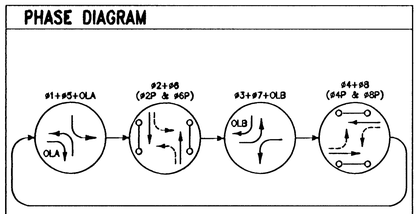
PHASE DIAGRAM



FLASH OPERATIONS – ALL RED
OPTICOM PREEMPTION – #1, #2, #3, #4, #5, #6, #7, #8

SIGN SCHEDULE

CONSTRUCTION NOTE 18		18
SIGN ILLUSTRATION	LEFT TURN YIELD ON GREEN	
SIGN DESIGNATION DIMENSIONS	R10-12 30"x36"	R3-4 24"x24"
POLE*	(A) (B) (C) (D)	(A) (B) (C) (D)

* (X) = EXISTING SIGN, (X) = NEW SIGN

STREET NAME SIGN SCHEDULE 16

POLE	ORDINAL	STREET NAME	SUFFIX	BLOCK*	DOUBLE SIDED	NEW/ EXISTING
(A)	S	MAIN	ST	500	YES	NEW
(B)	E	BONNEVILLE	AVE	00	YES	NEW
(C)	S	MAIN	ST	600	YES	NEW
(D)	W	BONNEVILLE	AVE	00	YES	NEW

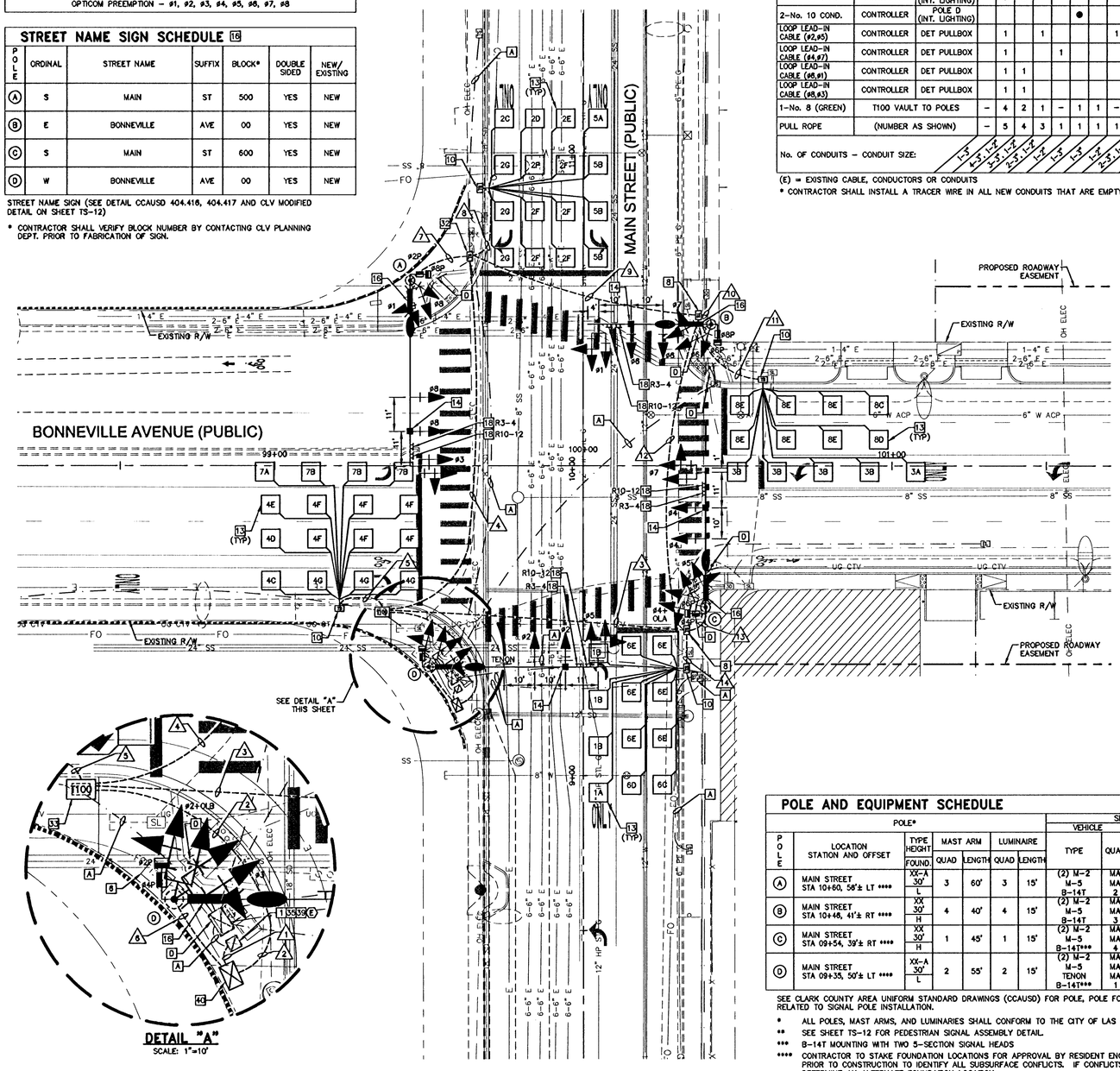
STREET NAME SIGN (SEE DETAIL CCAUSD 404.416, 404.417 AND CLV MODIFIED DETAIL ON SHEET TS-12)

