SAHUARITA ROAD AND WILMOT ROAD
INTERSECTION IMPROVEMENTS
GENERAL DESCRIPTION OF PROJECT

The overall project consists of a new traffic signal installation with lighting, roadway widening for turn lanes, and drainage channel infrastructure at the intersection of Sahuarita Road and Wilmot Road.

PROJECT NUMBER
4SAHWI

LOCATION MAP

NOT TO SCALE

Sections 7, 18 of
T-17-S, R-15-E
Section 12 of
T-17-S, R-16-E
G & S R B & M
Pima County, Arizona

SAHUARITA ROAD
HILLOCK STREET
MELVILLE AVENUE
WILMOT ROAD

INDEX TO PLAN SHEETS
1" = 300'

SHEET INDEX

PAGE NO. SHEET NO. DESCRIPTION
1 CV1 Cover Sheet
2-3 DT1-DT2 Design Sheets
4-6 TX1-TX3 Typical Section Sheets
7-9 DT1-DT3 Detail Sheet
10 GC1 Geometric Control Sheet
11-13 DM1-DM3 Demolition Sheets
14-18 CT-C5 Civil Sheets
19-28 ST1-ST10 Shading Sheets
29-34 EC1-EC6 Erosion Control Sheets
35-41 TS1-TS7 Traffic Signal Sheets
42-45 PM1-PM4 Pavement Marking Sheets
46-55 SN1-SN10 Signing Sheets
56-62 LS1-LS7 Landscaping Sheets (L.C.)
63-67 Cross Section Sheets (N.C.)

Kimley-Horn

PIMA COUNTY DEPARTMENT OF TRANSPORTATION
251 N. Stone Ave., 4th Fl.
Tucson, Arizona 85701
Phone: 724-6410
Fax: 724-6411

Pima County Board Of Supervisors

Ramin Vaizadeh, Chair, District 2
Ally Miller, District 1
Betty Villegas, District 5
Steve Christy, District 4
Sharon Bronson, District 3
Ramon Valadez, Chair, District 2
This Project is Located Within Supervisor District 2 and 4

Pima County, Arizona

(East 12th St., 12th Ave.)

Sheet No. CV1 of CV1 Page No. 1 of 62
GENERAL NOTES

1. Construction shall be in conformance with the specifications and details listed in the special provisions.
2. Utility locations shown on the plans were compiled based on the best information available to the department, utility locations are not intended to be exact or complete. Prior to commencing construction, the contractor shall verify the location of all utilities with the appropriate organizations. Contact “Arizona 811” at 1-800-252-3446 (two full working days prior to beginning construction Saturdays and Sundays are not considered working days).
3. Right-of-way encroachments shall be removed only by order of Pima County, unless otherwise noted.
4. Removal of all exotic and native plants shall be in accordance with the provisions of the “Arizona Native Plant Law” A.R.S., Chapter 7.
5. Basals of Bearings The basil of bearing for this project, is a line between a found 2” brass capped monument stamped “TIPS R4E TIPS R5E 42°7’18’”, and a found 2” and 1/2” copper alloy disk stamped “US GENERAL LAND OFFICE SURVEY 5/4 57 1930” bearing being, North 0°49’32” West, as established from the Arizona Coordinate System, 1983 (NAD88) Central Zone 3Q32.
6. Basals of Elavation Vertical control for this project is based on the monument used for Pima County benchmark designation NN 174. The project elevation for this monument is 2946.37 feet, Station mark is a 3.25-Inch Aluminum Disk set in concrete Stamped NN-174 1992. Located 5.1 miles South of Interstate 10 on Wilmot Road, 50-feet West of roadway.
7. Basals of Coordinates The horizontal control for this project is based on an existing survey control points as provided by Pima County - City of Tucson geodetic control points. The Published Combined Factor for “P201” = 0.998879600 was used to convert grid coordinates to surfaces. Surface Northings coordinates are derived by dividing the grid coordinate by 0.998879600 and then subtracting 300,000. Surface Eastings coordinates are derived by dividing the grid coordinate by 0.998879600 and then subtracting 300,000.
8. Basals of Stellalingus Stations for Sahuarita Road increase from West to East, Stations for Wilmot Road increase from North to South. Roadway stellalingus is based on the centerline intersection of Sahuarita Road equal to 42+50.39 and Wilmot Road equal to 226+39.80.
9. Soils Information will be made available to prospective bidders in the geotechnical report. Soils Information provided shall be for informational purposes only. This information was developed as accurately as possible by the methods used, Pima County accepts no responsibility for any conditions encountered which vary from the information provided.
10. The contractor shall maintain access to all driveways, alleys, and mailboxes during construction. The contractor will not restrict emergency vehicles, U.S. Postal Delivery, solid waste collections, and/or access to the adjacent properties, except as approved by the engineer.
11. Omissions or conflicts between the various elements of the drawings, notes, or details shall be brought to the attention of the engineer and resolved before proceeding with the work.
12. All stellalingus shown on the plans and profiles is along the construction centerline unless otherwise noted.
13. Existing utilities include, but may not be limited to, overhead and underground electric, telephone, and telecommunication, and shall be moved by others as needed unless otherwise noted and shown in these plans.
14. The contractor’s attention is called to the shaded area available on the site for excavation, embankment and other construction activities. If the contractor uses excavated materials within the roadway right-of-way for embankment not indicated for cut, it is the contractor's responsibility to replace it at no expense to the County to the lines and grades shown on the plans.
15. Existing topographic conditions shown on plan sheets reflect conditions as of March 2020.
16. Any excess excavated materials become the property of the contractor and shall be removed from the project site by the contractor at no additional cost to Pima County.
17. For all milling or pulverizing activities, the roadway surface shall be kept sufficiently wet so as to prevent the generation of any visible fugitive dust particles but not so wet as to cause excess runoff from the roadway surface onto the roadway shoulders.

EARTHWORK QUANTITIES

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EARTHWORK NOTES

1. Channel Excavation is included in the quantity and cost of respective bid items. Approximately 9,396 CF of existing Pavement Removal (assumed average 4” thickness) is included in the Roadway Excavation Quantity.
2. Cement Treated Subgrade is paid under Items #3020001 and #3020001 and is not included in the Earthwork Quantities Table.
SECTION NO. 1

SAHUA RITA ROAD

TOTAL PAVEMENT THICKNESS = 14"

SECTION NO. 2

WILMOT ROAD - NORTH LEG

TOTAL PAVEMENT THICKNESS = 12.5"

SECTION NO. 3

WILMOT ROAD - SOUTH LEG

TOTAL PAVEMENT THICKNESS = 8.5"

UTILITY LINE LEGEND

- A.C. SAFETY EDGE DETAIL

ABBREVIATIONS NOT INCLUDED IN PAG STD. DTL. 101

- Aluminum Cap on Pipe (A.C.P.)
- Abandoned (Abd.)
- Asphalt Rubber Asphaltic Concrete (ARAC)
- Back Face (B.F.)
- Back Station (Stk.)
- Cluster Box Units (CBU)
- Correction (Corr.)
- Decomposed Granite (D.G.)
- Detail (Dtl.)
- Drainage Easement (D.E.)
- Edge of Pavement (E.P.)
- Embankment (Emb.)
- Excavation (Exc.)
- Front Face (F.F.)
- General Land Office (G.L.O.)
- Intelligent Traffic System (ITS)
- Low Point (LP)
- Manhole (Med.)
- Point of Compound Curve (P.C.C.)
- Point of End (P.O.E.)
- Raised Pavement Marker (RPM)
- Roadside (Rsd.)
- Shoulder (Shld.)
- Spiral Rth Pipe (S.R.P.)
- Standard (Std.)
- Steel Pipe Arch (S.P.A.)
- Temporary Construction Easement (T.C.E.)
- Treatment (Trmt)
- Vertical Curve (V.C.)

