on behalf of the FCDMC that details the hydrologic and hydraulic conditions of a 97 square mile area located in the northeastern portion of Maricopa County in which the Project is located within. The primary goal of the study was to characterize regional flows using the most up to date hydrologic study of the watershed referencing the most current land uses, rainfall data, detailed topography, and analysis.

The hydrologic and hydraulic analysis for the study area was completed using FLO-2D, a volume conserving, two-dimensional flood routing modeling program best suited for simulating shallow, distributary flows within a watershed. The model is also able to incorporate building structures, culverts, walls, and channels displaying 100-year peak flows in 20-foot by 20-foot grid cells. Results of the FLO-2D model can be found on the FCDMC's website (www.fcd.maricopa.gov).

Analysis of the ADMS FLO-2D results, utilizing the FCDMC FLO-2D web access tool, found that a reported flow of 2,471 cfs approaches the Project along the eastern 404 wash corridor and 1,988 cfs approach the Project along the western 404 wash

corridor compared to the ASLD reported discharges of 5,500 cfs and 2,153 cfs respectively (ASLD 2008). Refer to Figures 4A and 4B (Hydrologic Existing and Developed Conditions Exhibits). Hydrographs were exported from the FCDMC website using the FLO-2D web access tool referenced for this report's analysis, discussed in Section 4.1. For the purposes of this report, the ADMS flows are utilized as they represent the most up to date hydrologic information available.

2.3 Master Drainage Report, Camden Mayo

In December 2015, the Kimley-Horn *Master Drainage Report for Camden Mayo* (Kimley-Horn 2015) was approved by the City which detailed the existing and proposed drainage conditions north of the Project with the development of the Camden Mayo multi-family housing community. The report primarily discusses the first phase of the development pertaining to the northernmost parcel of the property north of Mayo Boulevard (Parcel A), stipulating that plans for the southern parcels infrastructure (Parcels B and C) will be developed later by "others". The report states that stormwater originating from undisturbed future parcels (Parcels B and C) shall continue along historical patterns until said parcels are developed. Although, the report pertains to the development of Parcel A, the report indicates that retention facilities for Parcels A and B will provide storage for the difference between pre-development and post-development conditions and in the instances where the storm event exceeds the volume provided, excess runoff will be conveyed to the eastern reconstructed 404 wash corridor. The Camden Mayo development hydrologic and hydraulic analysis references the larger 5,500 cfs for the design and encroachment of the eastern corridor. Results of water surface elevations compared to the top of the floodwall between the wash and development show a minimum 2 foot elevation differential providing sufficient flood protection. The report does not specify where excess runoff from Parcel C will be released. Excerpts from the Camden Mayo Master Drainage Report can be found in Appendix B. As of December 2016, construction and mass grading of the Camden Mayo development have begun.

As-built plans for the eastern reconstructed mitigation corridor, south of Mayo Boulevard, were included as an appendix to the Camden Mayo master drainage report (Kimley-Horn 2015) and are also included in Appendix B of this report. The as-built plans, by URS, detail the parcel elevations to the east of the corridor (Parcel 4E) and flood protection provided for the larger 5,500 cfs, referenced in the Infrastructure Masterplan (ASLD 2008).

3.0 MANAGEMENT OF OFFSITE DRAINAGE

The hydrologic modeling was broken down into three different scenarios for the east and west 404 corridors which are listed below and discussed in further detail in the following sections. Offsite impacts are discussed in Section 5.9.

1) *Existing Conditions – This scenario models the developed Camden Mayo land north of Mayo Boulevard, undeveloped land to the south, and the eastern reconstructed 404 wash corridor as they exist today.*

2) *Developed Conditions – This scenario assumes the Project and the Camden Mayo properties are both developed.*

3) *Developed Conditions with Box Culverts (**for reference only**) – The conditions of this scenario replicate Scenario 2, but assume Mayo Boulevards existing culverts have been replaced with box culverts.*

3.1 Existing Conditions

For the existing conditions, the property north of Mayo Boulevard is developed while the parcel to the south is undeveloped. Offsite flows, referenced from the FCDMC ADMS, are generated from large tributary areas north of the Loop 101. Runoff approaches the site along two main east and west drainage corridors. As construction and grading have begun for the Camden Mayo development, all flows approaching the site are towards the east of the development are contained in the eastern corridor, passing under Mayo Boulevard through twelve (12) - 10'W x 6'H box culverts.

The western corridor conveys runoff generated north of the Loop 101 as well. Runoff from smaller storm events is conveyed through the primary channel corridor passing under Mayo Boulevard through three (3) - 40"W x 52"H elliptical corrugated metal pipes. However, for larger storm events, similar to the eastern corridor, the western flows split with a portion of the stormwater diverted east towards the low point overtopping Mayo Boulevard, merging with small localized flow generated from the Camden Mayo development. In emergency conditions, a portion of the Camden Mayo property may outlet near the low point of Mayo Boulevard (Kimley-Horn 2015). A conservative estimate of runoff from this portion of the property (Parcel C) was calculated to be approximately 91 cfs, described further in Section 4.0. After overtopping Mayo Boulevard at the low point, the combined runoff is conveyed as sheet flow through the property to re-merge with the western corridors primary flow path. Flow that is not diverted to the east will pass under as well as over the roadway. A natural ridgeline further divides flows overtopping the roadway with a portion of the runoff split to either be conveyed south via the western corridor or diverted towards 64th Street.

The flows of the east and west corridors, approaching the southern boundary of the Project, overtop graded berms, exiting the site to be further conveyed via the existing natural flow paths, terminating into the Reach 11 regional retention facility north of the Central Arizona Project canal.

3.2 Developed Conditions

This scenario models developed conditions of the Project where FLO-2D referenced flows will be completely contained in the eastern and western 404 wash corridors, similar to other mitigation corridors throughout the Desert Ridge, Paradise Ridge, and Azara communities, by virtue of development. The western corridor will have limited disturbance with the construction of retaining and scour walls as the site will be elevated by fill out of the AO zone. Minor grading improvements are proposed into the western wash to daylight the northern channel along Mayo Boulevard. The proposed grading is immediately downstream of the roadway and is intended to coincide with future improvements limiting the area of disturbance. This has been discussed with the ASLD and the USACE. The Project is not proposing any modifications or encroachments into the eastern corridor which was designed and constructed to accommodate the larger 5,500 cfs (ASLD 2008).

Flows from Parcel 1A-2 are collected via internal routings. An interim swale will be in place providing a barrier from the minor localized flows between 1A-2 and Paradise Ridge entrance roadway as topography slopes to the SSW. The southern portion of Parcel 1A-2 will be comprised of a 1' deep interim retention basin (below natural grade) retaining the 100-year, 2-hour storm event. A berm will be in place along the southern border of the parcel to ensure containment. Excess flows will outfall into a corridor between the elevated lots and the berm of the eastern wash. In addition, lots directly south of the Parcel will be elevated 2' above the natural grade so runoff cannot physically flow into the development.

3.3 Developed Conditions with Box Culverts

This scenario modifies the developed conditions analysis by replacing the west corridor's elliptical corrugated metal pipes with six (6) - 10'W x 6'H box culverts capable of providing a dry crossing for Mayo Boulevard. The future western corridor is expected to include box culverts under Mayo Boulevard, and a 180-foot wide combination of natural and reconstructed corridors as shown on Figure 2. Results from this scenario's analysis are **not** referenced for any portion of design for the Project and is included for reference only. Scenario 3 serves only to show how the offsite roadway improvements (by others) may impact the Project and surrounding properties.

4.0 HYDROLOGIC ANALYSIS

As discussed in the previous section, to conservatively estimate the flow overtopping Mayo Boulevard under developed conditions generated from Parcel C of the Camden Mayo property, the peak 100-year flow was calculated utilizing the Rational Method assuming no retention is provided used in the hydraulic analysis. Supporting calculations are included in Appendix C.

Two HEC-1 models were prepared to compare peak discharges, volumes, and time of peak concentrations immediately downstream of the site to ensure there are no adverse impacts as a result of the development. Onsite and offsite hydrologic modeling parameters were prepared in accordance with the SWPS, DPSM, DDM. The existing and developed conditions models for rainfall runoff were created using the FCDMC HEC-1 Drainage Design Management System (DDMS). The methods for estimating peak design discharges affecting the site are described below. Hydrologic calculations for the existing and developed conditions can be found in Appendix C along with HEC-1 output. Electronic copies of the DDMS existing and developed models are provide on CD in Appendix D. Figures detailing the existing and developed conditions modeling can be seen on Figures 4A and 4B. The following sections describe the methodology used for the analysis of this report. Hydrologic equations and calculations used to determine the peak flows can be found Appendix C.

4.1 Upstream Flows

100-year peak flows used for the analysis in this memo were referenced from the ADMS as they represent the most recent and applicable estimates of runoff approaching the Project (refer to Figure 4). The ADMS reported flows in the eastern 404 wash corridor are significantly reduced while flows in the western corridor remain consistent compared to previous estimates reported in the ASLD masterplan

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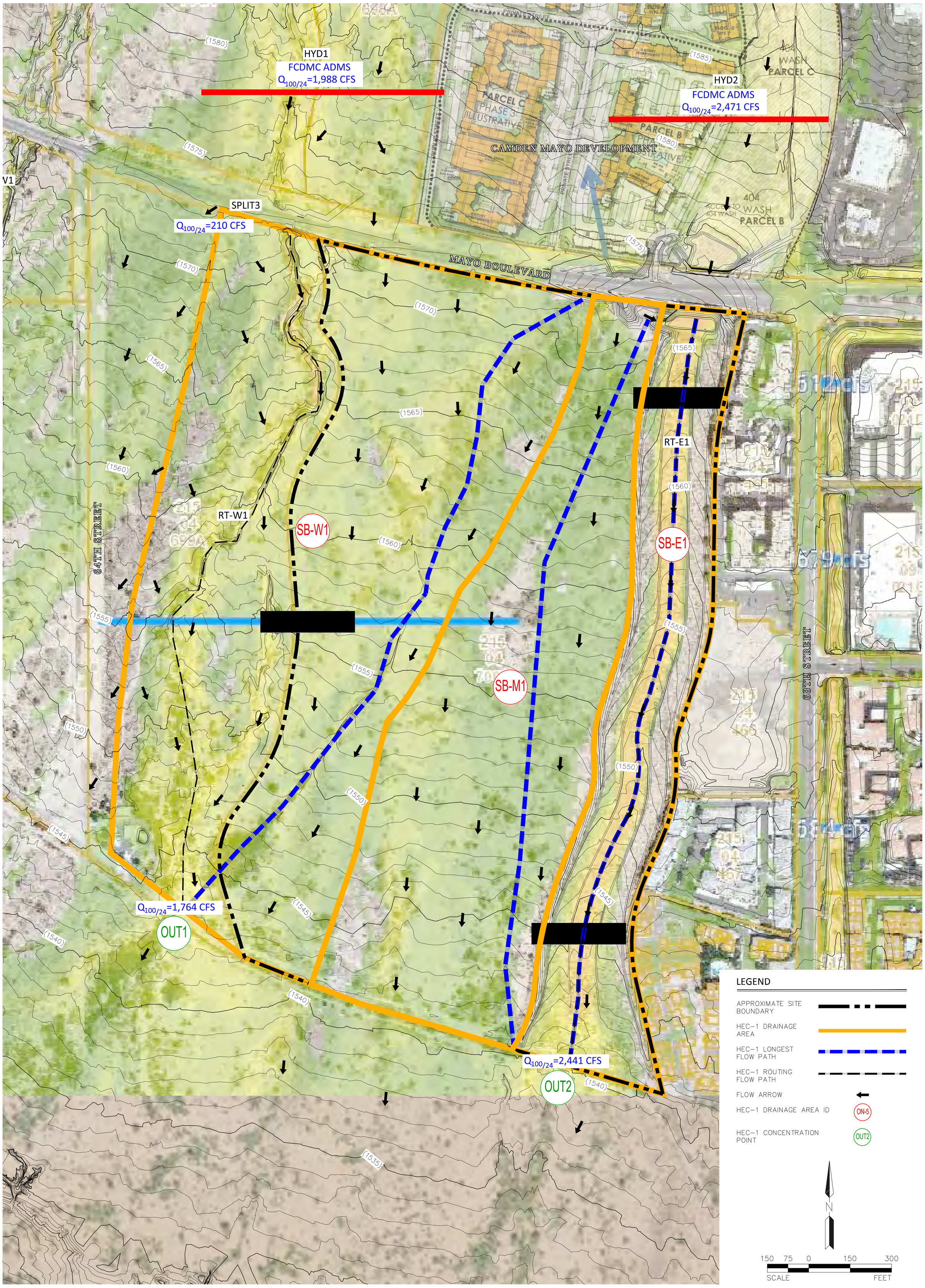

HILGARTWILSON

PROJ NO.:	1710
DATE:	FEB. 2017
SCALE:	1" = 150'
DRAWN:	BB
DESIGNED:	HW
APPROVED:	AT

SHT. OF DWG. NO.

PARADISE RIDGE

PHOENIX, ARIZONA

FIG 4A: HYDROLOGIC EXISTING CONDITIONS EXHIBIT

HILGARTWILSON
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2141 E. HIGHLAND AVE., STE. 250 | P: 602.490.0535 / F: 602.368.2436
PHOENIX, AZ 85016 www.hilgartwilson.com

REV.:

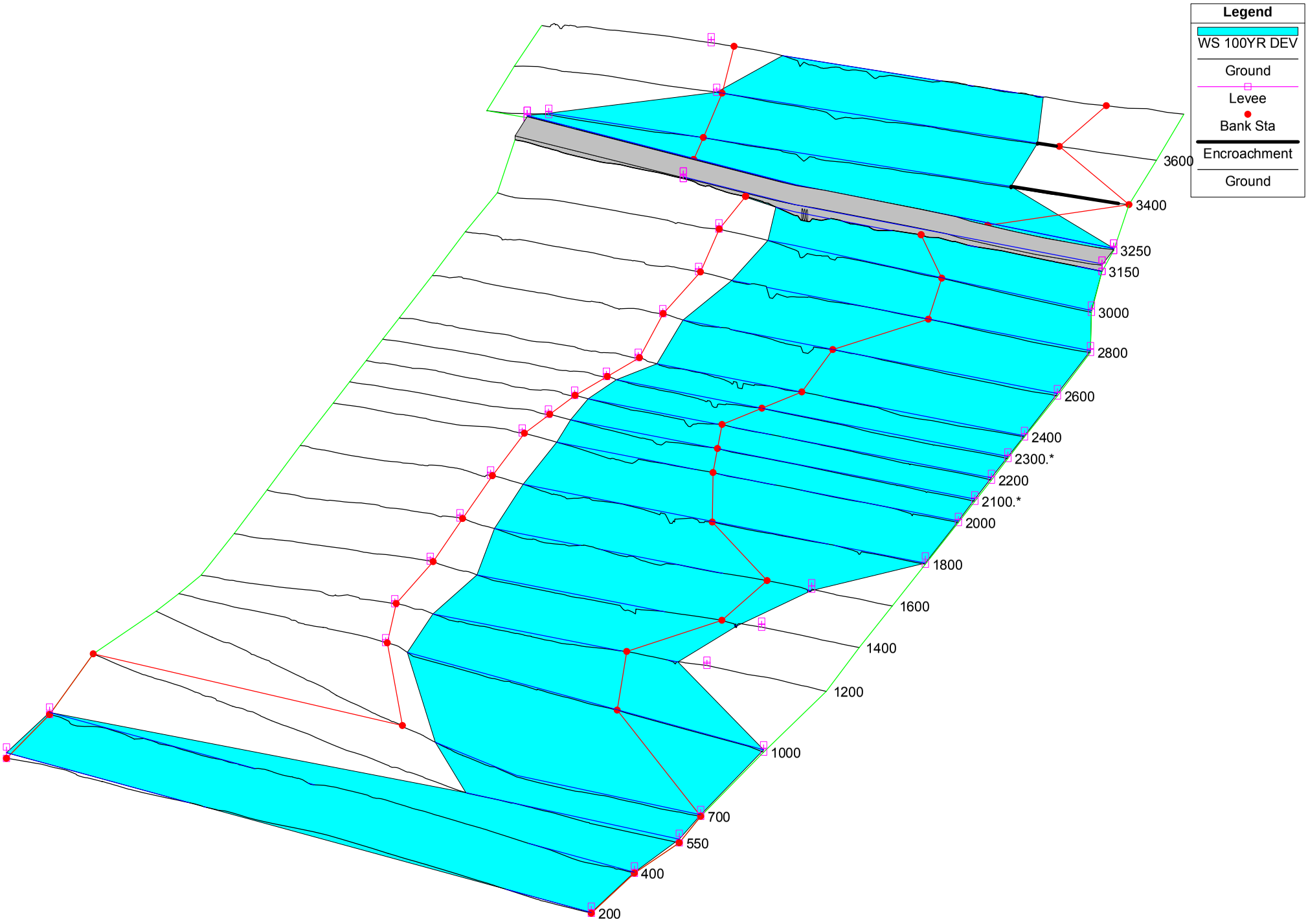
U:\1700\1710\1710.0101 – DR Horton\REPORTS\DRAINAGE\Exhibits\1710 FIG – HEC-1 Existing.dwg 2/24/2017 10:12 AM

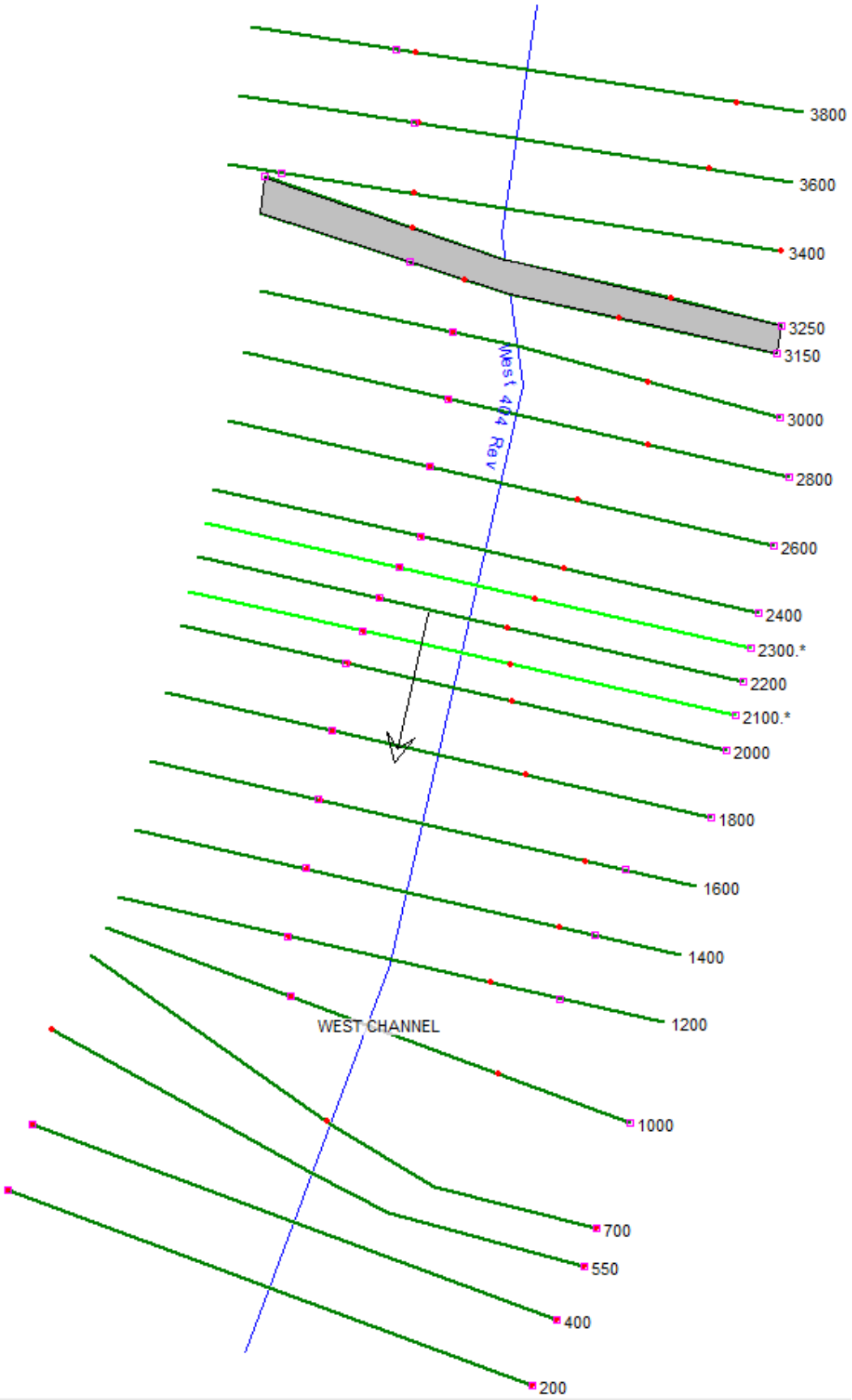
HEC-RAS OUTPUT – WEST CORRIDOR

EXISTING CONDITIONS

Master West Channel Plan: Plan 01 2/2/2017

Geom: WestChannelEx Flow: WestChannelEx



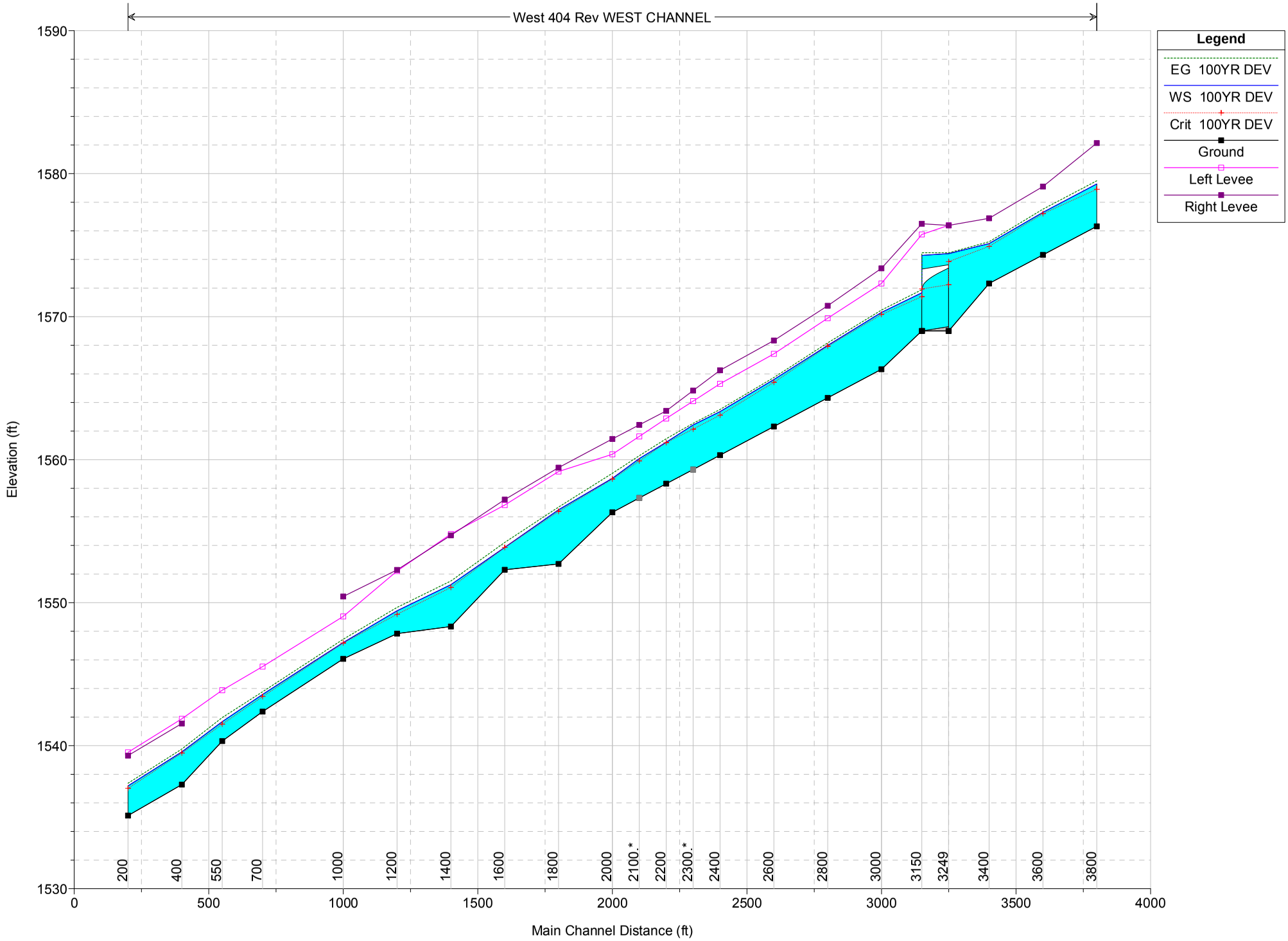

3800
3600
3400
3250
3150
3000
2800
2600
2400
2300.*
2200
2100.*
2000
1800
1600
1400
1200
1000
700
550
400
200
West 414 Rev
WEST CHANNEL

HEC-RAS Plan: Plan 01 River: West 404 Rev Reach: WEST CHANNEL Profile: 100YR DEV

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
WEST CHANNEL	3800	100YR DEV	1988.00	1576.32	1579.28	1578.91	1579.50	0.007612	3.80	522.61	501.25	0.66
WEST CHANNEL	3600	100YR DEV	1988.00	1574.32	1577.29	1577.20	1577.52	0.013592	3.78	525.62	799.42	0.82
WEST CHANNEL	3400	100YR DEV	1988.00	1572.32	1575.11	1574.92	1575.24	0.009477	2.99	712.23	1136.55	0.67
WEST CHANNEL	3250	100YR DEV	1988.00	1569.00	1574.41	1573.85	1574.47	0.003092	1.90	1078.54	1418.48	0.39
WEST CHANNEL	3249		Culvert									
WEST CHANNEL	3150	100YR DEV	886.14	1569.00	1571.67	1571.40	1571.88	0.009274	3.73	241.30	363.49	0.70
WEST CHANNEL	3000	100YR DEV	1869.27	1566.32	1570.29	1570.15	1570.46	0.009429	3.63	601.99	841.74	0.70
WEST CHANNEL	2800	100YR DEV	1869.27	1564.32	1567.99	1567.93	1568.17	0.014125	3.69	560.63	876.89	0.82
WEST CHANNEL	2600	100YR DEV	1869.27	1562.32	1565.60	1565.41	1565.75	0.010431	3.45	639.22	934.15	0.72
WEST CHANNEL	2400	100YR DEV	1869.27	1560.31	1563.36	1563.12	1563.51	0.012020	3.31	604.12	881.80	0.75
WEST CHANNEL	2300.*	100YR DEV	1869.27	1559.31	1562.42	1562.14	1562.54	0.007865	3.23	709.11	999.85	0.64
WEST CHANNEL	2200	100YR DEV	1869.27	1558.32	1561.22	1561.19	1561.46	0.015509	4.58	530.92	968.91	0.90
WEST CHANNEL	2100.*	100YR DEV	1869.27	1557.32	1560.08	1559.91	1560.27	0.009112	3.97	622.51	1018.49	0.71
WEST CHANNEL	2000	100YR DEV	1869.27	1556.32	1558.70	1558.64	1559.05	0.016737	5.08	443.32	904.77	0.95
WEST CHANNEL	1800	100YR DEV	1869.27	1552.71	1556.50	1556.38	1556.68	0.008532	3.66	615.95	1015.38	0.68
WEST CHANNEL	1600	100YR DEV	1869.27	1552.30	1553.87	1553.86	1554.21	0.019009	4.74	396.20	547.40	0.98
WEST CHANNEL	1400	100YR DEV	1869.27	1548.33	1551.26	1551.07	1551.52	0.009843	4.07	460.08	485.49	0.74
WEST CHANNEL	1200	100YR DEV	1869.27	1547.84	1549.43	1549.19	1549.67	0.008657	3.91	483.39	511.63	0.69
WEST CHANNEL	1000	100YR DEV	1869.27	1546.07	1547.21	1547.19	1547.44	0.014883	4.07	528.61	974.70	0.86
WEST CHANNEL	700	100YR DEV	1869.27	1542.38	1543.58	1543.43	1543.77	0.010169	3.48	537.43	733.21	0.72
WEST CHANNEL	550	100YR DEV	1869.27	1540.32	1541.68	1541.50	1541.97	0.014461	4.32	433.16	556.02	0.86
WEST CHANNEL	400	100YR DEV	1869.27	1537.28	1539.56	1539.48	1539.77	0.014537	3.61	517.24	870.54	0.83
WEST CHANNEL	200	100YR DEV	1869.27	1535.11	1537.19	1537.02	1537.37	0.010006	3.44	543.12	741.97	0.71

Master West Channel Plan: Plan 01 2/2/2017

Geom: WestChannelEx Flow: WestChannelEx



Plan: Plan 01 West 404 Rev WEST CHANNEL RS: 3249 Culv Group: Culvert #1 Profile: 100YR DEV

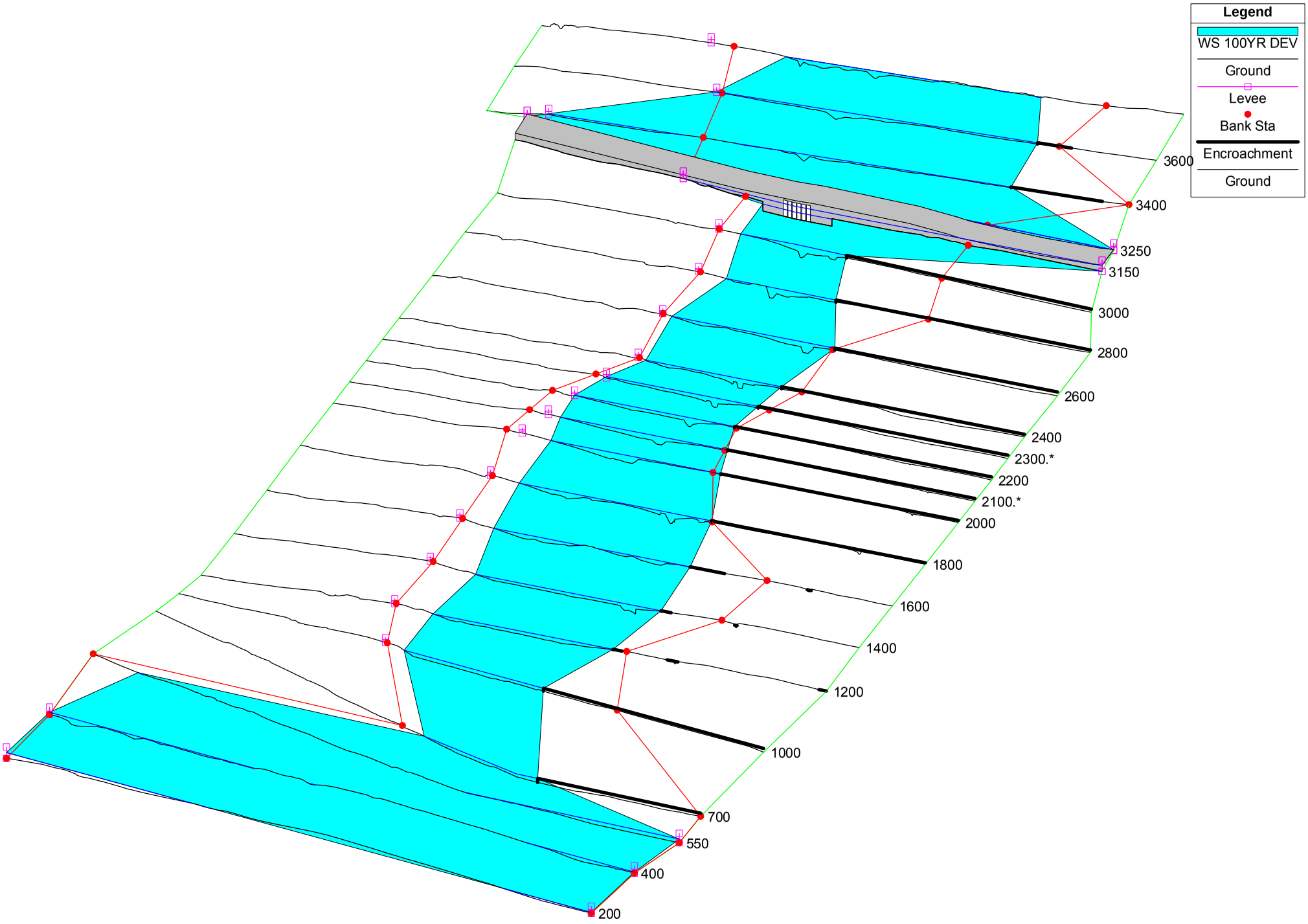
Q Culv Group (cfs)	225.76	Culv Full Len (ft)	
# Barrels	3	Culv Vel US (ft/s)	6.79
Q Barrel (cfs)	75.25	Culv Vel DS (ft/s)	9.20
E.G. US. (ft)	1574.47	Culv Inv El Up (ft)	1569.30
W.S. US. (ft)	1574.41	Culv Inv El Dn (ft)	1569.00
E.G. DS (ft)	1571.88	Culv Frctn Ls (ft)	0.86
W.S. DS (ft)	1571.67	Culv Exit Loss (ft)	1.37
Delta EG (ft)	2.59	Culv Entr Loss (ft)	0.36
Delta WS (ft)	2.74	Q Weir (cfs)	1768.66
E.G. IC (ft)	1574.46	Weir Sta Lft (ft)	0.00
E.G. OC (ft)	1574.47	Weir Sta Rgt (ft)	1540.12
Culvert Control	Outlet	Weir Submerg	0.00
Culv WS Inlet (ft)	1573.40	Weir Max Depth (ft)	1.42
Culv WS Outlet (ft)	1571.94	Weir Avg Depth (ft)	0.61
Culv Nml Depth (ft)	4.33	Weir Flow Area (sq ft)	776.33
Culv Crt Depth (ft)	2.94	Min El Weir Flow (ft)	1573.06

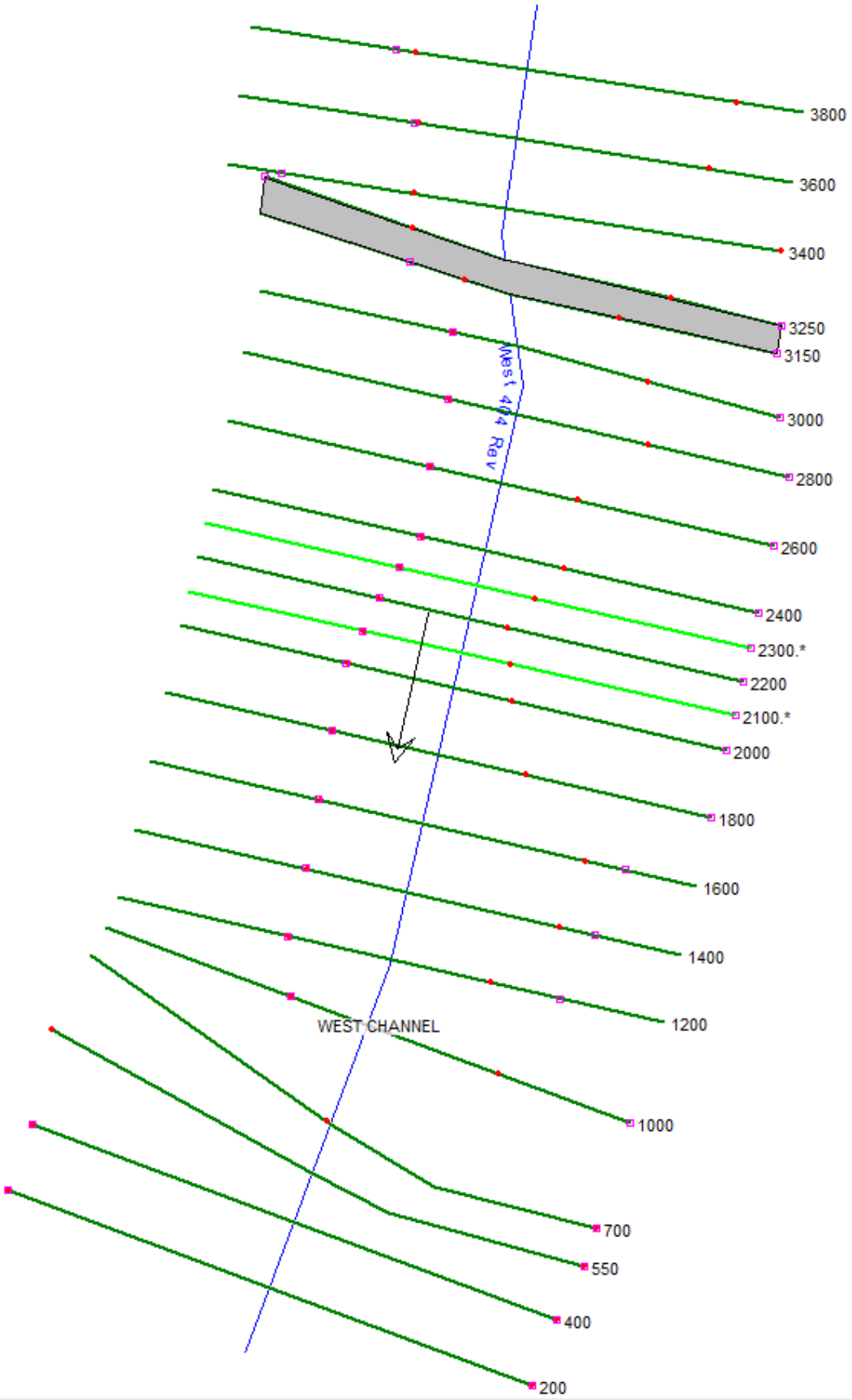
HEC-RAS OUTPUT – WEST CORRIDOR

DEVELOPED CONDITIONS WITH BOX CULVERT

Master West Channel Plan: Plan 03 2/2/2017

Geom: WestChannelDevBox Flow: WestChannelDevBox



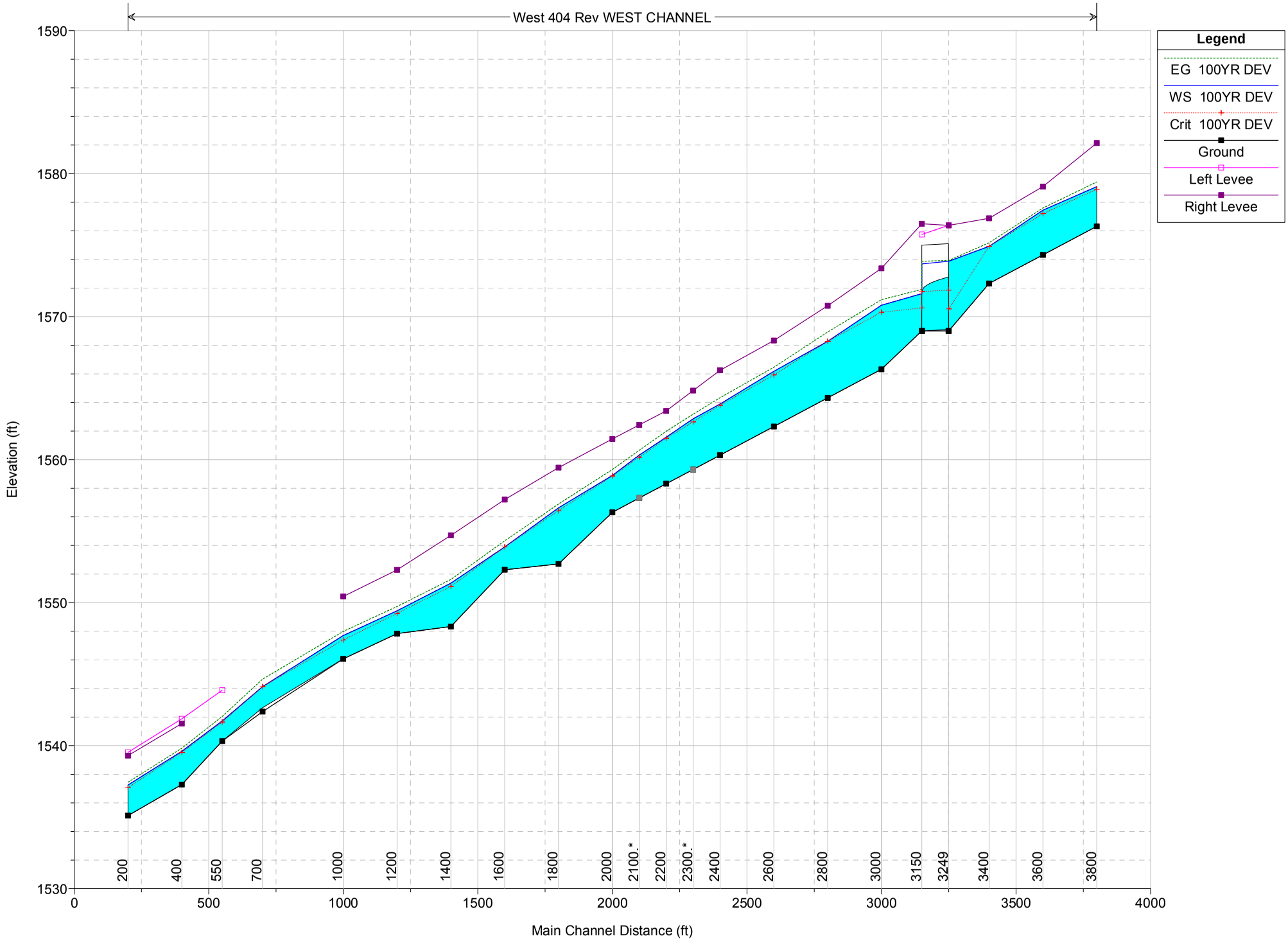

3800
3600
3400
3250
3150
3000
2800
2600
2400
2300.*
2200
2100.*
2000
1800
1600
1400
1200
1000
700
550
400
200
West 414 Rev
WEST CHANNEL

HEC-RAS Plan: Plan 03 River: West 404 Rev Reach: WEST CHANNEL Profile: 100YR DEV

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
WEST CHANNEL	3800	100YR DEV	1988.00	1576.32	1579.09	1578.91	1579.42	0.012015	4.59	433.34	441.91	0.82
WEST CHANNEL	3600	100YR DEV	1988.00	1574.32	1577.45	1577.20	1577.59	0.006803	3.07	648.68	799.42	0.60
WEST CHANNEL	3400	100YR DEV	1988.00	1572.32	1574.92	1574.92	1575.17	0.027046	4.25	498.02	1017.07	1.09
WEST CHANNEL	3250	100YR DEV	1988.00	1569.00	1573.87	1570.55	1573.93	0.000484	2.00	1168.53	663.77	0.20
WEST CHANNEL	3249		Culvert									
WEST CHANNEL	3150	100YR DEV	2079.00	1569.00	1571.61	1570.61	1571.91	0.003149	4.43	470.17	205.48	0.48
WEST CHANNEL	3000	100YR DEV	2079.00	1566.32	1570.80	1570.31	1571.19	0.007989	5.01	415.32	272.32	0.71
WEST CHANNEL	2800	100YR DEV	2079.00	1564.32	1568.27	1568.27	1568.93	0.016642	6.50	319.93	245.59	1.00
WEST CHANNEL	2600	100YR DEV	2079.00	1562.32	1566.17	1565.93	1566.46	0.008500	4.32	482.60	417.19	0.71
WEST CHANNEL	2400	100YR DEV	2079.00	1560.31	1563.89	1563.81	1564.33	0.013584	5.32	390.51	347.22	0.88
WEST CHANNEL	2300.*	100YR DEV	2079.00	1559.31	1562.85	1562.64	1563.18	0.009428	4.57	455.10	388.15	0.74
WEST CHANNEL	2200	100YR DEV	2079.00	1558.32	1561.57	1561.50	1561.99	0.015272	5.17	401.88	409.58	0.92
WEST CHANNEL	2100.*	100YR DEV	2079.00	1557.32	1560.32	1560.17	1560.66	0.011289	4.68	446.35	427.33	0.80
WEST CHANNEL	2000	100YR DEV	2079.00	1556.32	1558.90	1558.86	1559.32	0.015965	5.21	401.02	434.02	0.94
WEST CHANNEL	1800	100YR DEV	2079.00	1552.71	1556.63	1556.43	1556.90	0.009196	4.12	504.40	492.92	0.72
WEST CHANNEL	1600	100YR DEV	2079.00	1552.30	1553.90	1553.90	1554.33	0.018813	5.26	394.89	459.03	1.00
WEST CHANNEL	1400	100YR DEV	2079.00	1548.33	1551.36	1551.13	1551.63	0.008591	4.10	506.78	474.73	0.70
WEST CHANNEL	1200	100YR DEV	2079.00	1547.84	1549.43	1549.25	1549.73	0.010366	4.40	473.03	461.03	0.76
WEST CHANNEL	1000	100YR DEV	2079.00	1546.07	1547.70	1547.39	1547.99	0.007440	4.29	484.76	381.33	0.67
WEST CHANNEL	700	100YR DEV	2079.00	1542.66	1544.13	1544.13	1544.66	0.018014	5.82	357.19	344.42	1.01
WEST CHANNEL	550	100YR DEV	2079.00	1540.32	1541.73	1541.65	1542.04	0.014827	4.48	464.50	575.17	0.88
WEST CHANNEL	400	100YR DEV	2079.00	1537.28	1539.61	1539.53	1539.82	0.014321	3.73	557.18	883.81	0.83
WEST CHANNEL	200	100YR DEV	2079.00	1535.11	1537.25	1537.06	1537.44	0.010004	3.53	588.64	773.44	0.71

Master West Channel Plan: Plan 03 2/2/2017

Geom: WestChannelDevBox Flow: WestChannelDevBox



Plan: Plan 03 West 404 Rev WEST CHANNEL RS: 3249 Culv Group: Culvert #1 Profile: 100YR DEV

Q Culv Group (cfs)	1553.23	Culv Full Len (ft)	
# Barrels	6	Culv Vel US (ft/s)	7.05
Q Barrel (cfs)	258.87	Culv Vel DS (ft/s)	9.41
E.G. US. (ft)	1573.93	Culv Inv El Up (ft)	1569.10
W.S. US. (ft)	1573.87	Culv Inv El Dn (ft)	1569.00
E.G. DS (ft)	1571.91	Culv Frctn Ls (ft)	0.42
W.S. DS (ft)	1571.61	Culv Exit Loss (ft)	1.22
Delta EG (ft)	2.02	Culv Entr Loss (ft)	0.39
Delta WS (ft)	2.27	Q Weir (cfs)	434.77
E.G. IC (ft)	1573.78	Weir Sta Lft (ft)	4.80
E.G. OC (ft)	1573.93	Weir Sta Rgt (ft)	380.49
Culvert Control	Outlet	Weir Submerg	0.00
Culv WS Inlet (ft)	1572.77	Weir Max Depth (ft)	0.88
Culv WS Outlet (ft)	1571.75	Weir Avg Depth (ft)	0.57
Culv Nml Depth (ft)	5.71	Weir Flow Area (sq ft)	212.33
Culv Crt Depth (ft)	2.75	Min El Weir Flow (ft)	1573.06

APPENDIX D.7:
PALEOWEST ARCHAEOLOGICAL MITIGATION PROPOSAL AND COST ESTIMATE

PALEOWEST

T: 602.261.7253
info@paleowest.com

PHOENIX HQ
319 East Palm Lane Phoenix,
AZ 85004

June 12, 2020

Jeremy Casteel, Assistant Project Manager
HilgartWilson
2141 E. Highland Ave. Ste. 250
Phoenix, AZ 85016

RE: Paradise Ridge Parcel 6, Archaeological Site Mitigation for AZ U:5:33(ASM), the Last Ditch Site

Dear Mr. Casteel,

PaleoWest is pleased to provide you with its qualifications and a scope and fee for site mitigation within AZ U:5:33(ASM)/Last Ditch Site. Dedicated exclusively to cultural resources, PaleoWest has been a leading provider of archaeological and historical services in the United States since 2006. PaleoWest is headquartered in Phoenix, Arizona, with additional offices in California, Colorado, Florida, New Mexico, New York, Oregon, Texas, and Utah. PaleoWest is dedicated to solution-driven cultural resources consulting on behalf of clients who need their projects guided through federal, state, and local regulatory challenges. PaleoWest has worked extensively with the U.S. Army Corps of Engineers (USACE), the State Historic Preservation Office (SHPO), the Arizona State Land Department (ASLD), and the City of Phoenix (COP) on projects throughout the state and Phoenix, including previous site mitigation at AZ U:5:33(ASM)/Last Ditch Site.

PaleoWest's Phoenix office is led by Kye Miller, M.A., RPA. Mr. Miller and his senior staff meet the Secretary of the Interior's Standards and Guidelines, Professional Qualification Standards in Archaeology, and they are all familiar with the City Historic Preservation Ordinance (Zoning Ordinance of the City of Phoenix, Chapter 8: Historic Preservation), the Arizona Historic Preservation Act (A.R.S §41-841 et seq.), Arizona burial laws (A.R.S. § 41-844 and A.R.S. § 41-865), and the regulations implementing Section 106 of the National Historic Preservation Act (NHPA). PaleoWest has successfully completed 56 testing and data recovery projects within Maricopa County, including four projects within and immediately adjacent to the Last Ditch Site. PaleoWest holds a current Arizona Antiquities Act (AAA) blanket permit (No. 2020-076bl) issued by the Arizona State Museum (ASM), which authorizes archaeological investigations and historic preservation services on state, county, and municipal lands. PaleoWest has five Principal Investigators and 12 Project Directors listed on the AAA permit, and each listed individual has extensive experience with the cultural resources of the Phoenix Basin, including sites similar to the Last Ditch Site.

The scope of work proposed herein by PaleoWest is for conducting Phase II data recovery within Paradise Ridge, Parcel 6 in Phoenix, Maricopa County, Arizona. The project area is on State Trust land managed by the ASLD and is part of the Paradise Ridge Master Planned Development. The project area is within the site boundary of AZ U:5:33(ASM)/Last Ditch Site, a significant Archaic site in the Phoenix Basin. Previously, a Programmatic Agreement with USACE, the ASLD, and SHPO was developed to mitigate the impacts of the Paradise Ridge Development on the site. The project is also within the City of Phoenix (COP) and must comply with local ordinances. The project is subject to compliance with 36 CFR § 800 (as revised in 2004), the regulations implementing Section 106 of the National Historic Preservation Act; the Arizona Antiquities Act (ARS 41-841 et seq.); and Chapter 8 (Historic Preservation), Section 802(B2) of the COP Zoning Ordinance.

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Site AZ U:5:33(ASM)/Last Ditch Site encompasses approximately 202 acres of the Paradise Ridge Master Planned Development. Archaeological testing was previously conducted within the entire site and reported in *Archaeological Testing Results and Treatment Plan for the Last Ditch Site, AZ U:5:33(ASM), Phoenix, Arizona* (Albush et al. 2008). The report was reviewed and accepted by ASLD and SHPO (Aug. 2, 2007, letter from Stephen Ross, ASLD, to Jo Anne Medley, SHPO; Sept. 19, 2007, letter from Jo Anne Medley, SHPO, to Stephen Ross, ASLD). The testing identified seven loci within Parcel 6 that were recommended for further investigation. Data recovery efforts will follow the treatment plan outlined in Albush et al. 2008. Three tasks are necessary to complete the archaeological mitigations for AZ U:5:33(ASM)/Last Ditch Site within Parcel 6.

TASK 1: FIELDWORK

Prior to fieldwork, PaleoWest will obtain a project-specific permit and burial agreement from the Arizona State Museum (ASM) and a repository agreement from the COP Pueblo Grande Museum (PGM). The proposed work will include the mechanical excavation of stripping units with a backhoe at each of the seven loci. The stripping units will range in size between 25 square meters to 250 square meters depending on the quantity and distribution of features in each location, for a total area of 750 square meters. Based on the previous testing fieldwork and report, a total of 103 features are anticipated to be excavated during the project. Depending on the type and size, features will be partially or fully excavated by hand, according to the methods in the treatment plan. Work will be completed in consultation with the USACE, ASLD, and COP. If burials or isolated human remains are identified during the course of fieldwork, the remains must be excavated immediately in accordance with the terms of the programmatic agreement and the project-specific burial agreement, and in consultation with USACE, ASLD, COP, and affiliated tribes.

Schedule: Preparation and Fieldwork will be completed within three months.

TASK 2: ANALYSIS AND REPORTING.

At the completion of fieldwork, a draft end-of-fieldwork (EOF) letter report will be drafted that will summarize the fieldwork effort and describe the results of investigations. The letter report will include a summary of the site and its significance, a description of the field methods, any deviations from the methods outlined in the HPTP, a description of any identified subsurface cultural features or deposits, and recommendations for archaeological clearance. The report will be submitted to ASLD, USACE, and COP for review and comment. A comprehensive Phase II archaeological data recovery report will need to be prepared summarizing the results of the data recovery and analyses of artifacts and samples collected during data recovery.

Schedule: The EOF report will be submitted for review within 2 weeks of completion of fieldwork. The final report will be submitted within one year of the completion of fieldwork.

