Final

Project Assessment

for

Park Avenue Transportation Enhancement

Park Avenue from Speedway Boulevard to Fort Lowell Road

Project No. TEA-TUC 0(219)A
TRACS No. 0000 PM TUC SL638 01C
TIP ID #107.08

Prepared for:
City of Tucson
Department of Transportation
201 N. Stone Avenue
Tucson, AZ 85701

Submitted to
Arizona Department of Transportation

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1.0 Introduction

Project Number:	TEA-TUC 0(219)A
TRACS Number:	0000 PM TUC SL638 01C
TIP ID #:	107.08
Project Name:	Park Avenue Enhancement Project
Route Number:	Park Avenue: Speedway Avenue to Fort Lowell Road
ADOT District:	Tucson
ADOT Contact:	Natalie Clark
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This project is located within the City of Tucson, Pima County, Tucson District.

This project assessment document has been prepared to present pertinent information related to the Park Avenue Enhancement Project, located in the City of Tucson, Pima County Arizona. The project will provide improved pedestrian and bicycle amenities within the existing right-of-way along the approximately two-mile long segment of Park Avenue between Speedway Boulevard and Fort Lowell Road. Park Avenue is classified as an urban collector roadway. Improvements include; a pedestrian path primarily along the west side of Park Avenue (on the east side from Copper Street to Blacklidge Drive), enhanced pedestrian crossings at two intersections, upgrading or reconstructing bicycle lanes, and landscaping with water harvesting.

The State Map and Project Location Map are shown in Pages 22 and 23, respectively. The 15% plan sheets are attached, beginning on Page 24.

This project is included in the 2010-2014 Pima Association of Governments (PAG) 5-Year Regional Transportation Improvement Program (TIP) as TIP #107.08. Funding for the project will be provided through a combination of Federal Transportation Enhancement (TE) funding and Regional Transportation Authority (RTA) local match funds. The estimated costs of the project are as shown in Table 1 and an itemized project cost estimate is provided on Page 19.

Table 1. Estimated Project Costs

Project Phase	**Totals**	**TE Funds**	**Local Funds (11%)**
Estimated Design Costs:			
Project Development (PA, Stage II)	$ 52,135		$ 52,135
Final Design (Stage III, IV &V)	$ 33,446	$ 23,878	$ 9,568
Estimated Construction Costs:			
Construction	$ 418,070	$ 418,070	
Construction Engineering/Administration	$ 57,010	$ 57,010	
Total Project Costs	**$ 560,661**	**$ 498,958**	**$ 61,703**

The City of Tucson will bid and administer the construction of this project according to the City's certification acceptance procedures.

This project was initiated through collaborating neighborhoods utilizing a service award received from a local non-profit organization, which provided the resources needed to develop and evaluate alternatives and formed the basis of the Transportation Enhancement Grant Application. The City of Tucson received notification that the project was approved for funding under Arizona TEA-21 Transportation Enhancement Round 15 in 2007. The estimated project schedule shows that the project will be bid in January 2013, with construction to begin in May 2013 and the project to be completed by November 2013. A detailed estimated project schedule is provided on Page 20.

2.0 Background Data

2.1 Summary of Need/Justification

Park Avenue from Speedway Boulevard to Fort Lowell Road is currently a two-lane urban collector roadway with 12-14 foot travel lanes and 4-6 foot paved shoulders for bicycle lanes. This segment of Park Avenue is in an area with a poverty rate higher than the City average, and serves many people who rely on alternatives to the car for getting around Tucson's urban core. Users include students going to the University of Arizona and to a local elementary and high school, residents frequenting shops and other services along the three intersecting arterials and bus users walking to one of the 12 stops along the segment of Park Avenue.

The majority of the two-mile long segment of Park Avenue is signed as a bike route, and 12 active bus stops exist along the segment. Because of the proximity to the University of Arizona as well as being situated on a bus route, the segment continues to serve a growing population using alternative transportation, including walking and cycling.

While bicycle lanes are provided for the majority of the segment of Park Avenue from Speedway Boulevard to Fort Lowell Road, the lanes are not consistently or properly delineated in many areas. Many sections of the corridor have poor pavement condition, degraded edge of pavement or insufficient bicycle lane width. Existing pedestrian facilities along Park Avenue are not continuous, with sidewalks of varying width and state of repair. Approximately 35 percent of the west side and approximately 10 percent of the east side of the corridor are ADA accessible. Because of the segmented nature of the facilities, pedestrians must currently walk between the sections of sidewalk on the gravel/dirt roadway edge or within the roadway itself. Landscaping is limited along the project corridor.

This TE project is aimed at providing users a continuous, ADA compliant, environment for alternative transportation choices in walking and biking along the corridor and in connecting the neighborhoods to transit services. Pedestrian connectivity will be improved through a pedestrian path along the length of Park

Avenue from Speedway Boulevard to Fort Lowell Road. The proposed path would be constructed along only one side of Park Avenue to avoid utility and right-of-way conflicts.

The proposed pedestrian path will be ADA compliant and will provide an affordable alternative to walking in the bicycle or travel lane where sidewalk does not currently exist. Pedestrian facilities will be enhanced at the two intersections where the path crosses Park Avenue. Path materials will be determined in final design. It is expected that a combination of concrete sidewalk, asphalt, and/or decomposed granite will be used, depending on existing materials and anticipated usage.

Bicycle travel will be improved through rebuilding, restriping and better delineating the outer edge of the bike lanes. These improvements will contribute to a more bicycle-friendly passage for this key bike route to the University of Arizona.

Native vegetation will be planted to provide shade and a more attractive roadside, and water harvesting will be used where opportunity exists, for long-term irrigation to contribute to a more sustainable environment.

2.2 Project Development Summary

This project started as a collaborative effort of five neighborhoods with a population of 11,300 in the vicinity of North Park Avenue to seek ways to address immediate safety concerns while acknowledging right-of-way and budget constraints.

To initiate the project, collaborating neighborhoods utilized a service award received from a local non-profit. The award provided professionals to help develop enhancement alternatives and to work with the neighborhoods to select a preferred alternative, which became the basis of the original Transportation Enhancement Grant Application in August 2007.

The public process used included a neighborhood steering committee, an interactive workshop to gather ideas, a meeting to review alternatives and select one for further development, and outreach to stakeholders including the University of Arizona and the Commission on Disability Issues. In addition to this effort, several other planning efforts with extensive community involvement helped build the foundation for this project. These include the *Mountain/1st Neighborhood Plan* and the *Jefferson Park Landscape Master Plan*, both of which identify the need for pedestrian and bicycle improvements on Park Avenue, and the University's *Parking and Transportation Plan*, which recognizes Park Avenue as a key bikeway needing enhancement.

2.3 Original and Subsequent Construction Projects

This project was included under the Pima Association of Governments Regional Transportation Improvement Program as 107.08. The TIP includes other similar projects that are shown in Table 2 below.

Table 2. Related TIP Projects

TIP ID #	Project Name	Project Description	Status
37.05	Cambio Grande Street Revitalization	Provide and upgrade pedestrian amenities and streetscaping	Final Design
32.06	Campbell Avenue Revitalization	Provide streetscaping, bus and pedestrian amenities	Design
103.08	Five Points Transportation Enhancement Project	Fill in gaps in pedestrian network. New sidewalks and lighting.	In Project Development
105.08	Columbus Corridor Pedestrian Path	Construct 6-foot wide pedestrian path on one side.	In Project Development
83.07	El Paso & Southwestern Greenway	Construct new bike path.	In Project Development

2.4 Project Area

This project is located on North Park Avenue from Speedway Boulevard to Fort Lowell Road at the northern terminus of Park Avenue, in the City of Tucson, Pima County Arizona. The project area is located approximately 1.5 miles northeast of the downtown Tucson Central Business District and begins on the northern edge of the University of Arizona. The project segment of Park Avenue runs in a north-south bearing through Section 6, Township 14 South, Range 14 East and Section 31, Township 13 South, Range 14 East. The project is approximately two miles in length.

2.5 Project Corridor Description

Park Avenue from Speedway Boulevard to Fort Lowell Road is a two-lane urban collector with a posted speed limit of 30 miles per hour. Vehicle lane widths vary between 12-14 feet. The majority of the project roadway segment has some form of paved shoulder varying in width between 4-6 feet (in varying degrees of repair) and is signed as a bicycle route.

Roadside treatments vary widely along the corridor. Some sections exist with vertical curb, buffer strip, concrete sidewalk and landscaping. Other sections have gravel/dirt strips separating a concrete sidewalk from the edge of pavement, while the majority of the corridor has no pedestrian amenities or landscaping in the roadside. Existing sidewalks range in width from 4 to 6 feet. Continuous roadway lighting does not exist along project corridor, though intersection lighting exists at most cross-street intersections between Speedway Boulevard and Grant Road.

Traffic signals on the project section exist at Speedway Boulevard and Grant Road, with a HAWK pedestrian signal on Ft Lowell Road at Park Avenue. The intersection of Park Avenue and Glenn Street is a four-way stop-controlled intersection with flashing beacons to increase visibility. All other sidestreets along Park Avenue are two-way stop-controlled on the intersecting street approaches with Park Avenue as the major roadway.

Residences line the corridor, including public and private apartment buildings housing students and primarily low-income tenants. Access to residences is generally uncontrolled. Driveways are only provided where curb exists; most residences utilize the entire property frontage for head-in or back-in parking where no curb exists. No on-street parking is provided along the project corridor, though the shoulder is often utilized for parking where no curb exists, sometimes partially blocking the bicycle lanes.

This collector roadway leads directly to the University of Arizona and intersects with three major urban arterials (Speedway Boulevard, Grant Road and Fort Lowell Road) that provide many services for residents. The corridor is relatively flat terrain with some long, flat grades and generally follows a straight north-south alignment, with a slight jog to the east at Copper Street. The existing Park Avenue right-of-way within the project corridor ranges from 50-86 feet in width, though for the majority of the corridor is between 55-75 feet wide. The project will be completed entirely within the existing right-of-way, owned by the City of Tucson, with no additional right-of-way needed to accomplish the project.

As shown in Table 3 below, there are twelve bus stops currently located along Park Avenue within the project limits. All twelve are located between Speedway Boulevard and Glenn Street, as bus service does not currently exist north of Glenn Street. Four of the bus stops have bus loading pads, shelters, benches and trash cans. Additionally, one other has a bench only, and two others have a trash can only. Many bus stop locations do not currently have curb ramps or ADA accessibility from the nearest side street along Park Avenue, or bus pads to provide wheelchair accessibility at the stop itself. The ADA accessibility of each stop is provided in Table 3, based on field observations provided by a wheelchair-bound resident.