UTILITY LINE LEGEND

- Existing
- New
- Utility

Trico Overhead Electric (Tenants, Cox)
Tucson Electric Power (TEP), Trico Overhead Electric
Cox, Valley Telecom Underground Fiber Optic
Conduit
WILMOT ROAD (NORTH OF SAHUARITA) TYPICAL SECTION

Sta. 216+84.50 to 226+03.80

- See Plans for Locations

- Concrete Ford Wall (1'x2')
- Concrete Header, PAG Std. Dtl. 213
- 12"x12" Concrete Key-In

WILMOT ROAD (SOUTH OF SAHUARITA) TYPICAL SECTION

Sta. 226+64.80 to 230+45.38

- Concrete Ford Wall (1'x2')
- Concrete Header, PAG Std. Dtl. 213
- 12"x12" Concrete Key-In

- For cross slopes, see superelevation diagrams.
**NOTES:**

1. See Roadway Typical Sections for additional information.

2. All concrete channel lining to have 6"x6" W2.1xW2.1 W.W.F. or #4@12" each way.

3. 12"x12" Concrete Key-In considered included in cost of concrete channel lining.

4. 3" Diameter Weep Hole in cut-off walls for depths greater than 4', center vertically and spaced at 20' intervals.

* See Channel Staking Plan/Profile sheets for Channel Bank Protection Height, H.

**SECTION A-A**
- Sta. 10+00.00 to 10+25.21
- Sta. 10+25.21 to 10+47.39
- Sta. 10+47.39 to 10+54.45

**SECTION B-B**
- Sta. 10+25.21 to 10+54.45
- Sta. 10+54.45 to 11+30.91

**SECTION C-C**
- Sta. 10+54.45 to 11+30.91

---

**DUMBED RIPRAP GRADATION CHART**

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**DUMPED RIPRAP GRADATION CHART**

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**SECTION A-A**
- South Channel Control Line
- Concrete Cutoff Wall (1' x 4')
- Concrete Channel Lining (6"x12" Concrete Key-In)
- South Channel Bottom
- Riprap (Dumped) 6"x18" W2.1xW2.1 W.W.F.

**SECTION B-B**
- South Channel Control Line
- Concrete Cutoff Wall (1' x 4')
- Concrete Channel Lining (6"x12" Concrete Key-In)
- South Channel Bottom
- Riprap (Dumped) 6"x18" W2.1xW2.1 W.W.F.

**SECTION C-C**
- South Channel Control Line
- Concrete Cutoff Wall (1' x 4')
- Concrete Channel Lining (6"x12" Concrete Key-In)
- South Channel Bottom
- Riprap (Dumped) 6"x18" W2.1xW2.1 W.W.F.
MATCHLINE STA 223+00 SEE SHEET C5

Scales 1/4"=1'-0"

12/2020

NOTES:

1. All station/offset control and dimensions are to edge of pavement unless otherwise noted.


APN 305-22-153E
Sahuarita C.

State of Arizona

CIVIL PLAN/PROFILE

Item
No.

Ref. C4

Sheet

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APN 305-22-153E
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CIVIL PLAN/PROFILE

Item
No.

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Sheet

NOTES:

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### CHANNEL SUMMARY TABLE

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**NOTE:**
1. See Detail A for Channel Sections.

#### South Channel Plan/Profile

- **STA 13+50 to 17+50**
- **Sahuarita Road**
- **Matchline STA 13+50**
- **Matchline STA 17+50**

**Legend:**
- **STA:** Station
- **H:** Height
- **R:** Right
- **L:** Left
- **Elev:** Elevation

**渠型页面**

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- **Bottom of Conc. Channel Lining**
- **Transition**
- **Right Top of Channel**
- **Bank Protection**
- **Exist. Grnd. @ Control Line**
- **Finish Grade @ Control Line**
- **ST10**

**Scale:**
- 1/100

**Date:**
- 12/4/2020

**Sheet:**
- ST5 of ST10

**Pages:**
- 23 of 62
__STAKING PLAN

SOUTH CHANNEL PLAN/PROFILE
STA. 21+50 TO 22+60.70

**CHANNEL SUMMARY TABLE**

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**NOTE:**
1. See Detail A for Channel Sections.

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**PROFILE**

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NOTES:

1. See Geometric Control sheet for Wilmot Road control.

2. All elevations shown within parentheses are approximate. Match existing site conditions.

3. All station/offset control and dimensions are to edge of pavement unless otherwise noted.
NOTES:

1. See Geometric Control sheet for Wilmot Road control.

2. All station/offset control and dimensions are to edge of pavement unless otherwise noted.

### CURVE DATA

<table>
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<tr>
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<th>R</th>
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<th>L</th>
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<td>2</td>
<td>45.00</td>
<td>13° 09'</td>
<td>18'</td>
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<td>3</td>
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### EROSION CONTROL TYPE INSTALLATION & QUANTITY

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| TOTALS |
| 946 | 196 | 54 |

### HYDROSEED & INERT GROUND COVER

<table>
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<tr>
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<tr>
<td>Seed Mix 1</td>
<td>8050003 (1st App.)</td>
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</tr>
<tr>
<td>Rock Mulch</td>
<td>8050010 (2nd App.)</td>
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</table>

### NOTES:

1. The placement of all Erosion Control Devices listed above will be subject to change and may be adjusted by the Resident Engineer.
2. All disturbed areas shall be seeded. Refer to Sheet LS2.
3. Based on a search of the ADEQ Drywell Registry, no drywells are within 1/4 mile of the project.
4. The Contractor, in conjunction with Pima County, shall determine the location of the Construction Entrances/Exits. Approximate quantity shown based on 5 estimated Construction Entrances/Exits. Refer to Section 810 in the Special Provisions.
5. For seed mixes and quantities, refer to Sheet LS2.
6. For rock mulch color, size and gradation, see Detail 11, Sheet LS2.
Contact Arizona 811 at least two full working days before you begin excavation. Call 811 or click Arizona811.com.
Contact Arizona 811 at least two full working days before you begin excavation.
Call 811 or click Arizona811.com.

HYDROSEED

SYMBOL

NAME

Legend:

- Sediment Wattle
- Large Sediment Wattle
- For Drainage Ditches
- Flow Arrow
- Outflow Location

Hydroseed

SYMBOL

NAME

Legend:

- Seed Mix 1
- Rock Mulch
- Special
- Seed Mix 2
- Rock Mulch
- Special

Preservation Fence

Refer to Demolition Plans

Erosion Control Plan

Sahuarita Rd

STA 49+00.87

End roadway 4SAHW
Make field adjustments and corrections to ensure no sensitive biological resources (native species / habitats) will be adversely impacted.

8. *Fence/barricade pay/bid item shall not be included as a component of the Stabilized Construction Entrance/Exit Gravel Pad BMP pay/bid item.

7. When paid separately, the Stabilized Construction Entrance/Exit Gravel Pad BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, final removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.

6. When paid separately, the Stabilized Construction Entrance/Exit Gravel Pad BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, final removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.

5. Make field adjustments and corrections of Construction Entrance/Exit Gravel Pad BMP immediately if it is causing flooding and/or affecting roadway safety.

4. Rock mulch materials shall be fractured/crushed rocks in angular shape and as defined in the Sub-section 810-2.03 of the Standard Specifications. Natural river-run materials, especially rounded natural river rocks are not acceptable.


2. Locate new Construction Entrance(s)/Exit(s) at appropriate project entrance/exit points as determined in field with the approval of the Engineer. Relocate Stabilized Construction Entrance/Exit Gravel Pad BMP as needed as project progresses. Replace Rock Mulch materials in drive paths when dirt or mud accumulates.

1. Install Stabilized Construction Entrance/Exit Gravel Pad BMP for traffic entering or exiting a construction site where sedimentation, clay, silt or other pollutants can be tracked onto public roads and/or adjacent water bodies, as approved by the Engineer. It may also be applied for construction entrance/exit wind erosion/dust control, as approved by the Engineer.
TRAFFIC SIGNAL GENERAL NOTES

1. All Equipment, materials and construction shall meet or exceed the requirements contained in the current Pima Association of Governments (PAG) Standard Specifications and the Standard Details for Public Improvements, the special provisions and the approved plans.

2. All pedestrian push button assemblies shall meet current ADA requirements. The signs shall be installed and identified in the latest edition of the Uniform Traffic Control Devices Manual (UTD) as adopted by PCCOT Traffic Engineering Division.

