DEPARTMENT OF PUBLIC WORKS

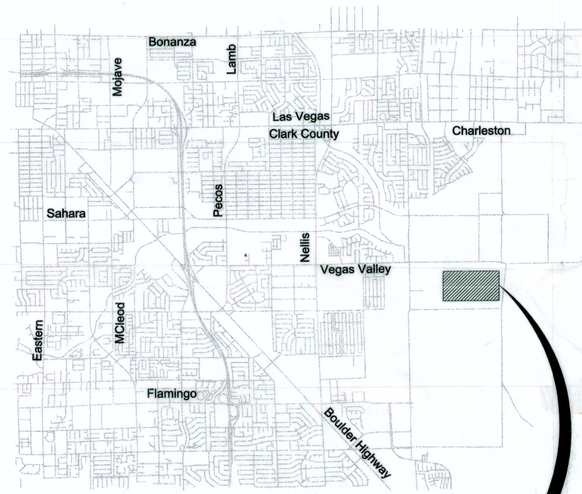
Mayor:
CAROLYN G. GOODMAN

City Council:
STAVROS S. ANTHONY (MAYOR PRO TEM)
RICKI Y. BARLOW
BOB COFFIN
STEVEN D. ROSS
LOIS TARKANIAN
BOB BEERS

City Manager:
ELIZABETH N. FRETWELL

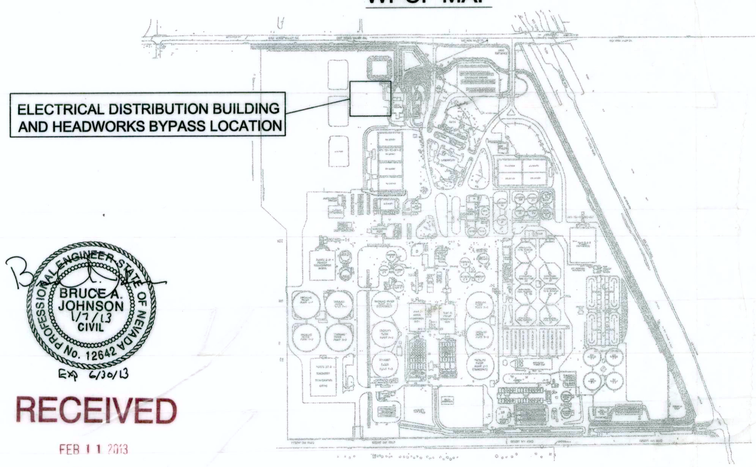
NOTE: A PRE-DEVELOPMENT MEETING WITH THE DEPARTMENT OF PUBLIC WORKS DEVELOPMENT REVIEW DIVISION, OFF-SITE INSPECTOR IS REQUIRED. PLEASE CONTACT THE INSPECTOR AT 455-4610.

PROJECT VICINITY MAP



PROJECT LOCATION:
CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY

WPCF MAP



FIRE FLOW CHART

TYPE OF CONSTRUCTION, PER IBC	TYPE II-B (NON-COMBUSTIBLE)
SQUARE FOOTAGE	1,771 SQUARE FEET
OCCUPANCY TYPE, PER IBC	F-2 INDUSTRIAL LOW HAZARD
FIRE SPRINKLERS	NON SPRINKLERED
NUMBER OF STORIES, LEVELS	1
BUILDING HEIGHT, FEET	18 FEET
FIRE FLOW, GPM, AT MINIMUM 20 PSI RESIDUAL PRESSURE	1,500

CLARK COUNTY FIRE DEPARTMENT APPROVAL

BY STEVEN WHITE DATE 14 DEC 2012
REFERENCE PERMITTING DRAWINGS FOR ORIGINAL SIGNATURE

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR ANY APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS.
FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL.

WATER POLLUTION CONTROL FACILITY

ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT

CH2MHILL
2485 VILLAGE VIEW
SUITE 350
HENDERSON, NV 89074
PHONE: 702-369-6175

Wunderlich-Malec
Engineering | Systems | Services
980B MARY CREST RD.
HENDERSON, NV 89014
PHONE: 702-479-7877
FAX: 702-479-7991
www.wmeng.com

PROFESSIONAL ENGINEER STATE OF NEVADA
BRUCE A. JOHNSON
No. 12642
1/7/13
CIVIL
EXP 6/30/13

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AS-BUILT

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM CONDUITS IT'S COSTLY
CALL BEFORE YOU DIG UNDERGROUND
Call before you UnderGround
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS
AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

Avoid overhead power line contact. It's costly.
Call before you OVERHEAD
1-702-227-2929

CLV PLAN# 311.57

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Exp. 6/30/13

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NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
		KL AQUINO	KL AQUINO	REVISION	RM BRACKEN		BA JOHNSON

CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY

ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT

LAS VEGAS, NEVADA

CH2MHILL

GENERAL

INDEX TO DRAWINGS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-002
SHEET	2

AS-BUILT

CLV PLAN# 311.57

FILENAME: G-002_413455.dgn PLOT DATE: 2013\01\03 PLOT TIME: 3:39:30 PM

ABBREVIATIONS

△	DIFFERENCE
Σ	SUM
×	MULTIPLY
÷	DIVIDE
√	SQUARE ROOT
>	SELECT HIGHEST SIGNAL
%	SELECT LOWEST SIGNAL
}	BIAS
	GAIN OR ATTENUATE
1:1	REPEAT OR BOOST
A	AMPERE AUTOMATIC
A (underlined)	AMMETER, AMPERES, AWNINGS
AB	ANCHOR BOLT, ABOVE
ABDN	ABANDON
AB SW	AIR-BREAK SWITCH
ABV	ABOVE
AC	ACOUSTICAL, ACOUSTICAL CEILING
AC	ALTERNATING CURRENT
AC	ASPHALTIC CONCRETE
ACB	AIR-CIRCUIT BREAKER
ACFL	ACCESS FLOORING
ACI	AMERICAN CONCRETE INSTITUTE
ACMU	ACOUSTICAL CONCRETE MASONRY UNIT, ACOUSTICAL CMU
ACP	ACOUSTICAL PANELS
ACSR	ALUMINUM CONDUCTOR STEEL-REINFORCED
ACST	ACOUSTICAL
ACT	ACOUSTICAL TILE
AD	AREA DRAIN
ADDL	ADDITIONAL
ADJ	ADJACENT, ADJUSTABLE
ADW	DRY WEATHER AVERAGE
AF	AMFERE FRAME
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AG	ACOUSTICAL, ACOUSTICAL GLASS
AGGR	AGGREGATE
AHM	AMPERE-HOUR METER
AHR	ANCHOR
AHU	AIR HANDLING UNIT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AJ	ADJUSTABLE
AL	ALUMINUM
ALKY	ALKALINITY
ALTN	ALTERNATE
AM	AUTO-MANUAL, AMMETER
AMPL	AMPLIFIER
AMRD	ACOUSTICAL METAL ROOF DECKING
ANDZ	ANODIZE
ANN	ANNUNCIATOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ANT	ANTENNA
APPROX	APPROXIMATE
APVD	APPROVED
ARCH	ARCHITECTURAL
AR	ANALOG RELAY
ARWB	ABUSE RESISTANT BOARD
AS	AS SELECTED, AMMETER SWITCH, AMPERE SENSOR
ASC	AUXILIARY AWITCH NORMALLY CLOSED
ASD	ADJUSTABLE SPEED DRIVE
ASO	AUXILIARY SWITCH NORMALLY OPEN
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ASU	AIR SUPPLY UNIT
ATC	AUTOMATIC TRANSFER CONTROL
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AVG	AVERAGE
AWG	AMERICAN WIRE GAGE
AWS	AMERICAN WELDING SOCIETY
AWW	WET WEATHER AVERAGE
@	AT
B	BELL
BAL	BALANCE
BAT	BATTERY
BC	BARE COPPER, BOTTOM OF CURB
BETW	BETWEEN
BF	BLIND FLANGE, BOTTOM FACE
BFP	BACKFLOW PREVENTER
BFV	BUTTERFLY VALVE
BIL	BASIC IMPULSE LEVEL
BKR	BREAKER
BL	BASELINE
BLDG	BUILDING
BLK	BLOCK
BM	BEAM, BENCHMARK
BO	**BOTTOM OF**

B.O.B.	**BOTTOM OF BEAM**
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOT	BOTTOM
BRG	BEARING
BRK	BRICK
BRKR	BREAKER
BRN	BURNER
BSP	BLACK STEEL PIPE
BTWN	BETWEEN
BV	BALL VALVE, BLOCK VENT
BVC	BEGINNING OF VERTICAL CURVE
C	CONDUIT, CASEMENT, CONTACTOR, CONDUCTOR, CLOSE, CENTIGRADE
°C	DEGREE CELSIUS
C TO C	CENTER TO CENTER
CAB	CABINET
CAM	COMPUTER-AUTO-MANUAL
CB	CATCH BASIN, CIRCUIT BREAKER
CC	CENTER OF CIRCLE
CC	CONTROL CABLE
CC	CALLIBRATION COLUMN
CCP	CENTRAL CONTROL PANEL
CCS	CENTRAL CONTROL SYSTEM
CDF	CONTROLLED DENSITY FILL
CE	CONSTRUCTION ENTRANCE
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHEM	CHEMICAL
CHKD	CHECKERED
CI	CAST IRON
CIP	CAST IRON PIPE, CAST IN PLACE
CIP	CULVERT INLET PROTECTION
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
CL	CENTER LINE, CLOSE
CL_2 etc.	CHLORINE (TYPICAL: USE STANDARD CHEMICAL ELEMENT ABBREVIATIONS)
CLDI	CEMENT LINED DUCTILE IRON
CLF	CURRENT LIMITING FUSE
CLFS	CONTROLLED LOW STRENGTH FILL
CLG	CEILING
CLR	CLEAR, CLEARANCE
CM	COMPUTER-MANUAL
CMP	CENTRAL MONITORING PANEL
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CNTR	COUNTER
CO	CLEANOUT, CARBON MONOXIDE
COD	CHEMICAL OXYGEN DEMAND
COL	COLUMN, COLOR, COLLECTOR
COM	COMMUNICATIONS
CONC	CONCRETE
COND	CONDENSATE
CONDTN	CONDITIONED
CONN	CONNECTION
CONN DIAG	CONNECTION DIAGRAM
CONSTR	CONSTRUCTION
CONT	CONTINUED, CONTINUOUS, CONTINUATION
CONTR	CONTRACTOR
COORD	COORDINATE
COP	COPPER
CP	CENTER PIVOT, CONTROL PANEL
CPE	CONTROL PANEL ELECTRICAL
CP-X	CONTROL PANEL NO. X
CPLG	COUPLING
COMP	COMPRESSOR
CPT	CONTROL POWER TRANFORMER, CARPET
CPU	CENTRAL PROCESSING UNIT
CPVC	CHLORINATED PVC
CR	CONTROL RELAY, CONTROL RELAY COATED
CRS	COLD ROLLED STEEL, CONSTRUCTION ROAD STABILIZATION
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
CS	CONTROL STATION CONTROL STATION: C=CLOSE, T=TRIP
CT	CERAMIC TILE, CURRENT TRANSFORMER, CABLE TRAY
CTC	COMPUTER TERMINAL CABINET
CTR	CENTER
CTRD	CENTERED
CTSK	COUNTERSUNK
CU	CUBIC, COPPER
CU FT	CUBIC FOOT
CU IN	CUBIC INCH
CUH	COPPER TUBING, HARD DRAWN
CV	CHECK VALVE
CWR	CABINET DOOR MOUNTED WASTE RECEPTACLE
CY, CU YD	**CUBIC YARD**

D	DEEP, DRAIN
d	PENNY NAIL SIZE
DA	DUAL ACTION
DAS	DATA ACQUISTION SYSTEM
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DCV	DOUBLE CHECK VALVE
DEG	DEGREE
DEMO	DEMOLITION
DET	DETAIL
DF	DOUGLAS FIR, DRINKING FOUNTAIN
DDI	DROP INLET
DH	DOUBLE HUNG
DI	DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL
DIG	DIGESTER
DIP	DUCTILE IRON PIPE
DIR	DIRECTION
DISCH	DISCHARGE
DIV	DIVISION
DN	DOWN
DO	DISSOLVED OXYGEN
DOL	DIRECT-ON-LINE
DP, DPNL	DISTRIBUTION PANEL
DPDT	DOUBLE-POLE DOUBLE-THROW
DPST	DOUBLE-POLE SINGLE-THROW
DR	DOOR
DS	DOWNSPOUT, DISCONNECT SWITCH
DSW	DISCONNECT SWITCH
DWG	DRAWING
DWL	DOWEL
△	DELTA
E	EAST, EMPTY
EA	EACH, EXHAUST AIR
EB, EBCT	EMPTY BED CONTACT TIME
ECC	ECCENTRIC
ECP	ENVIRONMENTAL CONTROL PANEL
EDH	ELECTRIC DUCT HEATER
EE	EMERGENCY EYEWASH
EF	EACH FACE, EXHAUST FAN
EFF	EFFICIENCY, EFFICIENT
EFL	EFFLUENT
EG	ENGINE GENERATOR, EXISTING GROUND
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EL	ELEVATION
ELB	ELBOW
ELC	ELECTRICAL LOAD CENTER
ELEC	ELECTRIC, ELECTRICAL
ELEM	ELEMENTARY
ELEV	ELEVATION
ELEV.	ELEVATOR
EMER	EMERGENCY
EMP	ENVIROMENTAL MONITORING PANEL
EMS	ENERGY MONITORING SYSTEM
EMT	ELECTRICAL METALLIC TUBING
EMU	ENERGY MONITORING UNIT
ENCL	ENCLOSURE
ENGR	ENGINEER
EO	ELECTRIC OPERATED, ELECTRIC OPERATOR
EOP	EDGE OF PAVEMENT
ESC	EROSION AND SEDIMENT CONTROL
EP	EXPLOSION PROOF, EDGE OF PAVING
EQ	EQUAL
EQL	EQUAL
EQL SP	EQUALLY SPACED
EQPT	EQUIPMENT
ERF	ENERGY RECOVERY FACILITY
ESC	EROSION AND SEDIMENT CONTROL
ETM	ELAPSED TIME METER
EUH	ELECTRIC UNIT HEATER
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXC	HEAT EXCHANGER
EXH	EXHAUST
EXP	EXPANSION, EXPOSED
EXP AB	EXPANSION ANCHOR BOLT
EXP JT	EXPANSION JOINT
EXST	EXISTING
EXT	EXTERIOR
°F	DEGREE FAHRENHEIT
F	FORWARD, FREQ
FA	FIRE ALARM
FAC	**FIRST AID CABINET**

FACP	FIRE ALARM CONTROL PANEL
FB	FLAT BAR
F, FU	FUSE
F, FX	FIXED
F(X)	CHARACTERIZED
FC	FLEXIBLE CONDUIT
FCA	FLANGED COUPLING ADAPTER
FCL2, FCL_2	FREE CHLORINE RESIDUAL
FCO	FLOOR CLEANOUT
FCTY	FACTORY
FD	FLOOR DRAIN
FDN	FOUNDATION
FDR	FEEDER
FEXT	FIRE EXTINGUISHER
FF	FINISHED FLOOR
FG	FINISH GRADE, FLOAT GLASS
FH	FLAT HEAD
FHY	FIRE HYDRANT
FI	FLOW INDICATOR
FIG	FIGURE
FL	FLOW LINE
FLG	FLANGE
FL	FLOOR
FLEX	FLEXIBLE, FLEXIBLE CONDUIT
FLH	FLAT HEAD
FLR	FLOOR
FLT	FILTER
FLTR	FILTER
FLUOR	FLUORESCENT
FNSH	FINISH
FO	FIBER OPTIC
FOB	FLAT ON BOTTOM
FOR	FORWARD-OFF-REVERSE
FOS	FAST-OFF-SLOW
FOSA	FAST-OFF-SLOW-AUTO
FOSR	FAST-OFF-SLOW-REMOTE
FOT	FLAT ON TOP
FP	FIELD PANEL
FPM	FEET PER MINUTE
FPR	FEEDER PROTECTOR RELAY
FP-W-X	FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER, X=PANEL NUMBER)
FR	FORWARD REVERSE
FREQ	FREQUENCY
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FLOAT SWITCH
FSHS	FOLDING SHOWER SEAT
FT	FOOT OR FEET, FLOW TRANSMITTER
FTG	FOOTING
FU	FIXTURE UNIT, FUSE
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
FWD	FORWARD
G, GND	GROUND
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GYPSUM BOARD
GBT	GRAVITY BELT THICKENER
GC	GROOVED COUPLING
GCMU	GLAZED CONCRETE MASONRY UNITS
GEN	GENERATOR
GFA	GROOVED FLANGE ADAPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFR	GROUND FAULT RELAY
GH	GREENHOUSE
GL	GLASS
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GENERATOR PROTECTOR RELAY
GPS	GLOBAL POSITION SYSTEM
GRS	GALVANIZED RIGID STEEL CONDUIT
GRTG	GRATING
GSB	GYPSUM SOFFIT BOARD
GSP	GALVANIZED STEEL PIPE
GTCL	GRIT CLASSIFIER
GTCY	GRIT CYCLONE
GTWA	GRIT WASHER
GV	GATE VALVE
GVL	GRAVEL
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
GYP BD	GYPSUM WALL BBOARD

H	HIGH, HORN OR HOWLER, HIGH SPEED
H2S	HYDROGEN SULFIDE
H.A.S.	HEADED ANCHOR STUD
HCL	HYDROCHLORIC ACID
HDNR	HARDENER
HDNS	HARDNESS
HDR	HEADER
HDW	HARDWARE
HGL	HYDRAULIC GRADE LINE
HK	HOOK
HGT	HEIGHT
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HK	HOOK
HM	HOLLOW METAL
HMI	HUMAN-MACHINE INTERFACE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HPT	HIGH POINT
HPU	HYDRAULIC POWER UNIT
HR	HOSE RACK, HANDRAIL
HS	HAND SWITCH
HV	HOSE VALVE, HIGH VOLTAGE
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HWL	HIGH WATER LEVEL
HZ	HERTZ
IAW	IN ACCORDANCE WITH
IBC	INTERNATIONAL BUILDING CODE
IC	INTERRUPTING CAPACITY
I&C	INSTRUMENTATION AND CONTROL
ID	INDUCED DRAFT, INSIDE DIAMETER
IE	INVERT ELEVATION
I.F.	INSIDE FACE
IG	INSULATING, INSULATING GLASS
IMC	INTERMEDIATE METALLIC CONDUCTOR
IN	INCH
INCAND	INCANDESCENT
INFL	INFLUENT
INJS	INJECTIONS
INST	INSTANTANEOUS
INSTM	INSTRUMENT, INSTRUMENTATION
INSUL	INSULATION
INT	INTERRUPTING
INVT	INVERT
IP	INLET PROTECTION, INSTRUMENTATION PANEL
IRRIG	IRRIGATION
ISR	INTRINSICALLY SAFE RELAY
ITG	INSULATED TEMPERED GLASS
ITX	ISOLATION TRANSFORMER
IU	INTAKE UNIT
IW	IRRIGATION WELL
J	JALOUSIE
J, JB	JUNCTION BOX
JA	JAL-AWNING
JAN	JANITOR
JCT	JUNCTION
JT	JOINT
K	KEY GROUP, KEY INTERLOCK
KA	KILOAMPERES
KAIC	KILOAMPERES INTERRUPTING CAPACITY
KCM	THOUSAND CIRCULAR MILS
KIP	THOUSAND POUNDS
KIT	KITCHEN
K-PL	KICKPLATE
KSK	KITCHEN SINK
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPERES REACTIVE
KW	KILOWATT
KWH	KILOWATT HOURS
KWHD	KILOWATT HOURS DEMAND

GENERAL NOTE:

