

TRAFFIC SIGNAL GENERAL NOTES:

THE FOLLOWING NOTES SHALL APPEAR ON ALL TRAFFIC SIGNAL PLANS AND ARE INCLUDED HERE FOR THE USER'S REFERENCE.

1. ALL EQUIPMENT/MATERIALS AND CONSTRUCTION SHALL MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CURRENT CITY OF TUCSON/PIMA COUNTY (COT/PC) 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 THAT SHALL BE USED ARE IDENTIFIED IN THE LATEST EDITION OF THE MUTCD AS ADOPTED BY PCDOT TRAFFIC ENGINEERING DIVISION. THE SPECIFIC SIGN FACE SHALL BE VERIFIED WITH THE TRAFFIC ENGINEER.
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 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 PISTON OR MANDREL SHALL BE PULLED THROUGH THE CONDUIT PRIOR TO CONDUCTOR AND CABLE INSTALLATION.
8. CONDUIT INSTALLED UNDER EXISTING PAVED DRIVEWAYS WHICH ARE NOT SCHEDULED TO BE RECONSTRUCTED AS PART OF THIS PROJECT, SHALL BE INSTALLED BY MEANS OF BORING.
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 THE PROPOSED/FUTURE SIDEWALK. AN EXCEPTION TO THIS NOTE 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 RIGHT-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 QUARTER (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-IMSA 19-1-1984 7-CONDUCTOR SOLID WIRE CABLE SHALL BE INSTALLED FROM EACH TRAFFIC SIGNAL TERMINAL 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-XHHW 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-IMSA CABLE FOR BOTH THE PUSH BUTTON STATION AND THE PEDESTRIAN SIGNAL. THE OUTER CABLE JACKET SHALL BE REMOVED AT THE HAND HOLE HEIGHT. TWO (2) 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-IMSA 51-5-1985 CABLE. LEAD-IN CABLES SHALL BE #16 AWG -IMSA 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.
19. THE ECONDLITE TERRA BRANCH CABLE (PART NO. 1175-01X) SHALL BE INSTALLED FOR THE VIDEO CAMERA, UNSPLICED, FROM THE VIDEO CAMERA TO THE TRAFFIC SIGNAL CONTROLLER CABINET.
20. THE TUCSON ELECTRIC POWER COMPANY CONSTRUCTION DEPARTMENT (918-8300) SHALL BE CONTACTED BY THE CONTRACTOR TO VERIFY THE LOCATION OF THE ELECTRIC SERVICE CONNECTION AT THE INTERSECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATING AND BACKFILLING 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 TEP.

NOTE: IF NOT TEP, MODIFY NAME OF ELECTRIC UTILITY AND PROVIDE THE CORRECT PHONE NUMBER FOR THE UTILITY.