Table 3. Current Bus Stops and Bus Stop Amenities

Location	Bus Stop Sign	Bench	Shelter	Other	ADA Access
NB at Speedway	On Shelter	In Shelter	Type F	Trash Can	Fully Accessible
NB at Drachman	On Pole	None	None	None	Flat – Needs Curb Cut
SB at Drachman	On Pole	Ad Bench	None	None	Flat – Needs Curb Cut
NB at Elm	On Pole	None	None	None	Flat – Needs Curb Cut
SB at Elm	On Pole	None	None	None	Flat – Needs Curb Cut
NB at Waverly	On Pole	None	None	None	Flat – No Curb
SB at Waverly	On Pole	None	None	None	Flat
NB at Grant	On Shelter	In Shelter	Type F	Trash Can	Flat
SB at Grant	On Shelter	In Shelter	Type F	Trash Can	Flat
NB at Copper	On Pole	None	None	Trash Can	Flat – No Curb
SB at Copper	On Shelter	In Shelter And Outside Shelter	Type G	Trash Can	Fully Accessible
NB at Glenn	On Pole	None	None	Trash Can	Fully Accessible

2.6 Background Traffic Volumes

Daily traffic volumes for the project segment of Park Avenue were obtained from the Pima Association of Governments (PAG) 2007 Tucson Traffic Volumes Map. The most recent data available on the map for Park Avenue was from 2005. Average two-way daily traffic volumes on Park Avenue in 2005 were found to be approximately 10,000 vehicles per day from Speedway Boulevard to Grant Road, and approximately 6,000 vehicles per day from Grant Road to Ft Lowell Road.

2.7 Traffic Crash History

Vehicle crash statistics were obtained from Tucson Police Department (TPD) for the study segment of Park Avenue from Speedway Boulevard to Fort Lowell Road, for the most recent five years of available data (August 2004 through July 2009). Table 4 provides a summary of the crashes along the study corridor during this time period.

As shown in Table 4, a total of 215 crashes occurred in the five year period from August 2004 through July 2009. Of these crashes, one crash (0.5%) resulted in fatality, 72 (33.5%) resulted in bodily injury and 142 (66.0%) resulted in property damage only. The majority of crashes were found to be rear-end (30.7%), angle (26.5%) and left-turn (14%) type collisions. It is also important to note that four crashes in the five year period involved bicycles, and four crashes involved pedestrians.

Table 4. Project Area Crash History

Crash Type/Severity	Number of Crashes		
	Total (Aug. 2004 – July 2009)	**% of Total**	**5-Year Average (Crashes per Year)**
Fatal	1	0.5%	0.2
Injury	72	33.5%	14.4
Property Damage Only	142	66.0%	28.4
Total	**215**	**100.0%**	**43.0**
Rear-End	66	30.7%	13.2
Angle	57	26.5%	11.4
Left-Turn	30	14.0%	6.0
Right-turn	2	0.9%	0.4
Sideswipe	5	2.3%	1.0
Head-On	4	1.9%	0.8
U-Turn	2	0.9%	0.4
Single Vehicle	11	5.1%	2.2
Backing	2	0.9%	0.4
Fixed Object	1	0.5%	0.2
Bicycle	4	1.9%	0.8
Pedestrian	4	1.9%	0.8
Other/Unknown	27	12.6%	5.4
Total	**215**	**100.0%**	**43.0**

2.8 Drainage and Watersheds

The only existing drainage structures in the project area are located at the Park Avenue and Fort Lowell Road intersection. Drainage water is collected by catch basins on the southeast and southwest corners of the intersection. Water is conveyed by 24-inch reinforced concrete pipe (RCP) across Park Avenue from the east catch basin to the west catch basin, then by 24x38-inch RCP to a manhole near the centerline of Fort Lowell Road. Water is then conveyed west via 24x38-inch RCP down Fort Lowell Road.

Along the length of the project, drainage is generally not controlled. Where curb exists, water flows along the edge of the road surface. Where curb does not exist, water is shed from the roadway and flows/pools in the gravel/dirt roadside edge. Because of these drainage characteristics, roadside erosion has occurred in many areas along the corridor, causing destabilization and deterioration of the pavement edge. This project will not address drainage issues other than providing water harvesting in some locations where adequate right-of-way exists.

This project will not result in impacts on any drainage structures, stormdrains, hydraulic conveyances or canals. This project will not negatively impact the surrounding watershed.

2.9 Structures and Utilities

There are no bridges, box culverts or other structures within the Park Avenue Enhancements Project limits. This project will not result in impacts on any major structures, underpasses or railroad crossings.

Several utilities have been identified within the project area. These include:

- Cox Communications – CATV and Fiber Optic cable (underground)
- MCI – Coaxial and Fiber Optic cable (underground)
- Pima County Wastewater Management – sewer (underground)
- Qwest Local Networks – Coaxial and Fiber Optic cable (underground)
- Southwest Gas – gas (underground)
- Tucson Electric Power – electric (overhead)
- City of Tucson DOT – street lights and traffic signals (overhead, underground)
- Tucson Water – water and reclaimed water (underground)
- TW Telecom – Coaxial and Fiber Optic cable (underground)
- Xspedius Communications – communication and fiber optic cable (underground)

Major utility poles are located primarily on the east side of Park Avenue for the length of the corridor, except the segment from Copper Street to Blacklidge Drive where poles shift to the west side of Park Avenue. These poles create significant constraints to fitting a pedestrian path within the existing right-of-way, creating the need to place a path on only one side of Park Avenue, opposite the poles.

The project will be designed to avoid any major utility conflicts and thus will likely only require minor utility relocation, such as water meter adjustments.

3.0 Project Scope

3.1 Description

The scope of the Park Avenue Enhancement Project includes:

- Construction of a pedestrian path along Park Avenue from Speedway Boulevard to Ft Lowell Road:
  - Speedway Boulevard to Copper Street: Construct a 5-foot wide sidewalk on the west side of Park Avenue where existing sidewalk does not currently exist.
  - Copper Street to Blacklidge Drive: Construct a 5-foot wide decomposed granite or asphalt path on the east side of Park Avenue.
  - Blacklidge Drive to Ft Lowell Road: Construct a 5-foot wide decomposed granite or asphalt path on the west side of Park Avenue.
- Provision of enhanced pedestrian crossing at Copper Street and Blacklidge Drive where the pedestrian path is proposed to cross Park Avenue;
- Construction or upgrading of curb access ramps to ADA standards where the path is being added;
- Improving driveways for ADA access where the path is being added;
- Providing pedestrian access ramps and ADA compliant loading pads to provide ADA compliant pedestrian access to bus stops along both sides of Park Avenue from Speedway Boulevard to Glenn Street;
- Upgrading or repairing paved shoulders to provide a continuous bicycle route with adequate bicycle lane widths; and
- Installation of landscaping and water harvesting where ROW width allows.

The water harvesting strategy for Park Avenue will take advantage of opportunities available within the existing street drainage patterns. The team will look for areas were the existing grade allows water to drain to the roadway shoulder and provide swales and basins to collect this runoff and slow it down to allow infiltration. All water harvesting features will include outlet swales to allow excess water to flow out of the system.

In areas where vegetation is planted but there are not opportunities to collect water from paved areas local basins will be provided to catch the stormwater that falls directly on these localized areas. All basins will be designed to drain within 36 hours as specified in the City of Tucson Commercial Rainwater Harvesting Ordinance #10597. All landscape plants will be native to the Tucson basin.

The project will be implemented in accordance with Pima County/City of Tucson Standard Specifications for Public Improvements, 2003 Edition, which is consistent with ADOT standards.

Additional guidance manuals utilized in the project development process include:

- Transportation Access Management Guidelines for the City of Tucson, Arizona, March 2003
- City of Tucson Water Harvesting Guidance Manual, October 2005
- A Policy on Geometric Design of Highways and Streets (Green Book), AASHTO, 2004
- Manual on Uniform Traffic Control Devices (MUTCD), FHWA, 2003 Edition
- Roadside Design Guide, AASHTO, 2002
- Pima County/City of Tucson Pavement Marking Design Manual, August 2008
- City of Tucson and Pima County Standard Details for Public Improvements, 2003

Key stakeholders include the following five neighborhood associations:

- Feldman's Neighborhood Association
- North University Neighborhood Association
- Jefferson Park Neighborhood Association
- Mountain/1st Neighborhood Association
- Hedrick Acres Neighborhood Association

All key stakeholders will continue to be involved in the project development and will be invited to comment on the final design of the project. Prior to construction, a public meeting will be held to discuss the construction process. Upon completion, the neighborhoods and ADOT will be invited to the project dedication.

Federal funds in the amount of $498,958 are requested for final design and construction of this project. The local match equating to approximately 11% of the total project cost will be provided by the RTA in the amount of $61,703. After project completion, the source of funds for maintenance and operation for the entire design life of the project will be through the City of Tucson's operating budget.

Refer to Pages 22 and 23 for the State Map and Project Location Maps, respectively.

Impacts to traffic are expected to be minimal for this project, as most work will be focused on the roadside. Traffic control will be in accordance with the most current *Manual on Uniform Traffic Control Devices (MUTCD)*, published by the Federal Highway Administration. Existing traffic signals will remain operational during construction. Temporary traffic controls will likely be implemented during construction, possibly including partial lane closures and on-street parking restrictions. One travel lane in each direction will remain open at all times during construction and temporary bus stops will be used during construction to mitigate the impact to bus stops.

Some restrictions to local property accesses may occur for short periods of time, though coordination will take place with individual property owners to notify them and provide alternate parking accommodations. No detours will be required and no work will be performed during severe weather.

Access to schools, parks and historic areas will be maintained, and the Special Provisions for this project will include this requirement. This project does not include any safety related construction such as concrete safety (jersey) barriers or guardrails. No intersection improvements are proposed. Additionally, no geometric improvements are proposed for the alignment of Park Avenue. This project will not address any existing drainage or irrigation facilities.

3.2 Proposed Cross-Section

The project will be designed to fit within the existing ROW constraints along the corridor, thus, different cross-sections are expected depending on the ROW width available. Cross-section design elements held constant along the entire length of the project include a constant vehicular travel lane width of one 11-foot lane in each direction, a paved shoulder (bicycle lane) of at least 6 feet, and a pedestrian path of 5 feet where a new path is added. Cross-section elements expected to vary are the buffer/landscape/water harvesting area between the edge of pavement and the pedestrian path, and the outside utility buffer between the back of the pedestrian path and the outside of ROW.

The existing pavement width along the project corridor is expected to accommodate the proposed 11-foot vehicle travel lanes and 6-foot paved shoulder/bicycle lanes. In most cases, this represents a narrowing of the existing vehicle lane, leaving additional pavement width for the bicycle lane beyond the proposed width of 6 feet. Limited width for bike lanes and pedestrian path exists at the Grant Road signalized intersection because of the additional turn lanes needed and narrow ROW width. The detailed configuration of this intersection to accommodate the bicycle lane and pedestrian path will be finalized during the design phase.

Typical cross-sections have been developed for specific segments of the project corridor, depending on the constraints and availability of public ROW. These cross-sections are provided in the 15% plans starting on Page 24.

3.3 Striping and Pavement Markings

The project includes restriping of the existing pavement to narrow the vehicular travel lane and widen the paved shoulder/bicycle lane. Roadway striping will remain consistent with the existing striping. Pavement markings will be added at the proposed enhanced pedestrian crossings where the pedestrian path crosses Park Avenue. All striping and pavement markings will be designed and constructed in accordance with the MUTCD and City of Tucson standards.

