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 COMPILLED 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 BUI" AT 1-800-782-5348 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 THE DEPARTMENT. DIRT OR MUD SLIDES THAT AFFECT THE ROADWAY SHALL BE CLEANED AND GRADED IN ACCORDANCE WITH THE SPECIFICATIONS.


5. BASIS OF BEARING IS THE SOUTH LINE OF THE SOUTHWEST ONE-CORNER OF SECTION 31, T14S, R16E, PIMA COUNTY, ARIZONA, FROM A BRASS CAP SURVEY MONUMENT AT THE SOUTHWEST CORNER, WHICH LIES IN THE CENTER OF TANQUE VERDE ROAD AND IS APPROXIMATELY 158 FEET EAST OF THE INTERSECTION WITH TANQUE VERDE LOOP ROAD, TO A BRASS CAP SURVEY MONUMENT AT THE SOUTH ONE-QUARTER OF SECTION 31, SAID BEARING BEING N89°01'49"E.

NOTE THAT THE BEARINGS SHOWN HEREON (OR IMPLIED BY GROUND CONSTRUCTION) DO NOT EQUAL GEODETIC BEARINGS DUE TO MERIDIAN CONVERGENCE. THE REFERENCE MERIDIAN IS GRID NORTH.

6. BASIS OF ELEVATION FOR THIS PROJECT IS PIMA COUNTY OPUS CONTROL POINT "HOME_80", HAVING A PUBILISHED NAVD88 ELEVATION OF 2624.44 FEET.

NOTE: ORTHOMETRIC HEIGHTS (ELEVATIONS) WERE DERIVED FROM GPS ELLIPSOID HEIGHT MEASUREMENTS AND THE APPLICATION OF A HIGH-RESOLUTION HYBRID GEOID MODEL, GEOD 132.

7. BASIS OF STATIONING FOR TANQUE VERDE ROAD INCREASE FROM WEST TO EAST AND THE STATIONS FOR TANQUE VERDE LOOP ROAD INCREASE FROM SOUTH TO NORTH. THE STATIONING FOR THESE ROADS IS BASED ON PIMA COUNTY PLANS FOR THE TANQUE VERDE ROAD AND TANQUE VERDE LOOP ROAD BETWEEN 14TH ST AND TANQUE VERDE LOOP ROAD. THE INTERSECTION TANQUE VERDE ROAD IS AT STATION 00+00.00, WHILE TANQUE VERDE LOOP ROAD IS AT STATION 10+00.00.

8. SOILS INFORMATION WILL BE MADE AVAILABLE TO PROSPECTIVE BIDDERS IN THE GEOENGINEERING REPORT. SOILS INFORMATION SO PROVIDED SHALL BE FOR INFORMATION 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.

9. 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.

10. OMissions OR Conflicts BETWEEN various ELEMENTS OF THE DRAWINGS, NOTES AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.

11. ALL STATIONING SHOWN ON THE PLANS AND PROFILES IS ALONG THE CONSTRUCTION CENTERLINE UNLESS OTHERWISE NOTED.

12. EXISTING UTILITIES INCLUDE, BUT MAY NOT BE LIMITED TO, OVERHEAD ELECTRIC, TELEPHONE, TELEVISION, SEWER, GAS, WATER, AND SHALL BE MOVED BY OTHERS UNLESS OTHERWISE NOTED AND SHOWN IN THESE PLANS.

13. THE CONTRACTORS ATTENTION IS CALLED TO THE LIMITED AREA AVAILABLE ON THE SITE FOR EXCAVATION, EMBANKMENT AND OTHER CONSTRUCTION ACTIVITIES.


Pavement Structural Section No. 1
Tanque Verde Road
Sta 40+54 to Sta 56+10
Total Thickness = 11"

Pavement Structural Section No. 2
Tanque Verde Loop Road
Sta 4+32 to Sta 5+73
Total Thickness = 10.5"

Pavement Structural Section No. 3
Tanque Verde Loop Road
Sta 4+32 to Sta 10+00
Total Thickness = 6.5"

Pavement Structural Section No. 4
Tanque Verde Loop Road
Sta 40+54 to Sta 56+10
Total Thickness = 10.5"
9. Storm Water and Sediment Control Measures shall be properly installed to protect Pom-Rio manholes at the beginning of construction. It is the responsibility of the Contractor to ensure that storm water and sediment control measures that protect Pom-Rio facilities under all conditions for the duration of the project under these circumstances. The Contractor shall be responsible for storm water and sediment control measures that protect Pom-Rio facilities at the beginning of construction. The Contractor shall also be responsible for storm water and sediment control measures that protect Pom-Rio facilities at the beginning of construction.

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SANITARY SEWER MANHOLE I.D.

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### General Notes:

1. Traffic signal pole or pedestrian push button pole. See traffic signal plans for additional information.
2. Sidewalk joints shall be radial from the back of curb or back of detectable warning strip.
3. Drainage inlets are not permitted within crosswalks or within 10' of an access ramp.
4. A curb access ramp shall be paid for under bid item No. 207, curb access ramp, per PCD Std. Det. 207 (Type 1). if adjacent sidewalk.
5. Table on this sheet for ramp location. Curb access ramp shall be oriented to align with the crosswalk or stop bar, median refuge area, and with the opposite access ramp in the direction of pedestrian travel.
7. Never to staking sheets for additional grading.
8. Curb access ramp location is not restricted within curb on local streets and residential collectors with a maximum 2,500 vehicles per day and which is not adjacent to a major arterial.
9. For use at the intersection of two major arterial roadway.

### Table

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### Diagram

[Type 1 Double Curb Access Ramp]

- Ramp Control Point:
- Sidewalk Width:
- Average SLOPE:
- TANQUE VERDE RD. STA. 49+78.64, 32.13' Lt.

### Additional Notes:

- General Notes:
- Curb Width and RAMP Width
- Ramp Control Point
- Sidewalk Width
- Average SLOPE
- Ramp Joint along Returns shall be radial from the back of curb or back of detectable warning strip.
- Drainage inlets are not permitted within crosswalks or within 10' of an access ramp.
- A curb access ramp shall be paid for under bid item No. 207, curb access ramp, per PCD Std. Det. 207 (Type 1).
- Table on this sheet for ramp location. Curb access ramp shall be oriented to align with the crosswalk or stop bar, median refuge area, and with the opposite access ramp in the direction of pedestrian travel.
- Lengths along edge of pavement.
- Never to staking sheets for additional grading.
- Curb access ramp location is not restricted within curb on local streets and residential collectors with a maximum 2,500 vehicles per day and which is not adjacent to a major arterial.

### Project Details:

- Type 1 Double Curb Access Ramp
- Ramp Control Point
- Sidewalk Width
- Average SLOPE
- Ramp Joint along Returns shall be radial from the back of curb or back of detectable warning strip.
- Drainage inlets are not permitted within crosswalks or within 10' of an access ramp.
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- For use at the intersection of two major arterial roadway.

### Access Ramp Control Point:

- See Table on this sheet for relevant information.
- Ramp Joint along Returns shall be radial from the back of curb or back of detectable warning strip.
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- General Notes:
- Curb Width and RAMP Width
- Ramp Control Point
- Sidewalk Width
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### Project Details:

- Type 1 Double Curb Access Ramp
- Ramp Control Point
- Sidewalk Width
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- Ramp Joint along Returns shall be radial from the back of curb or back of detectable warning strip.
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- Ramp Control Point
- Sidewalk Width
- Average SLOPE
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- See Table on this sheet for relevant information.
- Ramp Joint along Returns shall be radial from the back of curb or back of detectable warning strip.
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- For use at the intersection of two major arterial roadway.
NOTES:

1. SEE PAG STD. DTL. 200 FOR JOINT REQUIREMENTS

2. DRAINAGE INLETS ARE NOT PERMITTED WITHIN CROSSWALKS OR WITHIN 10' OF

ADDITIONAL GRAADING

3. REFER TO THE STAKING SHEETS PPR ADDITIONAL GRAADING

4. THIS TYPE 2 DIRECTIONAL CURB ACCESS RAMP SHALL BE PAID FOR UNDER BID

PAG STD. DTL. 207 (TYPE 2)

SECTION

1. SLOPE: 5% MIN. AND 8.33% (12:1) MAX.

2. BLENDED TRANSITION

3. LEADING EDGE OF DETECTABLE WARNING STRIP SHALL BE PLACED AT BACK OF Curb,

FROM FULL Curb TO DEPRESSED CURB.

