



Traffic Signal General Notes

General Traffic Signal Notes

1. Contractor shall reference the *Uniform Standard Drawings for Public Works' Construction - Off-site Improvements Clark County Area - Nevada- Volume II* April 1992 and later revisions for all traffic signal installations.
2. All construction signage barricading and traffic delineation shall conform to *Nevada Work Zone Traffic Control Handbook 1997* and to the *Manual on Uniform Traffic Control Devices (MUTCD)*, latest edition. All barricades shall be wide angle prismatic retro-reflective sheeting (Class 5) or better.
3. Contractor shall install 1-60A 1 pole circuit breaker for traffic signal and 2-30A 1 pole circuit breakers for intersection lights in new 200 AMP service pedestal located on the same corner as the traffic signal cabinet in accordance with Clark County Uniform Standard Drawing 404.1412, Clark County Uniform Standard Specifications, Special Provisions, and as indicated on the plans. The contractor shall coordinate installations with Nevada Power Company and City of North Las Vegas' Manager of Roadway Operations, as required and as directed by the City of North Las Vegas' Construction Services Manager.
4. The line side of meter is to be wired with three #3/0 AWG THW (neutral to be identified with white). The load side of the meter is to be wired with two #6 AWG THW (1 black, 1 white) for traffic signal, four #6 AWG THW (2 black, 2 white) for intersection lighting, and one #8 AWG THW (green).
5. Conduit routing shown on the civil plans is schematic for the purpose of clarity and may differ from actual installation.
6. Contractor is responsible for obtaining survey of property lines to ensure that new traffic signal structures are installed within public right-of-way or easements.
7. The contractor shall provide and install a 2070N or M53 controller in 16 position load bay cabinets in accordance with Clark County Uniform Standard Specifications, Special Provisions, as indicated on the plans and as directed by the City of North Las Vegas' Construction Services Manager. The contractor supplied controller cabinet shall be placed on a contractor-furnished foundation. A manufacturer's representative shall be present for the signal turn-on, and shall be given 14-day advance notification of turn-on date by the contractor.
8. The signal shall be equipped with emergency vehicle preemption incorporating four (4) Opticom Model 722 directional detectors, one (1) 754 card, one (1) 760 rack, four (4) Pelco AB-0121 clamps and Model 138 cable as indicated on the plans. Emergency vehicle preemption shall be installed over the first through lane in each direction.
9. The controller, cabinet, and cabinet components shall be delivered to North Las Vegas Traffic Engineering, 2277 W. Gowan Road for testing prior to installation in the field. Call 633-1264 24 hours in advance. Contractor shall pick up controller and cabinet following testing.
10. Intersection luminaires shall be 400 watt HPS with M-C-III distribution with 120 volt regulator ballast and integral photoelectric controls (GE #C646N506 or approved equal). For luminaires, there shall be four (4) #6 AWG THW conductors from the service to the cabinet. In the cabinet, the #6 AWG THW conductors shall branch-off into two (2) circuits (north side and south side) of four (4) each #10 AWG THW conductors individually fused with 10 AMP fuses in pole bases. There shall be no splices between the cabinet and the pole base. All existing luminaires shall be routed through the controller cabinet as shown in conduit and wire schedule.
11. Loop detector sealant used shall be hot-melt, rubberized asphalt per Section 623T.02.04(c) of the Clark County Uniform Standard Specifications.
12. Loop detectors shall be centered in the lane or as called out in the plans. Locate the front of the presence loops two (2) feet beyond the stop line.
13. Install 6' x 40' quadrapole cut presence loop detectors $\varnothing 1$, $\varnothing 3$, $\varnothing 5$ & $\varnothing 7$.
14. The intersection shall be equipped with Econolite "Solo Pro" video detection system or approved equal. The system shall be installed according to manufacturer's specifications. Cameras will be mounted per the manufacturer's recommendation and per the City of North Las Vegas' Traffic Engineer approval. "BNC" connectors are the only acceptable termination of coaxial cables.
15. Pull boxes are No. 7 unless otherwise noted. All pull boxes shall be in accordance with Clark County Uniform Standard Drawings 404.110 and 404.130. The contractor shall be responsible for grounding the complete traffic signal electrical system including all existing poles, cabinets, service pedestals, pull boxes and electrical devices in accordance with the National Electrical Code and the Clark County Uniform Standard Drawings. Grounding wire shall be bonded to metal pull box covers using an exothermal welding process acceptable to the engineer per Clark County Uniform Standard Drawing 404.140. All empty conduits shall have 200 lb rated pull string installed and # 8 AWG green tracer wire.

