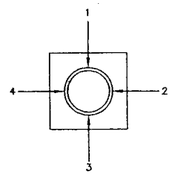
CONDUIT AND WIRE SCHEDULE

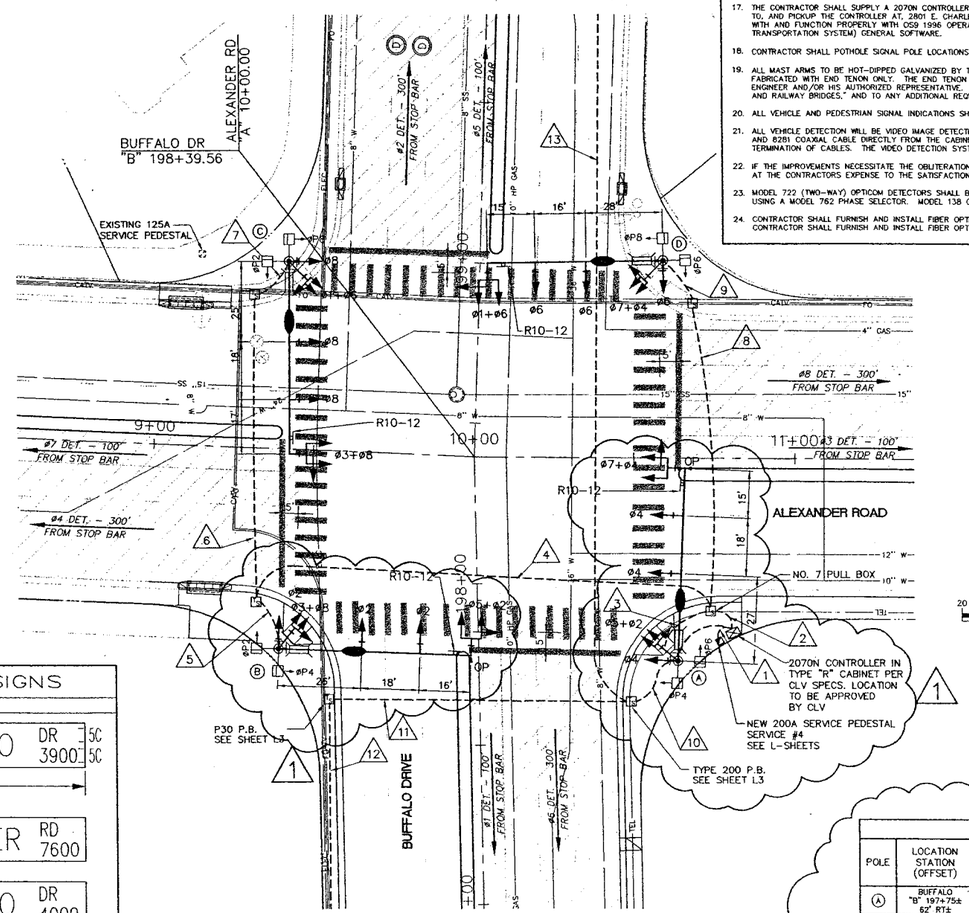
WIRE & CABLE	FROM	TO	VIA CONDUIT 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2-#4 (1 BLACK, 1 WHITE) FOR CONTROLLER 2-#4 (1 BLACK, 1 WHITE) FOR LUMINAIRES 1-#8 AWG THW GND.	SERVICE PEDESTAL	CONTROLLER	X															
25 C. #14 SIG. CABLE, 1#8 AWG THW GND., 2-#4 AWG THW 8281 COAXIAL, 3-#16 C. PVC JACKETED	CONTROLLER	POLE A		X	X													
25 C. #14 SIG. CABLE, 1#8 AWG THW GND., 2-#4 AWG THW 8281 COAXIAL, 3-#16 C. PVC JACKETED	CONTROLLER	POLE B		X		X			X									
25 C. #14 SIG. CABLE, 1#8 AWG THW GND., 2-#4 AWG THW 8281 COAXIAL, 3-#16 C. PVC JACKETED	CONTROLLER	POLE C		X		X		X		X								
25 C. #14 SIG. CABLE, 1#8 AWG THW GND., 2-#4 AWG THW 8281 COAXIAL, 3-#16 C. PVC JACKETED	CONTROLLER	POLE D		X						X	X							
OPTICAL DETECTOR	CONTROLLER	POLE A		X		X												
OPTICAL DETECTOR	CONTROLLER	POLE B		X			X											
INTERCONNECT (SEE NOTE 24)	CONTROLLER	CONTROLLER AT GOWAN										X	X	X				
INTERCONNECT (SEE NOTE 24)	CONTROLLER	CONTROLLER AT CRAIG										X	X	X	X			
CONDUIT SIZE			3"	4-3"	3"	2-3"	3"	2-3"	3"	3"	3"	4"	4"	4"	4"			