3. Metro Street Name Signs shall be installed such that the bottom of the sign is no less than 17 feet above the roadway pavement or no less than 16 feet above the finished grade beyond the shoulder, bike lane or multi-use lane.

4. The exact location of each new Pole Foundation, Pull Box, Controller, Cabinet Foundation, UPS Cabinet Foundation or Electric Service Pedestal shall be approved by the Traffic Engineer prior to installation.

5. The top of the Pole Foundation shall be level with the surrounding finished grade. If the shoulder or slope drops off from finished grade, the Contractor shall grade around the Pole Foundation. The top of the Foundation shall extend no more than 4 inches above the surrounding finished grade.

6. Only new Conduit, Conductors and Cable shall be installed.

7. All Conduits shall be cleaned by compressed air and a properly sized Conduit Pllion or Mandrel shall be pulled through the Conduit prior to Conductor and Cable Installation.

8. Conductors installed under existing paved driveways which are not scheduled to be reconstructed as part of this project, shall be installed by drilling at least 6 inches in diameter through the concrete driveway or sidewalk. Any existing drilled holes shall be plugged with a plug of a size which is larger than the Conductor size and shall be covered with a material that will prevent Conductor or Cable damage.

9. Pull Boxes shall not be installed within concrete curb access ramps or landings. In addition, any Pull Boxes installed behind curbs shall be installed between the curb and the Proposed/Future Sidewalk or beyond Proposed/Future Sidewalk. An exception to this rule would be Pull Boxes installed in a median. Any Pull Boxes installed along an uncurbed roadway shall be installed 10 feet from the edge of pavement to the edge of Pull Box where High-of-Way permits or as far from pavement as practical when there is insufficient Right-of-Way to provide the 10 foot offset.

10. A three (3/4) in. x 10 ft. ground rod shall be installed in the No. 7 Pull Box (with the extension) adjacent to the Controller Cabinet. Two ground rod clamps shall be furnished and installed for clamping the ground wire.

11. The high Voltage Cables should be separated from the Low Voltage Cables as much as possible, Separate Conduit should be used for High Voltage and Low Voltage Cables between the Controller cabinet and the No. 7 Pull Boxes located on each corner of the intersection.

12. A #14 AWG-NMSA 19-1-1984 7-Conductor solid wire cable shall be installed from each Traffic Signal Termination Strip to the concrete Pull Box adjacent to the Pole Foundation leaving three feet of slack for each Cable measured from the top of the Pull Box in the Pull Box.

13. Two (2) #10 AWG-RHH Conductors shall be installed from each Luminaire to the concrete Pull Box adjacent to the Pole Foundation, leaving three feet of slack for each Conductor measured from the top of the Pull Box in the Pull Box. Route four (#10) AWG Conductors to the Luminaire with the photoelectric cell. An in-line fuse shall be installed for each Luminaire in the associated Pull Box.

14. Poles with Pedestrian Signals and Push Button Stations shall use one 7-Conductor **#14** AWG-NMSA Cable for both the Push Button Station and the Pedestrian Signal. The outer cable jacket shall be removed at the hand hole height. Two conductors shall be routed to the Push Button Station and the remaining Conductors shall be routed to the Pedestrian Signal.

15. All vehicle roadway Detection Loop Cables shall be **#14** AWG-NMSA 5-1-5-1985 Cable. Lead-In Cables shall be **#16** AWG-NMSA 50-2-1984 Cable. No splices shall be allowed in the roadway Detection Loop Cable except at the Pull Box adjacent to the loop.

16. The Detector Lead-In Cable shall not be spliced.

17. Detection Loop saw cuts shall be flushed with water under pressure and then dried with air under pressure.

18. The emergency vehicle Pre-Emption Sensor Cable shall be Opticom Detector Cable Model No. 138. The Cable shall not be spliced.

TRAFFIC SIGNAL GENERAL NOTES (CONT.)

19. The Trio Electric Cooperative Construction Department (520) 744-2941 shall be contacted by the Contractor to verify the location for the electric service connection at the intersection. The Contractor shall be responsible for excavating and back filling the trench and installing any necessary sleeves under sidewalks or driveways in which the electric service cable in conduit (CIC) is to be installed by Trio Electric Cooperative.

20. All vehicle and pedestrian signal indications shall be LED. All vehicle and pedestrian LED signal indications shall be the GE Luminization GTX or GTI Series with fitted lens to the color of the indication and be ETL certified or approved equal. All pedestrian signal faces shall be GTI Series Pedestrian Countdown Indicators.

21. The Contractor shall contact Arizona BUI of 1-800-782-5346, a minimum of two working days prior to any excavation.

22. Any equipment and/or Utilities within the project limits that are damaged or destroyed by the Contractor shall be repaired or replaced at the sole expense of the Contractor.

23. Conduits for future use shall be sealed with a properly sized tapered polyethylene duct plug at each termination point. The #8 Bare Bond wire shall be tapped through the plug pull tab and two feet of slack doubled back into the Conduit.

24. The face of any vehicle or Pedestrian Signal Head that is not in service shall be covered with a prefabricated nylon cover designed to completely cover the visors and lenses. The covers shall be securely held in place by integral nylon straps or buckles. The covers shall have a felt mesh strip through the center to permit testing of the Signals without removing the cover. Out of service Signal Heads shall not be turned, covered or put out of service.

25. The location of Utilities shown on the plans is approximate. The Contractor is responsible for verifying/paving the underground Utilities in the vicinity of the Proposed Pole Foundation. The Contractor is also responsible for verifying the clearance between overhead lines and Traffic Signal Equipment prior to installation of Poles and Foundations.

26. Upon commencement of work, Traffic Control Devices shall be posted and maintained by the Contractor until such a time as the work is complete. All Traffic Control Devices shall be in accordance with the most recent edition of the Manual on Uniform Traffic Control Devices as adopted by Pima County and approved by the engineer.
TRAFFIC SIGNAL LEGEND

Load Center Cabinet
UPS In Load Center Cabinet
Control Cabinet
Conduit, Underground
Conduit Run Number
Lighting Circuit
No. 5 Pull Box
No. 7 Pull Box
No. 7 Pull Box w/ Extension
ITS Pull Box (FD-300)
Signal Pole or Post and Foundation
Cabinet or Pole Keynote
Luminaire
Luminaire w/ Photocell
Traffic Signal Face, Type F
Traffic Signal Face, Type Q
Pedestrian Signal
Pedestrian Push Button
CCTV Camera
6' x 6' Pulse Loop Detector
Pre-Ejection Sensor
Pre-Ejection Beacon

Responsibilities

1. The Contractor shall supply and install all equipment and materials for the installation of the Traffic Signals as specified on the approved plans and in the project specifications.

2. The Contractor shall deliver the Controller Assembly which includes the Controller Cabinet, the Controllers, the Opticom Model 764 Multimode Phase Selector, the Opticom Model 768 Auxiliary Interface Panel, and other Auxiliary Equipment specified in the approved plans and project specifications to the PCDOT maintenance yard, 1313 S. Mission Road, Bldg. #28 for testing. This shall occur a minimum of two weeks prior to that installation at the intersection. Contact the signal shop supervisor (520-724-5691) at least 2 working days prior to the delivery of the Controller Assembly to PCDOT. The PCDOT staff shall transport the Controller Assembly from the PCDOT maintenance yard to the intersection after the PCDOT staff has tested the equipment.

3. PCDOT staff shall install each Traffic Controller Cabinet on its Foundation and route all of the Conductors into the Controller Cabinet. The PCDOT staff shall terminate the Field Conductors in the Controller Cabinet.

4. The Contractor shall carefully disassemble and salvage all existing Traffic Signal equipment that is not to remain or be relocated. All of the equipment designated for salvage shall be safely stored at the construction site until it is reinstalled or safely returned to the PCDOT maintenance yard, 1313 S. Mission Road. Equipment designated for salvage and damaged in the Contractor's removal, storage, or delivery, shall be replaced by new equipment from the Contractor. The equipment shall be safely loaded by the Contractor at the location designated by the shop supervisor. Contact the signal shop supervisor (520-724-5691) at least 2 working days prior to returning the equipment. This work shall be incidental to the other items of work in the contract.