Proposed preliminary striping is provided in the attached 15% plans starting on Page 24.

4.0 Project Development Considerations

4.1 Environmental Overview

Based on the project scope, the following environmental requirements have been evaluated as described.

4.1.1 Species Investigation – Animals and Plants

No known threatened or endangered species habitat exists in the project area. However, a species investigation will be conducted during the Environmental Clearance Process.

4.1.2 Wetland and Riparian Areas

There are no wetlands or riparian areas present within the project limits, therefore, there will be no impacts to these areas.

4.1.3 Floodplain Encroachment

A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (number 04019C1639K and 04019C2227K) identified that the entire project area is classified as Zone X in the FEMA floodplain maps. The scope of this project involves installation of ADA access ramps, pedestrian walkways, bus stop amenities, landscaping and water harvesting, and will not substantially modify the topography of the project area. Therefore, no floodplain impacts are anticipated. During the environmental clearance process, the City will coordinate with the City Floodplain manager to verify that the project will not result floodplain impacts.

4.1.4 Section 401/404

There are no jurisdictional waters within the project limits and therefore, no 404 permit and no 401 certification are required. Section 401/404 impacts will be documented during the environmental clearance process.

4.1.5 Section 4(f) Impacts

No Section 4(f) resources were identified within the project limits. Additionally, the project will be constructed entirely within the existing roadway ROW. Thus, the project will not result in any takings under Section 4(f).

4.1.6 Hazardous Materials

No know hazardous material sites exist along the project corridor. A Preliminary Initial Site Assessment (PISA) will be prepared during the environmental clearance process.

4.1.7 Socioeconomic Impacts

This project will enhance pedestrian access to residential and commercial properties along Park Avenue. It will improve the experience of bicyclists by providing wider bike lanes. The project will improve the experience of pedestrians by providing a continuous hard path separated from the roadway. Additionally, the project will improve the experience of users with disabilities by providing ADA curb access ramps along the pedestrian

path and improved access to transit stops. The path and landscaping will enhance the visual character of the neighborhoods through which the project runs.

Bus stops and access to some residential driveways will be affected for brief periods during construction and the impacts will be mitigated. Temporary bus stops will be used during construction to mitigate the impact to bus stops. No permanent adverse socioeconomic impacts are anticipated as a result of this project.

4.1.8 Cultural Resources Investigation

A cultural clearance will be conducted during the environmental clearance process.

4.1.9 Scenic or Historic Route

This project is not located along a designated scenic or historic route.

4.1.10 Public Outreach

This project was developed during an extensive coordinated neighborhood planning process. Public support for this project has been documented through the preliminary stages of the project development. Additional public outreach will be conducted during the final design of the project and the environmental clearance process.

4.1.11 AZPDES Stormwater Permit

An Arizona Pollutant Discharge Elimination System permit and a Stormwater Pollution Prevention Plan will be required for this project.

Categorical Exclusion and Technical Report documents will be prepared by the City's consultant, reviewed by the City of Tucson and then submitted for review and approval by ADOT's Environmental Planning Group.

4.2 Construction and Contract Method

Upon completion of the design, the City will competitively bid and award the project to the lowest responsive bid. The City will administer the project and has certification acceptance.

4.3 Geotechnical and Drainage Requirements

This project will be installed within the City of Tucson right-of-way, and will include water harvesting methods to collect road runoff in some locations. Curb is not proposed with this project, so drainage characteristics will not be adversely impacted. Drainage is not intended to be addressed by this project, though some roadside ditch erosion may be improved with bicycle lane improvements. Based on the scope of work, which involves only minimal ground disturbance, no geotechnical or drainage studies are warranted.

4.4 Critical Outside Agency Involvement

The areas immediately adjacent to the project limits will be affected by this project. Members of the public traveling through the area may experience minor delays associated with the construction of this project. The City will coordinate

construction activities with the City of Tucson Police Department, City of Tucson Fire Department and Sun Tran Transit Services to avoid any conflicts.

Access to residences and businesses located adjacent to the project will be temporarily impacted by this project, but access will be maintained during construction. Property owners will be notified in advance of the construction activities. In areas where on-street parking is by permit only, coordination with ParkWise will take place to provide adequate parking alternatives to property owners impacted by the construction activities.

4.5 Right-of-Way Requirements

No new right-of-way is needed for this project. Temporary construction easements may be needed as determined during the design phase of the project. The temporary easements will be cleared during the environmental clearance process.

4.6 Utility Relocation Requirements

The existing utilities within the project limits are listed in Table 5 below:

Table 5. Existing Utilities

Owner	Utility/Facility
City of Tucson DOT	Street Lighting, Traffic Signals
COX Communications	CATV Cable, Fiber Optics
City of Tucson Parks and Recreation	Electrical
MCI	Coaxial Cable, Fiber optics
Quest	Coaxial Cable, Fiber Optics
Pima County Wastewater Management	Sewer
Southwest Gas	Gas
Tucson Electric Power	Electric
Tucson Water	Reclaimed Water, Water
TW Telecom	Coaxial Cable, Fiber Optics
Xspedius Communications Co.	Communication, Fiber Optics

Utility impacts are anticipated to be minor. Excavation for pedestrian pathway construction and driveway improvements are expected to disturb only to a 6-inch depth and should not disturb any underground utility lines. The placement of plants and landscaping will be coordinated to avoid planting trees over underground utility lines or under above-ground poles or wires to avoid utility impacts. Water valve boxes may need to be adjusted, and water meter relocations may be required as a result of the landscaping and water harvesting design.

The above are considered minor utility relocations and under state law, utilities in the public right-of-way are required to relocate at their expense when requested by the City of Tucson due to a public improvement project. There are no known prior rights issues in the project area, however, the project will go through the City's utility coordination procedure as outlined in the City's Certification Acceptance Procedures Manual.

North of Glenn Street several residential mailboxes will be impacted by the proposed location of the pedestrian pathway. Coordination with property owners will take place regarding the relocation of the mailboxes.

4.7 Seasonal Considerations

Both vehicular and pedestrian/bike traffic on Park Avenue increase during periods when University of Arizona classes are in session (August through May), and decline during the summer months.

No construction activities will take place during severe or inclement weather. Additionally, placement of concrete and bituminous compounds will be conducted in accordance with temperature requirements as specified in the Pima County/City of Tucson Standard Specifications for Public Improvements, 2003 edition.

A registered landscape architect will prepare the landscape design plans. Project specifications will include a landscape establishment period and will require supplemental water during that period. The landscape establishment element will allow plant installation at any season of the year.

4.8 Traffic Requirements

Impacts to traffic are expected to be minimal. If needed, traffic control will be in accordance with the most current *Manual on Uniform Traffic Control Devices for Streets and Highways*, published by the US Department of Transportation, Federal Highway Administration including any revisions or additions, and/or associated provisions in the project plans, as determined by the City of Tucson during the administration of the project.

4.9 Design Criteria

The project will be implemented in accordance with Pima County/City of Tucson Standard Specifications for Public Improvements, 2003 Edition, which is consistent with Arizona Department of Transportation standards. Additional design guidelines are listed below:

- Transportation Access Management Guidelines for the City of Tucson, Arizona, March 2003
- City of Tucson Water Harvesting Guidance Manual, October 2005
- A Policy on Geometric Design of Highways and Streets (Green Book), AASHTO, 2004
- Manual on Uniform Traffic Control Devices (MUTCD), FHWA, 2003 Edition
- Roadside Design Guide, AASHTO, 2002
- Pima County/City of Tucson Pavement Marking Design Manual, August 2008
- City of Tucson and Pima County Standard Details for Public Improvements, 2003

4.10 Design Exceptions

This project will require a Categorical Exclusion in accordance with 23 CFR 771.117(c) and the Arizona Programmatic Categorical Exclusion.

No AASHTO design exceptions apply to this project.

5.0 Other Requirements

The federal funding source is the Transportation Enhancement Program. The local match funding source will be the Regional Transportation Authority (RTA). Following design by the City of Tucson's on-call design consultant, the estimated project schedule calls for the project to be competitively bid in January of 2013, with construction to begin in May of 2013. It is anticipated that the project construction will be completed by November 2013. The estimated, detailed project development schedule is provided on Page 20. The City of Tucson will perform project management and has certification acceptance.

6.0 Estimated Cost

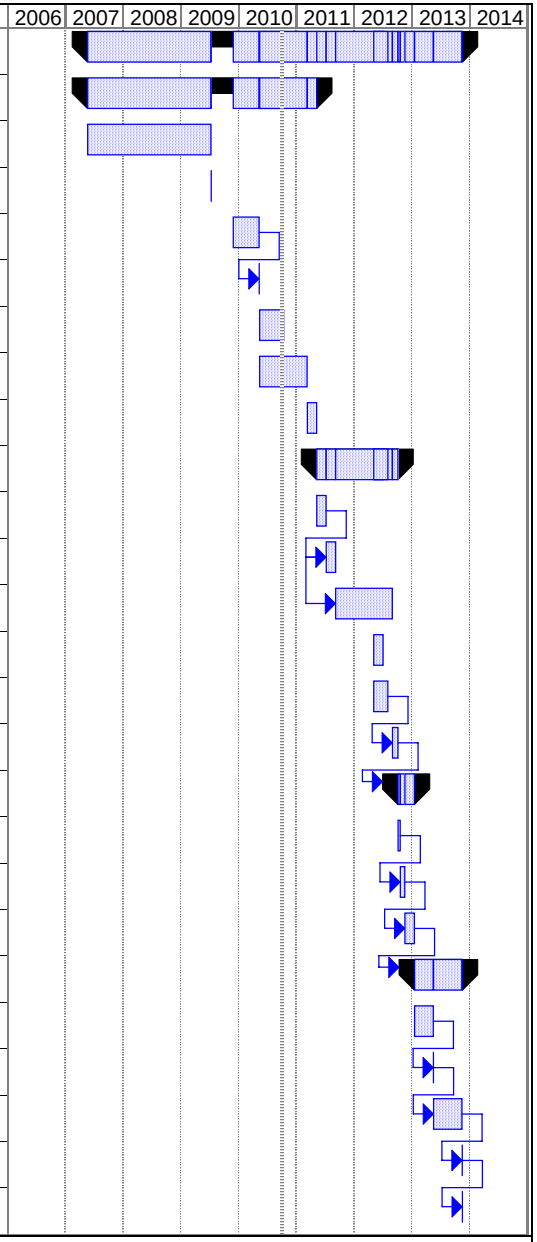
The total project costs are estimated at $560,661. Federal Transportation Enhancement funds in the amount of $498,958 have been programmed through the 2009-2013 Transportation Improvement Plan. A local match of $61,703 will be provided by the RTA, equating to approximately 11% of the total project cost. A detailed project cost estimate is provided on Page 19.