4. ACCESS RAMP CONTROL POINT,

LOCATION-STA, & OFFSET

5. ROUGH BROOM FINISH.

6. J SLOPE; 5% MIN. AND 8.33% (12:1) MAX.

BLENDED TRANSITION.

LEADING EDGE OF DETECTABLE WARNING STRIP SHALL BE PLACED AT BACK OF CURB,

TRANSITION FROM FULL CURB TO DEPRESSED CURB.

ACCESS RAMP CONTROL POINT,

SEE PLANS FOR LOCATION.

ACCESS RAMP CONTROL POINT

MATCH SIDEWALK

PER PLANS

ALTERNATE SIDEWALK

LOCATION (SEE PLANS)

ROADWAY WIDTH

MATCH SIDEWALK

PER TYP. SECTIONS

TRANSITION

ACCESS RAMP

LENGTH

VARY

MATCH SIDEWALK

PER TYP. SECTIONS

DETECTABLE WARNING STRIP

4" CONCRETE CURB

TYPE I

RAMP LIMIT

LANDING AREA

EXPANSION JOINT

RADIUS (FT)

TANQUE VERDE RD. 51+37.39, 30.29' LT.  25'

TANQUE VERDE RD. 51+84.40, 30.29' LT.  25'

TANQUE VERDE RD. 56+30.23, 32.78' LT.  40'

TANQUE VERDE RD. 56+92.00, 33.99' LT.  40'

TANQUE VERDE LOOP RD. 6+24.66, 23.24' RT.  20'

TANQUE VERDE LOOP RD. 6+67.42, 24.91' RT.  20'

DETAIL RD02

Type 2 Directional Curb Access Ramp
Roadside Channel

CHANNEL & DITCH DETAIL

DETAIL DD01

CHANNEL Sta. 0+17.52 to 1+54.41
(See Roadside Channel Profile Above)

TV Sta. 54+32.93 to Sta. 55+69.82 (42.5' Lt)

ROADSIDE DRAINAGE EDGE

ROADSIDE SLOPE TREATMENT

CHANNEL Sta. 0+17.52 to 1+54.41
(See Roadside Channel Profile Above)

TV Sta. 54+32.93 to Sta. 55+69.82 (42.5' Lt)
New AC Pavement
= 6,965 S.F. PSS #1
= 33,643 S.F. PSS #3

New AC Driveway
= 641 S.F. PSS #4

New Sidewalk per PAG Dtl 200
= 4,241 S.F.

New Type 1 Vertical Curb
= 1,224 LF

New Type 1 Curb Access Ramp per PAG Dtl 207
See RD01

New Type 2 Curb Access Ramp per PAG Dtl 207
See RD02

New 6"x12" Concrete Header
Sta 54+40.93, 25.25' Lt
per PAG Dtl 213

New Concrete Collar
per Dtl RWRD 211

New Handrail Around Channel
and On Exist. Culvert Headwall
per PAG Dtl 105 (9 LF)

New Survey Monument
with Frame and Cover
per PAG Dtl 103

Reset Property
= 4 EA

New TEP Pullbox

Notes: See Staking Sheet ST02 for Elevations Along New EOP.

Legend:
- Existing Grnd. @ Roadside Channel
- Riprap (See Dtl 1, DD01)
- New Type 2  Curb Access
Ramp per PAG Dtl 207
See RD02
- New Sidewalk per PAG Dtl 200
= 4,241 S.F.
- New Sidewalk per PAG Dtl 200
= 4,241 S.F.
- New Type 1 Vertical Curb
= 1,224 LF
- New Handrail Around Channel
and On Exist. Culvert Headwall
per PAG Dtl 105 (9 LF)
- New AC Pavement
= 6,965 S.F. PSS #1
= 33,643 S.F. PSS #3
- New AC Driveway
= 641 S.F. PSS #4

Keynotes:
1. New AC Pavement
2. New AC Driveway
3. New Sidewalk per PAG Dtl 200
4. New Type 1 Vertical Curb
5. New Type 1 Curb Access Ramp per PAG Dtl 207
6. New Type 2 Curb Access Ramp per PAG Dtl 207
7. New 6"x12" Concrete Header
8. New Concrete Collar
9. New Handrail Around Channel
10. New Survey Monument
11. Reset Property
12. New TEP Pullbox
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Driveway & Tanque Verde Rd. Sta. 54+92.78 Rt.
TANQUE VERDE RD.

Pedestrian Path (Future) 2% Slope

Profile Grade @ DW-12 Const. E

Profile Grade @ DW-13 Const. E

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Imperial County Department of Transportation

Page 26 of 71

Sheet DW07 of DW07
# Horizontal Control Point Summary Table

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<thead>
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<td>9+20.69</td>
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<td>T19</td>
<td>9+31.35</td>
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# Horizontal Control Curve Summary Table

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<tr>
<th>#</th>
<th>Radius (ft)</th>
<th>Arc Length (ft)</th>
<th>Delta Angle</th>
<th>Tangent Length (ft)</th>
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<td>20.00</td>
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<tr>
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*Notes See Staking Sheets for Elevations Along New EOP. All Dimensions are to Edge of Pavement.*
Tanque Verde Road at Tanque Verde Loop - Project No. 4 TVTVL

NOTES:
(1) Elevations Denoted in Parentheses Refer to Existing Ground/Profile. Refer to Existing Ground/Profile.
(2) Elevations Shown are to Finished Grade of Edge of Pavement at Angle Breaks and PTS.
(3) Refer to Side Street Driveway Plan & Profile Sheets for Additional Grading Information. (4) Refer to Existing Ground/Pavement.
(2) Elevations Denoted in Parentheses Refer to Existing Ground/Pavement.
(3) Refer to Side Street Driveway Plan & Profile Sheets for Additional Grading Information. (4) Refer to Existing Ground/Pavement.

- Denotes PC, PT, BCR, or ECR.
- Denotes Mid-Radius of Curve.
- Denotes Angle Point.

Scale: 1" = 20' Horiz.

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Staking\4TVTVL_ST01.dgn
DATE: 1/21/2019
TIME: 11:17:13 AM
TANQUE VERDE LOOP ROAD

STATIONS 7+00 TO 50+00

Elevations shown are to finished grade of edge of pavement at angle breaks and PIs.
Elevations denoted in parentheses refer to existing ground/pavement.
See horizontal control sheets for additional gridding information.

NOTES:

(1) Elevations denoted in parentheses refer to existing ground/pavement.
(2) Elevations shown are to finished grade of edge of pavement at angle breaks and PIs.
(3) Refer to side street driveway plan & profile sheets for stations and offsets of PCs, PIs, etc.
(4) See horizontal control sheets for additional grading information.

* Denotes PC, PT, BCR, or ECR.
** Denotes mid-radius of curve.
---

AM. L. Olivares, P.E., Director
STP-PPM-0(262)D
9
ARIZ.
Demolition General Notes:
1. See Signing Plans for removal of Signs and Delineators and associated features.
2. Item #2020229 covers removal of pavement outside of the existing edge lines.
3. Item #2020330 covers the pavement to be removed by 1" Milling.
4. Item #2050001 (Removal of Structures and Obstructions) covers removal of all obstructions not covered by a dedicated removal item, and includes but is not limited to removal of Rip-Rap, Concrete Header, Concrete Curbs, Concrete Sidewalk, Access Ramp, Misc Concrete, Culverts/Storm Drain and associated drainage features, Signs & Delineators, and Fence/Walls. This item includes the work associated with relocating signs.

5. roadway construction to impact existing landscape within Existing or New R/W and/or construction and drainage easements. Contractor shall coordinate the capping of irrigation to plants that will be removed and coordinate with the adjacent owner to ensure irrigation remains active to existing plantings to retain.

6. Preservation Fencing is for existing landscape and vegetation within and adjacent to the project that is to be preserved.

7. Contractor is responsible for the preservation of existing plant material according to Special Provision 201-3.05. Overhanging branches from plants to be preserved that may be obstructing construction shall be removed according to Special Provision 201-3.05.

NOTES:
A. Existing vegetation with overhanging branches that may impact construction. Prune in accordance with Special Provision 201-3.05 and Item #2010004
B. Preservation Fencing - Item #2010004

LEGEND:
- Removal of Pavement By Milling
- Removal of Bituminous Pavement
- Existing Tree
- Existing Vegetation
- Preservation Fencing

Sheet Dimensions: 24" x 36" (AutoCAD) - Sheet 25 of 67

Scale: 1" = 40' Horiz. 1" = 4' Vert.