5. The Contractor shall provide all Traffic Signs except for the Overhead Metro Street Name Signs. PCDOT shall fabricate all Overhead Metro Street Name Signs for the designated intersection and provide them to the Contractor for Installation. The Contractor shall notify the Traffic Signal Inspector a minimum of 5 working days prior to the delivery of the Overhead Metro Street Name Signs. The mounting hardware required for the installation of Metro Street Name Signs is Pelco Bracket (AS-304-48-PNC), a Pelco Gusseted Tube (AB-0390-94-PNC), and Four Pelco 4" Sign Clamps (AB-0502-04-PNC) or approved equals. The Contractor shall Install all Signs.

6. The Contractor shall provide all materials and install all pavement markings required to complete the project.

7. The Traffic Signal shall not be energized until all signal related Signs have been installed and verified in place.

8. Unless specifically identified for removal as part of this project, it is the Contractor's responsibility to repair, restore, or replace any landscaping, irrigation, or hardscape that may have been damaged or disturbed by the construction activities. The Contractor shall obtain prior approval from the Operations Division Public Works Supervisor (520-724-2639) before any plants are removed.

9. The Contractor is responsible for ensuring all Poles and Mast Arms are straight and true prior to Installation. Pima County will not be responsible for any cost associated with repairing or replacing Poles with manufacturing errors.
**CABINET SCHEDULE**

<table>
<thead>
<tr>
<th>CABINET</th>
<th>TYPE</th>
<th>TRAFFIC SIGNAL CONTROLLER</th>
<th>AUX. CONTROL</th>
<th>REMARKS</th>
<th>LOCATION</th>
<th>STANDARDS</th>
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<tr>
<td>A</td>
<td></td>
<td>Relocate Existing, Myers TS2-988 6, Detector Rack Configuration 1</td>
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<td>Microcontroller, 96 Channel MUX, Rack Mounted Loop Detectors,</td>
<td>Locate Mains Foundation at Sta 43+54, 71’ Lt, Measured from the</td>
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<tr>
<td>B</td>
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<td>Service Pedestal</td>
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<td>-</td>
<td>Service Pedestal</td>
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</tbody>
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**NOTES:**

1. The top of the signal housing of a vehicular signal face located over any portion of a highway shall not be more than 25.6 feet above the pavement per MUTCD Section 4D.15.

2. The bottom of the signal housing and any related attachments to a signal face located over any portion of a highway shall be at least 15 feet above the pavement per MUTCD Section 4D.15.

**LOCATION:**

- Sahuarita Road Centerline
- Wilmot Road Centerline

**STANDARDS:**

- T1601
- T203
- T312

**Remarks:**

- locating a Metro Street Name Sign at Sta 43+47, 69’ Lt, Measured from the Center of the Foundation to the Sahuarita Road Centerline.
- locating a Metro Street Name Sign at Sta 43+54, 71’ Lt, Measured from the Center of the Foundation to the Sahuarita Road Centerline.

**TRAFFIC SIGNAL CABINET SCHEDULE**

- PCSQ shall fabricate all Overhead Metro Street Name Signs for the designated intersection and provide them to the Contractor for installation on Traffic Signal Mast Arms. The Contractor shall provide all mounting hardware for these Signs. The mounting hardware required for the installation of a Metro Street Name Sign is a Pelco Bracket (AS-304-68-PNC), a Pelco Gusseted Tube (4A-0390-94-PNC), and Four - Pelco 4" Sign Clamps (AB-0502-04-PNC) or approved equals.
PAVEMENT MARKING GENERAL NOTES

1. All equipment/materials and construction shall meet or exceed the requirements contained in the current Pima Association of Governments (PAG) standard specifications and the standard details for public improvements, the specific provisions of the PAG special provisions and the approved plans. All pavement marking shall be installed in accordance with the latest edition of the Manual on Uniform Traffic Control Devices and the Pima County/City of Tucson PAG/PCOT Pavement Marking Design Manual and applicable amendments.

2. The pavement marking contractor shall contact the Pima County Pavement Marking Supervisor (520-724-2924) at least three (3) working days in advance of any pavement marking layout and indication to schedule inspection and approval of pavement markings. Pavement marking shop hours and Monday through Thursday, 6:00 AM to 3:30 PM, state holidays excluded.

3. Upon approval of the pavement marking layout, the Pima County Pavement Marking Supervisor will issue written authorization to the contractor to proceed with installing all pavement markings and associated reflective raised pavement markings.

4. The permanent pavement markings may be modified as directed and approved by the Traffic Engineer or by his designee.

5. The design speed for Sahuarita Road is 55 mph. The design speed for Wilmot Road north of Sahuarita Road is 40 mph. The design speed for Wilmot Road south of Sahuarita Road is 25 mph. The design speed for the intersection is 55 mph. The posted speed limit for Sahuarita Road is 50 mph. The posted speed limit for Wilmot Road north of Sahuarita Road is 35 mph. The posted speed limit for Wilmot Road south of Sahuarita Road is 25 mph.

6. All lane dimensions are measured from the center of lane line, center of double lane line, or edge of pavement unless otherwise noted.

7. The pavement marking drawings are schematic only. The contractor shall follow all dimensions, applicable marking details, and specified Pima County standards when installing pavement striping, symbols, legends, and markers.

8. Painted layout striping shall be 15 mils (0.015") thick, water based paint placed on the final pavement surface with 8 pounds per gallon of AASHTO M 247-13 Type I Glass Beads with methyl/methacrylate acrylic coating. Painted layout striping shall be installed within five (5) working days of the final pavement surface being completed.

9. The final longitudinal striping shall be 90 mils (0.009") thick ribbon extruded thermoplastic with 10 pounds per 100 square feet of AASHTO M 247-13 Type I Glass Beads. The final longitudinal striping shall be placed within 21 to 30 calendar days of the final pavement surface being completed. All previously exempted longline markings shall be applied during the final longitudinal striping.

10. All final transverse striping, including symbols and "ONLY" legends, shall be 90 mils (0.009") thick alloyed hand cut extruded thermoplastic with 10 pounds per 100 square feet of AASHTO M 247-13 Type I Glass Beads. Bicycle marking legends shall be Type I preformed plastic pavement markings.

11. The contractor shall be responsible for the layout and installation of pavement markings on the final surface course following one control line per direction of travel consisting of control points that have been set to no more than 50 feet apart on curve sections and 200 feet in tangent sections where the pavement marking pattern does not change.

12. It is the contractor's responsibility to ensure that the final surface course is placed so that the construction joint is no more than one foot offset from the final striping.

13. All retroreflective raised pavement markers shall be installed so that the reflective face of each marker is facing the direction of traffic and perpendicular to the direction of traffic flow. Type C or G pavement markers shall be installed so that the clear (or white) reflective face of each marker is facing approaching traffic and perpendicular to the direction of traffic flow.

14. All retroreflective raised pavement markers shall be installed per the current edition of the PAG standard specifications, the PC/OT Pavement Marking Manual and applicable amendments.

15. All removal of existing pavement markings shall be accomplished in accordance with Section 7.01 of the PAG Standard Specifications. Painting over existing striping does not constitute approved striping obliteration.

16. Unless otherwise noted, all pavement markings shall be installed by the contractor.

17. Upon final inspection by Pima County, a written acceptance or itemized punchlist of missing or unacceptable pavement markings shall be submitted to the contractor.

18. The contractor shall be responsible for maintaining all striping until project is approved for "construction acceptance" by Pima County. If all punchlist items are completed, and one year warranty begins, if the pavement marking material manufacturer offers a longer warranty, the contractor shall transfer that warranty to Pima County.

19. The PC/OT Pavement Marking Manual is available online.

PAVEMENT MARKING NOTES

PAVEMENT MARKING NOTES
NOTES:

Install new pavement arrows and legends per Sheet Nos. 2-9, 2-10, and 4-12 of the PC/COT Pavement Marking Design Manual.