6.1 Itemized Project Cost Estimate – 15%

Park Avenue Enhancements – Speedway Boulevard to Ft Lowell Road

BID ITEM NO.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
2020030	REMOVAL OF BITUMINOUS PAVEMENT BY MILLING (2")	SQ YD	14,558	$1.25	$18,198
4040111	BITUMINOUS TACK COAT	TON	6	$650.00	$3,900
4060001	ASPHALTIC CONCRETE (NO. 1)	TON	1,497	$55.00	$82,335
7040000	PAVEMENT MARKINGS	L SUM	1	$20,000	$20,000
9080001	CONCRETE CURB (PC/COT STD. DTL. 209) (TYPE 1)	L FT	1,113	$14.00	$15,582
9080201	CONCRETE SIDEWALK	SQ FT	8,295	$2.50	$20,738
9080280	CURB ACCESS RAMP	EA	43	$1,500.00	$64,500
9080303	CONCRETE DRIVEWAY	SQ FT	919	$4.00	$3,676
9080602	CONCRETE ADA ACCESSIBILITY PAD	SQ FT	1,817	$3.50	$6,360
9310100	STABILIZED PATH	SQ FT	24,206	$2.00	$48,412
8070000	LANDSCAPING	L SUM	1	$36,220	$36,220
1070001	EROSION CONTROL AND POLLUTION PREVENTION (NPDES) (5%)	L SUM	1	$15,996	$15,996
7010001	MAINTENANCE AND PROTECTION OF TRAFFIC (3%)	L SUM	1	$9,598	$9,598
9010001	MOBILIZATION (8%)	L SUM	1	$28,153	$28,153
9250101	SURVEY AND CONSTRUCTION LAYOUT (2%)	L SUM	1	$6,398	$6,398
	CONSTRUCTION COST SUBTOTAL				**$380,064**
	CONTINGENCIES (10%)				$38,006
	CONSTRUCTION ENGINEERING/ADMIN (15%)				$57,010
	PROJECT DEVELOPMENT AND DESIGN				$85,581
	GRAND TOTAL				**$560,661**

ID	Task Name	Duration	Start	Finish
1	**Park Avenue Enhancement Project**	**2371 days**	**Fri 5/25/07**	**Tue 11/19/13**
2	**Project Setup**	**1449 days**	**Fri 5/25/07**	**Thu 5/12/11**
3	Project Scoping	26 mons	Fri 5/25/07	Sun 7/12/09
4	Project Kickoff Meeting	1 day	Tue 7/14/09	Tue 7/14/09
5	Prepare Project Assessment	5.47 mons	Tue 12/1/09	Thu 5/13/10
6	Submit Project Assessment Document	1 day	Fri 5/14/10	Fri 5/14/10
7	ADOT Review and Approval of Project Assessment	5.07 mons	Mon 5/17/10	Fri 10/15/10
8	Prepare Environmental Clearance Document	10 mons	Mon 5/17/10	Sat 3/12/11
9	ADOT Review and Approval of Environmental Clearance	2 mons	Mon 3/14/11	Thu 5/12/11
10	**Project Design**	**514 days**	**Fri 5/13/11**	**Sun 10/7/12**
11	Negotiate Design Fee and Request Design Funds	2 mons	Fri 5/13/11	Mon 7/11/11
12	Release of Design Funds	2 mons	Tue 7/12/11	Fri 9/9/11
13	Project Design	12 mons	Fri 9/9/11	Sun 9/2/12
14	Obtain ROW Clearance	2 mons	Mon 5/7/12	Thu 7/5/12
15	Obtain Utility Clearance	3 mons	Mon 5/7/12	Sat 8/4/12
16	Prepare Construction Bid Documents	5 wks	Mon 9/3/12	Sun 10/7/12
17	**Funding Release**	**104 days**	**Mon 10/8/12**	**Sat 1/19/13**
18	Assemble Funding Release Packet	2 wks	Mon 10/8/12	Sun 10/21/12
19	Review by ADOT	1 mon	Mon 10/22/12	Tue 11/20/12
20	Review and Authorization by ADOT/FHWA	2 mons	Wed 11/21/12	Sat 1/19/13
21	**Project Construction Start**	**304 days**	**Sun 1/20/13**	**Tue 11/19/13**
22	Bid, Award, and Notice to Proceed	4 mons	Sun 1/20/13	Sun 5/19/13
23	Construction Start	1 day	Mon 5/20/13	Mon 5/20/13
24	Construction Completion	6 mons	Tue 5/21/13	Sat 11/16/13
25	Final Inspection	1 day	Mon 11/18/13	Mon 11/18/13
26	Project Acceptance	1 day	Tue 11/19/13	Tue 11/19/13



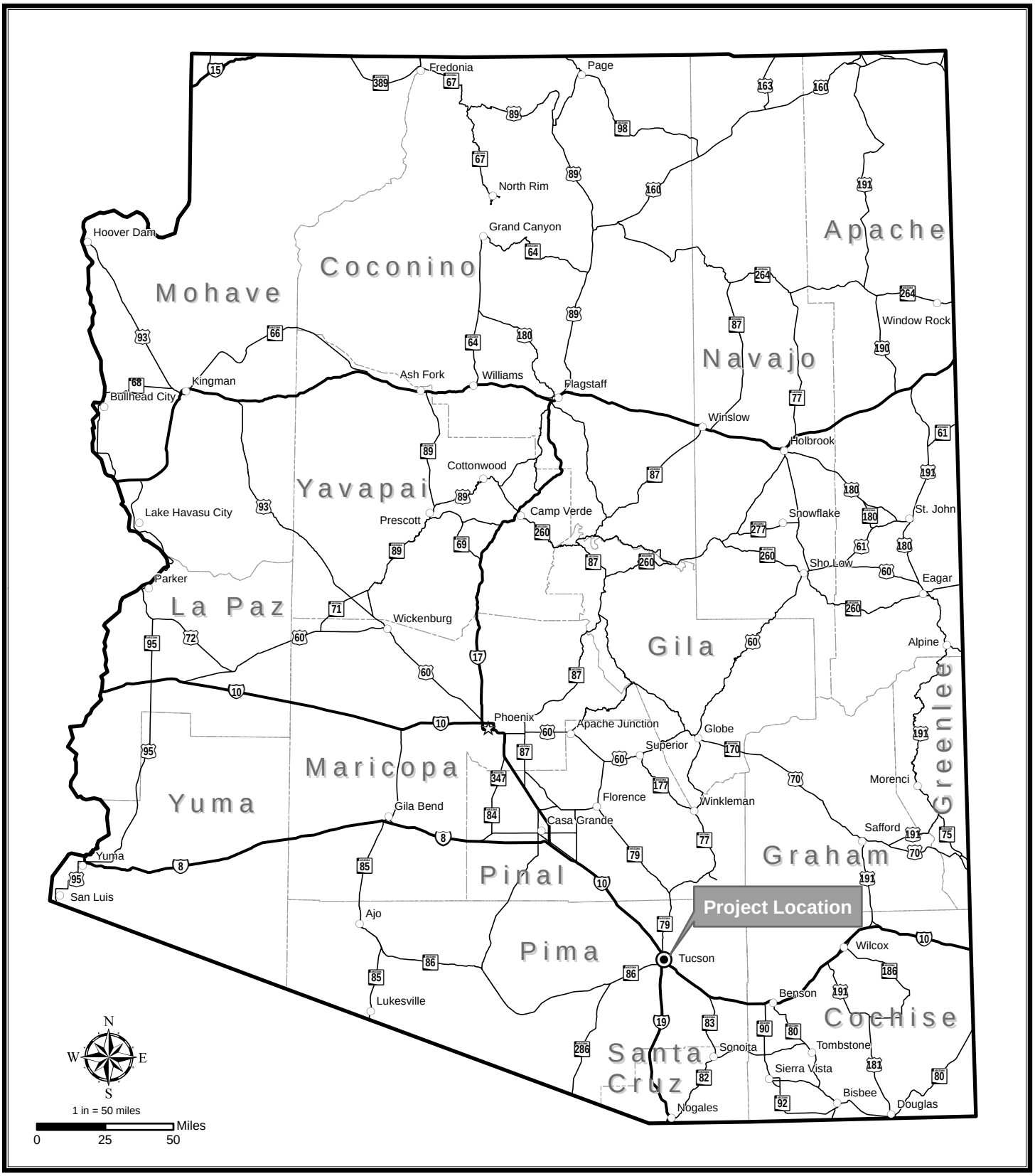
Park Avenue Enhancement
Estimated Schedule
October 2010

Task | Milestone | External Tasks
Split | Summary | External Milestone
Progress | Project Summary | Deadline

8.0 Service Involvement Matrix

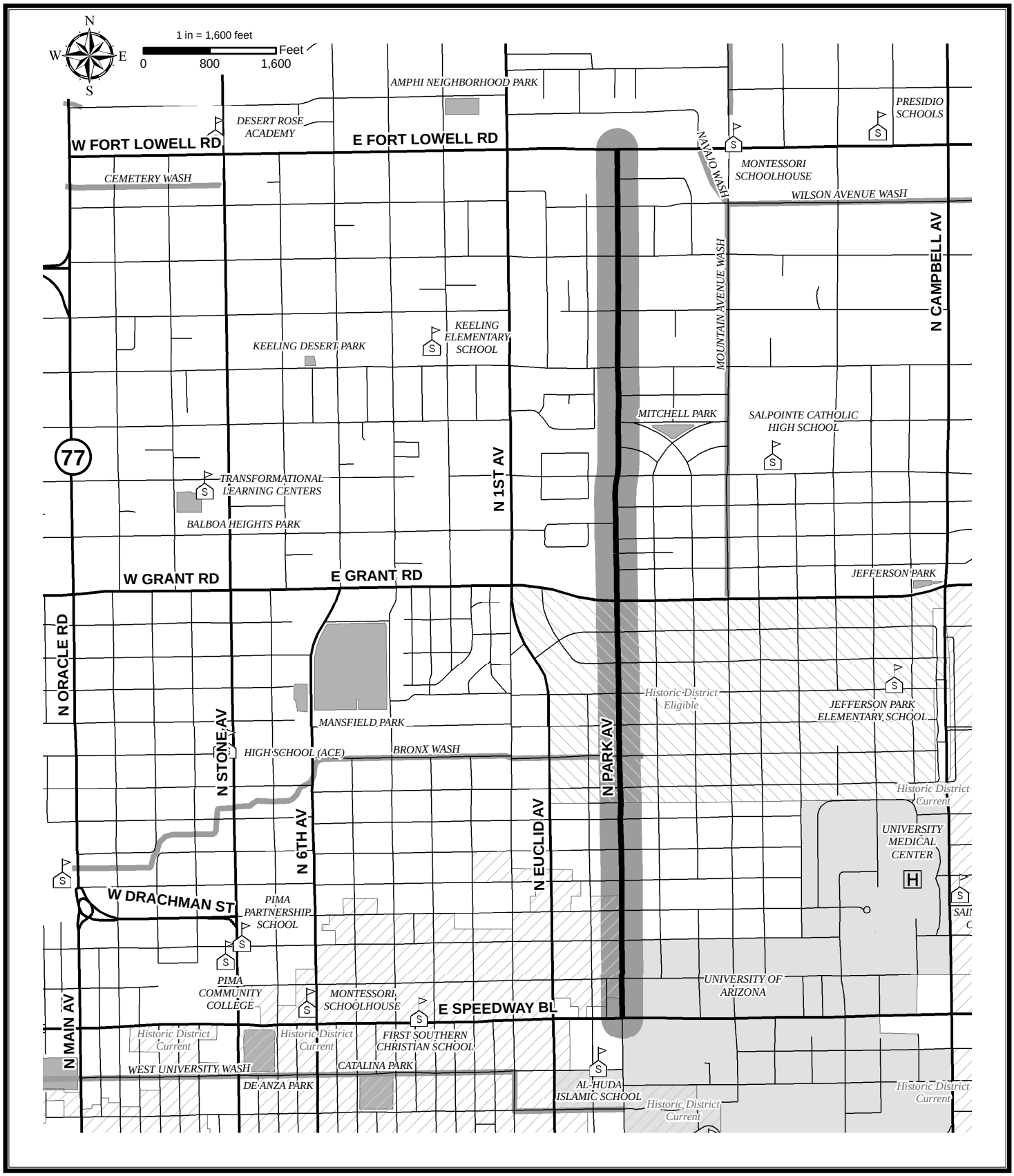
Project Number: TEA-TUC-0(219)A
TRACS Number: 0000 PM TUC SL638 01C
TIP ID # 107.08
Project Name: Park Avenue Enhancement Project
Project Locations: City of Tucson, Pima County, Arizona