* CONTRACTOR SHALL VERIFY BLOCK NUMBER BY CONTACTING CLV PLANNING DEPT. PRIOR TO FABRICATION OF SIGN.

CONDUIT AND WIRE SCHEDULE

WIRE & CABLE	FROM	TO	CONDUIT * 1	2	3	4	5	6	7	8	9	10	11	12	13	14
4 No. 4 AWG 1 No. 8 AWG	SERVICE METER	CONTROLLER	●													
1-25 COND. No. 14 1-OPTICOM CABLE	CONTROLLER	POLE A		●		●			●							
1-25 COND. No. 14 1-OPTICOM CABLE	CONTROLLER	POLE B		●	●							●		●		
1-25 COND. No. 14 1-OPTICOM CABLE	CONTROLLER	POLE C		●	●										●	
1-25 COND. No. 14 1-OPTICOM CABLE	CONTROLLER	POLE D						●								
2-No. 10 COND.	CONTROLLER	POLE A (INT. LIGHTING)		●		●			●							
2-No. 10 COND.	CONTROLLER	POLE B (INT. LIGHTING)		●	●							●		●		
2-No. 10 COND.	CONTROLLER	POLE C (INT. LIGHTING)		●	●										●	
2-No. 10 COND.	CONTROLLER	POLE D (INT. LIGHTING)						●								
LOOP LEAD-IN CABLE (#2,#5)	CONTROLLER	DET PULLBOX		1		1				1						
LOOP LEAD-IN CABLE (#4,#7)	CONTROLLER	DET PULLBOX		1			1									
LOOP LEAD-IN CABLE (#6,#1)	CONTROLLER	DET PULLBOX		1	1											1
LOOP LEAD-IN CABLE (#8,#3)	CONTROLLER	DET PULLBOX		1	1								1	1		
1-No. 8 (GREEN)	T100 VAULT TO POLES		–	4	2	1	–	1	1	–	–	1	–	1	1	–
PULL ROPE	(NUMBER AS SHOWN)		–	5	4	3	1	1	1	1	3	1	1	3	1	1
No. OF CONDUITS – CONDUIT SIZE:			1-3"	4-3", 1-2"	3-3", 1-2"	2-3", 1-2"	1-2"	1-2"	1-2"	2-3", 1-2"	1-2"	1-2"	2-3", 1-2"	1-3", 1-2"	1-2"	

(E) = EXISTING CABLE, CONDUCTORS OR CONDUITS
* CONTRACTOR SHALL INSTALL A TRACER WIRE IN ALL NEW CONDUITS THAT ARE EMPTY (NO CONDUCTORS/CABLES)



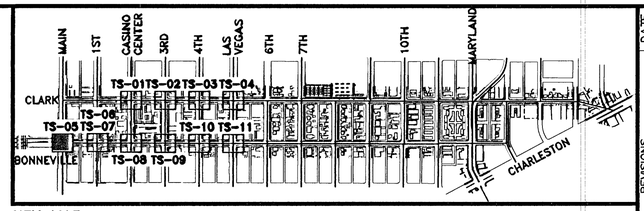
DETAIL "A"
SCALE: 1"=10'