Install crosswalk per Sheet Nos. 2-8 and 5-12 of the PC/COT Pavement Marking Design Manual.

Install markings at 1-foot from face of median curb or edge line.

Install new lane pavement legends per Sheet Nos. 2-9, 1 and 6-1.1 of the PC/COT Pavement Marking Design Manual.

Scales: Metric 1"=40'

PS&E Project No.: 88011

PS&E Date: 12/4/2020

Cartesian, Inc., P.E., 1140 E. 4th St., Suite 280
Tucson, AZ 85701
(520) 624-5555


NOTES:

Install new pavement arrows and legends per Sheet Nos. 2-9, 2-10, and 4-12 of the PC/COT Pavement Marking Design Manual.

Install crosswalk per Sheet Nos. 2-8 and 5-12 of the PC/COT Pavement Marking Design Manual.

Install markings at 1-foot from face of median curb or edge line.

Install new lane pavement legends per Sheet Nos. 2-9, 1 and 6-1.1 of the PC/COT Pavement Marking Design Manual.
NOTES:

1. Install marking at 1-foot from face of median curbs or edge line.

Sahuarita Road

Exist. R/W

Lane Taper

Sahuarita Road

Exist. R/W

Matchline Sta 54+00 See Below Left

Matchline Sta 54+00 See Above Right

Matchline Sta 46+00 See Sheet PM2

Matchline Sta 55+00

Matchline Sta 54+00 See Above Right

Sahuarita Road

Exist. R/W

Varies

1'
NOTES:

- Install new pavement arrows and legends per Sheet Nos. 2-9, 2-10, and 4-12 of the PC/COT Pavement Marking Design Manual.
- Install crosswalk per Sheet Nos. 2-8 and 5-12 of the PC/COT Pavement Marking Design Manual.
- Install new bike lane pavement legends per Sheet Nos. 2-9.1 and 6-1.1 of the PC/COT Pavement Marking Design Manual.

Marking Design Manual.
The contractor shall install orange colored SPW03-33 signs with flags and flashers a minimum of 24 hours before the traffic signal is installed, and the signs shall be protected in place for 30 days or until the project is approved for "Construction Acceptance" by Pima County, whichever is greater. The cost of the installation of temporary signs are considered included under Bid Item #7010001.

The signs shall be installed a minimum of 24 hours before the traffic signal is installed. The PC/COT Signing Manual is available online.

Prior to disturbing any traffic signs, a sign condition inventory of all existing signing shall be conducted by the contractor and provided to the Pima County Sign Shop. The inventory sheet indicates current sign locations and conditions, including any existing damage or deficiencies.

Signs may be modified and locations adjusted to fit field conditions as directed and approved by the County Engineer or their designee.

All perforated posts shall be installed in a concrete foundation, unless otherwise directed by the County Engineer or their designee.

All new signs shall have 0.080 gauge, radius corner, aluminum backing unless otherwise directed. All warning signs having yellow backgrounds shall use fluorescent yellow sheeting. All school signs shall use fluorescent yellow green sheeting. All grandmont signs shall have an anti-graffiti coating applied to sign face, 3M* 7603 Film or equivalent.

The contractor shall be responsible for coordinating all work with Arizona 811 for "Construction Acceptance" by Pima County (Fully open to traffic, all punch list items are noted).

Upon final inspection, a written acceptance or itemized punch list of missing or damaged signs shall be issued.

All sign station locations are approximate, the contractor shall verify actual sign locations.

The posting speed limit for Wilmot Road south of Sahuarita Road is 25 mph. The design speed for Wilmot Road south of Sahuarita is 55 mph. The design speed for Sahuarita Road is 55 mph. The design speed for Wilmot Road north of Sahuarita is 40 mph. The design speed for Wilmot Road south of Sahuarita Road is 25 mph. The design vehicle is WB-62. The posted speed limit for Sahuarita Road is 35 mph. The posted speed limit for Wilmot Road north of Sahuarita Road is 25 mph. Sign placement shall be based on the posted speed limit.

Wilmot Rd Advance Warning Sign
5-35-56
W-49-51
White-
BP
48" x 12"

Sahuarita Rd Advance Warning Sign
S-35-56
S-40-51
W-68-53
W-230-44
White-
BP
60" x 12"

Scales
Ver. NA
Horiz. NA
SN1
SN10
# 4 SAHWI

Call 811 or click Arizona811.com
Contact Arizona 811 at least two full working days prior to disturbing any traffic signs, a sign condition inventory of all existing signing shall be conducted by the contractor and provided to the Pima County Sign Shop.

All perforated posts shall be installed in a concrete foundation, unless otherwise directed by the County Engineer or their designee.

All new signs shall have 0.080 gauge, radius corner, aluminum backing unless otherwise noted.

Upon final inspection, a written acceptance or itemized punch list of missing or unacceptable sign installations shall be submitted to the contractor by Pima County.

The contractor shall be responsible for coordinating all work with Arizona 811 for installing all traffic signs in the field and for maintaining all signing until approved for "Construction Acceptance" by Pima County (Fully open to traffic, all punch list items are completed, and one year warranties begin).

Any signs and posts being re-used on this project shall be stockpiled in a manner to avoid damage and maintain the integrity of the signs. Safe storage of stockpiles and payment for damage to the stockpiles shall be the responsibility of the contractor.

The contractor shall be responsible for coordinating all work with Arizona 811 for installing all traffic signs in the field and for maintaining all signing until approved for "Construction Acceptance" by Pima County (Fully open to traffic, all punch list items are completed, and one year warranties begin).

Any signs and posts being re-used on this project shall be stockpiled in a manner to avoid damage and maintain the integrity of the signs. Safe storage of stockpiles and payment for damage to the stockpiles shall be the responsibility of the contractor.

The PC/COT Signing Manual is available online.

The contractor shall install orange colored SPW03-33 signs with flags and flashers a minimum of 24 hours before the traffic signal is installed, and the signs shall be protected in place for 30 days or until the project is approved for "Construction Acceptance" by Pima County, whichever is greater. The cost of the installation of temporary signs are considered included under Bid Item #7010001.

See details to the right for sign layout.
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<th>SIGN NUMBER</th>
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**NOTES:**
1. The Contractor shall verify post lengths and elevations for the Engineer's approval.
2. The Engineer may adjust signs to better suit the Contractor's needs.
3. Quantities are approximate and for the Contractor's Information only.
## SIGN SUMMARY

### PLAN SHEET NUMBER
| SIGN NUMBER | SIGN CODE | PANEL | LEGEND | WIDTH (IN) | AREA (SQ FT) | SHEETING TYPE | BACKGROUND COLOR | PANEL TYPES
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### NOTES:
1. The Contractor shall verify post lengths and elevations for the Engineer's approval.
2. The Engineer may add a sign in order to achieve a more desirable location.
3. Quantities are approximate and for the Contractor’s Information only.
1. The Contractor shall verify post lengths

SN3 S-45+25 R3-5LP X 44 L 7 WH RIGHT LANE 36 12 2.5 RRM X 6080014 1 25 12
R3-5L X

SN3 S-45+70 WB-18aAZ X 30 R 7 YL residents of the projects affected

SN3 S-45+70 WB-18aAZ X 27 R 7 FLUSH FLOOD AREA 36 36 9.0 RRM X 6080014 2 25 26
WIS-104P 15 X TL NEXT 5 MILES 36 18 4.5 RRM X 6080014

SN3 S-45+70 WB-18aAZ X 27 R 7 FLUSH FLOOD AREA 2020001
WIS-104P 15 X TL NEXT 5 MILES 2020001

SN4 S-47+20 R4-4 X 31 L 7 WH RIGHT TURN/YIELD TO BIKES 36 30 7.5 RRM X 6080014 1 25 11

SN4 S-47+80 WH-3 X 25 R NO PASSING ZONE 2020001

SN4 S-49+02 W2-1 X 40 L Cross Road Symbol 2020001
WIS-BP X

SN4 S-49+51 W6-15P X 42 L 7 TL NEW 24 12 2.0 RRM X 6080014 2 25 26
W3-3 X TL Signal Ahead Symbol 36 36 9.0 RRM X 6080014
WIS-BP X TL Wilmot Rd 48 12 4.0 RRM X 6080014 SEE SWH FOR SIGN FORMAT

SN4 S-49+57 R2-1 (50) X 22 R SPEED LIMIT 50

SN4 S-52+66 WB-103 X 23 L DO NOT ENTER WHEN FLOODED

SN4 S-52+93 WH-1 X 23 R Cattle Crossing Symbol

SN4 S-54+02 WH-3 X 24 L NO PASSING ZONE 2020001

SN4 S-59+20 R1-1 X 62 L STOP

SN5 W-206+35 W3-5 X 27 R 7 TL Reduced Speed Limit Ahead 36 36 9.0 RRM X 6080014 1 25 11

SN5 W-212+60 R2-1 (35) X 27 R 7 WH SPEED LIMIT 35 24 30 5.0 RRM X 6080014 1 25 11
1. The Contractor shall verify post lengths and elevations for the Engineer's approval. Offsets are measured from centerline to center of post.