TASK 3. CURATION

The final comprehensive data recovery report and all associated project-related materials, including field notes, analysis tables, and photographs, will be curated at PGM. PaleoWest anticipates the curation of up to 10 boxes of artifacts and associated materials. The final report will also be curated at ASM following acceptance of the report.

Schedule: Curation will be completed within two months from the acceptance of the final report.

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ASSUMPTIONS AND SCHEDULE

The professional fee for completing the tasks described above will be $224,995, payable on fixed-fee basis and invoiced monthly. Included in this fee are all anticipated labor and direct expenses to complete the three tasks. This fee includes the mechanical excavation of up to 750 square meters within the seven stripping units, the excavation of up to 103 features as outlined in the approved treatment plan, and the curation of up to 10 boxes of artifacts and associated materials. This fee does not include the excavation and documentation of any human remains or associated funerary items that may be identified during Phase II data recovery. If human remains are encountered, they will need to be immediately removed, documented, and repatriated to affiliated tribes, in accordance with the terms of the treatment plan and burial agreement. PaleoWest can recover, document, and repatriate human remains for a fixed fee of $7,000 per inhumation burial and $4,000 per cremation burial. In the unlikely event that complex inhumations or a crematorium are encountered, these will require an additional $3,500 to excavate, document, and analyze. The nature of these unique types of burial features are not known until the excavation has been started, but they typically contain many complete artifacts, much larger and more elaborate burial pits, and require much more effort to excavate, document, and house, using accepted methods and following the terms of the burial agreement.

PaleoWest appreciates the opportunity to conduct archaeological investigations on behalf of HilgartWilson and ASLD. Our archaeological expertise, unrivaled staffing and resources, aggressive pricing, and excellent relationships with the agency archaeologists will expedite the project's compliance with federal, state, and city laws.

Sincerely,

Caroline Klebacha
Senior Project Manager
cklebacha@paleowest.com

Douglas A. Ducey
Governor

Arizona State Land Department
1616 West Adams, Phoenix, Arizona 85007
(602) 542-4631

Lisa A. Atkins
Commissioner

May 22, 2020

Joe Charles
Land Disposition Project Manager
Arizona State Land Department
1616 W. Adams
Phoenix, Arizona 85007

RE: Cultural Review for Application 53-119692-00-000 (PCI Sales)

Dear Mr. Charles:

The PCI Sales program of the Arizona State Land Department (ASLD) has filed an application (53-119692-00-000) to prepare for sale 50 acres of State Trust land in Maricopa County (T4N, R4E, Section 27). The subject parcel is within the Paradise Ridge Planning Area. Under the authority of Section 404 of the Clean Water Act (33 U.S.C. 1344), the U.S. Army Corps of Engineers (the Corps) has issued Permit 1999-16129-RWF (Permit) to ASLD for the Paradise Ridge Planning Area. In consultation with the Arizona State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation (ACHP), the Corps determined that issuance of the Permit may have an adverse effect on historic properties that had been previously identified and evaluated within the planning area. These historic properties include Site AZ U:5:33(ASM), also known as the Last Ditch Site. The entire subject parcel is within the boundaries of this historic property.

To assist the Corps in the fulfillment of its responsibilities under the National Historic Preservation Act (16 U.S.C. 470f) and to assure ASLD compliance with its obligations under the Arizona State Historic Preservation Act (A.R.S. § 41-861 *et seq.*) a Programmatic Agreement (PA) was developed by the Corps, ASLD, and SHPO. This PA, *Programmatic Agreement among the Los Angeles District, US Army Corps of Engineers, Arizona State Land Department, and Arizona State Historic Preservation Office Regarding the Paradise Ridge and Desert Ridge Planning Areas, City of Phoenix, Arizona*, was executed June 11, 2009, and was renewed on June 7, 2019, for an additional ten years. Fulfillment of the stipulations of the PA are required in the conditions of the Permit.

In 2006, at the request of ASLD, test excavations were conducted at the Last Ditch Site by URS Corporation to evaluate the nature and extent of subsurface deposits. These excavations are documented in the report titled *Archaeological Testing Results and Treatment Plan for the Last*

Ditch Site, AZ U:5:33(ASM), Phoenix, Arizona (2008). In addition to reporting the results of the test excavations, the report presented a treatment plan for data recovery excavations. This report was reviewed and accepted by ASLD and SHPO (Aug. 2, 2007, letter from Stephen Ross, ASLD, to Jo Anne Medley, SHPO; Sept. 19, 2007, letter from Jo Anne Medley, SHPO, to Stephen Ross, ASLD). The treatment plan in this report is the approved Historic Properties Treatment Plan (HPTP) referenced in the PA that is required to be implemented. Based on the results of the test excavations, the HPTP defined different areas where subsurface features were identified and additional excavation would be required. The subject parcel contains seven areas where additional excavations will be required. These include the areas designated in the report as Data Recovery Areas 7, 8, 9, 10, 11, 12, and 15. Failure of ASLD to ensure the implementation of the approved HPTP prior to transfer of the subject parcel from State Trust to private could lead to the revocation of the Permit necessary for the development of the larger Paradise Ridge Planning Area (PA Stipulation 1.B).

Per Stipulation 2 of the PA, ASLD must consult with SHPO and the Corps prior to disposing of lands within the planning area at public auction or issuing any lease or permit for lands within the planning area. The ASLD Cultural Resources Section will initiate consultation with SHPO and the Corps regarding the proposed sale of this parcel and establish the expectations for fulfilling the terms of the PA. Stipulation 5 of the PA states that the permittee (ASLD or its successors and assigns) shall bear the expense of identification, evaluation and treatment of all historic properties directly or indirectly affected by the issuance of the Permit. This would include completing the implementation of the approved HPTP measures that apply to the portions of the Last Ditch Site within the subject parcel.

Special Condition g of the Permit (as amended Feb. 4, 2016) states that "Nothing in this permit shall prohibit the Permittee from selling, leasing, permitting, or otherwise transferring any interest in property within the Paradise Ridge development before the Corps has discharged its responsibilities under Section 106 of the National Historic Preservation Act with respect to the known archaeological sites within the Paradise Ridge development." However, no ground disturbing activities are allowed within a 100-foot buffer of any of the historic properties identified in the PA, including the Last Ditch Site, until "the Corps issues written notification that the Section 106 process has been completed." Completion of the Section 106 process would require implementation of the mitigation measures detailed in the HPTP and completion by the Corps of consultation with SHPO and Concurring Parties to the PA regarding the results of the treatment efforts.

Therefore, the ASLD Cultural Resources Section recommends that ASLD Real Estate Division solicit proposals to implement the approved HPTP from qualified cultural resource management consulting firms that are permitted by the Arizona State Museum (ASM) to conduct archaeological activities on State Trust lands. Consultants interested in providing a proposal may be provided copies of the attached HPTP. The ASLD Cultural Resources Section can provide

full copies of the report on the test excavation on request to qualified archaeologists. An in-field meeting for prospective respondents could be useful and could be organized if needed. After selection, the consultant will need to obtain a project-specific Arizona Antiquities Act permit for the excavations from ASM.

Your continued cooperation with this office in considering the potential for impacts to Arizona's cultural resources is appreciated. If you have any comments or concerns, please contact me at 602-542-2679 or by email at mohara@azland.gov.

Sincerely,

Michael O'Hara

Michael O'Hara
Cultural Resources Section Manager

cc: Erin Davis, SHPO
Kathleen Tucker, COE

Enclosure: Tribal Consultation List

Arizona State Land Department Cultural Resources Section
Tribal Consultation List

If you have any comments or concerns, please provide them at this time. If there are none, this document may be retained for your records. Should you require additional documentation, i.e. maps or reports, please request via email for digital copies.

Application No.: 53-119692-00-000

Date: May 22, 2020

Tribes:

- ☐ Ak-Chin Indian Community
- ☐ Chemehuevi Indian Tribe
- ☐ Cocopah Indian Tribe
- ☐ Colorado River Indian Tribes
- ☒ Fort McDowell Yavapai Nation
- ☒ Fort Mojave Indian Tribe
- ☐ Fort Sill Apache Tribe
- ☐ Fort Yuma-Quechan Tribe
- ☐ Gila River Indian Community
- ☐ Havasupai Tribe
- ☒ Hopi Tribe
- ☐ Hualapai Tribe
- ☐ Kaibab Band of Paiute Indians
- ☐ Mescalero Apache Tribe
- ☐ Moapa Band of Paiute Indians
- ☐ Navajo Nation
- ☐ Paiute Indian Tribe of Utah
- ☒ Pascua Yaqui Tribe
- ☒ Pueblo of Zuni
- ☒ Salt River Pima-Maricopa Indian Community
- ☐ San Carlos Apache Tribe
- ☐ San Juan Southern Paiute
- ☐ Tohono O'odham Nation
- ☒ Tonto Apache Tribe
- ☐ Ute Mountain Ute
- ☒ White Mountain Apache Tribe
- ☒ Yavapai-Apache Nation
- ☒ Yavapai-Prescott Indian Tribe
- ☐ Pueblo of Acoma

APPENDIX D.8:
PARADISE RIDGE LAND TRANSACTION INFORMATION HANDBOOK

PARADISE RIDGE
MASTER PLANNED DEVELOPMENT

Land Transaction Information Handbook

(Note: This document replaces the Paradise Ridge *Implementation Guidelines for Complying with the Terms and Conditions of Section 401 and 404 of the Clean Water Act*, dated February 18, 2004)

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SECTION 1 – INTRODUCTION

This document serves to replace the no longer valid Paradise Ridge Implementation Guidelines dated February 18, 2004.

The purpose of this Land Transaction Information Document is to assist parties involved with or responsible for developing land in Paradise Ridge, including owners, lessees, developers, consultants, planners, engineers, contractors and any others parties associated with the development of the Paradise Ridge Master Planned Development, as accepted by the U.S. Army of Corps of Engineers (USACE) in the modified Permit No. SPL-1999-16129 dated February 4, 2016. This guide also assists agents or parties hired by a transferee (owner or lessee) who will be managing a land planning, design, and construction effort. A main goal of this guide is to establish environmentally-compliant land development procedures, including protection, preservation, and maintenance of the wash corridors defined in Paradise Ridge's USACE Section 404 Individual Permit, as well as penalties for non-compliance with the Section 404 Individual Permit. A copy of this guide and updates shall to be kept at the owner or lessee's planning or design office and on the construction site.

For purposes of understanding certain terminology, the term "Owner" is defined as an entity that has purchased a property from the Arizona State Land Department (ASLD) via auction or holds title to the land patented by the new landowner. **ASLD is no longer the Permittee upon patent transfer**. In the case of a Certificate of Purchase, lease or easement, ASLD will retain co-permittee status with the Transferee. The term "Lessee" is defined as an entity that has engaged a multi-year lease with the ASLD and is required to provide a bond prior to construction. Bonds are discussed in more detail in Section 2.

The Owner/Lessee shall become familiar with all federal, state, and local permits applicable to the Owner/Lessee's parcel of land. **The Owner/Lessee shall sign and return the Section 401 and Section 404 terms and conditions forms acknowledging owner/lessee responsibility**. Should an Owner/Lessee transfer the permit to a new Owner/Lessee, the transferee will be responsible for compliance with Section 401 and Section 404 of the Clean Water Act. This document is not intended to be used for compliance with any agency permitting requirements, plan approvals, etc., that may be required for the entitlement or development of the proposed project.

SECTION 2 – THE CLEAN WATER ACT

This section describes the Owner/Lessee's role in the context of implementing and addressing the terms and conditions of the Section 401 Water Quality Certification and the Section 404 Individual Permit. Note that this is not intended to be an exhaustive list of requirements for the Section 404 Individual Permit. All Owners/Lessees are required to abide by all applicable Special Conditions of the 404 Permit whether mentioned in this document or not.

2.1 Terms and Conditions

A copy of the terms and conditions associated with the Section 404 Individual Permit issued by the USACE for Paradise Ridge is included as Appendix A. **The Owner/Lessee shall read this document and acknowledge acceptance of the terms and conditions by signing and returning forms to ASLD and USACE** (as required in the 404 Permit).

A copy of the terms and conditions associated with the 401 Water Quality Certification issued by the Arizona Department of Environmental Quality (ADEQ) for Paradise Ridge is included as Appendix B. **The Owner/Lessee shall read this document and acknowledge acceptance of the terms and conditions by signing and returning forms to ASLD**.

2.2 Permit Violations and Fines

Over the next 15-20 years, Paradise Ridge will be developed under various federal and state permits. The State's 401 Water Quality Certification and the Federal Section 404 Individual Permit both have conditions that are enforceable by the Environmental Protection Agency (EPA) and the USACE. Violations of the conditions can result in penalties of $25,000 or more per day of violation. Criminal penalties may also be assessed. Should a violation occur, the Owner/Lessee shall notify the ASLD and USACE and report the nature and extent of the violation within 1 day of it being discovered. Within 5 working days, a remedial plan shall be developed by Owner/Lessee and submitted to the ASLD and USACE. The Owner/Lessee shall keep ASLD informed and work to resolve matters to the satisfaction of USACE and/or EPA and ASLD.

2.3 Mitigation Options

The current Paradise Ridge Section 404 Permit, modified by the Corps on February 4, 2016, allows for two mitigation options. These options include In-Lieu Fee (ILF) and Permittee-Responsible Mitigation. For planning purposes, it is the preference of the ASLD and the USACE to consider ILF first over permittee-responsible mitigation. Both are summarized below:

2.3.1 In-Lieu Fee Mitigation

The Arizona Game and Fish Department (AGFD) has an established ILF program approved by the USACE with the goal of making ILF credits available in watersheds state-wide. It is noted that Paradise Ridge's USACE Section 404 permit mitigation payments via the ILF program for the areas of impact to U.S. waters have been approved.

Owners/Lessees are to coordinate payment with the ASLD and provide the USACE a copy of the transmittal letter or form to the sponsor (the AGFD) after the sponsor has signed and acknowledged payment. Please note that designated wash corridors are required to be preserved in place and all other terms and conditions of Permit No. SPL-1999-16129, amended February 4, 2016, remain in full force and effect.

2.3.2 Permittee-Responsible Mitigation

Within Paradise Ridge, several preserved natural wash corridors are established. The existing washes in these corridors must remain essentially undisturbed except for occasional roadways with associated utility and sidewalk crossings and flood control structures. Details of wash corridors are described in the Habitat Mitigation and Monitoring Plan (HMMP), included as Appendix C.

In compliance with the HMMP, monitoring reports for all wash corridors where permittee-responsible mitigation is undertaken will be submitted to the USACE and ASLD. The monitoring program shall adhere to the HMMP outline unless changes to the protocol are approved by the USACE.

2.3.2.1 Mitigation Bond

Lessees must secure and provide the ASLD with a mitigation bond for the natural and reconstructed wash corridors accounting for the following:

- ASLD shall have the right to require that Lessees provide, in a form satisfactory to ASLD, a mitigation bond in an amount sufficient to pay the costs for the watering, maintenance, and monitoring described below for the enhancement/construction and monitoring wash corridors.
- The term of the bond shall be 5 years and can be extended if the success criteria have not been achieved.
- The cost will be calculated based on agency-approved improvements including, but not limited to, berm/cutoff wall construction, revegetation, installation of temporary drip irrigation, and monitoring.

2.4 Reference Habitat Mitigation and Monitoring Plan (HMMP)

The HMMP prepared for Paradise Ridge provides the concepts and implementation and maintenance direction for the mitigation required to compensate for impacts to jurisdictional areas associated with development. A copy of the HMMP is provided in Appendix C.

2.5 Conservation Easements

It is noted that the Paradise Ridge Master Planned Development Project Section 404 Permit (Appendix A) refers to a "Conservation Easement" attachment that is labeled "Declaration of Restrictive Covenants." **The Lessee shall create and record a restrictive covenant over wash corridors**. Parcels which contain wash corridors must, prior to any ground-disturbing activity or within sixty (60) days of the parcel being patented, whichever is earlier, record a restrictive covenant over the wash corridors to ensure that they are protected in perpetuity. See Appendix D for an example of a Conservation Easement.

- Submit the restrictive covenant to the USACE for review. Once approved, record the conservation easement over wash corridors with the Maricopa County Recorder's office concurrently with the date the land is patented by the new landowner. Evidence of recordation must be submitted to ASLD and to USACE. Contact ASLD for the latest conservation easement language.

SECTION 3 – MITIGATION CORRIDOR GOALS

If owner/lessee chooses permittee-responsible mitigation, the main requirements are compliance with provisions of the Clean Water Act Section 401 and Section 404 Permit for Paradise Ridge. Requirements have been established to preserve natural wash corridors including occasional flood control structures, roadways, and utility and sidewalk crossings throughout the Paradise Ridge property. Enhancement wash corridor goals will be met by achieving the following:

- Wash corridors will be surveyed and staked using legal descriptions to establish the boundary limits.
- Exclusionary roping or fencing will be used to exclude entry into the riparian habitat mitigation corridors.
- New plants will be protected from competitive vegetation (weeds and non-native plants) and, possibly, animal browsing.
- Dead trees and cacti shall be removed and replaced during the first 18 months of the 2-year irrigation period.
- A field inspection will be completed after initial planting to document as-built conditions.
- Permanent photo points shall be established every 500 feet within each reconstructed wash and corridor.
- Irrigation patterns and/or irrigation control systems will be planned or programmed to meet the needs of the plants, minimize overwatering, and stimulate root growth.
- Irrigation shall be discontinued within 2 years after planting is completed. Irrigation will only be discontinued after the first two years and when the vegetation has become established.
- Water will only be shut off if the monitor determines that the planted trees have developed a sufficient root system and canopy to survive without being irrigated.
- If irrigation is proposed to be phased-out, this shall not be initiated until September.
- The riparian habitat mitigation corridors will be monitored for at least 3 years after irrigation is discontinued.
- Permanent signs shall be erected and maintained along the perimeter of wash corridors. Signs should read: “Please walk softly on the land. The wash corridor behind the sign is a perpetual conservation easement. Foot traffic and passive recreation are allowed. No vehicular traffic, dumping, or wood cutting is allowed.”
- Per Section 3.0 of the HMMP, the following goals are established for on-site, permittee responsible mitigation:
    - For high-ranked washes, a 6:1 mitigation area ratio will be utilized; for medium-ranked washes, a 4:1 ratio will be utilized; for low-ranked washes, a 2:1 ratio will be utilized. Riparian habitat corridors will range from 14 to 350 feet wide.
    - Avoided washes will remain undisturbed and will be enhanced by creating a riparian habitat corridor along the perimeter of the wash.
    - Reconstructed wash corridors will include an excavated low-flow channel with a sandy bottom, and overbank areas along the side of the wash that will vary in width.

- The stock tank area in Section 22 will be re-vegetated by using riparian vegetation with the berm repaired and excess silt removed from the bowl.

3.1 Success Criteria for Vegetation within the Mitigation Corridors and Mitigated Areas

- It is recommended to plant 20% more vegetation than is required to avoid replacing dead vegetation over the 5-year monitoring period to obtain 80 percent of total vegetation survival.
- There should be a noticeable increase in basal diameter of trees during period after irrigation is discontinued.
- USACE will be notified when success criteria have been achieved and maintained 3 years after irrigation is discontinued and five years after initial planting.

3.2 Reporting

The first monitoring report will be due one year after the date construction commences within a parcel. Project monitoring reports will continue annually thereafter for four years, until each element of the mitigation plan has been accepted by the USACE. Annual monitoring reports shall be completed and submitted to the USACE and ASLD within 90 days of the year's end. If necessary, an example report can be made available by the ASLD. Each report shall include:

- A description of as-built conditions
- A list of individuals or companies who completed monitoring activities
- Results of the monitoring effort, including measured growth and percent survival
- Copies of color photographs taken from permanent photo points
- Copies of field notes
- Recommendations for additional plantings or other corrective measures
- Notification of completed mitigation commitments
- Documentation of recorded temporary and perpetual easements for mitigation areas
- Detailed map and location of project, including coordinates

Annual habitat mitigation reports shall include:

- A summary of the previous year's reporting
- Overall conditions of mitigation corridor components such as berms and cutoff walls, road and utility crossings, and flood control/conveyance structures in addition to the habitat component
- ASLD review and approval of annual report for Lessees for submittal to USACE
- Land owner submittal of annual report to the USACE within yearly increments from start of construction commencement

3.3 Maintenance

- Short-term maintenance of the wash corridors may include staking, fertilizing, weeding in the immediate area of the vegetation to be re-established, trash removal by hand, and maintenance of the temporary irrigation system.
- Removal of the most invasive and destructive non-native plants like Russian thistle or salt cedar shall be performed as needed.
- Long-term management will not include pruning, removal of snags or native dead vegetation, mistletoe control, weeding, or plant litter removal.
- For public safety, clearing by hand of all annual plant materials 10 feet from all walls along washes within the development is allowed where necessary.
- A Maintenance Fund Trust Account has been established by ASLD for the express purpose of funding continuing irrigation, maintenance, and monitoring activities. Successful bidders in all auctions will be required, as a condition of sale or lease, to deposit funds in the same trust account for the same express purposes. The amount of the deposit shall be equal to $50 per gross acre of land area included in each auction. Deposits shall be non-refundable. A copy of the Maintenance Fund Deposit Form is provided in Appendix F.

3.4 Prohibited and Allowed Activities

Sections 3.4.1 and 3.4.2 provide examples of activities prohibited and allowed, respectively, under the terms of a standard restrictive covenant placed over a designated wash corridor in Paradise Ridge.

3.4.1 Prohibited Activities

The following activities within a Restricted Property are prohibited:

- Supplemental watering, except as allowed by the HMMP during vegetation establishment
- Use of herbicides, pesticides, rodenticides, biocides, fertilizers, or other agricultural chemicals or weed abatement activities, except weed abatement activities necessary to control or remove invasive, exotic plant species only to be performed as approved by an applicable sub-community
- Incompatible fire protection activities, except emergency fire prevention activities
- Use of off-road vehicles or any other motorized vehicles except as necessary to restore native plant communities as deemed necessary by an applicable sub-community
- Livestock grazing or other agricultural activity of any kind
- Recreational activities including, but not limited to, horseback riding, hunting, or fishing
- Residential, commercial, institutional, or industrial uses

- Any legal or de facto division, subdivision or portioning of the Restricted Property and the platting of the Restricted Property (known as mitigation areas) as separate tracts designated as "Natural Area Open Space" or similar in connection with the platting of the Project
- Construction, reconstruction, or placement of any building or other improvement, billboard, or sign except as required to support habitat enhancement activities specified in the HMMP
- Depositing, dumping, or accumulating soil, trash, ashes, refuse, waste, bio-solids, or any other material
- Planting, introduction, or dispersal of non-native, invasive, or exotic plant or animal species
- Filling, dumping, excavating, draining, dredging, mining, drilling, removing, or exploring for or extraction of minerals, loam, gravel, soil, rock, sand, or other material on or below the surface of the Restricted Property
- Altering the general topography of the Restricted Property, including but not limited to, building of roads and flood control work
- Removing, destroying, or cutting trees, shrubs, or other vegetation, except for (1) emergency fire protection as required by fire safety officials, (2) prevention or treatment of disease, (3) control of invasive or exotic plants which threaten the integrity of the habitat, (4) undertaking the Plan as determined necessary by an applicable sub-community
- Manipulating, impounding or altering any natural watercourse, body of water, or water circulation on the Restricted Property, and activities or uses detrimental to water quality, including but not limited to, degradation or pollution of any surface or sub-surface waters
- Fuel modification zones (defined as a strip of mowed land or the planting of vegetation possessing low combustibility for purposes of fire suppression).

3.4.2 Allowable Short and Long-Term Activities and Maintenance

The following activities within a Restricted Property are allowed:

- An applicable sub-community staking, fertilizing, and weeding of the immediate area of vegetation to be re-established
- Passive, resource-based recreation such as hiking, walking, and bird-watching
- Removal of non-native invasive vegetation such as salt cedar (a qualified individual should be used to identify salt cedar prior to removal). Such vegetation removal to be performed by an applicable sub-community as determined necessary
- Trash and man-made debris removal
- An applicable sub-community removal of trees and shrubs damaged or destroyed by natural disasters

- Installation of allowable signage by an approved sub-community
- Maintenance of the irrigation system and drainage culverts by an approved sub-community

Appendix E
Conservation Easement Template

RECORDING REQUESTED BY AND
WHEN RECORDED RETURN TO:

[insert address]

(Space Above Line for Recorder's Use)

DECLARATION OF RESTRICTIVE COVENANTS

This DECLARATION OF RESTRICTIVE COVENANTS ("**Restrictive Covenant**") is made this ____ day of _____, 20__ by _____, a _____corporation (hereinafter "**Declarant**").

R E C I T A L S

A. Declarant is the sole owner in fee simple of certain real property containing ___ acres, located in the City of _____, County of _____, State of Arizona, found on Assessor's Parcel Number _____ (the "**Parcel**"). The Parcel is legally described on **Exhibit "A"** attached hereto and incorporated by this reference. The Declarant desires to grant a restrictive covenant over a ___-acre portion of the Parcel (the "**Restricted Property**"). The Restricted Property is legally described and depicted on **Exhibit "B"** attached hereto and incorporated by this reference.

B. The Restricted Property provides, among other things, compensatory mitigation for certain impacts from development of the _____ Project ("**Project**") by Declarant pursuant to requirements of (1) the United States Army Corps of Engineers' ("**ACOE**") Clean Water Act (CWA) Section 404 Permit No. _____ and any amendments thereto (**"Section 404 Permit**"); and the Arizona Department of Environmental Quality's ("**ADEQ**") CWA Section 401 Certification No. _____ and any amendments thereto (**"Section 401 Certification**"), and the United States Fish and Wildlife Service's ("**USFWS**") biological opinion No. _____ and any amendments thereto ("**BO**"). The foregoing documents are collectively referred to herein as the "**Approval Documents**."

Comment [A1]: Modify/delete as necessary.

C. This Restrictive Covenant is designed to satisfy and is granted in satisfaction of the Approval Documents.

D. Consistent with the terms and conditions of this Restrictive Covenant, the Restricted Property is and will remain in a Natural Condition as defined herein and is intended to be preserved in its natural, scenic, open condition to maintain its ecological, historical, visual and educational values (collectively, "**Conservation Values**"). The Conservation Values are of importance to the people of the County of _____ and the people of the United States.

E. The ACOE is the federal agency charged with the primary responsibility for regulating activities in waters of the United States, including wetlands, with regulatory authority over discharges of dredged and fill material into such waters pursuant to Section 404 of the Clean Water Act, and is a third party beneficiary of this Restrictive Covenant.

F. [delete if not applicable or revise if fee title to be conveyed to HOA] Following recordation and subject to Section 11 below, Declarant intends to convey all of the Restricted Property to a conservation organization. Should Declarant transfer its interest in the Restricted Property prior to the time that Compensatory Mitigation (defined below) is fulfilled, the conservation organization will assume the roles and responsibilities of Declarant, including long-term maintenance, under this Restrictive Covenant, except that Declarant, as the developer of the Project, will remain responsible for the Compensatory Mitigation until it has been successfully implemented and completed per the success criteria set forth in the Mitigation Plan.

COVENANTS, TERMS, CONDITIONS AND RESTRICTIONS

In consideration of the above recitals and the covenants, terms, conditions, and restrictions contained herein, and pursuant to the laws of the United States and state of Arizona, including Arizona Revised Statutes 33-271, *et seq.*, Declarant hereby declares the Restricted Property shall be held, transferred, conveyed, leased, occupied or otherwise disposed of, and used subject to the following restrictive covenants (and incorporating the above recitals herein by this reference), which shall run with the land, and be binding on Declarant's heirs, successors in interest, administrators, assigns, lessees, or other occupiers and users of the Restricted Property, or any portion of it.

1. Purpose.

(a) The purposes of this Restrictive Covenant are to (1) ensure the Restricted Property will be preserved in a Natural Condition, as defined herein, in perpetuity and (2) prevent any use of the Restricted Property that will impair or interfere with the Conservation Values of the Restricted Property (the "**Purpose**"). Declarant intends that this Restrictive Covenant will confine the use of the Restricted Property to such activities that are consistent with this Purpose, including without limitation, those involving the preservation, restoration, and enhancement of native species and their habitats.

(b) The term "**Natural Condition**," as referenced in the preceding paragraph and other portions of this Restrictive Covenant, shall mean the condition of the Restricted Property as it exists at the time this Restrictive Covenant is executed, as well as future enhancements or changes to the Restricted Property that occur directly as a result of the following activities:

(1) Compensatory mitigation measures (**"Compensatory Mitigation**"), including implementation, maintenance and monitoring activities, required by the Approval Documents and as described in the "[insert name of mitigation plan]," prepared by _____, dated _____ (the "**Mitigation Plan**"). The cover page and introduction are attached as **Exhibit "C"**;

(2) In-perpetuity maintenance obligations ("**Long-Term Maintenance**") that occur on the Restricted Property as described in Section 14 herein.

(3) Activities described in Section 3 and Section 5 herein.

(c) Declarant represents and warrants that there are no structures or other man-made improvements existing on the Restricted Property [**OR,** the only structures or other man-made

improvements existing on the Restricted Property consist of (describe)]. Declarant further represents and warrants there are no previously granted easements existing on the Restricted Property that interfere or conflict with the Purpose of this Restrictive Covenant as evidenced by the Preliminary Title Report dated _____, attached hereto as **Exhibit "D**." The present Natural Condition is evidenced in part by the depiction of the Restricted Property attached on **Exhibit "E,"** showing all relevant and plottable property lines, easements, dedications, improvements, structures, boundaries, and major, distinct natural features such as waters of the United States. Declarant has delivered further evidence of the present Natural Condition to ACOE consisting of (1) a color aerial photograph of the Restricted Property at an appropriate scale taken _____; (2) an overlay of the Restricted Property boundaries on that aerial photograph; and (3) on-site color photographs showing all improvements, structures, and natural features of the Restricted Property.

(d) If a controversy arises with respect to the present Natural Condition of the Restricted Property, Declarant and/or ACOE shall not be foreclosed from utilizing any and all other relevant documents, surveys, photographs or other evidence or information to assist in the resolution of the controversy.

(e) The term "**Biological Monitor**" shall mean either an employee of the Declarant or an independent third-party consultant with knowledge of riparian resources in the _____ County area and expertise in the field of biology or a related field.

2. ACOE's rights. To accomplish the Purpose of this Restrictive Covenant, Declarant hereby grants and conveys the following rights to ACOE (but without obligation of the ACOE):

(a) A non-exclusive easement on and over the Restricted Property to preserve and protect the Conservation Values of the Restricted Property; and

(b) A non-exclusive easement on and over the Parcel and Restricted Property to enter upon the Restricted Property to monitor Declarant's compliance with and to otherwise enforce the terms of this Restrictive Covenant; and

(c) A non-exclusive easement on and over the Restricted Property to prevent any activity on or use of the Restricted Property that is inconsistent with the Purpose of this Restrictive Covenant and to require the restoration of such areas or features of the Restricted Property that may be damaged by any act, failure to act, or any use that is inconsistent with the Purpose of this Restrictive Covenant; and

(d) All present and future development rights allocated, implied, reserved or inherent in the Property; such rights are hereby terminated and extinguished, and may not be used on or transferred to any portion of the Property, nor any other property adjacent or otherwise; and

(e) The right to enforce by any means, including, without limitation, injunctive relief, the terms and conditions of this Restrictive Covenant.

3. Declarant's Duties. [Declarant's Name] shall undertake construction, maintenance and monitoring of mitigated areas pursuant to the Mitigation Plan until receipt of final approval of

the success of the mitigation from ACOE and ADEQ ("**Final Approval**"). This duty is non-transferrable. Declarant, its successors and assigns shall:

(a) Undertake all reasonable actions to prevent the unlawful entry and trespass by persons whose activities would be inconsistent with the Conservation Values and would violate the permitted uses of the Restricted Property set forth in this Restrictive Covenant; and

(b) Cooperate with ACOE in the protection of the Conservation Values; and

(c) Repair and restore damage to the Restrictive Property directly or indirectly caused by Declarant, Declarant's guests, representatives or agents and third parties within Declarant's control; provided, however, Declarant, its successors or assigns shall not engage in any repair or restoration work in the Restricted Property without first consulting with ACOE; and

(d) Obtain any applicable governmental permits and approvals for any activity or use permitted by this Restrictive Covenant, and any activity or use shall be undertaken in accordance with all applicable federal, state, local and administrative agency statutes, ordinances, rules, regulations, orders or requirements; and

(e) Upon receipt of Final Approval, perform in-perpetuity Long-Term Maintenance on the Restricted Property set forth in Section 14 below; and

(f) Within 60 days of recordation of this Restrictive Covenant, install signs and other notification features saying "Natural Area Open Space," "Protected Natural Area," or similar descriptions that inform persons of the nature and restrictions on the Restricted Property. Prior to erection of such signage, Declarant shall submit detailed plans showing the location and language of such signs to ACOE for review and approval. The erection and maintenance of informative signage shall not be in direct or potential conflict with the preservation of the Natural Condition of the Restricted Property or the Purpose of this Restrictive Covenant and shall be performed in compliance with all applicable statutes, regulations, and permitting requirements; and

(g) Perform an annual compliance inspection of the Restricted Property, prepare an inspection report, and shall make reports available to ACOE upon request.

4. Prohibited Uses. Any activity on or use of the Restricted Property inconsistent with the Purpose of this Restrictive Covenant is prohibited. Without limiting the generality of the foregoing, the following uses by Declarant, and its respective guests, agents, assigns, employees, representatives, successors and third parties within Declarant's control, are expressly prohibited:

(a) Supplemental or unseasonable watering except as specifically provided for in the Mitigation Plan;

(b) Use of herbicides, pesticides, rodenticides, biocides, fertilizers, or other agricultural chemicals or weed abatement activities, except weed abatement activities necessary to control or remove invasive, exotic plant species;

(c) Incompatible fire protection activities, except the fire prevention activities set forth in Subsection 5(f);

(d) Use of off-road vehicles and use of any other motorized vehicles except on existing roadways and as necessary to restore native plant communities consistent with Section 5;

(e) Grazing or other agricultural activity of any kind;

(f) Recreational activities, including, but not limited to, horseback riding, biking, hunting or fishing;

(g) Residential, commercial, retail, institutional, or industrial uses;

(h) Any legal or de facto division, subdivision or partitioning of the Restricted Property;

(i) Construction, reconstruction or placement of any building, road, wireless communication cell towers, or other improvement, or any billboard, fence, boundary marker or sign, except signs permitted in Subsection 3(f);

(j) Depositing, dumping or accumulating soil, trash, ashes, refuse, waste, bio-solids or any other material;

(k) Planting, introduction or dispersal of non-native or exotic plant or animal species;

(l) Filling, dumping, excavating, draining, dredging, mining, drilling, removing or exploring for or extraction of minerals, loam, gravel, soil, rock, sand or other material on or below the surface of the Restricted Property;

(m) Altering the general topography of the Restricted Property, including but not limited to building of roads and trails, and flood control work;

(n) Removing, destroying, or cutting of trees, shrubs or other vegetation, except as necessary for (1) emergency fire protection as required by fire safety officials as set forth in Subsection 5(f), (2) controlling invasive, exotic plants which threaten the integrity of the habitat, (3) preventing or treating disease, (4) conducting activities permitted by the Mitigation Plan, or (5) activities described in Section 3, Section 5 and Section 14. In the event that activity in the Restricted Property is necessary to prevent or treat disease as listed in item (3) herein, the first priority for action shall be chemical and biological methods. No invasive or non-native species shall be introduced to prevent or treat disease, unless chemical or biological methods have failed to resolve the problem and the County of _____ Department of Environmental Health, or other agency with authority, determines that no other methods will address the problem. Removal of vegetation to prevent or treat disease shall only be allowed if chemical or biological methods have failed to resolve the problem or upon a showing that removal of vegetation is required on an emergency basis;

(o) Manipulating or altering any natural watercourse, body of water or water circulation on the Restricted Property other than as described in the Mitigation Plan, and activities or uses detrimental to water quality, including but not limited to degradation or pollution of any surface or sub-surface waters;

(p) Creating, enhancing, or maintaining fuel modification zones (defined as a strip of mowed land or the planting of vegetation possessing low combustibility for purposes of fire suppression), or other activities that could constitute fuel modification zones;

(q) Without the prior written consent of ACOE, which ACOE may withhold, transferring, encumbering, selling, leasing, or otherwise separating the mineral, air or water rights from the Restricted Property; changing the place or purpose of use of the water rights on the Restricted Property; abandoning or allowing the abandonment of, by action or inaction, any water or water rights, ditch or ditch rights, spring rights, reservoir or storage rights, wells, round water rights, or other rights in and to the use of water historically used on or otherwise appurtenant to the Restricted Property, including but not limited to: (1) riparian water rights; (2) appropriative water rights; (3) rights to waters which are secured under contract with any irrigation or water district, to the extent such waters are customarily applied to the Restricted Property; and (4) any water from wells that are in existence or may be constructed in the future on the Restricted Property;

(r) Engaging in any use or activity that may violate, or may fail to comply with, relevant federal, state, or local laws, regulations, or policies applicable to Declarant, the Restricted Property, or the use or activity in question;

(s) No use shall be made of the Restricted Property, and no activity thereon shall be permitted, that is or is likely to become inconsistent with the Purpose of this Restrictive Covenant. Declarant acknowledges that, in view of the perpetual nature of this Restrictive Covenant, it is unable to foresee all potential future land uses, future technologies, and future evolution of the land and other natural resources, and other future occurrences affecting the Purpose of this Restrictive Covenant. ACOE may determine whether (1) proposed uses or proposed improvements not contemplated by or addressed in this Restrictive Covenant or (2) alterations in existing uses or structures, are consistent with the Purpose of this Restrictive Covenant; and

(t) Creation of any encumbrance superior to this Restrictive Covenant, other than those encumbrances set forth in **Exhibit "D"** hereto, or the recording of any involuntary lien (which is not released within thirty calendar days), or the granting of any lease, license or similar possessory interest in the Restricted Property which will affect the Conservation Values of the Restricted Property.

5. Reserved Rights. Declarant reserves to itself, and to its personal representatives, heirs, successors, and assigns, all rights accruing from its ownership of the Restricted Property, including the right to engage in or to permit or invite others to engage in all uses of the Restricted Property that are not expressly prohibited or limited by, and are consistent with, the Purpose of this Restrictive Covenant, including, but not limited to, the following uses:

(a) Access. Reasonable access through the Restricted Property to adjacent land or to perform obligations or other activities permitted by this Restrictive Covenant or that are required under the Approval Documents. In addition, police and other public safety organizations and their personnel may enter the Restricted Property to address any legitimate public health or safety matter. When and if [Name of Present Declarant] assigns its rights and duties under this

Restrictive Covenant to a conservation organization, [Name of Present Declarant] may not assign to the conservation organization the duty to undertake construction, maintenance and monitoring of mitigated areas pursuant to the Mitigation Plan, i.e., [Name of Present Declarant] will remain responsible for the Compensatory Mitigation obligations of the Approval Documents until Final Approval is obtained. In the event [Name of Present Declarant] conveys its interest in the Restricted Property prior to completion of Compensatory Mitigation requirements, [Name of Present Declarant] expressly reserves the right for it or its agents to enter the Restricted Property to perform such work thereon as is required to meet the Compensatory Mitigation obligations of the Approval Documents.

(b) Habitat Enhancement Activities. Enhancement of native plant communities, including the right to plant trees and shrubs of the same type as currently existing on the Restricted Property, so long as such activities do not harm the habitat types identified in the Approval Documents or Mitigation Plan. For purposes of preventing erosion and reestablishing native vegetation, the Declarant shall have the right to revegetate areas that may be damaged by the permitted activities under this Section 5, naturally occurring events or by the acts of persons wrongfully damaging the Natural Condition of the Restricted Property. Prior to any habitat enhancement activities, Declarant shall have a Biological Monitor submit detailed plans to ACOE, ADEQ, and USFWS for review and approval. Habitat enhancement activities shall not be in direct or potential conflict with the preservation of the Natural Condition of the Restricted Property or the Purpose of this Restrictive Covenant and shall be performed in compliance with all applicable laws, regulations, and permitting requirements.

(c) Vegetation, Debris, and Exotic Species Removal. Removal or trimming of vegetation downed or damaged due to natural disaster, removal of man-made debris, removal of parasitic vegetation (as it relates to the health of the host plant) and removal of non-native or exotic plant or animal species. Vegetation, debris, and exotic plant species removal shall not be in direct or potential conflict with the preservation of the Natural Condition of the Restricted Property or the Purpose of this Restrictive Covenant and shall be performed in compliance with all applicable laws, regulations, and permitting requirements.

(d) Erection and Maintenance of Informative Signage. Erection and maintenance of signage and other notification features saying "No Trespass" or similar descriptions that inform persons of the nature and restrictions on the Restricted Property.

(e) No Interference with Development of Adjoining Property. Notwithstanding anything set forth herein to the contrary, nothing in this Restrictive Covenant is intended nor shall be applied to in any way limit Declarant or any of Declarant's successors and assigns from (1) constructing, placing, installing, and/or erecting any improvements upon the portions of the Parcel not constituting the Restricted Property, and /or (2) developing adjoining property for any purposes, except as limited by any local, state or federal permit requirements for such development and provided that for all of the above clauses, (1) and (2), neither such activity nor any effect resulting from such activity amounts to a use of the Restricted Property, or has an impact upon the Restricted Property, that is prohibited by Section 4 above.

(f) Fire Protection. The right, in an emergency situation only, to maintain firebreaks (defined as a strip of plowed or cleared land made to check the spread of a fire), trim or remove

brush, otherwise perform preventative measures required by the fire department to protect structures and other improvements from encroaching fire. All other brush management activities, activities prohibited by Subsection 4(p), or other fire prevention measures suggested by the fire department, shall be limited to areas outside the Restricted Property.

(g) Mitigation Plan. Notwithstanding anything herein to the contrary, [Name of Present Declarant] may take any action required by the Mitigation Plan. Such actions may include, but are not limited to the following: (1) [Name of Present Declarant] shall have the right to maintain, repair and or replace from time to time any or all of the vegetation planted as part of the Mitigation Plan and (2) [Name of Present Declarant] may take actions consistent with the Mitigation Plan.

6. Enforcement.

(a) Right to Enforce. Declarant, its successors and assigns, grant to ACOE, U.S. Department of Justice, and the State Attorney General a discretionary right to enforce these restrictive covenants in a judicial or administrative action against any person(s) or other entity (ies) violating or attempting to violate these restrictive covenants; provided, however, that no violation of these restrictive covenants shall result in a forfeiture or reversion of title. The U.S. Department of Justice and the State Attorney General shall have the same rights, remedies and limitations as ACOE under this Section 6. The rights under this Section are in addition to, and do not limit rights conferred in Section 2 above, the rights of enforcement against Declarant, its successor or assigns under the Section 404 Permit, or any rights of the various documents created thereunder or referred to therein.

(b) Notice.

(1) If ACOE determines Declarant is in violation of the terms of this Restrictive Covenant or that a violation is threatened, ACOE may demand the cure of such violation. In such a case, ACOE shall issue a written notice to Declarant (hereinafter "**Notice of Violation**") informing Declarant of the violation and demanding cure of such violation.

(2) Declarant shall cure the noticed violation within thirty (30) days of receipt of said written notice from ACOE. If said cure reasonably requires more than thirty (30) days, Declarant shall, within the thirty (30) day period submit to ACOE for review and approval a plan and time schedule to diligently complete a cure. Declarant shall complete such cure in accordance with the approved plan. If Declarant disputes the Notice of Violation, it shall issue a written notice of such dispute (hereinafter "**Notice of Dispute**") to the ACOE within thirty (30) days of receipt of written Notice of Violation.

(3) If Declarant fails to cure the noticed violation(s) within the time period(s) described in Subsection 6(b)(2) above, or Subsection 6(c) below, ACOE may bring an action at law or in equity in a court of competent jurisdiction to enforce compliance by Declarant with the terms of this Restrictive Covenant. In such action, the ACOE may (i) recover any damages to which they may be entitled for violation by Declarant of the terms of this Restrictive Covenant, (ii) enjoin the violation, *ex parte* if necessary, by temporary or permanent injunction without the necessity of proving either actual damages or the inadequacy of otherwise available legal

remedies, or (iii) pursue other equitable relief, including, but not limited to, the restoration of the Restricted Property to the condition in which it existed prior to any such violation or injury. ACOE may apply any damages recovered to the cost of undertaking any corrective action on the Restricted Property.

(4) If Declarant provides ACOE with a Notice of Dispute, as provided herein, ACOE shall meet and confer with Declarant at a mutually agreeable place and time, not to exceed thirty (30) days from the date that ACOE receives the Notice of Dispute. ACOE shall consider all relevant information concerning the disputed violation provided by Declarant and shall determine whether a violation has in fact occurred and, if so, whether the Notice of Violation and demand for cure issued by ACOE is appropriate in light of the violation.

(5) If, after reviewing Declarant's Notice of Dispute, conferring with Declarant, and considering all relevant information related to the violation, ACOE determines that a violation has occurred, ACOE shall give Declarant notice of such determination in writing. Upon receipt of such determination, Declarant shall have thirty (30) days to cure the violation. If said cure reasonably requires more than thirty (30) days, Declarant shall, within the thirty (30) day period submit to ACOE for review and approval a plan and time schedule to diligently complete a cure. Declarant shall complete such cure in accordance with the approved plan.

(c) Immediate Action. If ACOE determines that circumstances require immediate action to prevent or mitigate significant damage to the Conservation Values of the Restricted Property, ACOE may immediately pursue all available remedies, including injunctive relief, available pursuant to both this Restrictive Covenant and state and federal law after giving Declarant at least twenty four (24) hours' written notice before pursuing such remedies. So long as such twenty four (24) hours' notice is given, ACOE may immediately pursue all available remedies without waiting for the expiration of the time periods provided for cure or Notice of Dispute as described in Subsection 6(b)(2). The written notice pursuant to this paragraph may be transmitted to Declarant by facsimile. The rights of ACOE under this paragraph apply equally to actual or threatened violations of the terms of this Restrictive Covenant. Declarant agrees that the remedies at law for ACOE for any violation of the terms of this Restrictive Covenant are inadequate and that ACOE shall be entitled to the injunctive relief described in this section, both prohibitive and mandatory, in addition to such other relief to which ACOE may be entitled, including specific performance of the terms of this Restrictive Covenant, without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies. The remedies described in this Subsection 6(c) shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity.

(d) Costs of Enforcement. Any costs incurred by ACOE, as the prevailing party, in enforcing the terms of this Restrictive Covenant against Declarant including, but not limited to, costs of suit and attorneys' fees, and any costs of restoration necessitated by Declarant's negligence or breach of this Restrictive Covenant shall be borne by Declarant.

(e) Enforcement Discretion. Enforcement of the terms of this Restrictive Covenant shall be at the discretion of ACOE. Any forbearance by ACOE to exercise rights under this Restrictive Covenant in the event of any breach of any term of this Restrictive Covenant by Declarant shall not be deemed or construed to be a waiver by ACOE of such term or of any

subsequent breach of the same or any other term of this Restrictive Covenant or of any of the rights of ACOE under this Restrictive Covenant. No delay or omission by ACOE in the exercise of any right or remedy upon any breach by Declarant shall impair such right or remedy or be construed as a waiver. Further, nothing in this Restrictive Covenant creates a non-discretionary duty upon ACOE to enforce its provisions, nor shall deviation from the terms and procedures or failures to enforce its provisions give rise to a private right of action against ACOE by any third party.

(f) Acts Beyond Declarant's Control. Nothing contained in this Restrictive Covenant shall be construed to entitle ACOE to bring any action against Declarant for any injury to or change in the Restricted Property resulting from:

(1) Any natural cause beyond Declarant's control, including without limitation, fire not caused by Declarant, flood, storm, and earth movement; or

(2) Any prudent action taken by Declarant under emergency conditions to prevent, abate, or mitigate significant injury to persons and/or the Restricted Property resulting from such causes, provided that once the emergency has abated, Declarant, its successors or assigns promptly take all reasonable and necessary actions required to restore any damage caused by Declarant's actions to the Restricted Property to the condition it was in immediately prior to the emergency; or

(3) Acts of third parties (including any governmental agencies) that are beyond Declarant's control.

Notwithstanding the foregoing, Declarant must obtain any applicable governmental permits and approvals for any emergency activity or use permitted by this Restrictive Covenant and undertake any activity or use in accordance with all applicable federal, state, local and administrative agency statutes, ordinances, rules, regulations, orders or requirements.

7. Access. This Restrictive Covenant does not convey a general right of access to the public.

8. Costs and Liabilities.

(a) Declarant, or its successor or assign retains all responsibilities and shall bear all costs and liabilities of any kind related to the ownership, operation, upkeep and maintenance of the Restricted Property. Declarant agrees ACOE shall not have any duty or responsibility for the operation, upkeep, or maintenance of the Restricted Property, the monitoring of hazardous conditions thereon, or the protection of Declarant, the public or any third parties from risks relating to conditions on the Restricted Property. Declarant, its successor or assign remains solely responsible for obtaining any applicable governmental permits and approvals for any activity or use permitted by this Restrictive Covenant, and any activity or use shall be undertaken in accordance with all applicable federal, state, local and administrative agency statutes ordinances, rules, regulations, orders and requirements.

(b) Declarant, or its successors and assigns shall hold harmless, protect and indemnify ACOE and its respective directors, officers, employees, agents, contractors, and representatives and the heirs, personal representatives, successors and assigns of each of them (each a "**Third-Party Beneficiary Indemnified Party**" and collectively, "**Third-Party Beneficiary Indemnified Parties**") from and against any and all liabilities, penalties, costs, losses, damages, expenses (including, without limitation reasonable attorneys' fees and experts' fees), causes of action, claims, demands, orders, liens or judgments (each a "**Claim**" and, collectively, "**Claims**"), arising from or in any way connected with injury to or the death of any person, or physical damage to any property, regardless of cause.

9. Taxes; No Liens. If applicable, Declarant, its successor or assign shall pay before delinquency all taxes, assessments, fees, and charges of whatever description levied on or assessed against the Parcel by competent authority, including any taxes imposed upon, or incurred as a result of, this Restrictive Covenant, and agrees to furnish ACOE with satisfactory evidence of payment upon request. Declarant shall keep the Restricted Property free from any liens, including those arising out of any obligations incurred by Declarant or any labor or materials furnished or alleged to have been furnished to or for Declarant at or for use on the Restricted Property.

10. Condemnation. The Purpose of this Restricted Covenant for conservation purposes are presumed to be the best and most necessary public use as defined in Arizona Revised Statutes Section 12-1122 except that Declarant reserves the right to seek fair market value for any condemnation action. Nevertheless, if all or any part of the Restricted Property is taken by exercise of the power of eminent domain, Declarant shall use the net proceeds from the condemnation of the Restricted Property for the purchase of property that replaces the natural resource characteristics the original mitigation was intended to protect, or as near as reasonably feasible. The endowment shall be held for the long-term stewardship of the replacement property. The location of the replacement property and replacement restrictive covenant is subject to prior approval by the ACOE.

11. Assignment and Subsequent Transfers.

(a) Declarant agrees to incorporate the terms of this Restrictive Covenant in any deed or other legal instrument by which Declarant divests itself of any interest in all or a portion of the Restricted Property. Declarant, its successor or assign agrees to (i) incorporate by reference to the title of and the recording information for this Restrictive Covenant in any deed or other legal instrument by which each divests itself of any interest in all or a portion of the Restricted Property, including, without limitation, a leasehold interest and (ii) give actual notice to any such transferee or lessee of the existence of this Restrictive Covenant. Declarant, its successor or assign agrees to give written notice to ACOE of the intent to transfer any interest at least sixty (60) days prior to the date of such transfer. Any subsequent transferee shall be deemed to have assumed the obligations of this Restrictive Covenant and to have accepted the restrictions contained herein. The failure of Declarant, its successor or assign to perform any act provided in this Section shall not impair the validity of this Restrictive Covenant or limit its enforceability in any way.

(b) From and after the date of any transfer of all or any portion of the Restricted Property by Declarant and each transfer thereafter, (i) the transferee shall be deemed to have assumed all of the obligations of Declarant as to the portion transferred, as set forth in this Restrictive Covenant, (ii) the transferee shall be deemed to have accepted the restrictions contained herein as to the portion transferred, (iii) the transferor, as applicable, shall have no further obligations hereunder, except for the obligations set forth above in Section 3 related to Compensatory Mitigation and Subsection 17(f), and (iv) all references to Declarant in this Restrictive Covenant shall thereafter be deemed to refer to such transferee.

