

TRAFFIC SIGNAL NOTES:

- ALL WORK PERFORMED ON ANY TRAFFIC SIGNAL COMPONENT MUST BE UNDER THE DIRECT ON-SITE SUPERVISION OF AN IMSA CERTIFIED TECHNICIAN. EFFECTIVE MARCH 30, 2000 THE LEVEL OF CERTIFICATION REQUIRED IS LEVEL I, AND THE LEVEL OF CERTIFICATION REQUIRED SHALL BE INCREASED TO LEVEL II EFFECTIVE MARCH 30, 2001.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL EXISTING UTILITIES. THE LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES TO VERIFY IN THE FIELD THE LOCATIONS OF THEIR INSTALLATIONS 72 HOURS PRIOR TO CONSTRUCTION.  
CALL-BEFORE-YOU-OVERHEAD 1-702-593-8111  
CALL-BEFORE-YOU-DIG 1-800-227-2600
- ALL TRAFFIC SIGNAL INSTALLATIONS SHALL CONFORM TO THE UNIFORM STANDARD DRAWINGS SPECIFICATIONS AND SPECIAL PROVISIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA, NEVADA, VOLUMES I AND II, ADOPTED BY THE REGIONAL TRANSPORTATION COMMISSION APRIL 8, 1992 WITH ALL SUBSEQUENT REVISIONS. (REVISIONS THRU MAY 11 2000)
- SERVICE SHALL HAVE 1-60 AMP SINGLE POLE BREAKER FOR SIGNAL, AND ONE 40 AMP SINGLE POLE BREAKERS FOR STREET LIGHTS. SERVICE SHALL BE 200 AMP PADMOUNT.
- LINE SIDE OF METER TO BE WIRED WITH THREE #3/0 AWG THW. LOAD SIDE SHALL BE WIRED WITH FOUR #4 AWG THW (2 BLACK, 2 WHITE) AND ONE #8 AWG THW (GREEN).
- LUMINAIRES ON ALL SIGNAL POLES SHALL BE 400 WATT HIGH PRESSURE SODIUM CUTOFF (G.E. M400A) WITH MC-111 DISTRIBUTION. EACH LUMINAIRE SHALL HAVE AN INDIVIDUAL 1000 WATT P.E. CONTROL. FOR LUMINAIRES THERE SHALL BE 2(TWO)-#4 AWG THW CONDUCTOR FROM THE SERVICE TO THE CABINET. IN THE CABINET, THE #4 AWG THW CONDUCTORS SHALL BRANCH OFF INTO #10 AWG THW CONDUCTORS INDIVIDUALLY FUSED WITH 10 AMP FUSES. THERE SHALL BE NO SPLICES BETWEEN THE CABINET AND LUMINAIRE FIXTURES.
- THE INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL BE WIRED TO THE LUMINAIRES PHOTO CELL FOR CONTROL WITH #10 AWG THW COPPER STRANDED WIRE (TYPICAL). IN THE EVENT THERE IS NO LUMINAIRE ON THE TRAFFIC SIGNAL POLE, THE 1000 WATT P.E. CONTROL SHALL BE MOUNTED ON THE POLE CAP.
- CHECK CONDUIT AND CABLE SCHEDULE FOR CONDUIT, CABLE, AND WIRE SIZE. VERIFY ALL EXISTING CONDUIT RUNS.
- ALL PULLBOXES SHALL BE IN ACCORDANCE WITH UNIFORM STANDARD DRAWINGS NO. 404.110, NO. 404.120, AND NO. 404.130.
- TRAFFIC SIGNAL CABLE SHALL BE 15 OR 25 CONDUCTOR #14 AWG SOLID (TYPICAL) CABLE AND SHALL CONFORM TO IMSA SPEC. NO. 20-1.
- PEDESTRIAN PUSH BUTTONS SHALL BE AUDIBLE TACTILE TYPE IN ACCORDANCE WITH CITY OF LAS VEGAS SPECIAL PROVISIONS TO SECTION 623 OF THE CCA USS. ONLY POLARA NAVIGATOR AUDIBLE TACTILE PUSH BUTTONS WILL BE ACCEPTED. PUSH BUTTON SIGNS SHALL BE 9" X 12" WITH FULL MOUNTING BRACKETS. ALL PUSH BUTTONS TO BE MOUNTED 42" ABOVE SIDEWALK. THE MAXIMUM HORIZONTAL REACH DISTANCE IS TO BE 24". SIDEWALK RAMPS WILL BE ACCORDING TO U.S.D. NO. 235 (1-4) DATED 12-14-00.
- THE ROUTING AND TERMINATION OF CONDUITS AND THE PLACING OF POLES AND CABINETS SHALL BE AS INDICATED ON THE PLANS. ALL CHANGES SHALL BE APPROVED BY THE ENGINEER.
- INSTALL TYPE VII CABINET. THIS IS COMMONLY REFERRED TO AS AN "R" CABINET. THE CABINET SHALL CONFORM TO THE UNIFORM STANDARD DRAWINGS SPECIFICATIONS AND SPECIAL PROVISIONS, CLARK COUNTY AREA, NEVADA. INSTALL CABINET NEAR THE R.O.W. LINE OR AS SHOWN ON THE DRAWINGS.