2. The Engineer may adjust the location of a sign in order to achieve a more desirable location.

3. Quantities are approximate and for the Contractor's information only.
## SIGN SUMMARY

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<th>HEIGHT (IN)</th>
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</tbody>
</table>
## NOTES:

1. The Contractor shall verify post lengths and elevations for the Engineer's approval.
2. The Contractor shall verify post lengths and elevations for the Engineer's approval.
3. Quantities are approximate and for the Contractor's Information only.

### PANEL TYPES:

- **PWW**: Regulatory, Warning or Marker
- **F-DA**: Flat-sheet aluminum with direct-applied or silk-screened characters
- **Exh**: Exhustion

### BACKGROUND COLORS:

- **WH**: White
- **BR**: Black
- **GR**: Green
- **RD**: Red
- **YL**: Fluorescent Yellow
- **BL**: Blue
- **FL-TG**: Fluorescent Yellow-Green
- **POST TYPES**

- **S**: Non-telescoping perforated post
- **U**: Perforated U-channel post

---

### REFERENCES:

- See SN1 for sign format
- MOUNT ON SIGNAL MAST ARM
- SEE SHEET TS5 FOR LOCATION
- BACK TO BACK

---

### SIGN SUMMARY

- **SURAHITA ROAD & WILMOT ROAD**
- **Suit 280**
- **Or R E C O R D ING**

---

### SCALE:

- **Sheet SN10 of SN10**
- **Page 55 of 62**
### ENVIRONMENTALLY SENSITIVE ROADWAY (ESR) MITIGATION CALCULATIONS

#### TREES

<table>
<thead>
<tr>
<th>Tree Name</th>
<th>Total Number of Plants Inventoried</th>
<th>Total Caliper Inches Inventoried</th>
<th>Total Replacement Caliper Inches Required</th>
<th>Nursery Box Size</th>
<th>Average Caliper Inch Per Box Size</th>
<th>Total Nursery Plants Purchased Per Box Size</th>
<th>Total Caliper Inches Provided</th>
<th>Status</th>
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<tbody>
<tr>
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<td>Velvet Mesquite</td>
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<td>4</td>
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<td>15Gal/24&quot; Trepot</td>
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<td>Senequilla graggii</td>
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<tr>
<td>Catclaw Acacia</td>
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<td>36&quot; Box</td>
<td>4&quot;</td>
<td>0</td>
<td>0</td>
<td>Fulfilled</td>
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<td></td>
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<td>24&quot; Box</td>
<td>2.5&quot;</td>
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<td>0</td>
<td>Fulfilled</td>
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<td></td>
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<td>15Gal/24&quot; Trepot</td>
<td>1&quot;</td>
<td>0</td>
<td>0</td>
<td>Fulfilled</td>
</tr>
</tbody>
</table>

#### GENERAL NOTES

1. **Seeding:** Seed mix shall be applied over rock mulch base. Also see Special Provisions Section 801.3 and 803.3.
2. **Plants:** Plants installed within Sight Visibility Triangles (SVT) shall have a mature height of less than 30".
3. **Trees:** Trees to be planted a minimum of 8 feet (8') from sidewalks and six feet (6') from face of curb. Small/upright trees may be planted a minimum of 4'-6" from the edge of sidewalks. Shrub and accents to be planted a minimum of four feet (4') from sidewalks and face of curb.
4. **Railroad easement:** Railroad easement.

#### MITIGATION CALCULATIONS & GENERAL NOTES

**SAGUARO MITIGATION CALCULATIONS**

<table>
<thead>
<tr>
<th>Inventoried Saguaro (HT.)</th>
<th>Total Replacement Caliper Inches Required x 15% x ESR Multiplier</th>
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</tr>
<tr>
<td>2&quot; - 4&quot;</td>
<td>0</td>
</tr>
<tr>
<td>4&quot; - 6&quot;</td>
<td>0</td>
</tr>
<tr>
<td>6&quot; - 8&quot;</td>
<td>0</td>
</tr>
</tbody>
</table>

**TOTAL PLANTABLE AREA WITHIN THE DISTURBED PROJECT LIMITS:**

- Disturbed Project Area = 6.00 Acres
- Total Project Area = 7.59 Acres
- Area within the disturbed limit that is unplantable includes:
  - Roadway
  - Sidewalk, multi-use path
  - Unpaved area between curb and sidewalk medians
  - ID offset from water and sewer lines and manholes
  - ID offset from pavement edge in areas with no curb
  - Sight visibility triangles
  - Drainage structures and associated riprap
  - Railroad easement

**ESR Multiplier:** Plantable Area/Disturbed Project Area = 0.08 or 8%

**Total Plantable Area within the Disturbed Project Limits:**

- Total Caliper Inches Inventoried x 125% x ESR Multiplier
- Total Replacement Caliper Inches Required

**TOTAL PLANTABLE AREA WITHIN THE DISTURBED PROJECT LIMITS:**

- 0.0
- 0.0
- 4.0
- 0.0

**TOTAL REPLACEMENT CALIPER INCHES REQUIRED:**

- 15Gal/24" Treepot
- 24" Box
- 36" Box
- 48" Box

**TOTAL REPLACEMENT CALIPER INCHES PROVIDED:**

- 15Gal/24" Treepot
- 24" Box
- 36" Box
- 48" Box

**TOTAL CALIPER INCHES PROVIDED:**

- 0
- 0
- 4.0
- 0

**STATUS:**

- Fulfilled
PLANT LEGEND

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>BOTANICAL NAME</th>
<th>COMMON NAME</th>
<th>QUANTITY</th>
<th>PROJECT</th>
<th>SIZE</th>
<th>BID</th>
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<td>Acacia confophora</td>
<td>Whitethorn Acacia</td>
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<tr>
<td>Foxtail Patches</td>
<td>Parthenium microphylla</td>
<td>3</td>
<td>15 Gal</td>
<td>8061005</td>
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<td>Prosopis subscansa</td>
<td>Screwbean Mesquite</td>
<td>3</td>
<td>24&quot; Trestle</td>
<td>8062004</td>
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<tr>
<td>Prosopis velutina</td>
<td>Velvet Mesquite</td>
<td>3</td>
<td>24&quot; Box</td>
<td>8061014</td>
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<tr>
<td>Sesbania greggii</td>
<td>Cespedes Acacia</td>
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**PLANTING CRITERIA ADJACENT TO UTILITIES:**

1. No planting within maintenance access roads.
2. No planting inside of trench or on trench slopes.
3. No planting within 15'-0" of power lines.
4. Maintaining 24'-0" each side of poles free of trees and shrubs.
5. Water twice a week for eight weeks, (MWF)
6. Water twice a week until October 15th.
7. Water once every two weeks until contract is over.
8. Water once every two weeks for eight weeks.
9. Water once every two weeks until contract is over.
10. Water once every two weeks until contract is over.
11. Water once every two weeks until contract is over.