Comment [A2]: If fee title to go to HOA, add: If the Restricted Property is conveyed to the Association before completion of the Compensatory Mitigation obligations pertaining to the Restricted Property, [Name of Present Declarant] shall remain responsible for fulfilling those obligations contained herein and in the Mitigation Plan until Final Approval. Upon conveyance of the Restricted Property to the Association, (1) Association shall be responsible for the obligations pertaining to restoration of the Restricted Property set forth in the Mitigation Plan in the event [Name of Present Declarant] does not satisfactorily complete them, (2) the Association shall assume all other duties and obligations of Declarant hereunder, and (3) Declarant shall be relieved of any and all ongoing obligations or liability hereunder except for the obligations set forth above in this paragraph and pursuant to Subsection 17(f). Declarant agrees to include language in the Declaration of Covenants, Conditions, Restrictions, Reservations and Easements ("CC&Rs") for the Project that requires the Association to accomplish the following: (i) assume the obligations under this Restrictive Covenant upon conveyance of the Restricted Property to the Association; (ii) establish a separate reserve fund to ensure the Association's full compliance with the terms of this Restrictive Covenant; (iii) reevaluate the appropriate amount of the separate reserve fund described in item (ii) above every two years and maintain a minimum balance of $5,000 in the separate reserve fund at all times, such fund to initially be funded by [Name of Present Declarant], and subject to an automatic increase of 2% (two percent) at each two-year interval; unless a smaller increase is approved by ACOE, at each two-year interval; and (iv) perform an internal review each year of the status of the land governed by this Restrictive Covenant and, in particular, the Association's full compliance with the terms of this Restrictive Covenant. Prior to recordation, the CC&Rs shall be submitted to ACOE for approval. If the ACOE does not approve or disapprove any such CC&Rs in writing (specifying any reasons for its disapproval in writing) within forty-five (45) days of submission, the CC&Rs shall be deemed approved.

12. Notices. Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and be served personally or sent by first class mail, postage prepaid, addressed as follows:

To Declarant:

With a copy to:

To ACOE: District Counsel
U.S. Army Corps of Engineers
915 Wilshire Blvd, Room 1535
Los Angeles, CA 90017-3401

or to such other address as either party shall designate by written notice to the other. Notice shall be deemed effective upon delivery in the case of personal delivery or, in the case of delivery by first class mail, five (5) days after deposit into the United States mail.

The parties agree to accept facsimile signed documents and agree to rely upon such documents as if they bore original signatures. Each party agrees to provide to the other parties, within seventy-two (72) hours after transmission of such a facsimile, the original documents that bear the original signatures.

If the Restrictive Covenant is assigned, the assignment document shall update the Notices provisions.

When the underlying fee for the Restricted Property is conveyed, the successor shall record a document entitled Restrictive Covenant/Change of Notices Provisions.

13. Amendment. Declarant may amend this Restrictive Covenant only after written concurrence by ACOE. Any such amendment shall be consistent with the Purpose of this Restrictive Covenant and shall not affect its perpetual duration. Declarant shall record any amendments to this Restrictive Covenant approved by ACOE in the official records of _____ County, Arizona, and shall provide a copy of the recorded document to ACOE.

14. Long-Term Maintenance.

(a) Upon Final Approval, Declarant shall be responsible for in-perpetuity, ongoing, long-term maintenance of the Restricted Property. Such long-term maintenance shall include but

shall not be limited to the following activities: (1) no less than annually, removal of trash or manmade debris, preferably by hand or the least impactive method reasonably feasible, (2) annual maintenance of signage and other notification features or similar descriptions, as applicable, installed pursuant to Subsection 3(f).

Comment [A3]: Modify based on long-term management plan.

(b) Declarant shall be responsible for annual restoration of the Restricted Property damaged by any activities prohibited by Subsection 4 (a) - (t) herein.

(c) Declarant shall prepare a monitoring and maintenance report documenting activities performed under Subsection 14(a) above, and shall make reports available to ACOE upon request.

(d) When activities are performed pursuant to Subsection 14(b) above, Declarant shall retain a qualified Biological Monitor to prepare a Restoration Plan and to oversee/monitor such restoration activities. Declarant shall have its Biological Monitor submit a draft Restoration Plan to ACOE for review and approval prior to its implementation. Upon completion of restoration as specified in the approved Restoration Plan, Declarant shall have its Biological Monitor prepare a detailed monitoring report, and Declarant shall make the report available to ACOE within thirty (30) days of completion of restoration activities. Declarant and the Biological Monitor shall sign the monitoring report. The report shall document the Biological Monitor's name and affiliation, dates Biological Monitor was present on site, activities observed and their location, Biological Monitor's observations regarding the adequacy of restoration performance by the Declarant, or its contractor in accordance with the approved Restoration Plan, and the corrections recommended and implemented.

15. Recordation. Declarant, its successor or assign shall promptly record this instrument in the official records of _____ County, Arizona, and provide a copy of the recorded document to ACOE.

16. Estoppel Certificate. Upon request, ACOE shall within fifteen (15) days execute and deliver to Declarant, its successor or assign a letter confirming that (a) this Restrictive Covenant is in full force and effect, and has not been altered, amended, or otherwise modified (except as specifically noted in the letter), (b) there are no pending or threatened enforcement actions against Declarant except as disclosed in the letter, (c) to the knowledge of the ACOE, there are no uncured violations under the Restrictive Covenant, and no facts or circumstances exist that, with the passage of time, could constitute a violation under the Restrictive Covenant, except as disclosed in the letter.

17. General Provisions.

(a) Controlling Law. The laws of the United States and the State of Arizona, disregarding any conflicts of law principles of such state, shall govern the interpretation and performance of this Restrictive Covenant.

(b) Liberal Construction. Any general rule of construction to the contrary notwithstanding, this Restrictive Covenant shall be liberally construed in favor of the deed to effect the Purpose of this Restrictive Covenant. If any provision in this instrument is found to be

ambiguous, an interpretation consistent with the Purpose of this Restrictive Covenant that would render the provision valid shall be favored over any interpretation that would render it invalid.

(c) Severability. If a court of competent jurisdiction voids or invalidates on its face any provision of this Restrictive Covenant, such action shall not affect the remainder of this Restrictive Covenant. If a court of competent jurisdiction voids or invalidates the application of any provision of this Restrictive Covenant to a person or circumstance, such action shall not affect the application of the provision to other persons or circumstances.

(d) No Forfeiture. Nothing contained herein will result in a forfeiture or reversion of Declarant's title in any respect.

(e) Successors and Assigns. The covenants, terms, conditions, and restrictions of this Restrictive Covenant shall be binding upon, and inure to the benefit of, the parties hereto and their respective personal representatives, heirs, successors, and assigns and shall continue as a servitude running in perpetuity with the Restricted Property. The covenants hereunder also benefit ACOE, as a third party beneficiary of this Restrictive Covenant.

(f) Termination of Rights and Obligations. Except as otherwise expressly set forth in this Restrictive Covenant and provided the transfer was consistent with the terms of this Restrictive Covenant, a party's rights and obligations under this Restrictive Covenant shall terminate upon transfer of the party's interest in the Restrictive Covenant or Restricted Property (respectively), except that liability for acts or omissions occurring prior to transfer shall survive transfer. However, in those provisions where the term "[Name of Present Declarant]" is used in this Restrictive Covenant, and not the term "Declarant," those provisions shall be called **"Specific Obligations"** and shall apply exclusively to the [Name of Present Declarant] and shall not be transferred to the conservation organization upon conveyance of the [Name of Present Declarant] interest in the Restrictive Covenant or Restricted Property. If the [Name of Present Declarant] conveys its interest in the Project to a bona fide purchaser, the Specific Obligations are assumed by such bona fide purchaser by virtue of this Restrictive Covenant.

(g) Captions. The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

(h) No Hazardous Materials Liability.

(1) Declarant represents and warrants that to Declarant's actual knowledge there has been no release or threatened release of Hazardous Materials (defined below) or underground storage tanks existing, generated, treated, stored, used, released, disposed of, deposited or abandoned in, on, under, or from the Restricted Property, or transported to or from or affecting the Restricted Property. Without limiting the obligations of Declarant under Subsection 8(b) herein, Declarant hereby releases and agrees to indemnify, protect and hold harmless the Third Party Beneficiary Indemnified Parties (defined in Subsection 8(b)) against any and all Claims (defined in Subsection 8(b)) arising from or connected with any Hazardous Materials present, or otherwise alleged to be present, on the Restricted Property at any time, except that this release and indemnification shall be inapplicable to the Third Party Beneficiary

Indemnified Parties with respect to any Hazardous Materials placed, disposed or released by third party beneficiaries, their employees or agents. This release and indemnification includes, without limitation, Claims for (i) injury to or death of any person or physical damage to any property; and (ii) the violation or alleged violation of, or other failure to comply with, any Environmental Laws (defined below).

(2) Despite any contrary provision of this Restrictive Covenant, the parties do not intend this Restrictive Covenant to be, and this Restrictive Covenant shall not be, construed such that it creates in or gives ACOE any of the following:

(i) The obligations or liabilities of an "owner" or "operator," as those terms are defined and used in Environmental Laws (defined below), including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Section 9601 et seq.; hereinafter, "**CERCLA**"); or

(ii) The obligations or liabilities of a person described in 42 U.S.C. Section 9607(a)(3) or (4); or

(iii) The obligations of a responsible person under any applicable Environmental Laws; or

(iv) The right to investigate and remediate any Hazardous Materials associated with the Restricted Property; or

(v) Any control over Declarant's ability to investigate, remove, remediate or otherwise clean up any Hazardous Materials associated with the Restricted Property.

(3) The term "**Hazardous Materials**" includes, without limitation, (i) material that is flammable, explosive or radioactive; (ii) petroleum products, including by-products and fractions thereof; and (iii) hazardous materials, hazardous wastes, hazardous or toxic substances, or related materials defined in CERCLA, the Resource Conservation and Recovery Act (42 U.S.C. Section 6901 et seq.); the Hazardous Materials Transportation Act (49 U.S.C. Section 5101 et seq.); Title 49 of Arizona Revised Statutes, and in the regulations adopted and publications promulgated pursuant to them, or any other applicable federal, state or local laws, ordinances, rules, regulations or orders now in effect or enacted after the date of this Restrictive Covenant.

(4) The term "**Environmental Laws**" includes, without limitation, any federal, state, local or administrative agency statute, ordinance, rule, regulation, order or requirement relating to pollution, protection of human health or safety, the environment or Hazardous Materials. Declarant represents, warrants and covenants to ACOE that activities upon and use of the Restricted Property by Declarant, its agents, employees, invitees and contractors will comply with all Environmental Laws.

(i) Additional Interests. Declarant shall not grant any additional easements, rights of way or other interests in the surface or subsurface of the Restricted Property (other than a security interest that is subordinate to this Restrictive Covenant), or grant or otherwise abandon

or relinquish any water rights relating to the Restricted Property, without first obtaining the written consent of ACOE. ACOE may withhold such consent if it determines that the proposed interest or transfer is inconsistent with the Purpose of this Restrictive Covenant or will impair or interfere with the Conservation Values of the Restricted Property. This Section shall not prohibit transfer of a fee or leasehold interest in the Restricted Property that is subject to this Restrictive Covenant and complies with Section 11. Declarant, its successors and assigns shall record any additional easements or other interests in the Restricted Property approved by the ACOE in the official records of _____ County, Arizona, and provide a copy of the recorded document to the ACOE.

(j) ACOE Benefited Party. Except for Subsection 17(e), the terms of this Restrictive Covenant are for the benefit of the ACOE only and are not for the benefit of any other party.

(k) Extinguishment. If circumstances arise in the future that render the Purpose of the Restrictive Covenant impossible to accomplish, the Restrictive Covenant can only be terminated or extinguished, in whole or in part, by judicial proceedings in a court of competent jurisdiction.

(l) Warranty. Declarant represents and warrants that there are no outstanding mortgages, liens, encumbrances or other interests in the Restricted Property (including, without limitation, mineral interests) which have not been expressly subordinated to this Restrictive Covenant, and that the Restricted Property is not subject to any other Conservation Easement.

(m) Change of Conditions. If one or more of the Purpose of this Restrictive Covenant may no longer be accomplished, such failure of purpose shall not be deemed sufficient cause to terminate the entire Restrictive Covenant as long as any other purpose of the Restrictive Covenant may be accomplished. In addition, the inability to carry on any or all of the permitted uses, or the unprofitability of doing so, shall not impair the validity of this Restrictive Covenant or be considered grounds for its termination or extinguishment. Declarant agrees that global warming and climate change-caused effects shall not be a basis for termination of this Restrictive Covenant.

(n) Funding. Before the execution and recordation of this Restrictive Covenant, the [Name of Present Declarant] shall pay _____ DOLLARS AND NO/100's DOLLARS ($_____) to [Name of Endowment Holder] to endow the long-term management obligations of the Restrictive Covenant. ACOE shall have the right to review and approve the terms of the endowment management agreement, which shall be executed concurrently with this Restrictive Covenant.

* * * Signatures on following page. * * *

IN WITNESS WHEREOF Declarant has executed this Restrictive Covenant the day and year first above written and agrees to be bound by the terms and provisions hereof.

"**Declarant**"

NAME**,**
A _____ corporation

By: _____
[name and title]

[ATTACH NOTARY ACKNOWLEDGEMENT]

APPENDIX D.9:
PARADISE RIDGE 404 PERMIT MODIFICATIONS

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT
3636 N CENTRAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

June 7, 2019

SUBJECT: Modification of Standard Individual Permit for PARADISE RIDGE (Permit No. SPL-1999-16129-KAT)

Ms. Lisa Atkins
Arizona State Lands
1616 W. Adams
Phoenix, Arizona 85007

Dear Ms. Atkins

Your request dated April 18, 2019 to amend your Department of the Army permit for the Paradise Ridge Master Planned Development, (Permit No. SPL-1999-16129-KAT), which authorized you to discharge fill into waters of the U.S., in association with the project in unnamed washes within the city of Phoenix, Maricopa, Arizona is authorized.

Under the provisions of 33 Code of Federal Regulations 325.7(b), your permit is modified to read as follows:

SPECIAL CONDITIONS
PERMIT NO. 1999-16129

f. The Permittee shall comply with the Programmatic Agreement between the U.S. Army Corps of Engineers Los Angeles District, the Arizona State Historic Preservation Office Regarding the Paradise Ridge and Desert Ridge Planning Areas, City of Phoenix, Arizona, executed on June 11, 2009; and the Programmatic Agreement amendment executed on June 7, 2019. The Permittee shall provide all necessary studies/investigations to the Corps of Engineers required under the Programmatic Agreement at their own cost. A copy of this executed Programmatic Agreement and Amendment are enclosed.

The terms and conditions of Permit No. SPL-1999-16129-KAT, except as changed herein, remain in full force and effect.

Thank you for participating in the Regulatory Program. If you have any questions, please contact Kathleen Tucker at (602) 230-6956 or via e-mail at Kathleen.A.Tucker@usace.army.mil. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

Sincerely,

Sallie Diebolt
Chief, Arizona Branch
Regulatory Division

Enclosures

AMENDMENT TO
PROGRAMMATIC AGREEMENT
AMONG
THE LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS,
ARIZONA STATE LAND DEPARTMENT,
AND ARIZONA STATE HISTORIC PRESERVATION OFFICE,
REGARDING THE PARADISE AND DESERT RIDGE PLANNING AREAS,
CITY OF PHOENIX, ARIZONA
(AGREEMENT)

WHEREAS, the Agreement was executed on June 11, 2009;

WHEREAS, the agreement will expire ten years after its execution (June 11, 2019) and all the requirements of the agreement related to mitigation treatment of cultural resources have not been completed (see Table 1);

WHEREAS, the U.S. Army Corps of Engineers (COE) will send a copy of this executed amendment to the Advisory Council on Historic Preservation;

NOW, THEREFORE, in accordance with Stipulation 16 of the Agreement, the U.S. Army Corps of Engineers, the Arizona State Land Department (ASLD), and the Arizona State Historic Preservation Office (SHPO) agree to amend the Agreement as follows:

1. Amend the third recital WHEREAS so it reads as follows:

   WHEREAS, ASLD has inventoried the APE and tested five out of eight archeological sites located within the APE. The results are documented in the following reports by URS: *Archaeological Testing Results and Treatment Plan for Site AZ U:5:93(ASM) and Isolated Occurrence 49 in the Paradise Ridge Planning Area, Phoenix, Arizona; Archaeological Testing Results and Treatment Plan for the Last Ditch Site AZ U:5:33(ASM) in the Paradise Ridge and Desert Ridge Planning Areas, Phoenix, Arizona; Archaeological Testing Results and Treatment Plan for Site AZ U:5:91(ASM) and AZ U:5:92(ASM) Isolated Occurrence 29 in the Paradise Ridge Planning Area, Phoenix, Arizona;* and *Archaeological Testing Results and Treatment Plan for Site AZ U:5:94(ASM) in the Paradise Ridge and Desert Ridge Planning Areas, Phoenix, Arizona.* Site AZ U:5:216(ASM) has been subject to testing and data recovery excavations that are documented in the following report by the Pueblo Grande Museum: *Archaic and Hohokam Occupation of the Mayo Boulevard Project Area in Northeast Phoenix, Arizona;* and

2. Amend Stipulation 1(A) so it reads as follows:

   A. Historic Properties Treatment Plans ("HPTPs") have already been developed for sites AZ U:5:33(ASM), AZ U:5:91(ASM), AZ U:5:92(ASM), AZ U:5:93(ASM), and AZ U:5:94(ASM). The COE will ensure that HPTPs are developed for all other eligible sites within the APE. The HPTPs shall describe the affected historic properties and their historic values, identify the nature of the effects on those historic properties, and describe the strategies proposed to avoid, minimize, or mitigate the effects of the Undertaking on historic properties. The HPTPs shall address the treatment of historic properties within the APE including data recovery and monitoring. The HPTPs will also describe the notification and protection measures in the case of unexpected discoveries. The HPTPs will mention that a

burial agreement pursuant to ARS § 41-844 or ARS § 41-865, as appropriate, will be in place for the APE before any ground disturbing activities occur. The HPTPs will also include an eligibility testing plan for sites AZ U:5:227(ASM) and AZ U:5:233(ASM). HPTP contents and guidelines are provided in Appendix 4.

3. Amend Stipulation 2(A) so it reads as follows:

   A. Prior to ASLD issuing a lease or permit, or disposing of State Trust land at public auction, ASLD shall consult with the COE and SHPO under the State Historic Preservation Act when ground disturbing activities are planned within the boundary of Register-eligible sites AZ U:5:33(ASM), AZ U:5:9l(ASM), AZ U:5:92(ASM), AZ U:5: 93(ASM), AZ U:5:94(ASM), and AZ U:5: 216(ASM), and unevaluated sites AZ U:5:227(ASM) and AZ U:5:233(ASM).

4. Amend Stipulation 5(A)-5(C) so it reads as follows:

   A. ASLD or its successors and assigns (the Permittee) shall bear the expense of identification, evaluation, and treatment of all historic properties directly or indirectly affected by the Undertaking within the APE. Such costs shall include, but not be limited to, pre-field planning, fieldwork, post-field analysis, research, and interim, summary, and final report preparation (including draft and final versions) and costs associated with the curation of project documentation and all collections made from the historic properties. The Permittee shall provide two (2) copies of all draft and final reports to COE, SHPO and Concurring Parties.

   B. The Permittee will submit a Preliminary End-of-Fieldwork Report ("Preliminary Report") to COE, SHPO and Concurring Parties one week after the completion of data recovery fieldwork that will provide a record that the fieldwork was accomplished according to the approved HPTP. The Preliminary Report will also contain a schedule for delivering the draft and final Data Recovery Report to the COE, SHPO and Concurring Parties. After the SHPO accepts the Preliminary Report, COE may authorize the permittee to proceed with earthmoving activities within the APE. Preliminary Report contents and guidelines are provided in Appendix 5.

   C. The Permittee shall submit draft plans and reports to the SHPO, COE and Concurring Parties for review and comment within 30 days. Based on the comments received, the COE may require the Permittee to revise the plans and/or report(s) and furnish such revised plans and/or reports to the COE. The COE will submit any revised plans and/or reports(s) to SHPO and Concurring Parties for a 30-day concurrent review. Failure to respond within the appropriate review period shall not prohibit the COE from directing the Permittee to finalize the plans and/or report(s).

5. Amend Stipulation 18 so it reads as follows:

   Annual Reporting and Biennial Meeting

   The COE will require an annual report for any ASLD actions (e.g., land sales, leases, and permits) that involve parcels containing archeological sites AZ U:5:33(ASM), AZ U:5:91(ASM), AZ U:5:92(ASM), AZ U:5:93(ASM), AZ U:5:94(ASM), AZ U:5:216(ASM), AZ U:5:227(ASM), and AZ U:5:233(ASM) which are included in the

Section 404 Permits. The ASLD Cultural Resources Manager will submit an annual report to the COE Regulatory Project Manager for the Section 404 Permits that documents any and all ASLD actions within the APE during the past calendar year for the duration of this Agreement. ASLD will submit the report no later than January 31. ASLD and COE will meet every two years to evaluate compliance with the Agreement. Such meeting will occur either in person or via telephone.

6. Amend Stipulation 19 so it reads as follows:

   This Agreement shall be considered null and void if its stipulations are not carried out within ten (10) years from the date of the Agreement Amendment execution, unless the Signatory Parties agree in writing to an extension for carrying out its terms.

Table 1: Cultural resources in the Paradise and Desert Ridge Planning Areas with stipulated requirements for mitigation treatment in the Agreement and status of completion

ASM Site Number	National Register Status	Testing	Approved HPTP under 2009 PA	Data Recovery
AZ U:5:33(ASM)	Eligible	completed	yes	partial
AZ U:5:91(ASM)	Eligible	none	no	none
AZ U:5:92(ASM)	Eligible	completed	yes	none
AZ U:5:93(ASM)	Eligible	completed	yes	none
AZ U:5:94(ASM)	Eligible	completed	yes	none
AZ U:5:216(ASM)	Eligible	partial	no	partial
AZ U:5:227(ASM)	Unevaluated	none	no	none
AZ U:5:233(ASM)	Unevaluated	none	no	none

SIGNATORIES

U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

By: David J. Castanon Digitally signed by CASTANON.DAVID.J.1231966150 Date: 2019.05.10 14:55:54 -07'00' Date: 10 May 2019

Name: David J. Castanon

Title: Chief, Regulatory Division

ARIZONA STATE HISTORIC PRESERVATION OFFICE

By: Kathryn Leonard Date: 15 May 2019

Name: Kathryn Leonard

Title: State Historic Preservation Officer

ARIZONA STATE LAND DEPARTMENT

By: _____ Date: _____

Name: Lisa Atkins

Title: State Land Commissioner

CONCURRING PARTIES

ARIZONA STATE MUSEUM

By: _____ Date: _____

Name: Dr. Patrick Lyons

Title: Director

CITY OF PHOENIX, A MUNICIPAL CORPORATION

By: _____ Date: _____

Name: Laurene Montero

Title: City Archaeologist

SIGNATORIES

U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

By: David J. Castanon Digitally signed by CASTANON.DAVID.J.1231966150 Date: 2019.05.10 14:55:54 -07'00' Date: 10 May 2019

Name: David J. Castanon

Title: Chief, Regulatory Division

ARIZONA STATE HISTORIC PRESERVATION OFFICE

By: _____ Date: _____

Name: Kathryn Leonard

Title: State Historic Preservation Officer

ARIZONA STATE LAND DEPARTMENT

By: Lisa Atkins Date: 7 June 19

Name: Lisa Atkins

Title: State Land Commissioner

CONCURRING PARTIES

ARIZONA STATE MUSEUM

By: _____ Date: _____

Name: Dr. Patrick Lyons

Title: Director

CITY OF PHOENIX, A MUNICIPAL CORPORATION

By: _____ Date: _____

Name: Laurene Montero

Title: City Archaeologist

SIGNATORIES

U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

By: David J. Castanon Digitally signed by CASTANON.DAVID.J.1231966150 Date: 2019.05.10 14:55:54 -07'00' Date: 10 May 2019

Name: David J. Castanon

Title: Chief, Regulatory Division

ARIZONA STATE HISTORIC PRESERVATION OFFICE

By: _____ Date: _____

Name: Kathryn Leonard

Title: State Historic Preservation Officer

ARIZONA STATE LAND DEPARTMENT

By: _____ Date: _____

Name: Lisa Atkins

Title: State Land Commissioner

CONCURRING PARTIES

ARIZONA STATE MUSEUM

By: A.H. Date: 6/4/2019

Name: Dr. Patrick Lyons

Title: Director

CITY OF PHOENIX, A MUNICIPAL CORPORATION

By: _____ Date: _____

Name: Laurene Montero

Title: City Archaeologist

SIGNATORIES

U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

By: _____ Digitally signed by CASTANON.DAVID.J.1231966150 Date: 2019.05.10 14:55:54 -07'00' Date: 10 May 2019

Name: David J. Castanon

Title: Chief, Regulatory Division

ARIZONA STATE HISTORIC PRESERVATION OFFICE

By: _____ Date: _____

Name: Kathryn Leonard

Title: State Historic Preservation Officer

ARIZONA STATE LAND DEPARTMENT

By: _____ Date: _____

Name: Lisa Atkins

Title: State Land Commissioner

CONCURRING PARTIES

ARIZONA STATE MUSEUM

By: _____ Date: _____

Name: Dr. Patrick Lyons

Title: Director

CITY OF PHOENIX, A MUNICIPAL CORPORATION

By: _____ Date: 5/28/2019

Name: Laurene Montero

Title: City Archaeologist

FORT MCDOWELL YAVAPAI NATION

By: _____ Date: _____

Name: Bernadine Burnette

Title: President

HOPI TRIBE

By: _____ Date: _____

Name: Stewart Koyiyumptewa

Title: Director, Cultural Preservation Office

SALT RIVER PIMA MARICOPA INDIAN COMMUNITY

By: _____ Date: _____

Name: Shane Anton

Title: Cultural Preservation Program Manager

YAVAPAI APACHE NATION

By: _____ Date: _____

Name: Chris Coder

Title: Tribal Archaeologist

RECEIVED
JUN 10 2009
ARIZONA STATE PARKS/S.H.P.O.

RECEIVED
MAY 26 2009
ER & T SECTION

PROGRAMMATIC AGREEMENT AMONG THE LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS, ARIZONA STATE LAND DEPARTMENT, AND ARIZONA STATE HISTORIC PRESERVATION OFFICE, REGARDING THE PARADISE RIDGE AND DESERT RIDGE PLANNING AREAS, CITY OF PHOENIX, ARIZONA

WHEREAS, the Los Angeles District, U.S. Army Corps of Engineers ("COE") under the authority of Section 404 of the Clean Water Act (33 U.S.C. § 1344) has issued Permits 1999-16129-RWF and 984-0030-RWF ("Section 404 Permits") ("Undertaking") to the Arizona State Land Department ("ASLD") for the Paradise Ridge and Desert Ridge Planning Areas, respectively, located in northeast Phoenix, Maricopa County, Arizona (Appendix 1); and

WHEREAS, the COE has determined that the area of potential effects ("APE") includes the entire Paradise Ridge Planning Area (approximately 3.4 square miles) and Superblocks 2, 3, and 9 of the Desert Ridge Planning Area (approximately 1.4 square miles) located on land administered by ASLD (Appendix 2); and

WHEREAS, ASLD has inventoried the APE and tested six out of eight archeological sites located within the APE. The results are documented in the following reports by URS: *Archeological Testing Results and Treatment Plan for Site AZ U:5:93(ASM) and Isolated Occurrence 49 in the Paradise Ridge Planning Area, Phoenix, Arizona; Archeological Testing Results and Treatment Plan for the Last Ditch Site AZ U:5:34(ASM) in the Paradise Ridge and Desert Ridge Planning Areas, Phoenix, Arizona;* and *Archeological Testing Results and Treatment Plan for Site AZ U:5:94(ASM) and AZ U:5:92(ASM) Isolated Occurrence 29 in the Paradise Ridge Planning Area, Phoenix, Arizona;* and

WHEREAS, the COE has determined that the Undertaking may have an adverse effect on archeological sites AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93, and AZ U:5:94, AZ U:5:216 (ASM), eligible under criterion D for listing in the National Register of Historic Places ("NRHP"), and archeological sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM) which have not been evaluated for listing in the NRHP, and has consulted with the Arizona State Historic Preservation Office ("SHPO") and the Advisory Council on Historic Preservation ("Council"), pursuant to Title 36, Code of Federal Regulations ("CFR"), Part 800, regulations implementing § 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. § 470f) ("NHPA"); and

WHEREAS, the COE seeks to programmatically fulfill its responsibilities under the NHPA, pursuant to 36 CFR § 800.14(b)(1), through development of this programmatic agreement ("PA" or "Agreement"); and

WHEREAS, SHPO is authorized to enter into this PA in order to fulfill its role of advising and assisting federal agencies in carrying out their § 106 responsibilities pursuant to §§ 101 and 106 of the NHPA and 36 CFR §§ 800.2(c)(1)(i) and 800.6(b); and

WHEREAS, SHPO is authorized to advise and assist federal and state agencies in carrying out their historic preservation responsibilities and cooperate with these agencies under Arizona Revised Statutes ("ARS") § 41-511.04(D)(4); and

WHEREAS, the Council elected not to participate in this PA; and

WHEREAS, the Arizona State Historic Preservation Act (ARS § 41-861 *et seq*) requires the ASLD to consult with the SHPO concerning the effect of planned land sales or leases on archeological and historical resources listed in or eligible for listing in the Arizona Register of Historic Places; and ASLD intends to use provisions of this PA to comply with the applicable requirements of the Arizona State Historic Preservation Act and has been invited to participate as an "Invited Signatory" to this PA; and

WHEREAS, the Arizona Antiquities Act (ARS § 41-841 *et seq*) requires the ASLD to notify the Arizona State Museum ("ASM") about the discovery of archeological and historical sites or objects on state land; and

WHEREAS, ASM has authority and responsibility for implementing the Arizona Antiquities Act on state land (defined as land owned or controlled by state agencies and institutions, counties and municipal corporations), and has been invited to participate as a Concurring Party to this PA; and

WHEREAS, the COE has consulted with the City of Phoenix, the Salt River Pima-Maricopa Indian Community, the Hopi Tribe, the Fort McDowell Yavapai Nation, and the Yavapai-Apache Nation regarding the effects of the Undertaking on historic properties and has invited them to participate in this PA as Concurring Parties; and

WHEREAS the COE has determined that implementation of the Undertaking is of long duration (approximately 10 years, with multiple construction phases), and that not all aspects of the project(s) associated with the Undertaking have been planned in final form, and that such planning as exists may be subject to change at some future date, making it desirable to clearly define COE's NHPA Section 106 responsibilities; and

WHEREAS, the definitions given in 36 CFR § 800.16 are applicable throughout this PA.

NOW, THEREFORE, the COE, SHPO, and ASLD, collectively, referred to as "Signatories" or "Parties", agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the Undertaking's effects on historic properties.

STIPULATIONS

The COE and the ASLD, as appropriate, will ensure that the Undertaking will be carried out in accordance with the following stipulations:

STIPULATION 1
Historic Properties Treatment Plans

A. Historic Properties Treatment Plans ("HPTPs") have already been developed for sites AZ U:5:93(ASM), AZ U:5:34(ASM), AZ U:5:94(ASM) and AZ U:5:92(ASM). The COE will ensure that HPTPs are developed for all other eligible sites within the APE. The HPTPs shall describe the affected historic properties and their historic values, identify the nature of the effects on those historic properties, and describe the strategies proposed to avoid, minimize, or mitigate the effects of the Undertaking on historic properties. The HPTPs shall address the treatment of historic properties within the APE including data recovery and monitoring. The HPTPs will also describe the notification and protection measures in the case of unexpected discoveries. The HPTPs will mention that a burial agreement pursuant to ARS § 41-864 or ARS § 41-865, as appropriate, will be in place for the APE before any ground disturbing activities occur. The HPTPs will also include an eligibility testing plan for sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM). HPTP contents and guidelines are provided in Appendix 4.

B. The COE shall ensure that the HPTPs are prepared in consultation with the Parties for the Undertaking and implemented whenever the Undertaking will affect historic properties. The COE will ensure that the following measures are carried out by incorporating this PA as a special condition of any Section 404 Permits issued by the COE to ASLD or its transferee as successor to such Section 404 Permits. If ASLD fails to carry out the measures necessary to implement the HPTPs, the COE will take steps in good faith to enforce the permit conditions or revoke the permit. To prevent impacts to contributing resources, the COE will ensure ASLD maintains a 100-foot buffer around each archeological site until data recovery is completed at that property in accordance with the HPTPs. If the land remains in state ownership at the time of data recovery, the data recovery shall be conducted in accordance with an Arizona Antiquities Act permit issued by ASM.

STIPULATION 2
ASLD Procedures

The ASLD shall ensure consultation with SHPO and the conditions set forth in the Section 404 permits are carried out in accordance with the following.

A. Prior to ASLD issuing a lease or permit, or disposing of State Trust land at public auction, ASLD shall consult with the COE and SHPO under the State Historic Preservation Act when ground disturbing activities are planned within the boundary of Register eligible sites AZ U:5:33(ASM), AZ U:5:91(ASM), AZ U:5:92(ASM), AZ U:5: 93(ASM), AZ U:5:94(ASM), AZ U:5: 216(ASM), AZ U:5: 227(ASM), and AZ U:5:233(ASM).

B. ASLD will continue to consult with SHPO and COE on mitigation plans resulting from leases or permits. However, ASLD will transfer those consultation procedures to the COE per the conditions set forth in the 404 permits regarding State Trust land that has been sold at public auction.

STIPULATION 3
Archeological Monitoring

An archeologist may need to monitor construction activities after data recovery has occurred. Archeological monitoring shall be carried out in accordance with the following.

A. The COE and ASLD, as applicable, shall ensure ASLD or its successors or assigns to the Section 404 Permits, use cultural resources consultant(s) whose firm and associated personnel meet federal and state standards. If the land remains in state ownership at the time of monitoring, the monitoring shall be conducted in accordance with an Arizona Antiquities Act permit issued by ASM.

B. The COE and ASLD, as appropriate, shall ensure that any cultural deposits identified during monitoring are handled in accordance with Stipulation 4, *Post-Review Discoveries.*

STIPULATION 4
Post-Review Discoveries

The COE will condition its Section 404 Permits to require the ASLD or its successors and assigns to provide immediate notification to the COE if cultural deposits, including but not limited to human remains and funerary objects, are discovered during ground-disturbing activities. ASLD shall notify the ASM of such discoveries if the land remains in state possession at the time of the discovery. In the event of a discovery, the COE will immediately require ASLD or its successors or assigns to temporarily halt those activities and take steps to ensure that the area of the discovery is protected and secured as specified in the HPTPs. The COE shall immediately notify the SHPO and Concurring Parties of the nature of the discovery and the proposed treatment according to the discovery plan developed in the HPTP. The COE and ASLD, as appropriate, shall ensure that any burial encountered is treated according to the burial agreement developed for this PA.

STIPULATION 5
Reporting

A. ASLD shall bear the expense of identification, evaluation, and treatment of all historic properties directly or indirectly affected by the Undertaking within the APE. Such costs shall include, but not be limited to, pre-field planning, field work, post-field analysis, research, and interim, summary, and final report preparation (including draft and final versions) and costs associated with the curation of project documentation and all collections made from the historic properties. ASLD shall provide ten (10) copies of all draft and final reports to COE, SHPO and Concurring Parties.

B. ASLD will submit a Preliminary End-of-Fieldwork Report ("Preliminary Report") to COE, SHPO and Concurring Parties one week after the completion of data recovery fieldwork that will provide a record that the fieldwork was accomplished according to the approved HPTP. The Preliminary Report will also contain a schedule for delivering the draft and final Data Recovery Report to the COE, SHPO and Concurring Parties. After

the SHPO accepts the Preliminary Report, COE may authorize ASLD, as the Permittee of the Section 404 Permits, to proceed with earthmoving activities within the APE. Preliminary Report contents and guidelines are provided in Appendix 5.

C. ASLD shall submit draft plans and reports to the SHPO, COE and Concurring Parties for review and comment within 30 days. Based on the comments received, the COE may require ASLD to revise the plans and/or report(s), and furnish such revised plans and/or reports to the COE. The COE will submit any revised plans and/or reports(s) to SHPO and Concurring Parties for a 20-day concurrent review. Failure to respond within the appropriate review period shall not prohibit the COE from directing ASLD to finalize the plans and/or report(s).

D. The COE shall ensure all plans and/or reports prepared pursuant to this Agreement are consistent with guidelines of the Secretary of the Interior, SHPO, and ASM, as appropriate.

STIPULATION 6
Treatment of Human Remains and Cultural Objects

The COE shall ensure that human remains and associated cultural materials are treated in accordance with the burial agreement developed for this PA.

STIPULATION 7
Curation

The COE shall ensure that all materials and records resulting from the implementation of this Agreement are curated in accordance with 36 CFR Part 79, except where an alternative plan for disposition of human remains and other specified materials is provided in the HPTP.

STIPULATION 8
Confidentiality

The nature and location of archeological sites discussed in this PA shall be maintained as confidential, on a "need to know" basis, limited to staff and agents of the COE, ASLD, and SHPO involved in the planning and reviewing of the Undertaking and qualified researchers consistent with §304 of the NHPA and A.R.S § 39-125.

STIPULATION 9
Professional Qualifications

The COE shall ensure that all historic preservation work carried out pursuant to this Agreement is done by or under the supervision of a person or persons meeting at a minimum the *Secretary of the Interior's Professional Qualification Standards* (48 FR 44738-44739) and in accordance with Arizona Antiquity Act permit requirements, if the land remains in state ownership at the time of the studies.

STIPULATION 10
Conflict of Interest

SHPO may terminate this Agreement if it finds that an Arizona State Parks employee that was significantly involved in the creation of this Agreement is, at any time the Agreement is in effect by no later than three years after its execution, an employee or consultant of any other party in the Agreement.

STIPULATION 11
Equal Opportunity/Non-Discrimination

The Signatory Parties agree to comply with all applicable federal or state laws relating to equal opportunity and non-discrimination.

STIPULATION 12
Non-Availability of Funds

This Agreement shall be subject to available funding, and nothing in this Agreement shall bind the State to expenditures in excess of funds authorized and appropriated for the purposes outlined in this Agreement.

STIPULATION 13
Dispute Resolution

Should any Signatory or Concurring party to this PA object at any time to any actions proposed or the manner in which the terms of this PA are implemented, COE shall consult with such party to resolve the objection. The COE shall notify the SHPO of any objection. If COE determines that the objection cannot be resolved with the SHPO, then COE shall:

A. Forward all documentation relevant to the dispute, including the SHPO's, or COE's proposed resolution, to the ACHP. The ACHP shall provide COE with its advice on the resolution of the objection. The COE will consider any recommendation or comment provided by ACHP pertaining to the subject of the dispute. Prior to reaching a final decision on the dispute, COE shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the signatories and Concurring Parties, and provide them with a copy of this written response. The COE will then proceed according to its final decision.

B. If the ACHP does not provide its advice regarding the dispute in a timely manner, COE may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, COE shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and Concurring Parties to the PA, and provide them and the ACHP with a copy of such written response.

C. COE's responsibility to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remain unchanged.

STIPULATION 14
Alternative Dispute Resolution

The Signatory Parties agree to engage in any alternative dispute resolution procedures authorized by their statutes, regulations, and court rules, including, but not limited to, 5 U.S.C. 575 and A.R.S. § 12-1518, but only in circumstances where the Federal government consents to litigation in state court.

STIPULATION 15
Record Retention

All books, accounts, reports, files and other records of ASLD, and the Regulatory project files and technical reports of the COE, which are determined releasable under the Freedom of Information Act of 1966 (as amended), relating to this Agreement shall be subject, at all reasonable times, to inspection and audit by the State for five years after the termination of this Agreement.

STIPULATION 16
Amendments

Any Signatory Party may request that this PA be amended pursuant to 36 CFR § 800.6(c)(7). Any amendment will be effective on the date an amended PA is signed by all Signatory Parties. The COE shall ensure that a copy of any executed amended PA is filed with the Council.

STIPULATION 17
Termination

In the event any Signatory Party determines the terms of the PA cannot be or are not being carried out, the Signatory Parties shall consult to seek amendment of the Agreement. If the Agreement is not amended, the COE or the SHPO may terminate it pursuant to 36 CFR § 800.6(c)(8). The COE will either execute a memorandum of agreement under 36 CFR § 800.6(c)(1) or request the comments of the Council pursuant to 36 CFR § 800.7(a). The COE shall notify SHPO as to the course of action it will pursue.

STIPULATION 18
Annual Reporting and Bi-Annual Meeting

The COE will require an annual report for any ASLD actions (e.g., land sales, leases, and permits) that involve parcels containing archeological sites AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93, AZ U:5:94, AZ U:5:216 (ASM), AZ U:5:227 (ASM) and AZ U:5:233 (ASM) which are included in the Section 404 Permits. ASLD Cultural Resources Manager will submit an annual report to the COE Regulatory Project Manager for the Section 404 Permits that documents any and all ASLD actions within the APE during the past calendar year for the duration of this Agreement. ASLD will submit the report no later than January 31. ASLD and COE will meet every two years to evaluate compliance with the Agreement.

STIPULATION 19
Duration of the MOA

This Agreement shall be considered null and void if its stipulations are not carried out within ten (10) years from the date of its execution, unless the Signatory Parties agree in writing to an extension for carrying out its terms.

IN WITNESS WHEREOF, execution of this PA by the COE, ASLD, and SHPO, filing of the PA with the Council pursuant to 36 CFR § 800.6(b)(1)(iv), and subsequent implementation of its terms, evidences the COE has taken into account the effects of the Undertaking on historic properties, and that the COE has satisfied its responsibilities under Section 106 of the NHPA and applicable implementing regulations.

SIGNATORIES:

U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

By: Mark Durham for Date: 19 May 2009

Name: David J. Castanon

Title: Chief, Regulatory Division

ARIZONA STATE HISTORIC PRESERVATION OFFICER

By: James W. Garrison Date: 11 JUNE 2009

Name: James M. Garrison

Title: State Historic Preservation Officer

INVITED SIGNATORY:

ARIZONA STATE LAND DEPARTMENT

By: Jamie L. Hogue Date: June 4, 2009

Name: Jamie L. Hogue

Title: Interim Land Commissioner

CONCUR:

ARIZONA STATE MUSEUM

By:_____Date: _____

Name _____

Title:_____

CITY OF PHOENIX, A MUNICIPAL CORPORATION

By:_____Date: _____

Name: _____

Title:_____

FORT MCDOWELL YAVAPAI NATION

By:_____Date: _____

Name: _____

Title:_____

HOPI TRIBE

By:_____Date: _____

Name _____

Title:_____

SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY

By:_____Date: _____

Name: _____

Title:_____

YAVAPAI-APACHE NATION

By:_____Date: _____

Name: _____

Title:_____

APPENDIX 1

CLEAN WATER ACT SECTION 404 PERMITS 1999-16129-RWF AND 984-0030-RWF

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
ARIZONA-NEVADA AREA OFFICE
3636 NORTH CENTRAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

July 9, 2009

REPLY TO
ATTENTION OF:

Office of the Chief
Regulatory Division

Maria Baier
Commissioner
Arizona State Land Department
1616 West Adams Street
Phoenix, Arizona 85007

File Number: SPL-1999-16129-RWF

Dear Ms. Baier:

Reference is made to the Department of the Army Section 404 (Clean Water Act) permit, dated May 2, 2002, that the Corps of Engineers (Corps) issued to your agency, authorizing the discharge dredged and/or fill material into a total of 34.08 acres of Section 404 (Clean Water Act) jurisdictional area during the course of constructing road crossings, flood control facilities, utility systems, golf course facilities, and building pads as associated with the Paradise Ridge development at (Sections 15, 22, 27, 33, and 34, T4N, R4E), in the City of Phoenix, Maricopa County, Arizona.

Since issuance of this permit, the Corps has been consulting with your agency, the Arizona State Historic Preservation Officer (SHPO), the Arizona State Museum, the City of Phoenix, and interest tribes in effort to fulfill our National Historic Preservation Act responsibilities pursuant to 36 CFR § 800.14(b)(1). These consultation efforts have been directed towards the development of a programmatic agreement. We are please to advise you that efforts have resulted in the successful execution of a programmatic agreement that was signed by SHPO on June 11, 2009. The execution of this document renders moot portions of permit special conditions (h) and (i) which were developed to provide interim protection for known historic properties within the Paradise Ridge master-planned community. Consequently, modification of the Paradise Ridge Section 404 permit special conditions that address historic properties within the bounds of the development is both appropriate and necessary.

Accordingly, pursuant to the provisions of 33 Code of Federal Regulation 325.7(b), the Desert Ridge Section 404 permit is modified as follows:

SPECIAL CONDITIONS
PERMIT NO. SPL-1999-16129-RWF

h. The Permittee or its transferee shall comply with the *Programmatic Agreement between the U.S. Army Corps of Engineers Los Angeles District, the Arizona State Historic Preservation Office Regarding the Paradise Ridge and Desert Ridge Planning Areas, City of Phoenix, Arizona,* executed on June 11, 2009. The Permittee or its transferee shall provide all necessary

studies/investigations to the Corps of Engineers required under the Programmatic Agreement at their own cost. A copy of this executed Programmatic Agreement is enclosed.

i. Nothing in this permit shall prohibit the Permittee of transferee from selling, leasing, permitting, or otherwise transferring any interest in property within the Paradise Ridge development before the Corps of Engineers has discharged its responsibilities under Section 106 of the National Historic Preservation Act with respect to the known archaeological sites within the Paradise Ridge development. As of April 2008, five archaeological sites have been recorded within the Paradise Ridge Planning Area: AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93 (ASM), and AZ U:5:94 (ASM). These five archaeological sites have been evaluated for National Register of Historic Places (National Register) eligibility, and they are considered eligible for listing on the National Register and are therefore considered to be historic properties. The Permittee or transferee shall not conduct any ground disturbing activities (with the exception of necessary testing and/or data recovery) within a minimum of a 100-foot radius around historic properties AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93 (ASM), and AZ U:5:94 (ASM) until such a time that the Corps of Engineers issues written notification that the Section 106 process has been completed. The Corps of Engineers will issue written notification for each historic property (listed above) as appropriate. The Arizona State Land Department and/or the Permittee shall be responsible for notifying transferees of parcels containing any of the historic properties (AZ U:5:33 [ASM], AZ U:5:91 [ASM], AZ U:5:92 [ASM], AZ U:5:93 [ASM], and AZ U:5:94 [ASM]) of their subsequent obligations under this permit. This notification shall be in writing and shall be accomplished prior to issuance of the patent of execution of a lease agreement for said properties.

k. The Permittee or transferee shall retain a qualified archaeologist to perform archaeological monitoring of the project site during initial earthmoving activities (including those areas in which cultural resources have not been identified to date). The onsite archaeological monitoring activities shall be conducted by an archaeological monitor under the supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61) and in accordance with Arizona Antiquity Act permit requirements if the land remains in state ownership at the time of initial earthmoving. The qualified archaeologist shall identify the boundaries of historic properties AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93 (ASM), and AZ U:5:94 (ASM) and conspicuously mark the 100-radius around these properties. The qualified archaeologist shall also be responsible for determining whether or not the archaeological monitor should be onsite during earthmoving activities on a full-or part-time basis.

l. Pursuant to 36 C.F.R. § 800.13, in the event of any discoveries during construction of either human remains, archeological deposits, or any other type of historic property, the Permittee shall notify the Corps of Engineers' Archeology Staff within 24 hours (Mr. Steve Dibble at 213-452-3849, Ms. Amy Holmes at 213-452-3855, or Mr. John Killeen at 213-452-3861). The Permittee shall immediately suspend all work in any area(s) where potential cultural resources are discovered. The Permittee shall not resume construction in the area

surrounding, i.e., immediately adjacent to, the potential cultural resources until the Corps of Engineers re-authorizes project construction, per 36 C.F.R. § 800.13.

You are further reminded that the terms, conditions, and Special Conditions of Permit No. SPL-1999-16129-RWF, except as modified herein, remain in full force and effect. Furthermore, the permit start and completion dates remain unaffected by this letter of modification.

Thank you for your staff's cooperation and support witnessed throughout this consultation process. Please note that a copy of this letter is being forwarded to the addresses noted on the enclosed list.

Sincerely,

Ron Fowler
Senior Project Manager
Arizona Branch, Regulatory Division

Enclosure(s)

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
ARIZONA-NEVADA AREA OFFICE
3636 NORTH CENTRAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

REPLY TO
ATTENTION OF:

July 9, 2009

Office of the Chief
Regulatory Division

Maria Baier
Commissioner
Arizona State Land Department
1616 West Adams Street
Phoenix, Arizona 85007

File Number: SPL-984-0030-RWF

Dear Ms. Baier:

Reference is made to the Department of the Army Section 404 (Clean Water Act) permit, dated June 26, 2004, that the Corps of Engineers (Corps) issued to your agency, authorizing the discharge dredged and/or fill material into a total of 85.7acres of Section 404 (Clean Water Act) jurisdictional area in the unnamed washes for the completion of the Desert Ridge master-planned community development at (Sections 13 and 24, T4N, R3E, and Sections 13, 14, 16, 17, 18, 19, 20, 21, 28, 29, 30 and 33, T4N, R4E), in the City of Phoenix, Maricopa County, Arizona.

Since issuance of this permit, the Corps has been consulting with your agency, the Arizona State Historic Preservation Officer (SHPO), the Arizona State Museum, the City of Phoenix, and interest tribes in effort to fulfill our National Historic Preservation Act responsibilities pursuant to 36 CFR § 800.14(b)(1). These consultation efforts have been directed towards the development of a programmatic agreement. We are please to advise you that efforts have resulted in the successful execution of a programmatic agreement that was signed by SHPO on June 11, 2009. The execution of this document renders moot permit special condition (e) which was developed to provide interim protection for known historic properties within the Desert Ridge master-planned community. Consequently, modification of the Desert Ridge Section 404 permit special conditions that address historic properties within the bounds of the development is both appropriate and necessary.

Accordingly, pursuant to the provisions of 33 Code of Federal Regulation 325.7(b), the Desert Ridge Section 404 permit is modified as follows:

SPECIAL CONDITIONS
PERMIT NO. SPL-984-0030-RWF

e. The Permittee or its transferee shall comply with all requirements and conditions of the *Programmatic Agreement between the US Army Corps of Engineers Los Angeles District, the Arizona State Historic Preservation Officer Regarding the Desert Ridge and Desert Ridge Planning Areas, City of Phoenix, Arizona,* executed June 11, 2009. The Permittee or its transferee shall provide all necessary studies/investigations to the Corps of Engineers required under the

Programmatic Agreement at their own cost.

i. Nothing in this permit shall prohibit the permittee of transferee from selling, leasing, permitting, or otherwise transferring any interest in property within the Desert Ridge development before the Corps of Engineers has discharged its responsibilities under Section 106 of the National Historic Preservation Act with respect to the known archaeological sites within the Desert Ridge development. As of April 2008, seven archaeological sites have been recorded within the Desert Ridge Planning Area Superblocks 2, 3 and 9. These include: AZ U:5:33 (ASM), AZ U:5:94 (ASM), AZ U:5:216 (ASM), AZ U:5:227 (ASM), AZ U:5:231 (ASM), AZ U:5:232 (ASM), and AZ U:5:233 (ASM). Archaeological sites AZ U:5:33 (ASM), AZ U:5:94 (ASM), and AZ U:5:216 (ASM) are recommended as eligible for the National Register of Historic Places (National Register) and are therefore considered to be historic properties. Archaeological sites AZ U:5:231 (ASM) and AZ U:5:232 (ASM) are not eligible for the National Register, and archaeological sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM) have not been evaluated for the National Register. The permittee or transferee shall not conduct any ground disturbing activities (with the exception of necessary testing and/or data recovery) within a minimum of a 100-foot radius around historic properties AZ U:5:33 (ASM), AZ U:5:94 (ASM), and AZ U:5:216 (ASM) and archaeological sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM) until such a time that the Corps of Engineers issues written notification that the Section 106 process has been completed. The Corps of Engineers will issue written notification for each historic property/archaeological site (listed above) as appropriate. The Arizona State Land Department and/or the permittee shall be responsible for notifying transferees of parcels containing any of the historic properties AZ U:5:33 (ASM), AZ U:5:94 (ASM), and AZ U:5:216 (ASM) and archaeological sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM) of their subsequent obligations under this permit. This notification shall be in writing and shall be accomplished prior to issuance of the patent of execution of a lease agreement for said properties.

j. The Permittee or transferee shall retain a qualified archaeologist to perform archaeological monitoring of the project site during initial earthmoving activities (including those areas in which cultural resources have not been identified to date). The onsite archaeological monitoring activities shall be conducted by an archaeological monitor under the supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61) and in accordance with Arizona Antiquity Act permit requirements if the land remains in state ownership at the time of initial earthmoving. The qualified archaeologist shall identify the boundaries of historic properties AZ U:5:33 (ASM), AZ U:5:94 (ASM), and AZ U:5:216 (ASM) and archaeological sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM) and conspicuously mark the 100-foot radius around these properties/sites. The qualified archaeologist shall also be responsible for determining whether or not the archaeological monitor should be onsite during earthmoving activities on a full-or part-time basis.

k. Pursuant to 36 C.F.R. § 800.13, in the event of any discoveries during construction of either human remains, archeological deposits, or any other type of historic property, the Permittee shall notify the Corps of Engineers' Archeology Staff within 24 hours (Mr. Steve

Dibble at 213-452-3849, Ms. Amy Holmes at 213-452-3855, or Mr. John Killeen at 213-452-3861). The Permittee shall immediately suspend all work in any area(s) where potential cultural resources are discovered. The Permittee shall not resume construction in the area surrounding, i.e., immediately adjacent to, the potential cultural resources until the Corps of Engineers re-authorizes project construction, per 36 C.F.R. § 800.13.