Date: 7/20/2018

[Diagram and details of existing conditions and removals]
NOTES

A. Existing vegetation with overhanging branches that may impact construction. Prune in accordance with Special Provision 201.1.05 and item #656700.

B. Preservation Fencing - Item #2010004

LEGEND

- Removal of pavement by milling
- Removal of bituminous pavement
- Existing tree
- Existing vegetation
- Preservation fencing

TANQUE VERDE RD.

Revised Description

DATE: [Date]
TIME: [Time]
Pavement Marking General Notes

1. All equipment/materials and construction shall meet or exceed the requirements contained in the following FDOT Standards Specifications and the applicable standards for public improvements, the special provisions and the approved plans. All pavement marking shall be installed in accordance with the PC/COT Pavement Marking Design Manual and applicable amendments.

2. The striping contractor shall complete the Pima County Traffic Engineer at least three working days in advance of any pavement marking layout being installed to schedule inspection and approval of pavement markings during normal business hours Monday through Friday, state holidays excluded.

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

4. The pavement pavement markings may be modified as directed and approved by the traffic engineer.

5. The design speed for Tanque Verde Road is 45 M.P.H. The posted speed limit is 45 M.P.H. The design speed on Tanque Verde Loop Road is 40 M.P.H. The posted speed limit is 35 M.P.H. The design vehicle is WB-62 and passenger car.

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 amendments and details, and specified Pima County standards when installing pavement striping, studs, legends, and markers.

8. Painted layout striping shall be 15 Mils (0.015" thick) of black water-based paint placed on the final pavement surface per gallon of asphalt m 247-13 type 1 glass beads with adhesion/moisture proof coating. Painted layout striping shall be installed within five working days of the final pavement surface being completed.

9. Painted symbols and legends shall be applied at the same time as painted layout striping, with the exception of bike lane symbols and words such as stop, only, etc.

10. The final longitudinal striping shall be 90 Mils (0.009") of glass beads and reflective striping placed over the painted layout striping with a single drop of 20 pounds per 100 square feet of asphalt m 247-13 type 1 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 long-line markings shall be applied during the final longitudinal striping.

11. All final transverse striping, including symbols and legends, shall be 90 Mils (0.009") of white or red hand cart extruded thermoplastic with 10 pounds per 100 square feet of asphalt m 247-13 type 1 glass beads.

12. The contractor shall be responsible for the layout and installation of pavement markings on the final pavement course.

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

14. All retroreflective pavement markers RPM's shall be installed so that the reflective face of each marker is facing the direction of traffic and is 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 to which it applies.

15. All retroreflective pavement markers RPM's shall be installed per the current edition of the PC/COT Pavement Marking Manual and applicable amendments.

16. All removal of existing pavement markings shall be accomplished in accordance with Section 709 of the FDOT Standard Specifications. Painting over existing striping does not constitute approval of the striping.

17. For private development projects, the design consultant/project manager shall be required to produce as-built striping plans within 30 days of striping completion.

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

19. Upon final inspection a written acceptance of the striping shall be submitted to the contractor by the Pima County Traffic Engineer or designated representative.

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

The PC/COT Pavement Marking Manual is available online.

Approximate Pavement Marking Quantities

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<thead>
<tr>
<th>Item</th>
<th>BID</th>
<th>Unit</th>
<th>Total Quantities</th>
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<td>Paint Bull Nose</td>
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All Pavement Marking lengths are 4" equivalent quantities.

Tanque Verde Road Typical Pavement Marking Section

See Pima County and City of Tucson (PC/COT) Pavement Marking Design Manual for further descriptions.
**Manual Sht. 7-1.**

PC/COT Pavement Marking Design

**Blue Raised Pavement Marker**

**for Fire Hydrants**

PC/COT Pavement Marking Design Manual Sht. 7-1.

---

BEGIN PAVEMENT MARKING TANQUE VERDE LOOP RD  
STA 4+32.06 MATCH EXIST

---

END PAVEMENT MARKING TANQUE VERDE RD  
STA 56+10.02 MATCH EXIST

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Existing Fire Hydrant
SIGNING GENERAL NOTES:
1. All equipment, materials and construction shall meet or exceed the requirements contained in the current Pima County Association of Governments (PAG) Standard Specifications and the standard details for public improvements, the special provisions and the approved plans.
2. All signs shall be in compliance with the latest edition of the manual on Uniform Traffic Control Devices, the latest edition of the Pima County City of Tucson Traffic Signing Design Manual, the PAG standard specifications, the Pima County supplemental specifications, any required special provisions, and these plans.
3. Signs may be modified and locations adjusted to fit conditions in the field at the discretion of the Traffic Engineer.
4. The design speed for Tanque Verde Road is 45 mph. The posted speed limit is 45 mph. Sign placement shall be based on the posted speed limit. The design speed for Tanque Verde Loop Road is 40 mph. The posted speed limit is 35 mph. Sign placement shall be based on the posted speed limit.
5. Post lengths indicated on sign summary sheets are approximate. The contractor shall verify actual post lengths.
6. All perforated posts shall be installed in a concrete foundation, unless otherwise directed by the Traffic Engineer.
7. All sign station locations are approximate. The contractor shall verify actual sign locations with the Traffic Engineer prior to installation of any signs.
8. The contractor shall be responsible for coordinating all work with Arizona 811 for installing all traffic signs in the field and for maintaining all signs until project is approved for "construction acceptance" by Pima County. If fully open to traffic, all punch list items are completed, and one year warranties begin.
9. All signs shall have type II sheeting, or an equivalent. All warning signs having yellow backgrounds shall use fluorescent yellow sheeting. All street signs shall use fluorescent yellow/green sheeting. All ground mounted signs shall have an anti-graffiti coating applied to sign face, 3M 1180 film or equivalent.
10. A 3" x 2" pressure sensitive, UV resistant label indicating the sign manufacturer's name and date of manufacture shall be placed on the upper right corner of the back of all signs except street name signs at the time of installation. Street name signs shall include a sign identification decal as shown on Pima County Signing Detail 9-33A.
11. All new signs shall have 0.080 gauge, radius corner, aluminum backing unless otherwise noted.
12. 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. Inventory shall indicate current sign location and condition, including any existing damage or deficiencies.
13. 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 stockpile and payment for damage to the stockpile shall be the responsibility of the contractor.
14. All signs and posts not being re-used on this project shall be guaranteed, stacked and delivered to the owner city or county by the contractor. The contractor is responsible for the safe storage at the construction site until delivery. The safe unloading of the salvaged material notification of delivery shall be made at least 5 working days prior to delivery. Pima County Sign Shop, Pima County Sign Shop 1532 S. Mission Road 1000-104-2650, NO FRIDAY DELIVERIES.

APPROXIMATE SIGNING QUANTITIES

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<th>ITEM NO.</th>
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<td>6080020</td>
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SIGN PLAN LEGEND

- New Street Name/Stop Sign Assembly
- Existing Street Name/Stop Sign Assembly
- New Sign
- Existing Single Post Sign
- New Single Post Sign
- Existing Back-to-Back Sign
- New Back-to-Back Sign
- New Multi-Post Sign

TYPICAL PLAN CALL-OUT

Reference Number Refers to the Sign Summary Sheets & Sign Information Location
Pressured Sign
Station Refers to the proposed Sign Location
All Offsets Refer to the Ceter of the Post located in the EOP
**Revision Description**

**DATE:** 1/18/2019 5:02:15 PM

**TIME:**

**FILE NAME:** 32020320N55S0000E37055ATSIGNING_4TVTVL_SN03.dgn

**FILE PATH:** U:\Projects\2017-082\Civil\CAD\Plans\Signs\4TVTVL\SIGN IN\4TVTVL_SN03.dgn

**Notes:**
- See Sign Summary Sheets SN06-SN08 For Corresponding Sign Information

**Legend:**
- **Existing Sign (R/W):** Existing R/W
- **New Sign (R/W):** New R/W
- **Remove Sign (R/W):** Remove R/W
- **Replace Sign (R/W):** Replace R/W