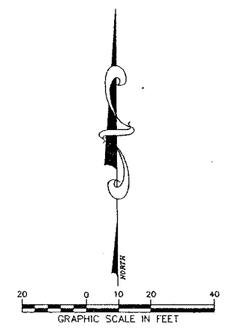
CLV TRAFFIC SIGNAL NOTES

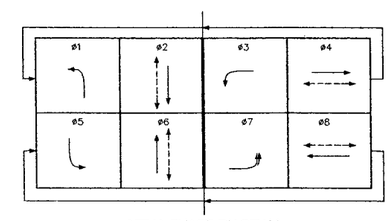
1. PULLBOXES SHALL BE NO. 5, UNLESS OTHERWISE NOTED.
2. EXISTING TRAFFIC SIGNAL EQUIPMENT REMOVED AND NOT RELOCATED SHALL BE SALVAGED BY THE CONTRACTOR AND DELIVERED TO CITY OF LAS VEGAS, 3104 E. BONANZA ROAD.
3. ALL WORK PERFORMED ON ANY TRAFFIC SIGNAL COMPONENT MUST BE UNDER THE DIRECT ON-SITE SUPERVISION OF AN IMSA CERTIFIED TECHNICIAN. EFFECTIVE MARCH 30, 2001, CERTIFICATION REQUIRED IS LEVEL II.
4. 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 1-702-593-6111
   CALL-BEFORE-YOU-DIG 1-800-227-2600
5. ALL TRAFFIC SIGNAL INSTALLATIONS SHALL CONFORM TO THE UNIFORM STANDARD DRAWINGS, SPECIFICATIONS AND SPECIAL PROVISIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARIK COUNTY AREA, NEVADA, VOLUMES I AND II, ADOPTED BY THE REGIONAL TRANSPORTATION COMMISSION APRIL 8, 1992 WITH ALL SUBSEQUENT REVISIONS.
6. SERVICE SHALL HAVE 1-60 AMP SINGLE POLE BREAKER FOR SIGNAL, AND ONE 40 AMP SINGLE POLE BREAKER FOR STREET LIGHTS. SERVICE SHALL BE 200 AMP PADMOUNT.
7. 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).
8. LUMINAIRES ON ALL SIGNAL POLES SHALL 400 WATT HIGH PRESSURE SODIUM CUTOFF (G.E. M400A) WITH MC-III DISTRIBUTION. EACH LUMINAIRE SHALL HAVE AN INDIVIDUAL 1000 WATT P.E. CONTROL. FOR LUMINAIRES THERE SHALL BE 2 (TWO)-#4 AWG THW CONDUCTORS 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.
9. CONTRACTOR SHALL PROVIDE AND INSTALL FOUR (4) 8-FOOT INTERNALLY ILLUMINATED STREET NAME SIGNS PER STD. DWG. NO. 404.416 AND 404.417 CLV MODIFIED ON POLES "A", "B", "C" AND "D". 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 ILUMINAIRE ON THE TRAFFIC SIGNAL POLE, THE 1000 WATT P.E. CONTROL SHALL BE MOUNTED ON THE POLE CAP.
10. CHECK CONDUIT AND CABLE SCHEDULE FOR CONDUIT, CABLE AND WIRE SIZE. VERIFY ALL EXISTING CONDUIT RUNS.
11. ALL PULLBOXES ARE NO. 5 UNLESS OTHERWISE NOTED. ALL PULLBOXES SHALL BE IN ACCORDANCE WITH UNIFORM STANDARD DRAWINGS NOS. 404.110, 404.120, AND 404.130. PULLBOXES SHALL NOT BE INSTALLED IN SIDEWALK RAMPS.
12. TRAFFIC SIGNAL CABLE SHALL BE 25 CONDUCTOR #14 AWG SOLID (TYPICAL) CABLE AND SHALL CONFORM TO IMSA SPEC. NO. 20-1.
13. PEDESTRIAN PUSH BUTTONS SHALL BE AUDIBLE TACTILE TYPE IN ACCORDANCE WITH CITY OF LAS VEGAS SPECIAL PROVISIONS TO SECTION 623 OF THE CCA USS. PUSH BUTTON SIGNS SHALL BE 9" X 12" WITH FULL MOUNTING BRACKETS. ALL PUSH BUTTONS TO BE MOUNTED 36" ABOVE SIDEWALK. THE MAXIMUM HORIZONTAL REACH DISTANCE IS TO BE 24".