You are further reminded that the terms, conditions, and Special Conditions of Permit No. SPL-984-0030-RWF, except as modified herein, remain in full force and effect. Furthermore, the permit start and completion date remain unaffected by this letter of modification.

Thank you for your staff's cooperation and support witnessed throughout this consultation process. Please note that a copy of this letter is being forwarded to the addresses noted on the enclosed list.

Sincerely,

Ron Fowler
Senior Project Manager
Arizona Branch, Regulatory Division

Enclosure(s)

APPENDIX 2

MAP OF AREA OF POTENTIAL EFFECTS

Page 308 of the **Infrastructure Assessment Report for Paradise Ridge - Parcel 6** contains restricted cultural resource information. To request access to this information, please contact ASLD's Cultural Resource Manager.

Page 309 of the **Infrastructure Assessment Report for Paradise Ridge - Parcel 6** contains restricted cultural resource information. To request access to this information, please contact ASLD's Cultural Resource Manager.

APPENDIX 4
GUIDELINES FOR HPTP CONTENTS

The HPTP shall include, but not be limited to, the following:

1. Methods section describing all pertinent field work, analytical, and data management procedures to be used, with an explanation of their relevance to the research design.

2. Research Design and Cultural Context
   a. Identification of research objectives for archaeological data recovery;
   b. Discussion of cultural context for the region; and
   c. Summary of previous research conducted within and adjacent to the APE.

3. Archaeological NRHP Eligibility Evaluation/Testing Plan. For archaeological sites that have not been evaluated for the NRHP, an archaeological NRHP eligibility evaluation/testing plan will be developed that includes discussion of the following:
   a. Description of the archaeological sites or portions of sites proposed for testing;
   b. Evaluation of sites within specific prehistoric/historic contexts;
   c. Field and analytical methods to be used to evaluate sites;
   d. Data management techniques to be used; and
   e. Dissemination of data, including draft and final report outlines and plans for their distribution.

4. Archaeological Data Recovery Plan. Include a data recovery plan with a research design to guide any data recovery at historic properties significant for their information potential in accordance with 36 CFR 60.4(d) and that cannot be avoided by the effects of the proposed project or otherwise preserved in place:
   a. Description of the historic properties proposed for data recovery, including an explanation of their significance;
   b. A section describing what types of permits are necessary, who will obtain permits, and procedure for obtaining permits; and
   c. A curation agreement ensuring that all materials and records are maintained in accordance with 36 CFR 79 (see Stipulation 7).

5. Archaeological Monitoring and Discovery Plan. Construction in archaeologically sensitive areas will be monitored by a qualified archeologist. Unanticipated discoveries, and their proposed treatment, if necessary, will be coordinated with the Concurring Parties to this Agreement. The Monitoring and Discovery Plan shall include discussion and justification of the following:

   a. How unanticipated historic properties that are not visible from the surface or known from previous survey efforts, shall be identified, evaluated, and treated; and

   b. Procedures to be followed in communicating information and decisions regarding unanticipated discoveries, including time limits for reporting discoveries, and who notifies whom.

6. a plan for the treatment and disposition of human remains, associated grave goods, and items of cultural patrimony developed in consultation with the Signatory and Concurring Parties (see Stipulation 6).

APPENDIX 5
GUIDELINES AND CONTENTS FOR PRELIMINARY END-OF-FIELDWORK REPORTS

1. Dates of fieldwork and personnel;

2. Permits and permit numbers under which fieldwork work was performed;

3. Map of the APE;

4. Field Methods;

5. Map(s) showing location of excavation units (unit blocks and trenches);

6. Summary table of features and sub features encountered;

7. Summary table of excavation units and unit area or length;

8. Preliminary field results;

9. Discussion of compliance with the HPTP; and

10. Schedule for delivering the draft and final data recovery report (no later than 1 year from end of fieldwork date).

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
3636 N CENTRAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

May 1, 2017

Lisa Atkins
Arizona State Lands
1616 W. Adams
Phoenix, Arizona 85007

SUBJECT: SUBJECT: Modification of Paradise Ridge Master Planned Development (Permit No. SPL-1999-16129)

Dear Ms. Atkins

Your request dated March 4, 2017 to amend your Department of the Army permit for the Paradise Ridge Master Planned Development, (Permit No. SPL-1999-16129), which authorized you to discharge dredged and/or fill into a total of 85.7 acres of waters of the U.S. in association the Desert Ridge Master Planned Development Project located (Sections 15, 22, 27, 33, and 34 of T4N, R4E) within the city of Phoenix, Maricopa County, Arizona is authorized.

Under the provisions of 33 Code of Federal Regulations 325.6(d), the start date is to remain the same and the completion date is extended from May 2, 2017 to May 2, 2027.

Under the provisions of 33 Code of Federal Regulations 325.7(b), your permit is modified to read as follows:

k. The Corps shall review compliance with this permit 5 years from date of permit modification issuance to ensure that the permit conditions are being adequately implemented. As a part of this review, the permittee shall submit a report detailing permit compliance to the Corps from date of this modification. If during the 5-year review, the Corps determines that the conditions imposed are inadequate to effectively mitigate adverse impacts, the Corps may impose reasonable additions to, or modifications of, permit conditions to further mitigate adverse impacts. Nothing in this conditions alters the Corps' ability to suspend, revoke, or modify this authorization, including the special conditions pursuant to applicable Corps regulations.

The terms and conditions of Permit No. SPL-1999-16129, except as changed herein, remain in full force and effect.

Thank you for participating in the Regulatory Program. If you have any questions, please contact Kathleen Tucker at (602) 230-6956 or via e-mail at Kathleen.A.Tucker@usace.army.mil. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at Corps Survey.

Sincerely,

Sallie Diebolt
Chief, Arizona Branch
Regulatory Division

Enclosures
SPL-1999-16129 February 4, 2016 Modification

Electronic Copies – w/o enclosures
Jason Brush, EPA R9
Steve Spangle, USFWS
Mary-Ellen Walsh, AZ SHPO

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
3636 N CENTRAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

February 4, 2016

Ms. Lisa Atkins
Commissioner
Arizona State Land
1616 West Adams Street
Phoenix, Arizona 85007-2614

SUBJECT: Modification of Paradise Ridge Master Planned Development (Permit No. SPL-1999-16129)

Dear Ms. Atkins:

Your request dated, September 16, 2015, to amend your Department of the Army permit for the Paradise Ridge Master Planned Development Project, (Permit No. SPL-1999-16129), which authorized you to discharge dredged and/or fill into a total of 85.7 acres of waters of the U.S. in association the Desert Ridge Master Planned Development Project located (Sections 15, 22, 27, 33, and 34 of T4N, R4E) within the city of Phoenix, Maricopa County, Arizona is authorized.

Under the provisions of 33 Code of Federal Regulations 325.7(b), your permit is modified to read as follows:

SPECIAL CONDITIONS
PERMIT NO. 1999-16129

a. For purposes of this Permit, the term "Permittee" means the Arizona State Land Department (“ASLD”) and/or any subsequent Transferee of all or a portion of any right to or interest in parcels of land within the Paradise Ridge Development (“PRD”). For purposes of this Permit, the term "Transferee" means the patentee pursuant to a patent issued by ASLD, the holder of a Certificate of Purchase issued by ASLD, a lessee, a grantee under a right-of-way issued by ASLD as grantor (“right-of-way” hereafter referred to as an “easement”), or any other successor in interest of parcel(s) of land within PRD. Upon patent transfer, ASLD is no longer the Permittee. In the case of a Certificate of Purchase, lease or easement, ASLD will retain co-permittee status with the Transferee. Each Permittee shall advise its Transferees of, and obtain their agreement to comply with, the terms and conditions of this Permit. To accomplish this, each Permittee shall condition its dispositions to a subsequent Transferee with the requirement that the Transferee acknowledge being provided a copy of this Permit and agree to comply with all terms and conditions of this Permit as the same relates to the transferred parcel(s). The new Permittee shall:

i. Sign on the Transferee block located on the signature page of this Permit. By signing the transferee block, the Transferees acknowledges being provided a complete copy of this Permit, agrees to comply with all terms and conditions of

this Permit, and agrees to release ASLD as Permittee for any patent transferred parcel(s). Upon signature, ASLD is released as the Permittee.

ii. Provide the U.S. Army Corps of Engineers – Los Angeles District ("Corps") with copies of the signature page with a signed Transferee block, brief project description and maps (the "Submittals"). Submittals shall be submitted electronic via email or FTP (https://safe.amrdec.army.mil/safe/).

The Submittal shall include:

i. Location map depicting the location and proposed development of the applicable parcel(s).

ii. Scaled aerial map depicting waters of the US, temporary and permanent impacts, and mitigation corridors.

iii. Brief description of construction scope of work.

iv. Statement of the preferred compensatory mitigation method and/or compliance with historic obligations associated with the parcel(s) under Section 106 of the National Historic Preservation Act.

Any Permit transfer that has already occurred prior to this version of the Special Conditions, pursuant to a patent issued from ASLD to a Transferee, shall be deemed transferred and ASLD no longer the Permittee.

b. The Permittee shall comply with all requirements and conditions in the state water quality certification that the Arizona Department of Environmental Quality signed on April 4, 2012, and all subsequent renewals and modifications thereof. This certification demonstrates that the Permittee has complied with Section 401(a) of the Clean Water Act. A copy of this certificate is enclosed.

c. Each Permittee shall mitigate its applicable portions of the 34.23 acres of unavoidable project impacts to waters of the United States by implementing, in full, the Habitat Mitigation and Monitoring Plan ("HMMP") dated April 30, 2002, and addendum dated February 15, 2011, that was developed for the PRD. See Special Conditions (f) below for the use of an approved mitigation bank or in lieu fee program as compensatory mitigation that is available to replace some requirements of the HMMP. The legal descriptions of the washes are attached. As part of this effort:

i. Each Permittee that has acquired fee title or a certificate of purchase from ASLD or a subsequent party, and who has parcels that contain natural preserved or enhanced wash corridors or reconstructed wash corridors, must, prior to any ground disturbing activity, consult with the Corps to discuss any minor changes to the legal descriptions of the washes that may be necessary for development of the parcel. The Corps must not unreasonably withhold consent to minor wash corridor

changes as long as the mitigated acreage remains the same and the wash corridors are substantially similar.

ii. Within thirty (30) days of final approval, or receipt of a final letter of acceptance, by the jurisdiction with oversight of the as-built drawings, each Permittee shall submit the final legal descriptions for the wash corridors in a deed restriction document to be approved by the Corps.

iii. Each Permittee shall use the current deed restriction document created by the Corps' Office of Counsel, which shall be substantially similar in form to the model conservation easement presently in use by the United States Corps of Engineers - Los Angeles District office (copy attached) (the "Conservation Easement"). The Corps' Office of Counsel must approve the deed restriction documents prior to recordation. The deed restriction documents shall be deemed approved thirty (30) days after submittal to the Corps, unless otherwise noted by the Corps.

iv. Upon approval, the Permittee must record the deed restriction within ten (10) days. Evidence of recordation at the Maricopa County Recorder's Office shall be submitted to the Corps within ten (10) days of recordation. Any Conservation Easement shall allow for passive recreation like walking or jogging when such activities are consistent with the purpose of the Conservation Easement.

v. Prior to ground disturbing activity and during construction, the Permittee shall erect signs and/or other delineation devices that indicate the locations of the wash corridors. After the deed restriction is recorded, the Permittee shall erect and maintain permanent signs at strategic locations along the perimeter of each wash corridor, stating that the area is to be preserved as a conservation area, and identifying which activities are prohibited within the corridors.

vi. For those parcels within Paradise Ridge that contain wash corridors that are leased by ASLD (as opposed to sold in fee), or for which ASLD issues an easement, the lease or easement, as applicable, shall contain provisions that embody the mitigation requirements and the purpose and prohibitive use statements referenced in paragraphs 1 and 2 of the attached Conservation Easement. The lease or easement, as applicable, shall clearly state that the wash corridors are to be maintained for environmental conservation purposes and that the prohibitive activities and land use restrictions shall be in force for the full term of the lease or easement, as applicable. In the event the lease or easement, as applicable, is terminated for any reason, similar provisions shall be contained in all succeeding leases or easements of the applicable parcel(s) in order that the mitigation areas remain protected as long as ASLD is the lessor (or grantor of the easement, as applicable) of the applicable parcel. The Corps shall be provided a copy of any

such lease agreement containing the lease condition within 30 days following execution of said lease agreement.

d. Per the rule "COMPENSATORY MITIGATION FOR LOSSES OF AQUATIC RESOURCES" 33 CFR part 332, enacted in 2008, the Corps prefers mitigation banks and in lieu fees to "Permittee-responsible" mitigation for the requirement of planting around the wash corridor. Each Permittee, however, has the discretion to choose either compensatory mitigation requirements from an approved mitigation bank or in lieu fee program, or Permittee responsible mitigation per the HMMP and addendum. If a Permittee chooses compensatory mitigation, the area that is subject to compensatory mitigation shall be the Permittee's applicable portion of the legally-described impacted waters of the US, which totals 34.23 acres for all of PRD. To determine a Permittee's applicable portion, all areas of a Permittee's parcel that require planting per the HMMP shall be added together, whether in natural enhanced or reconstructed corridors, and that total shall be divided by 4.95, which represents the overall mitigation ratio of 4.95 mitigation acres for every 1 impacted acre, reflected in the Addendum to the HMMP, February 15, 2011, approved by the Corps March 4, 2011. Because jurisdictional washes have either high, medium, or low value associated with them and a corresponding mitigation ratio per the HMMP and addendum, compensatory mitigation shall utilize that 4.95:1 ratio. Compensatory mitigation shall be paid prior to ground disturbing activity.

If a Permittee chooses compensatory mitigation but the Corps does not have any approved mitigation banks or in-lieu fee programs available prior to any ground disturbing activity by Permittee, Permittee shall conduct "Permittee-responsible" mitigation per the HMMP addendum.

Each Permittee shall preserve the wash corridors located in its parcel and shall comply with all applicable requirements in the HMMP and addendum, but may substitute industry best practices for criteria listed in the Appendix B, Design Criteria for Washes, Road Crossings, and General Drainage Conditions. No additional mitigation beyond what is listed in the HMMP will be required within the natural and reconstructed washes within the parcel, including no additional mitigation requirements for required roadway and utility crossings that are based on the existing "Land Use Plan," dated March 30, 2010, prepared by Olsson Associates. Each Permittee will be required to comply with all other applicable Special Conditions.

e. Each Permittee retains the legal descriptions for all wash corridors within its parcel. The Permittee shall have the ability to request minor wash corridor realignments from the Corps of Engineers prior to construction based upon new and updated technological and topographical information. Proposed minor realignments will be of such a nature as to not adversely impact the acreage and functionality of the wash corridor. The Permittee shall also have the ability to request a review of possible adjustments pertaining to applicable wash corridor requirements, such as mitigation and planting requirements. Any wash

corridor re-delineation shall conform to either the design criteria outlined within the HMMP Appendix B, Design Criteria for Washes, and Road Crossings, and General Drainage Conditions or industry best practices.

f. The Permittee shall comply with the Programmatic Agreement between the U.S. Army Corps of Engineers Los Angeles District, the Arizona State Historic Preservation Office Regarding the Paradise Ridge and Desert Ridge Planning Areas, City of Phoenix, Arizona, executed on June 11, 2009. The Permittee shall provide all necessary studies/investigations to the Corps of Engineers required under the Programmatic Agreement at their own cost. A copy of this executed Programmatic Agreement is enclosed.

g. Nothing in this permit shall prohibit the Permittee from selling, leasing, permitting, or otherwise transferring any interest in property within the Paradise Ridge development before the Corps has discharged its responsibilities under Section 106 of the National Historic Preservation Act with respect to the known archaeological sites within the Paradise Ridge development. As of April 2008, five archaeological sites have been recorded within the Paradise Ridge Planning Area: AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93 (ASM), and AZ U:5:94 (ASM). These five archaeological sites have been evaluated for National Register of Historic Places (National Register) eligibility, and they are considered eligible for listing on the National Register and are therefore considered to be historic properties. The Permittee shall not conduct any ground disturbing activities (with the exception of necessary testing and/or data recovery) within a minimum of a 100-foot radius around historic properties AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93 (ASM), and AZ U:5:94 (ASM) until such a time that the Corps issues written notification that the Section 106 process has been completed. The Corps will issue written notification for each historic property (listed above) as appropriate. The ASLD and/or the Permittee shall be responsible for notifying transferees of parcels containing any of the historic properties (AZ U:5:33 [ASM], AZ U:5:91 [ASM], AZ U:5:92 [ASM], AZ U:5:93 [ASM], and AZ U:5:94 [ASM]) of their subsequent obligations under this permit. This notification shall be in writing and shall be accomplished prior to issuance of the patent of execution of a lease agreement for said properties.

h. The Permittee shall retain a qualified archaeologist to perform archaeological monitoring of the project site during initial earthmoving activities (including those areas in which cultural resources have not been identified to date). The onsite archaeological monitoring activities shall be conducted by an archaeological monitor under the supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61) and in accordance with Arizona Antiquity Act permit requirements if the land remains in state ownership at the time of initial earthmoving. The qualified archaeologist shall identify the boundaries of historic properties AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93 (ASM),

and AZ U:5:94 (ASM) and conspicuously mark the 100-radius around these properties. The qualified archaeologist shall also be responsible for determining whether or not the archaeological monitor should be onsite during earthmoving activities on a full-or part-time basis.

i. Pursuant to 36 C.F.R. § 800.13, in the event of any discoveries during construction of either human remains, archeological deposits, or any other type of historic property, the Permittee shall notify the Corps' Archeology Staff within 24 hours (Danielle Storey (213) 452-3855) . The Permittee shall immediately suspend all work in any area(s) where potential cultural resources are discovered. The Permittee shall not resume construction in the area surrounding, i.e., immediately adjacent to, the potential cultural resources until the Corps re-authorizes project construction, per 36 C.F.R. § 800.13.

j. A copy of the Permit shall be on the job site at all times during construction. Each Permittee shall provide a copy of this Permit to all contractor(s), subcontractor(s), foreperson(s), and construction representatives. Each Permittee shall require that all contractor(s), subcontractor(s), foreperson(s), and construction representatives read this authorization in its entirety and acknowledge they understand its contents and their responsibility to ensure compliance with all general and special conditions contained herein. Each Permittee shall hold a preconstruction meeting with the contractor(s) to discuss the special conditions of this authorization, as well as other relevant approvals.

The terms and conditions of Permit No. SPL-1999-16129, except as changed herein, remain in full force and effect. Furthermore, the permit start and completion dates remain unaffected by this letter of modification.

Thank you for participating in the Regulatory Program. If you have any questions, please contact Kathleen Tucker at 602.230.6956 or via e-mail at kathleen.a.tucker@usace.army.mil. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

Sincerely,

Sallie Diebolt

Digitally signed by DIEBOLT.SARAH.D.1231388229
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=DIEBOLT.SARAH.D.1231388229
Date: 2016.02.05 08:43:01 -07'00'

Sallie Diebolt
Chief, Arizona Branch
Regulatory Division

Copies Furnished:

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Arizona Ecological Services Field Office
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2321 West Royal Palm Road, Suite 103
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Steve_Spangle@usfws.gov

Jason Brush
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U.S. Environmental Protection Agency
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Tim Wade
Wildlife Contracts
Branch Chief
Arizona Game and Fish Department
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Phoenix, Arizona 85086
twade@azgfd.gov

Laurie Sherrill
Arizona Department of Environmental Quality
Surface Water Section, 401 Certifications, 5415A-1
1110 West Washington Street
Phoenix, Arizona 85007-2952
Coronado.nicole@azdeq.gov

Mary Ellen Walsh
State Historic Preservation Office
1300 West Washington
Phoenix, Arizona 85007
mwalsh@arizonastateparks.gov

APPENDIX D.10:
PARADISE RIDGE 401 CERTIFICATE MODIFICATIONS

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Douglas A. Ducey
Governor

Misael Cabrera
Director

March 8, 2017

Reading File: SWGP17-0070
USACE Permit: SPL-1999-16129-RWF
ADEQ LTF: 23005

Mark Edelman
Arizona State Land Department
1616 W. Adams
Phoenix, AZ 85007

Re: Modification of the CWA 401 Certification for the Paradise Ridge Project impacting unnamed ephemeral washes in the Salt River Watershed

Dear Mr. Edelman:

The Arizona Department of Environmental Quality (ADEQ) received your letter for a CWA 401 Water Quality Certification Modification on March 6, 2017. You submitted this document in accordance with Section 401(a) of the Clean Water Act (CWA) (33 U.S.C. §1251 et seq.) and the Arizona Revised Statutes Section 49-202. The letter requests an extension to the 401 certification issued for the Paradise Ridge project, issued in May 2002, with additional modifications in May, 2012.

ADEQ has reviewed documentation for this project and has determined the modification will not violate applicable surface water quality standards in the Salt River Watershed. ADEQ approves the project extension which will run concurrent with the extension provided by the US Army Corps of Engineers' CWA Section 404 permit. The Arizona State Land Department is responsible for complying with all 401 certification conditions specified in the State of Arizona's CWA 401 Water Quality Certification and U.S. Army Corps of Engineers Permit.

Thank you for your efforts to comply with Arizona's environmental requirements. Should you have any comments or questions regarding this matter, please do not hesitate to contact me at 602-771-4409 or by email at sherrill.laurie@azdeq.gov.

Sincerely,

Rosi Sherrill

Laurie (Rosi) Sherrill, Project Manager
Stormwater and General Permits Unit

electronic copies: U.S. Army Corps of Engineers, Regulatory Branch, Attn.: Kathleen Tucker
USEPA, Wetlands Regulatory Office
ASLD, Attn: Manish Patel

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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

Janice K. Brewer
Governor

Henry R. Darwin
Director

COPY

April 4, 2012

401 cert reading file: **rs311:014**

Applicant: Arizona State Land Department
Maria Baier, State Land Commissioner
1616 W. Adams Street
Phoenix, Arizona 85007

Subject: Modification of CWA 401 Water Quality Certification for the **Paradise Ridge Project** impacting various unnamed ephemeral washes in the Salt River Watershed.
Latitude: 33° 41' 20.0652"; Longitude: 111° 56' 09.8556"
Phoenix, Maricopa County, Arizona.

U.S. Army Corps of Engineers (Los Angeles District) File No.: **1999-16129-RWF**
ADEQ LTF No.: **23005**

Dear Ms. Baier:

The Arizona Department of Environmental Quality (ADEQ), has reviewed your agency's application (3/19/12) for modification of the water quality certification, pursuant to Section 401 of the Clean Water Act (CWA), for the Section 404 permit for the subject project.

After examination of the information included with the application, ADEQ has determined that if the applicant adheres to the information submitted and the conditions specified in the original 401 certification or any subsequent modification the proposed changes are not expected to have a negative impact to the chemical, physical or biological integrity of the subject waterbodies.

ADEQ agrees to extend the certification expiration date to 5/2/17, to match the anticipated U.S. Army Corps of Engineers (CoE) modification of the 404 permit. Should the CoE refuse this modification, this 401 certification is to be considered withdrawn. Should the CoE give it an expiration date beyond 5/2/17, this 401 certification still expires 5/2/17 and an application for 401 certification modification must be submitted if further extension is desired at that time.

Sincerely,

COPY

Robert J. Scalamera, Hydrologist
Surface Water Section, Water Quality Division

electronic copies: U.S. Army Corps of Engineers, Regulatory Branch – Attn.: Sallie McGuire
USEPA, Wetlands Regulatory Office
Agent: ASLD: Lillian Moody, Mike Farley

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Jane Dee Hull
Governor

3033 North Central Avenue • Phoenix, Arizona 85012-2809
(602) 207-2300 • www.adeq.state.az.us

Jacqueline E. Schafer
Director

OCT 12 2001

Applicant: **Arizona State Land Department**
Attn: Michael Anable, Commissioner
1616 West Adams Street
Phoenix, Arizona 85007

Agent: Entranco
Attn: Ms. Barbara Wilson
7740 North 16th Street
Suite 200
Phoenix, Arizona 85020

Subject: **CWA 401 Water Quality Certification for:** Paradise Ridge, (Sections 15, 22, 27, 33 and 34, T4N, R4E), Phoenix, Maricopa County, Arizona, U.S. Army Corps of Engineers Public Notice/Application No. 1999-16129-RWF

Dear Mr. Anable:

The Arizona Department of Environmental Quality (ADEQ), Water Quality Division, has reviewed information submitted for water quality certification pursuant to Section 401 of the Clean Water Act (CWA) for Paradise Ridge, a mixed use master planned residential community. Section A of this document describes the activities to be certified. The references listed in Section B were used as the basis for certification. Section C lists the Approval Conditions.

ADEQ's review has determined that when the applicant adheres to the Conditions in Section C.1 through C.10, the certified activities should comply with State surface water quality standards. Subject to these conditions, this letter certifies that the activities in the Paradise Ridge development should not have a negative impact to the chemical, physical or biological integrity of jurisdictional waters of the U.S. (WUS).

A. DESCRIPTION OF ACTIVITIES TO BE CERTIFIED

1. The proposed Paradise Ridge master planned community is a 2,131 acre mixed use development located in Phoenix. The Pima Freeway (Loop 101) divides the project into north and south parcels (Figure 3. Proposed Project).

   Upgradient and east-northeast of the proposed Paradise Ridge development, ephemeral washes arise in the McDowell Mountains and generally flow in a southwest direction across Paradise Valley.

2. Construction of the Paradise Ridge master planned community will result in the impact of 33.4 acres of waters of the U.S. (WUS). Impact to jurisdictional waters

will result from the construction of single and multi-family housing, commercial developments, two golf courses, two resort hotels, an elementary school site, flood control facilities, trails, roadways and utilities.

3. Fill material will consist of native on-site soils, rock, concrete and other construction materials.

4. The applicant is proposing to mitigate the 33.4 acres of impacts to WUS resulting from the project by enhancing the vegetation along 55.9 acres of over-bank areas adjacent to the 15.5 acres of preserved washes, and re-vegetate 85.2 acres of reconstructed washes.

B. BASIS FOR CONDITIONAL STATE 401 WATER QUALITY CERTIFICATION

1. State of Arizona Water Quality Standards for Surface Waters, Arizona Administrative Code (A.A.C.) Title 18, Chapter 11, Section 108, Narrative Water Quality Standards, Section 109 Numeric Water Quality Standards, Appendix A. Designated Uses include: **Aquatic and Wildlife, ephemeral (A&We) and Partial Body Contact (PBC)** (A.A.C. R18-11-104, Appendix B).

2. ADEQ Water Quality Division Form 404-015, CWA 401 Certification Application signed April 26, 2001, and received by ADEQ on April 26, 2001 from Mr. Michael Anable, Commissioner Arizona State Land Department. Additional documents submitted with the application include the following:

   a. Applicant's Response to ADEQ Policy for Protecting Water Quality During Facility Construction.
   b. Maps and design drawings.
   c. Paradise Ridge, Prepared by Entranco Biological Resources Group, April 2001.

3. U.S. Army Corps of Engineers Public Notice/Application No. 1999-16129-RWF Comment period August 13, 2001 through September 12, 2001, and received by ADEQ on August 15, 2001.

C. CONDITIONS FOR STATE 401 WATER QUALITY CERTIFICATION

This State Water Quality Certification is issued by the ADEQ under the authority of Section 401(a) of the federal CWA (33 U.S.C. §1251 et seq.). The conditions listed

below are in addition to conditions in CWA 404 Permit No. 1999-16129-RWF issued by the U.S. Army Corps of Engineers (ACOE). These conditions are enforceable by the U.S. Environmental Protection Agency and ACOE. Civil penalties up to a maximum of $25,000 per day of violation may be levied if these certification conditions are violated. Criminal penalties may also be levied if a person knowingly violates any provision of the federal Clean Water Act. The following conditions are in addition to any special conditions developed by the ACOE for 404 Permit No. 1999-16129-RWF.

1. General Conditions

a. This Certification is only for the activities described in Section A of this Certification for 33.4 acres of impact to WUS within the Paradise Ridge development and is valid for the same period as the ACOE 404 permit. If project construction has not been started by the time specified in the ACOE 404 permit, the applicant shall notify as follows:

Arizona Department of Environmental Quality
Water Quality Division
Federal Permits and Program Development Unit
Attention: Surface Water Quality 401 Certification
3033 North Central Avenue, Phoenix, Arizona 85012
ADEQ File No. 4724, ACOE PN#1999-16129-RWF

ADEQ will have the option of extending, modifying or denying this Certification.

b. The Arizona State Land Department shall provide a copy of these State 401 Water Quality Certification Conditions to all appropriate contractors and subcontractors. The applicant shall also post a copy of these conditions in a water resistant location at the construction site where it may be seen by the workers.

c. This Certification is void if the construction is not consistent with the activities described in Section A of this Certification.

d. The Arizona State Land Department is responsible for the construction and maintenance of the project and any adverse cumulative impacts that it may cause.

2. Necessary Permits

The Arizona State Land Department is responsible for obtaining all other permits, certifications and licenses that may be required by federal, state or local authorities. Activities which may require other approvals include: construction activities disturbing greater than five acres of land [NPDES Stormwater Permit], use of reclaimed wastewater for dust control or irrigation [Reclaimed Water Permit], or dewatering of construction sites to a surface waterbody [NPDES Process Wastewater Permit].

3. Erosion Protection Measures

a. Erosion control and/or bank protection features (e.g., silt fences, straw bales, rip-rap, or mulching) shall be used, where appropriate, to minimize channel or bank erosion and soil loss. These features shall be maintained, as necessary, during pre-construction and construction periods. Denuded areas shall be revegetated as soon as possible with native plants and seed.

b. All pipe outlets and box culverts shall have end sections or headwalls that dissipate the water's energy to control erosion.

c. If construction operations are likely to create an erosion problem, operations shall cease until the problem is resolved or until reasonable control measures have been undertaken.

d. Earthen fill placed in locations subject to scour shall contain not more than ten percent (10%) of particles finer than 0.25 mm diameter (passing a No. 60 sieve, on a dry weight basis).

e. Upon completion of construction, the work area shall restore or maintain the stability of upstream and downstream segments of washes with respect to erosion and sedimentation.

4. Contaminated Soils and Materials

a. The Arizona State Land Department is responsible for ensuring construction material and/or fill, placed within the ordinary high water mark (OHWM), is free from substances that can cause or contribute to pollution of a surface water.

b. Debris (such as soil, silt, sand, rubbish, cement, asphalt, oil or petroleum products, organic materials, tires or batteries) derived from construction activities shall not be deposited at any site where it may be washed into WUS and shall be properly disposed of after completion of the work.

c. If water, other than reclaimed wastewater, is used for dust suppression, it shall not contain contaminants that could violate Surface Water Quality Standards.

5. Chemicals and Materials Handling

a. The Arizona State Land Department shall use designated areas for chemical and petroleum storage, solid waste containment, and equipment washing. These designated areas shall be located entirely outside of jurisdictional waters.

b. The Arizona State Land Department shall have a spill containment plan and an equipment maintenance plan available on site at all times.

6. Runoff

Runoff and seepage from roadways, embankments, golf courses and other alterations of the natural environment shall not cause a violation of Water Quality Standards.

7. Conditions Related to Flow Events

a. Work shall be performed during low water conditions when the area is naturally dewatered. When there is water flow within the construction area, construction activity shall cease and construction equipment relocated outside the OHWM of the watercourse.

b. Building pads which have been created by converting wash areas to dry land shall <u>not</u> be located within jurisdictional waters after completion of construction except as allowed by the 404 Permit. To the extent that pads are located in washes, provisions will be made to convey stormwater around the pads.

8. Construction Related Activities

a. Construction materials, including concrete, asphalt, and piping, shall consist of materials that do not leach pollutants into surface waters. Activities shall be conducted and monitored to ensure that pollution from concrete formation and equipment washing does not drain into the washes.

b. At bridged roadway crossings, only concrete pilings, concrete supporting walls, galvanized steel culverts, or aluminum shall be used in jurisdictional waters.

c. After construction, the work area and all disturbed areas along the bank and streambed shall be restored to an environmentally acceptable condition. All construction residues, equipment and non-native materials shall be removed from and properly disposed of outside the OHWM.

d. Rip-rap shall be washed outside of the OHWM of jurisdictional waters prior to placement to remove fines which may cause or contribute to a violation of the turbidity and/or narrative standards.

9. Conditions for Golf Courses and other Recreational Facilities

a. The Arizona State Land Department is encouraged to develop and implement Best Management Practices, such as those found in "Environmental Principles of Golf Course Design", for the design, maintenance and operation of golf courses and other recreational facilities.

b. The design of golf course irrigation, drainage and retention systems should provide for efficient use of water as well as the protection of water quality. Drainage and stormwater retention systems should be incorporated into the design as features of the course to help provide for both the short and long-term irrigation needs of turf and non-turf areas.

c. Vegetated buffers should be established and maintained adjacent to ephemeral watercourses to reduce pollutant loads. Native vegetation shall be utilized to the fullest extent possible, given a reasonable likelihood of success.

d. For facilities utilizing potable water, Central Arizona Project water or groundwater for irrigation, direct runoff of irrigation water and overflows from runoff detention and/or retention areas into washes shall be limited to the extent practicable and shall not cause downstream erosion or flooding.

e. For facilities utilizing reclaimed wastewater for irrigation, direct runoff of reclaimed wastewater and overflow from effluent storage impoundments into WUS are prohibited without the proper permits including but not limited to Arizona's Reuse of Reclaimed Wastewater Permit or a federal NPDES permit.

Stormwater detention/retention basins shall be designed pursuant to the Paradise Ridge Hydrology and Master Drainage Report, April 2001, prepared for the Arizona State Land Department. These structures should as a minimum retain the "first flush" consisting of runoff from the contributing watershed from the ½-inch rainfall event.

f. Golf course greens, berms, bunkers, fairways, cart and crossing paths, located within jurisdictional waters shall be designed to allow normal storm flows to pass unimpeded. There shall be no significant change to the hydraulic conditions of the upstream or downstream waters as a result of these constructed features.

g. Turfed areas (e.g., golf courses) shall be located outside of jurisdictional waters, to the maximum extent practicable.

h. Chemicals and fertilizers, especially when used for maintenance of golf course turf and landscape vegetation within jurisdictional waters, shall not cause or contribute to a violation of State Water Quality Standards.

i. Fertilizer, herbicide and insecticide chemicals used for maintenance of turfed areas and landscape vegetation shall be selected based on minimum environmental impacts (i.e., low residence times, low leachability, and maximum feasible biodegradability). The process of selection of chemicals cannot be based solely on cost. Application rates printed on the product labels shall be strictly followed. Excess chemicals shall not be applied on recently treated areas and must either be stored (as directed) for later use or transported to another site for immediate use.

10. Standard Issues

Any discharge occurring as a result of activities certified for the construction of the Paradise Ridge development shall not cause a violation of Surface Water Quality Standards. Applicability of this condition is as defined in A.A.C. R18-11-102.

ADEQ CWA 401 Water Quality Certification of these activities to operate under the terms of the ACOE Individual CWA 404 Permit does not affect or modify in any way the obligations or liability of any person for any damages, injury, or loss, resulting from an impacted area discharge. The Department may modify or withdraw its determination if the information relied upon is inaccurate or not implemented as proposed. If, in the future, the Department determines that the terms and conditions of the Certification have been violated, or discharges from the activities have caused or contributed to a violation to the surface water quality standards, the Director may revoke the Certification. This Certification is not intended to waive any other federal, state or local laws.

Thank you for your cooperation and efforts to protect our finite and precious water resources.

Sincerely,

Authorized ADEQ Signature: Michele Robertson 10-12-01

Michele Robertson, R.G. Date
Water Permits Section Manager
Water Quality Division

Enclosure: Figure 3, Proposed Project (1 page)

cc: U.S. Army Corps of Engineers, Regulatory Branch, Attn: Ron Fowler, (1999-16128-RWF), 3636 North Central Avenue, Suite 760, Phoenix, Arizona 85012
Arizona State Land Department, Attn: V. Ottozawa-Catupron, Drainage & Engineering Section, 1616 West Adams Street, Phoenix, Arizona 85007
EcoPlan Associates, Inc., Attn: George A. Ruffner, PhD, 701 West Southern Avenue, Suite 203, Mesa, Arizona 85210
Mr. Tim Vendlinski, Manager, Wetlands Regulatory Office, USEPA (WTR-8)

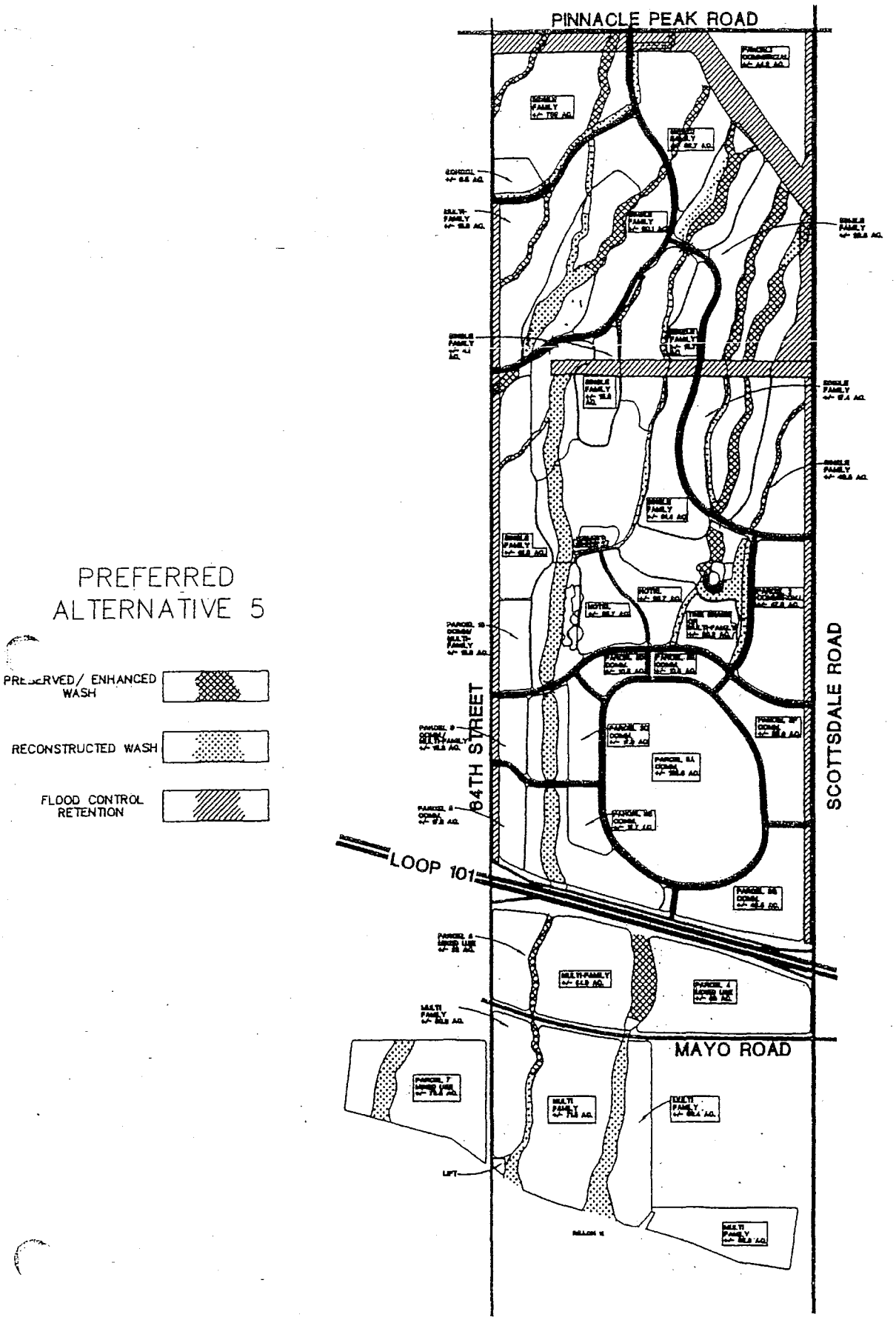

Figure 3 Proposed Project

APPENDIX D.11:
PARADISE RIDGE 404 PERMIT
DEED RESTRICTION TEMPLATE

RECORDING REQUESTED BY AND
WHEN RECORDED RETURN TO:

(Space Above Line for Recorder's Use)

DECLARATION OF RESTRICTIONS

This DECLARATION OF RESTRICTIONS ("Declaration") is made this ____ day of April X, 2002 by the XXXX (herein "Declarant"), for the benefit of the UNITED STATES OF AMERICA, acting by and through the U.S. Army Corps of Engineers ("ACOE") with reference to the following facts:

RECITALS

1. Declarant is the sole owner in fee simple of certain real property located in the XXX, Maricopa County, State of Arizona, consisting of X (X) separate but contiguous parcels totaling approximately XX acres legally described in Exhibit "A" and depicted on Exhibits "B" attached hereto and incorporated by this reference (the "District Parcels"). The District Parcels contain approximately XX acres of "waters of the United States, which, together with a XX-foot buffer on each side of the existing streambeds are particularly described on Exhibit "C" and depicted on Exhibit "D" attached hereto and incorporated herein by this reference (the "Property").

2. The Property's ephemeral streams (and a buffer area) possess aquatic, wildlife habitat and biological values (collectively, "Conservation Values") of great importance to ACOE;

3. The Property provides habitat for various species associated with ephemeral drainages and alkali streams/wetlands.

4. This Declaration provides compensatory mitigation for impacts to "waters of the United States" and is granted to satisfy Special Condition No. 4(f) of Section 404 Permit No. 1999-16129-RWF issued to Arizona State Land Department on April XX, 2002 by ACOE pursuant to its authority under the federal Clean Water Act (33 U.S.C. 1344).

5. Declarant and ACOE hereby agree that the third-party right of enforcement shall be held by the appropriate enforcement agencies of the United States.

COVENANTS, TERMS, CONDITIONS AND RESTRICTIONS

In consideration of the above recitals, Declarant hereby voluntarily places the following covenants and restrictions in perpetuity over the Property, such restrictions shall run with the land and be binding on Declarant's heirs, successors, administrators, assigns, lessees, or other occupiers and users.

1. Purpose. The purpose of this Declaration is to ensure the Property will be retained forever in a natural condition, defined below, and to prevent any use of the Property that will impair or interfere with the Conservation Values of the Property. Declarant intends that this Declaration will confine the use of the Property to such activities, including without limitation, those involving the preservation and enhancement of native species and their habitat in a manner consistent with the habitat conservation purposes of this Declaration.

(1) The term natural condition shall mean the condition of the protected property at the time of this grant. Declarant certifies there are no structures or other man-made improvements existing on the Property. Declarant further certifies there are no previously granted easements existing on the Property which interfere or conflict with the purpose of this Conservation Easement. The natural condition is evidenced by a surveyed plat of the Property showing all relevant property lines, and all existing man-made improvements and structures, and major, distinct natural features such as waters of the United States. Declarant has delivered further evidence of the "natural condition" to ACOE consisting of: (1) an aerial photograph of the protected property at an appropriate scale taken close in time to the date the grant is made; (2) on-site photographs showing all man-made improvements or structures, and all major natural features.

2. ACOE's Rights. To accomplish the purposes of this Declaration, Declarant hereby grants the following rights to ACOE by this Declaration:

(1) To enter upon the Property at reasonable times in order to monitor Declarant's compliance with and to otherwise enforce the terms of this Declaration and for scientific research and interpretive purposes by ACOE or their designees, provided that ACOE shall not unreasonably interfere with Declarant's use and quiet enjoyment of the Property;

(2) To prevent any activity on or use of the Property that is inconsistent with the purposes of this Declaration and to require the restoration of such areas or features of the Property that may be damaged by any act, failure to act, or any use that is inconsistent with the purposes of this Declaration;

3. Prohibited Uses. Any activity on or use of the Property inconsistent with the purposes of this Declaration is prohibited. Without limiting the generality of the foregoing, the following uses by Declarant, Declarant's agents, and third parties, are expressly prohibited:

(1) Unseasonal watering, use of herbicides, rodenticides, or weed abatement activities, incompatible fire protection activities and any and all other uses which may adversely affect the purposes of this Conservation Easement;

(2) Use of off-road vehicles;

(3) Grazing;

(4) Erecting of any building, billboard, sign;

(5) Depositing of soil, trash, ashes, garbage, waste, bio-solids or any other material;

(6) Excavating, dredging or removing of loam, gravel, soil, rock, sand or other material;

(7) Otherwise altering the general topography of the Property, including but not limited to building of roads and flood control work;

(8) Removing, destroying, or cutting of trees, shrubs or other vegetation, except as required by law for (1) fire breaks, (2) maintenance of existing foot trails or roads, or (3) prevention or treatment of disease;

(9) establishment of any easement, for any purpose (without the written consent of ACOE), within the boundaries of the Property not already in existence as of the date this Conservation Easement is executed; or

(10) surface entry for exploration or extraction of minerals.

4. Declarant's Duties. Declarant shall undertake reasonable actions to prevent the unlawful entry and trespass by persons whose activities may degrade or harm the Conservation Values of the Property.

5. Reserved Rights. Declarant reserves to itself, and to its personal representatives, heirs, successors, and assigns, all rights accruing from its ownership of the Property, including the right to engage in or to permit or invite others to engage in all uses of the Property that are consistent with the purposes of this Declaration.

6. ACOE's Remedies. If ACOE determines that Declarant is in violation of the terms of this Declaration or that a violation is threatened, ACOE shall give written notice to Declarant of such violation and demand in writing the cure of such violation. If Declarant fails to cure the violation within fifteen (15) days after receipt of said written notice and demand, or said cure reasonably requires more than fifteen (15) days to complete and Declarant fails to begin the cure within the fifteen (15) day period or fails to continue diligently to complete the cure, ACOE may bring an action at law or in equity in a court of competent jurisdiction to enforce compliance by Declarant with the terms of this Declaration, to recover any damages to which ACOE may be entitled for violation by Declarant of the terms of this Declaration, to enjoin the violation, *ex parte* as necessary, by temporary or permanent injunction without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies, or for other equitable relief, including, but not limited to, the restoration of the Property to the condition in which it existed prior

to any such violation or injury. Without limiting Declarant's liability therefore, ACOE may apply any damages recovered to the cost of undertaking any corrective action on the Property.

If ACOE, in its sole discretion, determines that circumstances require immediate action to prevent or mitigate significant damage to the Conservation Values of the Property, ACOE may pursue its remedies under this paragraph without prior notice to Declarant or without waiting for the period provided for cure to expire. ACOE's rights under this paragraph apply equally to actual or threatened violations of the terms of this Declaration. Declarant agrees that ACOE's remedies at law for any violation of the terms of this Declaration are inadequate and that ACOE shall be entitled to the injunctive relief described in this section, both prohibitive and mandatory, in addition to such other relief to which ACOE may be entitled, including specific performance of the terms of this Declaration. ACOE's remedies described in this section shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity, including but not limited to, the remedies set forth in Arizona Civil Code Section XXX, *et seq.*, inclusive.

If at any time in the future Declarant or any subsequent transferee uses or threatens to use such lands for purposes inconsistent with this Declaration, notwithstanding Arizona Civil Code Section XXX, the Arizona Attorney General, and/or the Department of Justice has standing to enforce this Declaration.

6.1 Costs of Enforcement. Any costs incurred by ACOE in enforcing the terms of this Declaration against Declarant, including, but not limited to, costs of suit and attorneys' fees, and any costs of restoration necessitated by Declarant's violation or negligence under the terms of this Declaration shall be borne by Declarant.

6.2 ACOE's Discretion. Enforcement of the terms of this Declaration shall be at the discretion of the ACOE, and any forbearance by ACOE to exercise its rights under this Declaration in the event of any breach of any term of the Declaration shall not be construed to be a waiver by ACOE of such terms or of any subsequent breach of the same or any other term of this Declaration or of any of ACOE's rights under this Declaration. No delay or omission by ACOE in the exercise of any right or remedy upon any breach by Declarant shall impair such right or remedy or be construed as a waiver. Further, nothing in this Declaration creates non-discretionary duty upon the ACOE to enforce its provisions, nor shall deviation from these terms and procedures, or failure to enforce its provisions give rise to a private right of action against ACOE by any third parties.

6.3 Acts Beyond Declarant's Control. Nothing contained in this Declaration shall be construed to entitle ACOE to bring any action against Declarant for any significant injury to or change in the Property resulting from causes beyond Declarant's control, including: fire, flood, storm, and earth movement, or from any prudent action taken by Declarant under emergency conditions to prevent, abate, or mitigate significant injury to the Property or immediately adjacent property resulting from such causes. Such excuse from performance by Declarant shall only be allowed if such Catastrophic Event (or emergency event beyond Declarant's control) has caused a substantial failure of or degradation of the Conservation and Environmental values on the Property. Notwithstanding the foregoing, even actions undertaken during emergency conditions must receive prior authorization from the Department of Army (through expedited

procedures, if appropriate) if the action involves discharge of dredged or fill material into jurisdictional " waters of the United States."

6.4 Right of Enforcement. All rights and remedies conveyed to ACOE under this Declaration shall extend to and are enforceable by the Corps, the U.S. Department of Justice, and the Arizona Attorney General.

7. Access. This Declaration does not convey a general right of access to the public.

8. Costs and Liabilities. Declarant retains all responsibilities and shall bear all costs and liabilities of any kind related to the ownership, operation, upkeep, and maintenance of the Property.

8.1 Taxes. Declarant shall pay before delinquency all taxes, assessments, fees, and charges of whatever description levied on or assessed against the Property by competent authority (collectively "taxes"), including any taxes imposed upon, or incurred as a result of, this Declaration, and shall furnish ACOE with satisfactory evidence of payment upon request.

8.2 Condemnation. The purposes of the Property for conservation purposes are presumed to be the best and most necessary public use as defined at California Civil Procedure Code Section XXX notwithstanding Arizona Civil Procedure Code Sections XXX and XXX.

9. Assignment. This Declaration is transferable, but ACOE may assign its rights and obligations under this Declaration only to an entity or organization authorized to acquire and hold Declarations pursuant to Arizona Civil Code Section XXX, or a bonafide land trust. ACOE shall require the assignee to record the assignment in the county where the Property is located.

10. Subsequent Transfers. Declarant agrees to incorporate the terms of this Declaration in any deed or other legal instrument by which Declarant divests itself of any interest in all or a portion of the Property, including, without limitation, a leasehold interest. Declarant further agrees to give written notice to ACOE of the intent to transfer of any interest at least fifteen (15) days prior to the date of such transfer. ACOE shall have the right to prevent subsequent transfers in which prospective subsequent claimants or transferees are not given notice of the covenants, terms, conditions and restrictions of this Declaration. The failure of Declarant or ACOE to perform any act provided in this section shall not impair the validity of this Declaration or limit its enforceability in any way.

11. Notices. Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and be served personally or sent by first class mail, postage prepaid, addressed as follows:

To Declarant:

_____

_____

Attn: _____

To ACOE: U.S. Army Corps of Engineers
District Counsel
U.S. Army Corps of Engineers
911 Wilshire Blvd, Room 1535
Los Angeles, CA 90017-3401

or to such other address as either party shall designate by written notice to the other. Notice shall be deemed effective upon delivery in the case of personal delivery or, in the case of delivery by first class mail, five (5) days after deposit into the United States mail.

12. Extinguishment. This Declaration may be extinguished by Declarant only after receiving written concurrence from ACOE.

13. Amendment. This Declaration may be amended by Declarant only after written concurrence by ACOE. Any such amendment shall be consistent with the purposes of this Declaration and, except as provided in Section 12, shall not affect its perpetual duration. Any such amendment shall be recorded in the official records of Maricopa County, State of Arizona.

14. General Provisions.

(1) Controlling Law. The interpretation and performance of this Declaration shall be governed by the laws of the State of Arizona.

(2) Liberal Construction. Any general rule of construction to the contrary notwithstanding, this Declaration shall be liberally construed in favor of the deed to effect the purpose of this Declaration and the policy and purpose Arizona Civil Code Section XXX, *et seq*. If any provision in this instrument is found to be ambiguous, an interpretation consistent with the purposes of this Declaration that would render the provision valid shall be favored over any interpretation that would render it invalid.

(3) Severability. If a court of competent jurisdiction voids or invalidates on its face any provision of this Declaration, such action shall not affect the remainder of this Declaration. If a court of competent jurisdiction voids or invalidates the application of any provision of this Declaration to a person or circumstance, such action shall not affect the application of the provision to other persons or circumstances.

(4) Entire Agreement. This instrument sets forth the entire agreement of the parties with respect to the Declaration and supersedes all prior discussions, negotiations, understandings, or agreements relating to the Declaration. No alteration or variation of this instrument shall be valid or binding unless contained in an amendment in accordance with Section 13.

(5) No Forfeiture. Nothing contained herein will result in a forfeiture or reversion of Declarant's title in any respect.

(6) Successors. The covenants, terms, conditions, and restrictions of this Declaration shall be binding upon, and inure to the benefit of, the parties hereto and their respective personal representatives, heirs, successors, and assigns and shall continue as a servitude running in perpetuity with the Property.