**Sign Information:**
- **SN03:** Sta. 55+25, 34'Rt Exist. R5-1
- **SN04:** Sta. 55+37, 37'Lt
- **SN05:** Sta. 55+62, 34'Rt Exist. W2-2L, W16-8P
- **SN06:** Sta. 2+80, 21'Rt Exist R/W
- **SN07:** Sta. 56+57, 39'Rt Exist. R3-5, SPR10-02
- **SN08:** Sta. 56+74, 57'Rt Exist. W3-1, W16-9P
- **SN09:** Sta. 57+27, 40'Rt Exist R/W
- **SN10:** Sta. 6+68, 29'Rt Exist. R1-1
- **SN11:** Sta. 8+88, 31'Lt Post Reflector
- **SN12:** Sta. 04+84, 24'Rt Exist. W20-3, W16-13P
- **SN13:** Sta. 57+37, 9'Lt Exist. W1-1, SPR08-02
- **SN14:** Sta. 57+47, 32'Rt
- **SN15:** Sta. 57+48, 5'Rt
- **SN16:** Sta. 57+56, 38'Lt

**Scale:**
- **1" = 40' Horiz.**

**Project Information:**
- **Project No.:** 4TVTVL
- **Engineer:** James D. Beyer
- **Designed:** 7/2018
- **Drawn:** 7/2018
- **Checked:** 7/2018
- **Proejct Engr.:** James D. Beyer
| Sign Number | Sign Code | New | Revised | Removed | Existing | OffSet (Feet) | Work (in.) | Height (in.) | Area (sq. ft.) | Type | Width (in.) | Min. Sheeting Type | Bid Item Number | Catalogue Type | Total Length (ft.) | New Sign Type | Stringer Length (ft.) | Stringer Type | Number of Signs | Foundation Type | Ground Mounted | Overhead | Remarks |
|-------------|----------|-----|---------|---------|----------|-------------|------------|-------------|--------------|------|-------------|-------------------|----------------|---------------|------------------|--------------|-----------------|----------------|--------------|----------------|---------|--------|
| 1           | D3-1     | X   |         |         |          | 42+19       | 3' RT      | STOP        | CONTR        | 30   | 6.3        | XI                | 40800200       | 1              | 25              | 13           | See sign detail on SN09 |                       |
|             | D3-1     | X   |         |         | D3-1     | 36          | 5.9        | F-DA        | XI           | 40800200 | 0           | See sign detail on SN09 |                       |               |                 |              |                 |                       |                       |
|             | D3-1     | X   |         |         | D3-1     | 36          | 5.8        | F-DA        | XI           | 40800200 | 0           | See sign detail on SN09 |                       |               |                 |              |                 |                       |                       |
|             | D3-1     | X   |         |         | D3-1     | 42          | 6.1        | F-DA        | XI           | 40800200 | 0           | See sign detail on SN09 |                       |               |                 |              |                 |                       |                       |
|             |          |     |         |         |          |             |            |             |              |      |            |                   |                |               |                 |              |                 |                       |                       |
| 2           | D3-2     | X   |         |         |          | 43+37       | 30' RT     | TANQUE VERDE LOOP RD (WITH RIGHT ARROW) | CONTR | 72   | 6.0        | F-DA               | 40800200       | 2              | 25              | 20           | See sign detail on SN09 |                       |
|             |          |     |         |         |          |             |            |             |              |      |            |                   |                |               |                 |              |                 |                       |                       |
| 3           | R2-1     | X   |         |         |          | 43+44       | 33' LT     | SPEED LIMIT 45 MPH | CONTR | 24   | 5.0        | F-DA               | 40800200       | 1              | 25              | 12           |                        |                       |
|             | R2-1     | X   |         |         |          | 44+00       | 26' LT     | SPEED LIMIT 45 MPH | N/A |      |            |                    |                |               |                 |              |                 |                       |                       |
| 4           |          |     |         |         |          | 44+13       | 34' LT     | STOP        | CONTR        | 30   | 6.3        | XI                | 40800200       | 1              | 25              | 13           |                        |                       |
|             | D3-1     | X   |         |         | D3-1     | 42          | 5.4        | F-DA        | XI           | 40800200 | 0           | See sign detail on SN09 |                       |               |                 |              |                 |                       |                       |
|             | D3-1     | X   |         |         | D3-1     | 42          | 5.4        | F-DA        | XI           | 40800200 | 0           | See sign detail on SN09 |                       |               |                 |              |                 |                       |                       |
|             | D3-1     | X   |         |         | D3-1     | 42          | 6.1        | F-DA        | XI           | 40800200 | 0           | See sign detail on SN09 |                       |               |                 |              |                 |                       |                       |
|             |          |     |         |         |          |             |            |             |              |      |            |                   |                |               |                 |              |                 |                       |                       |
| 5           | R3-98    | X   |         |         |          | 44+55       | 32' RT     | TWO-WAY LEFT TURN ONLY | CONTR | 24   | 6.0        | F-DA               | 40800200       | 1              | 25              | 12           |                        |                       |
|             |          |     |         |         |          |             |            |             |              |      |            |                   |                |               |                 |              |                 |                       |                       |
| 6           | W2-2R    | X   |         |         |          | 44+62       | 20' RT     | ADVANCED TRAFFIC CONTROL (RIGHT) | N/A |      |            |                    |                |               |                 |              |                 |                       |                       |
|             | W2-6P    | X   |         |         |          |             |            | TANQUE VERDE LOOP RD | N/A |      |            |                    |                |               |                 |              |                 |                       |                       |
| 7           | R4-6     | X   |         |         |          | 46+09       | 31' RT     | BEGIN RIGHT TURN LANE YIELD TO BIKES | CONTR | 36   | 7.5        | F-DA               | 40800200       | 1              | 25              | 12           |                        |                       |
|             |          |     |         |         |          |             |            |             |              |      |            |                   |                |               |                 |              |                 |                       |                       |
| 8           | SI-1     | X   |         |         |          | 46+88       | 38' RT     | SCHOOL (SYMBOL) | CONTR | 36   | 6.8        | F-DA               | 40800200       | 1              | 25              | 12           |                        |                       |
|             | W6-9P    | X   |         |         |          |             |            | AHEAD       | CONTR        | 24   | 2.0        | F-DA               | 40800200       | 1              | 25              | 12           |                        |                       |
|             | SPECIAL  | X   |         |         |          | 46+94       | 23' RT     | SCHOOL (SYMBOL) | N/A |      |            |                    |                |               |                 |              |                 |                       |                       |
|             | W6-9P    | X   |         |         |          |             |            | AHEAD       | N/A          |      |            |                   |                |               |                 |              |                 |                       |                       |
|             | SPECIAL  | X   |         |         |          |             |            | POST REFLECTOR | N/A |      |            |                    |                |               |                 |              |                 |                       |                       |
|             | W6-9P    | X   |         |         |          |             |            | POST REFLECTOR | N/A |      |            |                    |                |               |                 |              |                 |                       |                       |
| 9           | R4-1     | X   |         |         |          | 46+95       | 34' LT     | DO NOT PASS | CONTR        | 24   | 5.0        | F-DA               | 40800200       | 1              | 25              | 12           |                        |                       |
|             | R4-1     | X   |         |         |          | 47+01       | 30' LT     | DO NOT PASS | N/A          |      |            |                   |                |               |                 |              |                 |                       |                       |
| 10          | R3-5F    | X   |         |         |          | 49+35       | 5' RT      | RIGHT LANE  | CONTR        | 30   | 2.5        | XI                | 40800200       | 0              |                 |              | MOUNT TO SIGNAL POLE |                       |
|             | R3-5R    | X   |         |         |          |             |            | RIGHT TURN ONLY | CONTR | 30   | 7.5        | XI                | 40800200       | 0              |                 |              |                        |                       |

Notes:
1. The Engineer shall verify post lengths and elevations.
2. The Engineer may shift a sign in order to achieve a more desirable location.
3. Quantities are approximate and for the contractor's information only.

Panel Types:
- RMW: Regulatory, Warning, or Marker
- F-DA: Flat-sheet Aluminum with Direct Applied Characters
- D3-1: Square Tube Post

Provider:
- CONTR-Contractor

Post Types:
- 2S: 2 Inch Square Tube Post (Perforated)
- P: Square Tube Post

Remarks:
- Stations are along Tanque Verde Rd or Tanque Verde Loop Rd Construction Centerlines.
<table>
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<th>Sign Number</th>
<th>Sign Code</th>
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<th>New Post Type</th>
<th>Old Total Length (ft.)</th>
<th>Old Post Type</th>
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<th>Number of Lights</th>
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<td>CONTR</td>
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<td>12</td>
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<td>13</td>
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<td>49+40 4' LT KEEP RIGHT</td>
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<td>24 24 16.0</td>
<td>N/W XI</td>
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</table>

Notes:
1. The Engineer shall verify post lengths and elevations.
2. The Engineer may shift a sign in order to achieve a more desirable location.
3. Quantities are approximate and for the contractor's information only.