14. 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.
15. MAST ARM R10-12 SIGNS TO BE ADJACENT (NO GAP) TO M-5 SIGNAL HEAD.
16. INSTALL CITY-SUPPLIED TYPE VIII CABINET, COMMONLY REFERRED TO AS A TYPE "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.
17. 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.
18. CONTRACTOR SHALL POTHOLE SIGNAL POLE LOCATIONS PRIOR TO ORDERING OF POLES.
19. ALL MAST ARMS TO BE HOT-DIPPED 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 TENONS SHALL BE FABRICATED WITH END TENON ONLY. THE END TENON SHALL BE FACTORY INSTALLED AND THE REMAINING TENONS 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 ON SECTION 623T.02.09 OF THE SPECIFICATIONS. ALL EXPOSED WELDS, SHALL BE PAINTED AS PROVIDED FOR REPAIRING DAMAGED GALVANIZED SURFACES.
20. ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LIGHT EMITTING DIODE (LED) TYPE INDICATIONS, IN CONFORMANCE TO CITY OF LAS VEGAS SPECIAL PROVISIONS TO SECTION 623 OF THE CCA USS.
21. ALL VEHICLE DETECTION WILL BE VIDEO IMAGE DETECTION. EITHER ITERIS VANTAGE PLUS OR AUTOSCOPE 2004 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 MANUFACTURER'S RECOMMENDATIONS AND PER CLV TRAFFIC ENGINEER APPROVAL. "BNC" CONNECTORS ARE THE ONLY ACCEPTABLE TERMINATION OF CABLES. THE VIDEO DETECTION SYSTEM SHALL HAVE THE CAPABILITY OF SENSING A VEHICLE ANYWHERE WITHIN THE "MINIMUM LIMITS OF DETECTION" SHOWN.
22. IF THE IMPROVEMENTS NECESSITATE THE OBLITERATION, TEMPORARY CONSTRUCTION, TEMPORARY REMOVAL, OR RELOCATION OF ANY EXISTING TRAFFIC PAVEMENT MARKING, SUCH PAVEMENT MARKING SHALL BE RESTORED OR REPLACED AT THE CONTRACTORS EXPENSE TO THE SATISFACTION OF THE CITY.
23. MODEL 722 (TWO-WAY) OPTICOM DETECTORS SHALL BE MOUNTED ON TOP OF LEFT-MOST SIGNAL HEAD ON THE MAST ARMS OF POLES "A" AND "B". THE CONTROLLER SHALL BE EQUIPPED FOR OPTICOM PRE-EMPTION USING A MODEL 762 PHASE SELECTOR. MODEL 138 OPTICOM DETECTOR CABLE SHALL BE RUN FROM THE CONTROLLER TO THE OPTIC DETECTOR AS SHOWN IN THE CONDUIT AND WIRE SCHEDULE.
24. CONTRACTOR SHALL FURNISH AND INSTALL FIBER OPTIC CABLE FROM CONTROLLER CABINET AT BUFFALO/ALEXANDER TO CONTROLLER CABINETS AT BUFFALO/GOWAN AND BUFFALO/CRAIG, IN NEW CONDUIT SHOWN ON L-SHEETS. CONTRACTOR SHALL FURNISH AND INSTALL FIBER OPTIC TRANSCEIVER AT THE CONTROLLER CABINET FOR BUFFALO/ALEXANDER.