1. THIS IS A STANDARD LEGEND SHEET. THEREFORE, NOT ALL OF THE INFORMATION SHOWN MAY BE USED ON THIS PROJECT.

AS-BUILT
CLV PLAN# 311.57

STATE OF NEVADA PROFESSIONAL ENGINEER BRUCE A. JOHNSON No. 12642 CIVIL
Exp 6/30/13

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NO.	DATE	REVISION	BY	APVD

DSGN KL AQUINO
DR KL AQUINO
CHK RM BRACKEN
APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

ABBREVIATIONS SHEET 1 OF 2

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-003
SHEET	3

FILENAME: G-003_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:04:56 PM

ABBREVIATIONS

L	ANGLE, LENGTH, LIGHTING CONTRACTOR, LOW SPEED, LOWER
LA	LIGHTNING ARRESTER
LAB	LABORATORY
LAM	LAMINATE
LAT	LATITUDE
LB	POUND
LC	LIGHTING CONTACTOR, LIGHTING CONTOLLER, LOCAL-COMPUTER, LATCH COIL
LCP	LOCAL CONTROL PANEL LIGHTING CONTROL PANEL
LD	COMBINATION LOUVER/DAMPER
LE	LEVEL ELEMENT
LEL	LOWER EXPLOSIVE LIMIT
LF	LINEAR FEET
LG	LONG
LH	LEFT HAND
LHR	LEFT HAND REVERSE
LIT	LEVEL INDICATING TRANSMITTER
LLBB	LONG LEG BACK TO BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LONG	LONGITUDINAL
LOR	LOCAL-OFF-REMOTE
LOS	LOCK-OUT STOP PUSHBUTTON
LP	LIGHT POLE, LIGHTING PANEL, LOCAL PANEL
LPB	LIGHTING PANEL BOARD
LPS	LOW PRESSURE SODIUM
LPT	LOW POINT
LR	LATCHING RELAY
LR	LOCAL-REMOTE
LR	LONG RADIUS
LS	LABORATORY SINK, LIMIT SWITCH, LEVEL SWITCH
LT	LEFT, LEVEL TRANSMITTER
LT FLEX	LIQUID-TIGHT FLEX CONDUIT
LTG, LTS	LIGHTS OR LIGHTING
LTX	LIGHTING TRANSFORMER
LWL	LOW WATER LEVEL
M	MAGNETIC CONTRACTOR COIL, MOTOR, MANUAL
MA	MANUAL-AUTO, MILLIAMPERE
MAN	MANUAL
MAS	MASONRY
MATL	MATERIAL
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MASONRY CLEARANCE
MC	MODULATE-CLOSE
MCC	MOTOR CONTROL CENTER
MCC-X	MOTOR CONTROL CENTER NO. X
MDC	MOTORIZED DAMPER CONTROL
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MFD	MANUFACTURED
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE, MOUNTING HEIGHT, METAL HALIDE
MIN	MINUMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MLO	MAIN LUGS ONLY
MMDW	DRY WEATHER MAXIMUM MONTH
MMP	MECHANICAL MOUNTING PANEL
MMWW	WET WEATHER MAXIMUM MONTH
MO	MANUAL OPERABLE, MASONRY OPENING, MOTOR OPERATOR
MOP	MOTOR OPERATED POTENTIOMETER
MOV	METAL OXIDE VERISTOR, MOTOR OPERATED VALVE
MP	METAL PANEL
MPR	MOTOR PROTECTION RELAY
MPU	MULTIPURPOSE UNIT
MR	MULTI RATIO
MS	MANUFACTURER'S STANDARD, MOTOR STARTER
MSC	MANUFACTURER SUPPLIED CABLE
MSR	GROUPED MOTOR CONTROL
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
MTR	MOTOR
MTS	MANUAL TRANSFER SWITCH
MTS	MILL TYPE STEEL PIPE
MU	MULCHING
MV	MERCURY VAPOR, MEDIUM VOLTAGE
MVA	MEGA-VOLT AMPERES
MWS	MAXIMUM WATER SURFACE
N	NORTH, NEUTRAL, NORMAL
NA	NOT APPLICABLE
NA	NON-AUTOMATIC
NAD	NORTH AMERICA DATUM
NAVD	NORTH AMERICA VERTICAL DATUM
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NESC	NATIONAL ELECTRICAL SAFETY CODE
NEUT	NEUTRAL
NG	NATURAL GAS
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NO. , #	NUMBER
NOM	NOMINAL
NP	NON-PROTECTED, NAMEPLATE
NPT	NATIONAL PIPE THREADS
NS	NON-SHRINK
NTS	NOT TO SCALE
O	OPEN
O2	OXYGEN
O TO O	OUT TO OUT
OA	OVERALL, ODOROUS AIR
OC	ON CENTER
OC	OPEN-CLOSE (D)
OCA	OPEN-CLOSE-AUTO
OCB	OIL CIRCUIT BREAKER
OCC	OPEN-CLOSE-COMPUTER
OCR	OPEN-CLOSE-REMOTE, OVERCURRENT RELAY
OD	OUTSIDE DIAMETER, OVERFLOW DRAIN
O.F.	OUTSIDE FACE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OHM	OHMMETER
OL	OVERLOAD RELAY
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
OP	OPAQUE PANEL, OUTLET PROTECTION
OPER	OPERATOR
OPNG	OPENING
OPP	OPPOSITE
ORP	OXIDATION REDUCTION POTENTIAL
OS	OCCUPANCY SENSOR
OSA	OUTSIDE AIR
OSC	OPEN-STOP-CLOSE
OSD	OPEN SITE DRAIN
OWSJ	OPEN WEB STEEL JOIST
OZ	OUNCE
P	PROJECTED
P	PILASTER, PIPE
PAVT	PAVER TILE
PB	PUSHBUTTON SWITCH, PULL BOX
PC	POINT OF CURVE, PHOTOCELL
PC	PRECAST CONCRETE PANEL
PCC	POINT OF COMMON COUPLING
PCC	POINT OF COMPOUND CURVE
PCCP	PRECAST CONCRETE CYLINDER PIPE
PCB	POWER CIRCUIT BREAKER
PCV	PRESSURE CONTROL VALVE
PE	PLAIN END
PED	PEDESTAL, PEDESTRIAN
PEP	POLYETHYLENE PIPE
PEN.	PENETRATION
PF	POWER FACTOR
PFC	POUNDS PER CUBIC FOOT
PH	PENTHOUSE
PH	PHASE
PI	POINT OF INTERSECTION
PIT	PILOT TUBE TEST STATION
PJF	PREMOULDED JOINT FILLER
PL	PLATE (STEEL)
PL	PROPERTY LINE
PLAS	PLASTER, PLASTIC
PLC	PROGRAMMABLE LOGIC CONTROLLER
PMP	PUMP
PNL	PANEL
POE	POINT OF END
POT	POTENTIOMETER
PP	POWER POLE, POWER RACK
P-P	PUSH-PULL
PPL	POLYPROPYLENE LINED
PR	PAIR
PRC	POINT OF REVERSE CURVE
PRCST	PRECAST
PRDV	PRESSURE REDUCING VALVE
PREFAB	PREFABRICATION
PRES	PRESSURE
PRGV	PRESSURE REGULATING VALVE
PRI	PRIMARY
PRM	PERMANENT REFERENCED MARKER
PROJ	PROJECTION
PROP	PROPERTY
PS	PLASTIC SHEET, POLYCARBONATE SHEET
PS	PAINT SYSTEM, PRESSURE SWITCH
PS	PUMP STATION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
PT	POINT OF TANGENCY
PT	POTENTIAL TRANSFORMER
PT	PRESSURE TREATED
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
PV	PLUG VALVE, PROCESS VALVE
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENCY
PWR	POWER
QAA	AVERAGE FLOW
QMM	MAXIMUM 30 DAY FLOW
QPI	PEAK INSTANTANEOUS FLOW
QPP	PEAK PUMPING FLOW
QT	QUARRY TILE
R	RISER, RELAY, REVERSE, RUN, RAISE
R OR RAD	RADIUS
RA	RETURN AIR
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RCPT	RECEPTACLE
RD	ROAD, ROOF DRAIN
RDCR	REDUCER
RDW	REDWOOD
RECIR	RECIRCULATION
REF	REFER OR REFERENCE
REFR	REFRIGERATE, REFRIGERANT
REFRIG.	REFRIGERATOR
REINF	REINFORCED, REINFORCING, REINFORCE
REM	REMOTE
REQD	REQUIRED
RESIL	RESILIENT
RFS	ROLL-UP FIRE SHUTTER
RGS	RIGID GALVANIZED STEEL CONDUIT
RH	RIGHT HAND
RH	RODHOLE
RHR	RIGHT HAND REVERSE
RIO	REMOTE I/O UNIT
RL	RAIN LEADER
RLS	RUBBER LINED STEEL
RM	ROOM
RMS	ROOT MEAN SQUARE
RM-X	REMOTE MULTIPLEXING MODULE NO. X
RO	ROUGH OPENING
ROL	RAISE-OFF-LOWER
RPM	REVOLUTIONS PER MINUTE
RR	RIPRAP
RRUB	RADIAL RUBBER
RS	RIGID STEEL
RST	REINFORCING STEEL
RT	RIGHT
RTD	RESISTANCE TEMERATURE DETECTOR
RTN	RETURN
RTU	REMOTE TELEMETRY UNIT
RTU-X	REMOTE TELEMETRY UNIT NO. X
RUB	RUBBER
RUBC	RUBBER CUSHIONED FLOORING
RUBS	RUBBER ESD CONTROL FLOORING
RVNR	REDUCED VOLTAGE NON-REVERSING
RVR	REDUCED VOLTAGE REVERSING
R/W	RIGHT OF WAY
S	I-BEAM
S	SLOPE, SOUTH, SWITCH
SA	SUPPLY AIR, SURGE ARRESTER
SATC	SUSPENDED ACCUSTICAL TILE CEILING
SB	SEDIMENT BASIN
SC	SHOWER CURTAIN, SOLID CORE WOOD, SPEED CONTROL
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCB	SCRUBBERS
SCC	SOLID CORE
SCFM	STANDARD CUBIC FEED PER MINUTE
SCHED	SCHEDULE
SCN	SCREEN
SCU	SPEED CONTROL UNIT
SD	STORM DRAIN
SDP	SUB-DISTRIBUTION PANEL
SDWK	SIDEWALK
SEC	SECONDARY
SECT	SECTION
SED	SEDIMENTATION
SEP	SEPARATOR
SEW	SEWAGE
SF	SQUARE FEET, FOOTAGE, SLOWER-FASTER, SUPPLY FAN
SG	LAMINATED SAFETY GLASS, SAFETY, SLUICE GATE
SGWB	SUSPENDED GYPSUM WALL BOARD
SH	SHEET, SPACE HEATER
SHA	SURFACE HARDENING AGENT
SHS	SOLIDS HANDLING SYSTEM
SIM	SIMILAR
SK	SINK
SL	SLIDE GATE
SLR	SEALER
SMLS	SEAMLESS EPOXY
S/N	SOLID NEUTRAL
SOI	SPRAY- ON INSULATION
SOL	SOLENOID
SOLN	SOLUTION
SP	SPARE, SPACE OR SPACES, SPANDREL PANEL, STORMPROOF
SPEC, SPECS	SPECIFICATIONS
SPD	SUMP PUMP DISCHARGE , SPEED
SPG, SPA	SPACING
SPLY	SUPPLY
SQ	SQUARE
SQ FT	SQUARE FOOT, FEET
SQ IN	SQUARE INCH
SR	SHORT RADIUS
SS	START-STOP
SST	STAINLESS STEEL
SSC	SUPERVISORY SET POINT CONTROL
ST	STORM DRAIN, SHUNT TRIP
ST	STRAIGHT
STA	STATUS, STATION
STD	STANDARD
STIF	STIFFENER
STIRR	STIRRUP
STL	STEEL
STRL	STRUCTUAL
STRUCT	STRUCTURE
SUB	SUBSTATION
SUBFL	SUBFLOOR
SUSP	SUSPENDED
SV	SOLENOID VALVE
SVIN	SHEET VINYL
SW	SWITCH
SWBD	SWITCHBOARD
SWG	SWITCHGEAR
SYMM	SYMMETRICAL
T	THERMOSTAT, TREAD, TRANSFORMER
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TA	TRANSFER AIR
TAN	TANGENT
TB	TERMINAL BOARD, TEST BLOCK
TBG	TUBING
TC	TIME TO CLOSE, TURBIDITY CURTAIN, TOP OF CURB
TCAD	TIME CLOSE AFTER DE-ENERGIZATION
TCAE	TIME CLOSE AFTER ENERGIZATION
TCL_2	TOTAL CHLORINE RESIDUAL
TCMU	TEXTURED CONCRETE UNIT MASONRY
TD	TEMPERATURE DETECTOR, TIME DELAY
TDC	TIME-DELAY CLOSING
TDH	TOTAL DYNAMIC HEAD
TDO	TIME-DELAY OPENING
TDR	TIME DELAY RELAY
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPORARY, TEMPERATURE
TF	TOP FACE
TFG	TEMPERED FLOAT GLASS
TG	TEMPERED
TH	TOP-HINGED
THD	THREAD
THK	THICKNESS
THRU	THROUGH
TJB	TERMINAL JUNCTION BOX
TL	TEFLON LINED PIPE
T.O.	TIME TO OPEN, TOP OF
TOAE	TIME OPEN AFTER ENERGIZATION
TOC	TOP OF CONCRETE, TOP OF CURB, TOTAL ORGANIC CARBON
TOD	TIME ON DELAY, TOP OF DUCT TOTAL OXYGEN DEMAND
TOG	TOP OF GROUT, TOP OF GRATE
T.O.P.	TOP OF PLATE
TP	TURNING POINT
TR	TRANSOM, TRUSS
TRANS	TRANSFORMER, TRANSITION
TRANSV	TRANSVERSE
TRD	TREAD
TRP	TRAP
TS	TEMPORARY SEEDING, TUBE STEEL
TSHT	THRESHOLD
TSP	TWISTED SHIELDED PAIR
TSS	TOTAL SUSPENSION SOLIDS
TST	TOP OF STEEL, TWISTED SHIELDED TRIAD
TTC	TELEPHONE TERMINAL CABINET
TTD	TOILET TISSUE DISPENSER
TU-X	TREATMENT UNIT NO. X
TURB	TURBIDITY
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TWP	TRANSLUCENT WALL PANEL
TX	TRANSFORMER
TYP	TYPICAL
UC	UNLATCH COIL
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
USB	UNIT SUBSTATION
UVR	UNDER VOLTAGE RELAY
V	VENT, VALVE
V	VOLTMETER, VOLTAGE, VOLTS
VB	VAPOR BARRIER (RETARDER)
VC	VERTICAL CURVE
VCB	VACUUM CIRCUIT BREAKER
VCP	VITRIFIED CLAY PIPE
VCT	VINYL COMPOSITION TILE
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION
VIF	VERIFY IN FIELD
VIN	VINYL
VINT, VT	VINYL TILE
VM	VOLTMETER
VP	VERTICAL PIVOTED
VPS	VENEER PLASTER SYSTEM
VPC	POINT OF VERTICAL CURVATURE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT
VR	VOLTAGE REGULATOR
VS	VERTICAL SLIDE, VOLTMETER SWITCH
VTR	VENT THRU ROOF
VWC	VINYL WALL COVERING
W	WEST, WATTS
W/	WITH
WC	WATER COLUMN
WEASTRIP	WEATHERSTRIP
WG	WIRE, WIRE GLASS
WH	WATTHOUR METER
WHD	WATT HOUR DEMAND METER
WM	WATTMETER
W/O	WITHOUT
WP	WATERPROOF, WEATHERPROOF, WORKPOINT
WR	WASTE RECEPTACLE
WRB	WATER RESISTANT GWB
WS	WATER SURFACE, WATERSTOP, WELDED STEEL
WWF	WELDED WIRE FABRIC
WWPH	WET WEATHER PEAK HOUR
X^n	RAISED TO THE Nth POWER
XD	TRANSDUCER
XMR	TRANSFORMER
XPDR	TRANSPONDER
Z	IMPEDANCE
ZS	POSITION SWITCH

GENERAL NOTE:

1. THIS IS A STANDARD LEGEND SHEET. THEREFORE, NOT ALL OF THE INFORMATION SHOWN MAY BE USED ON THIS PROJECT.

AS-BUILT
CLV PLAN# 311.57

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ENGINEER: STATE OF NEVADA
BRUCE A. JOHNSON
No. 12847
PROFESSIONAL
CIVIL
1/7/13

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		KL AQUINO	KL AQUINO	RM BRACKEN	APVD	BA JOHNSON	

CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

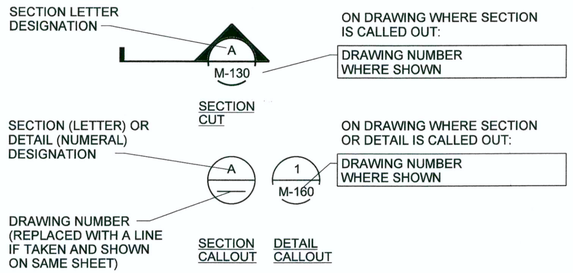
ABBREVIATIONS SHEET 2 OF 2

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

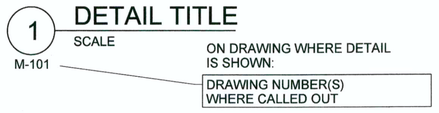
DATE	JANUARY 2013
PROJ	413455
DWG	G-004
SHEET	4

FILENAME: G-004_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:09:05 PM

SECTION AND DETAIL DESIGNATIONS







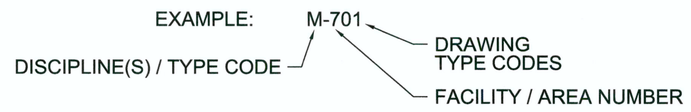
DESIGN DETAIL DESIGNATION



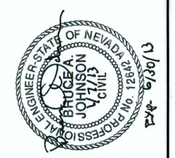
NOTES:

1. ALL DESIGN DETAILS ARE TYPICAL AND MUST BE USED IF DESIGN DETAIL DESIGNATION IS NOT SHOWN
2. THE TERM STANDARD DETAIL, OR A FORM OF IT, IS SYNONYMOUS WITH DESIGN DETAIL AND REFERS TO THE DESIGN DETAILS FOUND IN THIS SET OF CONTRACT DOCUMENTS.
3. THE DESIGN DETAILS REPRESENT THE CHARACTER AND NATURE OF THE WORK REQUIRED THROUGHOUT THE PROJECT. ALL ASSOCIATED WORK SHALL BE IN ACCORDANCE WITH THE DESIGN DETAILS SHOWN WHETHER THE DETAILS ARE SPECIFICALLY REFERENCED OR NOT.

DRAWING NUMBERING LEGEND



DISCIPLINE / TYPE CODES	FACILITY / AREA NUMBER	DRAWING TYPE CODES
A - ARCHITECTURAL C - SITE DEVELOPMENT (CIVIL) CE - CIVIL EROSION CONTROL CL - CIVIL LOCATION CG - CIVIL GRADING CY - CIVIL YARD PIPING CT - CORROSION CONTROL COATINGS D - DEMOLITION E - ELECTRICAL FP - FIRE PROTECTION G - GENERAL H - HVAC I - INSTRUMENTATION AND CONTROL L - LANDSCAPING M - MECHANICAL P - PLUMBING R - RENDERING S - STRUCTURAL NOTE: DOUBLE LETTER CODES NOT LISTED TYPICALLY INDICATE MULTI - DISCIPLINE / TYPE DRAWINGS.	1 HEADWORKS BYPASS 7 ELECTRICAL DISTRIBUTION BUILDING	00 - 30 - PLANS 30-59 - ELEVATIONS AND SECTIONS 60-89 - DETAILS 90-99 - SCHEMATICS, DIAGRAMS, SCHEDULES



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McCarthy Building Companies, Inc.

NO.	DATE	DSGN	REVISION	BY	APVD
		KL AQUINO	DR	KL AQUINO	CHK	RM BRACKEN	APVD	BA JOHNSON

CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

OVERALL GENERAL LEGEND

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-005
SHEET	5

AS-BUILT
CLV PLAN# 311.57

FILENAME: G-005_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:09:55 PM

GENERAL SITE NOTES:

1. SOURCE OF TOPOGRAPHY SHOWN ON THE CIVIL PLANS ARE AERIAL MAPS PROVIDED BY CONTINENTAL MAPPING CONSULTANTS, INC. FIELD PORTION OF THIS SURVEY WAS PERFORMED DURING THE MONTHS OF FEBRUARY AND JUNE OF 2011 BY TRI-STATE SURVEYING, LTD. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
2. EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.
3. HORIZONTAL DATUM: NEVADA STATE PLANE COORDINATE SYSTEM (NAD 83). BASIS OF COORDINATES ARE MONUMENTS IN EAST VEGAS VALLEY DRIVE, SHOWN ON DWG C-100.
4. VERTICAL DATUM: BASED ON CLARK COUNTY BENCH MARK, BM 4C1210C4, ELEVATION: ~~1695.26~~ 1695.78 (NAVD 88).
5. CONVERSION FROM NGVD 29 DATUM TO NAVD 88 DATUM IS + 2.23-FEET TO ANY NGVD 29 ELEVATION.
6. MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.
7. FOR LOCATION OF CONTROL POINT ON STRUCTURES, SEE STRUCTURAL DRAWINGS.
8. COORDINATES AND DIMENSIONS SHOWN FOR ROADWAY IMPROVEMENTS ARE TO FACE OF CURB OR EDGE OF PAVEMENT.
9. STAGING AREA SHOWN ON DRAWING CE-100 SHALL BE FOR CONTRACTOR'S ON-SITE STORAGE OF MATERIALS. INSTALL TEMPORARY FENCE AND ACCESS GATES AROUND STAGING AREA. REMOVE AT THE COMPLETION OF CONSTRUCTION.
10. PROVIDE TEMPORARY FENCING AS NECESSARY TO MAINTAIN SECURITY AT ALL TIMES.
11. ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN.
12. SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION. EROSION CONTROL DEVICES SHOWN ON DRAWING CE-100 ARE THE MINIMUM REQUIRED.
14. CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE SITE. CONTRACTOR TO SUBMIT EROSION CONTROL PLAN.

RFI #004
DATE ANSWERED 5/15/2013

GENERAL YARD PIPING AND UTILITIES NOTES:

1. EXISTING UNDERGROUND UTILITIES OBTAINED FROM AS-BUILTS AND FROM FIELD SURVEY. CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION PRIOR TO EXCAVATION. PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
2. FOR PIPING FLOW STREAM IDENTIFICATION, SEE DRAWINGS G-003 & G-004.
3. EXISTING PIPING AND EQUIPMENT ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW PIPING AND EQUIPMENT ARE SHOWN HEAVY-LINED.
4. UNLESS OTHERWISE SHOWN ALL PIPING SHALL HAVE A MINIMUM OF 3' COVER.
5. ALL PIPES SHALL HAVE A CONSTANT SLOPE BETWEEN INVERT ELEVATIONS UNLESS A FITTING IS SHOWN.
6. ALL NEW WATER PIPES MUST BE PROPERLY FLUSHED, PRESSURE TESTED, CHLORINATED AND BACTERIOLOGICALLY TESTED, AS SPECIFIED.
7. FOR TRENCHING AND BACKFILL, SEE DWG CY-120 AND SPECIFICATION SECTIONS 31 23 16 AND 31 23 23.15.
8. FOR SURFACE RESTORATION OF ASPHALT CONCRETE, SEE DWG CY-120 AND SPECIFICATION SECTIONS 32 12 16.
9. MINIMUM ALLOWABLE CLEARANCE BETWEEN PIPES AT CROSSINGS SHALL BE 6".
10. ALL UTILITIES INSTALLED OR EXPOSED DURING CONSTRUCTION SHALL BE GPS SURVEYED FOR HORIZONTAL AND VERTICAL LOCATION. DATA SHALL BE PROVIDED AT ALL HORIZONTAL AND VERTICAL CHANGE-OF-DIRECTION; e.g., BENDS, TEES, WYES, DEFLECTION POINTS, ETC.