16. All IMSA cable shall be stranded and conform to 19-1 or 20-1 specifications. Traffic signal cable shall be IMSA 25 conductor #14 AWG cable (typical). Wiring from the junction box to each three (3) section signal head shall be IMSA 5 conductor #14 AWG. Wiring from the junction box to each five (5) section signal head shall be IMSA 7 conductor #14 AWG.
17. All pedestrian push button signs shall be R10-3e (9" x 12" Polara Option "C" or equal). All push buttons shall be "Polara Bulldog" pressure sensitive/LED and meet Americans with Disability Act (ADA) guidelines and are to be mounted 42" above sidewalk. The maximum horizontal reach distance is to be 24".
18. If the improvements necessitate the obliteration, temporary construction, temporary removal, or relocation of any existing traffic pavement markings, said pavement markings shall be restored or replaced at the contractor's expense to the satisfaction of the City of North Las Vegas' Manager of Roadway Operations.
19. Contractor shall install four (4) non-illuminated street name signs (SNS) on mast arms of poles "A", "B", "C" and "D", and four (4) block number signs on poles "A", "B", "C", and "D" in accordance with City of North Las Vegas standards. Block number signs shall be supported along their entire length utilizing Band-it #SX0397 bracket or approved equal. See street and block sign detail for legends and block numbers. The contractor shall verify block numbers with the City of North Las Vegas prior to fabrication.
20. All vehicle and pedestrian signal displays (R-Y-G-W-DW) shall be light emitting diode (LED) per City of North Las Vegas standards and specifications. Pedestrian indications shall have countdown timing displays.
21. Traffic signal turn-on shall not occur during weekends, Fridays, or City observed holidays.
22. Trench construction for conduit installations shall be in accordance with Clark County Standard Drawing 404.1419. Earth saw excavation is an acceptable alternative to conventional trenching methods.
23. Prior to completion of new traffic signal installation, intersections shall be operated under stop sign control or under uniformed officer control.
24. Existing conductors not required for signal or lighting operations shall be removed.
25. One (1) #8 conductor shall be run from the controller to all poles and pull boxes as a bonding ground.
26. Existing traffic signal and/or lighting equipment removed and not relocated shall be salvaged by the contractor and delivered to North Las Vegas Traffic Engineering, 100 East Brooks Avenue, by appointment only.
27. Contractor shall insure that the traffic signal poles are plumb after the installation of mast arms and traffic signal heads.
28. If required to remove and salvage existing street light pole assembly, remove foundation 18-inches below grade, intercept existing conduit and wiring into a 3 1/2 pull box marked "street light" with grounded cover while maintaining existing street light circuit.
29. The contractor shall be responsible to restore any damage or modification to landscape/irrigation to pre-construction condition (modified landscape shall be paid for as part of traffic signal lump sum).
30. All stop signs at intersection shall be removed at time of traffic signal activation and returned to the City of North Las Vegas Traffic Engineering, 100 East Brooks Avenue. Call 633-1264 24 hours in advance. Remove sign post and post anchor and patch hole with concrete.
31. 240 volt street light conduits and fiber optic conduits shall be separate from traffic signal and intersection lighting conduits. Each shall have separate pull boxes.
32. The contractor shall be responsible for locating and protecting all underground and aerial utilities and constructions likely to be affected by his work. The location of underground utilities, as shown on the plans, is approximate only. Any damage to existing utilities shall be the responsibility of the contractor and shall be repaired promptly in a manner satisfactory to the utility owner at the contractor's expense.
33. Installation of traffic signal components shall be supervised by a Certified IMSA Level II Traffic Signal Electrician.
34. As-built drawings must be provided to the City of North Las Vegas' Traffic Engineering Division prior to traffic signal turn on.