QUADRANT LOCATOR
ARM OR SIGNAL LOCATION (TOP VIEW)







NEMA PHASE DIAGRAM

CONFLICT FLASH SHALL BE ALL RED
PRE-EMPTION FOR PHASES 2 & 6 (CHANNEL 1)
PRE-EMPTION FOR PHASES 4 & 8 (CHANNEL 2)

LEFT TURN YIELD ON GREEN

R10-12
24" x 30"

STREET NAME SIGNS

POLE	SIGN LEGEND
(A)	5CN 8D BUFFALO DR 3900 5C (8')
(B)	W ALEXANDER RD 7600
(C)	N BUFFALO DR 4000
(D)	W ALEXANDER RD 7500

MINIMUM LIMITS OF DETECTION ZONE

Avoid cutting underground utility lines. It's costly.
Call before you Dig.
1-800-227-2600
UNDERGROUND SERVICE (USA)

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
1-702-593-6111

POLE SCHEDULE

POLE	LOCATION STATION (OFFSET)	POLE TYPE	SIGNAL ARM QUAD.	SIGNAL ARM LENGTH	LUM. ARM QUAD.	LUM. ARM LENGTH	SIGNALS (VEH.) TYPE	SIGNALS (VEH.) QUAD.	SIGNALS(PED.) TYPE	SIGNALS(PED.) QUAD.	PEDESTRIAN PUSH BUTTON QUAD. (PHASE)	PEDESTRIAN PUSH BUTTON SIGN	REMARKS
(A)	BUFFALO "B" 197+75± 62' RT±	XX-A (30')	1	60'	1	15'	M-5 W-2(2) B-147	MAST ARM 3	W-3T	3	1(ø4) 4(ø6)	RT. LT.	MOUNT OPTICAL DETECTOR (2-WAY) AND R10-12 ON MAST ARM. MOUNT CAMERA FOR #7 AND #4 PER MANUFACTURER'S RECOMMENDATIONS. SEE NOTE 21.
(B)	BUFFALO "B" 197+81± 62' LT±	XX-A (30')	2	60'	2	15'	M-5 W-2(2) B-147	MAST ARM 4	W-3T	4	1(ø4) 2(ø2)	LT. RT.	MOUNT OPTICAL DETECTOR (2-WAY) AND R10-12 ON MAST ARM. MOUNT CAMERA FOR #5 AND #2 PER MANUFACTURER'S RECOMMENDATIONS. SEE NOTE 21.
(C)	BUFFALO "B" 199+99± 59' LT±	XX-A (30')	3	60'	3	15'	M-5 W-2(2) B-147	MAST ARM 1	W-3T	1	2(ø2) 3(ø8)	LT. RT.	MOUNT R3-4 AND R10-12 ON MAST ARM. MOUNT CAMERA FOR #3 AND #8 PER MANUFACTURER'S RECOMMENDATIONS. SEE NOTE 21.
(D)	BUFFALO "B" 199+03± 57.5' RT±	XX-A (30')	4	55'	4	15'	M-5 W-2(2) B-147	MAST ARM 2	W-3T	2	3(ø8) 4(ø6)	LT. RT.	MOUNT OPTICAL DETECTOR (2-WAY) AND R10-12 ON MAST ARM. MOUNT CAMERA FOR #1 AND #6 PER MANUFACTURER'S RECOMMENDATIONS. SEE NOTE 21.

MK	DATE	BY	REVISION
1	11/24/03	BGR	SIGNAL POLES MOVED, REVISED

DEPARTMENT OF PUBLIC WORKS
400 EAST STEWART
LAS VEGAS NEVADA, NV 89101
(702) 229-6276

G.C. WALLACE, INC.
Engineers/Planners/Surveyors
5555 SOUTH RAINBOW BLVD./LAS VEGAS, NEVADA 89146
(702) 804-2000

SHEET: BUFFALO DRIVE TRAFFIC SIGNAL BUFFALO DRIVE / ALEXANDER ROAD

TITLE: BUFFALO DRIVE CHEYENNE TO LONE MOUNTAIN

DRAWN BY: TJM 2/10/03
DESIGNED BY: JMM 2/10/03
CHECKED BY: SBP 2/10/03
SCALE: 1"=20' HOR NONE VERT
PROJECT NO: 412.405

SEAL: SCOTT B. PLUMMER, Exp. 12/31/2003, No. 7491, Professional Engineer, State of Nevada, 11-22-03

SHEET T2
78 OF 93 SHEETS

PROJ # 412.405