(7) Termination of Rights and Obligations. A party's rights and obligations under this Declaration terminate upon transfer of the party's interest in the Declaration or Property, except that liability for acts or omissions occurring prior to transfer shall survive transfer.

(8) Captions. The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

IN WITNESS WHEREOF Declarant has executed this Declaration.

"Declarant"

By: _____

Its: _____

Approved as to Form:

By: _____

Assistant District Counsel
U.S. Army Corps of Engineers

CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in real property conveyed by the Declaration by _____, dated _____, on behalf of the United States, acting by and through the U.S. Army Corps of Engineers, accepted by the undersigned officers on behalf of Corps.

ACOE:

U.S. ARMY CORPS OF ENGINEERS

By: _____

Title: _____

Authorized Representative

Date: _____

APPENDIX D.12:
PARADISE RIDGE HABITAT MIGRATION AND MONITORING PLAN

Habitat Mitigation and Monitoring Plan for the Paradise Ridge Development Project

Submitted to:

U.S. Army Corps of Engineers
Regulatory Branch
3636 North Central Avenue, Suite 760
Phoenix, Arizona 85012

On Behalf of:

Arizona State Land Department
1616 West Adams Street
Phoenix, Arizona 85007

and

Landmark Land Company of Arizona, Inc.
7590 East Gray Road, Suite 103
Scottsdale, Arizona 85260

Prepared by:

ENTRANCO
7740 16th Street, Suite 200
Phoenix, Arizona 85020

April 30, 2002

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APPENDICES

Appendix A.	Xeroriparian Corridor Function and Value Assessment for Paradise Ridge with Supporting Spreadsheets
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1.0 INTRODUCTION - PLAN OVERVIEW

This mitigation plan has been prepared to address unavoidable impacts to 34.08 acres of Waters of the United States (WUS) associated with the auction and eventual development of approximately 2,131 acres in the Paradise Ridge Master Planned Community in northeast Phoenix, Maricopa County, Arizona. Jurisdictional waters, which represent approximately 2.3% of the total surface area of the site, are composed of approximately 43 acres of ephemeral watercourses and a 4.9-acre stock tank/detention area. The ephemeral washes flow in direct response to precipitation events, have a channel that is above the groundwater table at all times, and do not support self-sustaining populations of fish (Arizona Administrative Code, Title 18, Chapter 11, Article 1).

An initial function and value assessment was conducted based on water and habitat quality. (See *Xeroriparian Corridor Function and Value Assessment Paradise Ridge* in appendix A), and the jurisdictional waters in the project area were ranked as having high, medium, or low functions and values based on those criteria. With the agreement of the Arizona Department of Game and Fish and the ACOE, additional evaluations of these washes were conducted after the Function and Value assessment was completed. These evaluations added two new ranking criteria: 2-yr, 24-hr Hydrology (flow measured for individual segments, above and below tributary flows and wash stability (as indicated for individual segments from historical photographs). The original Function and Value ratings were then average with the new criteria to give the final weighted rankings as seen in Tables 2.4.3.a, 2.4.3.b, and 2.4.3.c. Based on these criteria, approximately 25.5 acres of jurisdictional waters have high functions and values, 20.1 acres have medium functions and values, and 2.3 acres have low functions and values. For purposes of this mitigation plan, the stock pond is included in the total 25.5 acres of high-ranking jurisdictional waters, but will be treated separately from the washes.

The WUS at Paradise Ridge have been classified as having a high, medium or low function and value based on habitat and hydrologic criteria. Approximately 20.61 wash acres and the 4.93 acre stock tank have a high ranking, 20.05 wash acres are rated medium, and 2.31 wash acres are rated low. Of the total 47.9 wash and stock tank acres, a total of 13.82 acres will be preserved in their natural state, and 34.08 acres will be impacted by development at Paradise Ridge (Table 1).

Mitigation will consist of (1) berming drainage channels adjacent to the existing preserved natural WUS's to create enhanced corridors of varying widths depending on their location and drainage function within the Paradise Ridge development. Most areas outside the WUS's will be left in their natural state but some augmenting of plant species may occur to replace unhealthy vegetation; and (2) the reconstruction of riparian wash corridors and the reconstruction of the stock tank. Jurisdictional washes ranked as having high function and value will be mitigated at a 6:1 mitigation to impact area ratio, medium-ranked washes will be mitigated at a 4:1 ratio, and low-ranked washes will be mitigated at a 2:1 ratio. The total credited mitigated area for Paradise Ridge is 137.9 acres (actual mitigated area is 165.29 acres) that consists of 63.68 acres (81.49 actual acres) of high value reconstructed washes, 69.67 acres (79.25 actual acres) of medium value washes, and 4.55 acres of low value washes (Tables 1, 1A, 1B, and 1C). The corridors will range from the natural WUS width to 350 feet wide, depending on its location within the Paradise Ridge development. All the preserved and enhanced natural wash corridors will encompass the WUS's and the reconstructed washes will encompass a reconstructed low flow channel, at a minimum the width of the impacted WUS.

Table 1. Total acres of WUS's, total WUS acres preserved, WUS acres impacted, and mitigation commitments at Paradise Ridge

TOTAL WUS ACRES AT PARADISE RIDGE		**47.89**	
	High	25.54	
	Medium	20.05	
	Low	2.30	
TOTAL WUS ACRES PRESERVED		**13.82**	
	High	12.00	
	Med.	2.50	
	Low	0.03	
TOTAL WUS ACRES IMPACTED		**34.08**	
	High	13.81	
	Medium	17.99	
	Low	2.27	
OVERALL MITIGATION RATIO (Pertaining to Acreage)		**4.85:1**	
	High	6.00:1	
	Medium	4.00:1	
	Low	2.00:1	
Mitigation			**Credited**
Riparian habitat associated with High Value Avoided Washes		35.65	17.83
Reconstructed & New High Value Washes/Stock Tank		45.85	45.85
		81.49	**63.68**
Riparian habitat associated with Medium Value Avoided Washes		19.14	9.57
Reconstructed & New Medium Value Washes		60.10	60.10
		79.25	**69.67**
Riparian habitat associated with Low Value Avoided Washes		0.00	00.00
Reconstructed and New Low Value Washes		4.55	4.55
		4.55	**4.55**
	TOTAL	**165.29**	**137.90**

Table 1A

REVISED MITIGATION PLAN
High Value 6 to 1

High Value Jurisdictional Washes Not Preserved or Reconstructed

Wash No.	Not Preserved	Reconstructed	Total Area	Mitigation Value
5	0.28	0.21	**0.49**	2.92
6C	0.25	0.35	**0.60**	3.57
8	0.87	0.17	**1.04**	6.16
8C	0.00	0.18	**0.18**	1.04
8D	0.00	0.09	**0.09**	0.52
8F	1.02	0.00	**1.02**	6.01
8G	0.00	0.48	**0.48**	2.81
9	1.64	0.50	**2.14**	12.62
10	0.19	0.03	**0.22**	1.29
10B	1.41	0.05	**1.46**	8.62
18A	0.46	0.04	**0.50**	2.96
Stock Tank	0.00	4.93	**4.93**	29.10
Roadway/Golf Crossings	0.00	0.66	**0.66**	3.87
Actual Subtotal	6.12	7.69	**13.81**	81.49
Credited Subtotal	n/a	n/a	n/a	63.68

Table 1B

Medium Value 4 to 1

Medium Value Jurisdictional Washes not Preserved or Reconstructed

Wash No.	Not Preserved	Reconstructed	Total Area	Mitigation Value
4	0.05	0.03	**0.08**	0.37
5A	0.70	0.00	**0.70**	3.09
5C	0.00	0.03	**0.03**	0.13
6	1.04	0.74	**1.79**	7.88
6A	0.00	0.36	**0.36**	1.58
6D	0.03	0.39	**0.42**	1.84
6E	0.17	0.15	**0.32**	1.40
7	0.46	0.80	**1.26**	5.54
7A	0.92	0.00	**0.92**	4.06
7B	0.90	0.22	**1.12**	4.94
8B	0.46	0.25	**0.71**	3.11
8E	0.15	0.00	**0.15**	0.66
8H	0.51	0.02	**0.52**	2.30
9A	2.01	0.00	**2.01**	8.85
9B	0.17	0.00	**0.17**	0.75
9C	0.02	0.00	**0.02**	0.11
9D	0.22	0.00	**0.22**	0.99
9E	0.04	0.00	**0.04**	0.16
9F	0.03	0.00	**0.03**	0.13
9G	0.19	0.00	**0.19**	0.85
10A	0.00	1.09	**1.09**	4.80
10C	0.32	0.00	**0.32**	1.39
13	0.19	0.00	**0.19**	0.84
14	0.12	0.00	**0.12**	0.52
15	0.26	0.40	**0.66**	2.89
17A	0.49	0.00	**0.49**	2.14
18	2.22	0.06	**2.29**	10.06
18B	0.06	0.00	**0.06**	0.25
20	0.21	0.00	**0.21**	0.93
21	0.00	0.59	**0.59**	2.58
Roadway/Golf Crossings	0.00	0.94	**0.94**	4.12
Actual Subtotal	11.94	6.05	**18.00**	79.25
Credited Subtotal	n/a	n/a	n/a	69.67

Table 1C

Low Value 2 to 1

Low Value Jurisdictional Washes Not Preserved or Reconstructed

Wash No.	Not Preserved	Reconstructed	Total Area	Mitigation Value
1	0.30	0.00	**0.30**	0.61
3	0.55	0.17	**0.71**	1.43
5B	0.09	0.00	**0.09**	0.18
6B	0.12	0.00	**0.12**	0.23
9H	0.16	0.00	**0.16**	0.31
9I	0.03	0.00	**0.03**	0.06
11	0.02	0.00	**0.02**	0.03
12	0.12	0.00	**0.12**	0.23
15A	0.11	0.00	**0.11**	0.21
15B	0.01	0.00	**0.01**	0.01
16	0.11	0.02	**0.13**	0.25
17	0.03	0.00	**0.03**	0.06
19	0.31	0.02	**0.34**	0.67
20A	0.10	0.03	**0.13**	0.25
Roadway/Golf Crossings	0.00	0.00		0.00
Actual Subtotal	2.03	0.24	**2.27**	4.55
Credited Subtotal	n/a	n/a	n/a	4.55

Actual Grand Total	20.10	13.98	34.08	165.29
Credited Grand Total	n/a	n/a	n/a	137.90

Mitigation Ratio

Actual Mitigated Acres:	165.29
Actual Mitigation ratio:	4.85 to 1
Credited Mitigated Acres:	137.90
Credited Mitigation ratio:	4.05 to 1

High value washes will be mitigated at a 6.00:1 ratio for a total of 81.49 acres however, the credited amount of acres is 63.68. Of this total, 35.65 acres (17.83 credited acres) will be riparian habitat associated with avoided washes. 45.85 acres will consist of reconstructed washes and riparian habitat (corridors) and the reconstruction of the stock tank. The reconstructed wash corridor will be vegetated to the degree of plant density and species and structural diversity that replicates high value washes and assumes that vegetation will be clustered along and immediately adjacent to the reconstructed low flow channel. The more drought tolerant plants (e.g., creosote, foothills paloverde) will be planted on the margins of the planting areas (Table 1). High value wash corridors will range in width from fourteen feet, a reconstructed low flow channel, to three-hundred-fifty (350) feet wide depending on the corridors location within the Paradise Ridge development.

Approximately 17.99 acres of the WUS's within Paradise Ridge having a medium function and value will be impacted and they will be mitigated at a 4:1 ratio for a total of 79.25 acres, however, the credited amount of acres is 69.67. Of this, 19.14 acres (9.57 credited acres) will be riparian habitat associated with avoided washes and 60.10 acres will consist of reconstructed washes with associated riparian habitat. Reconstructed areas will be augmented with plantings at a density and diversity that will replicate high value washes (Table 1). The planting scheme will follow that as identified above. Medium value wash corridors will range in width from eight feet, a reconstructed low flow channel, to three-hundred (300) feet wide depending on the corridors location within the Paradise Ridge development.

Of the 2.30 acres of low value WUS's in Paradise Ridge, 2.27 acres will be impacted. They will be mitigated at a 2:1 ratio for a total of 4.55 acres and will consist of 0.03 acres of avoided washes and 4.52 acres of reconstructed washes and corridors. The reconstructed washes will be revegetated at a density and diversity that will replicate high value washes and will be planted in accordance with the scheme as identified above (Table 1). Low value wash corridors will range in width from five feet, a natural WUS, to fifty to seventy-five (50-75) feet wide depending on the corridors location within the Paradise Ridge development.

On-site mitigation will be phased in over the 20-year build-out of the proposed project as impacts occur to jurisdictional waters. Following each auction of parcels, the Arizona State Land Department (ASLD), its agents or assignees will initiate mitigation concurrent with the impacts associated with the development activities of each phase. Mitigation activities associated with impacts to jurisdictional waters within each auction parcel will be completed within one year of the occurrence of the impact. Assignees in subsequent auctions will implement mitigation within and adjacent to auctioned parcels as development occurs. Corridors will be maintained free of ground vegetation disturbances for the life of the project.

Plant Density and Species Diversity

The reconstructed wash corridors will emulate plant density and species diversity of the WUS impacted by the project activities. A minimum of 25 percent of the total number of woody plants (trees, shrubs and cacti) will be salvaged from the project area. The remainder of plants used to augment wash corridors within Paradise Ridge will be obtained from commercial sources. All nursery grown plants shall be identified to assure that only locally adapted native plants are utilized. Each reconstructed wash and associated corridor will have plant density and species diversity consistent with density and diversity of high value washes.

Segments of nine (9) high value washes will be avoided within Paradise Ridge (Washes 5, 6C, 8, 8D, 8F, 8G, 9, 10, 22). 35.65 acres of riparian habitat will be established along those nine high value wash segments.

Ten washes will be reconstructed to replicate high value washes (Washes 5, 6C, 8, 8C, 8F, 8G, 9, 10, Stock Tank Outlet and Scottsdale Road Channels). Total area of the corridors, excluding the newly constructed jurisdictional waters, will encompass 45.85 acres. The density of trees, shrubs, cacti, perennial forbs and annual forbs will be based on existing plant density associated with undisturbed high value washes at Paradise Ridge (Table 2). For example, 779 Ironwood (45.85 x 17) will be planted. Of these, a minimum of 195 will be salvaged from the project area. Vegetation will be clustered along and immediately adjacent to the reconstructed low flow channel, as occurs in existing natural high value wash corridors at Paradise Ridge. The more drought-tolerant plants (e.g., creosote, foothills paloverde) will be planted on the margins of the planting area.

Segments of nine (9) medium value washes will be avoided within Paradise Ridge (Washes 2, 5C, 6, 6A, 6D, 7, 8A, 8B, 15). Riparian Habitat totaling 19.14 acres will be established along the nine medium value wash segments.

Twelve washes will be reconstructed to replicate medium value washes (Washes 6, 6A, 6D, 7, 8B, 15, 21, and the Pinnacle Peak, Scottsdale Road, Deer Valley Detention Basin, Main North/South, and 64th Street Channels). Total area of corridors excluding the newly constructed jurisdictional waters will encompass 60.10 acres. The density of trees, shrubs, cacti, perennial forbs and annual forbs will be based on existing plant density within undisturbed high value washes at Paradise Ridge (Table 2). For example, 1022 Ironwood (60.10 x 17) will be planted. A minimum of 255 will be salvaged from the project area. Vegetation will be clustered along and immediately adjacent to the reconstructed wash channel, as occurs in existing natural high value wash corridors at Paradise Ridge. The more drought-tolerant plants (e.g., creosote, foothills paloverde) will be planted on the margins of the planting area.

One segment of a low value wash will be avoided (wash 9I) and one will be reconstructed to replicate a low value wash (64th Street Channel). Riparian Habitat totaling 4.55 acres will be established along this wash. For the reconstructed wash the density of trees, shrubs, cacti, perennial forbs and annual forbs will be based on existing plant density within undisturbed high value washes at Paradise Ridge (Table 2). For example, 77 Ironwood (4.55 x 17) will be planted. Of these, a minimum of 19 will be salvaged from the project area. Vegetation will be clustered along and immediately adjacent to the reconstructed low flow channel, as occurs in existing natural high value wash corridors at Paradise Ridge. The more drought-tolerant plants (e.g., creosote, foothills paloverde) will be planted on the margins of the planting area.

Maintenance

Short-term maintenance of the riparian habitat areas may include staking, fertilizing, and weeding in the immediate area of the vegetation to be re-established and maintenance of the irrigation system. Once vegetation becomes established and accepted by the USACOE, these practices will be discontinued. Long-term management of the wash corridors will not include pruning, removal of snags, mistletoe control, weeding or plant litter removal.

Monitoring

Monitoring reports will be submitted to the Corps of Engineers annually until success criteria for the project are met.

2.0 PROJECT DESCRIPTION

2.1 Location

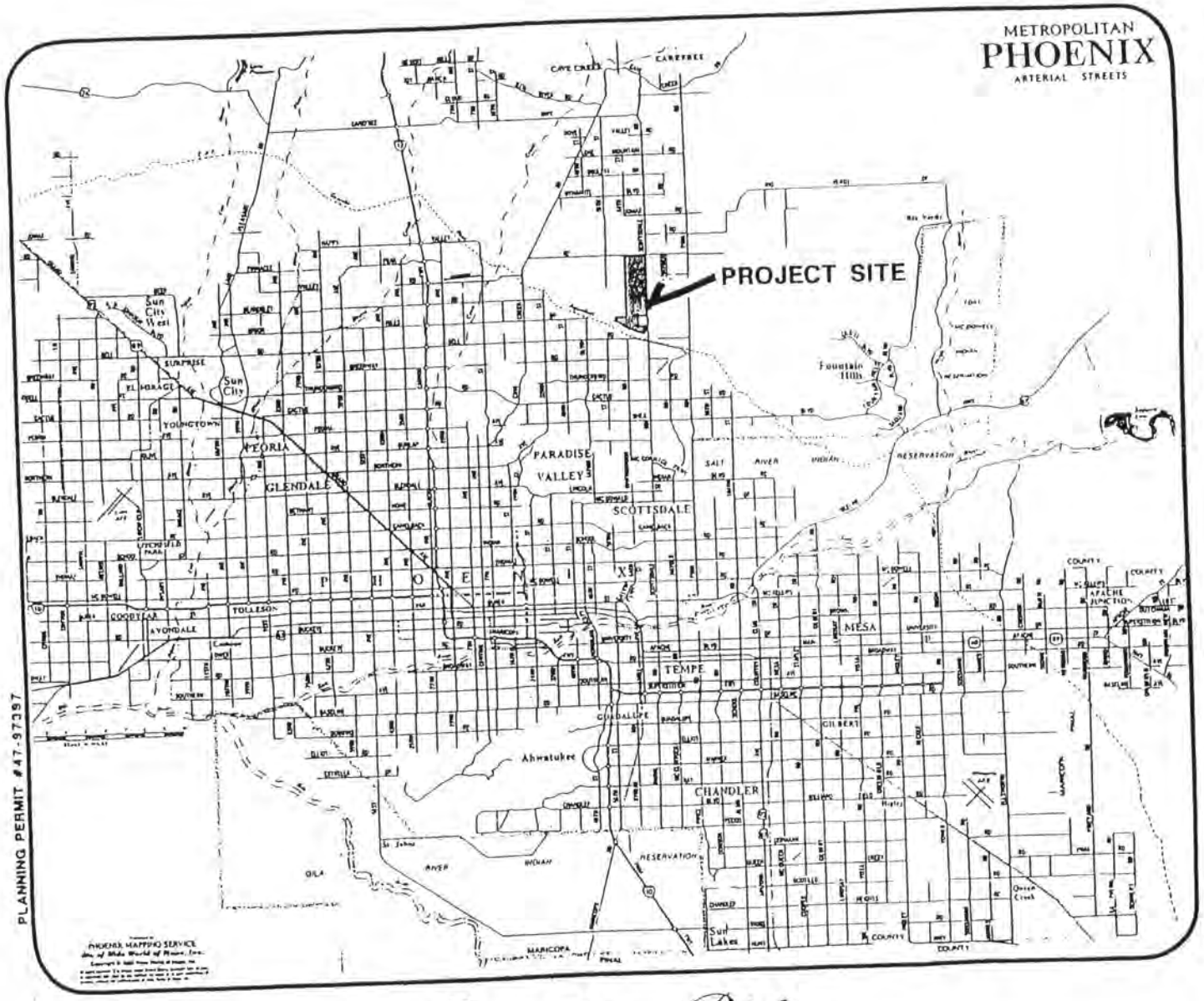
The project is located approximately 15 miles north-northeast of downtown Phoenix (Figure 1-Vicinity Map). The site is located within Sections 15, 22, 27, and portions of 33 and 34, in Township 4 North, Range 4 East, of the Gila and Salt River Base and Meridian, Maricopa County, Arizona. The project area is generally bounded on the north by Pinnacle Peak Road, on the south by the Bureau of Reclamation Reach 11, on the east by Scottsdale Road, and on the west by the proposed future alignment of 64th Street and the Desert Ridge development. The project area also includes a small parcel located adjacent to the Mayo Hospital Campus west of the proposed 64th Street alignment. Power line easements run across the northern edge and northeast corner of the project area. Construction has commenced on the Pima Freeway, which bisects the southern third of the Paradise Ridge project.

2.2 Project Summary

As a master-planned community, Paradise Ridge seeks to create a unique community by creating a desirable theme and lifestyle that will appeal to all socioeconomic groups. To meet that objective adhered to with strict design guidelines and standards governing all phases and aspects of development must be created and adhered to for every parcel. Paradise Ridge is designed to include a mix of uses, including residential, commercial resorts, educational, and golf course facilities within the same community.

The project will include natural and reconstructed washes within, self-sustaining riparian corridors. The project also includes street side natural areas landscaped with Sonoran Desert plant materials (salvaged from on-site), pedestrian walkways, low water use landscaping, and water conserving features.

REGIONAL SITE LOCATION MAP



Paradise Ridge

NORTH

NO SCALE

Figure 1. Vicinity Map

Development of Paradise Ridge will occur in several phases. Although the exact location and timing of all the development phases is unknown at this time, development will begin south of the Pima Freeway with the 70-acre commercial parcel already under long-term lease. The multi-family land south of the Pima Freeway and the 39-acre commercial parcel south of Chauncey Ranch will follow shortly thereafter (see Figure 2). Development will then move north of the Pima Freeway, with the golf courses and associated resort facilities projected to be developed first. All development phasing will be dependent on the timing of property disposition by the ASLD, which in turn will be dependent upon market demand for ASLD land. The ASLD will determine through market analysis, when, where and how much property to sell at any one time, based on its statutory mandate of maximizing benefit to the Trust. Purchasers or lessees of portions of its land at public auction, subject to conditions imposed by the ASLD as part of the auction process, will complete actual development. The timing of land development activities by successful bidders will be based to a certain extent on proximity to infrastructure, the availability of capital for construction, and the general conditions of the local real estate market at that time. It is expected that Paradise Ridge, as currently planned, will be completed over a 10 to 20 year time frame.

Development of the 2,131 acres of Paradise Ridge is the subject of this mitigation plan. Activities regulated pursuant to Section 404 will include construction of road crossings and storm drains, utilities installation, wash reconstruction, grading for recreational amenities, and typical grading associated with developments, including building pads. Grading activity will mostly impact the narrow, discontinuous ephemeral washes and areas of uncontrolled sheet flooding. Most of the natural washes that are continuous across the project site will be avoided or will be reconstructed within continuous, sustainable corridors that will safely convey the peak 100-year stormwater flows.

The City of Phoenix will provide potable water, wastewater, and water reclamation facilities to the project area. These services are described in the *City of Phoenix, Peripheral Areas C and D Water, Wastewater, and Water Reclamation Plan.* Water for large turf areas and golf course irrigation will be obtained from the city's domestic potable water system, which will eventually be replaced by CAP and reclaimed water. The use of reclaimed water on-site will be addressed through the wastewater reuse permit program administered by the Arizona Department of Environmental Quality (ADEQ). Surface water would be discharged both to jurisdictional water and non-jurisdictional water on the Paradise Ridge project site. A National Pollutant Discharge Elimination System (NPDES) permit will be obtained, as required, pursuant to Section 402 of the Clean Water Act.

2.3 Responsible Parties

Project Development/Mitigation and Monitoring:

Arizona State Land Department
1616 W. Adams
Phoenix, Arizona 85007
602-542-3121
Contact: Ottozawa Chatupron

Compiler of Mitigation Plan:

Entranco, Inc.
7740 North 16th Street, Suite 200
Phoenix, Arizona 85020
602-889-7000
Contact: Barbara Wilson, Lesley McWhirter

Upon successful auction of each parcel, the mitigation obligation will be assigned to the purchaser or lessee by ASLD. An Implementation Handbook will be prepared that addresses mitigation responsibilities and methodologies for future assignees of the auction parcels within the project area.

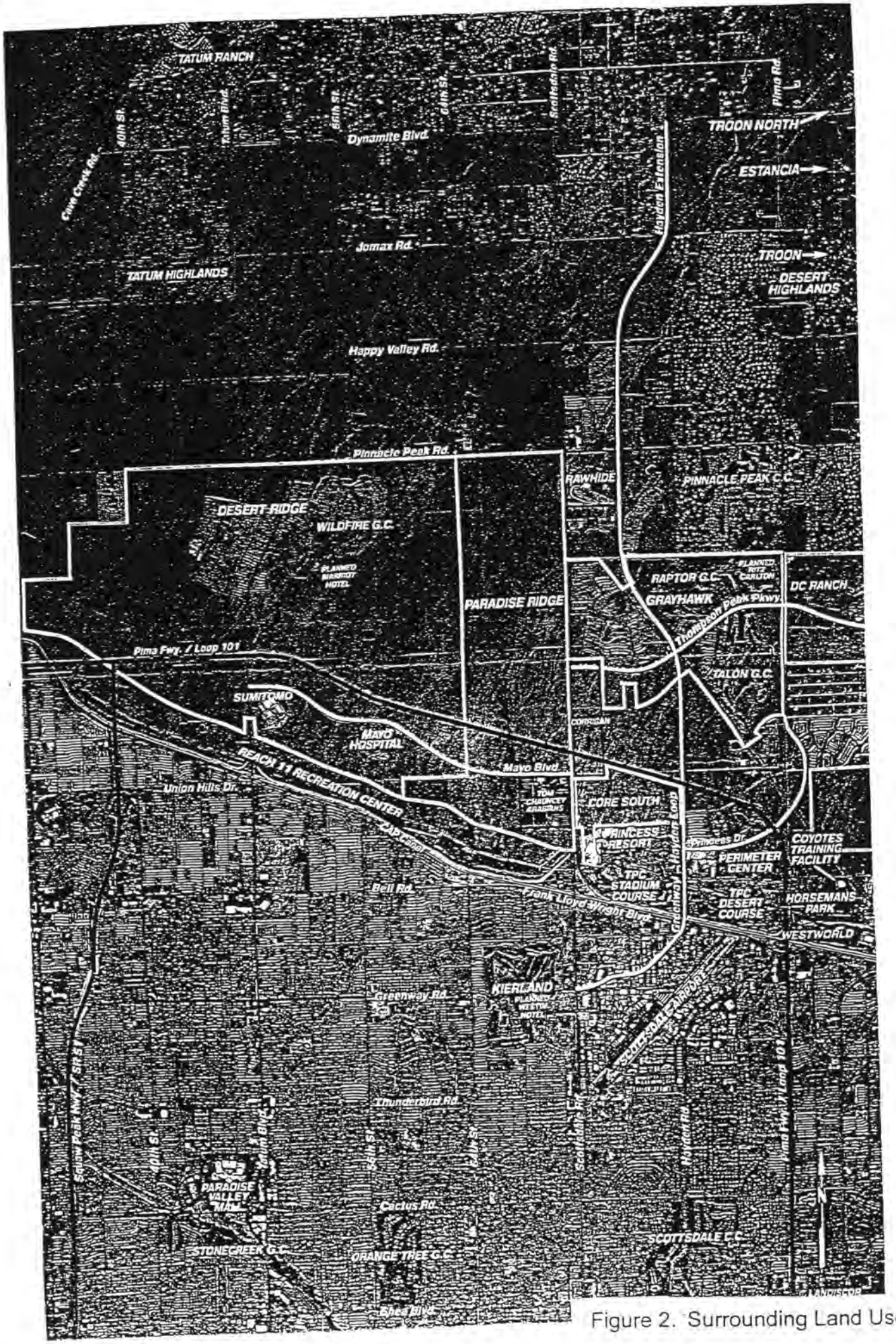


Figure 2. Surrounding Land Use Map

2.4 Waters of the United States to be Impacted

2.4.1 Acreage

There are 47.9 acres of WUS within the 2,131-acre project area. The proposed work will directly impact 34.08 acres of on-site WUS. The washes that cannot practicably be avoided at Paradise Ridge consist of 13.81acres of high-ranked washes (including the 4.9-acre stock pond), 17.99 acres of medium-ranked washes, and 2.27 acres of low-ranked washes.

Table 2.4. Acreages of Existing and Impacted WUS within the Paradise Ridge Master Planned Community, Phoenix, Maricopa County, Arizona.

Section	Existing WUS (acres)				Impacted WUS (acres)			
	High	Medium	Low	Total	High	Medium	Low	Total
Washes	20.61	20.05	2.31	42.97	8.88	17.99	2.27	29.15
Stock Tank	4.93	0		4.93	4.93	0	0	4.93
Total	**25.54**	**20.05**	**2.31**	**47.90**	**13.81**	**17.99**	**2.27**	**34.08**

2.4.2 Description

The Paradise Ridge Master Planned Community is located within two subdivisions of the Sonoran Desert Scrub biotic community: the Lower Colorado River Valley Sonoran desert scrub and the Arizona Upland Sonoran desert scrub. A transition area lies between the two subdivisions. The elevation ranges from 1,830 feet above mean sea level (MSL) at the northeast corner to 1,550 feet above MSL in the southwest portion of the project area. Precipitation averages less than eight inches per year, most of which comes either in the winter or in late summer. Representative plant species in Sonoran desert scrub communities include mesquite, cat claw acacia, creosote bush, paloverde, ironwood, and a variety of cacti. The project area has experienced considerable disturbance for many years, e.g., off-road vehicle travel, firewood collection, littering, and road and utility construction. In addition, cattle grazing have altered the natural vegetation. Consequently, typical characteristics of a Sonoran desert scrub community have been modified and the habitat value of the area is somewhat degraded.

Aquatic resources on the property are limited. There are no perennial or intermittent streams or any wetlands on the site. The terrain on Paradise Ridge lacks the defined ridges and washes associated more with upslope areas to the north. Instead, the project site is relatively flat with terrain that allows run off from the larger storm events to sheet flow across the site.

Paradise Ridge receives runoff from 3.31 square miles along the north property boundary, which is adjacent to Pinnacle Peak Road. Runoff from an additional 23.25 square miles is intercepted along the east property boundary at Scottsdale Road, thereby creating a total offsite

drainage area of 26.56 square miles. The drainage area intercepted by Paradise Ridge lies on pediment and alluvial plains. Although the majority of the upper pediment portion of the watershed has defined swales and washes, the lower alluvial plain (including Paradise Ridge) is characterized by hundreds of small braided washes which have bank full capacities ranging from approximately 25 cubic feet per second (cfs) to 250 cfs.

The majority of the watershed is still in a natural, undeveloped state. Although planning studies have been published for several regional drainage system concepts, none of the regional plans have yet been fully constructed. The Rawhide Wash watershed, which is the primary contributor of runoff into Paradise Ridge, is presently unregulated, with the exception of some minor diversion berms along the lower reaches of the watercourse.

New residential development is being undertaken in a manner that seeks to minimize disruptions to natural drainage patterns. As a result, the majority of offsite runoff that enters Paradise Ridge does so along historic drainage corridors. However, a noticeable exception occurs at the Deer Valley – Scottsdale Road intersection. A diversion channel has been constructed along the Deer Valley Road alignment, between Hayden Road and Scottsdale Road. This diversion channel intercepts runoff from approximately 5.98 square miles and directs a significant concentration of runoff into Paradise Ridge, near the intersection of Scottsdale Road and the Deer Valley Road alignment.

All hydrology and drainage information and criteria used in this mitigation plan have been obtained from the March 2001 report prepared by Robert L. Ward, P.E., entitled *Hydrology Analysis – Jurisdictional "404" Washes Master Drainage Plan for Paradise Ridge*.

2.4.3 Function and Values

A report entitled *Xeroriparian Function and Value Assessment for Paradise Ridge* ("Function and Value Assessment") was prepared by Entranco in November 2000 to assess the quality of the WUS within the project area. A rating system was developed, and the function and value of each wash was assessed based primarily on habitat quality and hydrologic criteria. Hydrologic functions, including carrying capacity and channel stability, were assessed and averaged, along with the habitat quality, to obtain a ranking for each wash. These criteria were applied to obtain a high, medium or low function and value ranking for the WUS (Appendix A). With the agreement of the Arizona Department of Game and Fish and the ACOE, additional evaluations of these washes were conducted after the Function and Value assessment was completed. These evaluations added two new ranking criteria: 2-yr, 24-hr Hydrology (flow measured for individual segments, above and below tributary flows and wash stability (as indicated for individual segments from historical photographs). The original Function and Value ratings were then average with the new criteria to give the final weighted rankings as seen in Tables 2.4.3.a, 2.4.3.b, and 2.4.3.c.

Habitat for plants and wildlife, as well as channel stability and flood flow transport and desynchronization, are the primary functions and values of the jurisdictional areas. Due to the enhanced availability of water, ephemeral washes typically have a higher density and diversity of plants compared to adjacent upland areas. The higher density and diversity of woody species, multiple substrate layers (i.e., under story, midstory, and over story), and larger individuals of plant species provide more resources for wildlife along ephemeral washes when compared with upland areas. Resources for wildlife commonly associated with xeric riparian areas include cover, food, and nesting substrates. Riparian areas also provide a corridor for

wildlife migration and movement. Likewise, the stability of the channel, as well as its capacity to carry water and desynchronize flood flows, is important criteria for the proper hydrologic function of washes.

Based on these criteria, approximately 25.5 acres of WUS have high functions and values, 20.1 acres have medium functions and values, and 2.3 acres have low functions and values. For purposes of this mitigation plan, the stock pond is included in the total 25.5 acres of high-ranking WUS, but will be treated separately from the washes.

3.0 MITIGATION PLAN

3.1 Proposed On-Site Mitigation

On-site mitigation within the Paradise Ridge project area will consist of the replacement of functions and values at a 6:1 mitigation to impact area ratio for high-ranked washes, a 4:1 ratio for medium-ranked washes, and a 2:1 ratio for low-ranked washes. 13.82 acres of the WUS within Paradise Ridge will be avoided by the project activities. Impacts to these washes will be further minimized by the establishment of Riparian Habitat (corridors). These corridors will range from 14 to 350 feet wide. These corridors will total approximately 54.79 acres (27.4 credited acres), not including the WUS. Reconstructed natural washes (including the stock tank area) with similar riparian habitat will provide an additional 110.50 acres. The total area of corridors, reconstructed natural washes with associated riparian habitat and flood control systems, is 165.29 acres (137.9 credited acres) (Table 3.1.a, Table 3.1.b and Table 3.1.c). The overall on-site, in-kind mitigation ratio is 4.85:1and the overall on-site credited, in-kind mitigation ratio is 4.05 :1.

The on-site mitigation areas are on lands under the jurisdiction of the ASLD. As the applicant, ASLD is responsible for all mitigation. Deed, lease, and/or other restrictions will be recorded on the avoided and reconstructed natural wash with associated corridors. As future dispositions are completed, the future owners, lessees, assignees of ASLD Land or ASLD will be charged with the responsibility for the long-term management of the mitigation areas, including the provision of irrigation water to the reconstructed wash corridors, as appropriate. Long-term management of the corridors will not include pruning, removal of snags, mistletoe control, weeding, or plant litter removal. There are currently no deed, lease and/or other restrictions or encroachments within the proposed mitigation areas.

Avoided Washes

The avoided washes will be preserved and will be enhanced by creating a riparian habitat along the perimeter of the wash. The mapping of the washes and corridors will be sufficiently wide to preserve the existing vegetation and to allow normal hydrology within the existing washes and adjacent overbanks (Figure 4.a - Natural Wash Corridor Typical Section). The avoided washes would remain undisturbed.

The interceptor channels and detention basins that will be constructed along Pinnacle Peak and Scottsdale Roads (Figure 3 – Proposed Project) will regulate inflows to the avoided washes. Flood protection measures will be constructed on the edge of the riparian habitat in order to contain the 100-year storm event within the corridors. These measures will consist of manmade berms with a vertical concrete or soil-cement cut-off wall that will extend below ground to prevent undercutting by scour. The cut-off walls will be covered with compacted earth. During 100-year discharges, overbank flow depths within the corridors would be approximately 2 feet.

Table 2.4.3 a

HIGH VALUE JURISDICTIONAL WASHES

> 2.5 TO 3.0

	Criterion 1 - Function & Value (as presented by Entranco and					Criterion 2 - 2-yr, 24-hr Hydrology (flow measured for individual segments, above and						Criterion 3 - Wash Stability (as indicated for individual segments from					Final
	Wash Rankings			Weight = 100%		Wash Rankings				Weight = 50%		Wash Rankings			Weight = 50%		Wash
Wash No	3 High	2 Medium	1 Low	Area	Criterion Ranking	3 Significant >500 cfs	2 Influential 50 to 500 cfs	1 Minor 10 to 50 cfs	0 Insgnfcnt <10 cfs	Area	Criterion Ranking	3 Resistant or Permanent (>29 yrs)	2 Mostly Continuous (10 to 29 yrs)	1 Mostly Discontinuous (<10 yrs)	Area	Criterion Ranking	Ranking
5	2.2630	0.0000	0.0000	2.2630	3.0000	0.0000	2.2630	0.0000	0.0000	2.2630	2.0000	2.0970	0.1660	0.0000	2.2630	2.9266	2.7317
6C	1.4800	0.3970	0.1680	2.0450	2.6416	0.0000	2.0450	0.0000	0.0000	2.0450	2.0000	2.0450	0.0000	0.0000	2.0450	3.0000	2.5708
8	3.3080	0.2050	0.0000	3.5130	2.9416	0.5980	1.8060	0.8280	0.2810	3.5130	1.7746	2.9530	0.0000	0.5600	3.5130	2.6812	2.5848
8C	0.1760	0.0000	0.0000	0.1760	3.0000	0.0000	0.0000	0.1760	0.0000	0.1760	1.0000	0.1760	0.0000	0.0000	0.1760	3.0000	2.5000
8D	1.4770	0.0000	0.0000	1.4770	3.0000	1.4770	0.0000	0.0000	0.0000	1.4770	3.0000	1.4770	0.0000	0.0000	1.4770	3.0000	3.0000
8F	1.4190	0.0000	0.0000	1.4190	3.0000	1.4190	0.0000	0.0000	0.0000	1.4190	3.0000	1.4190	0.0000	0.0000	1.4190	3.0000	3.0000
8G	2.4050	0.0000	0.0760	2.4810	2.9387	2.4810	0.0000	0.0000	0.0000	2.4810	3.0000	2.3570	0.1240	0.0000	2.4810	2.9500	2.9569
9	2.3766	0.4294	0.0000	2.8060	2.8470	2.1045	0.0000	0.0000	0.7015	2.8060	2.2500	2.6660	0.0838	0.0562	2.8060	2.9301	2.7185
10	2.2580	0.0000	0.0640	2.3220	2.9449	1.9740	0.3480	0.0000	0.0000	2.3220	2.8501	2.2060	0.1160	0.0000	2.3220	2.9500	2.9225
10B	1.4600	0.0000	0.0000	1.4600	3.0000	0.0000	1.3140	0.0000	0.1460	1.4600	1.8000	1.3870	0.0730	0.0000	1.4600	2.9500	2.6875
18A	0.3763	0.1257	0.0000	0.5020	2.7496	0.0000	0.5020	0.0000	0.0000	0.5020	2.0000	0.5020	0.0000	0.0000	0.5020	3.0000	2.6248
22	0.1490	0.0000	0.0000	0.1490	3.0000	0.0000	0.1490	0.0000	0.0000	0.1490	2.0000	0.1490	0.0000	0.0000	0.1490	3.0000	2.7500
Wash Totals	19.148	1.157	0.308	20.613		10.054	8.427	1.004	1.129	20.613		19.434	0.563	0.616	20.613		
Stock Tank	4.9300	0.0000	0.0000	4.9300	3.0000	4.9300	0.0000	0.0000	0.0000	4.9300	3.0000	4.9300	0.0000	0.0000	4.9300	3.0000	3.0000
Grand total	24.0779	1.1571	0.3080	25.5430		14.9835	8.4270	1.0040	1.1285	25.5430		24.3640	0.5628	0.6162	25.5430		

Table 2.4.3 b

MEDIUM VALUE JURISDICTIONAL WASHES

> 1.5 < 2.5

	Criterion 1 - Function & Value (as presented by Entranco and					Criterion 2 - 2-yr, 24-hr Hydrology (flow measured for individual segments, above and						Criterion 3 - Wash Stability (as indicated for individual segments from					Final
	Wash Rankings			Weight = 100%		Wash Rankings				Weight = 50%		Wash Rankings			Weight = 50%		Wash
Wash No	3 High	2 Medium	1 Low	Area	Criterion Ranking	3 Significant >500 cfs	2 Influential 50 to 500 cfs	1 Minor 10 to 50 cfs	0 Insgnfcnt <10 cfs	Area	Criterion Ranking	3 Resistant or Permanent (>29 yrs)	2 Mostly Continuous (10 to 29 yrs)	1 Mostly Discontinuous (<10 yrs)	Area	Criterion Ranking	Ranking
2	0.6720	0.0000	0.0000	0.6720	3.0000	0.0000	0.0000	0.6720	0.0000	0.6720	1.0000	0.0000	0.6720	0.0000	0.6720	2.0000	2.2500
4	0.0000	0.0830	0.0000	0.0830	2.0000	0.0000	0.0000	0.0000	0.0830	0.0830	0.0000	0.0830	0.0000	0.0000	0.0830	3.0000	1.7500
5A	0.0000	0.7640	0.0000	0.7640	2.0000	0.0000	0.0000	0.7640	0.0000	0.7640	1.0000	0.6490	0.1150	0.0000	0.7640	2.8495	1.9624
5C	0.0000	0.0670	0.0000	0.0670	2.0000	0.0000	0.0000	0.0670	0.0000	0.0670	1.0000	0.0670	0.0000	0.0000	0.0670	3.0000	2.0000
6	1.0830	0.9550	0.0760	2.1140	2.4763	0.0000	0.0000	1.1830	0.9310	2.1140	0.5596	2.1140	0.0000	0.0000	2.1140	3.0000	2.1281
6A	0.4700	0.0000	0.0000	0.4700	3.0000	0.0000	0.2700	0.0000	0.2000	0.4700	1.1489	0.2350	0.2350	0.0000	0.4700	2.5000	2.4122
6D	0.2900	0.2170	0.0000	0.5070	2.5720	0.0000	0.0000	0.0000	0.5070	0.5070	0.0000	0.5070	0.0000	0.0000	0.5070	3.0000	2.0360
6E	0.0000	0.2170	0.1020	0.3190	1.6803	0.0000	0.0000	0.0000	0.3190	0.3190	0.0000	0.3190	0.0000	0.0000	0.3190	3.0000	1.5901
7	1.6390	0.0900	0.0000	1.7290	2.9479	0.0000	0.0000	0.0000	1.7290	1.7290	0.0000	1.7290	0.0000	0.0000	1.7290	3.0000	2.2240
7A	0.9220	0.0000	0.0000	0.9220	3.0000	0.0000	0.0000	0.0000	0.9220	0.9220	0.0000	0.9220	0.0000	0.0000	0.9220	3.0000	2.2500
7B	0.8120	0.3110	0.0000	1.1230	2.7231	0.0000	0.0000	0.0000	1.1230	1.1230	0.0000	0.9470	0.0000	0.1760	1.1230	2.6866	2.0332
8A	0.0000	0.1270	0.0000	0.1270	2.0000	0.0000	0.0000	0.0000	0.1270	0.1270	0.0000	0.1270	0.0000	0.0000	0.1270	3.0000	1.7500
8B	0.7950	0.0000	0.0000	0.7950	3.0000	0.0000	0.0000	0.7950	0.0000	0.7950	1.0000	0.7160	0.0790	0.0000	0.7950	2.9006	2.4752
8E	0.0000	0.1510	0.0000	0.1510	2.0000	0.0000	0.0000	0.0000	0.1510	0.1510	0.0000	0.1510	0.0000	0.0000	0.1510	3.0000	1.7500
8H	0.0000	0.4080	0.1150	0.5230	1.7801	0.0000	0.0000	0.5230	0.0000	0.5230	1.0000	0.5230	0.0000	0.0000	0.5230	3.0000	1.8901
9A	1.8550	0.1540	0.0000	2.0090	2.9233	0.6040	0.0000	0.0000	1.4050	2.0090	0.9019	1.1060	0.9030	0.0000	2.0090	2.5505	2.3248
9B	0.0000	0.1710	0.0000	0.1710	2.0000	0.0000	0.0000	0.0000	0.1710	0.1710	0.0000	0.0860	0.0850	0.0000	0.1710	2.5029	1.6257
9C	0.0000	0.0240	0.0000	0.0240	2.0000	0.0000	0.0000	0.0000	0.0240	0.0240	0.0000	0.0240	0.0000	0.0000	0.0240	3.0000	1.7500
9D	0.2240	0.0000	0.0000	0.2240	3.0000	0.0000	0.0000	0.0000	0.2240	0.2240	0.0000	0.0000	0.2240	0.0000	0.2240	2.0000	2.0000
9E	0.0370	0.0000	0.0000	0.0370	3.0000	0.0000	0.0000	0.0000	0.0370	0.0370	0.0000	0.0000	0.0000	0.0370	0.0370	1.0000	1.7500
9F	0.0290	0.0000	0.0000	0.0290	3.0000	0.0000	0.0000	0.0000	0.0290	0.0290	0.0000	0.0000	0.0290	0.0000	0.0290	2.0000	2.0000
9G	0.1920	0.0000	0.0000	0.1920	3.0000	0.0000	0.0000	0.0000	0.1920	0.1920	0.0000	0.1920	0.0000	0.0000	0.1920	3.0000	2.2500
10A	0.8760	0.0000	0.2130	1.0890	2.6088	0.0000	1.0890	0.0000	0.0000	1.0890	2.0000	0.0000	0.7300	0.3590	1.0890	1.6703	2.2220
10C	0.0000	0.3150	0.0000	0.3150	2.0000	0.0000	0.0000	0.0000	0.3150	0.3150	0.0000	0.3150	0.0000	0.0000	0.3150	3.0000	1.7500
13	0.0000	0.1697	0.0203	0.1900	1.8929	0.0000	0.0000	0.0000	0.1900	0.1900	0.0000	0.1900	0.0000	0.0000	0.1900	3.0000	1.6965
14	0.0740	0.0000	0.0430	0.1170	2.2650	0.0000	0.0000	0.0000	0.1170	0.1170	0.0000	0.0589	0.0470	0.0111	0.1170	2.4085	1.7346
15	1.4995	0.1585	0.0000	1.6580	2.9044	0.0000	0.0000	0.0000	1.6580	1.6580	0.0000	1.6499	0.0081	0.0000	1.6580	2.9951	2.2010
17A	0.0000	0.4174	0.0696	0.4870	1.8571	0.0000	0.0000	0.0000	0.4870	0.4870	0.0000	0.4630	0.0240	0.0000	0.4870	2.9507	1.6662
18	0.7854	1.4996	0.0000	2.2850	2.3437	0.0000	0.4568	0.0000	1.8282	2.2850	0.3998	2.2167	0.0683	0.0000	2.2850	2.9701	2.0143
18B	0.0000	0.0570	0.0000	0.0570	2.0000	0.0000	0.0000	0.0000	0.0570	0.0570	0.0000	0.0570	0.0000	0.0000	0.0570	3.0000	1.7500
20	0.0000	0.2120	0.0000	0.2120	2.0000	0.0000	0.0000	0.0000	0.2120	0.2120	0.0000	0.2120	0.0000	0.0000	0.2120	3.0000	1.7500
21	0.5850	0.0000	0.0000	0.5850	3.0000	0.0000	0.0000	0.0000	0.5850	0.5850	0.0000	0.5850	0.0000	0.0000	0.5850	3.0000	2.2500
Wash Totals	12.840	6.568	0.639	20.047		0.604	1.816	4.004	13.623	20.047		16.245	3.219	0.583	20.047		

Table 2.4.3 c

LOW VALUE JURISDICTIONAL WASHES

< 1.5

	Criterion 1 - Function & Value (as presented by Entranco and					Criterion 2 - 2-yr, 24-hr Hydrology (flow measured for individual segments, above and						Criterion 3 - Wash Stability (as indicated for individual segments from					Final
	Wash Rankings			Weight = 100%		Wash Rankings				Weight = 50%		Wash Rankings			Weight = 50%		Wash
Wash No	3.000 High	2.000 Medium	1.000 Low	Area	Criterion Ranking	3 Significant >500 cfs	2 Influential 50 to 500 cfs	1 Minor 10 to 50 cfs	0 Insgnlcnt <10 cfs	Area	Criterion Ranking	3 Resistant or Permanent (>29 yrs)	2 Mostly Continuous (10 to 29 yrs)	1 Mostly Discontinuous (<10 yrs)	Area	Criterion Ranking	Ranking
1	0.0000	0.2320	0.0710	0.3030	1.7657	0.0000	0.0000	0.0000	0.3030	0.3030	0.0000	0.0000	0.2970	0.0060	0.3030	1.9802	1.3779
3	0.0000	0.2100	0.5030	0.7130	1.2945	0.0000	0.0000	0.0000	0.7130	0.7130	0.0000	0.7130	0.0000	0.0000	0.7130	3.0000	1.3973
5B	0.0000	0.0000	0.0920	0.0920	1.0000	0.0000	0.0000	0.0000	0.0920	0.0920	0.0000	0.0920	0.0000	0.0000	0.0920	3.0000	1.2500
6B	0.0000	0.0000	0.1160	0.1160	1.0000	0.0000	0.0000	0.1160	0.0000	0.1160	1.0000	0.0000	0.1040	0.0120	0.1160	1.8966	1.2241
9H	0.0000	0.1570	0.0000	0.1570	2.0000	0.0000	0.0000	0.0000	0.1570	0.1570	0.0000	0.0000	0.0790	0.0780	0.1570	1.5032	1.3758
9I	0.0000	0.0000	0.0610	0.0610	1.0000	0.0000	0.0000	0.0000	0.0610	0.0610	0.0000	0.0610	0.0000	0.0000	0.0610	3.0000	1.2500
11	0.0000	0.0000	0.0170	0.0170	1.0000	0.0000	0.0000	0.0000	0.0170	0.0170	0.0000	0.0115	0.0055	0.0000	0.0170	2.6765	1.1691
12	0.0000	0.0523	0.0647	0.1170	1.4470	0.0000	0.0000	0.0000	0.1170	0.1170	0.0000	0.0585	0.0000	0.0585	0.1170	2.0000	1.2235
14A	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15A	0.0000	0.0000	0.1050	0.1050	1.0000	0.0000	0.0000	0.0000	0.1050	0.1050	0.0000	0.0213	0.0000	0.0837	0.1050	1.4057	0.8514
15B	0.0000	0.0000	0.0050	0.0050	1.0000	0.0000	0.0000	0.0000	0.0050	0.0050	0.0000	0.0000	0.0000	0.0050	0.0050	1.0000	0.7500
16	0.0000	0.0000	0.1260	0.1260	1.0000	0.0000	0.0000	0.0000	0.1260	0.1260	0.0000	0.0381	0.0000	0.0879	0.1260	1.6048	0.9012
17	0.0000	0.0000	0.0290	0.0290	1.0000	0.0000	0.0000	0.0000	0.0290	0.0290	0.0000	0.0290	0.0000	0.0000	0.0290	3.0000	1.2500
19	0.0000	0.0000	0.3370	0.3370	1.0000	0.0000	0.0000	0.0000	0.3370	0.3370	0.0000	0.3370	0.0000	0.0000	0.3370	3.0000	1.2500
20A	0.0000	0.0000	0.1270	0.1270	1.0000	0.0000	0.0000	0.0000	0.1270	0.1270	0.0000	0.1204	0.0068	0.0000	0.1270	2.9480	1.2370
Wash Totals	0.000	0.651	1.654	2.305		0.000	0.000	0.116	2.189	2.305		1.482	0.492	0.331	2.305		
Wash Total	31.988	8.377	2.601	42.965		10.658	10.243	5.124	16.941	42.965		37.160	4.274	1.530	42.965		
Stock Tank	4.9300	0.0000	0.0000	4.9300	3.0000	4.9300	0.0000	0.0000	0.0000	4.9300	3.0000	4.9300	0.0000	0.0000	4.9300	3.0000	3.0000
Grand Total	36.918	8.377	2.601	47.895		15.588	10.243	5.124	16.941	47.895		42.090	4.274	1.530	47.895		

Table 3.1A

Category	Jurisdictional Ephermeral Wash Area (acres)				Jurisdictional Ephemeral Washes Not Impacted (acres)				Jurisdictional Ephemeral Washes Impacted (acres)			
	High	Medium	Low	Total	High	Medium	Low	Total	High	Medium	Low	Total
Washes	20.61	20.05	2.31	42.97	11.74	2.05	0.03	13.82	8.88	17.99	2.27	29.15
Stock Tank *	4.93	0.00	0.00	4.93	0.00	0.00	0.00	0.00	4.93	0.00	0.00	4.93
Total	25.54	20.05	2.31	47.90	11.74	2.05	0.03	13.82	13.81	17.99	2.27	34.08

* Stock Tank: Special area that will require reconstruction and is not a defined JD wash. It will be treated separately from the other JDs and brought up to a quality, high-level riparian habitat.

