

GENERAL TRAFFIC SIGNAL NOTES

1. LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THE DRAWINGS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY FOR UTILITIES OR STRUCTURES NOT SHOWN OR NOT IN THE LOCATION SHOWN ON THE DRAWINGS. THE CONTRACTOR'S RESPONSIBILITY REGARDING UTILITIES SHALL BE AS REQUIRED UNDER SECTION 105.06 OF THE UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS. CLARK COUNTY AREA, NEVADA, LATEST EDITION. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST 2 WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION.

CALL BEFORE YOU DIG	1-800-227-2600
HENDERSON PUBLIC WORKS	1-702-267-3000
HENDERSON TRAFFIC ENGINEER	1-702-267-3099
NV ENERGY	1-702-402-5555
2. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT FROM DAMAGING EXISTING IMPROVEMENTS WHICH ARE TO REMAIN IN PLACE. CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPAIR, REPLACE OR RECONSTRUCT ALL SUCH IMPROVEMENTS OR OTHER STRUCTURES DAMAGED BY HIS WORK, TO THE ENGINEER'S SATISFACTION.
3. CONTRACTOR SHALL CHECK CONDUIT AND CABLE SCHEDULE FOR CONDUIT, CABLE, AND WIRE SIZE, AND VERIFY ALL EXISTING CONDUIT RUNS AS SHOWN ON THE PLAN ARE USABLE.
4. CONDUIT RUNS, AS SHOWN ON THE DRAWINGS, ARE FOR CLARITY ONLY. ALL MULTIPLE CONDUIT RUNS SHALL BE THE SAME TRENCH WHENEVER POSSIBLE.
5. ALL SIGNAL CABLE SHALL RUN FROM CONTROLLER CABINET TERMINALS TO SIGNAL TERMINAL COMPARTMENT TERMINALS WITHOUT SPLICES, SINGLE CONDUCTORS SHALL BE INSTALLED FROM THE VEHICLE SIGNAL TERMINAL BLOCK OR THE PEDESTRIAN SIGNAL TERMINAL BLOCK TO PEDESTRIAN PUSH BUTTONS, MAST ARM SIGNALS, AND PEDESTRIAN SIGNALS. ALL PEDESTRIAN PUSH BUTTONS TO HAVE TWO ISOLATED WIRES FROM BUTTON TO CABINET TERMINATION BLOCK.
6. NEW CONDUITS SHALL BE INSTALLED IN TRENCH SUCH THAT THE TOP OF CONDUIT SHALL HAVE A MINIMUM COVER OF 24-INCHES BELOW ADJACENT EDGE OF PAVEMENT OR ORIGINAL GROUND, WHICHEVER IS LOWER IN ELEVATION PER CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS NO. 732 AND 733.
7. ALL WIRES SHALL BE COPPER, SOLID FOR GAUGES UP TO No.10 AWG AND STRANDED FOR LARGER GAUGES, UNLESS OTHERWISE NOTED.
8. ALL CONDUIT RUNS SHALL INCLUDE A No.8 AWG AND GROUNDING CONDUCTOR WITH GREEN INSULATION.
9. SIGNAL CABLE SHALL BE 25 CONDUCTORS No. 14 AWG AND, UNLESS OTHERWISE NOTED, SHALL MEET IMSA SPECIFICATIONS 19-1.
10. POWER AND/OR LIGHTING CIRCUITS SHALL USE THHN/THWN OR THW 600 VOLT INSULATION, AND SHALL BE OF THE GAUGES LISTED IN THE SCHEDULE.
11. CONTRACTOR SHALL PROVIDE ALL NECESSARY CONDUIT AND CONDUCTORS FROM THE NV ENERGY TRANSFORMER TO THE SERVICE POINT TO ACTIVATE TRAFFIC SIGNAL.
12. CONTRACTOR SHALL SECURE NV ENERGY APPROVAL OF THE SERVICE INSTALLATION.
13. CITY OF HENDERSON TO PROVIDE NAZTEC 980 CONTROLLER WITH APOGEE LICENSE.
14. CONTRACTOR SHALL PROVIDE AND INSTALL NEW TYPE VIII "R" CABINET WITH EXHAUST FAN AND THERMOSTAT CONTROL ON TYPE "J" FOUNDATION PER CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS NO. 803 AND 725. CABINETS SHALL BE ANODIZED ALUMINUM, AND INCLUDE INSIDE MODULES, SWITCHES, OPTICOM, FLASHERS AND AREA WIDE COMPUTER CONTROL. CONTRACTOR SHALL PROVIDE AND INSTALL NEW MMU2 EDI MODEL 16ELIP OR APPROVED EQUAL. CITY OF HENDERSON SHALL PROVIDE AND INSTALL NAZTEC 980 CONTROLLER WITH APOGEE LICENSE. CONTROLLER SHALL BE WIRED IN CABINET TO ACTIVATE THE PHASE OPERATION AS SHOWN ON THE PLAN. CABINET SHALL CONFORM TO CITY OF HENDERSON TRAFFIC SIGNAL CABINET SPECIFICATIONS. CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS UPON COMPLETION OF THE PROJECT DETAILING ANY CHANGES TO THE CONTROLLER OPERATION. CONTROLLER CABINET AND ALL INTERNAL EQUIPMENT WILL BE DELIVERED TO CITY OF HENDERSON TRAFFIC MAINTENANCE DEPARTMENT FOR TESTING PRIOR TO INSTALLATION. PLEASE CONTACT TRAFFIC MAINTENANCE AT 267-3200 TO SCHEDULE DELIVERY TO 2101 MOSER DRIVE, HENDERSON, NEVADA 89015.
15. THE CONTRACTOR SHALL SUPPLY A LAYER 2 FIELD-HARDENED ETHERNET SWITCH FOR EACH TRAFFIC SIGNAL CONTROLLER CABINET TO RTC-FAST PER CLARK COUNTY AREA UNIFORM STANDARD SPECIFICATION (USS) 684.