CONTACTED	FIELD REVIEW	ORGANIZATION	INVOLVEMENT				COMMENTS (ISSUES THAT MAKE INVOLVEMENT SIGNIFICANT OR MINIMAL)
			SIGNIFICANT	MINIMUM	NONE	UNKNOWN	
		ADOT Technology Group (For IT)			X		
		ADOT Local Government Section			X		
		ADOT Tucson Maintenance District			X		
		ADOT Roadway Design			X		
		ADOT Pavement Design			X		
		ADOT Bridge Design			X		
		ADOT Drainage Design			X		
		ADOT Transportation Planning			X		
		ADOT Traffic Design			X		
		ADOT Photogrammetry & Mapping			X		
		ADOT Engineering Survey			X		
		ADOT Geotechical Services			X		
X		ADOT Environmental Planning Group		X			Categorical Exclusion Document Review
X		ADOT Roadside Development		X			Review
		ADOT Right-of-Way Group			X		
		ADOT Utilities & Railroads			X		
		ADOT Contracts & Specifications			X		
		ADOT Procurement					
		ADOT Transportation Enhancement Section	X				
		FHWA		X			Funding Authorization
X		City of Tucson Department of Transportation	X				Project Management
		Pima Association of Governments		X			Administration of TIP
		City of Tucson Police Department		X			Project Coordination
		City of Tucson Fire Department		X			Project Coordination
		Sun Tran Bus Service Provider		X			Project Coordination
		ParkWise Parking Service Provider		X			Project Coordination



Park Avenue Enhancement
TEA-TUC 0(219)A
TRACS 0000 PM TUC SL638 01C
October 2010

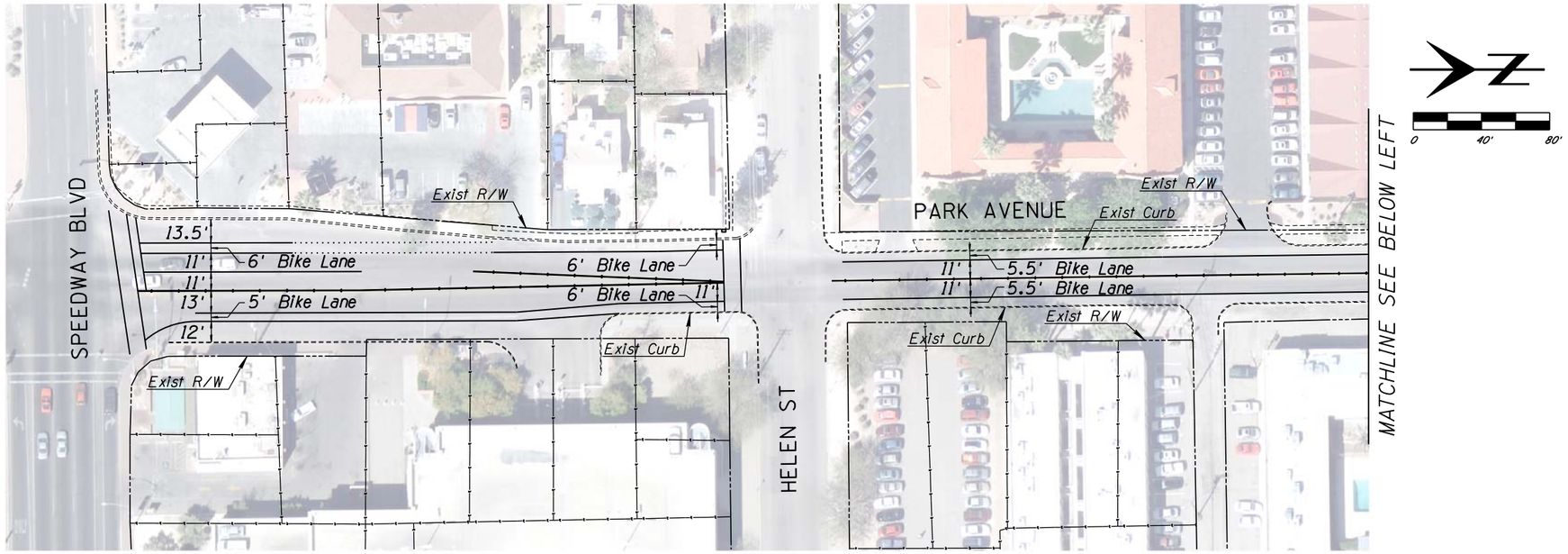
Figure 1
State Map

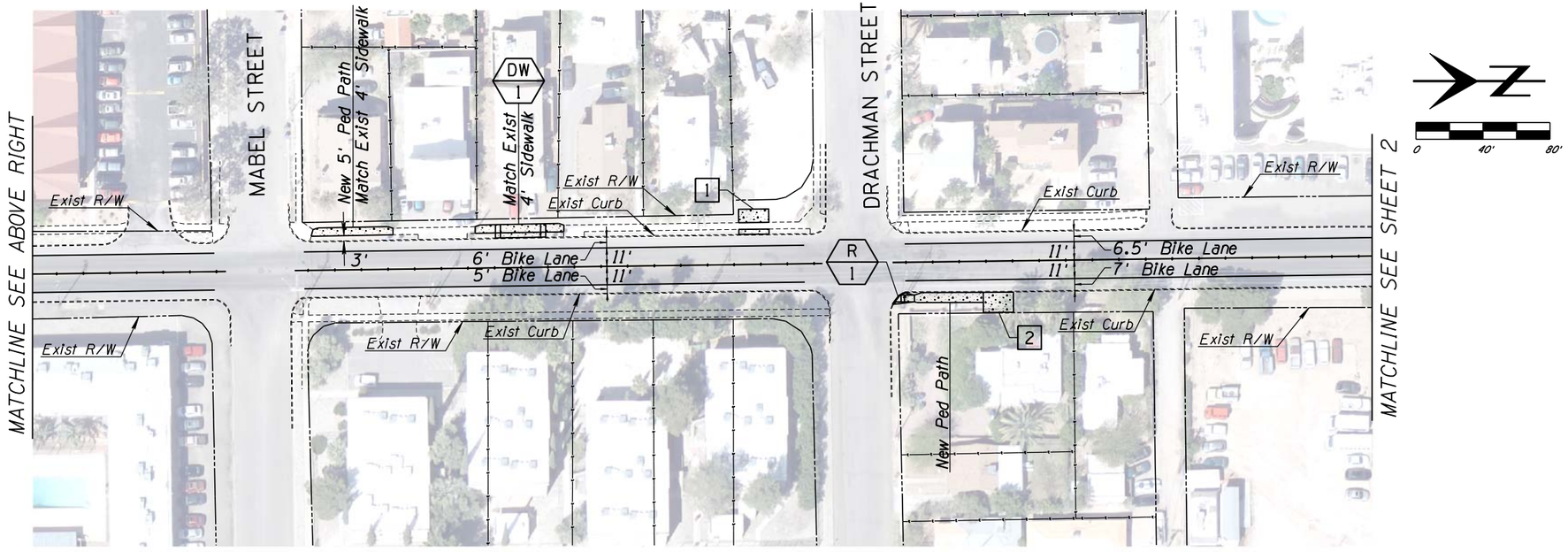


Park Avenue Enhancement
TEA-TUC 0(219)A
TRACS 0000 PM TUC SL638 01C
October 2010

Figure 2
Location Map

11.0 15% Plans





CONSTRUCTION NOTES:

- DW / X — New Driveway
- R / X — New Pedestrian Access Ramp
- C / X — New Concrete Curb
- X — New ADA Accessible Concrete Pad