- THE CONTRACTOR SHALL SUPPLY A 2070N CONTROLLER TO THE CITY OF LAS VEGAS TRAFFIC SIGNAL REPAIR SHOP, FOURTEEN DAYS PRIOR TO SIGNAL TURN-ON, FOR TESTING PURPOSES. THE CONTRACTOR SHALL DELIVER THE CONTROLLER TO, AND PICKUP THE CONTROLLER AT 2801 E. CHARLESTON BOULEVARD. CONTRACTOR SHALL NOTIFY THE TRAFFIC SIGNAL REPAIR SHOP (229-6075) SEVEN DAYS PRIOR TO PICKUP. ALL 2070N CONTROLLERS MUST BE COMPATIBLE WITH AND FUNCTION PROPERLY WITH OS9 1996 OPERATION SYSTEM; THE LATEST REVISION OF THE "NEXT PHASE INTERSECTION MANAGEMENT SOFTWARE" (GARDNER TRANSPORTATION SYSTEM) AND THE ICONS (GARDNER TRANSPORTATION SYSTEM) GENERAL SOFTWARE.
- CONTRACTOR SHALL POTHOLE SIGNAL POLE LOCATIONS PRIOR TO ORDERING OF POLES.
- ALL MAST ARMS TO BE HOT-DIP GALVANIZED BY THE MANUFACTURER. THE MAST ARM IS TO BE FABRICATED WITH END TENON ONLY. THE END TENON SHALL BE FACTORY INSTALLED AND THE REMAINING TETONS SHALL BE FABRICATED IN THE FIELD AT THE LOCATION SHOWN ON THE PLANS OR AS DIRECTED BY THE TRAFFIC ENGINEER AND/OR HIS AUTHORIZED REPRESENTATIVE. FOR TENON FABRICATION DETAILS SEE CLARK COUNTY AREA U.S.D. NO. 404.406 SHEET 2. ALL WELDING SHALL CONFORM TO AWS D 2.0, "SPECIFICATION FOR WELDED HIGHWAYS AND RAILWAY BRIDGES," AND TO ANY ADDITIONAL REQUIREMENTS OF SECTION 623 T.02.09 OF THE SPECIFICATIONS. ALL EXPOSED WELDS, SHALL BE PAINTED AS PROVIDED FOR REPAIRING DAMAGED GALVANIZED SURFACES.
- ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL HAVE LIGHT EMITTING DIODE (LED) TYPE INDICATIONS, IN CONFORMANCE TO CITY OF LAS VEGAS SPECIAL PROVISIONS TO SECTION 623 OF THE CCA USS. ALL PEDESTRIAN SIGNAL HEADS SHALL BE THE COUNTERDOWN TYPE AS MANUFACTURED BY PRECISION SOLAR OR APPROVED EQUAL.
- ALL VEHICLE DETECTION WILL BE BY VIDEO IMAGE DETECTION. EITHER ITERIS VANTAGE PLUS OR AUTOSCOPE 2020 OR AUTOSCOPE 2020-V8 VIDEO DETECTION SYSTEM MUST BE INSTALLED. EACH VIDEO CAMERA WILL HAVE POWER (3/16 COND. PVC JACKETED) AND 8281 COAXIAL CABLE DIRECTLY FROM THE CABINET. CAMERAS WILL BE MOUNTED PER THE MANUFACTURER'S RECOMMENDATIONS AND PER CLV TRAFFIC ENGINEER APPROVAL. "BNC" CONNECTORS ARE THE ONLY ACCEPTABLE TERMINATION OF CABLES.
- IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY CONSTRUCTION, TEMPORARY REMOVAL, OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT WARNING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED AT THE CONTRACTORS EXPENSE TO THE SATISFACTION OF THE CITY.
- ONLY 3M OPTICOM DETECTORS WILL BE ACCEPTED USING A MODEL 754 PHASE SELECTOR INSTALLED IN A MODEL 760 CARD RACK. OPTICAL SENSORS SHALL BE MODEL 722.
- THE CONTRACTOR SHALL INSTALL CROSSWALKS, STOP BARS AND SIGNS AS IDENTIFIED ON THE PLANS.
- THE VIDEO DETECTION ZONE SHALL BE A MINIMUM OF 300 FEET FROM THE STOP BAR.
- 3M MODEL 722 (TWO-WAY) OPTICOM DETECTORS OR APPROVED EQUAL SHALL BE MOUNTED ON TOP OF THE LEFT-MOST SIGNAL HEADS AS INDICATED ON THE PLANS. THE CONTROLLER SHALL BE EQUIPPED FOR OPTICOM PRE-EMPTION USING A 3M MODEL 754 PHASE SELECTION IN A MODEL 760 CARD RACK.