**SEED MIX 1 - CLASS III (Type A) Low Grow Seed Mix for Roadside Areas - Clear Zone**

<table>
<thead>
<tr>
<th>BOTANICAL NAME</th>
<th>COMMON NAME</th>
<th>QUANTITY</th>
<th>PROJECT</th>
<th>BID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambrosia dumosa</td>
<td>Triangulum-Leaf Barley</td>
<td>3.0</td>
<td>8050010 (2nd App.)</td>
<td></td>
</tr>
<tr>
<td>Astragalus purpureus</td>
<td>Pink Prickly Poppy</td>
<td>0.5</td>
<td>8050001</td>
<td></td>
</tr>
<tr>
<td>Gallina nudiflora</td>
<td>Desert Marigold</td>
<td>2.0</td>
<td>8030002 (1st App.)</td>
<td></td>
</tr>
<tr>
<td>Bougainvillea barbata var. barbata</td>
<td>Desert Rose</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
<td></td>
</tr>
<tr>
<td>Bougainvillea barbata</td>
<td>Desert Rose</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
<td></td>
</tr>
<tr>
<td>Lippia graminea</td>
<td>Mexican Chaffweed</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
<td></td>
</tr>
<tr>
<td>Chrysocephalum mexicanum</td>
<td>Mexican Privet</td>
<td>3.0</td>
<td>8030002 (1st App.)</td>
<td></td>
</tr>
<tr>
<td>Gutierrezia sarcoidea</td>
<td>Barbed wire</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
<td></td>
</tr>
<tr>
<td>Knutha angustata</td>
<td>Indian Blanket</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
<td></td>
</tr>
<tr>
<td>Kochia scoparia</td>
<td>Indian Grass</td>
<td>1.0</td>
<td>8030002 (1st App.)</td>
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</tr>
<tr>
<td>Lepidium latifolium</td>
<td>Broadleaf mustard</td>
<td>1.0</td>
<td>8030002 (1st App.)</td>
<td></td>
</tr>
<tr>
<td>Limonium sylvestre</td>
<td>Beach Sunflower</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
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</tr>
<tr>
<td>Phacelia crenulata</td>
<td>Desert Bluebells</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
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</tr>
<tr>
<td>Prosopis velutina</td>
<td>Velvet Mesquite</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
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</tr>
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**SEED MIX 2 - CLASS III (Type A) Low Grow Seed Mix for Roadside Areas - Clear Zone**

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<thead>
<tr>
<th>BOTANICAL NAME</th>
<th>COMMON NAME</th>
<th>QUANTITY</th>
<th>PROJECT</th>
<th>BID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambrosia dumosa</td>
<td>Triangulum-Leaf Barley</td>
<td>1.0</td>
<td>8050010 (2nd App.)</td>
<td></td>
</tr>
<tr>
<td>Astragalus purpureus</td>
<td>Pink Prickly Poppy</td>
<td>0.5</td>
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</tr>
<tr>
<td>Galina nudiflora</td>
<td>Desert Marigold</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
<td></td>
</tr>
<tr>
<td>Bougainvillea barbata var. barbata</td>
<td>Desert Rose</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
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</tr>
<tr>
<td>Bougainvillea barbata</td>
<td>Desert Rose</td>
<td>0.5</td>
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<tr>
<td>Lippia graminea</td>
<td>Mexican Chaffweed</td>
<td>0.5</td>
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</tr>
<tr>
<td>Chrysocephalum mexicanum</td>
<td>Mexican Privet</td>
<td>1.0</td>
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<tr>
<td>Gutierrezia sarcoidea</td>
<td>Barbed wire</td>
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</tr>
<tr>
<td>Knutha angustata</td>
<td>Indian Blanket</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
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</tr>
<tr>
<td>Kochia scoparia</td>
<td>Indian Grass</td>
<td>1.0</td>
<td>8030002 (1st App.)</td>
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</tr>
<tr>
<td>Lepidium latifolium</td>
<td>Broadleaf mustard</td>
<td>1.0</td>
<td>8030002 (1st App.)</td>
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</tr>
<tr>
<td>Limonium sylvestre</td>
<td>Beach Sunflower</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
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</tr>
<tr>
<td>Phacelia crenulata</td>
<td>Desert Bluebells</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
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</tr>
<tr>
<td>Prosopis velutina</td>
<td>Velvet Mesquite</td>
<td>0.5</td>
<td>8030002 (1st App.)</td>
<td></td>
</tr>
</tbody>
</table>
Contact Arizona 811 at least two full working days before you begin excavation.

Call 811 or click Arizona811.com

# 4 SAHWI

### Plant Legend

#### Trees

- **Acacia constricta**
- **Acacia greggii**
- **Prosopis pubescens**
- **Prosopis velutina**

#### Shrubs/Accents

- **Atriplex canescens**
- **Carnegiea gigantea**
- **Dasylirion wheeleri**
- **Encelia farinosa**
- **Ferocactus sp.**
- **Giant Hesperaloe**
- **Hesperaloe funifera**
- **Melampodium leucanthum**
- **Opuntia basilaris**
- **Opuntia santa-rita**
- **Parkinsonia microphylla**
- **Sphaeralcea ambigua**
- **Saguaro**
- **Screwbash Mesquite**
- **Velvet Mesquite**

#### Hydroseed

- **Seed Mix 1**
- **Seed Mix 2**
- **Preservation Fence**

#### Sight Visibility Triangles

Refer to Demolition Plans
1. All trees to be low branching or multi-trunk. No standard trees to be used.
2. Set stem succulent so that top of root ball matches adjacent grade.
3. Depth of plant pit = depth of root ball.

NOTES:
1. Do not create a basin at base of plant. Slope backfill away from stem.
2. Set stem succulent so that top of root ball matches adjacent grade.
3. This detail applies to nursery grown stock of the genus Opuntia.

1. Do not create a basin at base of cactus. Slope backfill away from stem.
2. Set cactus so that top of root ball matches adjacent grade.
3. Depth of plant pit = depth of root ball.

NOTES:
1. Do not create a basin at base of cactus. Slope backfill away from stem.
2. Set stem succulent so that top of root ball matches adjacent grade.
3. This detail applies to nursery grown stock of the genus Ferocactus and Carnegiea.

3. This detail applies to nursery grown stock of the genus Hesperaloe, and Nolina.

NOTES:
1. Do not create a basin at base of cactus. Slope backfill away from stem.
2. Set stem succulent so that top of root ball matches adjacent grade.
3. Do not create a basin at base of plant. Slope backfill away from stem.

NOTES:
1. Do not create a basin at base of plant. Slope backfill away from stem.
2. Set stem succulent so that top of root ball matches adjacent grade.
3. This detail applies to nursery grown stock of the genus Agave, Hesperaloe, and Nolina.

NOTES:
1. Do not create a basin at base of plant. Slope backfill away from stem.
2. Set stem succulent so that top of root ball matches adjacent grade.
3. Do not create a basin at base of plant. Slope backfill away from stem.

NOTES:
1. Do not create a basin at base of plant. Slope backfill away from stem.
2. Set stem succulent so that top of root ball matches adjacent grade.
3. This detail applies to nursery grown stock of the genus Ferocactus and Carnegiea.
PLANTING - TREEPOT

NOTES:
1. Refer to Special Provisions 006-0.00 for special procedures in areas of calcium carbonate planting pits required in areas of calcium carbonate hard docking conditions. See Section 006 for complete instructions.
2. Initial container in the hole, avoid damage to root system.
3. Finish grade shall match level of original tree pot soil.
4. Minimally water plant with a deep irrigation to full depth of rootball.
5. Retain container to Pima County Native Plant nursery.
6. Complete irrigation installation where applicable.

STEP ONE
A. Auger planting hole to fit container diameter as shown.
B. Fill completely with water.
C. Allow to drain fully, minimum 48 hours.
D. Auger (15" tree pot) 12" auger (24" tree pot)

STEP TWO
A. Initial container in the hole, avoid damage to root system.
B. Backfill around rootball.
C. Finish grade shall match level of original tree pot soil.
D. Minimally water plant with a deep irrigation to full depth of rootball.
E. Retain container to Pima County Native Plant Nursery.
F. Complete irrigation installation where applicable.