Table 3.1B

Category	Preserved/Enhanced Natural Wash Corridors (acres)	Reconstructed Riparian Wash Corridors (acres)	Stock Tank (acres)	Total Mitigated Area (acres)
Washes	54.79	105.57	0.00	160.36
Stock Tank *	0.00	0.00	4.93	4.93
Actual Total	54.79	105.57	4.93	165.29
Credited Total	27.40	105.57	4.93	137.90

* Stock Tank: Special area that will require reconstruction and is not a defined JD wash. It will be treated separately from the other JDs and brought up to a quality, high-level riparian habitat.

Table 3.1C

Category	High Value Preserved Enhanced Natural Wash and ReconstructedCorridors (acres)	Medium Value Preserved Enhanced Natural Wash and ReconstructedCorridors (acres)	Low Value Reconstructed Wash Corridors (acres)	Total Mitigated Area (acres)
Washes	76.56	79.25	4.55	160.36
Stock Tank *	4.93	0.00	0.00	4.93
Actual Total	81.49	79.25	4.55	165.29
Credited Total	63.68	69.67	4.55	137.90

* Stock Tank: Special area that will require reconstruction and is not a defined JD wash. It will be treated separately from the other JDs and brought up to a quality, high-level riparian habitat.

Reconstructed Wash Corridors

The reconstructed washes and corridors will be located throughout the project area (see Figure 3-Proposed Project), and will be designed and constructed to emulate the functions and values of the natural washes in form and character (Figure 4.b-Reconstructed Riparian Wash Corridor – Typical Section).

The reconstructed washes will include an excavated low-flow channel with a sandy-bottom, and overbank areas along the side of the wash that will vary in width. The low-flow channel will reflect the species density and composition of the high-ranked washes in the project area. The adjacent overbank and upland areas will emulate natural corridors and will be re-vegetated with native Sonoran xeroriparian and upland vegetation. In the case of those areas adjacent to golfing features, the re-vegetation will include native grasses. Steps will be taken to eliminate the possibility of non-native grasses or landscaping materials gaining a foothold in the areas re-vegetated with native plants. The corridors will vary in width in order to contain the 100-year flood. Berms will be constructed beyond the corridor boundaries.

Flood Control Channels/Detention Basins

Flood control channels will have reinforced banks to minimize erosion, and will have natural sandy channel bottoms (Figure 4.c, Flood Control Channels and Detention Basins – Typical Section). The primary function of these flood control features is to convey peak flows during storm events. The flood control channels will be re-vegetated in the same manner as reconstructed washes. No long term maintenance or ground disturbance will occur following construction of these flood control features.

Stock Tank

Currently the stock tank is in a degraded condition, with erosion slumps cutting through the berm and siltation build-up in the bowl. 4-wheel drive automobiles, motorcycles and bicycle use, have impacted the washes that have been diverted to empty into the stock tank. Large areas surrounding the stock tank have been denuded of vegetation and the soils have been compacted due to the above-mentioned uses as well as earlier cattle ranching activities. As part of the proposed mitigation, the stock tank area will be re-vegetated by using riparian vegetation, the berm will be repaired and the excess silt will be removed from the bowl (see Figure 4.d). This excess silt will be deposited on an upland surface and will likely be graded during construction activities. The stock tank will be re-vegetated to improve functions and values. This area will serve as a golf feature and a small pond at or near the northern opening of the stock tank area. Native grasses will be used for the golf feature area of the stock tank. See Figure 4D for a picture of the existing stock pond and an example of what it might look like after reconstruction.

3.1.1 Existing Conditions

Washes in the project support a greater number of woody plant species compared with upland areas. Although many plant species are ubiquitous within the project area, plants like yellow and foothill paloverde, wolfberry, desert hackberry, ironwood, mesquite and triangleleaf bursage are more commonly found along ephemeral washes. No federally listed, proposed, or candidate species are known to occur along ephemeral washes or in adjacent upland habitats within the Paradise Ridge project site.

As discussed in Section 2.4.3, WUS within the project area were evaluated and ranked according to their current habitat and hydrologic functions and values. The characteristics of the project area are discussed in more detail in the Function and Value Assessment attached as Appendix A.

Table 3.1.1 shows the existing composition and density of native plant species in and adjacent to high-ranked washes within the project area.

3.1.2 Target Functions and Values

In Paradise Ridge, the avoided washes and associated riparian habitat will serve to minimize impacts to wildlife and hydrologic functions. Re-vegetation along the reconstructed washes will recreate native plant species diversity and wildlife values, as well as the hydrologic functions discussed previously. Within reconstructed washes and corridors, re-vegetation will emphasize species occurring along existing high-ranked washes within Paradise Ridge. Native cactus, including Saguaro, barrel cactus and buckhorn cholla, as well as native grasses, will also be planted to enhance habitat diversity. Upon completion, the functions and values of the reconstructed washes will emulate those associated with high-ranked washes.

Wildlife values refer to density and diversity of native wildlife species. Woody perennials along ephemeral washes provide food, cover, and other essential components of life history requirements of wildlife. Ephemeral washes, primarily those with dense vegetation, also provide corridors for movement of wildlife. Diversity within the habitat becomes critical because different plant species provide different resources for wildlife, ultimately resulting in a higher species diversity of wildlife. The avoided washes and reconstructed washes with associated riparian habitat will provide wildlife habitat and movement corridors for some species.

Hydrologic functions refer to channel stability, capacity to carry flows, and flood flow desynchronization. The reconstructed channels will be designed to maintain and enhance (100 year flood) the hydrologic functions of the washes. Revegetation within the reconstructed wash corridors will stabilize soils and reduce erosion.

3.1.3 Proposed Uses

The primary use of the on-site mitigation areas will be to mitigate unavoidable impacts to waters of the United States within Paradise Ridge. The mitigation areas will serve as wildlife habitat corridors and provide access for passive recreation.

3.2 Implementation Plan and Schedule

The Paradise Ridge project area is anticipated to be disposed of by the ASLD over the next 10-20 years. It is anticipated that the immediate project elements will include development of commercial parcels, multi-family parcels, residential parcels, tow golf courses and two resort hotels. Subsequent auctions will occur within Paradise Ridge at a rate that allows ASLD to meet its Trust responsibilities.

On-site mitigation will be phased in over the life of the project, concurrent with development impacts to WUS. The planting required under this plan within a specific auctioned parcel will be completed within one year of the initiation of construction activities within the parcel. As a condition of the disposition of properties in Paradise Ridge, the ASLD will require successful bidders to implement mitigation until all 165.29 acres (137.9 credited acres) have been preserved/enhanced or reconstructed. An Implementation Handbook will be prepared and delivered to each owner, or lessee, or assignee of the auction parcels to provide guidance on mitigation responsibilities and methodologies.

The ASLD may require mitigation activities to occur in an area off an auctioned parcel. In these instances, ASLD shall ensure that appropriate rights-of-entry have been included in auctions to allow successful bidders access to all affected properties.

The ASLD is able to place conditions on auctions for State Trust lands. It will specifically identify the areas of avoided washes and reconstructed natural washes with associated riparian habitat. Deed, lease and /or other restrictions as required by the special conditions of this permit shall be placed over the mitigation areas (Figure 3) within the patented and/or lease parcels to ensure such mitigation areas are protected in perpetuity. The minimum area comprised by the deed, lease and/or other restrictions will include the mitigated areas as specified in Table 3.1.b

The ASLD will require deed, lease and/or restrictions to be in accordance with the special conditions of this permit by development phase if necessary, before allowing the successful bidder, or its assignee, to obtain a grading permit from the City of Phoenix and any grading activities to proceed.

Development of the project will occur over a period of 10-20 years. Phasing development and mitigation over the duration of the project will minimize the temporal loss of habitat functions and values. No on-site mitigation will be implemented until after development begins.

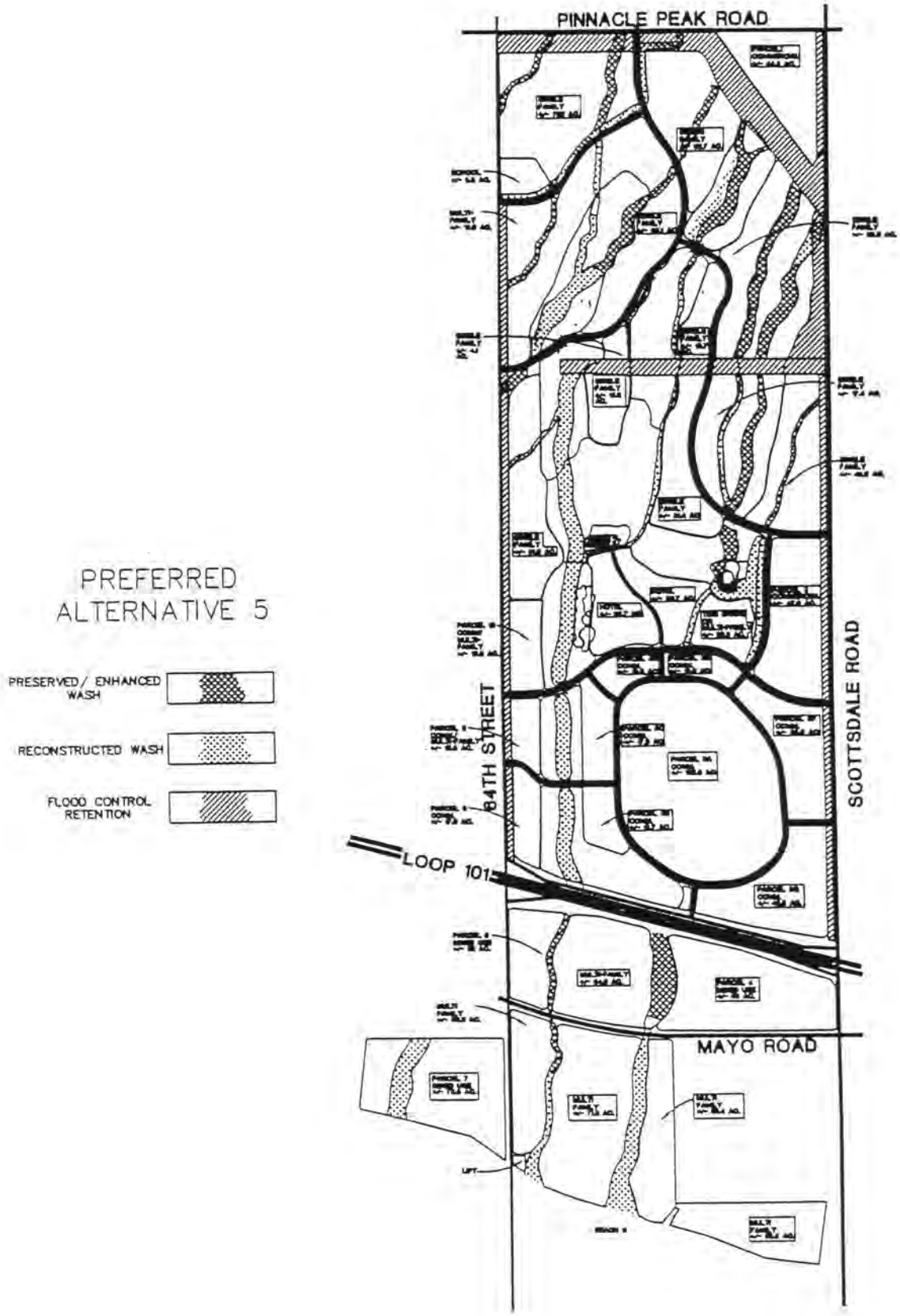
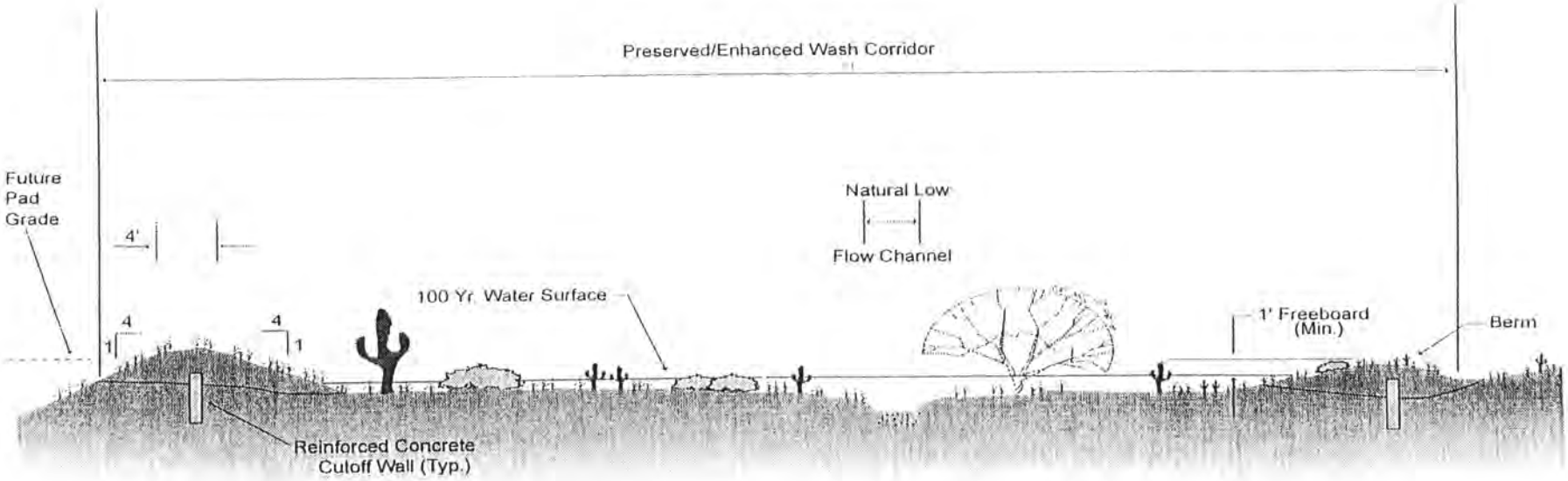


Figure 3. Proposed Project

Figure 4A



Preserved/Enhanced Wash Corridor - Typical Section

Not to Scale

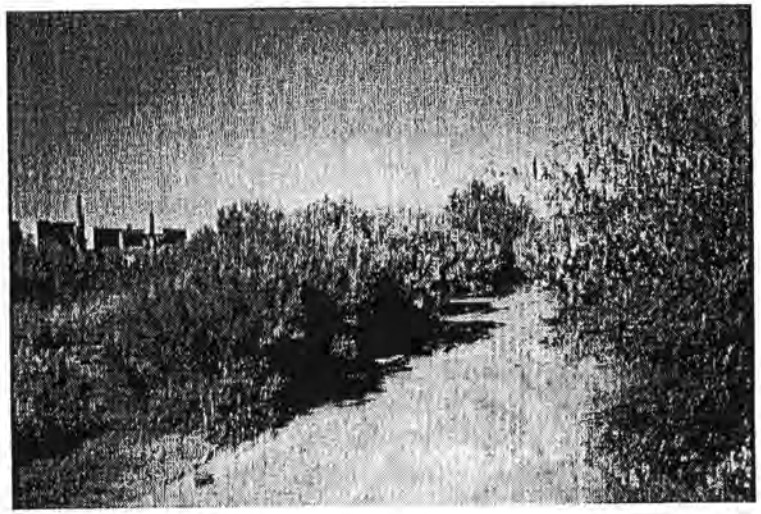
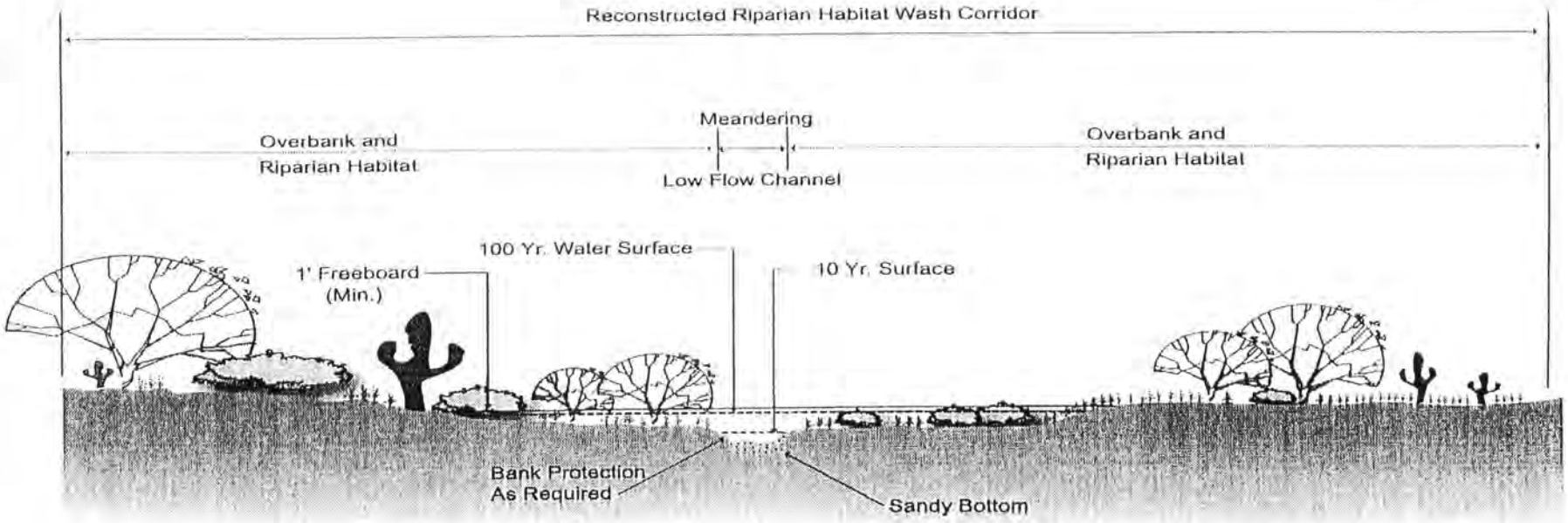


Figure 4B



Reconstructed Riparian Habitat Wash Corridor - Typical Section

Not to Scale

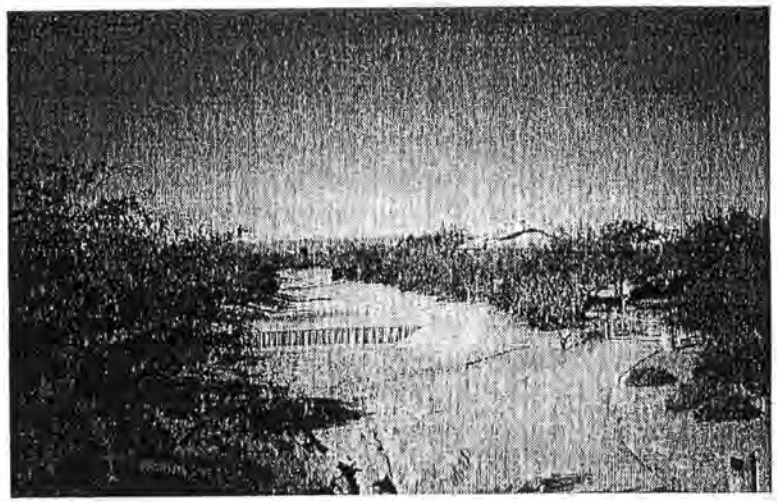
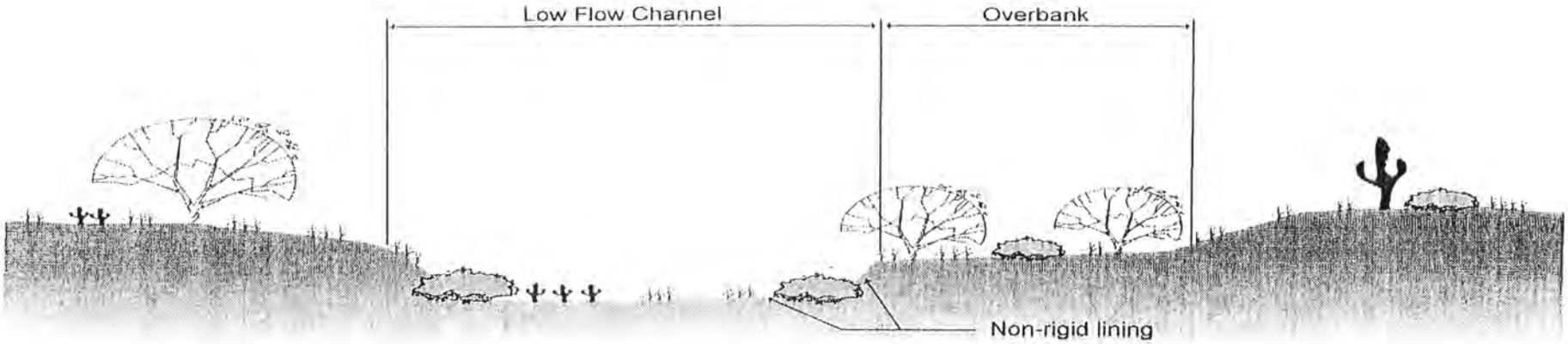


Figure 4C



Flood Control Channel/Detention Basin Typical Section

Not to Scale

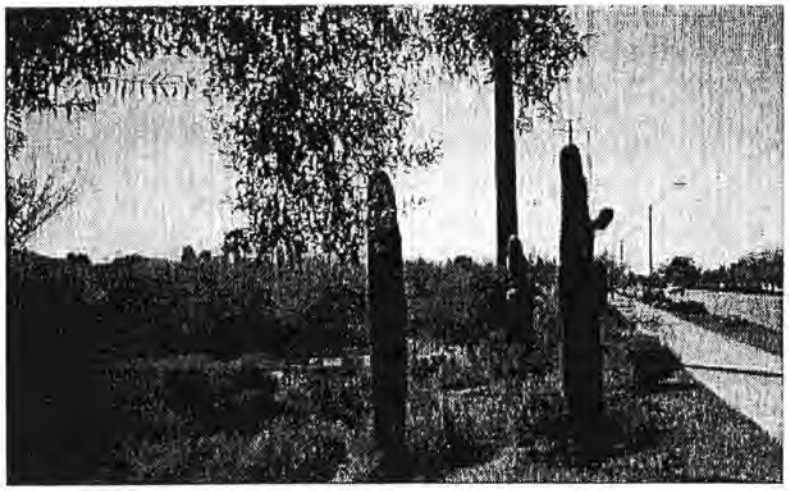
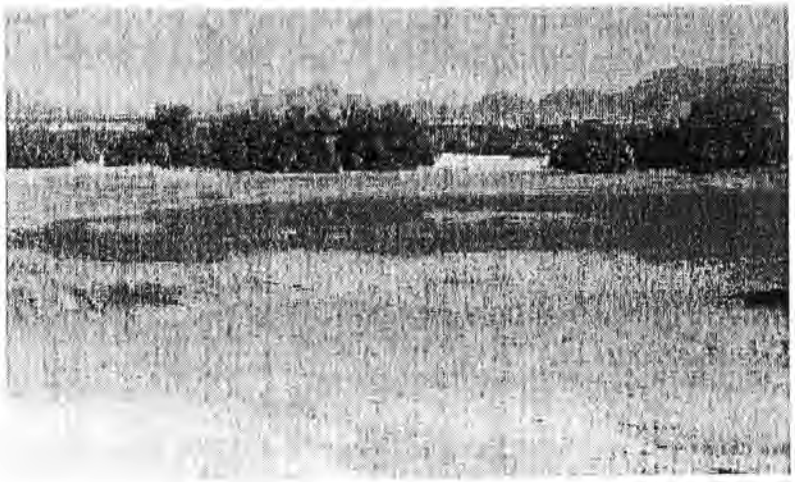
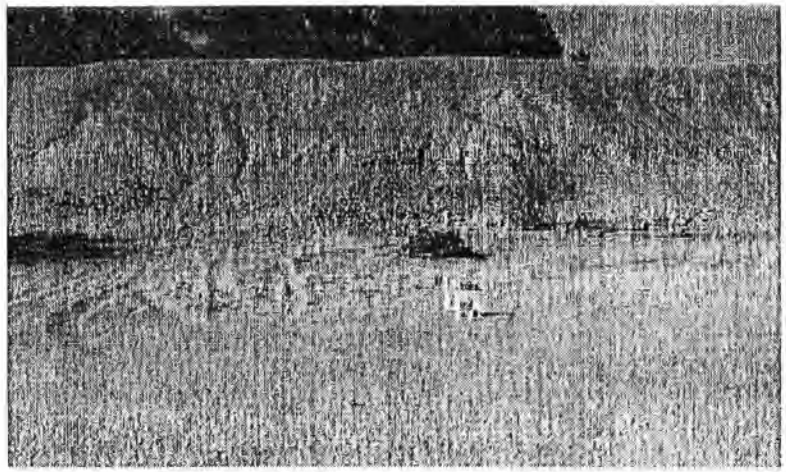


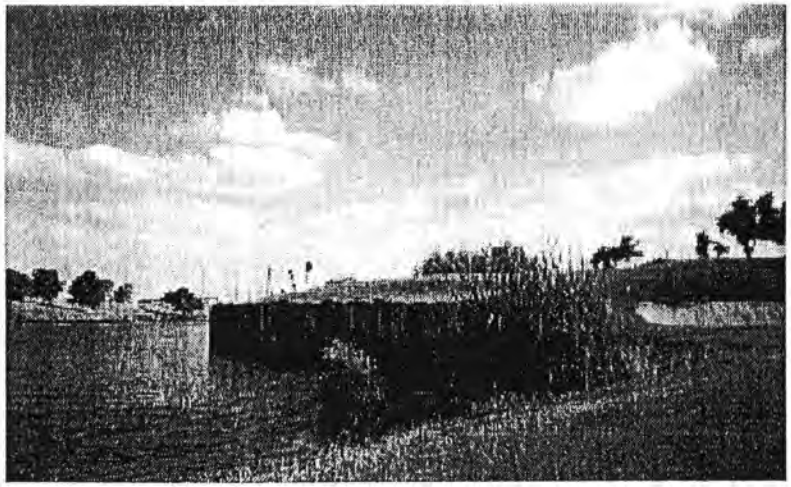
Figure 4D





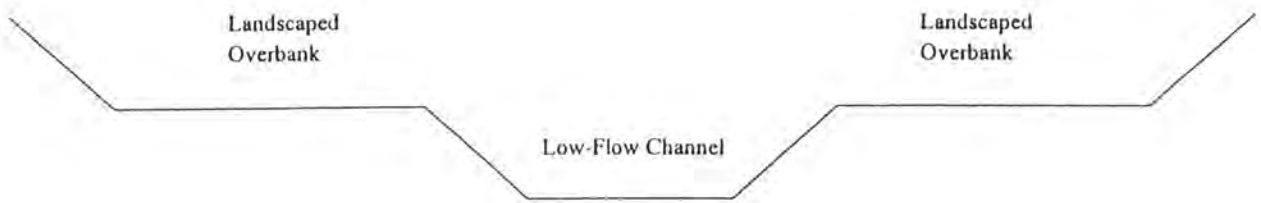
Existing Stock Tank

Figure 4D

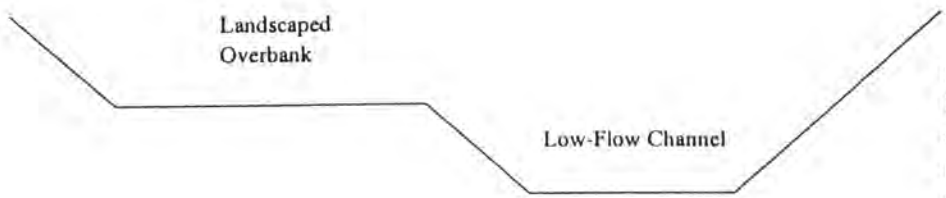


Proposed Concept Stock Tank

Figure 5.0
Typical Cross-Sectional Geometry
Manmade Wash Corridors
Paradise Ridge



8-Point Section



6-Point Section

Note: Unless non-erodible velocities exist, the low-flow (and 4-point) channel banks may be armored and extended below the channel bed to prevent undercutting by scour. If adjacent development can tolerate a meandering low-flow channel, then the bank armoring may be moved from the low-flow channel to the overbank berm. Permeable armoring systems can also be considered.

4-Point Section

Table 3.1.1 Existing Plant Species Composition and Density within and adjacent to High-Ranked Washes and Target Plant Species Composition and Density within Reconstructed Natural Wash Corridors in the Paradise Ridge Master Planned Community, Phoenix, Maricopa County, Arizona

Species	Average Density of Plants Per Acre
Trees and Shrubs	
Wolfberry *Lycium torreyi)*	127
Canyon Ragweed *(Ambrosia ambrosioides)*	127
Creosote *(Larrea tridentata)*	111
Chuparosa *(Beloperone californica)*	75
Desert Broom *(Baccharis sarthoroides)*	34
Hackberry *(Celtis pallida)*	34
Yellow Paloverde *(Cercidium microphyllum)*	34
Catclaw Acacia *(Acacia greggii)*	31
Foothill Paloverde *(Cercidium floridum)*	26
Ironwood *(Olneya tesota)*	17
Honey Mesquite *(Prosopis glandulosa)*	13
Crown of Thorns *(Koeberlinia spinosa)*	11
Perennial Herbaceous Forbs	
Triangular-leaved Bursage *(Ambrosia deltoidea)*	646
Desert Hyacinth *(Dichelostemma pulchellum)*	63
Globe Mallow *(Sphaeralcea ambigua)*	58
Annual Herbaceous Forbs	
Desert Lupine *(Lupinus sparsiflorus)*	519
Desert Chickory *(Rafinesquia neomexicana)*	156
Baileya *(Baileya multiradiata)*	23
Desert Poppy *(Eschscholzia glyptosperma)*	11
Cacti	
Saguaro *(Carnegiea gigantea)*	17
Barrel Cactus *(Ferocactus wislizenii)*	17
Buckhorn Cholla *(Opuntia acanthocarpa)*	13
Hedgehog cactus *(Echinocereus engelmannii)*	11
Mammilaria *(Mammilaria microcarpa)*	11
Christmas Cholla *(Opuntia leptocaulis)*	11

3.3 Site Preparation and Irrigation Plan

Avoided washes with associated riparian habitat will be maintained from disturbances for the life of the project. Detention basins will not be placed within any avoided or reconstructed wash. All flood control measures will be constructed outside the avoided washes and associated riparian habitat areas. The berms will incorporate a vertical concrete or soil-cement cut-off wall, which will be covered with compacted earth.

Within reconstructed natural washes and corridors, the existing land will be mass-graded. Preceding grading, suitable trees and shrubs will be removed and salvaged for transplanting following construction.

A temporary drip irrigation system will be installed to accommodate irrigation demands within the reconstructed natural washes and corridors. The primary water source for irrigation will be the nearest water main. Separate emitters will be installed at each planting. Holes for each planting will be approximately twice the size of root balls. Irrigation will continue for at least two (2) years after planting has been completed. Irrigation will only be discontinued after the first two years and when the vegetation has become established.

3.4 Planting and Maintenance Plan

Table 3.4 identified the species composition and density of plantings in the reconstructed washes and corridors. Plant species composition will be entirely composed of native species, which currently occur in the project area. Plant stock will first be obtained from trees, shrubs and cacti salvaged from on-site. Nursery-grown plants will be utilized to supplement the plant stock.

Hydro seeding, which will consist on native vegetation will be undertaken to achieve the desired species composition and density of the herbaceous plants. Native grass seed will also be utilized to help reduce soil erosion.

The source for all nursery grown plants and seeds will be identified to assure that only locally adapted, native plants and seeds are utilized. Five gallon plants or larger will be utilized, and seeding methods recommended by the nurseries will be followed to achieve the desired herbaceous plant densities.

Deed, lease and/or other restrictions will restrict ground and vegetation disturbances within mitigation sites. The ASLD is the permittee and the party ultimately responsible for implementing the terms and conditions of the Section 404 permit. The ultimate landowner or lessee or its equivalent entity will accept responsibility for all deed, lease and/or other restrictions at Paradise Ridge. The ASLD or its equivalent entity will also be responsible for maintaining and monitoring elements as administrators of the trust account to be established for these purposes. Maintenance of the areas covered by deed, lease, and/or other restrictions would be the responsibility of the ultimate landowner or lessee or its equivalent entity.

Short-term maintenance of the reconstructed natural washes and corridors may include staking, fertilizing, and weeding in the immediate area of the vegetation to be re-established, and maintenance of the irrigation system. Once the vegetation becomes established and accepted by the Corps, these practices will be discontinued. Long-term management of the riparian habitat corridors will not include pruning, removal of snags, mistletoe control, weeding, or plant litter removal.

habitat corridors will not include pruning, removal of snags, mistletoe control, weeding, or plant litter removal.

4.0 MONITORING PLAN

4.1 Success Criteria

The success criteria for Paradise Ridge will be 80 percent survival of the plantings three years after irrigation has been discontinued. This criterion includes a demonstrated increase in basal diameter of trees during the period after irrigation has ceased. Basal diameter of saguaros will not be recorded. Success of mitigation plantings is expected because species adapted to local conditions will be used.

4.2 Monitoring

A field inspection will be completed after initial planting and seeding to document as-built conditions. Permanent photopoints will be established every 500 feet within each reconstructed wash and corridor. In subsequent years, photopoints will be re-visited and photographed during the monitoring period. Photopoints will be discontinued when the Corps has accepted mitigation within a segment of wash and associated corridor.

Planted trees and shrubs will be marked with permanent tags and counted so that percent survival can be monitored. Basal diameter of the tree stem(s) measured six inches from soil surface, canopy height, and maximum canopy width will be measured to determine growth rate. Ten percent of the trees planted within each mitigation area will be measured during monitoring. Due to the slow growth rate of saguaros, the height of each saguaro will not be measured. Condition and survival of this species will be based on visual observations. If monitoring results indicate that less than 80 percent of the trees, shrubs and saguaros are surviving, the Ultimate landowner or lessee or its equivalent entity will plant additional vegetation in order to achieve 80 percent survival.

Monitoring of the reconstructed washes and corridors will be conducted annually for five years following completion of the reconstruction washes and corridors. Monitoring reports will be prepared and submitted to the USACOE Phoenix Area Office for review. At a minimum, the monitoring reports will include:

- a description of as-built conditions (first year only for preserved/enhanced corridors)
- a list of individuals or companies who completed monitoring activities
- results of the monitoring effort, including measured growth and percent survival
- copies of color photographs taken from permanent photopoints
- copies of field notes
- recommendations for additional plantings or other corrective measures
- notification of completed mitigation commitments
- documentation of recorded temporary and perpetual easements for mitigation areas

The first monitoring report will be due one year after the date construction commences within a parcel. Project monitoring will continue annually thereafter for four years, until each element of the mitigation plan has been accepted by the USACOE. This process may be extended if the implementation period continues beyond what is anticipated to establish the plantings and meet success criteria. Notification will be made to the Corps when success criteria have been

Monitoring of the avoided washes and associated corridors will be conducted one time only, within one year after completion of the corridor improvements. The report will document as-built conditions and recordation of deed, lease and/or other restrictions. The report will include color photographs taken from photopoints every 500 feet. Recommendations for any corrective measures, as appropriate, will also be included.

4.3 Contingency Measures

Subsequent to the issuance of the permit and concurrent with construction activities in Paradise Ridge, which result in impacts to WUS, a trust account shall be established for the express purpose of funding continuing irrigation, maintenance, and monitoring activities. Successful bidders in all auctions will be required, as a condition of sale or lease, to deposit funds in the same trust account for the same express purposes. The amount of the deposit shall be equal to $50 per gross acre of land area included in each auction. Land area shall include any roadway, utility, drainage right-of-ways, easements, etc., necessary to serve the land area included in the auction. The funds shall be deposited in the trust account at the time of issuance of a City of Phoenix grading permit. Deposits shall be non-refundable. The trust account shall be administered as determined by ASLD.

4.4 Parcel 4 Mitigation

Permittee has previously leased Tract 2.03 of State Plat 34, Paradise Ridge ("Parcel 4"). As additional mitigation, Parcel 4 shall pay an in-lieu fee of $16,000.00 per acre, on a pro rata basis of impacted area, for the jurisdictional areas impacted by construction within Parcel 4, to the City of Phoenix or such other organization or municipality approved by the Corps of Engineers and permittee. The Parcel 4 shall, by cover letter accompanying the check, clearly state that the in-lieu fees are intended as mitigation for impacts to waters of the United States, and are only to be utilized for the purposes of acquiring and preserving a portion of the State Trust Lands within the City of Phoenix Sonoran Preserve in Maricopa County, Arizona, or other suitable site as determined by the Corps of Engineers and Arizona State Land Department. Parcel 4 shall provide the Corps of Engineers and the permittee with a copy of the check and transmittal letter that will serve as evidence that the funds have been satisfactorily transferred to the City of Phoenix or other approved organization or municipality prior to initiating construction of the crossings or utilities authorized under this permit. Ground disturbance activities within Tract 2.03 of State plat No. 34, Paradise Ridge (Parcel 4) may be commenced immediately by any Transferee who has complied with paragraph 4 of the General Conditions of this permit.

APPENDICES

A: Xeroriparian Corridor Function and Value Assessment for Paradise Ridge with Supporting Spreadsheets

B: Design Criteria for Washes and Crossings

C: Landscape Criteria for Reconstructed Natural Wash Corridors

D: Criteria for Trails within the Reconstructed Wash Corridors

APPENDIX A

XERORIPARIAN CORRIDOR FUNCTION AND VALUE ASSESSMENT FOR

PARADISE RIDGE

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November 2000

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B. Xeroriparian Wash Evaluation Map (Map Pocket)

ABSTRACT

The Function and Value Assessment focuses on the riparian corridors determined by the U.S. Army Corps of Engineers to be "waters of the United States" and regulated under Section 404 of the Clean Water Act. The qualitative rating for the function and value categories are divided into four general levels: Very High, High, Medium and Low ratings. The criteria are based on qualitative elements for the riparian corridor and generally do not assess the greater landscape. While the rating of the riparian corridors are divided into elements of separate categories of functions and values, the final assessment is given as a single rating based on the integration of all elements in all categories.

1.0 INTRODUCTION

Every watershed system is unique and the refinement of evaluation tools for assessing their functions and values is limited. Evaluation systems on landscape levels are qualitative by their very nature. While the washes on Paradise Ridge are ephemeral and therefore do not support true riparian vegetation, they none the less support habitat functions and values due to their position in the desert landscape. Ephemeral washes are an important feature in the desert environment because they supply resources for nesting, forage, and cover that can be found no where else in the surrounding landscape. For this evaluation, the xeroriparian washes will be defined as "Riparian habitats associated with an ephemeral water supply. These communities typically contain plant species also found in upland habitats, however, these plants are typically larger and/or occur at higher densities that in adjacent uplands" (**SWCA 1993**).

Paradise Ridge is located in the City of Phoenix, and is bordered by Pinnacle Peak Road on the North, Scottsdale Road on the east, the Desert Ridge Planned Community on the west, and Reach 11 of the Central Arizona Project canal on the south. The project site is 2,200 acres in size and covers all of Section 15, 22 and 27 and a portion of Sections 33 and 34, Township 4 North, Range 4 East, Gila and Salt River Meridian. The new Loop 101 Highway crosses the southern half of the project site.

This report will describe the regional conditions, past land uses, vegetation communities, and the evaluation criteria used to form a qualitative ranking system for the xeroriparian areas within the proposed development of Paradise Ridge (**Figure 1**).

2.0 REGIONAL CONDITIONS

Paradise Ridge is geographically bounded by New River Mountains to the north, the McDowell Mountains to the east, the Central Arizona Project (**CAP**) aqueduct to the south, and Union Hills to the west.

Most of the proposed Paradise Ridge development is within the Rawhide Wash alluvial fan. The Rawhide Wash is the main stem watercourse of an alluvial fan that lies in both Phoenix and Scottsdale. The fan is designated as an AO Zone on the current Federal Emergency Management Agency (**FEMA**) Flood Insurance Rate Maps. An AO Zone is defined as an area of 100-year shallow flooding where depths are between one and three feet.

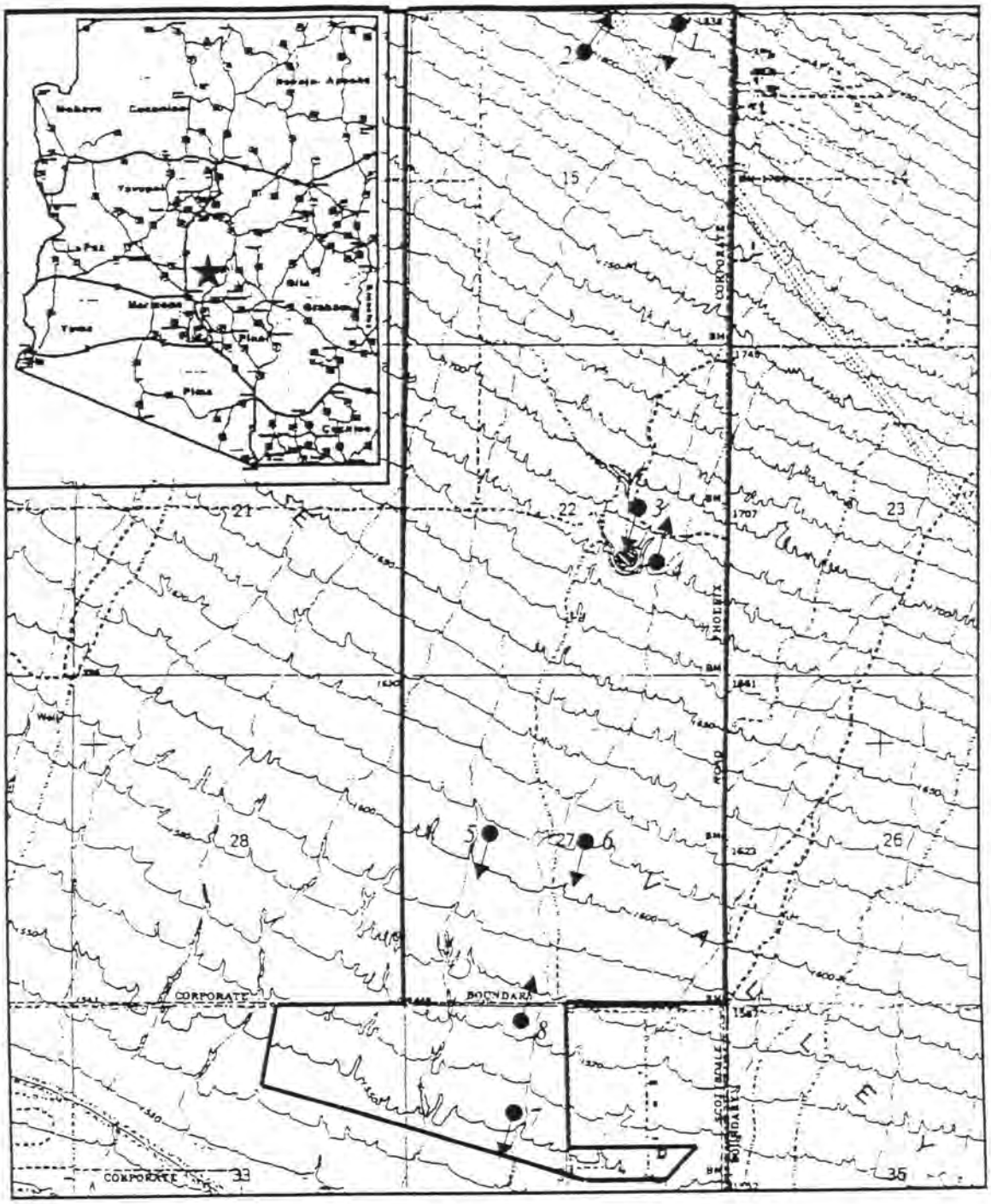

Figure 1. Location Map, Paradise Ridge Development Sections 15, 22, 27, 33, and 34, T4N, R4E, Maricopa County, Arizona.

Approximate Project Boundary

Photo Point Location and Direction (See Appendix A for Photos)

The overall watershed defined by Rawhide Wash itself has a drainage area of 19.8 square miles. Rawhide Wash starts just north of Dynamite Road in Scottsdale and the 96th Street alignment and moves in a southwesterly direction crossing into the City of Phoenix and terminating in the Bureau of Reclamation / Tournament Players Club basin. Only the northwest corner of the project area is outside the area designated as Rawhide Wash (**U.S. Army Corps of Engineers, 1999**). The flows associated with this wash emanate from intense rainfall in the confined upstream channels of the North Scottsdale drainage area.

Rain events that cause flooding usually consist of summer thunderstorms that last for relatively brief periods of time but generate substantial local rainfall that collects in desert washes. As rain falls in the mountain areas, the storm runoff quickly flows to the desert floor, conveying a combination of water and sediment materials. As the flood flows reach the desert floor areas, runoff is directed into the poorly defined channels in the alluvial fan areas. As debris is deposited and shifted by subsequent events, runoff creates new channels in different directions. This results in constantly changing flow paths. Currently, storm water runoff collects along the southern portion of Reach 11 of the CAP canal.

3.0 PROJECT AREA

All washes within the Paradise Ridge project area are "ephemeral watercourses, which flow in direct response to precipitation events, have a channel that is at all times above the groundwater table, and do not support self-sustaining populations of fish" (**Arizona Administrative Code, Title 18, Chapter 11, Article 1**).

Past land uses within the study area include grazing, illegal firearms range, off-road vehicle use, and illegal trash dumping. A review of the State Land Department records documented grazing as a land use from 1916 to modern times (**Graves 1993**). Evidence of use for grazing still exists in the center of Section 22, where an earthen-dam stock pond, with associated berms, collects water from multiple ephemeral water courses.

3.1 Vegetation

The study area contains representative examples of two subdivisions of the Sonoran Desert Scrub community present in Arizona and a transitional zone between the two (**Figure 2**). The two subdivisions are Lower Colorado River Valley (LCRV) and Arizona Upland (AU) (**Brown, 1994**). Both of these communities have characteristic large cacti in upland areas and a greater structural diversity of shrubs, trees, and perennial succulents along drainage courses, even in the most arid portions.

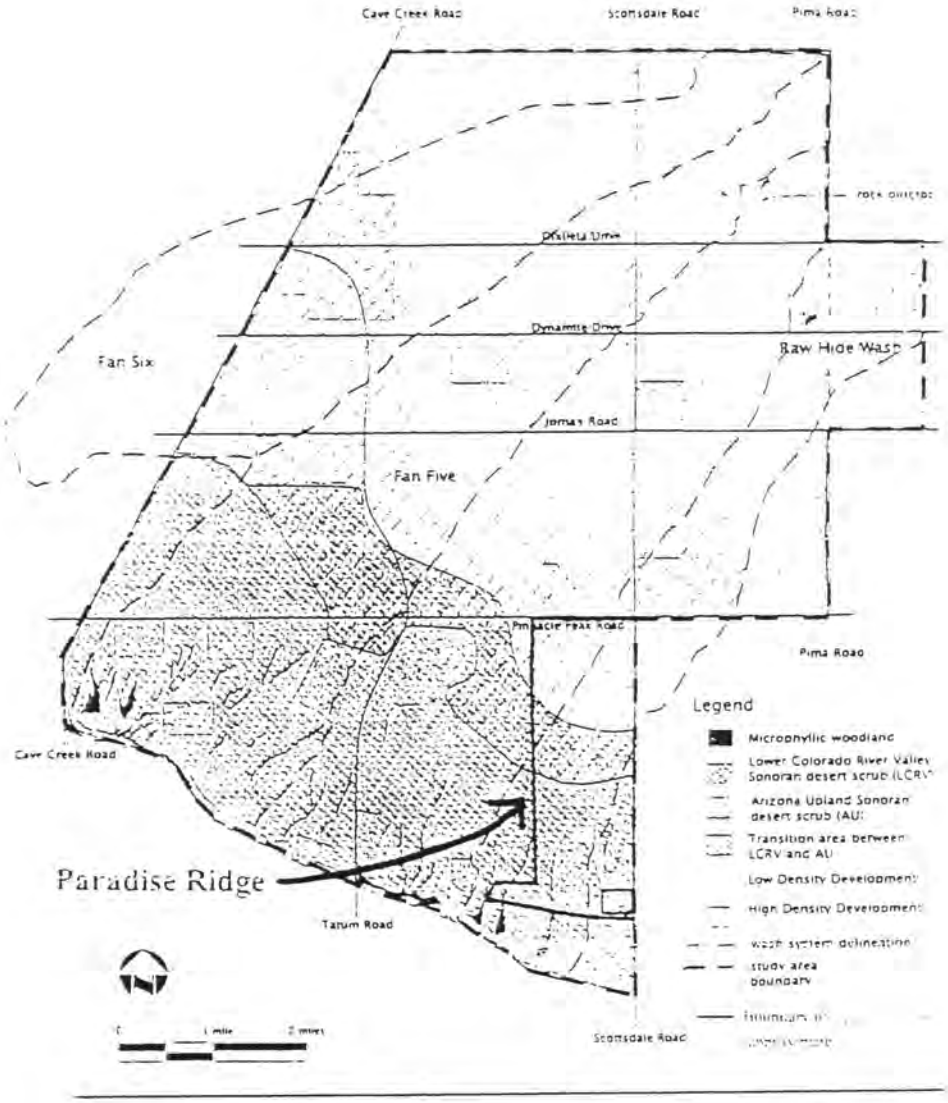

Figure 2

Vegetation Communities within the Project and Surrounding Area

Source: Northeast Phoenix AU Zone Resource Conservation Plan
U.S. Army Corps of Engineers
May 2000

The project area is consistent with the general characteristics of Sonoran Desert scrub, as the greatest vegetation densities occur along the washes. **Table 1** is a list of plants observed or with the potential to occur in the study area.

Table 1. Sonoran Plant Species Observed or with Potential to Occur in the Study Area

Common Name	Scientific Name	Occurs in AU Subdivision	Occurs in LCRV Subdivision	Observed On-site
Arizona barrel cactus	*Ferocactus wislizenii*	X		X
Anderson's thornbush	*Lycium andersonii*	X	X	I
Barrel cactus	*Ferocactus acanthodes*	X		X
Bigelow nolina	*Nolina bigelovii*	X		
Blue paloverde	*Cercidium floridum*	X	X	X
Brittle bush	*Encelia farinosa*	X	X	X
Buckhorn cholla	*Opuntia acanthocarpa*	X	X	X
Canyon ragweed	*Ambrosia ambrosioides*	X	X	X
Catclaw	*Acacia greggii*	X	X	X
Chain fruit cholla	*Opuntia fulgida*	X		
Christmas cholla	*Opuntia leptocaulis*	X		X
Chuparosa	*Justicia californica*	X	X	X
Cilindrillo	*Lycium berlandieri*	X	X	I
Cooper golden bush	*Ericameria cooperi*	X	X	
Creosote	*Larrea tridentata*	X	X	X
Crucifixion thorn	*Canotia holacantha*	X	X	
Desert broom	*Baccharis sarothroides*	X	X	X
Desert hackberry	*Celtis spinosa*	X		X
Desert lavender	*Hyptis emoryi*	X	X	
Desert marigold	*Baileya multiradata*	X	X	
Englemann's prickly pear	*Opuntia englemannii*	X		X
Fairy feather duster	*Calliandra eriophylla*	X	X	
Foothill paloverde	*Cercidium microphyllum*	X	X	X
Globe mallow	*Sphaeralcea ambigua*	X	X	
Ironwood	*Olneya tesota*	X	X	X
Mexican tea	*Ephedra trifurca*	X	X	
Mistletoe	*Phoradendron californicum*	X	X	X
Ocotillo	*Fouquieria splendens*	X	X	
Pencil cholla	*Opuntia arbuscula*	X		
Saguaro	*Carnegiea gigantea*	X	X	X
Smoke bush	*Psorothamnus spinosa*	X	X	
Sonora barrel cactus	*Ferrocactus covillei*	X		
Spanish dagger	*Yucca arizonicus*	X		
Spiny strawberry hedgehog cactus	*Echinocereus stramineus*	X		X
Sweetbush (Chuckwalla's Delight)	*Bebbia juncea*		X	X
Teddybear cholla	*Opuntia bigelovii*	X	X	X
Triangle-leaf bursage	*Ambrosia deltoidea*	X	X	X
Velvet mesquite	*Prosopis velutina*	X	X	X

AU – Arizona Upland
LCRV – Lower Colorado River Valley
I – Specific Species Not Identified

The washes support numerous species of large trees, which include foothill paloverde (*Cercidium microphyllum*), blue paloverde (*C. floridum*), ironwood (*Olneya tesota*), and mesquite (*Prosopis*

sp.) and multiple underbrush species. Wash bottoms generally consist of decomposed granite and are typically devoid of vegetation due to hydrologic processes. Saguaros (*Carnegia giganteus*) are common in the inter-wash areas.