POLE SCHEDULE

| POLE | POLE                   |      |                         | SIGNAL VEHICLES            |                                | PED. SIGNAL VEHICLES |      | PED. PUSH BUTTONS |                   | REMARKS                                         |
|------|------------------------|------|-------------------------|----------------------------|--------------------------------|----------------------|------|-------------------|-------------------|-------------------------------------------------|
|      | LOCATION STATION       | TYPE | SIGNAL ARM QUAD, LENGTH | LUMINAIRE ARM QUAD, LENGTH | TYPE                           | QUAD.                | TYPE | QUAD.             |                   |                                                 |
| A    | 18+97.5<br>60' RT.     | XX-A | 1 55'                   | 1 15'                      | (2) M-2<br>(1) B-1T            | MAST ARM 3           | W-3T | 3                 | 1 RIGHT<br>2 LEFT |                                                 |
| B    | 18+92.2<br>54.50' LT.  | XX-A | 2 50'                   | 3 15'                      | (3) M-2<br>(1) B-1T            | MAST ARM 4           | W-0T | 4                 | 2 RIGHT           | #8 LEFT TURN HEADS TO BE ALL ARROW INDICATIONS. |
| C    | 17+89.0<br>54.50' LT.  | XX-A | 3 50'                   | 3 15'                      | (1) M-2<br>(2) M-2<br>(1) B2-T | MAST ARM 1           |      |                   |                   | #5 INDICATIONS TO BE ALL ARROWS                 |
| D    | 17+85.00<br>77.50' RT. | XX-A | - -                     | 4 15'                      | (1) B1-T                       |                      | W-0T | 2                 | 1 LEFT            | #5 INDICATIONS TO BE ALL ARROWS                 |

POLE NOTES:

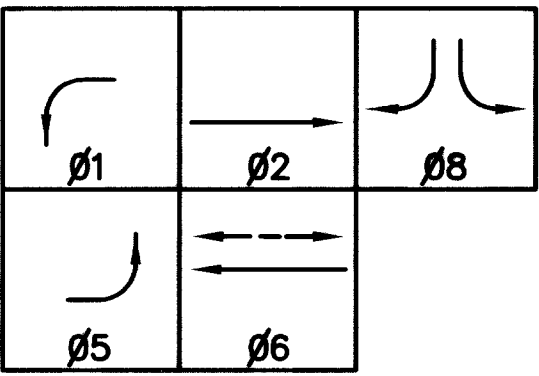
- ALL POLE LOCATIONS ARE BASED FROM DURANGO DRIVE CENTERLINE STATIONING.
- POLES A, B, C & D SHALL HAVE A TYPE "L" FOUNDATION PER STD. DWG. NO. 404.209
- R3-8M SIGN SHALL BE 30"x30"
- R3-4 SIGN SHALL BE 30"x30"
- R9-3A SIGN SHALL BE 18"x18"
- R9-3B SIGN SHALL BE 18"x12"