GENERAL NOTE:

1. THIS IS A STANDARD LEGEND SHEET. THEREFORE, NOT ALL OF THE INFORMATION SHOWN MAY BE USED ON THIS PROJECT.

CIVIL LEGEND

EXISTING	THIS CONTRACT	
× 157.7	⊗ 158.5	SPOT ELEVATION
155	155	CONTOUR LINE
	3:1	EMBANKMENT AND SLOPE
		DRAINAGEWAY OR DITCH
	CB OR CB	CATCH BASIN OR INLET
		TRENCH DRAIN
	OR	SIGN
	D OR S	MANHOLE
E	E	ELECTRICAL MANHOLE
H	H	ELECTRIC HANDHOLE
		POST OR GUARD POST
		GUY ANCHOR
		FIRE HYDRANT
		UTILITY POLE
		LIGHT POLE
	° BM	BENCH MARK
		SURVEY CONTROL POINT OR POINT OF INTERSECTION
		BRUSH/TREE LINE
		TREE
		PROPERTY LINE
		CENTER LINE, BUILDING, ROAD, ETC.
		STAGING OR WORK AREA LIMITS
	N 1000.00 E 1000.00	STRUCTURE, BUILDING OR FACILITY LOCATION POINT - COORDINATES
	B-1	BORING LOCATION AND NUMBER
	TP-2	TEST PIT LOCATION AND NUMBER
	P-3	PIEZOMETER LOCATION AND NUMBER
OR OR		DEMOLITION
OR	OR	STRUCTURE, BUILDING OR FACILITY
		ASPHALT CONCRETE PAVEMENT
		GRAVEL SURFACING
		CONCRETE PAVEMENT
		CURB
		CURB AND GUTTER
		SINGLE SWING GATE
		DOUBLE SWING GATE
		SLIDING GATE
		GUARD RAIL
		CHAIN LINK FENCE
		ARCHITECTURAL FENCE
		WIRE FENCE
		CULVERT

YARD PIPING LEGEND

EXISTING	THIS CONTRACT	
		NOMINAL PIPE DIAMETER
8" PE	8" PW	PIPE USE IDENTIFICATION
		PIPING < 30" DIAMETER
		PIPING ≥ 30" DIAMETER
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		NON-FREEZE HOSE VALVE (V-X) X = NO. IN SPECIFICATIONS
		NON-FREEZE HOSE VALVE WITH HOSE RACK (V-X) X = NO. IN SPECIFICATIONS
		INDICATOR POST VALVE
		GATE VALVE AND VALVE BOX
		BUTTERFLY VALVE AND VALVE BOX
		PLUG VALVE AND VALVE BOX
		FLEXIBLE COUPLING
		90° ELBOW UP
		90° ELBOW DOWN
		BEND < 90° UP
		BEND < 90° DOWN
		CONCENTRIC REDUCER
		CAP OR PLUG
		CLEANOUT
		FIRE HYDRANT

CLARK COUNTY FIRE DEPARTMENT GENERAL NOTES:

UNIFORM GUIDELINES
INSTALLATION AND SPECIFICATION OF FIRE HYDRANTS

A. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CLARK COUNTY FIRE CODE AS AMENDED, AND THE 2007 EDITION OF NATIONAL FIRE PROTECTION ASSOCIATION PAMPHLET #24.

B. FIRE HYDRANTS AND WATER SUPPLIES FOR FIRE PROTECTION SHALL BE AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION IN ACCORDANCE WITH SECTION 1412 OF THE CLARK COUNTY FIRE CODE, AS AMENDED.

C. IF DURING CONSTRUCTION IT BECOMES NECESSARY TO CLOSE ANY CONTROL VALVE OR PLACE A HYDRANT OUT OF SERVICE, APPROVAL SHALL BE OBTAINED FROM THE FIRE DEPARTMENT PRIOR TO PLACING THE HYDRANT OUT OF SERVICE.

D. PAINTING OF CURBS AND/OR STRIPING OF ASPHALT AREAS AND PROTECTION OF HYDRANTS FROM PHYSICAL INJURY SHALL BE PER THE FIRE HYDRANT INSTALLATION SPECIFICATIONS OF THE FIRE PREVENTION DIVISION.

E. NO FIRE HYDRANT SHALL BE LOCATED WITHIN 25 FEET OF ANY STRUCTURE, OR 6 FEET OF A DRIVEWAY, POWER POLE, LIGHT STANDARD, OR ANY OTHER OBSTRUCTION. FOR WALL, FENCE AND PLANTER LOCATIONS, A PERIMETER AROUND THE HYDRANT MEASURING A MINIMUM OF 3 FEET FROM ITS EXTERIOR SHALL BE MAINTAINED CLEAR OF ALL OBSTRUCTION AT ALL TIMES.

F. FIRE APPARATUS ACCESS ROADS SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS, WITH A MINIMUM VEHICLE LOAD OF 18,000 POUNDS PER AXLE, AND SHALL BE SURFACED AND PAVED SO AS TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES.

EXCEPTION: TEMPORARY ACCESS ROADS SERVING ONLY BUILDINGS UNDER CONSTRUCTION SHALL NOT BE REQUIRED TO BE PAVED, BUT SHALL COMPLY WITH ALL OTHER REQUIREMENTS OF SECTION 503.2.3 OF THE CLARK COUNTY FIRE CODE.

G. PRIOR TO ACCEPTANCE OF ANY FIRE SERVICE MAIN, A SATISFACTORY HYDROSTATIC TEST WITH PIPING JOINTS UNCOVERED MUST BE CONDUCTED. APPROVED PLANS, AN INSTALLATION PERMIT AND A CONTRACTOR'S MATERIALS AND TEST CERTIFICATE MUST BE PROVIDED AT TIME OF INSPECTION. SCHEDULE INSPECTION AT www.clarkcountynv.gov/depts/fire.

H. FIRE HYDRANTS SHALL BE LOCATED 4' TO 7' FROM BACK OF CURB AND A MINIMUM OF 6 FEET AWAY FROM TURNS.

I. BLUE REFLECTIVE MARKERS MUST BE INSTALLED BEFORE FINAL HYDRANT ACCEPTANCE CAN BE ATTAINED (SECTION C107 OF THE CLARK COUNTY FIRE CODE, AS AMENDED).

J. HYDRANTS THAT ARE PROPOSED FOR INSTALLATION IN PUBLIC WATER SYSTEMS SHALL BE IN ACCORDANCE WITH APPROVED FIRE HYDRANTS AS ALLOWED BY THE WATER PURVEYOR. HYDRANTS PROPOSED FOR INSTALLATION ON PRIVATE WATER SYSTEMS SHALL BE IN ACCORDANCE WITH APPROVED FIRE HYDRANTS AS ALLOWED BY THE FIRE DEPARTMENT.

CLARK COUNTY
FIRE DEPARTMENT APPROVAL
BY STEVEN WHITE DATE 14 DEC 2012
REFERENCE PERMITTING DRAWINGS FOR ORIGINAL SIGNATURE
APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR ANY APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS.
FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL.

AS-BUILT
CLV PLAN# 311.57

PROFESSIONAL ENGINEER - STATE OF NEVADA - TIMOTHY A. TRIPPEL - No. 9854 - CIVIL - 1/31/13

RECEIVED
FEB 11 2013
McCarthy Building
Development, Inc.

NO.	DATE	DSGN	DR	CHK	REVISION	BY	APVD
		JA NESSL	SG METCALF	DJ PETERSON		BA JOHNSON	

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL
CIVIL LEGEND

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-006
SHEET	6

FILENAME: G-006_413455.dgn PLOT DATE: 2013\01\03 PLOT TIME: 11:59:29 AM

GENERAL ARCHITECTURLAL NOTES

1. UNLESS OTHERWISE INDICATED, PLAN DIMENSIONS ARE TO COLUMN GRID ON CENTERLINES, NOMINAL SURFACE OF MASONRY, FACE OF STUDS AND FACE OF CONCRETE WALLS.
2. "FLOOR LINE" REFERS TO TOP OF CONCRETE SLABS. FINISH FLOORING IS INSTALLED ABOVE THE FLOOR LINE. FOR DEPRESSED FLOORS AND CURBS, SEE STRUCTURAL DRAWINGS.
3. REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
4. WHERE DOOR IS LOCATED NEAR CORNER OF ROOM AND IS NOT LOCATED BY DIMENSION ON PLAN OR DETAILS, DIMENSION SHALL BE 3-INCHES FROM FACE OF STUD (WALL) TO FACE OF ROUGH OPENING. DIMENSION SHALL BE 6" FROM FACE OF WALL TO EDGE OF ROUGH OPENING AT CONCRETE WALLS, 8" AT CMU WALLS.
5. LINE OF GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE. THEY ARE AT THE BUILDING FACE, OR ON THE SECTION END EXCEPT AS NOTED.
6. VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED.
7. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OR DRAWINGS FOR ADDITIONAL NOTES.
8. VERIFY SIZE AND LOCATION OF, AND PROVIDE: REQUIRED OPENINGS THROUGH FLOORS AND WALLS, ACCESS DOORS, FURRING, CURBS, ANCHORS AND INSERTS. PROVIDE ALL BASES AND BLOCKING REQUIRED FOR ACCESSORIES, MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT.

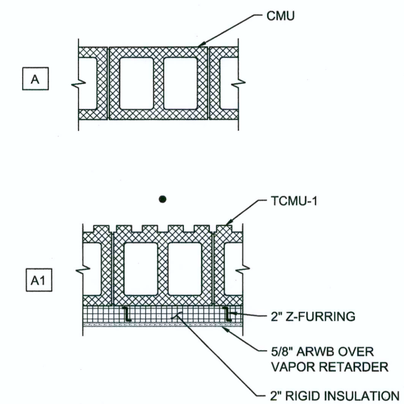
ARCHITECTURAL MATERIAL SYMBOLS

SYMBOL	MATERIAL
	GRATING, SPAN DIRECTION INDICATED
	CHECKERED PLATE
	GROUT
	GRANULAR FILL
	EARTH OR FINISH GRADE
	CONCRETE
	CMU WALL (PLAN)
	CMU WALL (SECTION)
	METAL STUD WALL (PLAN)
	RIGID INSULATION
	BATT INSULATION
	STEEL
	ALUMINUM
	PLYWOOD
	GYPSUM WALLBOARD
	WOOD, ROUGH CONTINUOUS
	WOOD, ROUGH NON-CONTINUOUS
	WOOD, FINISHED

ARCHITECTURAL LEGEND

SYMBOL	ITEM
A	GRID / COLUMN INDICATOR
ROOM NAME, X101, "X" = FACILITY INDICATOR, XX104A, DOOR LETTER, ROOM NUMBER	ROOM IDENTIFIER
	DOOR IDENTIFIER
XXW-1	WINDOW IDENTIFIER
XXL-1	LOUVER IDENTIFIER
A	WALL TYPE INDICATOR
QUANTITY AND DIRECTION OF POINTERS AS REQUIRED, A, B, C, D, E, 1, A-332	INTERIOR ELEVATION INDICATOR
⊗ 110.50	SPOT ELEVATION INDICATOR (IN FEET)
XXXX, EL XX.XX	ELEVATION DATUM (IN FEET)
	DIRECTION OF SLOPE DOWN
HINGE SIDE	HATCH SWING INDICATOR
ACTIVE, XX101A, INACTIVE	INDICATES PAIR OF DOORS (DOOR # ON ACTIVE)
F.EXT-X (ON BRACKET)	F. EXT = FIRE EXTINGUISHER "X" = NUMBER IN SPECIFICATIONS
CJ	CONTROL JOINT
X" EJ	EXPANSION JOINT X" = DIMENSION

WALL TYPES



WALL TYPES NOTES:

1. ● DENOTES LOCATION OF WALL TYPE INDICATOR ON PLANS AND SECTIONS.
2. WHERE MORE THAN ONE WALL TYPE IS INDICATED FOR A SINGLE LOCATION ON PLANS, CONSTRUCTION VARIES IN THE HEIGHT OF THE WALL. WALL TYPES ARE SHOWN IN THE ORDER IN WHICH THEY OCCUR, WITH THE LOWEST LOCATED NEAREST THE WALL.
3. SEE SCHEDULES AND DRAWINGS FOR INTERIOR AND EXTERIOR WALL FINISHES.

GEOFFREY B KIRSTEN REGISTERED No. 6358 ARCHITECT STATE OF NEVADA

RECEIVED FEB 1 1 2013 Jacobs/Ray Building Companies, Inc.

NO.	DSGN	DATE	REVISION	BY	APVD
	GB KIRSTEN		DR	GT MALIN	
			CHK	JE CAVE	APVD
					BA JOHNSON

CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY

ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT

LAS VEGAS, NEVADA

CH2MHILL

GENERAL

ARCHITECTURAL GENERAL NOTES, MATERIAL SYMBOLS, LEGEND AND WALL TYPES

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

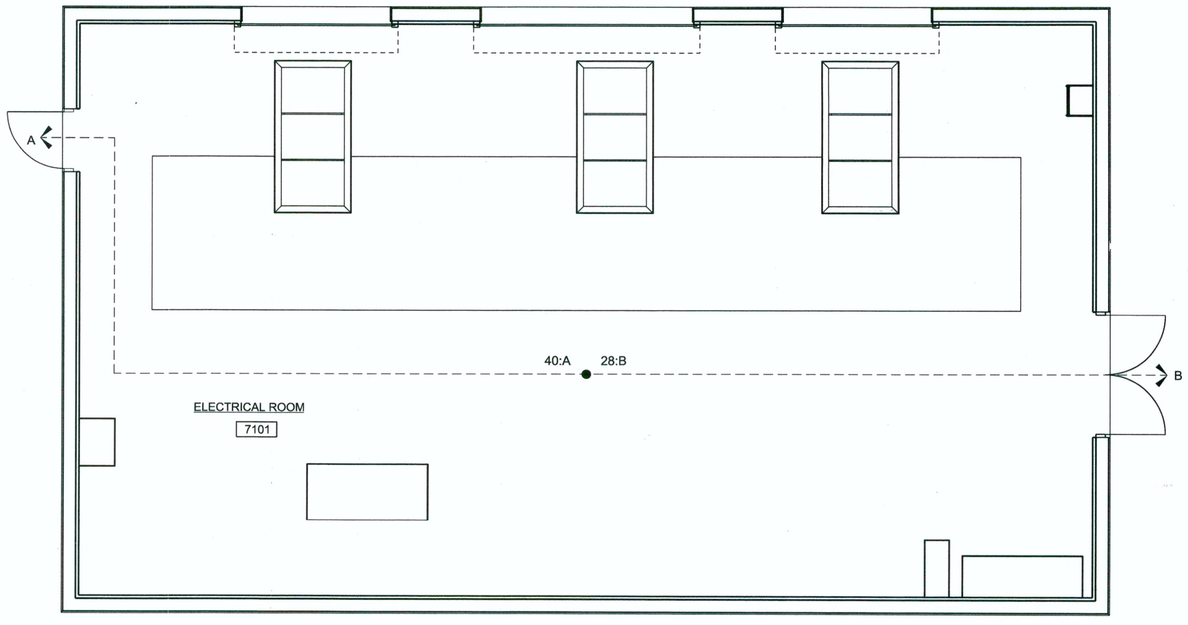
DATE	JANUARY 2013
PROJ	413455
DWG	G-007
SHEET	7

AS-BUILT

CLV PLAN# 311.57

FILENAME: G-007_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:11:20 PM

BUILDING CODE DATA TABLE	
FACILITY NO. 700 FACILITY NAME: ELECTRICAL DISTRIBUTION BUILDING	
BUILDING CODE: 2009 IBC AND NEVADA STATE AMENDMENTS	
OCCUPANCY GROUP:	F-2: INDUSTRIAL LOW HAZARD OCCUPANCY
TYPE OF CONSTRUCTION:	IIB (NON COMBUSTIBLE, NON SPRINKLERED)
MAXIMUM STORIES ALLOWED:	3
ACTUAL NUMBER OF STORIES:	1
MAXIMUM HEIGHT ALLOWED:	55 FT
ACTUAL HEIGHT:	18 FT
MAXIMUM AREA ALLOWED:	BASIC ALLOWABLE: 23,000 SF
ACTUAL FLOOR AREA:	TOTAL GROSS = 1,771 SF
ALLOWABLE NUMBER OF OCCUPANTS:	6
ACTUAL NUMBER OF OCCUPANTS:	NORMALLY UNOCCUPIED
TRAVEL DISTANCE ALLOWED (MAX.):	300 FT
OCCUPANCY SEPARATION / FIRE RATING:	N/A
HAZARDOUS MATERIALS	NONE
FIRE RESISTANCE RATING FOR BUILDING ELEMENTS:	
STRUCTURAL FRAME:	0 HRS
BEARING WALLS:	0 HRS
NONBEARING WALLS, INTERIOR:	0 HRS
FLOOR CONSTRUCTION:	0 HRS
ROOF CONSTRUCTION:	0 HRS
SHAFT ENCLOSURES:	N/A
STAIRWAY ENCLOSURE:	N/A
CORRIDOR:	N/A
EXTERIOR WALL FIRE RESISTANCE BASED ON FIRE SEPARATION DISTANCE (FACE OF BLDG TO LOT LINE OR IMAGINARY LINE BETWEEN BLDGS):	NR > 10 FT
FIRE SUPPRESSION SYSTEM:	HAND HELD FIRE EXTINGUISHERS.



N

LIFE SAFETY PLAN
1/4"=1'-0"

GENERAL NOTES:

1. FOR FIRE EXTINGUISHER LOCATIONS SEE DWG A-701.

LIFE SAFETY LEGEND

X:Y — TRAVEL DISTANCE (X = TOTAL DISTANCE IN FEET TO Y, EXIT NUMBER)

X — X = EGRESS WIDTH (36" MIN PROVIDED, TYP)

AS-BUILT

CLV PLAN# 311.57

GEOFFREY B KIRSTEN * REGISTERED * No. 6358 * ARCHITECT * STATE OF NEVADA

RECEIVED
FEB 11
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	GB KIRSTEN	DR	GT MALIN	CHK	JE CAVE	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL
ARCHITECTURAL
CODE DATA AND LIFE SAFETY PLAN
ELECTRICAL DISTRIBUTION BUILDING

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-008
SHEET	8

FILENAME: G-008_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:12:13 PM

DESIGN CRITERIA

1. APPLICABLE CODE: 2009 INTERNATIONAL BUILDING CODE (IBC), AS AMENDED BY THE COUNTY OF CLARK.
2. REFER TO THE DRAWINGS FOR ADDITIONAL AND SPECIFIC STRUCTURE LOADINGS AND REQUIREMENTS.
3. ROOF LOADS:
   - GROUND SNOW LOAD, Pg = 0 PSF
   - LIVE LOAD
     - UNIFORM LOAD = 20 PSF
     - CONCENTRATED LOAD = 300 LBS
   - COLLATERAL LOAD
     - MISC SUSPENDED MECHANICAL LOADS = 10 PSF
4. FLOOR LIVE LOADS:
   - ELECTRICAL ROOM = 300 PSF
5. WIND LOADS:
   - ASCE 7 METHOD = 2 - ANALYTICAL PROCEDURE
   - BASIC WIND SPEED (3-SECOND GUST) = 90 MPH
   - EXPOSURE CATEGORY = C
   - INTERNAL PRESSURE COEFFICIENT, GCpi = +/- 0.55
   - OCCUPANCY CATEGORY = III
   - IMPORTANCE FACTOR, Iw = 1.15
   - COMPONENT AND CLADDING WALL ELEMENTS (WINDOWS, DOORS, LOUVERS, SIDING, ETC FOR STRUCTURES UNDER 60 FEET IN HEIGHT) WIND LOAD = 26 PSF
6. SEISMIC LOADS:
   - MAPPED SPECTRAL RESPONSE ACCELERATIONS
     - S_S = 0.599g
     - S_1 = 0.180g
   - DESIGN SPECTRAL RESPONSE ACCELERATIONS
     - S_{DS} = 0.528g
     - S_{D1} = 0.250g
   - SITE CLASS = D
   - OCCUPANCY CATEGORY = III
   - SEISMIC DESIGN CATEGORY = D
   - IMPORTANCE FACTOR, I = 1.25
   - STRUCTURES HAVE BEEN ANALYZED USING THE EQUIVALENT LATERAL FORCE PROCEDURES OF ASCE 7.
7. SOIL DESIGN PARAMETERS:
   - A. NET ALLOWABLE SOIL BEARING PRESSURES (PSF):

	FTG WIDTH (FT)			
FTG DEPTH (FT)	1	2	3	W ≥ 4
1.5	1300	1575	1850	2125
2	1625	1900	2175	2450
2.5	1950	2225	2500	2500
3.5	2500	2500	2500	2500
D ≥ 4	2500	2500	2500	2500

   - B. EQUIVALENT DRAINED FLUID PRESSURES:
     - ACTIVE: 43 PCF
     - AT REST: 64 PCF
     - PASSIVE: 300 PCF
     - BUT NOT TO EXCEED 200O PSF
   - C. EQUIVALENT UNDRAINED FLUID PRESSURES:
     - ACTIVE: 83 PCF
     - AT REST: 93 PCF
     - PASSIVE: 120 PCF
     - BUT NOT TO EXCEED 2000 PSF
   - D. VERTICAL SURCHARGE: 2 FT OF SOIL WEIGHT MINIMUM
   - E. COEFFICIENT OF FRICTION: 0.35
   - F. MODULUS OF SUBGRADE REACTION 80 PCI
   - G. NATIVE SOIL UNIT WEIGHT 125 PCF
   - H. DESIGN GROUND WATER (GW) ELEVATION EL 1688 FT
8. FROST DEPTH:
   - A. MINIMUM FOOTING DEPTH: 12 IN
9. PROVISION FOR FUTURE CONSTRUCTION: NONE

GENERAL INFORMATION

1. FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 "ABBREVIATIONS AND ACRONYMS: PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
2. DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.
3. VERIFY FINAL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION OF THESE ELEMENTS.
4. FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS, SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS. COORDINATE PIPING OPENINGS WITH OTHER DISCIPLINE DRAWINGS.
5. DO NOT CUT OR MODIFY STRUCTURAL MEMBERS FOR PIPES, DUCTS, ETC, UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
6. VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTOR OF CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.
7. DETAILING AND DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES SHOWN ARE BASED ON AS-BUILT DESIGN DRAWINGS, AND DO NOT NECESSARILY REPRESENT THE AS-CONSTRUCTED CONDITIONS. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS, ELEVATIONS AND DETAILING OF THE EXISTING STRUCTURES PRIOR TO UNDERTAKING ANY WORK THAT IS AFFECTED BY THE EXISTING STRUCTURE.