Panels:
- X: Reflective PVC Object Marker (Vertical)
- XI: Type 1 Object Marker (Yellow)
- OM: Type 1 Object Marker (Yellow, Reflective)
- OM1-3: Type 1 Object Marker (Yellow, Reflective)
- OM2: Type 1 Object Marker (Yellow, Reflective)
- OM2-2V(AD): Type 2 Object Marker (Yellow, Reflective)

Types of Panels:
- CONTR: Contractor
- F-D A: Flat-sheet Aluminum with Direct Applied Characters
- RMW: Regulatory, Warning, or Marker
- F-D A: Flat-sheet Aluminum with Direct Applied Characters
- T V T V: Type 4 (Red) Object Marker (X4)
- R: Square Tube Post
- P: Square Tube Post

Provider:
- CONTR: Contractor
- F-D A: Flat-sheet Aluminum with Direct Applied Characters
- RMW: Regulatory, Warning, or Marker
- F-D A: Flat-sheet Aluminum with Direct Applied Characters
- T V T V: Type 4 (Red) Object Marker (X4)
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- P: Square Tube Post
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<th>Size (ft)</th>
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**Notes:**
1. The Engineer shall verify post lengths and elevations.
2. The Engineer may shift a sign in order to achieve a more desirable location.
3. Quantities are approximate and for the contractor's information only.
<table>
<thead>
<tr>
<th>Sign Number</th>
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<th>Panel</th>
<th>Ground Mounted</th>
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Notes:
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Panel Types:
- RMW: Regulatory, Warning, or Marker
- F-D: Flat-sheet Aluminum with Direct Applied Characters

References:
- Tanque Verde Road or Tanque Verde Loco Rd

Remarks:
- Stations are along Tanque Verde Rd or Tanque Verde Loop Rd Construction.

Scale: 1/18/2019

Date: 7/18/2019

[Sheet 36 of 67]
<table>
<thead>
<tr>
<th>Sign Number</th>
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<th>Overhead</th>
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**Panel Types:**
- RMW: Regulatory, Warning, or Marker
- F-DX: Flat-sheet Aluminum with Direct Applied Characters

**Providers:**
- CONTR - Contractor

**Construction:**
- Station 35' LT: TANQUE VERDE LOOP CLOSED
- Post Types: 25-2 Inch Square Tube Post (Perforated)
- Stringer Types: P: Square Tube Post
THE LOCATION OF UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING / POTHOLING
OUT OF SERVICE SIGNAL HEADS SHALL NOT BE TURNED, COVERED WITH BURLAP, CARDBOARD OR OTHER MATERIAL.
THE #8 BARE BOND WIRE SHALL BE LOOPED THROUGH THE PLUG PULL TAB AND TWO FEET OF SLACK DOUBLED BACK INTO THE CONDUIT.
OR REPLACED AT THE SOLE EXPENSE OF THE CONTRACTOR.
ANY EQUIPMENT AND/OR UTILITIES WITHIN THE PROJECT LIMITS THAT ARE DAMAGED OR DESTROYED BY THE CONTRACTOR SHALL BE REPAIRED
MUST BE MAINTAINED 24 HOURS PER DAY, SEVEN DAYS PER WEEK. NO ELECTRICAL UTILITIES MAY BE PLACED WITHIN SIX (6) FEET OF A
THE CONTRACTOR SHALL CONTACT BLUE STAKE AT 1-800-782-5348, A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION.
LUMINAIRES GTX OR GT1 SERIES WITH TINTED LENSES TO THE COLOR OF THE INDICATION AND BE ETL CERTIFIED OR APPROVED EQUAL
THE DETECTOR LEAD-IN CABLE SHALL NOT BE SPLICED.
A #14 AWG IMSA 19-1-1984 7-CONDUCTOR SOLID WIRE CABLE SHALL BE INSTALLED FROM EACH TRAFFIC SIGNAL TERMINAL STRIP TO
SHOULD BE USED FOR HIGH VOLTAGE AND LOW VOLTAGE CABLES BETWEEN THE CONTROLLER CABINET AND THE NO. 7 PULL BOXES
A THREE QUARTER (3/4) IN. X 10 FT. GROUND ROD SHALL BE INSTALLED IN THE NO. 7 PULL BOX (WITH THE EXTENSION) ADJACENT
PULL BOXES SHALL NOT BE INSTALLED WITHIN CONCRETE CURB ACCESS RAMPS OR LANDINGS. IN ADDITION, ANY PULL BOXES
PROJECT, SHALL BE INSTALLED BY MEANS OF BORING.
THE EXACT LOCATION OF EACH NEW POLE FOUNDATION, PULL BOX, CONTROLLER, CABINET FOUNDATION, UPS CABINET FOUNDATION
THE DETECTOR LEAD-IN CABLE SHALL BE INTO THE SIGNAL SHOP SUPERVISOR (724-5887) AT LEAST 2 WORKING DAYS PRIOR TO RETURNING THE EQUIPMENT. THIS WORK
AUXILIARY EQUIPMENT SPECIFIED IN THE APPROVED PLANS AND PROJECT SPECIFICATIONS TO THE PCDOT MAINTENANCE YARD,
THE CONTRACTOR SHALL DELIVER THE CONTROLLER ASSEMBLY(S) WHICH INCLUDES THE CONTROLLER CABINET, THE CONTROLLER(S),
OF THIS PROJECT. THE SIGNAL EQUIPMENT SPECIFIC FOR THE SOUTHBOUND APPROACH OF TRAFFIC, SPECIFICALLY THE MAST ARM, Q AND F SIGNAL
THE DETECTOR LEAD-IN CABLE CABLE EXCEPT AT THE PULL BOX ADJACENT TO LOOP.
THE LED IN-LENS CONDUCTOR SHALL NOT BE SPICED.
DETECTION LOOP SAW CUTS SHALL BE FLOWN WITH WATER UNDER PRESSURE AND THEN OFERED WITH AIR UNDER PRESSURE.
THE DETECTOR FEATURE VEHICLE PRE-EMPTION SENSOR CABLE SHALL BE OPTICOM DETECTOR CABLE MODEL NO. 138. THE CABLE SHALL NOT
THE MODERN AMERICAN LIGHTING LED, AUTOBAHN SERIES, ATB2, WITH 60BLEDE10 PERFORMANCE PACKAGE, MEETING THE SPECIFICATIONS AS
APPROVED PLANS AND SPECIFICATION FOR THE FIELD INSTALLATION OF TRAFFIC SIGNALS. THE DETECTOR LEAD-IN CABLES SHALL BE ALLOWED IN THE ROADWAY DETECTION LOOP CABLE EXCEPT AT THE PULL BOX ADJACENT TO LOOP.
THE COMPACT SIZE CONDUCTOR PULL ON MOUNTS OR WANDS SHALL BE PULLED THROUGH THE CONDUIT PRIOR TO CONDUCTOR AND CABLE INSTALLATION.
NO MORE THAN 4 INCHES ABOVE SURROUNDING FINISHED GRADE.
THE EXACT LOCATION OF VOICE AND DATA CABLES SHALL BE CONVERTED TO THE DEVICE SPECIFICATIONS AS LISTED IN THE PROJECT SPECIFICATIONS.
THE CONTRACTOR SHALL INSTALL ALL GROUND MOUNTED SIGNS. PCDOT SHALL INSTALL ALL OVERHEAD SIGNS ON TRAFFIC SIGNALS.
THE CONTRACTOR SHALL INSTALL ALL OVERHEAD METRO STREET NAME SIGNS FOR THE DESIGNATED INTERSECTION(S) AND PROVIDE THE MOUNTING HARDWARE FOR
THE CONTRACTOR SHALL INSTALL THE INTERSECTION SIGNAGE AT THE RESPECTIVE INTERSECTIONS. THE CONTRACTOR SHALL INSTALL THE VEHICLE PRE-EMPTION SENSOR AT THE RESPECTIVE INTERSECTIONS.
THE CONTRACTOR SHALL INSTALL THE PEDESTRIAN SIGNAL AT THE RESPECTIVE INTERSECTIONS.
THE CONTRACTOR SHALL INSTALL THE TRAFFIC SIGN AT THE RESPECTIVE INTERSECTIONS. THE CONTRACTOR SHALL INSTALL THE PRE-EMPTION BEACON AT THE RESPECTIVE INTERSECTIONS.
THE CONTRACTOR SHALL INSTALL THE STREET NAME SIGN AT THE RESPECTIVE INTERSECTIONS. THE CONTRACTOR SHALL INSTALL THE VEHICLE PRE-EMPTION BEACON AT THE RESPECTIVE INTERSECTIONS.
THE CONTRACTOR SHALL INSTALL THE PEDESTRIAN SIGNAL AT THE RESPECTIVE INTERSECTIONS. THE CONTRACTOR SHALL INSTALL THE TRAFFIC SIGN AT THE RESPECTIVE INTERSECTIONS.
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STREET LIGHTING GENERAL NOTES:

1. All equipment, materials, and construction shall meet or exceed the requirements contained in the current Pima County Association of Governments (PCAG) Standard Specifications for Public Improvements, the specified provisions, and the approved plans.