3.1.1 Lower Colorado River Valley Sonoran Desert Scrub

The northern limit of the LCRV subdivision runs from Palm Springs, California in the west, to northeast Phoenix in the east. The southern limit of this range wraps around the Gulf of California on both the east and west sides to just north of the California / Baja border. This subdivision is also referred to as the microphyllus desert due to the adaptation of small compound leaves on most dominant species found within it. These adaptations are important because this Sonoran region receives the least rainfall and experiences the most extreme temperatures. In areas between drainage courses, plant growth and diversity is typically sparse as a result of the intense competition between plants for scarce water resources.

Within the LCRV subdivision drainage courses vary from shallow runnel networks to deeper flow through channels (**Brown, 1994**). Plants vary by both species diversity and robustness within this area, and the species associated with microphyllic woodland (**Figure 2**), such as ironwood, mesquite, palo verde, and catclaw, occur more frequently in washes. As a result, these drainage areas have greater structural diversity and offer greater habitat richness than the areas between drainage courses. The LCRV subdivision occurs in the southern portion of the Paradise Ridge project area.

3.1.2 Transition Zone

Within the project area the LCRV subdivision and the AU subdivision meet and form a transition zone. This transition zone is difficult to accurately map because of the subtle and gradual transition. Characteristics of this transition include a gradual increase in trees and shrubs in the uplands between washes and runnels. A predominance of triangle-leaf bursage within areas closer to the north of the study area is characteristic of the transition zone as it enters the AU subdivision.

3.1.3 Arizona Upland Sonoran Desert Scrub

The northern limit of the AU subdivision runs south below the Mogollon Rim and abuts the edge of the LCRV subdivision to the east. To the west, the limit of the region undulates, following lower elevations and continuing south to Querobabi, Mexico. The AU subdivision receives substantially more precipitation than the LCRV subdivision and therefore has a greater diversity of plants. Within this region, the dominant plant species include paloverde, saguaro, crucifixion thorn, mesquite, and ironwood. The primary difference between this subdivision and the LCRV

subdivision is plant structural diversity. In the AU subdivision structural diversity is found throughout the landscape, while in the LCRV subdivision this occurs only adjacent to washes.

3.2 Wildlife

The Sonoran Desert has a large number of wildlife species. Common birds found within the project area include Gambel's quail (*Callipepla gambelii*), roadrunner (*Geococcyx californianus*), mourning dove (*Zenaida macroura*), Gila woodpecker (*Melanerpes uropygialis*), northern flicker (*Colaptes auratus*), black-throated sparrow (*Amphispiza bilineata*), and cactus wren (*Campylorhynchus brunneicapillus*). Common raptors include Harris hawk (*Parabuteo unicinctus*) and red-tailed hawk (*Buteo jamaicensis*). Small mammals include coyote (*Canis latrans*), desert cottontail (*Sylvilagus audubonii*) and several species of ground squirrels (*Spermophilus* sp.) and pocket mice (*Perognathus* sp.). Javelina (*Tayassu tajacu*) are abundant in the area and use washes for shelter during the day.

Mule deer (*Odocoileus hemionus*) tracks and the jawbones were identified on the site. The McDowell Mountains have a well established population of mule deer, and while there is evidence of mule deer on the site, current land uses between the McDowell Mountains and the project area (i.e. Scottsdale Road) restrict their access to Paradise Ridge.

4.0 RELATIVE FUNCTIONS AND VALUES OF XERORIPARIAN AREAS

Many ecologists broaden the concept of riparian communities to include the banks of dry washes in deserts. A wash in the LCRV subdivision with its woodland trees is clearly distinct from the surrounding creosote bush flats. On a landscape scale, dry washes occupy less than five percent of the area within the subdivision of the Sonoran Desert, but support ninety percent of its bird life. Their value to wildlife is the result of the greater availability of water even though these washes may carry surface water for only a few hours a year (**Phillips and Comus, 2000**).

Dry washes share most of their defining characteristics with traditional "wet" riparian habitats. For example, they are chronically disturbed, unstable sites where water and nutrients are harvested and concentrated from larger areas. Finally they are corridors for the dispersal of plants (seeds) and animals (**Phillips and Comus, 2000**).

Three general categories of evaluation criteria were used for the relative functions and values assessment of jurisdictional washes within Paradise Ridge: Water Quality, Habitat Quality, and Recreational Quality. These categories and the elements that compose the functions and values are shown in **Table 2**.

TABLE 2. Typical Functions and Values of Aquatic Systems

WATER QUALITY	
	Groundwater Recharge / Discharge
	Nutrient Transformation
	Flood Flow Desynchronization
	Sediment Transport
HABITAT QUALITY	
	Threatened & Endangered Species
	General Wildlife Use
	Habitat Community
RECREATIONAL QUALITY	
	Consumptive Uses
	Non-Consumptive Uses

4.1 Water Quality Criteria

Groundwater recharge/discharge, nutrient transformation, flood flow desynchronization, and sediment stabilization were the Water Quality criteria used for evaluation purposes.

4.1.1 Groundwater Recharge/Discharge

The project area is located within the East Salt River Valley groundwater sub-basin within the Phoenix Active Management Area (AMA). Groundwater depth within the sub-basin is highly variable and reacts substantially to groundwater pumping. Water levels in the East Salt River Valley range from 100 feet to more than 400 below the ground surface (**USACOE, 1996**).

The absence of true riparian vegetation on the site confirms that groundwater is located below the shallow root zone of riparian plants. Due to the depth of groundwater, constrained deep below the soil surface, there is no opportunity for groundwater discharge. However, an important natural function of desert washes is their ability to recharge water to the underground aquifer (**Phyllis and Comus, 2000**). Wide, flat wash beds possess the greatest ability to recharge water to the subsurface. Even so, due to the depth to groundwater, recharge occurs on a minor scale within the project area.

4.1.2 Nutrient Transformation

Within a system of wash corridors nutrients may pass directly through the corridor, nutrients may accumulate in the soil, gradually filling in the wash bed, and nutrients may be absorbed and incorporated into biomass by corridor vegetation as it grows (**Forman and Godron, 1986**).

Within the xeroriparian wash system, washes with the greatest density of vegetation are assumed to have the greatest potential to absorb dissolved mineral nutrients.

4.1.3 Flood Flow Desynchronization

The ability of the dry washes to desynchronize flood flows is related to their ability to slow floodwater and detain some floodwater onsite. Decreased water velocities increase the opportunity for water to be recharged to the subsurface and/or detained at the surface in backwater channels. These processes provide water to the root zone of desert plants and decrease the entrenchment potential of floodwaters to existing wide, flat channels.

4.1.4 Sediment Stabilization

Sediment stabilization refers to the ability of the desert washes to bind soils and dissipate erosive forces. Vegetation is the primary soil binding mechanism (roots and decomposing organic matter) in these desert washes. Cut banks and exposed root systems are evidence of soil instability.

4.2 Habitat Quality Criteria

The Habitat Quality criteria used to evaluate onsite washes considered habitat functions and values with regard to threatened and endangered species, general wildlife use, and habitat community.

4.2.1 Threatened and Endangered Species

The threatened and endangered species criterion was based on the potential for the wash vegetation to support threatened and endangered species. The property is within Zone 3 habitat for the cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) (pygmy-owl). Zone 3 habitat is defined as areas within the historic range of the pygmy-owl with a low potential of occupancy (**AGFD and USFWS, 2000**). Surveys for the pygmy-owl were completed in 1999 and 2000 by biologists with Entranco and no pygmy-owls were detected (**Entranco 1999 and 2000**). Therefore, this category was included for consideration, but there are no documented threatened or endangered species on or within the vicinity of the Paradise Ridge property.

4.2.2 General Wildlife Use

In terms of general wildlife use, the jurisdictional washes within Paradise Ridge function as corridors to onsite and offsite areas. Dense cover along ephemeral washes provides opportunities

for movement by small mammals such as rabbits and larger mammals such as javelina and coyote. In addition, water-retaining features, such as a stock pond, were thought to have a high general wildlife use function and value due to their ability to provide a water supply in a desert environment.

4.2.3 Habitat Community

Within Paradise Ridge, jurisdictional washes with a diversity of plant species, well-developed structure, and a high percentage of canopy cover are anticipated to provide a wider variety of resources, and, thus, support a larger habitat community than areas that either lack these habitat features or support them to a lesser degree. Ephemeral washes that provide cover, food, shelter, and nesting substrates have higher habitat function and value than those that are not well vegetated or do not have the appropriate structure.

4.3 Recreational Quality

The Recreational Quality criterion is purely a value that people place on the use of aquatic systems. While recreational use of the aquatic systems are important, it was thought to be of secondary importance to water quality and habitat.

Uncontrolled use of the site for recreational use has led to degradation of some washes and wash features For example, there is extensive evidence of use of the stock pond area for illegal fire arm and off-road vehicle use.

Off-road vehicle use has created multiple trails throughout the project area and has disturbed wash habitat as well as upland habitats. The two categories of recreational use considered were consumptive (active) and non-consumptive (passive).

4.3.1 Consumptive Uses

Off-road vehicle use, plant collecting, and illegal hunting are activities that are considered consumptive.

4.3.2 Non-Consumptive Uses

Hiking, bird watching, and photography are activities that are considered non-consumptive.

5.0 METHODS AND RATING SYSTEM

Prior to developing the rating system for the functions and values of jurisdictional washes within the Paradise Ridge property, Entranco personnel met with Tim Wade of the Arizona Game and Fish Department (AGFD) at the site to discuss the characteristics of desert washes. During this meeting, Entranco personnel calibrated their impressions of function and value of desert washes with the AGFD. The rating system, as it would be applied onsite, was developed as a result of this meeting.

A critical review of the general functions and values of jurisdictional waters of the United States (**Table 2**) was made to determine the quintessential functions of the washes on the Paradise Ridge site. Thus the larger list of functions was refined to cover those discriminating elements on the site. The refined functions used for this evaluation are shown on **Table 3**. Both the Groundwater Recharge / Discharge and Nutrient Transformation were taken out from the evaluation as flood flows generally pass through the site and the soils typically do not promote any ponding or groundwater transfer in either direction. One exception, however, is the stock pond that is roughly in the eastern – central portion of the site. The stock pond was evaluated separately and as a unique condition in the desert environment. The entire Recreation Quality criterion was taken out of the evaluation, as the function and value of onsite washes are impacted by recreational activity.

TABLE 3. Typical Functions of Washes on Paradise Ridge

WATER QUALITY	
	Flood Flow Desynchronization
	Sediment Transport
HABITAT QUALITY	
	Threatened & Endangered Species
	General Wildlife Use
	Habitat Community

The criteria to evaluate the qualitative rating for the function categories are divided into four general levels: Very High, High, Medium and Low ratings. A brief description of the criteria to determine a rating level of the relative function of a wash is provided below in **Table 4**.

The category for water quality is composed of the first two elements under each rating, which included consideration for flood flow desynchronization and sediment stabilization. The category for habitat is composed of the latter three elements under each rating, which included consideration for threatened & endangered species, general wildlife habitat and habitat community. For those xeroriparian areas within Paradise Ridge, the habitat category was given a greater dominance when determining the overall rating.

The character of a xeroriparian community changes along its length due to the typical braided geomorphological nature of washes in the desert southwest. "Plant communities, including riparian and non-riparian communities, do not occur in tightly bounded, discrete units (though they are nearly always depicted as such), but change gradually from one type to the next in a continuum" (**SWCA 1993**). The minimum length to designate a particular rating was considered in order to limit the potential for fragmentation of a habitat community. In addition, for purposes of keeping the evaluation easy to apply, the minimum length of a reach for a particular rating was 100 feet. This segment length is easily readable to the scale of the site and is a reasonable minimum length for continuity of a habitat type.

The application of the rating system to a particular wash was determined through the integration of the criteria, verses requiring that the evaluated reach meet all the listed criteria for a rating. Hence, if a wash had strong elements for most of the evaluation criteria of a particular rating, then the wash would be given that rating.

Table 4. Criteria for Wash Rating

VERY HIGH RATING	
	Flood waters are detained limited outlet
	Very stable riparian area; aggradation of sediments
	Presence of T&E species on site
	Long segments wide corridors connected beyond the site (regional links)
	Mature trees and shrub strata; dense stand; very wide corridor (> 20 ft)
HIGH RATING	
	Flood waters are slowed; low velocities (< 4 fps)
	Stable channels; balanced sediment transport
	Abundance of constituent T&E habitat elements; no T&E species present
	Long segments wide corridors within the site
	Mature trees; moderate stand; wide corridor (> 10 ft)
MODERATE RATING	
	Flood waters not channelized sheet flow; moderate velocities (4 to 9 fps)
	Stable channel; minor erosion
	Moderate constituent T&E habitat elements
	Short segments wide corridors
	Mature shrubs; dispersed tree; moderate corridor (5-10 ft)
LOW RATING	
	No flood waters are detained; high velocities (> 9 fps); erosion present
	Unstable channel; erosion of banks down-cutting
	No constituent habitat elements for T&E species
	Short segments fragmented and narrow corridors
	Bare ground and / or shrub only stratum; narrow corridor (< 5 ft)

The criteria were applied only to the xeroriparian corridors that have been determined by the U.S. Army Corps of Engineers to be "waters of the United States" and regulated under Section 404 of the Clean Water Act.

The criteria are based on qualitative elements for the washes on the Paradise Ridge site and generally do not assess the greater landscape. However, adjacent vegetation density was taken into consideration when rating washes found in the AU subdivision versus washes found in the LCRV subdivision. For example, a wash that would have received a low rating in the AU subdivision could have received a moderate or high rating in the LCRV subdivision due to the sparseness of adjacent vegetation within the LCRV subdivision. Therefore, it was assumed that an absence of vegetation cover in the inter-wash areas of the LCRV subdivision increases the value of the adjacent wash habitat.

While the rating of the riparian corridors are divided up into elements of separate categories of functions and values, the final assessment is given as a single rating based on the gestalt of all elements in all categories. In addition, for xeroriparian areas within Paradise Ridge, the habitat category was given a greater dominance when determining the overall rating.

The rating system was applied to a 1" = 400' scale aerial photograph depicting the limits of jurisdictional waters for the Paradise Ridge property (Appendix B). The ratings were ground truthed on August 31, 2000.

6.0 RESULTS

Wash criteria often overlap between ratings. Wide washes receive and convey larger volumes of water than narrower washes. These washes in turn generally support larger trees and a greater density and diversity of vegetation than narrower washes. In addition, wide washes often have multiple layers of plant development: overstory, midstory, and understory vegetation. Multiple layers of vegetation increase the value of the habitat by offering a wider variety of resources to wildlife such as food, shelter, and cover. So wider and higher vegetated washes received a higher rating. Representative photos of washes that received rankings of high, medium, and low are depicted in **Appendix A**. No examples of Very High rated areas were found on the site.
Table 5 shows the percentage of high, medium, and low wash ratings in linear feet and acreage.

Table 5. Ranking System – Linear Feet and Acreage

RANKING	LENGTH (Linear Feet)	AREA (Acreage)
VERY HIGH	0	N/A
HIGH	81,840	37.58
MEDIUM	44,406	9.08
LOW	32,244	2.97

The stock pond contains unique features that are found no where else on the project site. These unique features include wetland vegetation, such as willow and cottonwood, and ponding of water for extensive periods of time. The site, however, has not been maintained as a stock pond. The main pond area is now silted in. This has allowed runoff to form an outlet channel at the northeastern portion of the pond. This outlet has caused extensive erosion and down cutting of the upland area. The site has also experienced extensive impacts to the vegetation in and around the site due to the use of the pond embankment for off-road vehicle use, firearm target shooting, wildcat dumping and other activities. Due to these impacts, and taking into account that there are still areas of intact wetland vegetation, the stock pond was given a High rating.

The results of the xeroriparian corridor function and value assessment were field checked by Entranco personnel and Tim Wade of the Arizona Game and Fish on August 31, 2000. During the field review, Entranco personnel ground-truthed approximately 20 percent of the rated washes, and adjusted less than 5 percent of the ratings.

7.0 CONCLUSIONS

The future functions and values of the jurisdictional washes within and downstream of Paradise Ridge are dependent upon upstream and onsite development practices. For example, urbanization of the watershed upstream of the property has altered the baseline conditions of the flood hazards of the Paradise Ridge property. Runoff from impervious surfaces, such as roads and rooftops is about four times that of undeveloped desert due to the inability of these surfaces to absorb and store water. Over these same surfaces, rainwater can move more than eight times as fast as water in undeveloped desert lands.

The functions and values rating that has been assigned to the jurisdictional washes within Paradise Ridge is representative of wash conditions as they exist today. However, due to upstream development some of the washes that received a high or medium rating may have already lost their water supply and may be converted to a low rating in the future. Likewise, washes with a low or medium rating could receive a high rating in the future if the quantity and duration of water they receive increases due to the incorporation of development features that channel water to particular reaches.

8.0 REFERENCES

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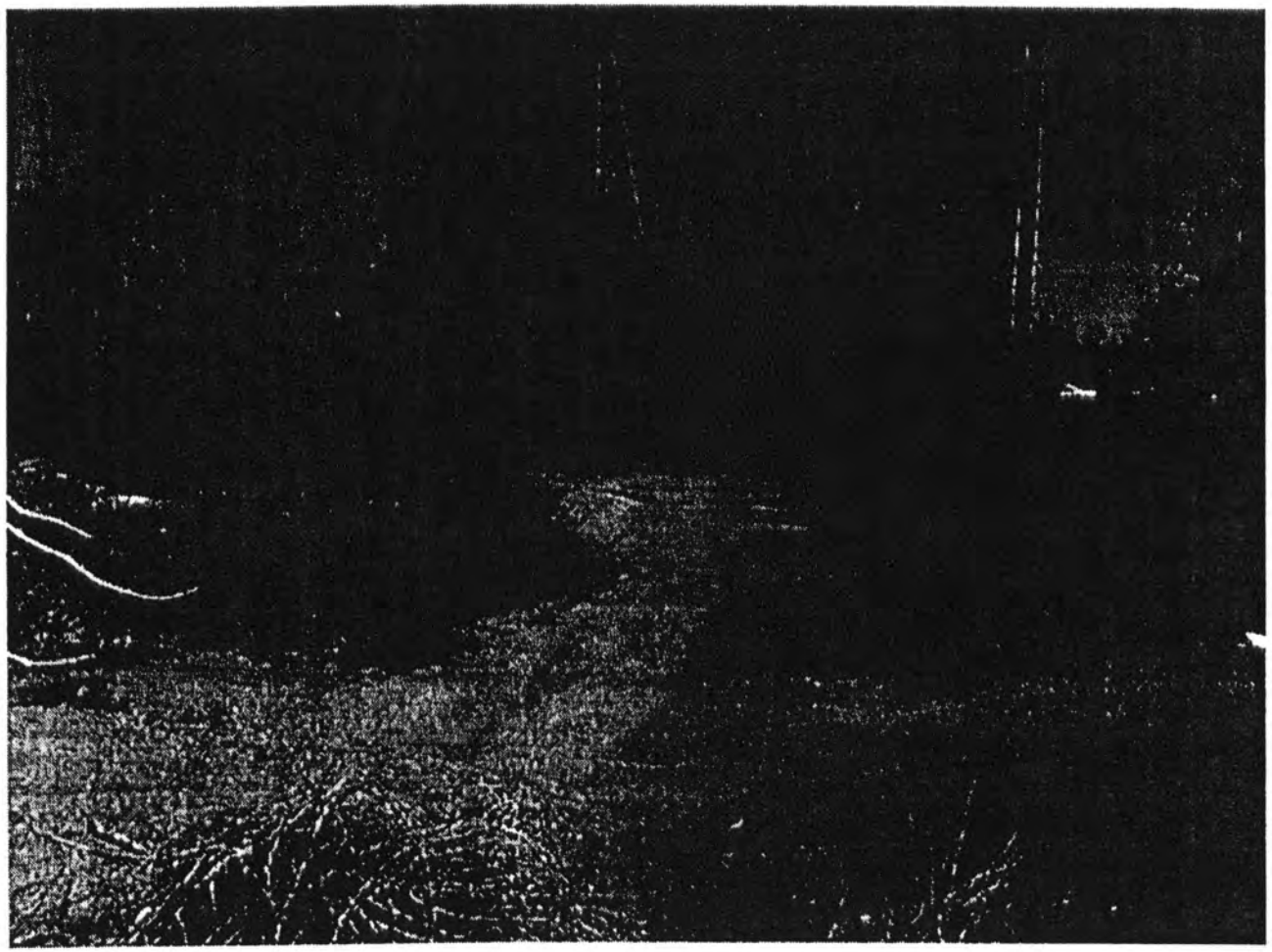
APPENDIX A

REPRESENTATIVE PHOTOS FOR RATED AREAS

High Wash Ranking

Moderate Wash Ranking



Low Wash Ranking

APPENDIX B

PARADISE RIDGE MASTER PLANNED COMMUNITY

Design Criteria for Washes, Road Crossings, and General Drainage Conditions

To ensure that the overall mitigation goals of this plan are achieved during site specific planning and design, minimum standards have been developed for washes and road crossings. Off-site runoff shall be passed through the Paradise Ridge development within four types of conveyance facilities. These are underground storm drains, natural wash corridors, reconstructed wash corridors, and washes constructed on new alignments. Roadway crossings shall consist of culverts and/or bridges.

Criteria for Washes

Minimum standards for each of the three wash types are as follows.

Underground Storm Drains

Storm drains, if needed, will be part of the final design and development of specific parcels within the project area. Storm drains will be sized in accordance with current design standards published by the City of Phoenix and the Flood Control District of Maricopa County. The intent of these criteria includes providing smooth transitions and ensuring sediment flow-through behavior.

Preserved/Enhanced Wash Corridors

The number of natural wash corridors, including location and width, has been established by the Master Drainage Plan. Design standards are as follows:

1. The natural wash corridor widths will vary in order to contain the peak 100-year flow event within the bermed area, as discussed in the Master Drainage Plan.
2. The existing natural low flow channel shall be preserved in its natural state except for the necessary at-grade (at natural wash flow line slope) roadway and multi-use path crossings.
3. The peak 100-year flow shall be contained within the wash corridor and shall satisfy flow depth (generally 2.0 foot or less flow depth in overbanks), velocity and sediment transport criteria stated in the Master Drainage Plan. Some corridors with large discharges may exceed the 2.0-foot flow depth criteria in order to conserve right-of-way.
4. Cutoff walls will be based on the 100- year flow and shall be placed a minimum of 20 feet from the top of the natural wash bank to address potential lateral migration and scour. Cutoff walls shall extend below potential scour depths with a safety factor of 1.3. Cumulative scour calculations shall include general, local, bend, anti-dune and low flow incisement scour.
5. Cutoff walls, privacy fences and multi-use paths shall be located a minimum distance of 20 feet from each side of the natural channel bank. Consequently, a minimum 20 foot wide strip of undisturbed natural riparian habitat shall be preserved on each side of the natural wash. In the case of those areas adjacent to golfing features, the re-vegetation could include grasses appropriate to golf course use in Arizona. Native grasses will be used if practicable. Steps

will be taken to eliminate the possibility of non-native grasses or landscaping materials gaining a foothold in the areas re-vegetated with native plants.

6. The low flow channel and over-bank areas shall require field survey and one-foot contour interval mapping as well as a detailed HEC-RAS hydraulic analysis and HEC-1 sediment transport analysis to ensure a channel that shall safely convey the 100-year flow in accordance with Federal Emergency Management Agency (FEMA) levee design freeboard criteria.

Reconstructed Natural Wash Corridors

The number of reconstructed wash corridors, including location and width, has been established by the Master Drainage Plan. Design standards are as follows.

1. The width and alignment of the reconstructed wash may be adjusted in order to maintain and/or reduce the lower frequency storm peak flows (less than the 100-year peak flow), flood volumes, flow velocities and preserve the integrity of the channel system in stable dynamic equilibrium. However, it shall be necessary to provide sufficient wash corridor area in order to meet the mitigation goals as stated within the Paradise Ridge Habitat Mitigation Plan.
2. The reconstructed low flow channel geometry shall generally be based on the channel forming discharge, which has been estimated at approximately the 10-year flow. The majority of over-banks of the low flow channel will be terraced to allow for planting with native vegetation and placement of geosynthetic reinforcement for erosion protection purposes. The reconstructed channels shall be constructed to appear natural except for necessary grade-control structures and crossings (roadway and multi-use path).
3. The peak 100-year flow shall be contained within the wash corridor and shall satisfy flow depth (equal to or less than 2.0 foot flow depth in overbanks), velocity and sediment transport criteria stated in the Master Drainage Plan.
4. Adequate setback distances or cutoff walls, based on the 100-year flow, shall be provided along the perimeter of wash corridors to address potential lateral migration and scour.
5. Comprehensive sediment transport and sediment deficit analyses, based on 100-year flow and cumulative storm frequency events, shall be required for estimating setback distances to building structures. Cutoff walls shall extend below potential scour depths with a safety factor of 1.3. Cumulative scour calculations shall include general, local, bend, anti-dune and low flow incisement scour.
6. Cutoff walls, privacy fences and multi-use paths shall be located a minimum distance of 20 feet from each side of the reconstructed channel bank. Consequently, a minimum 20 foot wide strip of undisturbed natural riparian habitat shall be preserved on each side of the reconstructed wash. In the case of those areas adjacent to golfing features, the re-vegetation could include grasses appropriate to golf course use in Arizona. Native grasses will be used if practicable. Steps will be taken to eliminate the possibility of non-native grasses or landscaping materials gaining a foothold in the areas re-vegetated with native plants.
7. The low flow channel and over-bank areas shall require field survey and one-foot contour interval mapping as well as a detailed HEC-RAS hydraulic analysis and HEC-1 sediment transport analysis to ensure a channel that shall safely convey the 100-year flow in accordance with FEMA levee design freeboard criteria.

Flood Control Channels/Detention Basins

1. Flood control channels/detention basins will have reinforced banks, where necessary to minimize erosion, and will have natural sandy channel bottoms
2. The primary function of the newly constructed washes is to convey peak flows during storm events.
3. No revegetation is proposed in the JDW washes constructed on new alignments.
4. Mitigation credit in most cases for washes constructed on new alignments will include either the wash bottom or the overbank and wash bottom.

Criteria for Roadway Crossings

The allowable roadway crossing type is determined based on the type of wash conveyance facility. Minimum roadway crossing standards for each conveyance facility are as follows.

Underground Storm Drains

Storm drains that pass under roadways shall be designed to the same standards enumerated above under Criteria for Washes. Storm drains that begin or end immediately upstream or downstream of the roadway shall also adhere to the following standards:

1. Unobtrusive energy dissipators, such as buried riprap or natural looking rock rapids, may be necessary at the downstream end of some drainage structures.
2. At drainage structure entrances, smooth channel-to-structure transitions shall be designed to minimize sediment deposition. Within the preserved/enhanced and reconstructed washes, these entrances shall be unobtrusive and not consist of concrete channel linings.
3. Reinforced turf with geosynthetics may be used within the banks (side slopes) of the approach and exit channel and exit channel transitions.

Preserved/Enhanced Wash Corridors

Design standards for roadway crossings of natural wash corridors are as follows.

1. A "flow-through" system shall be used to pass the peak 100-year flow across the roadway through drainage structures in accordance with current design standards published by the City of Phoenix and the Flood Control District of Maricopa County.
2. The proposed drainage structure at the "flow-through" roadway crossing shall consist of 1) a central structure for the conveyance of flows within the natural wash, and 2) storm drain conduit(s) (such as pipes) for conveyance of overbank flows (on each side of the central structure). At a minimum, the central structure shall span the entire low flow channel as measured between the top of the banks. This can be accomplished by the use of multiple cell structures. The storm drain conduit(s) on each side of the central structure shall prevent funneling of the overbank flows through the central roadway crossing structure. The central structure shall be sized to convey the entire 100-year peak flow as a safety measure in case the storm drain conduit(s) conveying overbank flows are clogged. The flow-lines of these structures shall be placed at or below the natural ground elevation.

3. Sediment transport and scour analyses shall be required to ensure the structural integrity of these drainage structures and a channel system that is in dynamic equilibrium (without significant sediment aggradation or degradation at the inlets and outlets).
4. Unobtrusive energy dissipaters, such as buried riprap or natural looking rock rapids, may be necessary at the downstream end of some drainage structures.

Reconstructed Natural Wash Corridors

Design standards for roadway crossings of natural wash corridors are as follows.

1. The peak 100-year flow across the roadway through drainage structures will be in accordance with current design standards published by the City of Phoenix and the Flood Control District of Maricopa County.
2. At drainage structure entrances, smooth channel-to structure transitions shall be designed to minimize flow disruption/turbulence. These entrances/exits shall be unobtrusive and not consist of concrete channel linings. Reinforced turf with geosynthetics may be used within the banks (side slopes) of the approach and exit channel transitions.
3. Sediment transport and scour analyses shall be required to ensure the structural integrity of these drainage structures and a channel system that is in dynamic equilibrium (without significant sediment aggradation or degradation at the inlets and outlets).
4. Unobtrusive energy dissipaters, such as buried riprap or natural looking rock rapids, may be necessary at the downstream end of some drainage structures.

Flood Control Channels/Detention Basins

1. The peak 100-year flow across the roadway through drainage structures will be in accordance with current design standards published by the City of Phoenix and the Flood Control District of Maricopa County.
2. Sediment transport and scour analyses shall be required to ensure the structural integrity of these drainage structures and a channel system that is in dynamic equilibrium (without significant sediment aggradation or degradation at the inlets and outlets).

APPENDIX C

PARADISE RIDGE MASTER PLANNED COMMUNITY

Landscape Criteria for Reconstructed Natural Wash Corridors

Vegetation

- Plant species composition will be entirely comprised of native species.
- Revegetation will include mesquite, ironwood, hackberry, foothill paloverde and yellow paloverde, wolfberry, saguaro, barrel cactus, buckhorn cholla, and triangular-leaved bursage, and other species identified in Table 3.1.1. Other adapted native plants and seeds may be utilized, upon approval by the Corps.
- Woody plant stock will be salvaged from on-site and supplemented with plants and seeds from local commercial nurseries. Seeding will be undertaken to achieve the desired species composition and density of the herbaceous plants. Native grass seed may also be utilized to help reduce soil erosion.
- The source for all nursery grown plants and seeds will be identified to assure that only locally-adapted, native plants and seeds are utilized.
- Five gallon containerized plants will be utilized to the extent possible based on availability.
- Seeding methods recommended by the nurseries will be followed to achieve the desired herbaceous plant densities.

On-Site Plant Salvage

- Salvaged plants, including trees, shrubs, and cacti shall be used on site.
- The contractor will use standard transplanting procedures when removing and relocating vegetation.

Irrigation

- A temporary drip irrigation system will be installed to accommodate irrigation demands within each of the reconstructed wash corridors.
- The primary water source for irrigation will be the nearest water main. It may be necessary to establish temporary water storage facilities to meet irrigation needs.
- Separate emitters will be installed at each planting. Holes for each planting will be approximately twice the size of root balls.
- Irrigation will continue for at least 2 years after plantings have been completed. Irrigation will be discontinued when the vegetation has become established, and it has been demonstrated that the vegetation can survive without supplemental watering.

Maintenance

- Short-term maintenance of the corridors may include staking, fertilizing, weeding in the immediate area of the vegetation to be re-established, and maintenance of the irrigation system.
- Once the vegetation becomes established and accepted by the Corps, these practices will be discontinued.

- Long-term maintenance of the corridors will not allow pruning, removal of snags, mistletoe control, weeding, or plant litter removal.

Successful Landscape

- 80 percent survival of trees, shrubs, and saguaros 3 years after irrigation has been discontinued.
- If less than 80 percent survival, the ultimate landowner or lessee or it equivalent entity will plant additional vegetation in order to achieve 80 percent survival.

APPENDIX D

PARADISE RIDGE MASTER PLANNED COMMUNITY

Criteria for Trails within the Riparian Habitat Wash Corridors

Soft-Surface Trails: Passive recreation uses only (e.g., hiking, bird watching, photography)

Criteria:

- Permitted along both sides of the wash
- Meander within natural and reconstructed wash corridors
- Located a minimum distance of 20 feet from the low-flow channel
- 8 feet wide
- Constructed of decomposed granite or similar non-toxic material
- Wash crossings are allowed

Hard-surface Trails: Passive recreation uses only (e.g., hiking, bird watching, photography, roller blading, bicycles)

Criteria:

- Located outside of the mitigation area
- 8 feet wide

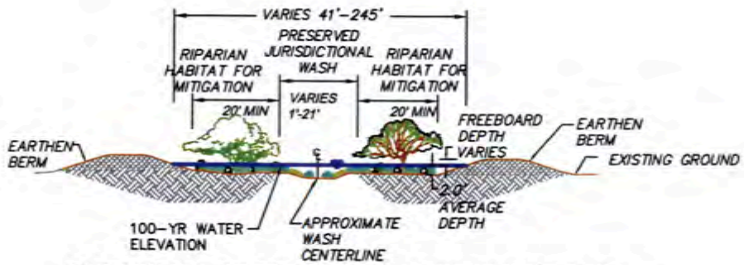
Doug Frost (II) 602-256-5618 City of Phoenix Plan douglas.frost@phoenix.gov

Habitat Mitigation and Monitoring Plan for the Paradise Ridge Development

ADDENDUM
February 15, 2011

Table 1. Total acres of WUS's, total WUS acres preserved, WUS acres impacted, and mitigation components at Paradise Ridge.

		Prior	Updated		
TOTAL WUS ACRES AT PARADISE RIDGE		**47.89**	**47.89**		
	High	25.54	25.54		
	Medium	20.05	20.05		
	Low	2.30	2.30		
TOTAL WUS ACRES PRESERVED		**13.82**	**13.67**		
	High	11.74	11.59		
	Medium	2.05	2.05		
	Low	0.03	0.03		
TOTAL WUS ACRES IMPACTED		**34.08**	**34.23**		
	High	13.81	13.96		
	Medium	17.99	17.99		
	Low	2.27	2.27	**Prior Credited Ratio**	**Updated Credited Ratio**
OVERALL MITIGATION RATIO (Pertaining to Acreage)		**4.85:1**	**4.95:1**	**4.05:1**	**4.12:1**
	High	6.00:1	6.00:1	4.61:1	4.57:1
	Medium	4.00:1	4.00:1	3.87:1	4.04:1
	Low	2.00:1	2.00:1	2.00:1	2.00:1
Mitigation				**Prior Credited**	**Updated Credited**
	Riparian habitat associated with High Value Avoided Washes	35.65	35.97	17.83	17.98
	Reconstructed & New High Value Washes/Stock Tank	45.85	45.76	45.85	45.76
		81.49	**81.73**	**63.68**	**63.74**
	Riparian habitat associated with Medium Value Avoided Washes	19.14	20.83	9.57	10.41
	Reconstructed & New Medium Value Washes	60.10	62.35	60.10	62.35
		79.25	**83.18**	**69.67**	**72.76**
	Riparian habitat associated with Low Value Avoided Washes	0.00	0.00	0.00	0.00
	Reconstructed & New Low Value Washes	4.55	4.55	4.55	4.55
		4.55	**4.55**	**4.55**	**4.55**
12/10/2010	**TOTAL**	**165.29**	**169.46**	**137.90**	**141.05**



404 NATURAL RIPARIAN HABITAT WASH CORRIDOR

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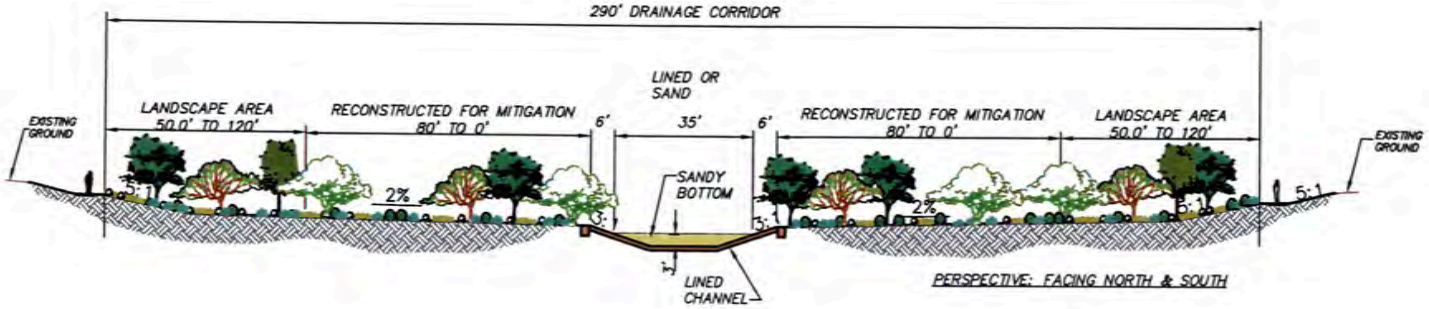
DATE: Dec 10, 2010 9:50am XREFS:

PROJECT NO: 009-1321	
DRAWN BY: LJS	**PARADISE RIDGE TYPICAL SECTIONS**
DATE: DEC. 1, 2010	

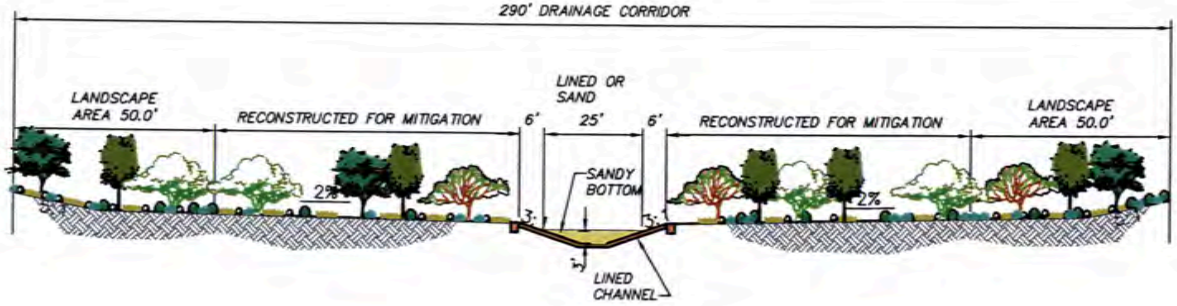
OLSSON ASSOCIATES
7250 North 16th Street
Suite 210
Phoenix, AZ 85020-5282
TEL 602.748.1000
FAX 602.748.1001

EXHIBIT 5



EAST CHANNEL - SOUTH OF WASH 10

RECONSTRUCTED RIPARIAN HABITAT CORRIDOR



EAST CHANNEL - NORTH OF WASH 10

RECONSTRUCTED RIPARIAN HABITAT CORRIDOR

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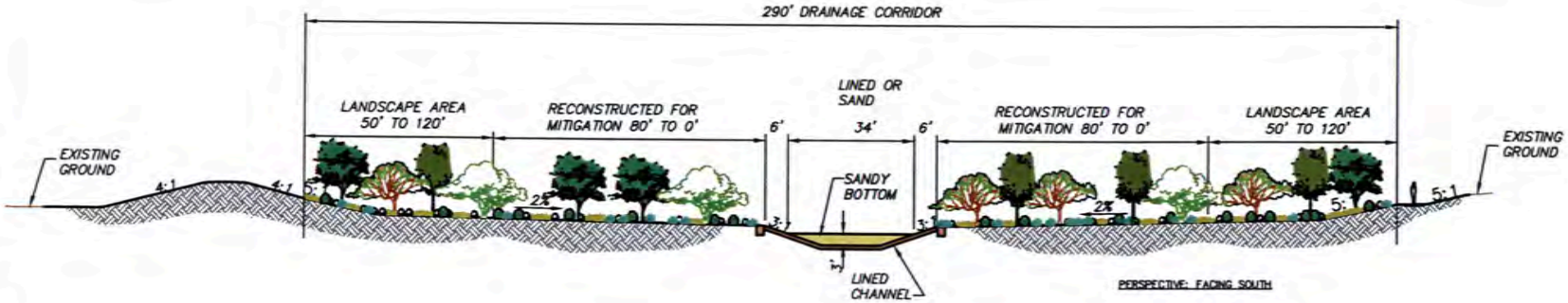
PROJECT NO: 009-1321	
DRAWN BY: LJS	
DATE: DEC. 10, 2010	

PARADISE RIDGE TYPICAL SECTIONS

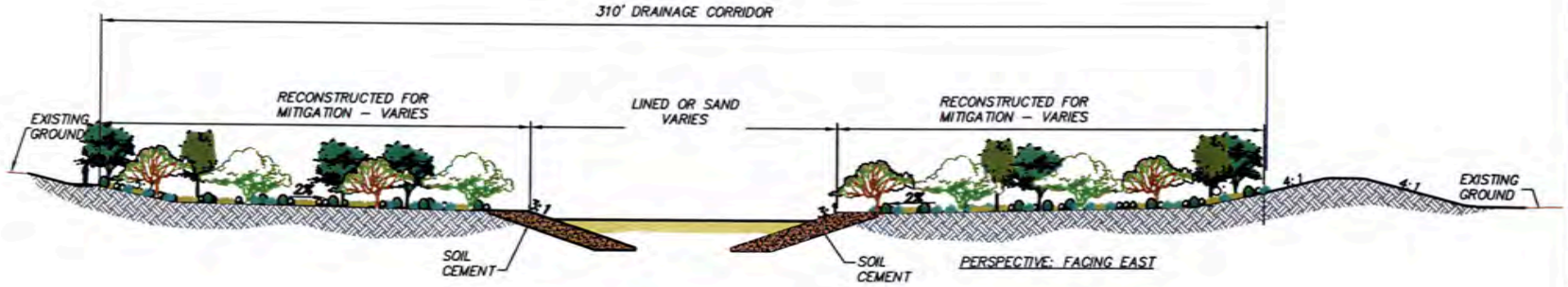
OLSSON ASSOCIATES
7250 North 16th Street
Suite 210
Phoenix, AZ 85020-5282
TEL 602.748.1000
FAX 602.748.1001

EXHIBIT 6



WEST CHANNEL - LOOP 101 TO E-W CHANNEL

RECONSTRUCTED RIPARIAN HABITAT CORRIDOR



EAST - WEST CHANNEL

RECONSTRUCTED RIPARIAN HABITAT CORRIDOR

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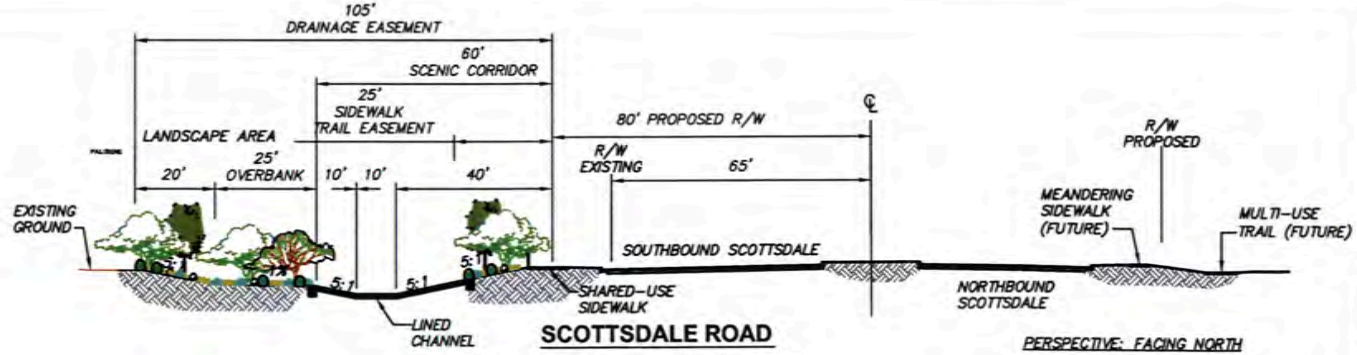
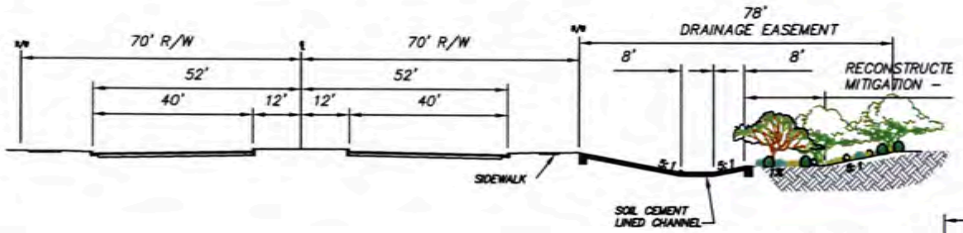
DATE: Dec 10, 2010 9:48am XREFS:

PROJECT NO: 009-1321	PARADISE RIDGE TYPICAL SECTIONS	OLSSON ASSOCIATES 7250 North 16th Street Suite 210 Phoenix, AZ 85020-5282 TEL 602.748.1000 FAX 602.748.1001
DRAWN BY: LJS		
DATE: DEC. 10, 2010		

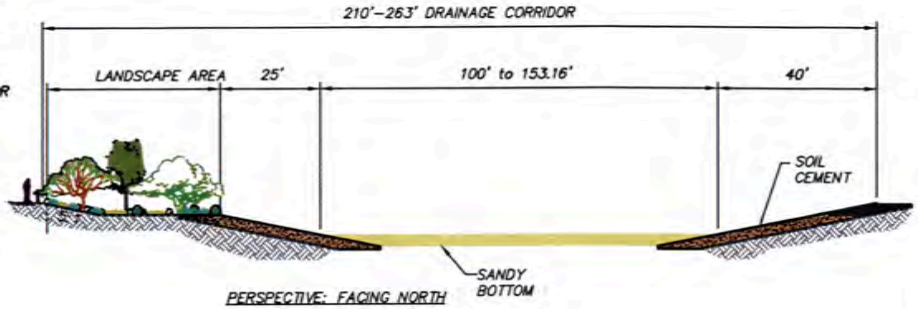
EXHIBIT 7





64TH STREET CHANNEL

RECONSTRUCTED RIPARIAN HABITAT CORRIDOR



RAWHIDE WASH

RECONSTRUCTED RIPARIAN HABITAT CORRIDOR

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DATE: Dec 10, 2010 9:49am XREFS:

PROJECT NO: 009-1321	**PARADISE RIDGE TYPICAL SECTIONS**	OLSSON ASSOCIATES 7250 North 16th Street Suite 210 Phoenix, AZ 85020-5282 TEL 602.748.1000 FAX 602.748.1001
DRAWN BY: LJS		
DATE: DEC. 10, 2010		

EXHIBIT 8

APPENDIX D.13:
PARADISE RIDGE PROGRAMMATIC AGREEMENT

RECEIVED
JUN 10 2009
ARIZONA STATE PARKS/S.H.P.O.

RECEIVED
MAY 26 2009
ER & T SECTION

PROGRAMMATIC AGREEMENT AMONG THE LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS, ARIZONA STATE LAND DEPARTMENT, AND ARIZONA STATE HISTORIC PRESERVATION OFFICE, REGARDING THE PARADISE RIDGE AND DESERT RIDGE PLANNING AREAS, CITY OF PHOENIX, ARIZONA

WHEREAS, the Los Angeles District, U.S. Army Corps of Engineers ("COE") under the authority of Section 404 of the Clean Water Act (33 U.S.C. § 1344) has issued Permits 1999-16129-RWF and 984-0030-RWF ("Section 404 Permits") ("Undertaking") to the Arizona State Land Department ("ASLD") for the Paradise Ridge and Desert Ridge Planning Areas, respectively, located in northeast Phoenix, Maricopa County, Arizona (Appendix 1); and

WHEREAS, the COE has determined that the area of potential effects ("APE") includes the entire Paradise Ridge Planning Area (approximately 3.4 square miles) and Superblocks 2, 3, and 9 of the Desert Ridge Planning Area (approximately 1.4 square miles) located on land administered by ASLD (Appendix 2); and

WHEREAS, ASLD has inventoried the APE and tested six out of eight archeological sites located within the APE. The results are documented in the following reports by URS: *Archeological Testing Results and Treatment Plan for Site AZ U:5:93(ASM) and Isolated Occurrence 49 in the Paradise Ridge Planning Area, Phoenix, Arizona; Archeological Testing Results and Treatment Plan for the Last Ditch Site AZ U:5:34(ASM) in the Paradise Ridge and Desert Ridge Planning Areas, Phoenix, Arizona;* and *Archeological Testing Results and Treatment Plan for Site AZ U:5:94(ASM) and AZ U:5:92(ASM) Isolated Occurrence 29 in the Paradise Ridge Planning Area, Phoenix, Arizona;* and

WHEREAS, the COE has determined that the Undertaking may have an adverse effect on archeological sites AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93, and AZ U:5:94, AZ U:5:216 (ASM), eligible under criterion D for listing in the National Register of Historic Places ("NRHP"), and archeological sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM) which have not been evaluated for listing in the NRHP, and has consulted with the Arizona State Historic Preservation Office ("SHPO") and the Advisory Council on Historic Preservation ("Council"), pursuant to Title 36, Code of Federal Regulations ("CFR"), Part 800, regulations implementing § 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. § 470f) ("NHPA"); and

WHEREAS, the COE seeks to programmatically fulfill its responsibilities under the NHPA, pursuant to 36 CFR § 800.14(b)(1), through development of this programmatic agreement ("PA" or "Agreement"); and

WHEREAS, SHPO is authorized to enter into this PA in order to fulfill its role of advising and assisting federal agencies in carrying out their § 106 responsibilities pursuant to §§ 101 and 106 of the NHPA and 36 CFR §§ 800.2(c)(1)(i) and 800.6(b); and

WHEREAS, SHPO is authorized to advise and assist federal and state agencies in carrying out their historic preservation responsibilities and cooperate with these agencies under Arizona Revised Statutes ("ARS") § 41-511.04(D)(4); and

WHEREAS, the Council elected not to participate in this PA; and

WHEREAS, the Arizona State Historic Preservation Act (ARS § 41-861 *et seq*) requires the ASLD to consult with the SHPO concerning the effect of planned land sales or leases on archeological and historical resources listed in or eligible for listing in the Arizona Register of Historic Places; and ASLD intends to use provisions of this PA to comply with the applicable requirements of the Arizona State Historic Preservation Act and has been invited to participate as an "Invited Signatory" to this PA; and

WHEREAS, the Arizona Antiquities Act (ARS § 41-841 *et seq*) requires the ASLD to notify the Arizona State Museum ("ASM") about the discovery of archeological and historical sites or objects on state land; and

WHEREAS, ASM has authority and responsibility for implementing the Arizona Antiquities Act on state land (defined as land owned or controlled by state agencies and institutions, counties and municipal corporations), and has been invited to participate as a Concurring Party to this PA; and

WHEREAS, the COE has consulted with the City of Phoenix, the Salt River Pima-Maricopa Indian Community, the Hopi Tribe, the Fort McDowell Yavapai Nation, and the Yavapai-Apache Nation regarding the effects of the Undertaking on historic properties and has invited them to participate in this PA as Concurring Parties; and

WHEREAS the COE has determined that implementation of the Undertaking is of long duration (approximately 10 years, with multiple construction phases), and that not all aspects of the project(s) associated with the Undertaking have been planned in final form, and that such planning as exists may be subject to change at some future date, making it desirable to clearly define COE's NHPA Section 106 responsibilities; and

WHEREAS, the definitions given in 36 CFR § 800.16 are applicable throughout this PA.

NOW, THEREFORE, the COE, SHPO, and ASLD, collectively, referred to as "Signatories" or "Parties", agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the Undertaking's effects on historic properties.

STIPULATIONS

The COE and the ASLD, as appropriate, will ensure that the Undertaking will be carried out in accordance with the following stipulations:

STIPULATION 1
Historic Properties Treatment Plans

A. Historic Properties Treatment Plans ("HPTPs") have already been developed for sites AZ U:5:93(ASM), AZ U:5:34(ASM), AZ U:5:94(ASM) and AZ U:5:92(ASM). The COE will ensure that HPTPs are developed for all other eligible sites within the APE. The HPTPs shall describe the affected historic properties and their historic values, identify the nature of the effects on those historic properties, and describe the strategies proposed to avoid, minimize, or mitigate the effects of the Undertaking on historic properties. The HPTPs shall address the treatment of historic properties within the APE including data recovery and monitoring. The HPTPs will also describe the notification and protection measures in the case of unexpected discoveries. The HPTPs will mention that a burial agreement pursuant to ARS § 41-864 or ARS § 41-865, as appropriate, will be in place for the APE before any ground disturbing activities occur. The HPTPs will also include an eligibility testing plan for sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM). HPTP contents and guidelines are provided in Appendix 4.

B. The COE shall ensure that the HPTPs are prepared in consultation with the Parties for the Undertaking and implemented whenever the Undertaking will affect historic properties. The COE will ensure that the following measures are carried out by incorporating this PA as a special condition of any Section 404 Permits issued by the COE to ASLD or its transferee as successor to such Section 404 Permits. If ASLD fails to carry out the measures necessary to implement the HPTPs, the COE will take steps in good faith to enforce the permit conditions or revoke the permit. To prevent impacts to contributing resources, the COE will ensure ASLD maintains a 100-foot buffer around each archeological site until data recovery is completed at that property in accordance with the HPTPs. If the land remains in state ownership at the time of data recovery, the data recovery shall be conducted in accordance with an Arizona Antiquities Act permit issued by ASM.