SPECIAL INSPECTION AND RELATED TESTING

1. SPECIAL INSPECTION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY REQUIRED INSPECTIONS BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL SCHEDULE BOTH INSPECTIONS.
2. SPECIFIED CONCRETE AND MASONRY AND OTHER MATERIAL TESTING DURING CONSTRUCTION WILL BE OWNER FURNISHED. SPECIFIED LABORATORY TEST MIXES AND SIMILAR TEST RESULTS TO VERIFY MATERIAL QUALITY AND CONFORMANCE TO SPECIFICATIONS, AND SUBMITTED FOR REVIEW PRIOR TO ACCEPTANCE FOR USE ON THE PROJECT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. SPECIAL INSPECTION, TESTING AND OBSERVATION (OWNER FURNISHED) IS REQUIRED IN ACCORDANCE WITH IBC SECTIONS 110 AND 1704 AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTION.

FOUNDATIONS

1. REFER TO GEOTECHNICAL EVALUATION - LAS VEGAS WATER POLLUTION CONTROL FACILITY INFRASTRUCTURE REPLACEMENT PROJECT BY NINYO AND MOORE DATED JULY 15, 2011.
2. EXCAVATIONS SHALL BE SHORED TO PREVENT SUBSIDENCE OR DAMAMGE TO ADJACENT EXISTING STRUCTURES, STREETS, UTILITIES, ETC.
3. ALL FOUNDATION SLABS, SLABS-ON-GRADE AND WALL AND COLUMN FOUNDATIONS SPECIFICALLY NOTED TO BE ON FILL SHALL BEAR ON COMPACTED GRANULAR FILL.
4. FOUNDATION BEARING SURFACES SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER OR QUALIFIED DESIGNEE PRIOR TO PLACEMENT OF FORMWORK OR REINFORCING STEEL. THE OBSERVATION SHALL VERIFY IF THE ACTUAL EXPOSED SUBGRADE IS AS ANTICIPATED BY THE SITE SPECIFIC BORINGS AND DATA REPORTS.
5. NO BACKFILL SHALL BE PLACED BEHIND WALLS UNTIL THE WALLS HAVE ATTAINED 100 PERCENT AND TOP SUPPORTING SLAB'S CONCRETE HAS ATTAINED 80 PERCENT OF THEIR SPECIFIED 28 DAY COMPRESSIVE STRENGTH, OR UNTIL TOP-OF-WALL FRAMING SYSTEMS, INCLUDING STEEL OR WOOD DIAPHRAGMS, HAVE BEEN COMPLETED.
6. NO BACKFILL SHALL BE PLACED BEHIND CANTILEVERED, FREE TOP WALLS UNTIL THE CONCRETE HAS ATTAINED 100 PERCENT OF ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH.

FORMWORK, SHORING AND BRACING

1. STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.
2. TEMPORARY SHORING SHALL REMAIN IN PLACE UNTIL ELEVATED CONCRETE FLOOR OR SLABS HAVE REACHED 80 PERCENT OF THE 28 DAY COMPRESSIVE STRENGTH AS DETERMINED BY FIELD CYLINDER BREAKS.
3. "BURY" BARS OR "CARRIER" BARS ARE NOT ALLOWED FOR THE BOTTOM MATS OF REINFORCING IN ALL ELEVATED SLABS AND ARE NOT ALLOWED FOR THE TOP MATS OF REINFORCING IN ELEVATED SLABS LESS THAN 12 INCHES THICK.

CONCRETE REINFORCING

1. REINFORCING STEEL:
   - WELDED: ASTM A615, GRADE 60; ASTM A706, GRADE 60 (WELDING IS ONLY PERMITTED WITH WRITTEN PERMISSION FROM ENGINEER)
2. FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 "MANUAL OF STANDARD PRACTICE" AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".
3. MINIMUM REINFORCING FOR CONCRETE WALLS AND SLABS SHALL BE AS FOLLOWS:

THICKNESS	REINF EACH WAY	LOCATION
6"	#4@12"	CENTERED
8"	#5@12"	CENTERED
10"	#4@12"	EACH FACE
12"	#5@12"	EACH FACE

   PROVIDE LARGER SIZES AND MORE REINFORCING IN SECTIONS OF CONCRETE WHERE REQUIRED BY THE DETAILS ON THE DRAWINGS OR BY THE SPECIFICATIONS.
4. CLEARANCE FOR REINFORCEMENT BARS, UNLESS SHOWN OTHERWISE, SHALL BE:
   - WHEN PLACED ON GROUND: 3"
   - INTERIOR, FINISHED, HUMIDITY CONTROLLED AREAS:
     - WALLS, SLABS AND JOISTS 3/4"
     - BEAM STIRRUPS AND COLUMN TIES 1 1/2"
   - OTHER CONCRETE SURFACES 2"
5. REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING DETAIL 0330-003. WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE AS SHOWN ON THE DRAWINGS AND REFERENCED TO THIS DETAIL. TYPICAL HORIZONTAL WALL REINFORCING SHALL LAP WITH THE CORNER HORIZONTAL REINFORCING.
6. 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 318 STANDARD HOOKS.
7. WALL CORNER AND WALL INTERSECTION REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH COLUMNS OR PILASTERS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING WALLS, AS INDICATED IN DETAIL 0330-003.
8. LAP VERTICAL WALL BARS WITH DOWELS FROM BASE SLABS AND EXTEND INTO TOP FACE OF ROOF SLABS AND LAP WITH TOP SLAB REINFORCEMENT. PROVIDE A MINIMUM OF FOUR FULL HEIGHT VERTICAL BARS WITH MATCHING DOWELS AT WALL ENDS, CORNERS AND INTERSECTIONS WITH SIZE TO MATCH TYPICAL VERTICAL REINFORCING STEEL SHOWN OR REQUIRED BY NOTES ABOVE.
9. LOCATE ELEVATED SLAB AND BEAM TOP BAR SPLICES AT MIDSPAN AND BOTTOM BAR SPLICES AT SUPPORTS.
10. REFER TO OPENING REINFORCING DETAIL 0330-001.
11. REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINUMUM REQUIREMENTS: TYPICAL:

CONCRETE DESIGN STRENGTH = 4,000 PSI AT 28 DAYS★★		GRADE 60 REINFORCING STEEL								
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
LAP SPLICE LENGTH										
SPACING<6"	TOP BAR ★	1'-4"	2'-0"	3'-0"	4'-0"	5'-10"	6'-8"	7'-7"	8'-6"	9'-5"
	OTHER BAR	1'-4"	1'-7"	2'-4"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"
SPACING≥6"	TOP BAR ★	1'-4"	1'-6"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-2"	7'-5"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
EMBEDMENT LENGTH										
SPACING<6"	TOP BAR ★	1'-0"	1'-7"	2'-4"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"
	OTHER BAR	1'-0"	1'-3"	1'-9"	2'-5"	3'-6"	4'-0"	4'-6"	5'-1"	5'-7"
SPACING≥6"	TOP BAR ★	1'-0"	1'-3"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-1"	2'-5"	3'-0"	3'-8"	4'-5"

★ TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.

★★ WHERE 3000 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 16 PERCENT WHERE 4500 PSI CONCRETE IS USED, SAME LENGTH SHALL BE USED AS 4000 PSI CONCRETE

CAST IN PLACE CONCRETE

1. 28-DAY COMPRESSIVE STRENGTHS:
   - STRUCTURAL: 4500 PSI
   - CONCRETE FILL: 2500 PSI
   - CURBS AND SIDEWALKS: 3000 PSI
   - CONDUIT ENCASEMENTS: 3000 PSI
   - PIPE ENCASEMENTS NOT INTEGRAL WITH FOUNDATIONS: 3000 PSI
2. CONTINUOUS WATERSTOP AS SPECIFIED SHALL BE INSTALLED IN CONSTRUCTION JOINTS IN WALLS OF WATER HOLDING BASINS, CHANNELS, AND BELOW GRADE STRUCTURES, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.
3. CONSTRUCTION JOINTS INDICATED ARE SUGGESTED LOCATIONS. CONTRACTOR MAY REVISE LOCATION OF JOINTS, SUBJECT TO SPECIFIED REQUIREMENTS. ADDITIONAL CONSTRUCTION JOINT LOCATIONS, INCLUDING ADDITIONAL REQUIRED FOR CONSTRUCTION, SHALL BE SUBMITTED FOR REVIEW BY ENGINEER.
4. ROUGHEN AND CLEAN CONSTRUCTION JOINTS IN WALLS AND SLABS AS SPECIFIED PRIOR TO PLACING ADJACENT CONCRETE.
5. COORDINATE PLACEMENT OF OPENINGS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT OF CONCRETE.
6. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.
7. DO NOT PLACE CONDUIT PARALLEL TO BEAM OR COLUMN REINFORCEMENT UNLESS SPECIFICALLY INDICATED IN DRAWINGS.

CONCRETE UNIT MASONRY

1. DESIGN COMPRESSIVE STRENGTH, f'm, OF THE FINISHED ASSEMBLY AND MATERIAL PROPERTIES SHALL BE PER THE TABLE BELOW.
2. MORTAR: ASTM C270, TYPE S, HYDRATED. DO NOT USE MASONRY CEMENT.
3. GROUT: ASTM C476 COARSE GROUT. USE OF WATER REDUCERS OR SUPERPLASTICIZERS IS NOT PERMITTED.
4. CONCRETE MASONRY UNITS: ASTM C90, MEDIUM WEIGHT, LINEAR SHRINKAGE SHALL NOT EXCEED 0.065 PERCENT.
5.

DESIGN COMPRESSIVE STRENGTH OF ASSEMBLY F'm (PSI)	UNIT STRENGTH (PSI)	GROUT STRENGTH (PSI)	MORTAR PROPERTIES
1,500	1,900 [2,150]	2,000	TYPE S
2,000	2,800 [3,050]	2,000	TYPE S
2,500	3,750 [4,050]	2,500	TYPE S
3,000	4,800 [5,250]	3,000	TYPE S

6. PLACE COURSES IN WALLS, COLUMNS, AND PILASTERS IN RUNNING BOND PATERN WHERE SHOWN ON DRAWINGS, PROVIDE SOLID GROUTED STACK BOND PATTERN USING OPEN END UNITS.
7. PROVIDE MATCHING FOUNDATION DOWELS FOR ALL TYPICAL AND ADDITIONAL VERTICAL BARS.
8. LAP VERTICAL REINFORCING BARS 48 BAR DIAMETERS WITH FOUNDATION DOWELS, EXCEPT BARS PLACED EACH FACE IN CMU SHALL BE LAPPED 60 BAR DIAMETERS. LAP ALL OTHER VERTICAL BARS 72 BAR DIAMETERS.
9. LAP ALL VERTICAL BARS IN CANTILEVER WALLS, INCLUDING FOUNDATION DOWELS, 72 BAR DIAMETERS.
10. STAGGER ADJACENT LAP SPLICES BY 24 INCHES WHEN SEPARATED BY 3 INCHES OR LESS.
11. PROVIDE NUMBER OF FULL HEIGHT VERTICAL BARS AT EDGES OF OPENINGS AS SHOWN IN DETAIL 0422-004.
12. PROVIDE FULL HEIGHT VERTICAL BARS IN 3 CELLS AT WALL CORNERS AND INTERSECTIONS AS SHOWN IN DETAIL 0422-001.
13. PROVIDE HORIZONTAL CORNER AND INTERSECTION BARS WITH LAP LENGTHS AS SHOWN IN DETAIL 0422-001.
14. PROVIDE REINFORCED LINTELS ABOVE AND REINFORCED BOND BEAMS BELOW OPENINGS AS SHOWN IN DETAIL 0422-002.
15. PROVIDE FULL HEIGHT VERTICAL BARS WITH MATCHING DOWELS IN CELLS ADJACENT TO OPENINGS AS SHOWN IN DETAIL 0422-002.
16. GROUTING: SOLID GROUT ALL CMU WALLS.
17. MASONRY UNIT AND GROUT TESTING SHALL BE IN CONFORMANCE WITH 2009 IBC "UNIT STRENGTH METHOD". TESTING WILL BE OWNER FURNISHED AS INDICATED ON THE STATEMENT OF SPECIAL INSPECTION PLAN PROVIDED ON THE DRAWINGS. PRISM TEST METHOD MAY BE SUBMITTED AS AN ALTERNATIVE OR MAY BE REQUIRED BY OWNER'S REPRESENTATIVE TO VERIFY WORK.
18. THE MINIMUM REINFORCING FOR SPECIAL REINFORCED CONCRETE BLOCK WALLS SHALL BE AS FOLLOWS. PROVIDE LARGER SIZES AND MORE REINFORCING IN SECTION SOF WALLS WHERE REQUIRED BY THE DETAILS ON THE DRAWINGS OR BY THE SPECIFICATIONS.

WALL THICKNESS	VERTICAL REINFORCING	HORIZONTAL REINFORCING	LOCATION
8"	#6@48"	#5@48"	CENTERED
12"	#6@48"	#5@48"	EACH FACE

WELDING

1. WELDS SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS):
   - D1.1, STRUCTURAL WELDING CODE - STEEL
   - D1.2, STRUCTURAL WELDING CODE - ALUMINUM
   - D1.3, STRUCTURAL WELDING CODE - SHEET STEEL
   - D1.6, STRUCTURAL WELDING CODE - STAINLESS STEEL
2. REPAIR WELDS FOUND DEFECTIVE IN ACCORDANCE WITH AWS D1.1 SECTION 5.26.
3. USE INTERMITTENT WELDS AT FIELD WELDS OF EMBED PLATES AND ANGLES TO AVOID SPALLING OR CRACKING OF THE EXISTING CONCRETE.
4. BUTT JOINT WELDS SHALL BE COMPLETE JOINT PENETRATION (CJP) UNLESS INDICATED OTHERWISE.
5. WHERE FIELD WELDS ARE SHOWN, SHOP WELDS MAY BE USED AT CONTRACTOR'S OPTION.

AS-BUILT

CLV PLAN# 311.57

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McCarthy Building Companies, Inc.

PROFESSIONAL ENGINEER, STATE OF NEVADA
LIAO YANG
Exp 6-30-2014
CIVIL
No. 021401
1-4-2013

NO.	DATE	DSGN	DR	CHK	APVD
REVISION		L YANG	AM RYAN	WC SHERMAN	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

STRUCTURAL GENERAL NOTES 1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-009
SHEET	9

STRUCTURAL STEEL AND METAL FABRICATIONS

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

W-SHAPES	A992
MISCELLANEOUS SHAPES INCLUDING ANGLES, CHANNELS, PLATES, ETC.	A36
SQUARE OR RECTANGULAR STEEL TUBING	A500, GRADE B
ROUND STEEL TUBING	A500, GRADE B
STAINLESS STEEL SHAPES	A276
STEEL PIPE	A53, TYPE E OR S, GRADE B

2. ALUMINUM SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

STRUCTURAL SHAPES	B308
PLATES	B209

3. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT OSHA STANDARDS.

4. BOLTS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING ASTM STANDARDS EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:

UNLESS SHOWN OTHERWISE	A325-N
SLIP CRITICAL	A325-SC
ANCHOR BOLTS (AB)	
STAINLESS STEEL	F593, AISI TYPE 316, CONDITION CW
GALVANIZED STEEL	F1554, GR55 / A153
MACHINE BOLTS (MB)	
STEEL	A307
STAINLESS STEEL	F593, AISI TYPE 316, CONDITION CW
GALVANIZED STEEL	A307 / A153
ALUMINUM	F468, ALLOY 2024-T4

ALL HIGH STRENGTH BOLTS SHALL BE PRE-TENSIONED UNLESS OTHERWISE NOTED.

5. ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.

6. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

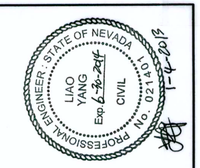
STEEL DECKING

1. FOR DECK SIZE, GAGE AND FASTENING REQUIREMENTS, SEE FRAMING PLANS.
2. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3 "STRUCTURAL WELDING CODE - SHEET STEEL".
3. DECKING SHALL HAVE A MINIMUM OF 1 1/2 INCHES BEARING ON SUPPORTS.
4. DECKING SHALL BE CONTINUOUS OVER THREE SPANS MINIMUM, EXCEPT WHERE SHOWN OTHERWISE.
5. FASTEN DECK AS NOTED ON EACH FRAMING PLAN.
6. WELD DECK TO DRAG STRUTS AND TOP OF WALL ANGLE TIES WITH 5/8 INCH PUDDLE WELDS AT 1'-0" ON CENTER, UNLESS NOTED OTHERWISE.
7. LOCATE OPENINGS FOR EQUIPMENT PER OTHER DISCIPLINE DRAWINGS.
8. REINFORCE DECK FOR LARGER OPENINGS PER DETAIL 0531-021. REINFORCE SMALL OPENINGS AS SPECIFIED.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT COMPLETED AT THE TIME THE CONSTRUCTION DOCUMENTS ARE PRODUCED BUT ARE REQUIRED PRIOR TO INSTALLATION OF THAT PORTION OF THE WORK.
2. WHERE DEFERRED SUBMITTALS INCLUDE ADDITIONAL MATERIALS, INSTALLATION, ANCHORAGE, OR CERTIFICATION OF COMPONENTS THAT REQUIRE SPECIAL INSPECTION AND/OR OBSERVATION TO MEET CODE REQUIREMENTS, THE DEFERRED SUBMITTAL SHALL INCLUDE SPECIFIC LINE ITEMS TO BE ADDED TO THE APPROPRIATE TABLES IN THE PROJECT'S STATEMENT OF SPECIAL INSPECTIONS PLAN IF THEY ARE NOT ALREADY IDENTIFIED.
3. THE FOLLOWING IS A LIST OF DEFERRED SUBMITTALS PER IBC SECTION 106.3.4.2 THAT ARE EXPECTED TO CONTAIN STRUCTURAL CALCULATIONS OR SAFETY RELATED SYSTEM INFORMATION FOR REVIEW. PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, DISTRIBUTION SYSTEM, OR COMPONENT OR ITS ANCHORAGE, THE CONTRACTOR SHALL SUBMIT THE REQUIRED CALCULATIONS AND SUPPORTING DATA AND DRAWINGS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER.

SPECIFICATION SECTION	ITEM
01 88 15	ANCHORAGE AND BRACING
OTHER	ANY EQUIPMENT OR COMPONENT IN WHICH A TECHNICAL SPECIFICATION REQUIRES SUBMITTAL OF EQUIPMENT OR ANCHORAGE SYSTEM CALCULATIONS



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NO.	DATE	REVISION	BY	APVD
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CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY

ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT

LAS VEGAS, NEVADA

CH2MHILL

GENERAL

STRUCTURAL GENERAL NOTES 2

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-010
SHEET	10

AS-BUILT

CLV PLAN# 311.57

FILENAME: G-010_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:13:51 PM

STATEMENT OF SPECIAL INSPECTIONS

GENERAL NOTES

1. THE STATEMENT OF SPECIAL INSPECTIONS DRAWINGS PROVIDE PROJECT COMPLIANCE WITH THE PROVISIONS OF THE 2009 INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17 FOR SPECIAL INSPECTION, STRUCTURAL OBSERVATION, AND TESTING FOR WIND AND SEISMIC RESISTANCE AS APPLICABLE. EXCEPT WHERE OTHERWISE NOTED, THIS INSPECTION IS OWNER FURNISHED.
2. STANDARD SPECIAL INSPECTION REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS ARE CONTAINED IN TABLE 1 ON DRAWING G-012.
3. STANDARD SPECIAL INSPECTION REQUIREMENTS FOR STRUCTURAL COMPONENTS, REGARDLESS OF WIND OR SEISMIC DESIGN CATEGORIES, ARE CONTAINED IN TABLE 2 ON DRAWINGS G-012 AND G-013. STANDARD TESTING REQUIREMENTS FOR STRUCTURAL COMPONENTS ARE CONTAINED IN TABLE 3 ON DRAWING G-014.
4. PROJECT SPECIFIC REQUIREMENTS FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORIES C, D, E, OR F ARE CONTAINED IN TABLE 4 ON DRAWING G-014. ADDITIONAL TESTING REQUIREMENTS FOR STRUCTURAL RESISTANCE ARE CONTAINED IN TABLE 6 ON DRAWING G-015.
5. FOR ADDITIONAL REQUIREMENTS, REFER TO SPECIFICATION SECTION 014533, SPECIAL INSPECTION, OBSERVATION AND TESTING. THESE INCLUDE:
   - A. CONTRACTOR'S REQUIREMENTS TO PROVIDE ACCESS TO THE WORK FOR REQUIRED INSPECTIONS, AND TO PROVIDE NOTICE OF REQUIRED INSPECTIONS AND STRUCTURAL OBSERVATION.
   - B. CONTRACTOR'S STATEMENT OF RESPONSIBILITY FOR WORK TO BE PERFORMED ON SYSTEMS DESIGNATED UNDER THE STATEMENT OF SPECIAL INSPECTIONS PLAN FOR WIND OR SEISMIC RESISTANCE.
   - C. DEFINITIONS AND TERMINOLOGY USED IN THIS STATEMENT OF SPECIAL INSPECTIONS.