2. The exact location of each new pole foundation, pullbox, or electric service pedestal foundation shall be approved by the traffic engineer prior to installation.

3. The top of the pole foundation shall be level with the surrounding finished grade; if the slope is shallower than 0.005, a finished grade shall be established and maintained. The top of the foundation shall be flush with the bottom of the base plate.

4. Spread foundations, if required by field inspection or as identified on the approved plans, shall be constructed in accordance with Title 4, Chapter 1 of the Arizona Administrative Code. The contractor shall provide a foundation pattern and dimensions required for the project. The location of such foundations shall be reflected on the plans and specifications.

5. Pole foundations shall maintain a minimum of 5.6 feet horizontal distance from existing water mains, measured from outside of the foundation wall to the outside of pipe wall.

6. The pullboxes shown on the plans are diagrammatic representations. The exact location of the pullboxes shall be adjacent to streetlight pole at locations pre-approved by the inspector.

7. Pullboxes shall not be installed within concrete curb access ramps or lawns. In addition, any pullboxes installed below grade shall be installed recessed from the curb and the proposed future sidewalks on both sides of the street. The pullbox shall be installed ten feet from any access grade, beam or foundation wall.

8. A three quarter 13-16 inch by 50 foot ground rod shall be installed in the No. 7 full box at the extension adjacent to the controller cabinet. A 24 inch by 50 foot ground rod shall be installed in the No. 8 full box at the end of each streetlight circuit. Two ground rods clamp shall be furnished and installed for each ground rod for clamping the ground wire.

9. Only new conductors, cables, and cable shall be installed.

10. The conductors shown on the approved plans are diagrammatic representations. The exact location of the conductors may be adjusted in the field to avoid any conflicts. The contractor shall design, prepare and work in accordance with all utility locations shown on the approved plans. All equipment and materials for the installation of the street lights shall be furnished and installed by the contractor.

11. All electrical equipment shall be installed and for the installation of the street lights as specified on the approved plans and the project specifications.

12. All work shall be installed in such a manner as to maintain and allow access to all Pima County wastewater manholes located within the right-of-way. Access to these manholes shall be maintained by the contractor until the work is complete.

13. All work shall be installed in accordance with the Arizona Administrative Code (AAC) and the approved plans. The contractor shall be responsible for verifying all locations of underground services through utility locate services.

14. All work shall be coordinated with public utilities, such as telephone, gas, and electric services. The contractor shall be responsible for verifying the exact location of all underground utilities prior to installation.

15. All work shall be installed in such a manner as to maintain and allow access to all Pima County wastewater manholes located within the right-of-way. Access to these manholes shall be maintained by the contractor until the work is complete.

16. All work shall be installed in accordance with the Arizona Administrative Code (AAC) and the approved plans. The contractor shall be responsible for verifying the exact location of all underground utilities prior to installation.

17. All work shall be installed in such a manner as to maintain and allow access to all Pima County wastewater manholes located within the right-of-way. Access to these manholes shall be maintained by the contractor until the work is complete.

18. All work shall be installed in accordance with the Arizona Administrative Code (AAC) and the approved plans. The contractor shall be responsible for verifying the exact location of all underground utilities prior to installation.

19. All work shall be installed in such a manner as to maintain and allow access to all Pima County wastewater manholes located within the right-of-way. Access to these manholes shall be maintained by the contractor until the work is complete.

20. All work shall be installed in accordance with the Arizona Administrative Code (AAC) and the approved plans. The contractor shall be responsible for verifying the exact location of all underground utilities prior to installation.

21. All work shall be installed in such a manner as to maintain and allow access to all Pima County wastewater manholes located within the right-of-way. Access to these manholes shall be maintained by the contractor until the work is complete.

22. All work shall be installed in accordance with the Arizona Administrative Code (AAC) and the approved plans. The contractor shall be responsible for verifying the exact location of all underground utilities prior to installation.

23. All work shall be installed in such a manner as to maintain and allow access to all Pima County wastewater manholes located within the right-of-way. Access to these manholes shall be maintained by the contractor until the work is complete.
BATTERY BACK-UP POWER SUPPLY (BBS) SCHEMATIC DETAIL

VIDEO DETECTION SYSTEM
AUTO SCOPE INSTALLATION

PRE-EMPTION MOUNTING ASSEMBLY DETAIL & BACKPLATE ORIENTATION

LOOP DETECTOR SPLICE

LOOP INSTALLATION NOTES

TOTAL SHEETS: 1 SHEET
**PROPOSED PHASING DIAGRAM**

<table>
<thead>
<tr>
<th>1/5</th>
<th>2/6</th>
<th>4</th>
<th>8 (ULTIMATE)</th>
</tr>
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<tbody>
<tr>
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<tr>
<td>2</td>
<td>2</td>
<td>8</td>
<td>PED</td>
</tr>
</tbody>
</table>

**TOTAL**

5/17/2019 12' Page 20

**INTERSECTION SIGNAL**

**STOPLINE AND LOOP DETECTOR LOCATIONS**

<table>
<thead>
<tr>
<th>Detector Type</th>
<th>Loop Size</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Eastbound Tanque Verde Rd</td>
<td>6' x 6' Pulse Loop</td>
<td>48+0.0</td>
</tr>
<tr>
<td>Westbound Tanque Verde Rd</td>
<td>6' x 6' Pulse Loop</td>
<td>53+98.7</td>
</tr>
<tr>
<td>Northbound Tanque Verde Loop Rd</td>
<td>6' x 6' Pulse Loop</td>
<td>4+85.7</td>
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</table>

**NOTE:** THE NORTH LEG OF THE INTERSECTION IS NOT EXPECTED TO BE OPENED UNTIL A TIME AFTER THE COMPLETION OF CONSTRUCTION. PHASE 8 WILL BE ADDED WHEN THE NORTH LEG OF THE INTERSECTION IS OPENED UP AND OPERATIONAL.
## Cabinet and Pole Schedule

### Intersection A

<table>
<thead>
<tr>
<th>Pole Number</th>
<th>Type</th>
<th>Mast Arm</th>
<th>Signals</th>
<th>Luminaires</th>
<th>P.B. Sign</th>
<th>Remarks</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>J</td>
<td>35°</td>
<td>(2) Astro-Brac (1) X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>50&quot;+7.75', 36.36' Lt</td>
</tr>
<tr>
<td>2</td>
<td>G</td>
<td>20°</td>
<td>(1) VC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>50&quot;+55.74', 31.00' Lt</td>
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<tr>
<td>3</td>
<td>O</td>
<td>35°</td>
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<td>6</td>
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<td>(1) VC</td>
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<td>50&quot;+49.20', 31.00' Lt</td>
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<tr>
<td>10</td>
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<td>30°</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>50&quot;+75.26', 39.20' Lt</td>
</tr>
</tbody>
</table>

**Notes:**
- Standard notes and symbols are shown on the plan and not repeated on the schedule.
- **P.B. Sign:** Includes pole and signal equipment.
- **Locations:** Refer to the plan for exact coordinates.
- **Remarks:** Include installation details and notes.