POLE AND EQUIPMENT SCHEDULE

POLE	LOCATION STATION AND OFFSET	POLE* TYPE HEIGHT / FOUND.	MAST ARM QUAD	MAST ARM LENGTH	LUMINAIRE QUAD	LUMINAIRE LENGTH	SIGNALS VEHICLE TYPE	SIGNALS VEHICLE QUAD	SIGNALS PEDESTRIAN TYPE	SIGNALS PEDESTRIAN QUAD	PEDESTRIAN PUSH BUTTON PHASE	PEDESTRIAN PUSH BUTTON ARROW	PEDESTRIAN PUSH BUTTON QUAD	EMERGENCY VEHICLE DETECTOR	REMARKS
(A)	MAIN STREET STA 10+60, 56'± LT ****	XX-A 30' / L	3	60'	3	15'	(2) M-2 M-5 B-14T	MA MA 2	W-4T**	1	#2 #8	L R	2 3	ONE-WAY	12 14 15 16 18 20 21
(B)	MAIN STREET STA 10+46, 41'± RT ****	XX 30' / H	4	40'	4	15'	(2) M-2 M-5 B-14T	MA MA 3	W-4T**	2	#6 #8	R L	4 3	ONE-WAY	12 14 15 16 18 20 21
(C)	MAIN STREET STA 09+54, 39'± RT ****	XX 30' / H	1	45'	1	15'	(2) M-2 M-5 B-14T***	MA MA 4	W-4T**	3	#4 #6	R L	1 4	ONE-WAY	12 14 15 16 18 20 21
(D)	MAIN STREET STA 09+35, 50'± LT ****	XX-A 30' / L	2	55'	2	15'	(2) M-2 M-5 TENON B-14T***	MA MA MA 1	W-4T**	4	#4 #2	L R	1 2	ONE-WAY	12 14 15 16 18 20 21

SEE CLARK COUNTY AREA UNIFORM STANDARD DRAWINGS (CCAUSD) FOR POLE, POLE FOUNDATION, SIGNAL MOUNTING HARDWARE AND OTHER DETAILS RELATED TO SIGNAL POLE INSTALLATION.

* ALL POLES, MAST ARMS, AND LUMINARIES SHALL CONFORM TO THE CITY OF LAS VEGAS CENTENNIAL STANDARDS.
** SEE SHEET TS-12 FOR PEDESTRIAN SIGNAL ASSEMBLY DETAIL.
*** B-14T MOUNTING WITH TWO 5-SECTION SIGNAL HEADS
**** CONTRACTOR TO STAKE FOUNDATION LOCATIONS FOR APPROVAL BY RESIDENT ENGINEER PRIOR TO CONSTRUCTION. CONTRACTOR TO POTHOLE NEW FOUNDATION LOCATIONS PRIOR TO CONSTRUCTION TO IDENTIFY ALL SUBSURFACE CONFLICTS. IF CONFLICTS ARE IDENTIFIED THE CONTRACTOR SHALL WORK WITH THE RESIDENT ENGINEER TO DETERMINE AN ALTERNATE FOUNDATION LOCATION.



KEY MAP
NTS

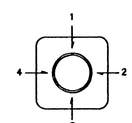
CONSTRUCTION NOTES (TS SHEETS ONLY)