PLAN SHEETS

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OR RECORDING

DEPARTMENT OF TRANSPORTATION

PARK AVENUE ENHANCEMENT
SPEEDWAY BOULEVARD TO FT LOWELL ROAD

1 OF 7

CITY OF TUCSON

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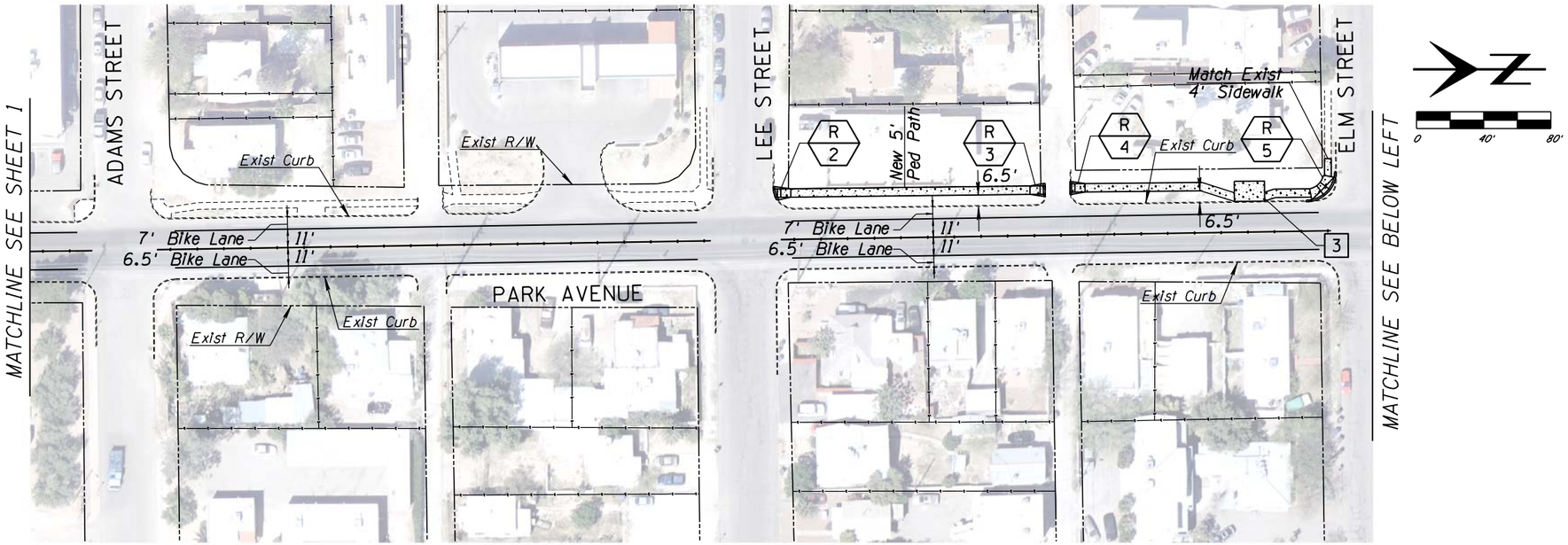
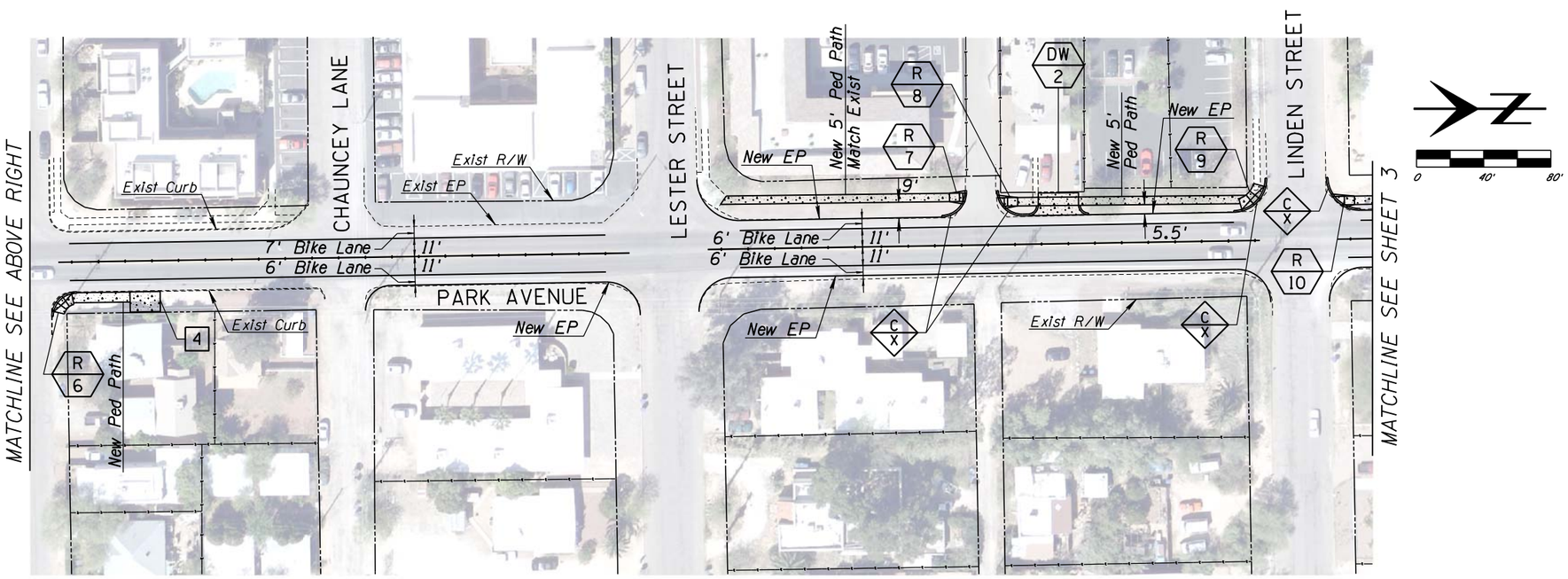
DSGN. BY	JBB	10/10
CHKD. BY	JAS	10/10

REF. _____ SCALE: 1" = 40'

PLAN NO. X-XXXX-XXX





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CHKD. BY	JAS	10/10

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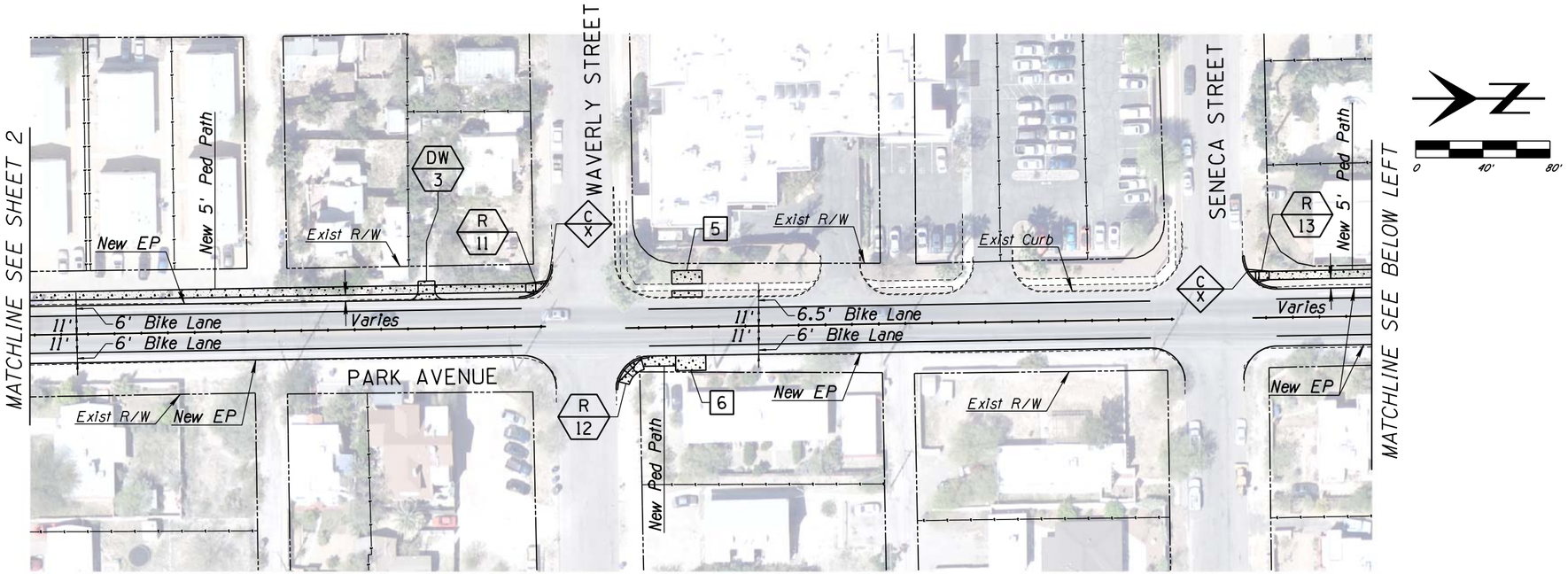

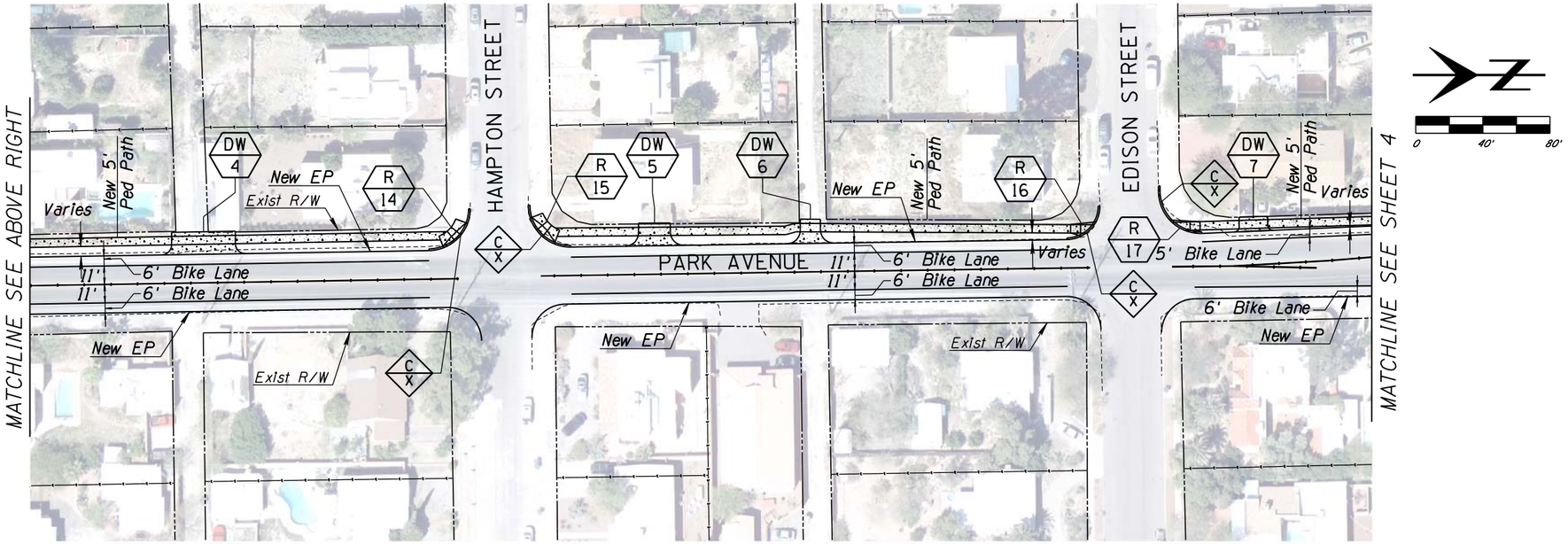

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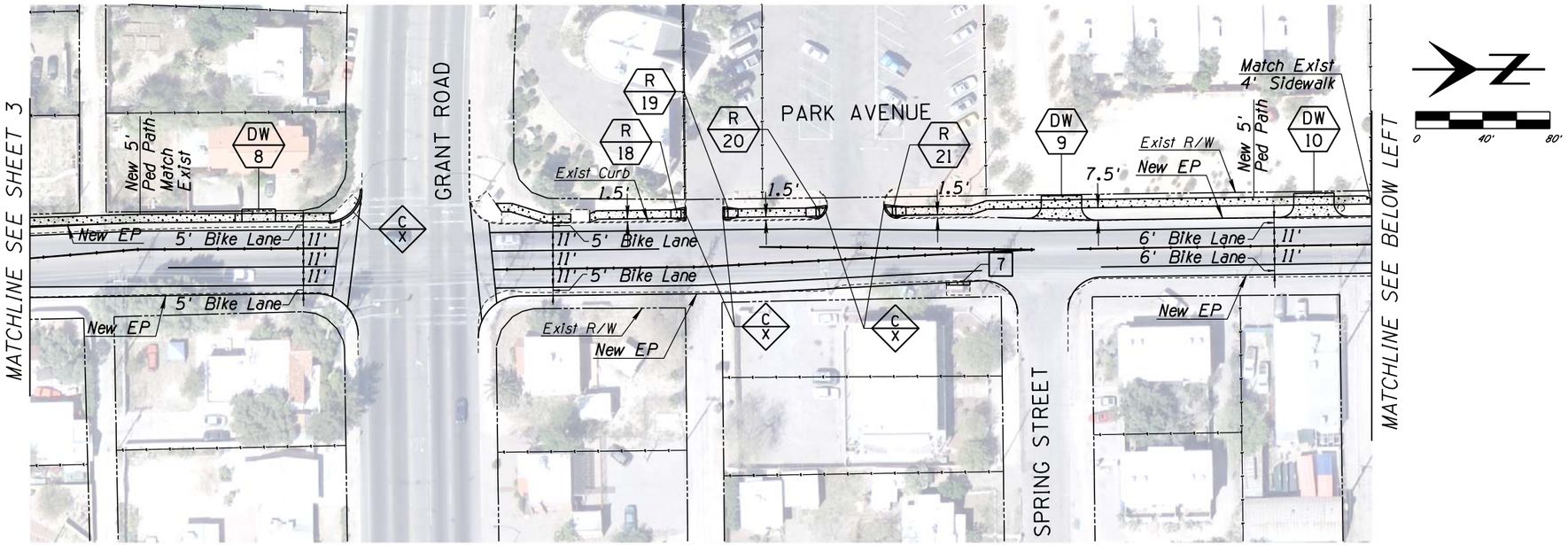