### Traffic Signal Controller

<table>
<thead>
<tr>
<th>Cabinet</th>
<th>Type</th>
<th>Controller</th>
<th>Aux. Control</th>
<th>Remarks</th>
<th>Location</th>
<th>Standards</th>
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<tbody>
<tr>
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<tr>
<td>Rev. 2</td>
<td>E</td>
<td>D002</td>
<td>200</td>
<td>-</td>
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<td>1000</td>
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</table>

**Remark:**
- All luminaires shall have photocell receptacles. All photocell receptacles shall be replaced with a meter and time switch.
### Traffic Signal Controller Cabinet and Pole Schedule

<table>
<thead>
<tr>
<th>Cabinet</th>
<th>Type</th>
<th>Controller</th>
<th>Aux. Control</th>
<th>Remarks</th>
<th>Location</th>
<th>Standards</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Existing RCS w/ MP &amp; SVC-PL 50-A COMPLETE DIRECTIONAL LIGHTING for Signal Masts</td>
<td>1 - 50A SINGLE POLE BREAKER FOR LIGHTING</td>
<td>Existing RCS w/ MP &amp; SVC-PL 50-A COMPLETE DIRECTIONAL LIGHTING for Signal Masts</td>
<td>Existing Location STA 57+62, 33' R</td>
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</table>

### Pole Mast Arm Signals Luminaires

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Sig. LUM.</th>
<th>MTL. FACE</th>
<th>P.B.</th>
<th>SIGN</th>
<th>Remarks</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>G</td>
<td>20°</td>
<td>-</td>
<td>-</td>
<td>ATB2</td>
<td>ON SHEET T501</td>
</tr>
</tbody>
</table>

### Notes:

1. All lightning protection systems are to be installed in accordance with the contract specifications.

---

**TANQUE VERDE ROAD LIGHTING**

**CABINET AND POLE SCHEDULE**

**TRAFFIC SIGNAL CONTROLLER**

**CABINET**

<table>
<thead>
<tr>
<th>Cabinet</th>
<th>Type</th>
<th>Controller</th>
<th>Aux. Control</th>
<th>Remarks</th>
<th>Location</th>
<th>Standards</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Existing RCS w/ MP &amp; SVC-PL 50-A COMPLETE DIRECTIONAL LIGHTING for Signal Masts</td>
<td>1 - 50A SINGLE POLE BREAKER FOR LIGHTING</td>
<td>Existing RCS w/ MP &amp; SVC-PL 50-A COMPLETE DIRECTIONAL LIGHTING for Signal Masts</td>
<td>Existing Location STA 57+62, 33' R</td>
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**POLE MAST ARM SIGNALS LUMINAIRES**

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Sig. LUM.</th>
<th>MTL. FACE</th>
<th>P.B.</th>
<th>SIGN</th>
<th>Remarks</th>
<th>Location</th>
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<tr>
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<td>G</td>
<td>20°</td>
<td>-</td>
<td>-</td>
<td>ATB2</td>
<td>ON SHEET T501</td>
</tr>
</tbody>
</table>

### Notes:

1. All lightning protection systems are to be installed in accordance with the contract specifications.
LOW GROW MIX

BOTANICAL NAME           COMMON NAME           PLS/ACRE
AMBROSIOSTELLA DECO      TRIANGLE LEAF BURSAGE
ARISTIDA PURPUREA         PURPLE THREEawn
BAYEUX MULTIRADIATA      DESERT MARGOILD
BOUTELOUA ARIST DODES    NEEDLE GRAMA
BOUTELOUA CURT PENOLEGA "VAUGHN" SIWEEKS GRAMA
BOUTELOUA ROTHROCKI      ROTHROCK GRAIA
CALLANDRA CALIFORNICA    FARYDUSTER
ENCELIA FARINOSA         BRITTLIBUSH
ERGONUM FASCICULATUM     FLATTOP BUCKWHEAT
ERICA MEXICANARIFOLIA   TURPentine BUSH
ESCHOLTZIA MEXICANA      MEXICAN POPPY
ISOCOMA TENUISETIC A       BURROWED
HIA ARIA ANGERT          CURRY W/FOREST
LUPINUS SPARSILOUS       DESERT LUPINE
PHACELIA CRENULATA      NOTCH LEAVED PHACELA
PLANTAGO INSULARIS      INDIAN WHEAT
SALVIA COLUMBARIEI      CHIA
SENNI COVESII           DESERT SENNA
SPHERELEGEAESPP          GLOBEBALL
THYMOPHYLLA PENTICHAETA      DOGWEED

1/2" GRANITE MULCH

Sieve Size  Percent Passing
1 1/2"  100%
1"  50-100%
1/2"  0-100%

1/2" GRANITE MULCH

Perimeter Control (Typ.)
Low Grow Seed Mulch

Legend
- 1/2" GRANITE MULCH
- 1" GRANITE MULCH
- 2" GRANITE MULCH
- TANQUE VERDE LOOP RD
- STA 4+32.06
- Earth Dike/Sediment Berm (E4)
- Drainage Flow Direction
- SEDIMENT WATTLE-SW (9") (E2)
- SEDIMENT LOG-SL (20") (E1)
- pres Historic Area

Notes:
1) No pre-emergent herbicides to be used in seeded areas.
2) Ground surface to be prepared for class II seeding see special provision section 805.
3) Seed to be applied after application of rock mulch.
4) There are no wetlands within the project Limits of Disturbance. Areas outside of designated "Limits of Disturbance" shall remain undisturbed.
5) Stormwater Team, in accordance with Permit No. AZG2013-001.
6) No BMP shall be placed such that ingress and egress access than 14 days require temporary stabilization measures.
7) Right-of-Way and easements are the project Limits of Disturbance and no construction halts for a period greater than project area and has potential to receive stormwater runoff. Adjacent slopes at higher elevation than project area do not require perimeter control.
8) A drain of 15' or greater shall be placed on all sides slopes bounding area when adjacent side slope is at least 2:1 above project area and has potential to receive stormwater runoff. Adjacent slopes at higher elevation than project area do not require perimeter control.
9) SEDIMENT WATTLE-SW (9") (E2) REINFORCEMENTS

Project: TANQUE VERDE LOOP RD
STA 4+32.06

Scale: 1" = 40' Horiz.  1" = 4' Vert.

Date: 7/20/18
Proj. Engr. JDB
Drawn JDB
Checked JDB
Printed JDB

0000PM PPM T0139 01C
Sediment Log
Graded Soils

Flow

Stake to Penetrate Mesh of Both Logs at Top and Bottom of Where Logs Meet (Typ)

2' (Typ)

Storm Drain Inlet

Sediment Log Beyond

Gradation C Angular Rock Riprap/Mulch Wedge to Be Built Against Upstream Side of Sediment Log to Prevent Undercutting

Place and Field Adjust Rock Riprap/Rock Mulch Wedge According to Direction of Flow

1"x1"x46" Hardwood Stake to Protrude 2" Max Above Log (Typ)

6'-0" (Min) to Edge of Pavement

Estimated High Flow Line

Close, Continuous Contact Between Bottom of Sediment Log and Ground

SECTION B-B (NTS)

Typical Overlap

2'-0" Min.

Tight, No Gaps Between Logs

Estimated High Flow Line

Flow

NOTE:
Overlap applies to situations where ditch/channel is wider than length of single Sediment Log. Two or multiple Sediment Logs may be necessary.

Flow

IN DITCH/CHANNEL

SECT I ONAL ELEVATION (NT S)

Rock Riprap/Mulch Wedge (approx. 12" wide x 5' high) to be Tamped Against Both Upstream and Downstream Sides of Sediment Log to Prevent Undercutting. Rock Size Shall Be Gradation C as Per Section B10-2.03 of the Standard Specifications.

SECTION A-A (NTS)

Cost of Where Logs Meet (Typ)

Both Logs at Top and Bottom

Stake to Penetrate Mesh of

Sediment Log

2' (Typ)

TYPICAL OVERLAP

PLAN (NTS)

NOTE:
1. Sediment Logs shall not be installed in the urban roadway medians, nor where cable barrier systems are employed.
2. Locate Sediment Logs as indicated in plans, SWPPP or as directed by the Engineer.
3. Select, install and maintain Logs per manufacturers' specifications and good engineering practices.
4. Lay sediment log across prepared ditch or channel. Trenching or burial of Sediment Logs is not required. The close, continuous contact between the bottom of the Log and the ground is mandatory. The Logs shall be installed in the ditch, swale or channel bottom perpendicular to the flow of water as shown on detail this sheet.
5. Stake log as shown. Stakes shall be placed through downstream side only as shown.
6. DO NOT drive stakes through center of the Log. Stakes must be driven into the ground as shown.
7. Ensure that no gaps exist between soil and bottom of Sediment Log. Repair any fills or undercuts promptly.
8. Placement of Sediment Logs shall be evaluated by the Engineer in rocky soil conditions.
9. Remove Sediment Log BMPs within the ditches/channels and around the storm drain inlets as per the Direction of the Engineer or as soon as practicable upon stabilization of the construction disturbed area.
10. Dispose of Sediment Logs and trapped sediment material and fill trench created by Sediment Log.
11. The installation and maintenance of Sediment Log BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. Sediment Logs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
12. Field adjust and correct Sediment Log BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
13. Install rock riprap/mulch for channel/ditch lining or rock check dams for longitudinal ditch slopes that exceed 5% and/or for soil conditions not suitable for log installation.
14. The Sediment Log BMP's payables shall include all materials used for this BMP's all ground preparation, furnishing, installing, maintaining, final removal, and disposal, as well as returning the area to an acceptable condition.
15. Refer to Standard Specification Section B10-2.06(B) for Sediment Log material specifications.
Divert pavement surface runoff and all run-on water from outside new slopes.