CONDUIT & WIRE SCHEDULE

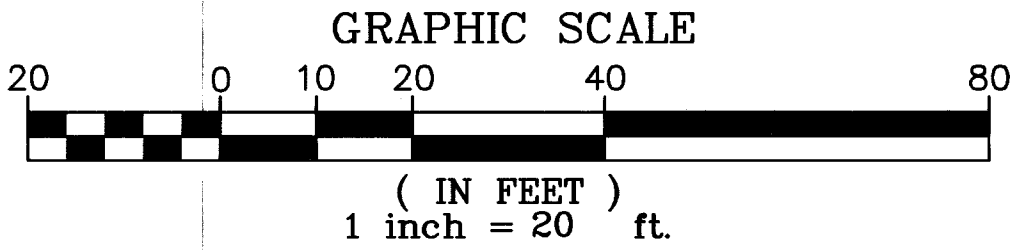
| WIRE & CABLE                       | FROM                  | TO                   |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------------------|-----------------------|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|
| (3) #3/0                           | SERVICE POINT         | SERVICE PED          |    |    |    |    |    |    |    |    |    |    |    |    |
| (4)#4, (1)#8 GROUND                | SERVICE PED           | CONTROLLER           |    |    |    |    |    |    |    |    |    |    |    |    |
| 25 CONDUCTOR                       | CONTROLLER            | POLE A               |    |    |    |    |    |    |    |    |    |    |    |    |
| 25 CONDUCTOR                       | CONTROLLER            | POLE B               |    |    |    |    |    |    |    |    |    |    |    |    |
| 25 CONDUCTOR                       | CONTROLLER            | POLE C               |    |    |    |    |    |    |    |    |    |    |    |    |
| 25 CONDUCTOR                       | CONTROLLER            | POLE D               |    |    |    |    |    |    |    |    |    |    |    |    |
| (2)#10 THW, #8 GROUND              | CONTROLLER            | LUMINAIRE A          |    |    |    |    |    |    |    |    |    |    |    |    |
| (2)#10 THW, #8 GROUND              | CONTROLLER            | LUMINAIRE B          |    |    |    |    |    |    |    |    |    |    |    |    |
| (2)#10 THW, #8 GROUND              | CONTROLLER            | LUMINAIRE C          |    |    |    |    |    |    |    |    |    |    |    |    |
| (2)#10 THW, #8 GROUND              | CONTROLLER            | LUMINAIRE D          |    |    |    |    |    |    |    |    |    |    |    |    |
| (3)#16 8281 COAX. CABLE (VIDEO)    | CONTROLLER            | VIDEO CAMERA A       |    |    |    |    |    |    |    |    |    |    |    |    |
| (3)#16 8281 COAX. CABLE (VIDEO)    | CONTROLLER            | VIDEO CAMERA B       |    |    |    |    |    |    |    |    |    |    |    |    |
| (3)#16 8281 COAX. CABLE (VIDEO)    | CONTROLLER            | VIDEO CAMERA C       |    |    |    |    |    |    |    |    |    |    |    |    |
| M138 OPTICOM CABLE                 | CONTROLLER            | OPTICOM POLE B       |    |    |    |    |    |    |    |    |    |    |    |    |
| M138 OPTICOM CABLE                 | CONTROLLER            | OPTICOM POLE A       |    |    |    |    |    |    |    |    |    |    |    |    |
| 72 STRAND FIBER OPTIC CABLE        | TYPE 200 SPLICE VAULT | DURANGO/TROPICAL     |    |    |    |    |    |    |    |    |    |    |    |    |
| 72 STRAND FIBER OPTIC CABLE        | TYPE 200 SPLICE VAULT | DURANGO/CENTENNIAL   |    |    |    |    |    |    |    |    |    |    |    |    |
| 12 STRAND FIBER OPTIC BRANCH CABLE | CONTROLLER            | TYPE 200 SLICE VAULT |    |    |    |    |    |    |    |    |    |    |    |    |
| FIBER OPTIC CONDUIT ONLY W/#8      | TYPE 200 SPLICE VAULT | DURANGO LOOP NORTH   |    |    |    |    |    |    |    |    |    |    |    |    |
| CONDUIT SIZE:                      |                       |                      | 5" | 5" | 5" | 5" | 5" | 5" | 5" | 5" | 5" | 5" | 5" | 5" |

NOTE:  
TRANSFORMER SERVICE PEDESTAL, SERVICE FEED, FIBER OPTIC CONDUIT, CABLE, P30 PULL BOXES & TYPE 200 SPLICE VAULTS SHOWN FOR REFERENCE  
\*ONLY\* THESE ITEMS WILL BE INSTALLED PER STRIPING & STREET LIGHTING PLAN & BE PAID FOR UNDER THE CORRESPONDING BID ITEM.