SPECIAL INSPECTION

1. SPECIAL INSPECTION WILL BE IN ACCORDANCE WITH 2009 IBC SECTION 1704 TOGETHER WITH LOCAL AND STATE AMENDMENTS. REFER TO THE TABLES CONTAINED ON THESE GENERAL SHEETS FOR PROJECT SPECIFIC INSPECTION TYPES AND FREQUENCIES.
2. SPECIAL INSPECTIONS WILL BE PROVIDED BY A CERTIFIED OR QUALIFIED INSPECTOR AND ASSOCIATED TESTING WILL BE PERFORMED BY AN APPROVED ACCREDITED AGENCY. THE OWNER WILL SECURE AND PAY FOR THE SERVICES OF THE AGENCY TO PERFORM ALL SPECIAL INSPECTION AND ASSOCIATED TESTS. INSPECTORS FOR EACH SYSTEM AND MATERIAL WILL BE INTERNATIONAL CODE COUNCIL (ICC) CERTIFIED OR OTHERWISE APPROVED BY THE BUILDING OFFICIAL.
3. THE SPECIAL INSPECTOR WILL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS AND SUBMIT RECORDS OF INSPECTION. ALL DISCREPANCIES WILL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
4. SPECIAL INSPECTION AND ASSOCIATED TESTING REPORTS WILL BE SUBMITTED TO THE ENGINEER, CONTRACTOR, BUILDING OFFICIAL, AND OWNER WITHIN ONE WEEK OF INSPECTION OR WITHIN ONE WEEK OF TEST COMPLETION. INSPECTIONS FOR WHICH REPORTING WILL BE REQUIRED ARE NOTED IN THE TABLES CONTAINED ON THIS STATEMENT OF SPECIAL INSPECTIONS.
5. AT THE CONCLUSION OF CONSTRUCTION, A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF PREVIOUSLY NOTED DISCREPANCIES WILL BE SUBMITTED TO THE PARTIES IDENTIFIED IN ITEM 4 ABOVE.
6. MAIN SYSTEMS REQUIRED TO BE COVERED UNDER PROJECT SPECIAL INSPECTION REQUIREMENTS INCLUDE THE FOLLOWING TOGETHER WITH THEIR CONNECTIONS. REFER TO SPECIFICATION 014533, SPECIAL INSPECTION, OBSERVATION AND TESTING.
   - A. ELECTRICAL DISTRIBUTION BUILDING
   - B. BYPASS JUNCTION BOX AND TIE-IN STRUCTURE

SPECIAL INSPECTIONS FOR WIND RESISTANCE

1. SPECIAL INSPECTIONS REQUIREMENTS FOR WIND RESISTANCE IN ACCORDANCE WITH IBC SECTION 1705.4 ARE NOT APPLICABLE TO THIS PROJECT.

SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

1. SPECIAL INSPECTIONS REQUIREMENTS FOR SEISMIC RESISTANCE IN ACCORDANCE WITH IBC SECTION 1705.3 TOGETHER WITH LOCAL AND STATE AMENDMENTS.
2. SPECIAL INSPECTIONS REQUIREMENTS FOR SEISMIC RESISTANCE SHALL APPLY TO THE SYSTEMS AND COMPONENTS LISTED IN TABLE 4.

GEOTECHNICAL OBSERVATION

1. ALL FOUDNATION BEARING SURFACES SHALL BE INSPECTED UNDER THE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL.
2. ADDITIONAL GEOTECHNICAL SPECIAL INSPECTION REQUIREMENTS ARE LISTED IN TABLE 1.
3. GEOTECHNICAL TESTING REQUIREMENTS ARE LISTED IN TABLE 3.

STRUCTURAL OBSERVATION

1. STRUCTURAL OBSERVATION WILL BE IN ACCORDANCE WITH 2009 IBC SECTION 1710 TOGETHER WITH LOCAL AND STATE AMENDMENTS. REFER TO PROJECT SPECIFIC NOTES ON THIS SHEET.
2. ONSITE STRUCTURAL OBSERVATION WILL BE PERFORMED FOR EACH IDENTIFIED SEISMIC FORCE-OR WIND FORCE-RESISTING SYSTEM, INCLUDING FOUNDATIONS AND CONNECTIONS. REFER TO THE INDIVIDUAL FACILITY PLANS FOR THE BASIC SEISMIC SYSTEMS FOR THE STRUCTURES INCLUDED IN THE WORK.
3. STRUCTURAL OBSERVATION WILL BE PERFORMED BY A REGISTERED PROJECT DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY REQUIRED SPECIAL INSPECTIONS OR INSPECTIONS BY THE BUILDING OFFICIAL.
4. STRUCTURAL OBSERVATION REPORTS, NOTING ANY DEFICIENCIES IN OBSERVED CONSTRUCTION, WILL BE DELIVERED TO THE CONTRACTOR, BUILDING OFFICIAL, AND OWNER FOLLOWING EACH OBSERVATION. THE CONTRACTOR WILL BE NOTIFIED ON-SITE OR BY PHONE OR EMAIL WITHIN 24 HOURS UPON FINDING ANY DEFICIENCIES.
5. AT THE CONCLUSION OF CONSTRUCTION, A WRITTEN STATEMENT IS REQUIRED TO VERIFY THAT THE STRUCTURAL OBSERVATION SITE VISITS WERE MADE AND WHETHER THERE REMAIN ANY STRUCTURAL DEFICIENCIES THAT HAVE NOT BEEN RESOLVED.
6. STRUCTURAL OBSERVATION WILL INCLUDE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM AT THE CONSTRUCTION STAGES INDICATED IN THE STRUCTURAL OBSERVATION TABLE AND AT COMPLETION OF THE STRUCTURAL SYSTEM FOR EACH STRUCTURE CONTAINED IN THE WORK. THE CONTRACTOR SHALL SCHEDULE AND FACILITATE STRUCTURAL OBSERVATION FOR THE LINE ITEMS LISTED IN THE FOLLOWING TABLE:

STRUCTURAL OBSERVATION TABLE

	SYSTEM FOR WATER-HOLDING FACILITIES	STAGE	ITEMS	COMMENTS
1.	FOUNDATION SLAB OF STRUCTURE	PRIOR TO FIRST CONCRETE PLACEMENT OF FIRST SECTION WHEN ITEMS CAN STILL BE REVISED	REINFORCING STEEL, CONCRETE WALL DOWELS, WATERSTOPS, EMBEDS, AND SIMILAR ITEMS	NOTE 1
2.	CONCRETE WALLS OF STRUCTURE	PRIOR TO FIRST CONCRETE PLACEMENT OF FIRST SECTION WHEN ITEMS CAN STILL BE REVISED	REINFORCING STEEL, WALL DOWELS, WATERSTOPS, EMBEDS, AND SIMILAR ITEMS	NOTE 1
	SYSTEM FOR HUMAN OCCUPANCY FACILITIES	**STAGE**	**ITEMS**	**COMMENTS**
1.	FOUNDATIONS	PRIOR TO FIRST CONCRETE PLACEMENT OF FIRST SECTION WHEN ITEMS CAN STILL BE REVISED	REINFORCING STEEL, CONCRETE AND MASONRY WALL DOWELS, EMBEDS, HOLD-DOWNS, AND SIMILAR ITEMS	NOTE 1
2.	CONCRETE WALLS OF STRUCTURE	PRIOR TO FIRST CONCRETE PLACEMENT OF FIRST SECTION WHEN ITEMS CAN STILL BE REVISED	REINFORCING STEEL, WALL DOWELS, EMBEDS, AND SIMILAR ITEMS	NOTE 1
3.	MASONRY WALL, BEAM, PIER, AND COLUMN REINFORCING STEEL	PRIOR TO GROUTING AND PRIOR TO CLOSING OF CLEANOUTS	REINFORCING STEEL, EMBEDS, COURSE PREPARATION AND SIMILAR ITEMS	NOTE 1
4.	TOP OF WALL CONNECTIONS	PRIOR TO ROOF SHEATHING INSTALLATION	NUMBER AND TYPE OF FASTENERS, CONNECTIONS AND SIMILAR ITEMS	NOTE 1
5	SYSTEM CONNECTION EMBEDS	PRIOR TO GROUT OR CONCRETE PLACEMENT	CORRECT ALIGNMENT AND EMBEDMENT DEPTH	NOTE 1
6.	METAL DECK DIAPHRAGM	PRIOR TO STANDING SEAM ROOF COVER WHEN ITEMS CAN STILL BE REVISED	FASTENER TYPE, LOCATION, INSTALLATION, AND SIMILAR ITEMS	NOTE 1

NOTES:
1. STRUCTURAL OBSERVER TO DISCUSS ITEMS AND SITE SPECIFIC CONDITIONS WITH SPECIAL INSPECTOR AND FIELD INSPECTION STAFF DURING OBSERVATION AND ENTER DISCUSSION/RESOLUTION INTO DAILY RECORD.

AS-BUILT

CLV PLAN# 311.57

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PROFESSIONAL ENGINEER - STATE OF NEVADA
LIAO YANG
Exp. 6-30-2014
CIVIL
No. 021457
1-14-2013

NO.	DATE	DSGN	DR	CHK	BY
	REVISION	L YANG	AM RYAN	WC SHERMAN	APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

STATEMENT OF SPECIAL INSPECTION
PLAN - 1 OF 5

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-011
SHEET	11

TABLE 1
REQUIRED NON-STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 014533

SYSTEM OR MATERIAL	2009 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
GEOTECHNICAL							
1. SOILS:							
A. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	1704.7, 1803.5, 1803.6	SECTION 312313, SUBGRADE PREPARATION	X		X	PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER'S QUALIFIED DESIGNEE	
B. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	1704.7	SECTION 312316, EXCAVATION	X		X	PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER'S QUALIFIED DESIGNEE	
C. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS	1704.7	SECTION 312323, FILL AND BACKFILL	X		X		SEE TABLE 3 FOR GRADATION AND COMPACTION TEST REQUIREMENTS
D.VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	1704.7	SECTION 312323, FILL AND BACKFILL			X		SEE TABLE 3 FOR DENSITY TEST AND PROOF ROLLING REQUIREMENTS
E. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	1704.7	SECTION 312313, SUBGRADE PREPARATION	X		X	PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER'S QUALIFIED DESIGNEE	SEE TABLE 3 FOR DENSITY TEST AND PROOF ROLLING REQUIREMENTS
GENERAL							
1. INSTALLATION OF MATERIALS THAT REQUIRE ADDITIONAL MANUFACTURER'S INSTRUCTIONS BEYOND CODE REQUIREMENTS	1703.4.2, 1704.15 ITEM 3	ICC-ES EVALUATION REPORTS		PER ICC-ES EVALUATION REPORT'S RECOMMENDATION	X	ANCHORS INSTALLED IN HARDENED CONCRETE EXCEPT WHERE INSTALLED FOR COMPONENTS WHERE ANCHORAGE DESIGN IS NOT REQUIRED UNDER SECTION 018815, SEISMIC ANCHORAGE AND BRACING, AND WHERE THE ICC-ES REPORT DOES NOT REQUIRE SPECIAL INSPECTION	
STRUCTURAL: SEE TABLE 2							

NOTES:
PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING

TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2009 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
CONCRETE							
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT	1704.4, 1903.1, 1907.1, 1907.7, 1913.4	ACI 318: 3.5, 7.1-7.7	X		X		
2. INSPECTION OF REINFORCING STEEL WELDING	1704.4, 1903.1	AWS D1.4 ACI 318: 3.5.2				SEE STEEL CONSTRUCTION FOR WELDING INSPECTION REQUIREMENTS	
3. INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED	1704.4, 1911.5	ACI 318: 8.1.3, 21.2.8		X	X		
4. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.	1912.1	ACI 318: 3.8.6, 8.1.3, 21.2.8	X		X		
5. VERIFY USE OF REQUIRED DESIGN MIX	1704.4, 1904.2.2, 1905.2-1905.4, 1913.2, 1913.3	ACI 318: Ch. 4, 5.2-5.4	X		X		
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	1704.4, 1905.6, 1913.10	ASTM C 172, ASTM C 31, ACI 318: 5.6, 5.8		X	X		SEE TABLE 3 FOR CONCRETE TEST REQUIREMENTS
7. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	1704.4, 1905.9, 1905.10, 1913.6, 1913.7, 1913.8	ACI 318: 5.9, 5.10		X	X		
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	1704.4, 1905.11-1905.13, 1913.9	ACI 318: 5.11-5.13	X		X		
9. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	1704.4, 1906.1	ACI 318: 6.1.1	X		X		
MASONRY LEVEL 2							
1. VERIFY COMPLIANCE WITH INSPECTION PROVISIONS OF CONSTRUCTION DOCUMENTS AND APPROVED SUBMITTALS	1704.5.3	ACI 530.1: Art. 1.5	X		X		
2. VERIFICATION OF f'_m PRIOR TO CONSTRUCTION AND FOR EVERY 5,000 SQUARE FEET DURING CONSTRUCTION	1704.5.3	ACI 530.1: Art. 1.4B	X		X		
3. VERIFICATION OF PROPORTIONS OF MATERIALS IN PREMIXED OR PREBLENDED MORTAR AND GROUT AS DELIVERED TO THE SITE	1704.5.3	ACI 530.1: Art. 1.5B	X		X		
4. THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:							
A. PROPORTIONS OF SITE-PREPARED MORTAR AND GROUT	1704.5.3	ACI 530.1: Art. 2.6A	X		X		
B. PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS	1704.5.3	ACI 530.1: Art. 3.3B	X		X		
C. PLACEMENT OF REINFORCEMENT AND CONNECTORS	1704.5.3	ACI 530: Sec. 1.13 ACI 530.1: Art. 3.4, 3.6A	X		X		

NOTES:
PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING

AS-BUILT
CLV PLAN# 311.57

PROFESSIONAL ENGINEER, STATE OF NEVADA — LIAO YANG — Exp. 6-30-2014 — CIVIL — No. 021401 — 2013-4-1

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

STATEMENT OF SPECIAL INSPECTION
PLAN - 2 OF 5

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-012
SHEET	12

FILENAME: G-012_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:15:27 PM

TABLE 2 - CONTINUED
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2009 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
MASONRY LEVEL 2 - CONTINUED							
D. GROUT SPACE PRIOR TO GROUTING	1704.5.3	ACI 530.1: Art. 3.2D		X	X		
E. PLACEMENT OF GROUT	1704.5.3	ACI 530.1: Art. 3.5		X	X		
F. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	1704.5.3	ACI 530.1: Art. 3.3F	X		X		
G. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	1704.5.3	ACI 530: Sec. 1.2.2(e), 1.16.1		X	X		
H.SPECIFIED SIZE, GRADE, AND TYPE OF REINFORCEMENT, ANCHOR BOLTS, AND ANCHORAGES.	1704.5.3	ACI 530: Sec. 1.15 ACI 530.1: Art. 2.4, 3.4	X		X		
I. WELDING OF REINFORCEMENT	1704.5.3	ACI 530: Sec. 2.1.9.7.2, 3.3.3.4(b)		X	X	SEE STEEL CONSTRUCTION FOR WELDING INSPECTION REQUIREMENTS	
J. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMP. BELOW 40 DEGREES F) OR HOT WEATHER (TEMP. ABOVE 90 DEGREES F)	1704.5.3, 2104.3, 2104.4	ACI 530.1: Art. 1.8C, 1.8D	X		X		
5. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, AND/OR PRISMS SHALL BE OBSERVED	1704.5.3, 2105.2.2, 2105.3	ACI 530.1: Art. 1.4		X	X		SEE TABLE 3 FOR UNIT STRENGTH TESTS (PRISM TEST) FOR MASONRY
STEEL							
1. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:							
A. IDENTIFICATION MARKINGS CONFORM TO AWS SPECIFICATIONS IN THE APPROVED CONSTRUCTION DOCUMENTS	1704.3	AISC 360: Sec. A3.5 AND APPLICABLE AWS A5 DOCUMENTS	X		X		
B. MANUFACTURER'S CERTIFICATES OF COMPLIANCE REQUIRED	1704.3		X		X		
2.A. INSPECTION OF WELDING STRUCTURAL STEEL							
1. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	1704.3.1	AWS D1.1		X	X		
2. MULTI-PASS FILLET WELDS	1704.3.1	AWS D1.1		X	X		
3. SINGLE-PASS FILLET WELDS > 5/16"	1704.3.1	AWS D1.1		X	X		
4. PLUG AND SLOT WELDS	1704.3.1	AWS D.1		X			
5. SINGLE-PASS FILLET WELDS <= 5/16"	1704.3.1	AWS D1.1	X		X		
2.B. INSPECTION OF WELDING, REINFORCING STEEL:							
1. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706	1704.3, 1903.1	AWS D1.4 ACI 318: 3.5.2	X		X		
2. REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT	1704.3, 1903.1	AWS D1.4 ACI 318: 3.5.2		X	X		

TABLE 2 - CONTINUED
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2009 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
STEEL - CONTINUED							
3. SHEAR REINFORCEMENT	1704.3, 1903.1	AWS D1.4 ACI 318: 3.5.2		X	X		
4. OTHER REINFORCING STEEL	1704.3, 1903.1	AWS D1.4 ACI 318: 3.5.2	X		X		
ALUMINUM							
1. MATERIAL VERIFICATION OF ALUMINUM:							
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	1704.15 ITEM 2				X		
B. MANUFACTURERS' CERTIFIED MILL TEST REPORTS	1704.15 ITEM 2				X		
2. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:							
A. IDENTIFICATION MARKINGS CONFORM TO AWS SPECIFICATIONS IN THE APPROVED CONSTRUCTION DOCUMENTS	1704.15 ITEM 2				X		
B. MANUFACTURER'S CERTIFICATES OF COMPLIANCE REQUIRED	1704.15 ITEM 2				X		
3. INSPECTION OF WELDING:							
A. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	1704.15 ITEM 2	AWS D1.2		X	X		
B. MULTI-PASS FILLET WELDS	1704.15 ITEM 2	AWS D1.2		X	X		
C. SINGLE-PASS FILLET WELDS	1704.15 ITEM 2	AWS D1.2	X		X		
D. WELDED SHEET FOR ALUMINUM MEMBERS	1704.15 ITEM 2	AWS D1.2	X		X		

NOTES:
PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING

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LIAO YANG
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No. 021414
1-4-2013

NO.	DATE	DSGN	DR	CHK	REVISION	APVD
		L YANG	AM RYAN	WC SHERMAN	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

STATEMENT OF SPECIAL INSPECTION PLAN - 3 OF 5

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-013
SHEET	13

FILENAME: G-013_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:16:37 PM

TABLE 3
TESTING FOR REQUIRED SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 014533

MATERIAL	TYPE OR SCOPE	STANDARD	2009 IBC CODE REFERENCE	FREQUENCY	BY WHOM	REQUIRED REPORTING TO DESIGNATED DISTRIBUTION LIST	COMMENTS
GEOTECHNICAL							
CONTROLLED FILL	GRADATION	ASTM D422	1704.7	SECTION 312323, FILL AND BACKFILL	OWNER'S APPROVED TESTING AGENCY	X	
CONTROLLED FILL	DENSITY	ASTM D698, D6938	1704.7	SECTION 312323, FILL AND BACKFILL	OWNER'S APPROVED TESTING AGENCY	X	
PREPARED SUBGRADE	DENSITY	ASTM D698, D6938	1704.7	SECTION 312313, SUBGRADE PREPARATION	OWNER'S APPROVED TESTING AGENCY	X	
EXPOSED SUBGRADE	PROOF ROLLING	NOT APPLICABLE	1704.7	SECTION 31 23 23, FILL AND BACKFILL	GEOTECHNICAL ENGINEER	X	
CONCRETE							
CONCRETE	STRENGTH	ASTM C39	1704.4, 1905.6	ONCE EACH DAY, BUT NOT LESS THAN ONE SAMPLE FOR EACH 150 CUBIC YARDS OR 5,000 SFT OF WALLS OR SLABS PLACED	OWNER'S TESTING AGENCY	X	
CONCRETE	SLUMP	ASTM C143, C94	1704.4	ONE SAMPLE PER STRENGTH TEST	OWNER'S TESTING AGENCY	X	
CONCRETE	AIR CONTENT	ASTM C231, C94	1704.4	ONE SAMPLE PER STRENGTH TEST	OWNER'S TESTING AGENCY	X	
CONCRETE	TEMPERATURE	ASTM C1064	1704.4	ONE SAMPLE PER STRENGTH TEST	OWNER'S TESTING AGENCY	X	
MASONRY							
CONCRETE MASONRY	UNIT STRENGTH	ASTM C140	2105.2.2.1.2	UNIT COMPRESSION TEST FOR EVERY 5000 SQUARE FEET DURING CONSTRUCTION	OWNER'S TESTING AGENCY	X	
MASONRY	COMPRESSIVE STRENGTH OF GROUT	ASTM C1019	2105.2.2.1	THREE SAMPLES PRIOR TO CONSTRUCTION	OWNER'S TESTING AGENCY	X	
MASONRY	PRISM	ASTM C1314	2105.2.2.2	TEST THREE PRISMS PRIOR TO CONSTRUCTION	OWNER'S TESTING AGENCY	X	ONLY WHERE REQUIRED BY OWNER'S REPRESENTATIVE
STEEL							
HIGH-STRENGTH BOLTING	PRE-INSTALLATION VERIFICATION TESTING OF PRETENSIONED BOLTS	RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS,Sec.	1704.3	3 FASTENER ASSEMBLIES OF EACH COMBINATION OF DIAMETER, LENGTH, GRADE AND LOT	OWNER'S TESTING AGENCY	X	
STRUCTURAL STEEL	ULTRASONIC OR RADIOGRAPHIC NONDESTRUCTIVE TESTING	AWS D1.1	1704.3.1	SECTION 050523, WELDING	CONTRACTOR'S APPROVED TESTING AGENCY	X	SPECIAL INSPECTOR SHALL MONITOR PROCEDURES AND RESULTS OF TESTING PERFORMED ON GROOVE AND BUTT JOINT WELDS
REINFORCING STEEL	MAGNETIC PARTICLE NONDESTRUCTIVE TESTING	AWS D1.4	1903.1	SECTION 050523, WELDING	CONTRACTOR'S APPROVED TESTING AGENCY	X	SPECIAL INSPECTOR SHALL MONITOR PROCEDURES AND RESULTS OF TESTING PERFORMED ON WELDED REINFORCING STEEL. WELDING OF REBAR ONLY WHERE APPROVED BY OWNER'S REPRESENTATIVE

TABLE 4
REQUIRED SPECIAL INSPECTION FOR SEISMIC RESISTANCE FOR STRUCTURAL SYSTEMS
REFER TO TABLE 2 FOR STANDARD STRUCTURAL SPECIAL INSPECTION REQUIREMENTS

The Seismic Design Category (SDC) for this Project is D.