Sediment Wattle Spacing Intervals

<table>
<thead>
<tr>
<th>Slope Ratio (H:V)</th>
<th>Maximum Spacing Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:1</td>
<td>10'</td>
</tr>
<tr>
<td>3:1</td>
<td>20'</td>
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<tr>
<td>4:1</td>
<td>30'</td>
</tr>
<tr>
<td>5:1</td>
<td>40'</td>
</tr>
<tr>
<td>6:1</td>
<td>50'</td>
</tr>
</tbody>
</table>

*Notes:
1. Top row shall not be placed within 6'-0" of edge of pavement and 9'-0" from outside surface of barrier.
2. For erosive soils, place rows of wattles closer together.
3. 20" dia. wattle may be made from 2-3 rolled excelsior or straw blankets.
4. Silt fence may be used in place of bottom wattle as described in layout plans and/or in special provisions.

Sediment Wattle Layout

- Install sediment wattles as slopes are constructed to grade or as directed by the Engineer.
- Select, install and maintain in conformance with manufacturers' specifications to meet site conditions.
- Sediment wattles shall be in continuous contact with trench bottom and sides.
- Do not overlap wattle ends on top of each other. A 20" dia. wattle may be made from 2-3 rolled excelsior or straw blankets.
- Butt adjoining wattles tightly against each other. Drive the first end stake of the second wattle at an angle toward the first wattle to help abut them tightly.
- Install and maintain Sediment Wattle BMAs to carry the stormwater spillways and/or rock riprap/rock mulch. Diversion dikes and/or spillways andefd to protect and in accordance with good engineering practices.
- Sediment Wattles shall be placed in continuous contact with trench bottom and sides. Do not overlap wattle ends on top of each other. A 20" dia. wattle may be made from 2-3 rolled excelsior or straw blankets.
- Drive the first end stake of the second wattle at an angle toward the first wattle to help abut them tightly.
- Repair any rills or gullies promptly. Field-adjust and correct wattles immediately if it is causing flooding, erosion, and/or affecting roadway safety.
- Loosening surface soil is not required where Minibenching is used. For seeded areas, filling shall be performed to form minor ridges and furrows parallel to new slope contours as specified in Section 805 of the Standard Specifications.
- Sediment Wattle STAKING DETAIL (NTS)

- Sediment Wattle OVERLAP (NTS)

- Sediment Wattle LAYOUT (NTS)

- Sediment Wattle STAKING DETAIL (NTS)

- Sediment Wattle OVERLAP (NTS)

- Sediment Wattle LAYOUT (NTS)

- Sediment Wattle STAKING DETAIL (NTS)

- Sediment Wattle OVERLAP (NTS)

- Sediment Wattle LAYOUT (NTS)
NOTES:
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.

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.


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

5. Field adjust and correct Construction Entrance/Exit Gravel Pad BMP immediately if it is causing flooding and/or affecting roadway safety.

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.

7. * If Required, install fence/barriers to direct traffic to Gravel Pad.

BIRD’S EYE VIEW (INTS)

Install Gravel Pad to be Flush with Existing and Adjacent Roadway

Width of Rock Mulch Shall be Equal to Roadway Entry or 30'-0" Minimum

Gradation C Angular Rock Mulch Installed to a Depth of 6"

Nonwoven Very High Survivability Fabric Beneath All Aggregates, Extend 3'-0" Beyond All Edges.

5' Thick (Min)

Entrance/Exit Gravel Pad BMP pay/bid item.

7. * Fence/barrier pay/bid item shall not be included as a component of the Stabilized Construction Entrance/Exit Gravel Pad BMP pay/bid item.
Roadway Embankment Slope
(cont'd)

1. Locate Sediment Control Berms as indicated on plans or as directed by the Engineer.
2. Surface materials, i.e., soil, rock, branches, leaves, stalks and chips shall be scraped from the existing grade as needed to construct the berm prior to placement of roadway embankment. After scraping material into berm, compact berm as shown. Rock and slash shall extend no more than 4" above the surface.
3. Construct Sediment Control Berm on the same contour as the toe of new slope and a minimum of 2'-0" beyond the toe of new slope. For the seeded areas, till to form minor ridges and furrows parallel to new slope contours and as specified in Section 805 of the Standard Specifications.
4. The installation and maintenance of Sediment Control Berm BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. For erosion/sediment control purposes, Sediment Control Berms shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
5. Remove Sediment Control Berms per the direction of the Engineer or as soon as practicable upon stabilization of the construction disturbed area.
6. Field adjust and correct Sediment Control Berm BMPs immediately if it is causing flooding, erosion, and/or affecting roadway safety.
7. Sediment Control Berms may be paid as a part of slope construction/roadway excavation. When paid separately, the Sediment Control Berm BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, time, removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.
8. OPTION TO SEDIMENT CONTROL BERM: When shown on layout plans and/or called for in Special Provisions, for urban situations, or where surface materials are not available, use wattles. Wattles shall be selected, installed, and maintained in accordance with manufacturers' specifications and good engineering practices. Refer to Sediment Wattle BMP.
Sta 46+50 to Sta 48+00
Volume Fill = 937.77 CU YDS
Volume Cut = 520.74 CU YDS
Scaled 1 Times

Sta 47+50
Volume Fill = 1062.26 CU YDS
Volume Cut = 550.59 CU YDS
Scaled 1 Times

Sta 47+00
Volume Fill = 580.51 CU YDS
Volume Cut = 565.09 CU YDS
Scaled 1 Times

Sta 46+50 to Sta 48+00
Volume Fill = 470.17 CU YDS
Volume Cut = 497.72 CU YDS
Scaled 1 Times

Area Cut = 11.01 SQ FT
Area Fill = 5.42 SQ FT

Area Cut = 11.01 SQ FT
Area Fill = 12.82 SQ FT

Area Cut = 11.59 SQ FT
Area Fill = 17.80 SQ FT

Area Cut = 10.43 SQ FT
Area Fill = 24.69 SQ FT

Area Cut = 10.43 SQ FT
Area Fill = 17.80 SQ FT

Area Cut = 10.40 SQ FT
Area Fill = 12.82 SQ FT
Sta 8+00 to Sta 9+50

<table>
<thead>
<tr>
<th>LINE</th>
<th>SURFACE</th>
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<tbody>
<tr>
<td>Sawcut LEOP TV</td>
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</tr>
<tr>
<td>Sawcut REOP TV To TVL</td>
<td>EXIST</td>
</tr>
<tr>
<td>Sawcut REOP TVL To TV</td>
<td>EXIST</td>
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</tbody>
</table>

Scaled 1 Times

Area Cut = 73.63 SQ FT
Area Fill = 9.93 SQ FT
Volume Cut = 2342.59 CU YDS
Volume Fill = 265.94 CU YDS

Area Cut = 19.88 SQ FT
Area Fill = 0.71 SQ FT
Volume Cut = 1057.66 CU YDS
Volume Fill = 42.17 CU YDS

Area Cut = 22.43 SQ FT
Area Fill = 0.97 SQ FT
Volume Cut = 1150.70 CU YDS
Volume Fill = 89.20 CU YDS

Area Cut = 19.88 SQ FT
Area Fill = 0.71 SQ FT
Volume Cut = 1057.66 CU YDS
Volume Fill = 42.17 CU YDS

Area Cut = 73.63 SQ FT
Area Fill = 9.93 SQ FT
Volume Cut = 2342.59 CU YDS
Volume Fill = 265.94 CU YDS

area Cut = 23.60 SQ FT
Area Fill = 2.59 SQ FT
Volume Cut = 1309.09 CU YDS
Volume Fill = 106.54 CU YDS

Area Cut = 19.88 SQ FT
Area Fill = 0.71 SQ FT
Volume Cut = 1057.66 CU YDS
Volume Fill = 42.17 CU YDS

Area Cut = 73.63 SQ FT
Area Fill = 9.93 SQ FT
Volume Cut = 2342.59 CU YDS
Volume Fill = 265.94 CU YDS

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Area Fill = 2.59 SQ FT
Volume Cut = 1309.09 CU YDS
Volume Fill = 106.54 CU YDS

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