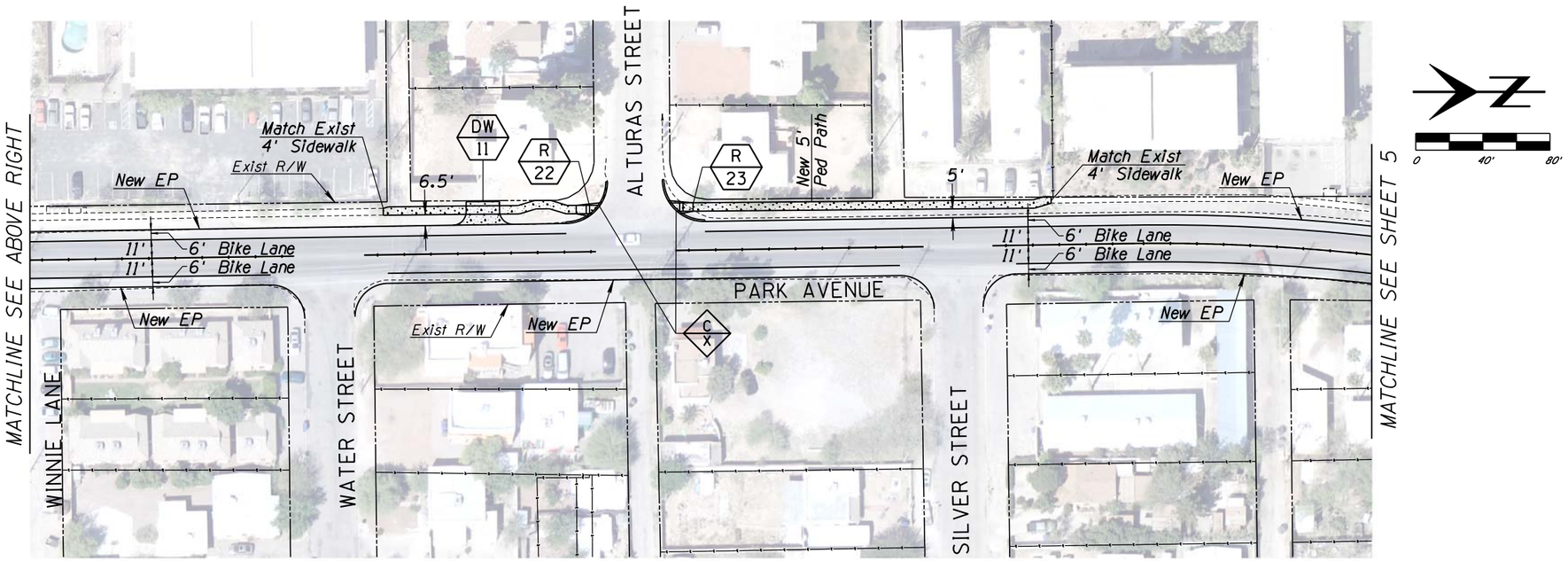

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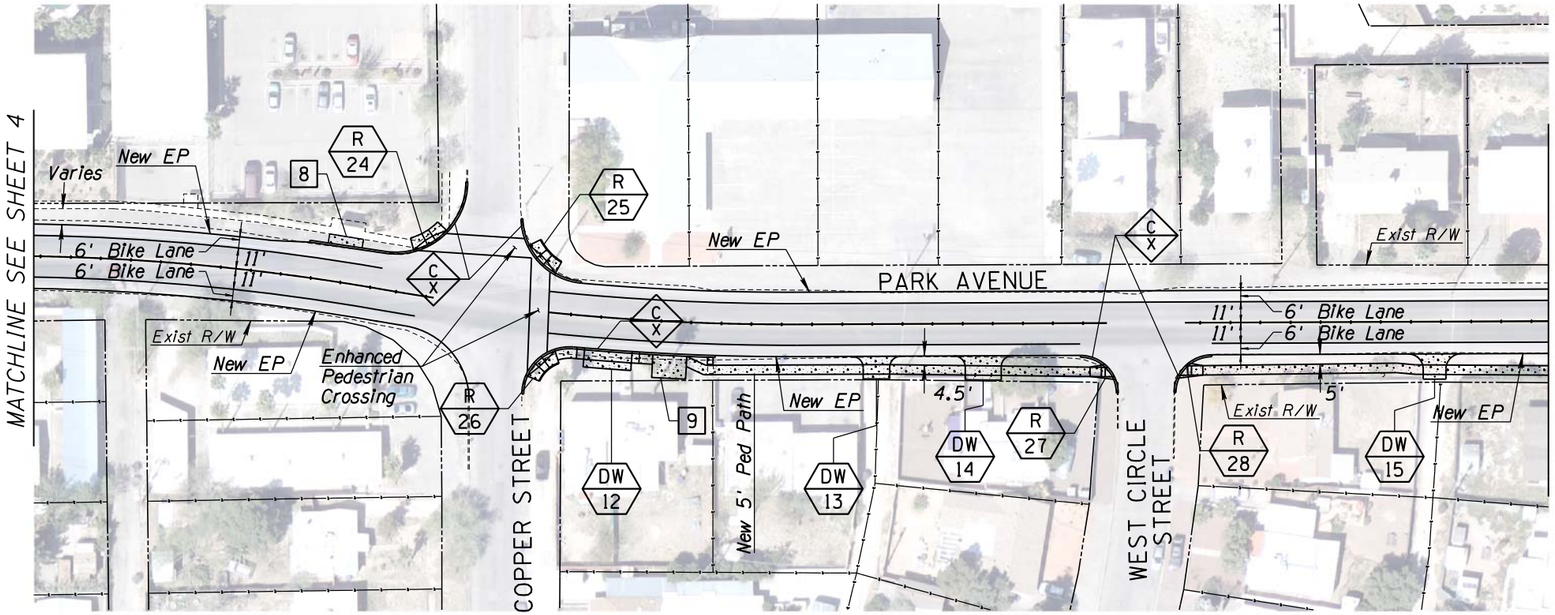