16. ALL PULL BOXES SHALL BE No. 7 OR No. 5 PRECAST REINFORCED CONCRETE AND HAVE NON CONDUCTIVE LIDS MARKED "TRAFFIC SIGNAL" OR "STREET LIGHTS" UNLESS OTHERWISE NOTED. EXISTING PULL BOX COVERS THAT ARE MARKED INCORRECTLY SHALL BE REPLACED.
17. REGRADE LANDSCAPING AS NEEDED AND REPLACE DAMAGED IRRIGATION LINES WITHIN 24 HOURS.
18. LOCATION OF CONTROLLER, PULL BOXES, CONDUIT RUNS AND POLES SHALL BE WITHIN PUBLIC RIGHT-OF-WAY. IF ANY OF THESE ITEMS CANNOT BE LOCATED WITHIN THIS RIGHT-OF-WAY, THEN EASEMENTS MUST BE OBTAINED TO ALLOW THE INSTALLATIONS. THE FINAL LOCATIONS FOR POLE SHALL BE VERIFIED BY THE TRAFFIC ENGINEER AT THE TIME OF CONSTRUCTION.
19. BEFORE ANY WORK IS STARTED IN THE CITY OF HENDERSON RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS FOR THE CONSTRUCTION ZONE. THE CONTRACTOR SHALL INSTALL TEMPORARY STOP SIGNS AT ALL STREET ENCROACHMENTS IMMEDIATELY AFTER REMOVAL OF PERMANENT STOP SIGNS, AND SHALL MAINTAIN SAID SIGNS WHILE INSTALLED.
20. INTERSECTION LIGHTING SHALL CONSIST OF LUMINAIRES THAT MEET CITY OF HENDERSON LIGHTING STANDARDS FOR INTERSECTIONS WITH INTEGRAL PHOTOELECTRIC (PE) CONTROL, 120 VOLT. EACH INTERSECTION LUMINAIRE SHALL BE FUSED AT THE BOTTOM OF EACH POLE USING IN-LINE WATERPROOF FUSEHOLDERS.
21. EMERGENCY VEHICLE PREEMPT SYSTEM SHALL INCLUDE GTT MODEL 760 CARD RACK, GTT MODEL 764 4-CHANNEL PHASE SELECTOR, GTT MODEL 3100 GPS RADIO UNIT – MAST MOUNT, AND GTT MODEL 1070 GPS INSTALLATION CABLE. CABLE SHALL RUN FROM RADIO UNIT TO CARD RACK IN CONTROLLER CABINET. RADIO UNIT SHALL BE MOUNTED TOWARDS CENTER OF INTERSECTION.
22. ALL INDICATIONS ON VEHICLE SIGNAL HEADS (12") AND PEDESTRIAN SIGNAL HEADS SHALL BE SUPPLIED WITH LIGHT EMITTING DIODE (LED) VEHICLE PEDESTRIAN TRAFFIC SIGNAL MODULES AND COUNTDOWN PEDESTRIAN TIMERS WITH R10-3E PEDESTRIAN PUSH BUTTON SIGN CONSISTANT WITH CURRENT MUTCD STANDARDS.
23. ACCESSIBLE PEDESTRIAN SIGNALS AND DETECTORS SHALL INCLUDE AUDIBLE LOCATER TONES AND AUDIBLE WALK INDICATIONS CONSISTANT WITH CURRENT MUTCD STANDARDS. THE PEDESTRIAN DETECTION SYSTEM SHALL BE CAPABLE FOR ETHERNET ACCESS FOR REMOTE COMMUNICATION AND PROGRAMMING.
24. NEW AND/OR RELOCATED SIGNAL HEADS AND TENONS SHALL BE WELDED IN THE FIELD TO ENSURE ACCURATE PLACEMENT.
25. NEW AND/OR RELOCATED SIGNAL HEADS SHALL HAVE BACKPLATES WITH RETROREFLECTIVE BORDERS CONSISTANT WITH CURRENT MUTCD STANDARDS.
26. FLIR TRAFI-SENSE THERMAL SENSOR DETECTION SYSTEM WITH ALL OF THE NECESSARY AUXILIARY EQUIPMENT SHALL BE INSTALLED IN CONTROLLER CABINET. MOUNT DETECTION CAMERAS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE VIDEO DETECTION SHALL HAVE THE CAPABILITY OF SENSING A VEHICLE ANYWHERE WITHIN THE "MINIMUM LIMITS OF DETECTION ZONE" SHOWN. CAMERAS TO BE THERMAL TYPE FLIR FC SERIES T 19mm, 13mm, OR 9mm LENS TO BE DETERMINED PER INTERSECTION CONFIGURATION.
27. INSTALL CCTV CAMERA PER CLARK COUNTY AREA UNIFORM STANDARD DRAWING NO. 766.
28. ILLUMINATED STREET NAME SIGNS SHALL BE INSTALLED PER CLARK COUNTY AREA UNIFORM STANDARD DRAWING NO. 818.1. ALL SIGNS SHALL BE SUPPLIED WITH TWO 8-FT LED TUBES PER CURRENT CITY OF HENDERSON LIGHTING STANDARDS AND CURRENT APPROVED PROVIDER LIST.