SYSTEM	INSPECTION REQUIRED FOR FOLLOWING SEISMIC DESIGN CATEGORIES	2009 IBC CODE REFERENCE	ASCE 7-05 STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS FOR DETAILS, REFER TO SPECIFICATION SECTION 014533	TESTING FOR SPECIAL INSPECTION
STRUCTURAL								
SEISMIC-FORCE-RESISTING SYSTEMS	"C" AND ABOVE	1707.1 ITEM 1			X	X	INDICATED ON STRUCTURAL FOUNDATION PLANS	
ELECTRICAL AND INSTRUMENTATION								
INSTALLATION OF SUPPORTS FOR SYSTEMS, THEIR COMPONENTS AND ANCHORAGES	"C" AND ABOVE	1707.1 ITEM 2	13.2.2	X		X	ELECTRICAL AND INSTRUMENTATION AND CONTROL COMPONENTS OVER 5 POUNDS PER FOOT AND/ OR 20 POUNDS PER ITEM OR FLOOR MOUNTED ITEMS EXCEEDING 400 POUNDS: SEE SPECIFICATION SECTION 409100 SEE NOTES 2 & 3.	
INSTALLATION OF SUPPORTS FOR SYSTEMS, THEIR COMPONENTS AND ANCHORAGES	"C" AND ABOVE	1707.1 ITEM 2	13.2.2	X		X	FIELD INSTRUMENT PANEL ITEMS OVER 5 POUNDS PER FOOT AND/ OR 20 POUNDS PER ITEM OR FLOOR MOUNTED ITEMS EXCEEDING 400 POUNDS: SPECIFICATION SECTION ~~409085~~ SEE NOTES 2 & 3.	
BUILDING MECHANICAL								
INSTALLATION OF OTHER SEISMIC SUPPORTS FOR DESIGNATED ELECTRICAL SYSTEMS AND THEIR COMPONENTS	"C" AND ABOVE	1707.1 ITEM 2	13.2.2	X		X	BUILDINGS: SPECIFICATION SECTION 104400, FIRE PROTECTION SPECIALTIES AND SAFETY EQUIPMENT	
INSTALLATION OF OTHER SEISMIC SUPPORTS FOR DESIGNATED ELECTRICAL SYSTEMS AND THEIR COMPONENTS	"C" AND ABOVE	1707.1 ITEM 2	13.2.2	X		X		

NOTES:
1. PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING AND COVERING THE INSPECTED WORK
2. TESTING OF SYSTEMS AND THEIR ANCHORAGE SHALL BE IN CONFORMANCE WITH 2009 IBC SECTION 1708.4.
3. CERTIFICATION OF SYSTEMS AND THEIR ANCHORAGE SHALL BE IN CONFORMANCE WITH 2009 IBC SECTION 1708.4.

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RFI 011 5/9/13
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LIAO YANG
Exp 6-30-2014
CIVIL
No. 021417
1-4-2013

NO.	DSGN	DATE	DR	CHK	APVD	BY	REVISION
	L YANG		AM RYAN	WC SHERMAN	APVD	BA JOHNSON	

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

STATEMENT OF SPECIAL INSPECTION
PLAN - 4 OF 5

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-014
SHEET	14

AS-BUILT
CLV PLAN# 311.57

FILENAME: G-014_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:17:31 PM

TABLE 5
REQUIRED SPECIAL INSPECTION FOR WIND RESISTANCE FOR STRUCTURAL SYSTEMS

The 3-second-gust Basic Wind Speed for this Project is 90 mph.
The Wind Exposure is Category C.

SYSTEM	2009 IBC CODE REFERENCE	STANDARD OR CODE	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS FOR DETAILS, REFER TO SPECIFICATION SECTION 01 45 33
NOT USED FOR THIS PROJECT						

TABLE 6
TESTING FOR SEISMIC RESISTANCE
REFER TO SPECIFICATION SECTION 014533

MATERIAL	TYPE OR SCOPE	STANDARD	2009 IBC CODE REFERENCE	FREQUENCY	BY WHOM	REQUIRED REPORTING TO DESIGNATED DISTRIBUTION LIST	COMMENTS
REINFORCING STEEL							
REINFORCING STEEL MATERIAL IF ASTM A615 REINFORCING STEEL IS TO BE WELDED	CHEMICAL TEST TO DETERMINE WELDABILITY	ACI 318: Sec. 3.5.2	1708.2 1903.1	EACH SHIPMENT	MANUFACTURER SUBMITTAL	X	WELDING OF REBAR ONLY WHERE APPROVED BY OWNER'S REPRESENTATIVE
STEEL							
COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	NONDESTRUCTIVE TESTING	AISC 341 AWS D1.1	1708.3	CONTINUOUS	SPECIAL INSPECTOR	X	
MULTI-PASS FILLET WELDS	NONDESTRUCTIVE TESTING	AISC 341 AWS D1.1	1708.3	CONTINUOUS	SPECIAL INSPECTOR	X	
SINGLE-PASS FILLET WELDS > 5/16"	NONDESTRUCTIVE TESTING	AISC 341 AWS D1.1	1708.3	CONTINUOUS	SPECIAL INSPECTOR	X	

NOTES:
1. TESTING AND QUALIFICATION FOR SEISMIC RESISTANCE ARE REQUIRED FOR SEISMIC-FORCE-RESISTING SYSTEMS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E, OR F, UNLESS OTHERWISE NOTED.
2. REFER TO SPECIFICATION SECTION 01 45 33 FOR SEISMIC TESTING OF DESIGNATED ARCHITECTURAL, ELECTRICAL AND MECHANICAL SYSTEMS.

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

STATEMENT OF SPECIAL INSPECTION
PLAN - 5 OF 5

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-015
SHEET	15

AS-BUILT
CLV PLAN# 311.57

FILENAME: G-015_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:19:44 PM

PIPE AND FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	
		EXISTING PIPE
		NEW PIPE
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		WELDED JOINT
		GROOVED END JOINT
		FLANGED JOINT
		MECHANICAL JOINT & PROPRIETARY RESTRAINED JOINT
		BELL & SPIGOT JOINT (LEADED)
		HUB & SPIGOT JOINT (RUBBER GASKET)
		BALL JOINT
		ADAPTER SIDE GROOVED END ADAPTER FLANGE
		FLANGED COUPLING ADAPTER
		FLEXIBLE COUPLING
		METAL BELLOWS EXP JOINT
		ELASTOMER BELLOWS EXP JOINT
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER

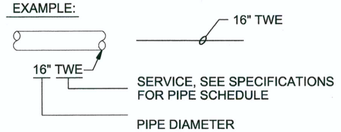
DOUBLE LINE	SINGLE LINE	
		REDUCING BUSHING
		UNION
		CAP
		ANCHOR
		ELBOW, 90 DEGREE
		CROSS
		TEE
		ELBOW, 45 DEGREE
		LATERAL

NOTES:

1. ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
2. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
3. EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

PIPING DESIGNATION

EXAMPLE:

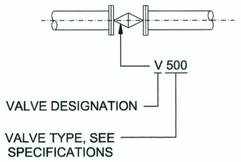


VALVE SYMBOLS

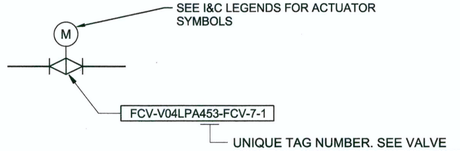
SINGLE LINE	DOUBLE LINE
	GATE
	KNIFE GATE OR
	BUTTERFLY OR
	GLOBE OR
	BALL OR
	SEATING PORT
	ECCENTRIC PLUG OR
	PLUG OR COCK OR
	NEEDLE OR
	DIAPHRAGM OR
	PINCH OR
	SWING CHECK OR
	BALL CHECK OR
	HOSE VALVE (HV- X) OR (V-X) X = NO. IN SPECS
S	SAMPLE
	MUD
	PRESSURE RELIEF
	AIR AND/OR VACUUM RELEASE
	REGULATED SIDE PRESSURE CONTROL (INTERNAL PILOT)
	REGULATED SIDE PRESSURE CONTROL (EXTERNAL PILOT)
	MULTI-PORT VALVE, ARROWS INDICATE FLOW PATTERN. SEATING PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.
	TELESCOPING SCUM VALVE

VALVE DESIGNATIONS

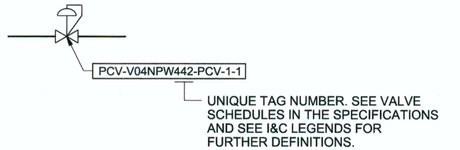
MANUAL VALVES AND CHECK VALVES



CONTROL VALVES



SELF-CONTAINED REGULATING VALVES



MECHANICAL LEGEND AND NOTES

GENERIC PIPING NOTES

1. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
2. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
3. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. CONTRACTOR SHALL DESIGN SUPPORTS AS SPECIFIED.
4. ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
5. ALL FLEXIBLE CONNECTORS AND COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST PROTECTION AS SPECIFIED, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
6. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
7. ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH THRUST PROTECTION AS SPECIFIED, UNLESS OTHERWISE NOTED.
8. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
9. WHERE A GROOVED END COUPLING IS SHOWN, IT SHALL BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.

AS-BUILT

CLV PLAN# 311.57

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

MECHANICAL LEGEND

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-016
SHEET	16

HEATING, VENTILATING, AND AIR CONDITIONING SYMBOLS

- WALL REGISTER OR GRILLE (SUPPLY)
- CEILING DIFFUSER OR REGISTER (SUPPLY)
- CEILING REGISTER OR GRILLE (RETURN AND EXHAUST)
- WALL REGISTER OR GRILLE (RETURN AND EXHAUST)
- TURNING VANES
- 45 DEGREE ENTRY
- CONICAL TEE
- BELLMOUTH
- SD — SMOKE DAMPER
- FD — FIRE DAMPER
- MANUAL BALANCING DAMPER
- M — MOTORIZED DAMPER
- SOUND ATTENUATED DUCT
- FLEXIBLE CONNECTION
- FLEXIBLE DUCTWORK
- R — INCLINED RISE IN DUCT
- D — INCLINED DROP IN DUCT
- SUPPLY DUCT (SECTION)
- INTAKE, RETURN, OR EXHAUST DUCT (SECTION)
- T — ROOM TEMPERATURE SENSOR
- P — ROOM PRESSURE SENSOR
- H — ROOM HUMIDITY SENSOR
- ECP — ENVIRONMENTAL CONTROL PANEL
- (200) — 200 CFM
- M — MOTORIZED VALVE - 3 WAY
- M — MOTORIZED VALVE - 2 WAY

VALVE DESIGNATIONS

MANUAL VALVES AND CHECK VALVES

V 400
- VALVE TYPE, SEE SPECIFICATIONS
- VALVE DESIGNATION

CONTROL VALVES

M
- ACTUATOR SYMBOL
- FLOW DIRECTION
- VALVE SYMBOL
- FLOW DIRECTION

HVAC EQUIPMENT IDENTIFICATION

ACC	AIR-COOLED CONDENSER
ACCU	AIR-COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
BD	BUTTERFLY DAMPER
CD	CEILING DIFFUSER
CG	CEILING GRILLE
CPH	CONTROL PANEL HVAC
CR	CEILING REGISTER
CUH	CABINET UNIT HEATER
CWP	CONDENSER WATER PUMP
DG	DOOR GRILLE
ECP	ENVIRONMENTAL CONTROL PANEL
EDH	ELECTRIC DUCT HEATER
EG	EXHAUST GRILLE
EUH	ELECTRIC UNIT HEATER
EVAP	EVAPORATIVE COOLER
EVC	EVAPORATIVE COOLER
EXF	EXHAUST FAN
FG	FLOOR GRILLE
FD	FIRE DAMPER
HCG	HIGH-CAPACITY GRILLE
HCSG	HIGH-CAPACITY SUPPLY GRILLE
HPM	HEAT PUMP
HTR	HIGH THROW REGISTER
HU	HUMIDIFIER
MD	MOTORIZED DAMPER
OBD	OPPOSED BLADE DAMPER
RG	RETURN GRILLE
SF	SUPPLY FAN
UH	UNIT HEATER
WG	WALL GRILLE
WR	WALL REGISTER
WSG	WATER SUPPLY GRILLE
WSHP	WATER SOURCE HEAT PUMP
WSR	WALL SUPPLY REGISTER

NOTE:
ABBREVIATIONS ARE SHOWN ON GENERAL LEGENDS.

GENERAL DRAWING NOTES

1. THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS ON THIS SHEET MAY NOT APPEAR ON THE PLANS.
2. FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS, SEE OTHER LEGENDS SUCH AS GENERAL, HVAC, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL LEGENDS.
3. FOR ADDITIONAL FLOW STREAM IDENTIFICATIONS OF OTHER DIVISIONS SEE OTHER LEGENDS SUCH AS GENERAL, INSTRUMENTATION AND CONTROL, HVAC, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL LEGENDS.

PLUMBING SYMBOLS

- EXISTING PIPE (SCREENED)
- NEW PIPE
- EXISTING PIPE TO BE ABANDONED
- EXISTING PIPE TO BE REMOVED
- ANCHOR
- CAP
- CLEANOUT PLUG
- ELBOW, 90 DEGREE
- ELBOW UP
- ELBOW DOWN
- CROSS
- TEE
- TEE UP
- TEE DOWN
- ELBOW, 45 DEGREE
- LATERAL
- LATERAL UP
- LATERAL DOWN
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- UNION
- GROOVED END JOINT
- FLEXIBLE PIPE CONNECTION
- STEEL BELLOWS EXPANSION JOINT
- STRAINER
- SIGHT GLASS
- PRESSURE SWITCH
- PRESSURE GAUGE WITH COCK
- THERMOMETER
- HOSE RACK (TYPE AS INDICATED)
- EYEWASH
- S — SAFETY SHOWER
- S — SAFETY SHOWER\EYEWASH COMBINATION UNIT
- HOSE VALVE

Z" YCO-X
- Z = OUTLET SIZE IN INCHES
- Y = F - FLOOR CLEANOUT; W - WALL CLEANOUT
- X = NO. IN SPECIFICATION

Z" HD-XY — HUB DRAIN
- Z = OUTLET SIZE IN INCHES
- X = NO. IN SPECIFICATION
- Y = T WITH TRAP; Y = P WITH PRIMED TRAP

Z" FD-XY — FLOOR DRAIN
- Z = OUTLET SIZE IN INCHES
- X = NO. IN SPECIFICATION
- Y = T WITH TRAP; Y = P WITH PRIMED TRAP

Z" RD-X — ROOF DRAIN
- Z = OUTLET SIZE IN INCHES
- X = NO. IN SPECIFICATION

Z" OD-X — OVERFLOW ROOF DRAIN
- Z = OUTLET SIZE IN INCHES
- X = NO. IN SPECIFICATION

PLUMBING EQUIPMENT IDENTIFICATION

IDENTIFICATION	EQUIPMENT NAME
AAV	AIR ADMITTANCE VALVE
AD	AREA DRAIN
AC	AIR COMPRESSOR
ANT	ACID NEUTRALIZATION TANK
AR	AIR RECEIVER
BFP	BACKFLOW PREVENTER
BP	BOOSTER PUMP
CP	CIRCULATION PUMP
DB	DOWNSPOUT BOOT
DCBP	DOUBLE CHECK BACKFLOW PREVENTER
DN	DOWNSPOUT NOZZLE
DT	DILUTION TANK
DWT	DOMESTIC WATER STORAGE TANK
ET	EXPANSION TANK
ETP	ELECTRONIC TRAP PRIMER
IM	ICE MAKER
HX	HEAT EXCHANGER
OD	OVERFLOW ROOF DRAIN
ON	OVERFLOW NOZZLE
OS	OIL\WATER SEPERATOR
P	PUMP
RD	ROOF DRAIN
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
ST	STORAGE TANK
SP	SUMP PUMP
TP	TRAP PRIMER ASSEMBLY
TWT	TEMPERED WATER STORAGE TANK
WH	WATER HEATER
WHA	WATER HAMMER ARRESTOR
VP	VACUUM PUMP

EXAMPLE CALLOUT:

70 - WH - 1
- FACILITY NUMBER OR UNIT PROCESS (IF USED ON PROJECT)
- FIXTURE LEGEND
- NO. IN SPECIFICATIONS

VALVE SYMBOLS

	SINGLE LINE	DOUBLE LINE
GATE		
BUTTERFLY		OR
GLOBE		OR
BALL		OR
PLUG OR COCK		OR
SWING CHECK		OR
BALL CHECK		OR

- HOSE VALVE (HV- X) OR (V-X) X = NO. IN SPECS
- PRESSURE RELIEF
- AIR AND/OR VACUUM RELEASE
- REGULATED SIDE
- PRESSURE CONTROL (INTERNAL PILOT)
- BALANCE VALVE (RHW)
- BACKFLOW PREVENTER

AS-BUILT
CLV PLAN# 311.57

STATE OF NEVADA — BRUCE A. JOHNSON — CIVIL — No. 12822 — PROFESSIONAL ENGINEER — Exp. 6/30/13

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL
HVAC AND PLUMBING LEGEND

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-017
SHEET	17

FILENAME: G-017_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:21:38 PM

SYMBOL	DESCRIPTION
	ONE LINE DIAGRAMS-1
	DRAWOUT AIR CIRCUIT BREAKER, LOW VOLTAGE
400	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE, UNO
AS/AF or AT/AF	CIRCUIT BREAKER, STATIC TRIP UNIT, SENSOR AMP TRIP AND FRAME RATINGS SHOWN, 3 POLE, UNO
100/M	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, TRIP RATING SHOWN, 3 POLE, UNO
400 400	CIRCUIT BREAKER WITH CURRENT LIMITING FUSES, TRIP AND FUSE RATING INDICATED, 3 POLE, UNO
400 225	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE, UNO
100	SWITCH, CURRENT RATING INDICATED, 3 POLE, UNO
60 (3)	FUSE, CURRENT RATING AND QUANTITY INDICATED
1	MAGNETIC STARTER WITH OVERLOAD, NEMA SIZE INDICATED, FVNR UNO
VFD	ELECTRONIC STARTER/SPEED CONTROL RVSS = REDUCED VOLTAGE SOFT STARTER VFD = AC VARIABLE FREQUENCY DRIVE DC = DC ADJUSTABLE SPEED DRIVE RVAT = REDUCED VOLTAGE AUTO TRANSFORMER TYPE RVRT = REDUCED VOLTAGE REACTOR TYPE
AHF	ACTIVE HARMONIC FILTER
	CABLE OR BUS CONNECTION POINT
	SURGE ARRESTER (GAP TYPE)
10	CAPACITOR - KVAR INDICATED, 3 PHASE
3	AC MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED
G 500/625	GENERATOR, KW/KVA RATING SHOWN
VS V 0-600V	ANALOG METER WITH SWITCH - SCALE RANGE SHOWN V = VOLTAGE KW = KILOWATTS A = AMPERAGE KVAR = KILOVARS PF = POWER FACTOR
DPM	DIGITAL POWER METER (MULTIFUNCTION)
	UTILITY REVENUE METER
	GROUND
15 KVA 480-120/240V 1 PH	TRANSFORMER, SIZE, VOLTAGE RATINGS, AND PHASE INDICATED
	SHIELDED ISOLATION TRANSFORMER
480-120V (3)	POTENTIAL TRANSFORMER, VOLTAGE RATING AND QUANTITY INDICATED
	REACTOR
EO	ELECTRIC OPERATOR, BREAKER OR SWITCH