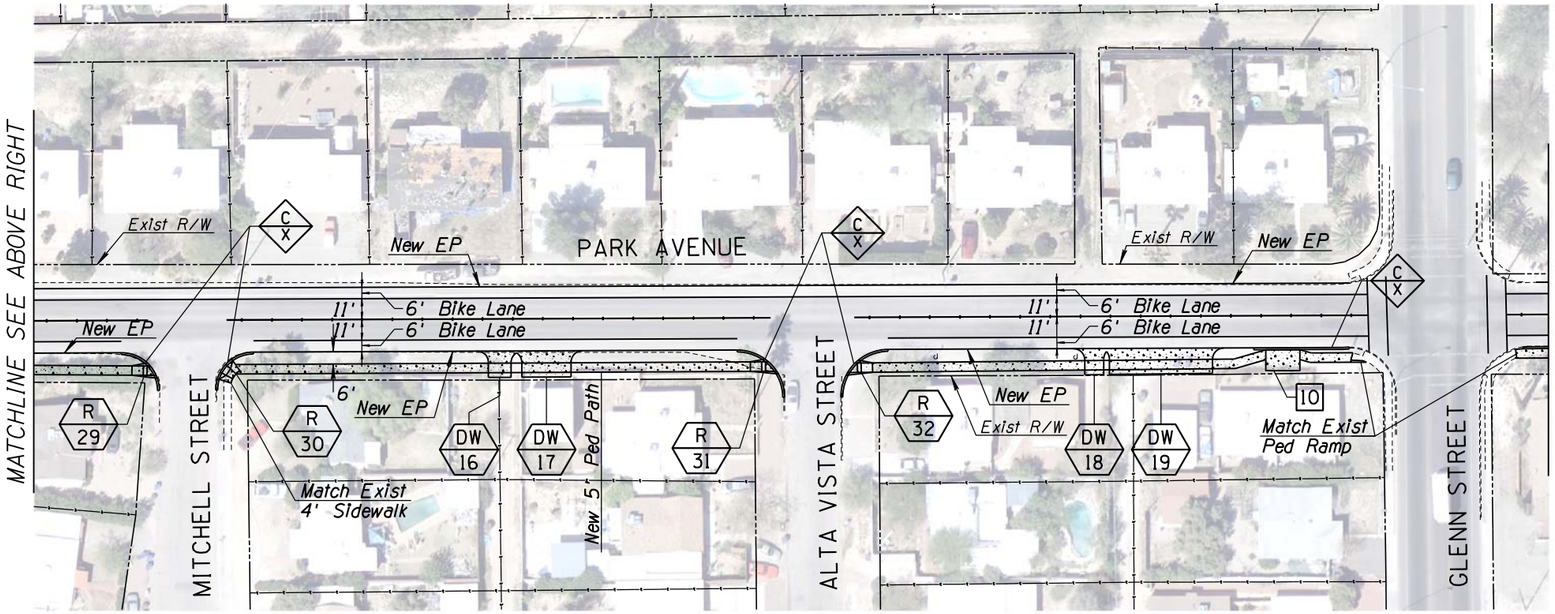

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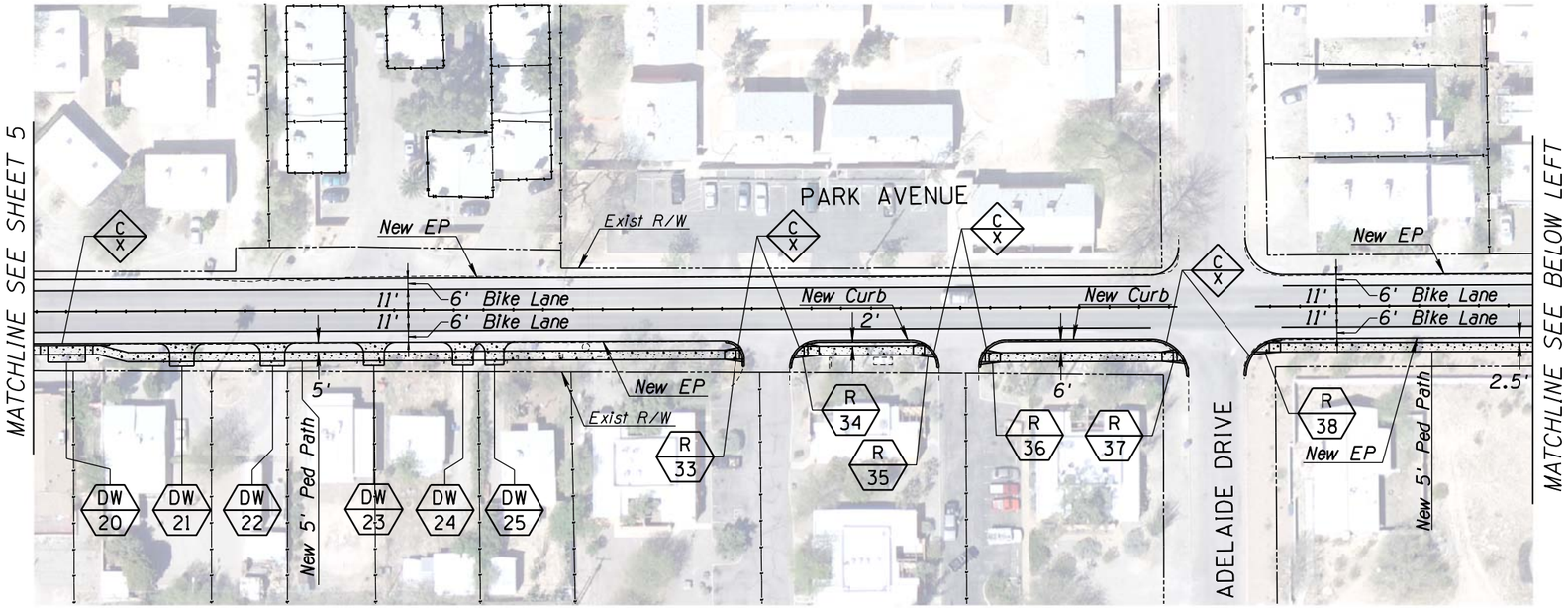

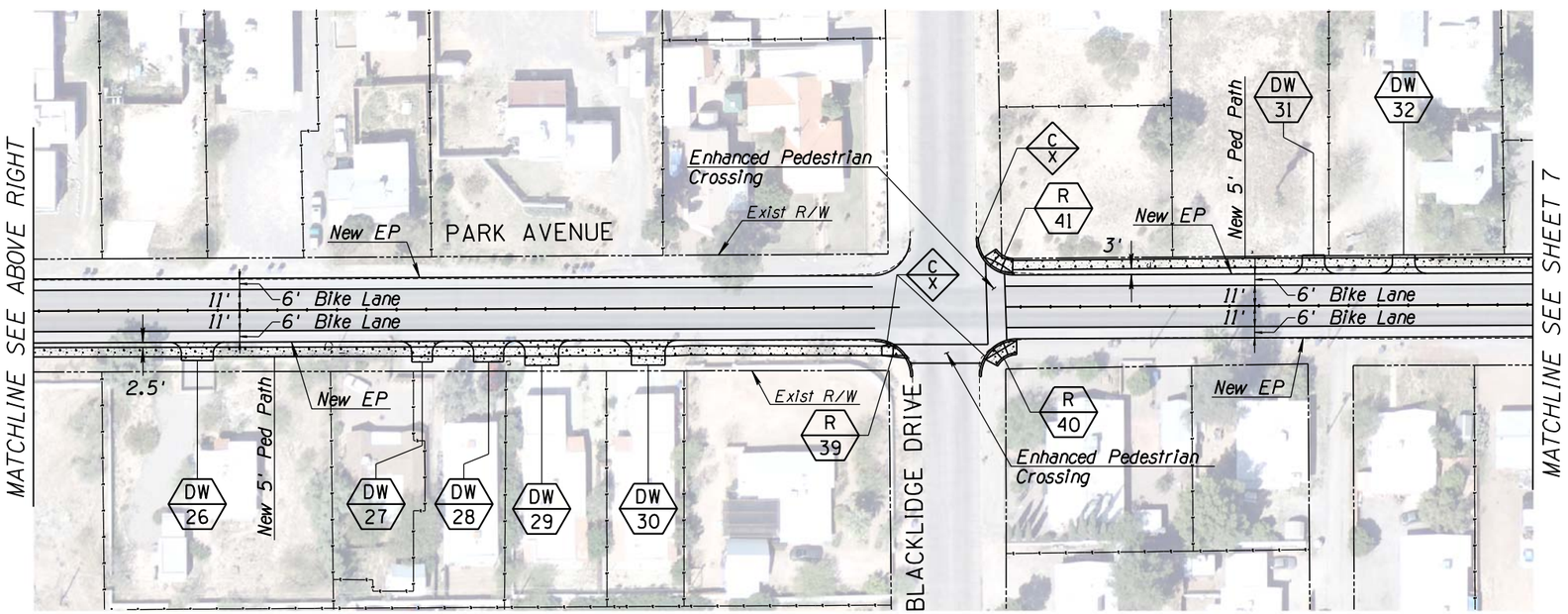

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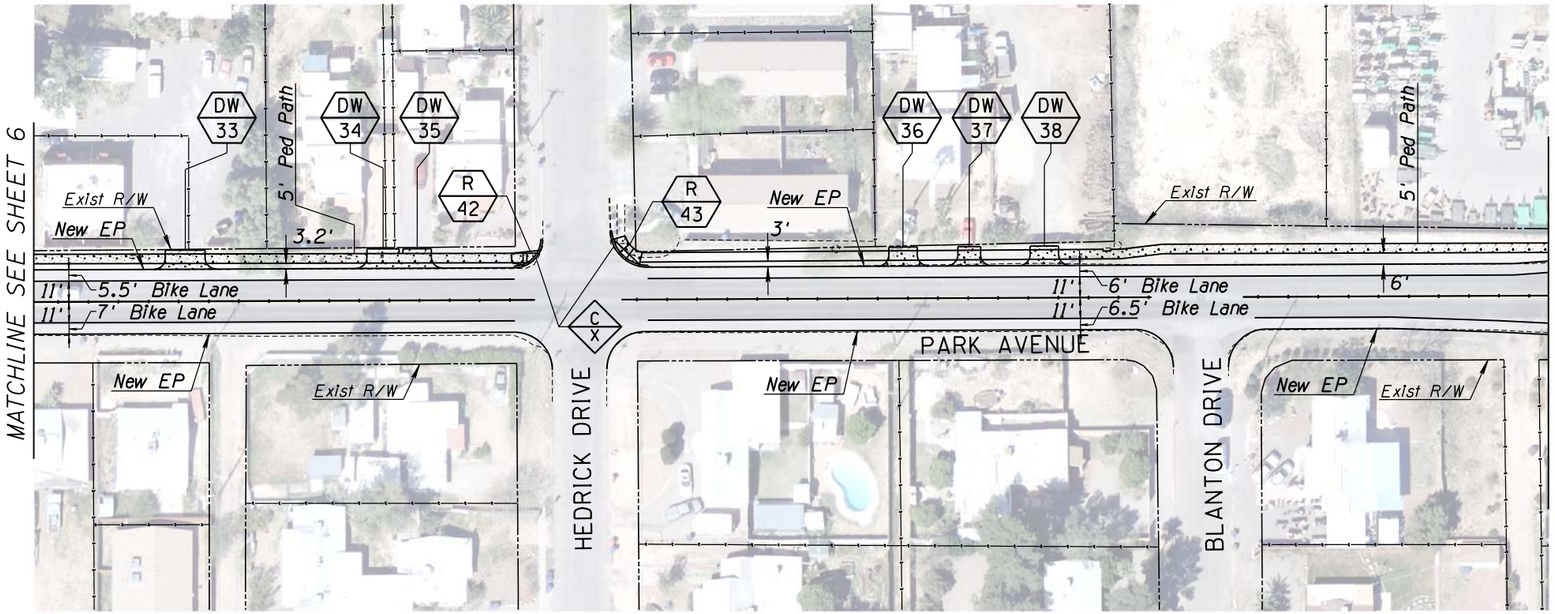
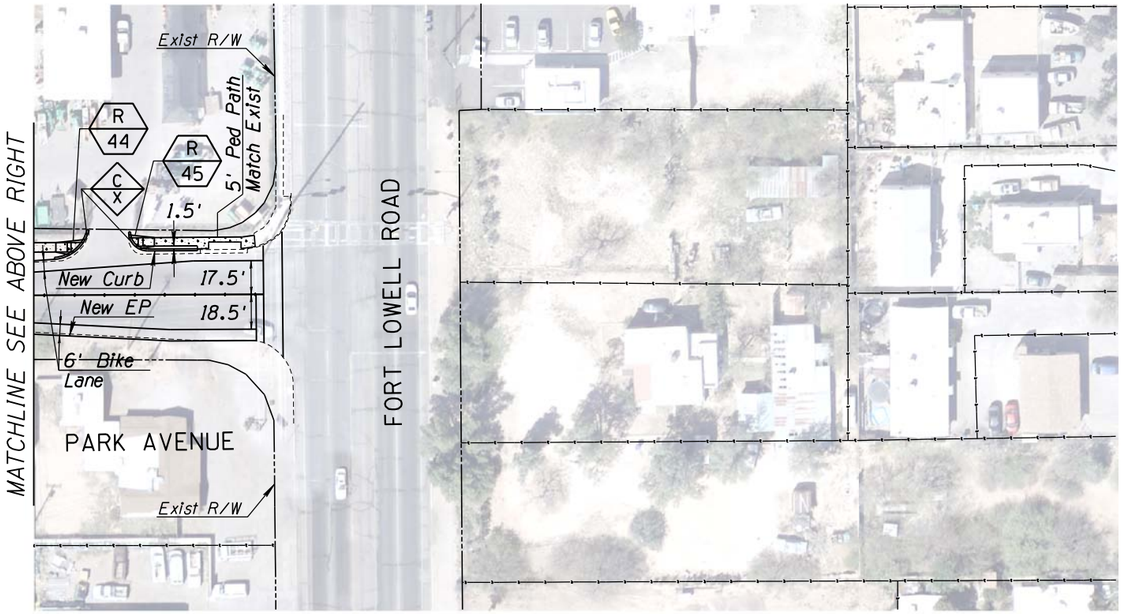
CHKD. BY	JAS	10/10	PLAN NO. X-XXXX-XXX





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CITY OF TUCSON

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CHKD. BY	JAS	10/10

REF. _____ SCALE: 1" = 40'

PLAN NO. X-XXXX-XXX