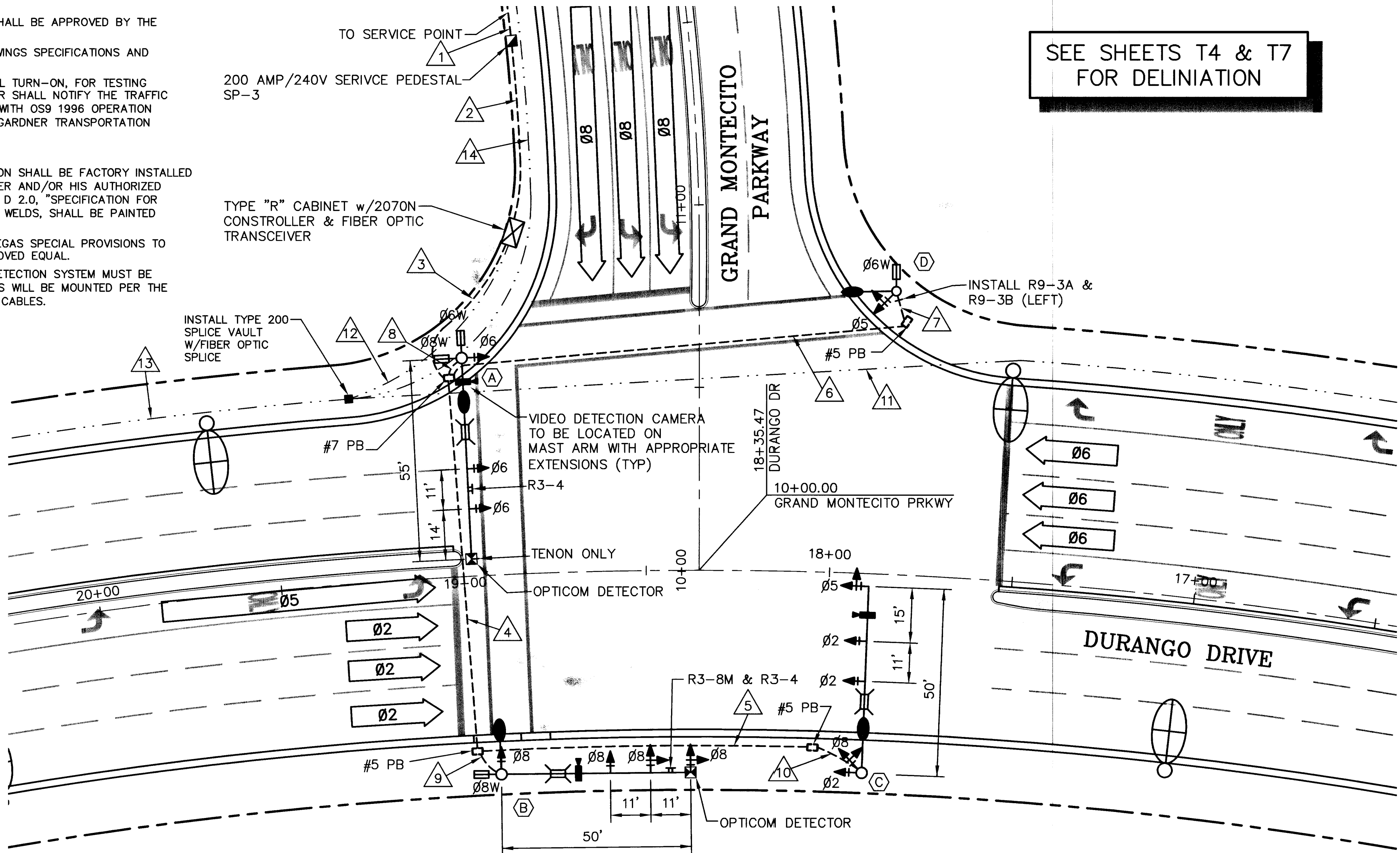
PHASE DIAGRAM



FLASHING OPERATION SHALL BE ALL RED.  
OPTICOM PREEMPTION FOR PHASES 2, 6 AND 8.  
PHASE 1 IS A FUTURE PHASE TO BE ACTIVATED BY OTHERS. CONTRACTOR SHALL PROVIDE THE NECESSARY WIRE TO ACCOMMODATE FUTURE ADDITION OF LEFT TURN PHASE.

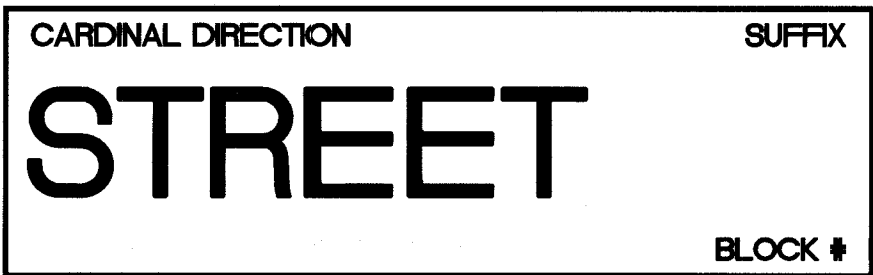


SEE SHEETS T4 & T7  
FOR DELINIATION

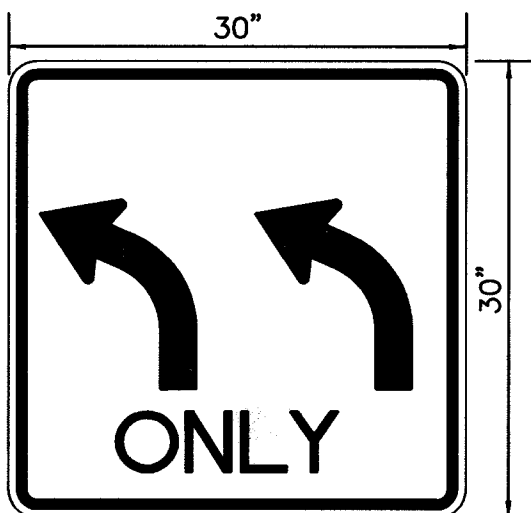


STREET NAME & BLOCK  
NUMBER SIGN SCHEDULE

| POLE | INTERNALLY ILLUMINATED STREET NAME SIGN | BLOCK NUMBER | STREET SUFFIX | CARDINAL DIRECTION |
|------|-----------------------------------------|--------------|---------------|--------------------|
| A    | GRAND MONTECITO                         | 6100         | PRWY          | N                  |