PLANTING - SAGUARO

NOTES:
1. All basins shall be field marked and verified by Pima County Landscaping Engineer prior to construction.
2. All basins shall be field marked and verified by Pima County Landscaping Engineer prior to construction.
3. Payment provided by item 802-001.
4. Warning signs to be attached securely to the fence fabric and at 50-foot intervals.

WATER HARVESTING BASIN

NOTES:
1. All basins shall be field marked and verified by Pima County Landscaping Engineer prior to construction.
2. All basins shall be field marked and verified by Pima County Landscaping Engineer prior to construction.
3. Payment provided by item 802-001.
4. Warning signs to be attached securely to the fence fabric and at 50-foot intervals.

PRESERVATION FENCING DETAIL

NOTES:
1. Materials for fencing and warning signs shall be per bid item 900-000.
2. Place warning signs on preservation fencing, per bid item 900-000.
3. Maintain visibility per bid item 900-000.
4. Warning signs to be attached securely to the fence fabric and at 10 foot minimum intervals.

1. Set main stem of cactus plumb as viewed from all sides.
2. Do not create a basin at base of cactus, slope backfill away from stem.
3. Plant saguaro with same orientation as in original location, mark north side of cactus with water based paint prior to start of backfill work.
4. Root prune all shredded or damaged roots. Treat existing root system with wettable sulfur and aerate it.
5. bury green portion of stem to maximum of 24".
6. Do not create a basin at base of cactus. Slope backfill away from cactus. Slope backfill away from root system with wettable sulfur and aerate it.
7. Payment provided under bid item 201-004.
8. All basins shall be field marked and verified by Pima County Landscaping Engineer prior to construction.
9. All basins shall be field marked and verified by Pima County Landscaping Engineer prior to construction.
10. Payment provided by item 802-001.
11. Warning signs to be attached securely to the fence fabric and at 50-foot intervals.
Volume Fill = 6.03 CU YDS
Volume Cut = 48.65 CU YDS
Area Fill = 5.39 SQ FT
Area Cut = 20.48 SQ FT

Volume Fill = 0.57 CU YDS
Volume Cut = 27.73 CU YDS
Area Fill = 1.12 SQ FT
Area Cut = 32.06 SQ FT

Volume Fill = 0.00 CU YDS
Volume Cut = 0.00 CU YDS
Area Fill = 0.43 SQ FT
Area Cut = 42.82 SQ FT

Sta 32+78 to Sta 33+50
Volume Fill = 13.87 CU YDS  
Volume Cut = 210.40 CU YDS

Area Fill = 4.68 SQ FT  
Area Cut = 120.33 SQ FT

Volume Fill = 17.03 CU YDS  
Volume Cut = 195.85 CU YDS

Area Fill = 10.30 SQ FT  
Area Cut = 106.20 SQ FT

Volume Fill = 19.01 CU YDS  
Volume Cut = 160.37 CU YDS

Area Fill = 8.09 SQ FT  
Area Cut = 104.62 SQ FT

Site 35+50 to Site 36+50
Volume Fill = 27.05 CU YDS  
Area Fill = 15.54 SQ FT

Volume Cut = 153.28 CU YDS  
Area Cut = 71.26 SQ FT

Volume Fill = 21.15 CU YDS  
Area Fill = 13.68 SQ FT

Volume Cut = 178.88 CU YDS  
Area Cut = 94.07 SQ FT

Volume Fill = 12.82 CU YDS  
Area Fill = 9.16 SQ FT

Volume Cut = 203.20 CU YDS  
Area Cut = 99.22 SQ FT

Sta 37+00 to Sta 38+00

Clear Zone

Area Cut = 99.22 SQ FT

Volume Fill = 12.82 CU YDS  
Area Fill = 9.16 SQ FT

Volume Cut = 203.20 CU YDS  
Area Cut = 99.22 SQ FT

Project No. 45AHWM  
Sheet No. X504 of X520
Sta 44+50 to Sta 45+50

Clear Zone

Exist. R/W

Const. Sahuarita Road

4.0:1

0.00%

-2.00%

1.0:1

0.00%

-2.00%

-2.00%

0.00%

Volume Fill = 1,812 CU YDS
Volume Cut = 180,80 CU YDS

Area Fill = 60.00 SQ FT
Area Cut = 87.47 SQ FT

Volume Fill = 8.49 CU YDS
Volume Cut = 209.44 CU YDS

Area Fill = 1.37 SQ FT
Area Cut = 101.79 SQ FT

Volume Fill = 19.61 CU YDS
Volume Cut = 213.76 CU YDS

Area Fill = 118.40 SQ FT
Area Cut = 118.40 SQ FT
Sta 47+50 to Sta 48+50
Clear Zone

Ex. R/W

Const. Sahuarita Road

1.0:1
-2.00%

4.0:1

0.00%

Volume Fill = 19.80 CU YDS
Volume Cut = 119.81 CU YDS
Area Fill = 16.00 SQ FT
Area Cut = 53.66 SQ FT

Volume Fill = 5.27 CU YDS
Volume Cut = 150.32 CU YDS
Area Fill = 5.28 SQ FT
Area Cut = 76.34 SQ FT

Volume Fill = 9.72 CU YDS
Volume Cut = 160.69 CU YDS
Area Fill = 4.72 SQ FT
Area Cut = 86.20 SQ FT

Planned
Department of Transportation
Pima County

20 North Stone Avenue             Tucson, Arizona 85701
(520) 615-9191 Fax (602) 944-7423

2020
XS20

Sahuarita and Wilmot Intersection Improvements

Contact Arizona 811 at least two full working days before you begin excavation
Call 811 or click Arizona811.com

Kimley-Horn
333 E Nolita Road
Suite 280
Tucson, AZ 85705
520-854-9088 fax 520-944-1203

Project No. 459181 Sheet No. XS20 of XS20

INITIAL
PS&E
SECTIONS

Revisions
Engineer
Date

As Built
Engineer
Date
Volume Fill = 17.11 CU YDS
Volume Cut = 103.86 CU YDS
Area Fill = 2.38 SQ FT
Area Cut = 59.22 SQ FT

Site 49+00 to Site 49+00

Sahuarita and Wilmot Intersection Improvements

Kimley-Horn

Pima County Department of Transportation
201 North Stone Avenue
Tucson, Arizona 85701
(520) 615-9191 Fax (602) 944-7423

Project No. 459001 Sheet No. XS12 of XS20
Sta 219+85 to Sta 220+50
Clear Zone

Exist. R/W

Const. Wilmot Road

Area Cut = 16.13 SQ FT
Area Fill = 6.91 SQ FT
Volume Cut = 0.00 CU YDS
Volume Fill = 0.00 CU YDS

Area Cut = 16.26 SQ FT
Area Fill = 7.05 SQ FT
Volume Cut = 9.30 CU YDS
Volume Fill = 4.01 CU YDS

Area Cut = 16.34 SQ FT
Area Fill = 7.53 SQ FT
Volume Cut = 30.18 CU YDS
Volume Fill = 13.51 CU YDS

Area Cut = 13.51 SQ FT
Area Fill = 7.63 SQ FT
Volume Cut = 30.18 CU YDS
Volume Fill = 13.51 CU YDS

Area Cut = 16.26 SQ FT
Area Fill = 7.05 SQ FT
Volume Cut = 9.30 CU YDS
Volume Fill = 4.01 CU YDS

Area Cut = 16.34 SQ FT
Area Fill = 7.53 SQ FT
Volume Cut = 30.18 CU YDS
Volume Fill = 13.51 CU YDS
Sta 226+65 to Sta 227+50
Clear Zone

Area Cut = 37.07 SQ FT
Area Fill = 0.00 SQ FT
Volume Cut = 0.00 CU YDS
Volume Fill = 0.00 CU YDS

Area Cut = 81.08 SQ FT
Area Fill = 0.00 SQ FT
Volume Cut = 76.57 CU YDS
Volume Fill = 1.01 CU YDS

Area Cut = 93.34 SQ FT
Area Fill = 0.00 SQ FT
Volume Cut = 161.50 CU YDS
Volume Fill = 0.00 CU YDS

Sheet No. 4SAHWI Sheet No. X518 of X520