STIPULATION 2
ASLD Procedures

The ASLD shall ensure consultation with SHPO and the conditions set forth in the Section 404 permits are carried out in accordance with the following.

A. Prior to ASLD issuing a lease or permit, or disposing of State Trust land at public auction, ASLD shall consult with the COE and SHPO under the State Historic Preservation Act when ground disturbing activities are planned within the boundary of Register eligible sites AZ U:5:33(ASM), AZ U:5:91(ASM), AZ U:5:92(ASM), AZ U:5: 93(ASM), AZ U:5:94(ASM), AZ U:5: 216(ASM), AZ U:5: 227(ASM), and AZ U:5:233(ASM).

B. ASLD will continue to consult with SHPO and COE on mitigation plans resulting from leases or permits. However, ASLD will transfer those consultation procedures to the COE per the conditions set forth in the 404 permits regarding State Trust land that has been sold at public auction.

STIPULATION 3
Archeological Monitoring

An archeologist may need to monitor construction activities after data recovery has occurred. Archeological monitoring shall be carried out in accordance with the following.

A. The COE and ASLD, as applicable, shall ensure ASLD or its successors or assigns to the Section 404 Permits, use cultural resources consultant(s) whose firm and associated personnel meet federal and state standards. If the land remains in state ownership at the time of monitoring, the monitoring shall be conducted in accordance with an Arizona Antiquities Act permit issued by ASM.

B. The COE and ASLD, as appropriate, shall ensure that any cultural deposits identified during monitoring are handled in accordance with Stipulation 4, *Post-Review Discoveries.*

STIPULATION 4
Post-Review Discoveries

The COE will condition its Section 404 Permits to require the ASLD or its successors and assigns to provide immediate notification to the COE if cultural deposits, including but not limited to human remains and funerary objects, are discovered during ground-disturbing activities. ASLD shall notify the ASM of such discoveries if the land remains in state possession at the time of the discovery. In the event of a discovery, the COE will immediately require ASLD or its successors or assigns to temporarily halt those activities and take steps to ensure that the area of the discovery is protected and secured as specified in the HPTPs. The COE shall immediately notify the SHPO and Concurring Parties of the nature of the discovery and the proposed treatment according to the discovery plan developed in the HPTP. The COE and ASLD, as appropriate, shall ensure that any burial encountered is treated according to the burial agreement developed for this PA.

STIPULATION 5
Reporting

A. ASLD shall bear the expense of identification, evaluation, and treatment of all historic properties directly or indirectly affected by the Undertaking within the APE. Such costs shall include, but not be limited to, pre-field planning, field work, post-field analysis, research, and interim, summary, and final report preparation (including draft and final versions) and costs associated with the curation of project documentation and all collections made from the historic properties. ASLD shall provide ten (10) copies of all draft and final reports to COE, SHPO and Concurring Parties.

B. ASLD will submit a Preliminary End-of-Fieldwork Report ("Preliminary Report") to COE, SHPO and Concurring Parties one week after the completion of data recovery fieldwork that will provide a record that the fieldwork was accomplished according to the approved HPTP. The Preliminary Report will also contain a schedule for delivering the draft and final Data Recovery Report to the COE, SHPO and Concurring Parties. After

the SHPO accepts the Preliminary Report, COE may authorize ASLD, as the Permittee of the Section 404 Permits, to proceed with earthmoving activities within the APE. Preliminary Report contents and guidelines are provided in Appendix 5.

C. ASLD shall submit draft plans and reports to the SHPO, COE and Concurring Parties for review and comment within 30 days. Based on the comments received, the COE may require ASLD to revise the plans and/or report(s), and furnish such revised plans and/or reports to the COE. The COE will submit any revised plans and/or reports(s) to SHPO and Concurring Parties for a 20-day concurrent review. Failure to respond within the appropriate review period shall not prohibit the COE from directing ASLD to finalize the plans and/or report(s).

D. The COE shall ensure all plans and/or reports prepared pursuant to this Agreement are consistent with guidelines of the Secretary of the Interior, SHPO, and ASM, as appropriate.

STIPULATION 6
Treatment of Human Remains and Cultural Objects

The COE shall ensure that human remains and associated cultural materials are treated in accordance with the burial agreement developed for this PA.

STIPULATION 7
Curation

The COE shall ensure that all materials and records resulting from the implementation of this Agreement are curated in accordance with 36 CFR Part 79, except where an alternative plan for disposition of human remains and other specified materials is provided in the HPTP.

STIPULATION 8
Confidentiality

The nature and location of archeological sites discussed in this PA shall be maintained as confidential, on a "need to know" basis, limited to staff and agents of the COE, ASLD, and SHPO involved in the planning and reviewing of the Undertaking and qualified researchers consistent with §304 of the NHPA and A.R.S § 39-125.

STIPULATION 9
Professional Qualifications

The COE shall ensure that all historic preservation work carried out pursuant to this Agreement is done by or under the supervision of a person or persons meeting at a minimum the *Secretary of the Interior's Professional Qualification Standards* (48 FR 44738-44739) and in accordance with Arizona Antiquity Act permit requirements, if the land remains in state ownership at the time of the studies.

STIPULATION 10
Conflict of Interest

SHPO may terminate this Agreement if it finds that an Arizona State Parks employee that was significantly involved in the creation of this Agreement is, at any time the Agreement is in effect by no later than three years after its execution, an employee or consultant of any other party in the Agreement.

STIPULATION 11
Equal Opportunity/Non-Discrimination

The Signatory Parties agree to comply with all applicable federal or state laws relating to equal opportunity and non-discrimination.

STIPULATION 12
Non-Availability of Funds

This Agreement shall be subject to available funding, and nothing in this Agreement shall bind the State to expenditures in excess of funds authorized and appropriated for the purposes outlined in this Agreement.

STIPULATION 13
Dispute Resolution

Should any Signatory or Concurring party to this PA object at any time to any actions proposed or the manner in which the terms of this PA are implemented, COE shall consult with such party to resolve the objection. The COE shall notify the SHPO of any objection. If COE determines that the objection cannot be resolved with the SHPO, then COE shall:

A. Forward all documentation relevant to the dispute, including the SHPO's, or COE's proposed resolution, to the ACHP. The ACHP shall provide COE with its advice on the resolution of the objection. The COE will consider any recommendation or comment provided by ACHP pertaining to the subject of the dispute. Prior to reaching a final decision on the dispute, COE shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the signatories and Concurring Parties, and provide them with a copy of this written response. The COE will then proceed according to its final decision.

B. If the ACHP does not provide its advice regarding the dispute in a timely manner, COE may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, COE shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and Concurring Parties to the PA, and provide them and the ACHP with a copy of such written response.

C. COE's responsibility to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remain unchanged.

STIPULATION 14
Alternative Dispute Resolution

The Signatory Parties agree to engage in any alternative dispute resolution procedures authorized by their statutes, regulations, and court rules, including, but not limited to, 5 U.S.C. 575 and A.R.S. § 12-1518, but only in circumstances where the Federal government consents to litigation in state court.

STIPULATION 15
Record Retention

All books, accounts, reports, files and other records of ASLD, and the Regulatory project files and technical reports of the COE, which are determined releasable under the Freedom of Information Act of 1966 (as amended), relating to this Agreement shall be subject, at all reasonable times, to inspection and audit by the State for five years after the termination of this Agreement.

STIPULATION 16
Amendments

Any Signatory Party may request that this PA be amended pursuant to 36 CFR § 800.6(c)(7). Any amendment will be effective on the date an amended PA is signed by all Signatory Parties. The COE shall ensure that a copy of any executed amended PA is filed with the Council.

STIPULATION 17
Termination

In the event any Signatory Party determines the terms of the PA cannot be or are not being carried out, the Signatory Parties shall consult to seek amendment of the Agreement. If the Agreement is not amended, the COE or the SHPO may terminate it pursuant to 36 CFR § 800.6(c)(8). The COE will either execute a memorandum of agreement under 36 CFR § 800.6(c)(1) or request the comments of the Council pursuant to 36 CFR § 800.7(a). The COE shall notify SHPO as to the course of action it will pursue.

STIPULATION 18
Annual Reporting and Bi-Annual Meeting

The COE will require an annual report for any ASLD actions (e.g., land sales, leases, and permits) that involve parcels containing archeological sites AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93, AZ U:5:94, AZ U:5:216 (ASM), AZ U:5:227 (ASM) and AZ U:5:233 (ASM) which are included in the Section 404 Permits. ASLD Cultural Resources Manager will submit an annual report to the COE Regulatory Project Manager for the Section 404 Permits that documents any and all ASLD actions within the APE during the past calendar year for the duration of this Agreement. ASLD will submit the report no later than January 31. ASLD and COE will meet every two years to evaluate compliance with the Agreement.

STIPULATION 19
Duration of the MOA

This Agreement shall be considered null and void if its stipulations are not carried out within ten (10) years from the date of its execution, unless the Signatory Parties agree in writing to an extension for carrying out its terms.

IN WITNESS WHEREOF, execution of this PA by the COE, ASLD, and SHPO, filing of the PA with the Council pursuant to 36 CFR § 800.6(b)(1)(iv), and subsequent implementation of its terms, evidences the COE has taken into account the effects of the Undertaking on historic properties, and that the COE has satisfied its responsibilities under Section 106 of the NHPA and applicable implementing regulations.

SIGNATORIES:

U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

By: Mark Durham for Date: 19 May 2009

Name: David J. Castanon

Title: Chief, Regulatory Division

ARIZONA STATE HISTORIC PRESERVATION OFFICER

By: James W. Garrison Date: 11 JUNE 2009

Name: James M. Garrison

Title: State Historic Preservation Officer

INVITED SIGNATORY:

ARIZONA STATE LAND DEPARTMENT

By: Jamie L. Hogue Date: June 4, 2009

Name: Jamie L. Hogue

Title: Interim Land Commissioner

CONCUR:

ARIZONA STATE MUSEUM

By:_____Date: _____

Name _____

Title:_____

CITY OF PHOENIX, A MUNICIPAL CORPORATION

By:_____Date: _____

Name: _____

Title:_____

FORT MCDOWELL YAVAPAI NATION

By:_____Date: _____

Name: _____

Title:_____

HOPI TRIBE

By:_____Date: _____

Name _____

Title:_____

SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY

By:_____Date: _____

Name: _____

Title:_____

YAVAPAI-APACHE NATION

By:_____Date: _____

Name: _____

Title:_____

APPENDIX 1

CLEAN WATER ACT SECTION 404 PERMITS 1999-16129-RWF AND 984-0030-RWF

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
ARIZONA-NEVADA AREA OFFICE
3636 NORTH CENTRAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

July 9, 2009

REPLY TO
ATTENTION OF:

Office of the Chief
Regulatory Division

Maria Baier
Commissioner
Arizona State Land Department
1616 West Adams Street
Phoenix, Arizona 85007

File Number: SPL-1999-16129-RWF

Dear Ms. Baier:

Reference is made to the Department of the Army Section 404 (Clean Water Act) permit, dated May 2, 2002, that the Corps of Engineers (Corps) issued to your agency, authorizing the discharge dredged and/or fill material into a total of 34.08 acres of Section 404 (Clean Water Act) jurisdictional area during the course of constructing road crossings, flood control facilities, utility systems, golf course facilities, and building pads as associated with the Paradise Ridge development at (Sections 15, 22, 27, 33, and 34, T4N, R4E), in the City of Phoenix, Maricopa County, Arizona.

Since issuance of this permit, the Corps has been consulting with your agency, the Arizona State Historic Preservation Officer (SHPO), the Arizona State Museum, the City of Phoenix, and interest tribes in effort to fulfill our National Historic Preservation Act responsibilities pursuant to 36 CFR § 800.14(b)(1). These consultation efforts have been directed towards the development of a programmatic agreement. We are please to advise you that efforts have resulted in the successful execution of a programmatic agreement that was signed by SHPO on June 11, 2009. The execution of this document renders moot portions of permit special conditions (h) and (i) which were developed to provide interim protection for known historic properties within the Paradise Ridge master-planned community. Consequently, modification of the Paradise Ridge Section 404 permit special conditions that address historic properties within the bounds of the development is both appropriate and necessary.

Accordingly, pursuant to the provisions of 33 Code of Federal Regulation 325.7(b), the Desert Ridge Section 404 permit is modified as follows:

SPECIAL CONDITIONS
PERMIT NO. SPL-1999-16129-RWF

h. The Permittee or its transferee shall comply with the *Programmatic Agreement between the U.S. Army Corps of Engineers Los Angeles District, the Arizona State Historic Preservation Office Regarding the Paradise Ridge and Desert Ridge Planning Areas, City of Phoenix, Arizona,* executed on June 11, 2009. The Permittee or its transferee shall provide all necessary

studies/investigations to the Corps of Engineers required under the Programmatic Agreement at their own cost. A copy of this executed Programmatic Agreement is enclosed.

i. Nothing in this permit shall prohibit the Permittee of transferee from selling, leasing, permitting, or otherwise transferring any interest in property within the Paradise Ridge development before the Corps of Engineers has discharged its responsibilities under Section 106 of the National Historic Preservation Act with respect to the known archaeological sites within the Paradise Ridge development. As of April 2008, five archaeological sites have been recorded within the Paradise Ridge Planning Area: AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93 (ASM), and AZ U:5:94 (ASM). These five archaeological sites have been evaluated for National Register of Historic Places (National Register) eligibility, and they are considered eligible for listing on the National Register and are therefore considered to be historic properties. The Permittee or transferee shall not conduct any ground disturbing activities (with the exception of necessary testing and/or data recovery) within a minimum of a 100-foot radius around historic properties AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93 (ASM), and AZ U:5:94 (ASM) until such a time that the Corps of Engineers issues written notification that the Section 106 process has been completed. The Corps of Engineers will issue written notification for each historic property (listed above) as appropriate. The Arizona State Land Department and/or the Permittee shall be responsible for notifying transferees of parcels containing any of the historic properties (AZ U:5:33 [ASM], AZ U:5:91 [ASM], AZ U:5:92 [ASM], AZ U:5:93 [ASM], and AZ U:5:94 [ASM]) of their subsequent obligations under this permit. This notification shall be in writing and shall be accomplished prior to issuance of the patent of execution of a lease agreement for said properties.

k. The Permittee or transferee shall retain a qualified archaeologist to perform archaeological monitoring of the project site during initial earthmoving activities (including those areas in which cultural resources have not been identified to date). The onsite archaeological monitoring activities shall be conducted by an archaeological monitor under the supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61) and in accordance with Arizona Antiquity Act permit requirements if the land remains in state ownership at the time of initial earthmoving. The qualified archaeologist shall identify the boundaries of historic properties AZ U:5:33 (ASM), AZ U:5:91 (ASM), AZ U:5:92 (ASM), AZ U:5:93 (ASM), and AZ U:5:94 (ASM) and conspicuously mark the 100-radius around these properties. The qualified archaeologist shall also be responsible for determining whether or not the archaeological monitor should be onsite during earthmoving activities on a full-or part-time basis.

l. Pursuant to 36 C.F.R. § 800.13, in the event of any discoveries during construction of either human remains, archeological deposits, or any other type of historic property, the Permittee shall notify the Corps of Engineers' Archeology Staff within 24 hours (Mr. Steve Dibble at 213-452-3849, Ms. Amy Holmes at 213-452-3855, or Mr. John Killeen at 213-452-3861). The Permittee shall immediately suspend all work in any area(s) where potential cultural resources are discovered. The Permittee shall not resume construction in the area

surrounding, i.e., immediately adjacent to, the potential cultural resources until the Corps of Engineers re-authorizes project construction, per 36 C.F.R. § 800.13.

You are further reminded that the terms, conditions, and Special Conditions of Permit No. SPL-1999-16129-RWF, except as modified herein, remain in full force and effect. Furthermore, the permit start and completion dates remain unaffected by this letter of modification.

Thank you for your staff's cooperation and support witnessed throughout this consultation process. Please note that a copy of this letter is being forwarded to the addresses noted on the enclosed list.

Sincerely,

Ron Fowler
Senior Project Manager
Arizona Branch, Regulatory Division

Enclosure(s)

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
ARIZONA-NEVADA AREA OFFICE
3636 NORTH CENTRAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

REPLY TO
ATTENTION OF:

July 9, 2009

Office of the Chief
Regulatory Division

Maria Baier
Commissioner
Arizona State Land Department
1616 West Adams Street
Phoenix, Arizona 85007

File Number: SPL-984-0030-RWF

Dear Ms. Baier:

Reference is made to the Department of the Army Section 404 (Clean Water Act) permit, dated June 26, 2004, that the Corps of Engineers (Corps) issued to your agency, authorizing the discharge dredged and/or fill material into a total of 85.7acres of Section 404 (Clean Water Act) jurisdictional area in the unnamed washes for the completion of the Desert Ridge master-planned community development at (Sections 13 and 24, T4N, R3E, and Sections 13, 14, 16, 17, 18, 19, 20, 21, 28, 29, 30 and 33, T4N, R4E), in the City of Phoenix, Maricopa County, Arizona.

Since issuance of this permit, the Corps has been consulting with your agency, the Arizona State Historic Preservation Officer (SHPO), the Arizona State Museum, the City of Phoenix, and interest tribes in effort to fulfill our National Historic Preservation Act responsibilities pursuant to 36 CFR § 800.14(b)(1). These consultation efforts have been directed towards the development of a programmatic agreement. We are please to advise you that efforts have resulted in the successful execution of a programmatic agreement that was signed by SHPO on June 11, 2009. The execution of this document renders moot permit special condition (e) which was developed to provide interim protection for known historic properties within the Desert Ridge master-planned community. Consequently, modification of the Desert Ridge Section 404 permit special conditions that address historic properties within the bounds of the development is both appropriate and necessary.

Accordingly, pursuant to the provisions of 33 Code of Federal Regulation 325.7(b), the Desert Ridge Section 404 permit is modified as follows:

SPECIAL CONDITIONS
PERMIT NO. SPL-984-0030-RWF

e. The Permittee or its transferee shall comply with all requirements and conditions of the *Programmatic Agreement between the US Army Corps of Engineers Los Angeles District, the Arizona State Historic Preservation Officer Regarding the Desert Ridge and Desert Ridge Planning Areas, City of Phoenix, Arizona,* executed June 11, 2009. The Permittee or its transferee shall provide all necessary studies/investigations to the Corps of Engineers required under the

Programmatic Agreement at their own cost.

i. Nothing in this permit shall prohibit the permittee of transferee from selling, leasing, permitting, or otherwise transferring any interest in property within the Desert Ridge development before the Corps of Engineers has discharged its responsibilities under Section 106 of the National Historic Preservation Act with respect to the known archaeological sites within the Desert Ridge development. As of April 2008, seven archaeological sites have been recorded within the Desert Ridge Planning Area Superblocks 2, 3 and 9. These include: AZ U:5:33 (ASM), AZ U:5:94 (ASM), AZ U:5:216 (ASM), AZ U:5:227 (ASM), AZ U:5:231 (ASM), AZ U:5:232 (ASM), and AZ U:5:233 (ASM). Archaeological sites AZ U:5:33 (ASM), AZ U:5:94 (ASM), and AZ U:5:216 (ASM) are recommended as eligible for the National Register of Historic Places (National Register) and are therefore considered to be historic properties. Archaeological sites AZ U:5:231 (ASM) and AZ U:5:232 (ASM) are not eligible for the National Register, and archaeological sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM) have not been evaluated for the National Register. The permittee or transferee shall not conduct any ground disturbing activities (with the exception of necessary testing and/or data recovery) within a minimum of a 100-foot radius around historic properties AZ U:5:33 (ASM), AZ U:5:94 (ASM), and AZ U:5:216 (ASM) and archaeological sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM) until such a time that the Corps of Engineers issues written notification that the Section 106 process has been completed. The Corps of Engineers will issue written notification for each historic property/archaeological site (listed above) as appropriate. The Arizona State Land Department and/or the permittee shall be responsible for notifying transferees of parcels containing any of the historic properties AZ U:5:33 (ASM), AZ U:5:94 (ASM), and AZ U:5:216 (ASM) and archaeological sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM) of their subsequent obligations under this permit. This notification shall be in writing and shall be accomplished prior to issuance of the patent of execution of a lease agreement for said properties.

j. The Permittee or transferee shall retain a qualified archaeologist to perform archaeological monitoring of the project site during initial earthmoving activities (including those areas in which cultural resources have not been identified to date). The onsite archaeological monitoring activities shall be conducted by an archaeological monitor under the supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61) and in accordance with Arizona Antiquity Act permit requirements if the land remains in state ownership at the time of initial earthmoving. The qualified archaeologist shall identify the boundaries of historic properties AZ U:5:33 (ASM), AZ U:5:94 (ASM), and AZ U:5:216 (ASM) and archaeological sites AZ U:5:227 (ASM) and AZ U:5:233 (ASM) and conspicuously mark the 100-foot radius around these properties/sites. The qualified archaeologist shall also be responsible for determining whether or not the archaeological monitor should be onsite during earthmoving activities on a full-or part-time basis.

k. Pursuant to 36 C.F.R. § 800.13, in the event of any discoveries during construction of either human remains, archeological deposits, or any other type of historic property, the Permittee shall notify the Corps of Engineers' Archeology Staff within 24 hours (Mr. Steve

Dibble at 213-452-3849, Ms. Amy Holmes at 213-452-3855, or Mr. John Killeen at 213-452-3861). The Permittee shall immediately suspend all work in any area(s) where potential cultural resources are discovered. The Permittee shall not resume construction in the area surrounding, i.e., immediately adjacent to, the potential cultural resources until the Corps of Engineers re-authorizes project construction, per 36 C.F.R. § 800.13.

You are further reminded that the terms, conditions, and Special Conditions of Permit No. SPL-984-0030-RWF, except as modified herein, remain in full force and effect. Furthermore, the permit start and completion date remain unaffected by this letter of modification.

Thank you for your staff's cooperation and support witnessed throughout this consultation process. Please note that a copy of this letter is being forwarded to the addresses noted on the enclosed list.

Sincerely,

Ron Fowler
Senior Project Manager
Arizona Branch, Regulatory Division

Enclosure(s)

APPENDIX 2

MAP OF AREA OF POTENTIAL EFFECTS

Page 439 of the **Infrastructure Assessment Report for Paradise Ridge - Parcel 6** contains restricted cultural resource information. To request access to this information, please contact ASLD's Cultural Resource Manager.

Page 440 of the **Infrastructure Assessment Report for Paradise Ridge - Parcel 6** contains restricted cultural resource information. To request access to this information, please contact ASLD's Cultural Resource Manager.

APPENDIX 4
GUIDELINES FOR HPTP CONTENTS

The HPTP shall include, but not be limited to, the following:

1. Methods section describing all pertinent field work, analytical, and data management procedures to be used, with an explanation of their relevance to the research design.

2. Research Design and Cultural Context
   a. Identification of research objectives for archaeological data recovery;
   b. Discussion of cultural context for the region; and
   c. Summary of previous research conducted within and adjacent to the APE.

3. Archaeological NRHP Eligibility Evaluation/Testing Plan. For archaeological sites that have not been evaluated for the NRHP, an archaeological NRHP eligibility evaluation/testing plan will be developed that includes discussion of the following:
   a. Description of the archaeological sites or portions of sites proposed for testing;
   b. Evaluation of sites within specific prehistoric/historic contexts;
   c. Field and analytical methods to be used to evaluate sites;
   d. Data management techniques to be used; and
   e. Dissemination of data, including draft and final report outlines and plans for their distribution.

4. Archaeological Data Recovery Plan. Include a data recovery plan with a research design to guide any data recovery at historic properties significant for their information potential in accordance with 36 CFR 60.4(d) and that cannot be avoided by the effects of the proposed project or otherwise preserved in place:
   a. Description of the historic properties proposed for data recovery, including an explanation of their significance;
   b. A section describing what types of permits are necessary, who will obtain permits, and procedure for obtaining permits; and
   c. A curation agreement ensuring that all materials and records are maintained in accordance with 36 CFR 79 (see Stipulation 7).

5. Archaeological Monitoring and Discovery Plan. Construction in archaeologically sensitive areas will be monitored by a qualified archeologist. Unanticipated discoveries, and their proposed treatment, if necessary, will be coordinated with the Concurring Parties to this Agreement. The Monitoring and Discovery Plan shall include discussion and justification of the following:

   a. How unanticipated historic properties that are not visible from the surface or known from previous survey efforts, shall be identified, evaluated, and treated; and

   b. Procedures to be followed in communicating information and decisions regarding unanticipated discoveries, including time limits for reporting discoveries, and who notifies whom.

6. a plan for the treatment and disposition of human remains, associated grave goods, and items of cultural patrimony developed in consultation with the Signatory and Concurring Parties (see Stipulation 6).

APPENDIX 5
GUIDELINES AND CONTENTS FOR PRELIMINARY END-OF-FIELDWORK REPORTS

1. Dates of fieldwork and personnel;

2. Permits and permit numbers under which fieldwork work was performed;

3. Map of the APE;

4. Field Methods;

5. Map(s) showing location of excavation units (unit blocks and trenches);

6. Summary table of features and sub features encountered;

7. Summary table of excavation units and unit area or length;

8. Preliminary field results;

9. Discussion of compliance with the HPTP; and

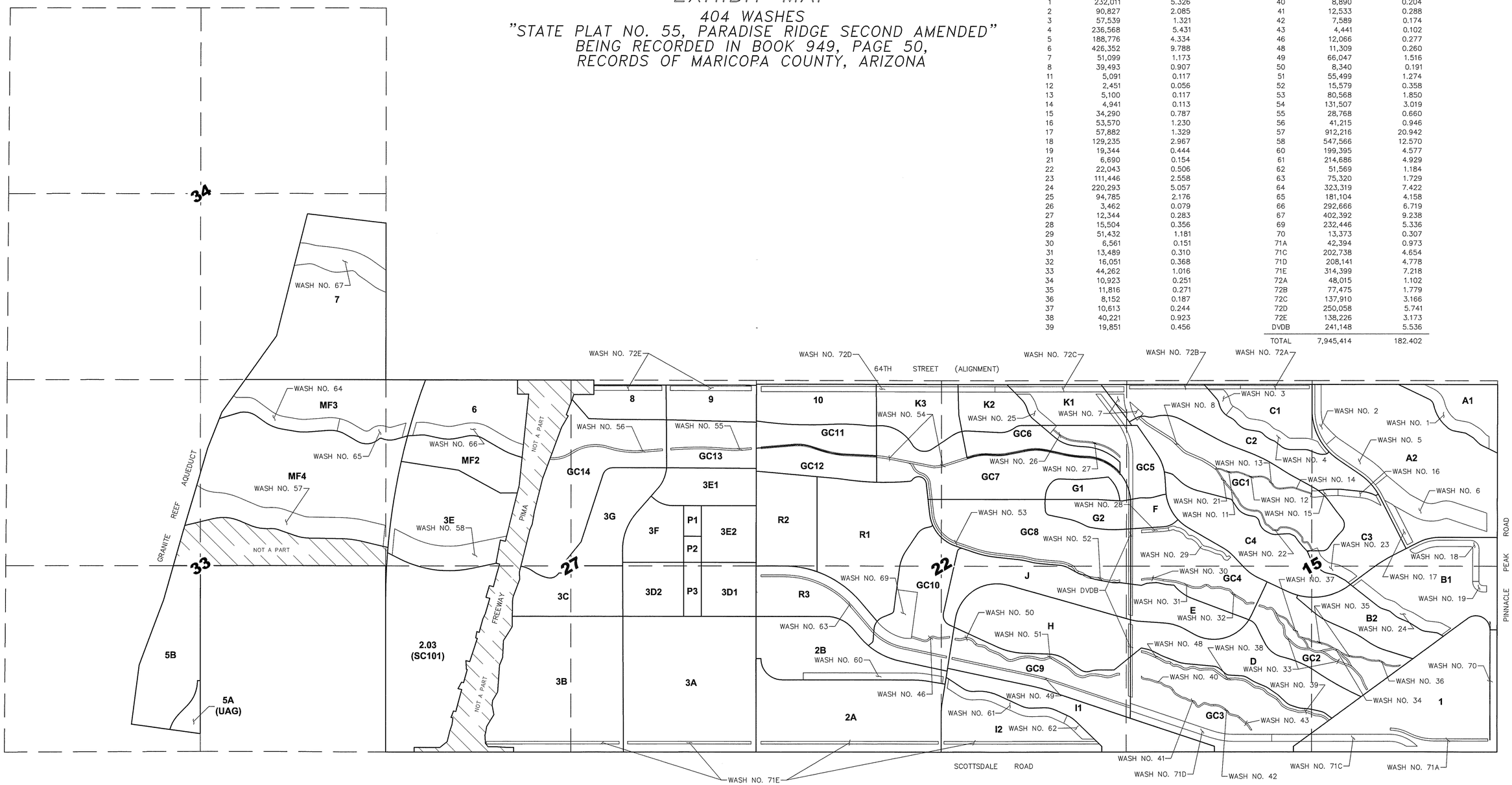
10. Schedule for delivering the draft and final data recovery report (no later than 1 year from end of fieldwork date).

EXHIBIT MAP

404 WASHES
"STATE PLAT NO. 55, PARADISE RIDGE SECOND AMENDED"
BEING RECORDED IN BOOK 949, PAGE 50,
RECORDS OF MARICOPA COUNTY, ARIZONA

WASH AREAS

WASH NO.	SF±	AC±	WASH NO.	SF±	AC±
1	232,011	5.326	40	8,890	0.204
2	90,827	2.085	41	12,533	0.288
3	57,539	1.321	42	7,589	0.174
4	236,568	5.431	43	4,441	0.102
5	188,776	4.334	46	12,066	0.277
6	426,352	9.788	48	11,309	0.260
7	51,099	1.173	49	66,047	1.516
8	39,493	0.907	50	8,340	0.191
11	5,091	0.117	51	55,499	1.274
12	2,451	0.056	52	15,579	0.358
13	5,100	0.117	53	80,568	1.850
14	4,941	0.113	54	131,507	3.019
15	34,290	0.787	55	28,768	0.660
16	53,570	1.230	56	41,215	0.946
17	57,882	1.329	57	912,216	20.942
18	129,235	2.967	58	547,566	12.570
19	19,344	0.444	60	199,395	4.577
21	6,690	0.154	61	214,686	4.929
22	22,043	0.506	62	51,569	1.184
23	111,446	2.558	63	75,320	1.729
24	220,293	5.057	64	323,319	7.422
25	94,785	2.176	65	181,104	4.158
26	3,462	0.079	66	292,666	6.719
27	12,344	0.283	67	402,392	9.238
28	15,504	0.356	69	232,446	5.336
29	51,432	1.181	70	13,373	0.307
30	6,561	0.151	71A	42,394	0.973
31	13,489	0.310	71C	202,738	4.654
32	16,051	0.368	71D	208,141	4.778
33	44,262	1.016	71E	314,399	7.218
34	10,923	0.251	72A	48,015	1.102
35	11,816	0.271	72B	77,475	1.779
36	8,152	0.187	72C	137,910	3.166
37	10,613	0.244	72D	250,058	5.741
38	40,221	0.923	72E	138,226	3.173
39	19,851	0.456	DVDB	241,148	5.536
			TOTAL	7,945,414	182.402



660 0 330 660 1320
1 inch = 660 ft.

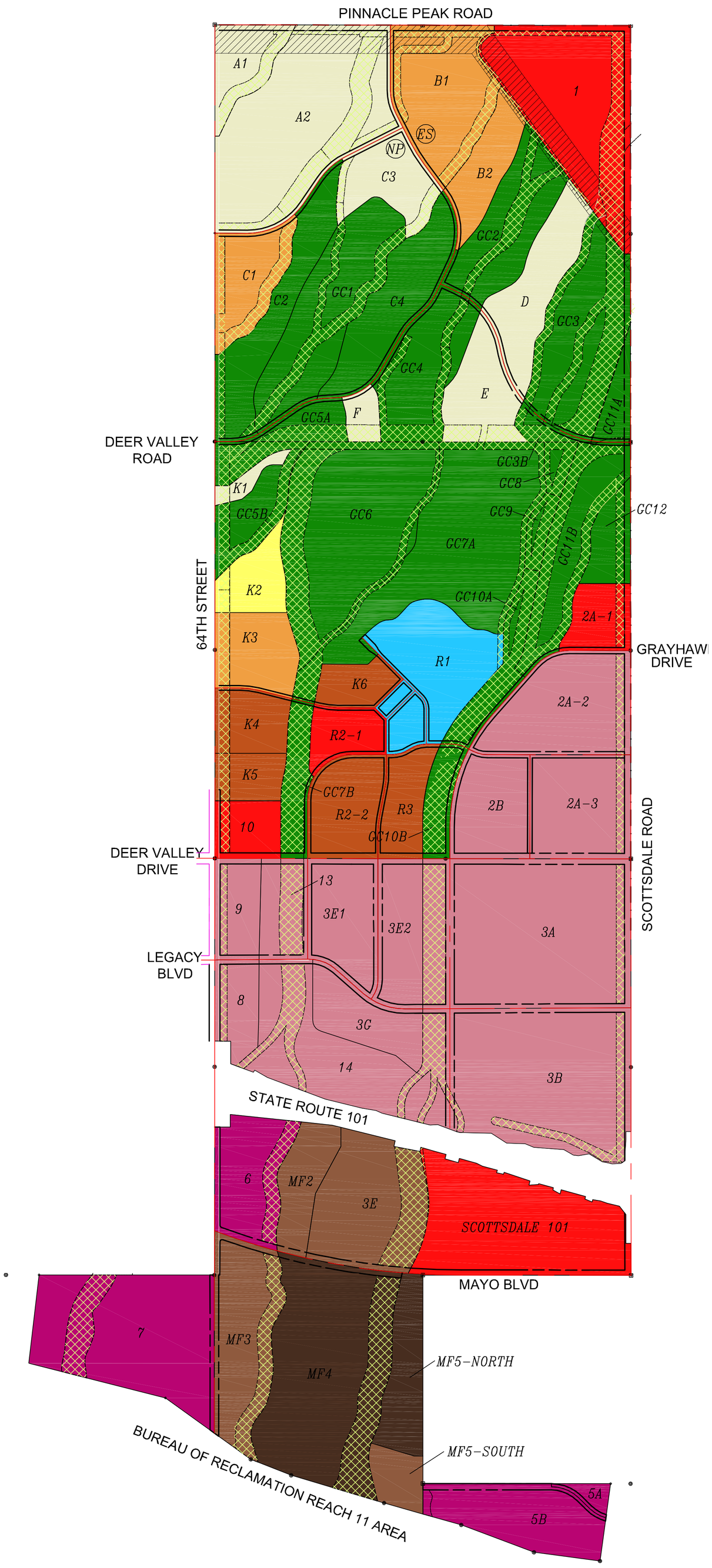
REGISTERED LAND SURVEYOR
CERTIFICATE NO.
17548
EDWARD F.
VINCENT
Date Signed 03-20-08
ARIZONA, U.S.A.
EXPIRES 09/30/10

EXHIBIT MAP
404 WASHES
"STATE PLAT NO. 55, PARADISE RIDGE SECOND AMENDED"
BEING RECORDED IN BOOK 949, PAGE 50,
RECORDS OF MARICOPA COUNTY, ARIZONA

OLSSON ASSOCIATES
7250 North 16th Street, Suite 210
Phoenix, AZ 85020-5282
TEL 602.748.1000
FAX 602.748.1001
www.oaconsulting.com

DATE: 01-30-08
DRN BY: BES
CHKD BY: EFV
JOB NO. 061250
SHEET 1 OF 1

DWG: F:\Projects\009-1321_CMLD\Exhibits\LAND USE\Land Use.dwg USER: lswartz
DATE: Apr 08, 2010 7:01am



PARADISE RIDGE LAND USE SUMMARY								
DEVELOPMENT UNIT (PARCEL NO.)	GROSS ACREAGE (AC)	ZONING DISTRICT	PROPOSED LAND USE	PROPOSED ALLOCATION OF DWELLING UNITS	PROPOSED DWELLING UNIT DENSITY (DU/AC)	PROPOSED ALLOCATION OF HOTEL ROOMS	PROPOSED GROSS LEASABLE AREA (SQ FT)	PROPOSED FLOOR AREA RATIO (FAR)
SECTION 15								
1	73.9	C-2	COMM				804,771	0.25
A1	18.2	R1-10	SFR	81	4.5			
A2	92.4	R1-10	SFR	415	4.5			
B1	47.3	R1-6	SFR	307	6.5			
B2	19.8	R1-6	SFR	128	6.5			
C1	25.8	R1-6	SFR	167	6.5			
C2	35.4	R1-10 SP	GOLF	160	4.5			
C3	24.3	R1-10	SFR	108	4.5			
C4	36.7	R1-10 SP	GOLF	165	4.5			
D	31.6	R1-10	SFR	142	4.5			
E	25.0	R1-10	SFR	112	4.5			
F	6.3	R1-10	SFR	28	4.5			
GC1	52.5	R1-10 SP	GOLF	236	4.5			
GC2	36.3	R1-10 SP	GOLF	163	4.5			
GC3A	53.8	R1-10 SP	GOLF	242	4.5			
GC3B	4.5	R1-10 SP	GOLF	20	4.5			
GC4	36.3	R1-10 SP	GOLF	163	4.5			
GC5A	10.7	R1-10 SP	GOLF	48	4.5			
GC11A	8.8	R1-10 SP	GOLF	40	4.5			
SECTION 22								
2A-1	15.1	C-2	MFR / HOTEL	263	17.4			
2A-2	47.7	C-2 M-R	COMM / MFR	215	4.5		1,038,906	0.5
2A-3	38.7	C-2 M-R	COMM				842,886	0.5
2B	19.4	C-2 M-R	MFR	338	17.4			
10	14.1	C-2	COMM				153,549	0.25
GC5B	25.6	R1-10 SP	GOLF	115	4.5			
GC6	84.5	R1-10 SP	GOLF	380	4.5			
GC7A	88.4	R1-10SP	GOLF	398	4.5			
GC7B	14.5	R1-10 SP	GOLF	65	4.5			
GC8	4.9	R1-10 SP	GOLF	22	4.5			
GC9	5.6	R1-10 SP	GOLF	25	4.5			
GC10A	18.7	R1-10 SP	GOLF	84	4.5			
GC10B	9.9	R1-10 SP	GOLF	45	4.5			
GC11B	37.4	R1-10 SP	GOLF	168	4.5			
GC12	13.1	R1-10 SP	GOLF	59	4.5			
K1	4.6	R1-10	SFR	21	4.5			
K2	15.9	R1-8	SFR	87	5.5			
K3	24.3	R1-6	SFR	158	6.5			
K4	16.0	R-2	MFR	192	12			
K5	12.1	R-2	MFR	145	12			
K6	12.1	R-2	MFR	145	12			
R1	49.8	RH	RESORT	196	3.94	800		
R2-1	15.7	C2	COMM / MFR	273	17.4		59,895	0.09
R2-2	39.7	R2	MFR	476	12			
R3	11.7	R2	MFR	140	12			
SECTION 27 NORTH OF SR 101								
3A	114.9	C-2 M-R	COMM / MFR / HOTEL	1996	17.4	400	2,799,601	0.6
3B	102.3	C-2 M-R	COMM / MFR	1773	17.4		2,623,619	0.6
3C	-	C-2 M-R	COMM / MFR	-	-		-	-
3D1	-	C-2 M-R	COMM / MFR	-	-		-	-
3E1	30.6	C-2 M-R	MFR	532	17.4			
3E2	24.8	C-2 M-R	MFR	431	17.4			
3G	23.2	C-2 M-R	COMM				505,296	0.5
8	15.0	C-2 M-R	COMM				266,587	0.4
9	17.1	C-2 M-R	MFR	297	17.4			
13	17.7	C-2 M-R	COMM	307	17.4			
14	52.5	C-2 M-R	COMM				586,971	0.25
AREA NORTH OF SR 101 SUB-TOTAL	**1,677**			**12,071**		**1,200**	**9,682,081**	
SECTION 27 SOUTH OF SR 101 / SECTION 34								
3E	49.6	R3-A	MFR	1145	23.1			
5B	35.5	CP/BP	COMM / HOTEL			250	386,595	0.25
6	31.1	CP/BP	COMM				677,358	0.5
7	76.9	CP/BP	COMM				1,172,417	0.35
MF2	19.2	R3-A	MFR	443	23.1			
MF3	43.9	R3-A	MFR	1014	23.1			
MF4	94.5	R3-A	MFR	2182	23.1			
PREVIOUSLY AUCTIONED PARCELS								
5A	3.6	CP/BP	COMM				39,204	0.25
MF 5 South	10.7	R3-A	MFR	189	17.7			
MF5 North	22.7	R-5	MFR	967	42.6			
SC101	72.7	C-2	COMM				637,075	
AREA SOUTH OF SR 101 SUB-TOTAL	**460.4**			**5,940**		**250**	**2,912,649**	
TOTAL	**2,137.6**			**18,017**		**1,450**	**12,594,730**	

LEGEND

	PARCEL LINE		R1-10		CP/BP
	ROW		R1-8		C-2
A1	PARCEL NUMBER		R1-6		C-2 M-R
NP	NEIGHBORHOOD PARK		R2		RH (RESORT)
ES	ELEMENTARY SCHOOL		R3-A		R1-10 SP (GOLF COURSE)
	WASH/DRAINAGE CORRIDOR		R-5		C-2 M-R SP
	OVERHEAD UTILITY CORRIDOR				

NOTES:

1. THOSE PARCELS WITH R1-10 SP OR C-2 M-R SP ZONING WITH PROPOSED LAND USE OF GOLF MAY ALSO INDICATE A PROPOSED ALLOCATION OF DWELLING UNITS OR COMMERCIAL DENSITY. THESE UNITS HAVE BEEN INDICATED FOR INFRASTRUCTURE MASTER PLANNING PURPOSES ONLY. DEVELOPMENT OF THESE PARCELS WITH A USE OTHER THAN GOLF WOULD REQUIRE A MAJOR PLAN AMENDMENT TO REMOVE THE SPECIAL PERMIT. IN LIEU OF A MAJOR AMENDMENT, A DENSITY TRANSFER TO ADJACENT PARCELS MAY ALSO BE CONSIDERED.
2. STREET AND DRAINAGE CORRIDOR ALIGNMENTS AS INDICATED ON THE LAND USE PLAN ARE CONCEPTUAL AND ARE SHOWN FOR PLANNING PURPOSES ONLY. FINAL ROADWAY AND DRAINAGE CORRIDOR ALIGNMENTS SHALL BE DETERMINED AT THE TIME OF SUBMITTAL AND APPROVAL OF FUNCTIONAL SEGMENT MASTER STREETS AND DRAINAGE PLANS.
3. GROSS ACREAGES FOR THOSE PARCELS IMMEDIATELY NORTH OF SR101 DO NOT ACCOUNT FOR RIGHT-OF-WAY WHICH MAY BE ACQUIRED FOR A FUTURE FRONTAGE ROAD. GROSS ACREAGES ARE TAKEN TO THE EXISTING SR101 RIGHT-OF-WAY.
4. WITH THE EXCEPTION OF PARCELS GC5A/GC5B & GC11A/GC11B, ALL PARCEL GROSS ACREAGES ARE CALCULATED TO THE CENTERLINE OF ADJACENT PROPOSED RIGHTS-OF-WAY. ACREAGES FOR GC5A/GC5B & GC11A/GC11B ARE TAKEN TO THE ADJACENT SECTION LINE.
5. WITH THE EXCEPTION OF SECTION 22, ALL PARCEL BOUNDARIES, ROADWAY ALIGNMENTS & RIGHT-OF-WAY CORRIDORS AS SHOWN WERE CREATED UTILIZING LINE WORK FROM THE STATE PLAT No. 55 FOR PARADISE RIDGE, COMPLETED BY OLSSON ASSOCIATES IN SEPTEMBER 2007. LINE WORK FOR SECTION 22 WAS CREATED BASED ON LINE WORK RECEIVED FROM WOODBINE SOUTHWEST/GANNETT FLEMING IN FEBRUARY 2009.
6. PARCELS R-1, 2A-2 & 2A-3 ARE ONLY PARTIALLY ZONED MID-RISE. THE SPECIFIC LOCATION OF THE MID-RISE OVERLAY ZONING WITHIN EACH OF THESE PARCELS WILL BE DETERMINED AT THE TIME OF PRELIMINARY SITE PLAN APPROVAL.

N

800 400 0 800 1600
SCALE FEET

drawn by: VTN
designed by:
checked by: LJS
project no.: 009-1321
date: 03.30.10

SHEET 1 of 1

LAND USE PLAN
LOOP 101 & SCOTTSDALE ROAD

PARADISE RIDGE
PALISENE

PHOENIX, ARIZONA 2010

REV. NO.	DATE	REVISIONS DESCRIPTION

REVISIONS

PRELIMINARY

OLSSON ASSOCIATES
7250 North 16th Street, Suite 210
Phoenix, AZ 85020-5282
TEL 602.748.1000
FAX 602.748.1001
www.oaconsulting.com

Paradise Ridge
JN 06-1250
404 Legals

LEGAL DESCRIPTION

WASH NO. 66

A PORTION OF TRACT 6 OF "STATE PLAT NO. 55, PARADISE RIDGE SECOND AMENDED", BEING RECORDED IN BOOK 949, PAGE 50, RECORDS OF MARICOPA COUNTY, ARIZONA, AND BEING LOCATED IN THE SOUTHWEST QUARTER OF SECTION 27, TOWNSHIP 4 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID TRACT 6;

THENCE N03°37'52"W, ALONG THE EASTERLY LINE OF SAID TRACT 6, A DISTANCE OF 73.95 FEET TO THE BEGINNING OF A NON-TANGENT CURVE WHOSE RADIUS BEARS N15°15'13"E A DISTANCE OF 8,930.16 FEET;

THENCE WESTERLY 95.30 FEET ALONG THE ARC OF SAID CURVE, BEING PARALLEL WITH AND 70.00 FEET NORTHERLY OF THE SOUTHERLY LINE OF SAID TRACT 6, BEING CONCAVE TO THE NORTH, THROUGH A CENTRAL ANGLE OF 00°36'41", SAID POINT BEING THE **POINT OF BEGINNING** OF A 180.00 FOOT WIDE CORRIDOR, 90.00 FEET LYING ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE;

THENCE N03°37'52"W, A DISTANCE OF 97.51 FEET TO THE BEGINNING OF A TANGENT CURVE;

THENCE NORTHERLY 95.67 FEET ALONG THE ARC OF SAID CURVE, BEING CONCAVE TO THE EAST, HAVING A RADIUS OF 350.00 FEET, THROUGH A CENTRAL ANGLE OF 15°39'43";

THENCE N12°01'51"E, A DISTANCE OF 193.98 FEET TO THE BEGINNING OF A TANGENT CURVE;

THENCE NORTHERLY 207.19 FEET ALONG THE ARC OF SAID CURVE, BEING CONCAVE TO THE WEST, HAVING A RADIUS OF 500.00 FEET, THROUGH A CENTRAL ANGLE OF 23°44'30";

THENCE N11°42'40"W, A DISTANCE OF 156.41 FEET TO THE BEGINNING OF A TANGENT CURVE;

THENCE NORTHERLY 290.69 FEET ALONG THE ARC OF SAID CURVE, BEING CONCAVE TO THE EAST, HAVING A RADIUS OF 400.00 FEET, THROUGH A CENTRAL ANGLE OF 41°38'18";

THENCE N29°55'39"E, A DISTANCE OF 297.27 FEET TO THE BEGINNING OF A TANGENT CURVE;

THENCE NORTHEASTERLY 228.52 FEET ALONG THE ARC OF SAID CURVE, BEING CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 1,000.00 FEET, THROUGH A CENTRAL ANGLE OF 13°05'35";

THENCE N16°50'03"E, A DISTANCE OF 58.85 FEET TO THE **POINT OF ENDING.**

EXCEPTING THEREFROM, ANY PORTION LYING WITHIN THE SOUTHERLY 70.00 FEET OF SAID TRACT 6, AND ALSO;

EXCEPTING THEREFROM, ANY PORTION LYING WITHIN THE PIMA FREEWAY RIGHT-OF-WAY.

SAID PARCEL CONTAINS 292,666 SQUARE FEET
OR 6.719 ACRES, MORE OR LESS.

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
17548
EDWARD F.
VINCENT
Date Signed
ARIZONA, U.S.A.
Expires 09-30-2010

OLSSON ASSOCIATES | 7250 NORTH 16TH STREET, SUITE 210
PHOENIX, ARIZONA 85020 | (602) 748-1000

APPENDIX D.14
PARADISE RIDGE TRANSFER FORMS

ASLD INSTRUMENT NO. _____

PARADISE RIDGE

ACKNOWLEDGEMENT OF RECEIPT OF
CLEAN WATER ACT SECTION 404 INDIVIDUAL PERMIT NO. 1999-16129-RWF
TERMS AND CONDITIONS, AND SECTION 401 WATER QUALITY CERTIFICATION

The undersigned hereby acknowledges that on the date stated below he/she/it has received and reviewed, in the entirety, the following documents:

(1) Clean Water Act Section 404 Individual Permit No. 1999-16129-RWF; and

(2) Clean Water Act Section 401 Water Quality Certification from the Arizona State Land Department of Environmental Quality dated April 4, 2012.

Name of Entity:_____

Mailing address of Entity:_____

Phone number:_____

_____ _____
Signature Date

_____
Printed name, title and authority of signer

State of _____)
)
County of _____)

The foregoing instrument was acknowledged before me this ___th day of _____, 20_____,

by _____ (name of person acknowledging).

_____ (seal)
Notary Public

ASLD INSTRUMENT NO. _____

PARADISE RIDGE

CLEAN WATER ACT SECTION 404 INDIVIDUAL PERMIT, &
CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION

TRANSFER VALIDATION FORM
PERMIT NO. 1999-16129-RWF

If either the structures or work authorized by this permit are still in existence or the activities authorized under this permit are uncompleted at the time of property transfer, the terms and conditions of this permit pertaining to such property will be fully assumed by and continue to be legally binding upon the transferee of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____ _____
Transferee Date

State of _____)
)
County of _____)

The foregoing instrument was acknowledged before me this ___th day of _____, 20_____,

by _____ (name of person acknowledging).

_____ (seal)
Notary Public

ASLD INSTRUMENT NO. _____

PARADISE RIDGE

CLEAN WATER ACT (CWA) SECTION 404 INDIVIDUAL PERMIT
& CWA SECTION 401 WATER QUALITY CERTIFICATION
TERMS AND CONDITIONS
ACKNOWLEDGEMENT FORM
PERMIT NO. 1999-16129-RWF

I have read the CWA Section 404 Individual Permit No. 1999-16129-RWF in its entirety. I understand the contents and acknowledge my responsibility to ensure compliance with all of the general and special conditions contained therein. I understand that any violation of the permit is enforceable by the U.S. Army Corps of Engineers. I further understand that the mitigation bond will be used to pay for any and all features of the natural and/or reconstructed riparian wash corridors that I do not successfully complete. Furthermore, I have also read the terms and conditions of the CWA Section 401 Water Quality Certification from the Arizona Department of Environmental Quality dated April 4, 2012. I understand that any violation of the certification is enforceable by the U.S. Environmental Protection Agency.

If either the structures or work authorized by this permit are still in existence or the activities authorized under this permit are uncompleted at the time of property transfer, the terms and conditions of this permit pertaining to such property will be fully assumed by and continue to be legally binding upon the transferee of the property. As a Transferee or Project Manager/Engineer of Permit No. 1999-16129-RWF, I agree to comply with the terms and conditions & the associated liabilities.

1. Print the name of the Transferee (owner/lessee)_____
   Company/firm name_____
   Complete address_____
   Phone number _____

   _____ _____ _____
   Signature of Transferee Date

2. Print the name of the Project Manager/Engineer _____
   Company/Firm name _____
   Complete address _____
   Phone number _____

   _____ _____ _____
   Signature of Project Manager/Engineer Date

   The foregoing instrument was acknowledged before me this ___th day of _____, 20_____, by _____ (name of person acknowledging).

   _____ (seal)
   Notary Public

3. Attach the following:
   - Project Schedule including tasks, duration (in weeks), estimated starting date, estimated completion date.
   - List of contractor(s), address(es), phone number(s).
   - Project Location Map, and maps & detailed drawings depicting location and proposed development.
   - A memo describing the mitigation and/or historic obligation associated with the subject property.

4. Return this original form and 1 copy, including the attachments to: Engineering Section, Arizona State Land Department, 1616 West Adams Street, Phoenix, AZ 85007.

5. Retain a copy for your files.

PARADISE RIDGE

MAINTENANCE FUND ACKNOWLEDGEMENT

PARCEL NUMBER: _____

NO. OF ACRES: _____ x $50.00/acre = $ _____

The Arizona State Land Department (ASLD) has set up a trust account for the express purpose of funding continuing irrigation, maintenance, and monitoring activities for the Paradise Ridge Development Project.

This is to acknowledge receipt of $_____ from _____ (Transferee) for deposit into the Maintenance Fund. This deposit shall be non-refundable.

_____ _____

Transferee Arizona State Land Department

Please make check payable to: ASLD Maintenance Fund

APPENDIX E
CD CONTAINING DIGITAL FILES