21. PCDOT SHALL CONTRACT SEPARATELY WITH SMARTWAVE TECHNOLOGIES, INC., TO PROVIDE AND INSTALL WIRELESS COMMUNICATION DEVICES AND PTZ CAMERAS AT ALL NEW SIGNALIZED INTERSECTIONS. SMARTWAVE TECHNOLOGIES STAFF SHALL INSTALL THE WIRELESS COMMUNICATIONS DEVICES AND PTZ CAMERAS AFTER THE CONTRACTOR'S ELECTRICAL WORK IS COMPLETE AND SIGNALS AT THE INTERSECTION ARE OPERATIONAL. AT EXISTING SIGNALIZED INTERSECTIONS THAT ALREADY HAVE WIRELESS COMMUNICATION DEVICES AND PTZ CAMERAS, PCDOT SHALL ARRANGE TO HAVE THE EXISTING EQUIPMENT REMOVED OR RELOCATED BY SMARTWAVE TECHNOLOGIES, AND SUBSEQUENTLY INSTALLED ON THE NEW POLES AND MAST ARMS AFTER THE CONTRACTOR'S WORK IS FINISHED.
22. ALL VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE LED. ALL VEHICLE AND PEDESTRIAN LED SIGNAL INDICATIONS SHALL BE THE GE LUMINATION GTX OR GT1 SERIES WITH TINTED LENSES TO THE COLOR OF THE INDICATION AND BE ETL CERTIFIED OR APPROVED EQUAL. ALL PEDESTRIAN SIGNAL FACES SHALL BE GT1 SERIES PEDESTRIAN COUNT DOWN INDICATORS.
23. THE CONTRACTOR SHALL CONTACT BLUE STAKE AT 1-800-782-5348, A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION.
24. THE CONTRACTOR SHALL MAINTAIN AND ALLOW ACCESS TO ALL PIMA COUNTY WASTEWATER MANHOLES LOCATED WITHIN THE ROW. ACCESS MUST BE MAINTAINED 24 HOURS PER DAY, SEVEN DAYS PER WEEK. NO ELECTRICAL UTILITIES MAY BE PLACED WITHIN SIX FEET OF A FORCE MAIN.
25. 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.
26. THE TRAFFIC SIGNAL OPERATION AT EXISTING SIGNALIZED INTERSECTIONS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT WITH EXISTING, TEMPORARY, OR NEW TRAFFIC SIGNAL EQUIPMENT.
27. 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 LOOPED THROUGH THE PLUG PULL TAB AND TWO FEET OF SLACK DOUBLED BACK INTO THE CONDUIT.
28. 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 AND BUCKLES. THE COVER SHALL HAVE A FINE 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 WITH BURLAP, CARDBOARD OR OTHER MATERIAL.
29. THE LOCATION OF UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING/POTHOLING 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.
30. 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. ALL TRAFFIC CONTROL DEVICES ON FEDERALLY FUNDED PROJECTS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS ADOPTED BY ADOT AND APPROVED BY THE ENGINEER.

RESPONSIBILITIES:

1. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL EQUIPMENT AND MATERIALS FOR THE INSTALLATION OF THE TRAFFIC SIGNAL(S) AS SPECIFIED ON THE APPROVED PLANS AND IN THE PROJECT SPECIFICATIONS.
2. THE CONTRACTOR SHALL DELIVER THE CONTROLLER(S) ASSEMBLY(S) WHICH INCLUDES THE CONTROLLER CABINET, THE CONTROLLER(S), 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 THE INSTALLATION(S) AT THE INTERSECTION(S). CONTACT THE SIGNAL SHOP SUPERVISOR AT LEAST 2 WORKING DAYS PRIOR TO THE DELIVERY OF THE CONTROLLER ASSEMBLY(S) TO PCDOT. PCDOT STAFF SHALL TRANSPORT THE CONTROLLER ASSEMBLY(S) FROM THE PCDOT MAINTENANCE YARD TO THE INTERSECTION(S) 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, EXCEPT EXISTING WIRELESS COMMUNICATIONS AND PTZ CAMERA EQUIPMENT. 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 , 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 UNLOADED BY THE CONTRACTOR AT THE LOCATION DESIGNATED BY THE SHOP SUPERVISOR. CONTACT THE SIGNAL SHOP SUPERVISOR (724-5887) 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 OVERHEAD METRO STREET NAME SIGNS. THE CONTRACTOR SHALL ALSO PROVIDE ALL SIGN MOUNTING HARDWARE, EXCEPT THE HARDWARE FOR MOUNTING THE OVERHEAD METRO STREET NAME SIGNS. PCDOT SHALL FABRICATE ALL OVERHEAD METRO STREET NAME SIGNS FOR THE DESIGNATED INTERSECTION(S) AND PROVIDE THE MOUNTING HARDWARE FOR THESE SIGNS. THE CONTRACTOR SHALL INSTALL ALL GROUND MOUNTED SIGNS. PCDOT SHALL INSTALL ALL OVERHEAD SIGNS ON TRAFFIC SIGNAL MAST ARMS.
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 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 VEGETATION MAINTENANCE PUBLIC WORKS SUPERVISOR (724-2421) BEFORE ANY PLANTS ARE REMOVED.

Ana M. Olivares, P.E., Director

Pima County Department of Transportation

Date	MO/YR		MO/YR		MO/YR	
	MO	YR	MO	YR	MO	YR
Designed						
Drawn						
Checked						
Proj. Engr.						

No.	Revision Description	Engineer	Date
			MO/YR

TRAFFIC SIGNAL GENERAL NOTES:



Project Name - Xxxx Road to Xxxx Road - Project No. 4XXXXX