SYMBOL	DESCRIPTION
	ONE LINE DIAGRAMS-2
	DRAWOUT POWER CIRCUIT BREAKER, MEDIUM VOLTAGE
	NON DRAWOUT FUSED SWITCH, MEDIUM VOLTAGE
	DRAWOUT FUSED SWITCH AND CONTACTOR, MEDIUM VOLTAGE
	DRAWOUT FUSED SWITCH AND VACUUM CONTACTOR, MEDIUM VOLTAGE
	DRAWOUT VACUUM CONTACTOR, MEDIUM VOLTAGE
	MEDIUM VOLTAGE CABLE STRESS CONE TYPE TERMINATION
	MEDIUM VOLTAGE ELBOW TERMINATOR
	SWITCH - LOAD BREAK, GROUP OPERATED, MEDIUM VOLTAGE
	SWITCH W/ARCING HORNS, MEDIUM VOLTAGE
	DISCONNECTING FUSE - SOLID MATERIAL, MEDIUM VOLTAGE
	SWITCH - HOOK STICK OPERATED, SINGLE POLE, MEDIUM VOLTAGE
	FUSE - EXPULSION, HOOK STICK OPERATED, SINGLE POLE, MEDIUM VOLTAGE
	GROUND SWITCH, GANG OPERATED
	TERMINAL BLOCK LUG
	DELTA CONNECTION
	WYE GROUNDED CONNECTION, SOLID GROUND
R or Z	WYE NEUTRAL GROUND RESISTOR OR IMPEDANCE CONNECTION
86	RELAY OR DEVICE, FUNCTION NUMBER AS INDICATED
50:5 (1)	CURRENT TRANSFORMER, ZERO SEQUENCE, RATIO, QUANTITY, AND POLARITY INDICATED
800/1200:5 (3)	BUSHING CURRENT TRANSFORMER, MULTI-RATIO AND QUANTITY INDICATED
EO	ELECTRIC OPERATOR, BREAKER OR SWITCH
IOR	INTELLIGENT OVELOAD RELAY
MRP	MOTOR PROTECTION RELAY
	CONNECTION POINT TO EQUIPMENT SPECIFIED IN OTHER DIVISIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS DIVISION
SPD	SURGE PROTECTION DEVICE
100:5 (3)	CURRENT TRANSFORMER, RATIO(100:5), QUANTITY (3), AND POLARITY (POSITIVE) INDICATED
	CIRCUIT BREAKER TRIP SIGNAL
POS	CIRCUIT BREAKER POSITION STATUS
	TEST SWITCH (SHORTING TYPE)
	TEST SWITCH
I	INTERLOCK (NORMALLY OPEN)
I	INTERLOCK (NORMALLY CLOSED)

SYMBOL	DESCRIPTION
	CONTROL DIAGRAMS-1
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED
	PUSH BUTTON SWITCH, MAINTAINED CONTACTS WITH MECHANICAL INTERLOCK
	3 POSITION SELECTOR SWITCH MAINTAINED CONTACT
HAND OFF REMOTE	SELECTOR SWITCH - MAINTAINED CONTACT - CHART IDENTIFIES OPERATION WHEN NEEDED FOR CLARITY: POSITION: CKT 1 HAND X OFF O REMOTE O; CKT 2 HAND O OFF O REMOTE X X - CLOSED CONTACT O - OPEN CONTACT
	TOGGLE SWITCH, ON-OFF TYPE
ON OFF	SELECTOR SWITCH, ON-OFF TYPE
	MUSHROOM HEAD PUSHBUTTON SWITCH
A	INDICATING LIGHT, PUSH-TO-TEST, LETTER INDICATES COLOR
A	INDICATING LIGHT - LETTER INDICATES COLOR A - AMBER G - GREEN S - STROBE B - BLUE R - RED C - CLEAR W - WHITE
ETM	ELAPSED TIME METER
M	MOTOR STARTER CONTACTOR COIL
CRX	CONTROL RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
TDR X	TIME DELAY RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
SV X	SOLENOID VALVE, X INDICATES NUMERICAL ORDER IN CIRCUIT
	CONTACT - NORMALLY OPEN
	CONTACT - NORMALLY CLOSED
	REMOTE DEVICE
	TIME DELAY RELAY CONTACT, NORMALLY OPEN, CLOSES WHEN ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, NORMALLY CLOSED, OPENS WHEN ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, CLOSES WHEN ENERGIZED, OPENS WHEN DE-ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, OPENS WHEN ENERGIZED, CLOSES WHEN DE-ENERGIZED AND TIMED OUT
	MOTOR SPACE HEATER
	TERMINAL BLOCK, REMOTE
	TERMINAL BLOCK, INTERNAL
	FUSED TERMINAL BLOCK
	FUSE, RATING INDICATED

SYMBOL	DESCRIPTION
	CONTROL DIAGRAMS-2
	CAPACITOR
+ -	BATTERY
	LIMIT SWITCH, NORMALLY OPEN, CLOSES AT END OF TRAVEL
	LIMIT SWITCH, NORMALLY CLOSED, OPENS AT END OF TRAVEL
	TEMPERATURE SWITCH, OPENS ON TEMPERATURE RISE
	TEMPERATURE SWITCH, CLOSES ON TEMPERATURE RISE
	FLOAT SWITCH, NORMALLY OPEN, CLOSES ON DESCENDING LEVEL
	FLOAT SWITCH, NORMALLY OPEN, CLOSES ON RISING LEVEL
	PRESSURE SWITCH, NORMALLY CLOSED, OPENS ON RISING PRESSURE
	PRESSURE SWITCH, NORMALLY OPEN, CLOSES ON RISING PRESSURE
	FLOW SWITCH, CLOSES ON INCREASED FLOW
	FLOW SWITCH, OPENS ON INCREASED FLOW
NGR	NEUTRAL GROUND CURRENT LIMITING RESISTOR
RES	CALIBRATING RESISTOR
T GEN	TACHOMETER GENERATOR
GFS	GROUND FAULT SENSOR
	FLASHER
	SEALED CONTACT
	BUZZER
	POTENTIOMETER
	RESISTOR
	BLOWN FUSE INDICATOR
	COAXIAL CABLE
	MULTICONDUCTOR SHIELDED CABLE
	DUPLEX RECEPTACLE
L U	RELAY, WITH MECHANICAL LATCH
	FULLWAVE DIODE BRIDGE (AC TO DC)
CPT 120V	TRANSFORMER, CONTROL POWER
	THERMOCOUPLE

AS-BUILT

CLV PLAN# 311.57

ENGINEER-STATE OF NEVADA
AARON J. HALL
ELECTRICAL
No. 12896
PROFESSIONAL
EXP: 6 30 15
1/8/13

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL
ELECTRICAL LEGEND
SHEET 1 OF 3

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-018
SHEET	18

FILENAME: G-018_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:22:51 PM

POWER SYSTEM PLAN-1

SYMBOL	DESCRIPTION
	CONNECTION POINT TO EQUIPMENT SPECIFIED. RACEWAY, CONDUCTOR,TERMINATION AND CONNECTION IN THIS DIVISION.
MCC-A	MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN.
LPXXA	PANELBOARD - SURFACE MOUNTED PANELBOARD LETTER OR NUMBER FACILITY NUMBER LP - LOW VOLTAGE PANEL DP - DISTRIBUTION PANEL MPC - MINI POWER CENTER
	PANELBOARD - FLUSH MOUNTED
	TERMINAL JUNCTION BOX
M	MOTOR, SQUIRREL CAGE INDUCTION
G	GENERATOR, VOLTAGE AND SIZE AS INDICATED.
LPXXA	HOME RUN - DESTINATION SHOWN
or G	EXPOSED CONDUIT AND CONDUCTORS*
or G	CONCEALED CONDUIT AND CONDUCTORS*

NOTE:
ALL UNMARKED CONDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12 GROUND CONDUCTORS IN 3/4" CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND WIRE.

G	CROSSHATCHES WITH BAR INDICATE NO.10 CONDUCTOR. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.
[A1]	CONDUIT AND CONDUCTOR CALLOUT, SEE LEGEND.
	CONDUIT DOWN
	CONDUIT UP
	CONDUIT, STUBBED AND CAPPED
	CONDUIT TERMINATION AT CABLE TRAY
EX	EXISTING CONDUIT/ DUCT BANK
BD	BUS DUCT - SEE SPECIFICATIONS
CE	CONCRETE ENCASED CONDUIT
DB	DIRECT BURIED CONDUIT
FO	FIBER OPTIC CONDUIT
XXXX	CONCRETE ENCASED DUCT BANK WHERE XXXX IS THE DUCT BANK NAME. SEE CIRCUIT AND RACEWAY CODING DEFINITION
	CONCEALED CONDUIT ROUTING AREA
	CONDUIT ROUTING AREA
	CABLE TRAY
T	TRANSFORMER
J or HH	GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE
CS	CONTROL STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED
ES	EMERGENCY STOP PUSHBUTTON
	PORTABLE EYEWASH STATION

POWER SYSTEM PLAN-2

SYMBOL	DESCRIPTION
30	NONFUSED DISCONNECT SWITCH, CURRENT RATING INDICATED, 3 POLE
60/40	FUSED DISCONNECT SWITCH, CURRENT RATING INDICATED (60/40, 60=SWITCH RATING / 40=FUSE RATING) 3 POLE
2	COMBINATION CIRCUIT BREAKER AND MAGNETIC STARTER, NEMA SIZE INDICATED
100/40	BREAKER, SEPARATELY MOUNTED, CURRENT RATING INDICATED (100/40, 100 = FRAME SIZE; 40 = TRIP RATING) 3 POLE
C 2	CONTACTOR, MAGNETIC, NEMA SIZE INDICATED
L 30	LIGHTING CONTACTOR, CURRENT RATING INDICATED
2	STARTER, MAGNETIC NEMA SIZE INDICATED
XX 2	CONVENIENCE RECEPTACLE - DUPLEX UNLESS NOTED OTHERWISE WP - WEATHERPROOF C - CLOCK HANGER TL - TWIST LOCK CRE - CORROSION RESISTANT GFCI - GROUND FAULT CIRCUIT INTERRUPTER SUBSCRIPT NUMBER AT RECEPTACLE INDICATES CIRCUIT
	240V RECEPTACLE
	CONVENIENCE RECEPTACLE - QUADRUPLEX
	MULTI OUTLET ASSEMBLY
	DUPLEX CONVENIENCE RECEPTACLE - FLUSH IN FLOOR
	CONVENIENCE RECEPTACLE, PEDESTAL, DUPLEX SINGLE FACE UNLESS INDICATED OTHERWISE
L20R 20	RECEPTACLE, SPECIAL PURPOSE-NEMA CONFIGURATION AND AMPERAGE INDICATED
T	THERMOSTAT
	UTILITY REVENUE METERING FACILITY
EUH	ELECTRIC UNIT HEATER
AC	ELECTRIC AIR CONDITIONER (SELF CONTAINED UNIT)
	UTILITY POLE

GROUNDING SYSTEM PLAN

SYMBOL	DESCRIPTION
	GROUND TEST WELL
G	EQUIPMENT GROUND BUS
N	EQUIPMENT NEUTRAL BUS
	GROUND ROD
	LIGHTING PROTECTION AIR TERMINAL

LIGHTING SYSTEM PLAN

SYMBOL	DESCRIPTION
F1 or F1	LUMINAIRE, SEE SCHEDULE (DWG E-702)
F1	LUMINAIRE, SEE SCHEDULE (DWG E-702)
F1 or	LUMINAIRE WITH INTERNAL BATTERY BACKUP, SEE SCHEDULE (DWG E-702)
F1	STRIP LUMINAIRE, SEE SCHEDULE (DWG E-702)
F6 or F6	LUMINAIRE AND POLE, SEE SCHEDULE (DWG E-702)
F3 or F3	WALL MOUNTED LUMINAIRE, SEE SCHEDULE (DWG E-702)
	FLOOD LIGHTS - AIM IN THE DIRECTION SHOWN
	STANDBY LIGHTING UNIT, SURFACE MOUNTED, SEE SCHEDULE (DWG E-702)
XX or	EXIT LIGHTS - FILLED SECTION INDICATES LIGHTED FACE, ARROW INDICATES EGRESS DIRECTIONAL INDICATORS, XX = FIXTURE NUMBER, SEE SCHEDULE
$a or 2a	SMALL LETTER SUBSCRIPT AT SWITCH AND LUMINAIRE INDICATES SWITCHING. SUBSCRIPT NUMBER AT LUMINAIRE INDICATES CIRCUIT
$3	WALL SWITCH: 2- DOUBLE POLE 3- THREE WAY 4- FOUR WAY WP- WEATHERPROOF EX- EXPLOSIONPROOF M- MOTOR RATED P- PILOT LIGHT K- KEY OPERATED D- DIMMER CRE- CORROSION RESISTANT L- MOMENTARY 3-WAY MS- MANUAL STARTER WITH OVERLOADS
OS	OCCUPANCY SENSOR
LC	LIGHTING CONTACTOR
MD	MOTION DETECTOR
PC	PHOTOCELL

TELEPHONE SYSTEM PLAN AND RISER

SYMBOL	DESCRIPTION
TTC	TELEPHONE TERMINAL CABINET
	TELEPHONE RECEPTACLE (OUTLET BOX ONLY) FLOOR BOX
	TELEPHONE RECEPTACLE (OUTLET BOX ONLY)
T	TELEPHONE SYSTEM RACEWAY

COMPUTER SYSTEM (DATA) PLAN AND RISER

SYMBOL	DESCRIPTION
CTC	COMPUTER SYSTEM TERMINAL CABINET
	COMPUTER NETWORK CONNECTION
	COMPUTER NETWORK CONNECTION, FLUSH IN FLOOR
D	DATA SYSTEM RACEWAY

COMBINED TELEPHONE/COMPUTER SYSTEM PLAN AND RISER

SYMBOL	DESCRIPTION
4	COMBINATION TELEPHONE/DATA RECEPTACLE, WALL MOUNTED, NUMBER OF PORTS INDICATED
4	COMBINATION TELEPHONE/DATA RECEPTACLE, FLOOR BOX, NUMBER OF PORTS INDICATED

DEVICE TABLE

ONE LINE PROTECTION RELAYING AND ELEMENTARY DIAGRAMS-2

DEVICE FUNCTION NO.	DEVICE DESCRIPTION
21	IMPEDANCE/DISTANCE RELAY
25A	AUTOMATIC SYNCHRONIZER
25C	SYNCH CHECK RELAY
27	UNDERVOLTAGE RELAY
32	REVERSE POWER RELAY
40	GENERATOR LOSS OF EXCITATION RELAY
43CSE	AUTOMATIC POWER TRANSFER AND LOAD CONTROL MODE SEL. SWITCH
43CSX	MODE SEL. SWITCH
46	GENERATOR CURRENT UNBALANCE RELAY
49	THERMAL RELAY
50GS	INSTANTANEOUS OVERCURRENT DEVICE, GROUND SENSOR
50	INSTANTANEOUS OVERCURRENT DEVICE,
51	TIME OVERCURRENT RELAY
51G	TIME OVERCURRENT RELAY, GROUND FAULT
51V	TIME OVERCURRENT, VOLTAGE RESTRAINED
52	POWER CIRCUIT BREAKER
52CSX	POWER CIRCUIT BREAKER CONTROL SWITCH
59	OVERVOLTAGE RELAY
60	VOLTAGE OR CURRENT BALANCE RELAY
65A	ENGINE GOVERNOR, SPEED CONTROL
65A, MOP	ENGINE GOVERNOR, SPEED CONTROL MOTOR OPERATED POTENTIOMETER
65A, RL	ENGINE GOVERNOR, SPEED CONTROL RAISE/LOWER SWITCH
65B	ENGINE GOVERNOR, LOAD CONTROL
65B, MOP	ENGINE GOVERNOR, LOAD CONTROL MOTOR OPERATED POTENTIOMETER
65B, RL	ENGINE GOVERNOR, % LOAD RAISE/LOWER SWITCH
65E	AUTOMATIC POWER TRANSFER AND LOAD CONTROL, WOODWARD APTL
65F	AUTOMATIC GENERATOR LOADING CONTROL, WOODWARD AGLC
67	DIRECTIONAL TIME OVERCURRENT RELAY
74	ALARM RELAY
81O/U	FREQUENCY RELAY, OVER/UNDER
86	LOCKOUT RELAY
87	DIFFERENTIAL PROTECTIVE RELAY
90	VOLTAGE REGULATOR
90, MOP	ENGINE EXCITATION, POWER OPERATED POTENTIOMETER
90PF	ENGINE EXCITATION, POWER FACTOR CONTROL
90RL	ENGINE EXCITATION, RAISE/ LOWER SWITCH

X = DEVICE NUMBER, WHEN THERE ARE MULTIPLE UNITS

AS-BUILT

CLV PLAN# 311.57

ENGINEER STATE OF NEVADA AARON J. HALL ELECTRICAL 12981 PROFESSIONAL ENGINEER 8/13 EXP 6/30/15

RECEIVED FEB 11 2013 McCarran Building Complex, Inc.

NO.	DSGN	DATE	DR	REVISION	CHK	APVD
	AJ HALL		TR UY		JR HOYLE	APVD
						BY
						BA JOHNSON

CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY

ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT

LAS VEGAS, NEVADA

CH2MHILL

GENERAL

ELECTRICAL LEGEND SHEET 2 OF 3

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-019
SHEET	19

FILENAME: G-019_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:23:31 PM

ONE LINE PROTECTION RELAYING AND ELEMENTARY DIAGRAMS-1

(51) or —□— 52 — DEVICE FUNCTION NUMBER INDICATED, SEE DEVICE TABLE

(CS T) — CONTROL SWITCH TRIP

(CS C) — CONTROL SWITCH CLOSE

43/CS — 43-DEVICE FUNCTION NUMBER, SEE DEVICE TABLE

□ VS — VOLTMETER SWITCH

□ AS — AMMETER SWITCH

(A) — INDICATING LAMP-SWITCHBOARD TYPE
INDICATING LAMP LENS COLORS INDICATED AS FOLLOWS:
A - AMBER R - RED
B - BLUE W - WHITE
G - GREEN

(V) — VOLTMETER

(A) — AMMETER

(W) — WATTMETER

(F) — FREQUENCY METER

(PF) — POWER FACTOR METER

(WH) — WATT-HOUR METER

(ETM) — ELAPSED TIME METER

(RPM) — TACHOMETER

(W XD) — WATTS TRANSDUCER

(PF XD) — POWER FACTOR TRANSDUCER

(TD) — TIME DELAY

(4) — RELAY COIL, DEVICE FUNCTION NUMBER PER ANSI 37.2 - AMERICAN STANDARD MANUAL AND AUTOMATIC STATION CONTROL, SUPERVISORY AND ASSOCIATED TELEMETRY EQUIPMENT