1. EXISTING 200 AMP 120/240 VAC SERVICE PEDESTAL (SEE SHEET TS-13).
6. TYPE 200 VAULT MARKED "FIBER OPTIC" (SEE SL SHEETS FOR INTERCONNECT AND STREET LIGHTING EQUIPMENT AND DETAILS).
8. FURNISH AND INSTALL No. 7 PULL BOX MARKED "TRAFFIC SIGNAL" IN ACCORDANCE WITH CCAUSD No. 404.130 AND 404.140.
10. FURNISH AND INSTALL No. 5 PULL BOX MARKED "TRAFFIC SIGNAL" IN ACCORDANCE WITH CCAUSD No. 404.120 AND 404.140.
12. ALL VEHICLE SIGNAL INDICATIONS AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE SUPPLIED AND INSTALLED WITH LIGHT EMITTING DIODE (LED) SIGNAL MODULES.
13. FURNISH AND INSTALL 6'x6' MULTIPLE LOOP SYSTEM (SEE SHEET TS-13 FOR LOOP LAYOUT AND DETAILS).
14. FURNISH AND INSTALL 3M MODEL 721 OPTICOM SENSORS ON THE TRAFFIC SIGNAL HEAD(S) IDENTIFIED ON PLAN. RUN OPTICOM DETECTOR CABLE, 3M MODEL 138 FROM THE CONTROLLER TO TRAFFIC SIGNAL HEAD(S) INDICATED ON PLANS AS SHOWN IN THE CONDUIT AND WIRE SCHEDULE. WIRE CONTROLLER AND PROVIDE ONE (1) 3M MODEL 754 PHASE SELECTOR AND ONE (1) 760 3M OPTICOM PRE-EMPTION RACK IN CABINET.
15. FURNISH AND INSTALL 400 WATT HIGH PRESSURE SODIUM INTERSECTION LIGHTING WITH IES MC3 DISTRIBUTION COMPLETE WITH 120V MAGNETIC REGULATOR TYPE BALLAST (GARDCO CA22-1-3-400HPS-120-QC-RAL6012 MF PC OR APPROVED EQUAL) AND AREA LIGHTING RESEARCH ELECTRONIC PHOTOCELL (#2190VP3) AS INDICATED ON PLANS.
16. FURNISH AND INSTALL INTERNALLY-ILLUMINATED STREET NAME SIGN ON MAST ARM. SEE STREET NAME SIGN SCHEDULE (THIS SHEET).
18. FURNISH AND INSTALL SIGN ON MAST ARM. SEE SIGN SCHEDULE (THIS SHEET) FOR SIGN DESIGNATION AND SIZE.
20. PEDESTRIAN PUSH BUTTONS SHALL BE AUDIBLE/TACTILE TYPE.
21. PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN TYPE.
32. REMOVE AND REPLACE EXISTING PULL BOX WITH NEW No. 7 PULL BOX MARKED "TRAFFIC SIGNAL" IN ACCORDANCE WITH CCAUSD No. 404.130. ADJUST EXISTING CONDUITS AS NECESSARY TO MAINTAIN CONNECTIVITY.
33. REMOVE AND REPLACE EXISTING PULL BOX WITH NEW TYPE 100 VAULT MARKED "TRAFFIC SIGNAL". SEE SPECIFICATIONS FOR DETAILS AND VENDOR CONTACT. ADJUST EXISTING CONDUITS AS NECESSARY TO MAINTAIN CONNECTIVITY.
38. CONTRACTOR SHALL PAINT EXISTING SERVICE PEDESTAL IN PLACE, CENTENNIAL STANDARD (RAL6012), AS SPECIFIED IN THE SPECIAL PROVISIONS.
39. INSTALL NEW CONDUIT INTO SERVICE PEDESTAL FOUNDATION OR INTERCEPT EXISTING CONDUIT OR STUB-OUT IN FOUNDATION.
40. INSTALL TYPE 2070N OR M53 CONTROLLER IN TYPE VIII "R" CABINET (SEE CCAUSD No. 404.307) WITH EXHAUST FAN AND THERMOSTAT CONTROL AND INSTALL TYPE "J" FOUNDATION PER CCAUSD No. 404.213. CABINET TO BE SUPPLIED BY CONTRACTOR, AND APPROVED BY THE CITY OF LAS VEGAS. THE CONTRACTOR MUST FURNISH CONTROLLER. THESE MATERIALS MUST BE DELIVERED TO CLV TRAFFIC OPERATIONS AT LEAST 14 DAYS PRIOR TO EXPECTED TURN-ON DAY TO BE INSPECTED AND PROGRAMMED. ALL NECESSARY AMPLIFIER UNITS, MODULES, LIGHT CONTROL UNITS, SWITCHES, OPTICOM, FLASHERS, AREA WIDE COMPUTER CONTROL, ETC. SHALL BE SUPPLIED BY THE CONTRACTOR AND INSTALLED IN CABINET TO ACTIVATE THE PHASE OPERATION AS SHOWN. CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS UPON COMPLETION OF PROJECT DETAILING ANY CHANGES TO THE CONTROLLER OPERATION OR CABINET CONFIGURATION. CABINET SHALL BE ORIENTED SO MAINTENANCE PERSONNEL SHALL BE FACING TRAFFIC WHEN SERVICING OR AS DIRECTED BY THE FIELD ENGINEER. CONTRACTOR TO STAKE FOUNDATION LOCATION FOR APPROVAL BY RESIDENT ENGINEER PRIOR TO CONSTRUCTION.

A ABANDON EXISTING.
D SEE DEMOLITION SHEETS (DM) FOR DEMOLISHED, RELOCATED/REMOVED AND/OR SALVAGED EQUIPMENT.