| B    | DURANGO                                 | 6100         | DR            | N                  |
| C    | GRAND MONTECITO                         | 6100         | PRWY          | N                  |



STREET NAME SIGN DETAIL



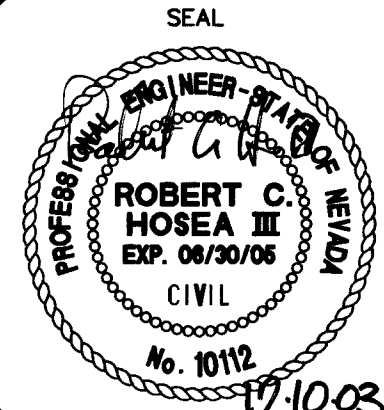
R3-8M DETAIL

DEPARTMENT OF PUBLIC WORKS

CITY OF LAS VEGAS



TRAFFIC SIGNAL PLAN  
DURANGO DRIVE AND  
GRAND MONTECITO PRKWY  
PROJECT  
DURANGO DRIVE IMPROVEMENTS  
TROPICAL PARKWAY TO I-215



|         |                           |
|---------|---------------------------|
| WO. NO. | 5678                      |
| BY      | RCH                       |
| DATE    | 12/05/03                  |
| SCALE   | HORIZ. 1"=20'<br>VERT. NA |
| DRAWING | T9                        |
| SHEET   | 61 OF 71 SHEETS           |