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY TYPE AND LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTING SIGNAL POLE FOUNDATIONS.
2. CONTRACTOR SHALL INSTALL RED MARKING TAPE 18" BELOW GRADE, ABOVE ALL PROPOSED CONDUITS.
3. CONTRACTOR SHALL VERIFY ALL UTILITY CONFLICTS AND OBSTACLES PRIOR TO TRENCHING OR DIGGING.
4. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING IMPROVEMENTS, INCLUDING LANDSCAPING FROM DAMAGE. ALL IMPROVEMENTS OR STRUCTURES DAMAGED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE RESIDENT ENGINEER AT THE EXPENSE OF THE CONTRACTOR.
5. CONTRACTOR TO COORDINATE LOCATIONS OF PROPOSED PULL BOXES TO BE ADJACENT TO SIDEWALK JOINTS AND SCORING PATTERN LINES. SEE LANDSCAPE SHEETS (LA) FOR SIDEWALK SCORING PATTERN.
6. SEE SL SHEETS FOR SERVICE PEDESTAL, STREET LIGHTING AND INTERCONNECT DESIGN.
7. EXISTING TRAFFIC SIGNALS MUST REMAIN OPERATIONAL AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE UNIFORMED TRAFFIC CONTROL OFFICERS AT ALL TIMES WHEN THE TRAFFIC SIGNAL CANNOT REMAIN OPERATIONAL UNLESS ANOTHER METHOD IS APPROVED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
8. AS PART OF THE TRAFFIC SIGNAL INSTALLATION THE CONTRACTOR SHALL REMOVE AND SALVAGE ALL EXISTING TRAFFIC SIGNAL EQUIPMENT (POLES, MAST ARMS, INTERSECTION LIGHTING, CONTROLLER CABINET, ETC.) AS IDENTIFIED ON THE PLANS. SUB-SURFACE AND SURFACE CONDITIONS SHALL BE REPAIRED OR REPLACED TO MATCH THE SURROUNDING AREA. ALL STREET LIGHT AND TRAFFIC SIGNAL EQUIPMENT THAT IS SALVAGED SHALL BE RETURNED TO THE CLV EAST SERVICE YARD. PROVIDE 24 HOUR NOTICE PRIOR TO DELIVERY. CALL 702-229-3681 TO SCHEDULE DELIVERY TIME. CONTRACTOR MUST HAVE A MEANS TO UNLOAD EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EQUIPMENT AND MATERIALS INCURRED IN THIS PROCESS.
9. AS PART OF THE INTERNALLY ILLUMINATED ONE WAY SIGN INSTALLATION THE CONTRACTOR MAY BE REQUIRED TO RELOCATE OR ADJUST EXISTING MAST ARM MOUNTED SIGNING, SIGNAL HEAD TENONS OR OTHER EQUIPMENT. ALL ADJUSTMENTS SHALL BE APPROVED BY THE CITY OF LAS VEGAS TRAFFIC ENGINEER.
10. PULL BOX AND VAULT LOCATIONS AND CONDUIT ROUTING ARE SCHEMATIC FOR THE PURPOSE OF CLARITY AND MAY DIFFER FROM ACTUAL INSTALLATION. FINAL LOCATION SHALL BE DETERMINED IN THE FIELD BY THE RESIDENT ENGINEER.



QUADRANT
ARM, SIGNAL, PED BUTTON
(TOP VIEW)

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)

811 know what's below Call before you dig 1-702-227-2929

SAFETY ALERT Call Before You Overhead

Call before you UnderGround 1-702-432-5300

124553

Jun 21, 2010 – 1:26pm – USER peter.meyerholz
\\LAVFP01\Projects\LAV_PublicTrans\062256\016 Bonneville-Clark 2008\CADD\2556016ts-01_06.dwg

REVISIONS	DATE
1 SHEET REPLACEMENT	6/21/10

SCALE (H): 1"=20' | SCALE (V): N/A | DATE: FEBRUARY 2010
DRAWN BY: AP | DESIGNED BY: AP/RC | CHECKED BY: RC/RF

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CITY OF LAS VEGAS

DEPARTMENT OF PUBLIC WORKS

PROJECT: BONNEVILLE/CLARK ONEWAY COUPLET PHASE 1 IMPROVEMENT PLANS

SHEET: TRAFFIC SIGNAL BONNEVILLE AVE AND MAIN ST

RANDY W. CARROLL Exp. 12/31/10 CIVIL No. 16131 STATE OF NEVADA PROFESSIONAL ENGINEER

SHEET NO. TS-05
SHEET 54 OF 91
DRAWING NO. 107V5201

BID# 09.1730.37, REV 3