7 8 — NORMALLY OPEN CONTACT

3 4 — NORMALLY CLOSED CONTACT

REMOTE DEVICE

TEST SWITCH CURRENT ELEMENT

TEST SWITCH POTENTIAL ELEMENT

NEUTRAL CONNECTION

DIODE

INSTRUMENTATION CABLE, SHIELDED

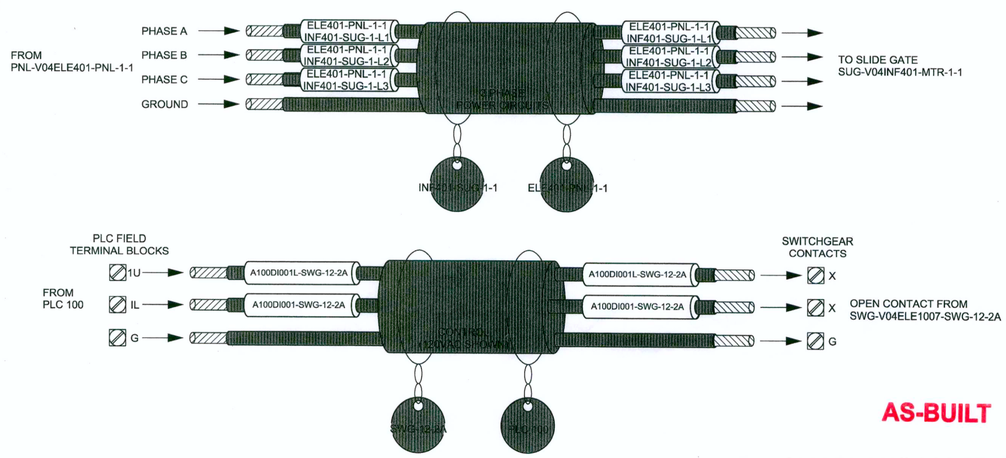
NGR — NEUTRAL GROUNDING RESISTOR

PST — PHASE SHIFTING TRANSFORMER

ABBREVIATIONS-1

A	AMPERE, AUTOMATIC
AB SW	AIR-BREAK SWITCH
ABV	ABOVE
AC	ALTERNATING CURRENT
ACB	AIR-CIRCUIT BREAKER
ACSR	ALUMINUM CONDUCTOR STEEL-REINFORCED
ADJ	ADJUSTABLE
AF	AMPERE FRAME
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHM	AMPERE-HOUR METER
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AM	AMMETER
AMPL	AMPLIFIER
ANN	ANNUNCIATOR
ANT	ANTENNA
APPROX	APPROXIMATE
AS	AMMETER SWITCH, AMPERE SENSOR
ASC	AUXILIARY SWITCH NORMALLY CLOSED
ASO	AUXILIARY SWITCH NORMALLY OPEN
ASU	AIR SUPPLY UNIT
ATC	AUTOMATIC TRANSFER CONTROL
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
BAT	BATTERY
BC	BARE COPPER
BIL	BASIC IMPULSE LEVEL
BKR	BREAKER
BLDG	BUILDING
BOT	BOTTOM
C	CONDUIT, CONTACTOR, CONDUCTOR, CLOSE, CENTIGRADE
CB	CIRCUIT BREAKER
CC	CONTROL CABLE
CCS	CENTRAL CONTROL SYSTEM
CKT	CIRCUIT
CLF	CURRENT LIMITING FUSE
CLG	CEILING
COM	COMMUNICATIONS
CONN DIAG	CONNECTION DIAGRAM
CONT	CONTINUE
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CPU	CENTRAL PROCESSING UNIT
CR	CONTROL RELAY
CS	CONTROL STATION:C=CLOSE, T=TRIP
CT	CURRENT TRANSFORMER, CABLE TRAY
CU	COPPER
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DIV	DIVISION
DN	DOWN
DP	DISTRIBUTION PANEL
DPDT	DOUBLE-POLE DOUBLE-THROW
DPST	DOUBLE-POLE SINGLE-THROW BUS
DPR	BUS DIFFERENTIAL PROTECTIVE RELAY
DS	DISCONNECT SWITCH
E	EMPTY
EA	EACH
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EG	ENGINE GENERATOR
EL	ELEVATION
ELEC	ELECTRIC
ELEM	ELEMENTARY
EMER	EMERGENCY
EMS	ENERGY MONITORING SYSTEM
EMT	ELECTRICAL METALLIC TUBING
EMU	ENERGY MONITORING UNIT
ENCL	ENCLOSURE
EO	ELECTRICALLY OPERATED, ELECTRIC OPERATOR
EP	EXPLOSION-PROOF
EQPT	EQUIPMENT
ETM	ELAPSED TIME METER
EUH	ELECTRIC UNIT HEATER
EXH	EXHAUST
EXST	EXISTING
F	FORWARD, FREQ
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FF	FINISHED FLOOR
FI	FLOW INDICATOR
FLEX	FLEXIBLE CONDUIT
FLR	FLOOR
FLUOR	FLUORESCENT
FPR	FEEDER PROTECTIVE RELAY
FO	FIBER OPTIC
FP	FIELD PANEL
FREQ	FREQUENCY
FS	FLOAT SWITCH
FT	FLOW TRANSMITTER
FU	FUSE
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
FWD	FORWARD
G	GROUND
GALV	GALVANIZED
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFR	GROUND FAULT RELAY
GND	GROUND
GPR	GENERATOR PROTECTOR RELAY
GRS	GALVANIZED RIGID STEEL CONDUIT
H	HIGH SPEED
HGT	HEIGHT
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HMI	HUMAN-MACHINE INTERFACE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HS	HAND SWITCH
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING & AIR CONDITIONING
HZ	HERTZ
IAW	IN ACCORDANCE WITH
IC	INTERRUPTING CAPACITY
I & C	INSTRUMENTATION AND CONTROL
IMC	INTERMEDIATE METALLIC CONDUIT
INCAND	INCANDESCENT
INST	INSTANTANEOUS
INT	INTERRUPTING
ISR	INTRINSICALLY SAFE RELAY
J,JB	JUNCTION BOX
K	KEY INTERLOCK
KA	KILOAMPERES
KAIC	KILOAMPERES INTERRUPTING CAPACITY
KCM	THOUSAND CIRCULAR MILS
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KW	KILOWATTS
KWH	KILOWATT HOURS
KWHD	KILOWATT HOURS DEMAND
L	LIGHTING CONTACTOR, LOW SPEED, LOWER
LC	LIGHTING CONTROLLER, LATCH COIL
LCP	LOCAL CONTROL PANEL
LE	LEVEL ELEMENT
LIT	LEVEL INDICATING TRANSMITTER
LOR	LOCAL-OFF-REMOTE
LP	LIGHTING PANEL
LPS	LOW PRESSURE SODIUM
LR	LOCAL/REMOTE
LS	LIMIT SWITCH, LEVEL SWITCH
LT	LEVEL TRANSMITTER
LT FLEX	LIQUID-TIGHT FLEX CONDUIT
M	MAGNETIC CONTACTOR COIL, MOTOR, MANUAL
MA	MILLIAMPERE
MAN	MANUAL
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MDC	MOTORIZED DAMPER CONTROL
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE, METAL HALIDE, MOUNTING HEIGHT
MIN	MINIMUM
MO	MOTOR OPERATOR
MOP	MOTOR OPERATED POTENTIOMETER
MOV	METAL OXIDE VERISTOR, MOTOR OPERATED VALVE
MPR	MOTOR PROTECTION RELAY
MRCT	MULTI RATIO CURRENT TRANSFORMER
MS	MOTOR STARTER
MSC	MANUFACTURER SUPPLIED CABLE
MT	MOUNT
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
MVA	MEGA-VOLT AMPERES
N	NEUTRAL, NORMAL
NA	NON-AUTOMATIC
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NESC	NATIONAL ELECTRICAL SAFETY CODE
NEUT	NEUTRAL
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NP	NAMEPLATE
NTS	NOT TO SCALE
O	OPEN
OCA	OPEN-CLOSE-AUTO
OCB	OIL CIRCUIT BREAKER
OCR	OVERCURRENT RELAY
OCR1	OVERCURRENT PROTECTIVE RELAY, SINGLE-FEEDER
OCR2	OVERCURRENT PROTECTIVE RELAY, DOUBLE-FEEDER
OHM	OHMMETER
OL	OVERLOAD RELAY
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
OS	OCCUPANCY SENSOR
PB	PULL BOX
PC	PHOTOCELL
PCC	POINT OF COMMON COUPLING
PCB	POWER CIRCUIT BREAKER
PF	POWER FACTOR
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
POT	POTENTIOMETER
PP	POWER PACK
PQM	POWER QUALITY METER
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
R	RELAY,REVERSE,RUN,RAISE
RCOM	RELAY COMMUNICATION MODULE
RCPT	RECEPTACLE
REF	REFERENCE
REM	REMOTE
RGS	RIGID GALVANIZED STEEL CONDUIT
RIO	REMOTE INPUT/OUTPUT
RMS	ROOT MEAN SQUARE
RPM	REVOLUTIONS PER MINUTE
RTU	REMOTE TELEMETRY UNIT
RTD	RESISTANCE TEMPERATURE DETECTOR
RVNR	REDUCED VOLTAGE NON-REVERSING
RVR	REDUCED VOLTAGE REVERSING
SA	SURGE ARRESTER
SC	SPEED CONTROL
SCADA	SUPERVISORY CONTROL AND DATA ACQUITION SYSTEM
SCU	SPEED CONTROL UNIT
SF	SUPPLY FAN
SH	SPACE HEATER
S/N	SOLID NEUTRAL
SOL	SOLENOID
SP	SPARE
SPD	SPEED
SS	START STOP
SST	STAINLESS STEEL
ST	SHUNT TRIP
SUB	SUBSTATION
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYMM	SYMMETRICAL

WIRE NUMBERING



AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	DR	CHK	APVD	BY
			AJ HALL	KL AQUINO	JR HOYLE	BA JOHNSON

AARON J. HALL — STATE OF NEVADA — PROFESSIONAL ENGINEER — ELECTRICAL — No. 12967 — EXP 6/30/13 — 1/8/13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

ELECTRICAL LEGEND
SHEET 3 OF 3

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-020
SHEET	20

FILENAME: G-020_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:24:19 PM

INSTRUMENT IDENTIFICATION

DIGITAL SYSTEM INTERFACES

- AI — ANALOG INPUT
- AO — ANALOG OUTPUT
- DI — DISCRETE INPUT
- DO — DISCRETE OUTPUT

GENERAL INSTRUMENT OR FUNCTIONAL SYMBOLS

- FIELD MOUNTED
- REAR-OF-PANEL MOUNTED (OPERATOR INACCESSIBLE)
- PANEL MOUNTED (OPERATOR ACCESSIBLE)
- MCC MOUNTED
- COMPUTER FUNCTION
- PLC FUNCTION
- SHARED DISPLAY, SHARED CONTROL
- I — HARDWIRED INTERLOCK OR SEQUENTIAL CONTROL FUNCTION

TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

EXAMPLE

I/P
FY
CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

SPECIAL CASES

YL OO — ON AND OFF EVENT LIGHTS

OO HS — ON-OFF HAND SWITCH, MAINTAINED CONTACT SWITCH (CONTROLLED DEVICE WILL RESTART ON RETURN OF POWER AFTER POWER FAILURE).

SS HS — STOP-START HAND SWITCH MOMENTARY CONTACT SWITCHES (CONTROLLED DEVICE WILL NOT RESTART ON RETURN OF POWER AFTER POWER FAILURE).

INSTRUMENT IDENTIFICATION LETTERS TABLE

LETTER	FIRST-LETTER: PROCESS OR INITIATING VARIABLE	FIRST-LETTER: MODIFIER	SUCCEEDING-LETTERS: READOUT OR PASSIVE FUNCTION	SUCCEEDING-LETTERS: READOUT OR PASSIVE FUNCTION	SUCCEEDING-LETTERS: READOUT OR PASSIVE FUNCTION
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
C	CONDUCTIVITY			CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT, SENSOR		
F	FLOW RATE	RATIO (FRACTION)			
G	FIRE SMOKE		GLASS, GAUGE VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTI FUNCTION	MULTI FUNCTION	MULTI FUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED (*)	X AXIS	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z AXIS		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

TABLE BASED ON THE INSTRUMENTATION, SYSTEMS, AND AUTOMATION SOCIETY (ISA) STANDARD.

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.
(*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT.

ACCESSORY DEVICES

A1 ACCESSORY NO. 1
A2 ACCESSORY NO. 2
A3 ACCESSORY NO. 3
A4 ACCESSORY NO. 4

EXAMPLE

FIT
A1
ACCESSORY TO A FLOW ELEMENT

MASTER EQUIPMENT / INSTRUMENT TAG NUMBERS

EXAMPLE: AIT-V07FEF102C

AIT 8-1
- EQUIPMENT OR INSTRUMENT TYPE
- CL2 — OPTIONAL MODIFIER (TYPE, ACTION, OR CONTROL. SEE ABBREVIATION LIST.)
- PROCESS NUMBER-EQUIPMENT IDENTIFIER

AIT-V03SLG633
- FIRST 13 CHARACTERS OF TAG NUMBER (FOR COMPLETE REFERENCE ON EQUIPMENT AND INSTRUMENT TAGGING SEE WUNDERLICH-MALEC INSTRUMENTATION AND DESIGN GUIDE TECH - MOST CURRENT VERSION.)

AAA - B CC DDD EEE F - G - HHH - I - J*
- (AAA) EQUIPMENT OR INSTRUMENT TYPE ISA OR 3-LETTER ABBREAVIATION
- (B) SITE ID
  V = WATER POLLUTION CONTROL FACILITY
  D = DURANGO LIFT STATION
  L = LONE MOUNTAIN LIFT STATION
  N = NW WATER RECLAMATION PLANT
  B = BONANZA WATER RECLAMATION PLANT
- (CC) SITE AREA
- (DDD) SUBYSTEM
- (EEE) PLC ADDRESS
- (F) SEQUENTIAL LOOP NUMBER
- (G) SUFFIX (DUPLICATE EQUIPMENT ON SAME LOOP)
- (HHH) EQUIPMENT TYPE
- (I) PROCESS
- (J) INSTRUMENT IDENTIFIER

LINE LEGEND

- PRIMARY PROCESS (CLOSED CONDUIT, DASHED LINE INDICATES ALTERNATE FLOW STREAM)
- SECONDARY PROCESS
- BYPASS PROCESS
- DISCRETE SIGNAL (ON/OFF)
- ANALOG SIGNAL
- PNEUMATIC SIGNAL
- FILLED SYSTEM SIGNAL
- HYDRAULIC SYSTEM SIGNAL
- DATA LINK
- BUILDING OR FACILITY BOUNDARY
- PACKAGE SYSTEM EQUIPMENT
- TYPICAL BREAK

PARALLELING LINES

(2) (A) (B) 3(2)

(A) TOTAL OF 2 SIGNALS

(B) 3 TYPICAL SETS OF 2 SIGNALS EACH. TOTAL OF 6 SIGNALS.

CONNECTING LINES

NON-CONNECTING LINES

INTERFACE SYMBOLS

a S — PROCESS INTERFACE — D A

S SOURCE DRAWING NO.
a DESTINATION DRAWING INTERFACE
D DESTINATION DRAWING NO.
A SOURCE DRAWING INTERFACE

INTERFACE TO OR FROM PROCESS EXTERNAL TO PROJECT

(N) PROCESS OR SIGNAL LINE CONTINUATION (N)
N=1,2,3,ETC

INPUT/OUTPUT POINT TAG NUMBERS

A### - TT XXX
- FINAL 3 DIGITS OF REGISTER ADDRESS (I.E. 012 FOR EXAMPLE)
- POINT TYPE (AI, AO, DI, DO)
- PLC ADDRESS NUMBER (I.E. PLC #083 FOR EXAMPLE)

EXAMPLE:

AUTO
DI
012
- POINT FUNCTION DESCRIPTION
- POINT TYPE
- REGISTER ADDRESS

NOTE:

PLC ADDRESS IS NOTED ON EACH P&ID DRAWING. (I.E. PLC #83 FOR EXAMPLE)

AI = ANALOG INPUT
AO = ANALOG OUTPUT
DI = DISCRETE INPUT
DO = DISCRETE OUTPUT

REGISTER ADDRESS = 5

CONTROL DIAGRAM CROSS REFERENCE

GE–XX
M
EQUIP

XX IS A REFERENCE TO THE ELECTRICAL CONTROL DIAGRAMS LOCATED IN THE ELECTRICAL PORTIONS OF THE SPECIFICATIONS.

ABBREVIATIONS & LETTER SYMBOLS

AC	ALTERNATING CURRENT
AM	AUTO-MANUAL
CAM	COMPUTER-AUTO-MANUAL
CCS	CENTRAL CONTROL SYSTEM
CL_2 etc.	CHLORINE (TYPICAL: USE STANDARD CHEMICAL ELEMENT ABBREVIATIONS)
CM	COMPUTER-MANUAL
COD	CHEMICAL OXYGEN DEMAND
CP-X	CONTROL PANEL NO. X
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DO	DISSOLVED OXYGEN
FCL_2	FREE CHLORINE RESIDUAL
FOS	FAST-OFF-SLOW
FOSA	FAST-OFF-SLOW-AUTO
FOSR	FAST-OFF-SLOW-REMOTE
FOTC	FIBER OPTIC TERMINATION CABINET
FP-W-X	FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER X=PANEL NUMBER)
FR	FORWARD-REVERSE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
ISR	INTRINSICALLY SAFE RELAY
LEL	LOWER EXPLOSIVE LIMIT
LOS	LOCKOUT STOP
LR	LOCAL-REMOTE
MA	MANUAL-AUTO
MC	MODULATE-CLOSE
MCC-X	MOTOR CONTROL CENTER NO. X
MSC	MANUFACTURER SUPPLIED CABLE
OC	OPEN-CLOSE(D)
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
pH	HYDROGEN ION CONCENTRATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
RCOM	RELAY COMMUNICATION MODULE
RIO	REMOTE I/O UNIT
RM-X	REMOTE MULTIPLEXING MODULE NO. X
RTU-X	REMOTE TELEMETRY UNIT NO. X
SF	SLOWER-FASTER
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
TCL_2	TOTAL CHLORINE RESIDUAL
TOC	TOTAL ORGANIC CARBON
TOD	TOTAL OXYGEN DEMAND
TSS	TOTAL SUSPENSION SOLIDS
TURB	TURBIDITY
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION
Δ	DIFFERENCE
Σ	SUM
×	MULTIPLY
÷	DIVIDE
F(X)	CHARACTERIZED
X^n	RAISED TO THE Nth POWER
$\sqrt{}$	SQUARE ROOT
AVG	AVERAGE
1:1	REPEAT OR BOOST
>	SELECT HIGHEST SIGNAL
<	SELECT LOWEST SIGNAL
}	BIAS
%	GAIN OR ATTENUATE

GENERAL NOTES

1. COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (∗) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.
2. COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (∗∗) ARE TO BE PROVIDED UNDER DIVISION 16, ELECTRICAL.
3. THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT.

STATE OF NEVADA — ENGINEER — MARINA P. GONZALEZ — Exp.: 6-30-13 — ELECTRICAL — No. 17916 — PROFESSIONAL — 1-10-13

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NO.	DSGN	DATE	REVISION	DR	CHK	APVD	BY	APVD
	MD GONZALEZ			PM HAMLIN	JR HOYLE			BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

GENERAL

INSTRUMENTATION AND CONTROL LEGEND SHEET 1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-021
SHEET	21

AS-BUILT
CLV PLAN# 311.57

FILENAME: G-021_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:25:04 PM

VALVE SYMBOLS

- GATE (NOTE 2)
- KNIFE GATE
- BUTTERFLY
- GLOBE
- BALL (NOTE 2)
- VEE-BALL
- PLUG (NOTE 2)
- SEAT PORT ECCENTRIC PLUG
- DIAPHRAGM
- PINCH
- NEEDLE
- SWING CHECK
- BALL CHECK
- BACKFLOW PREVENTER
- ROTARY
- TELESCOPE
- SAMPLE
- MUD
- PRESSURE RELIEF
- AIR AND/OR VACUUM RELEASE
- REGULATED SIDE PRESSURE CONTROL
- PRESSURE REGULATION (CLAY-TYPE)
- MULTI-PORT VALVE (GATE VALVE SHOWN. FOR OTHER VALVE TYPES, APPROPRIATE VALVE SYMBOL SHOWN.) SEAT PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.
- ANGLE GATE

GATE SYMBOLS

- SLUICE
- FABRICATED SLIDE
- STOP LOG
- SLIDE
- BUTTERFLY
- FLAP
- SHEAR

ACTUATOR SYMBOLS

- PNEUMATIC DIAPHRAGM SPRING-OPPOSED, SINGLE OR DOUBLE ACTING
- VALVE POSITIONER
- MANUAL
- PNEUMATIC CYLINDER SINGLE OR DOUBLE ACTING ACTUATED BY ONE INPUT
- HYDRAULIC
- ELECTRIC MOTOR
- DIAPHRAGM, DIFFERENTIAL PRESSURE
- SOLENOID
- ELECTROHYDRAULIC

NOTE:
ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL, OR HYDRAULIC)

XX:
- FO FAIL OPEN
- FC FAIL CLOSED
- FLP FAIL TO LAST POSITION

PRIMARY ELEMENT SYMBOLS

- PARSHALL FLUME
- WEIR
- ORFICE PLATE
- FLOW TUBE
- PITOT-STATIC
- VORTEX METER
- ULTRASONIC FLOWMETER
- ELECTROMAGNETIC FLOWMETER
- PROPELLER OR TURBINE METER
- THERMAL FLOWMETER
- LEVEL (BUBBLER TUBE)
- LEVEL (REACTIVE)
- LEVEL (ULTRASONIC)
- LEVEL (RADAR)
- LEVEL (FLOAT)
- ROTAMETER
- DENSITY METER
- GENERIC

MISCELLANEOUS SYMBOLS

- VENT TO ATMOSPHERE
- AIR GAP
- PIG INSERT POINT
- PIG CATCH POINT
- SELF CONTAINED AIR SUPPLY
- AIR PURGE SET
- FLUSHING CONNECTION
- SEAL WATER SET
- WATER PURGE SET
- FLEXIBLE CONNECTION
- AERATOR
- DIAPHRAGM SEAL
- ANNULAR DIAPHRAGM SEAL
- COMPOSITE SAMPLER
- FLAME TRAP
- CALIBRATION COLUMN
- INLINE SILENCER
- BLIND FLANGE
- PIPE CAP
- STRAINER
- BASKET STRAINER
- FILTER
- PULSATION DAMPENER
- EXPANSION CHAMBER
- DRAIN
- FFLCPLLLX — PANEL CONTINUED ON SAME OR OTHER DRAWING; PANEL OUTLINE; PANEL NAME
- 120V — 120 VOLT, 60 HZ POWER
- 480V — 480 VOLT, 60 HZ POWER
- XX — AIR SET, XX = SUPPLY PRESSURE IN PSIG.
- PLUG
- RECEPTACLE
- RUPTURE DISK (VACUUM)
- RUPTURE DISK (PRESSURE)
- TV MONITOR
- TV CAMERA
- AND — LOGIC ELEMENT: IF A AND NOT B THEN C
- OR — LOGIC ELEMENT: IF A OR B THEN C
- RADIO ANTENNA
- OR — INTERLOCK, SEE CONTROL DIAGRAMS
- VOICE COMMUNICATION POINT
- SKIMMING MECHANISM
- SCREW CONVEYOR
- MIXER
- ELECTRIC MOTOR
- VACUUM CONTACTOR
- EO — ELECTRIC OPERATOR, BREAKER OR SWITCH

PUMP AND COMPRESSOR SYMBOLS

- CENTRIFUGAL PUMP (DRY PIT)
- CENTRIFUGAL WET PIT PUMP OR TURBINE PUMP
- RECIPROCATING OR METERING PUMP (POSITIVE DISPLACEMENT)
- DIAPHRAGM PUMP
- GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT)
- PROGESSING CAVITY PUMP
- COMPRESSOR (CENTRIFUGAL)
- COMPRESSOR (PISTON)
- BLOWER OR FAN (CENTRIFUGAL)
- EJECTOR
- PISTON PUMP
- SUBMERSIBLE SUMP PUMP
- ROTARY PUMP
- VACUUM PUMP
- SCREW PUMP
- PERISTALIC PUMP

XX:
- AS ADJUSTABLE SPEED
- CS-1 CONSTANT SPEED (SINGLE SPEED)
- CS-2 CONSTANT SPEED (TWO SPEED)

FLOW STREAM IDENTIFICATION

ABE	AERATION BASIN EFFLUENT
BD	BASIN DRAIN
BDD	BASIN DRAIN DISCHARGE
BYP	BYPASS
CA	COMPRESSED AIR
CD	CONDENSATE DRAIN
CEN	CENTRATE
D	DRAIN (SANITARY)
DEW	DEWATERING
ED	EQUIPMENT DRAIN
ELE	ELECTRICAL
FA	FOUL AIR
FCE	FINAL CLARIFIER EFFLUENT
FECL	FERRIC CHLORIDE
IA	INSTRUMENT AIR
INF	PLANT INFLUENT WASTEWATER
LPA	LOW PRESSURE PROCESS AIR
NPW	NONPOTABLE WATER
PD	PROCESS DRAIN
PEFF	PRIMARY EFFLUENT
PI	PRIMARY INFLUENT
PLM	POLYMER NEAT
POS	POLYMER SOLUTION
PRSC	PRIMARY SCUM
PS	PRIMARY SLUDGE
RAS	RETURN ACTIVATED SLUDGE
SCUM	THICKENER SCUM
SHS	SCUM HEAVY SLUDGE
SPD	SUMP PUMP DISCHARGE
SW	SERVICE WATER
TO	THICKENER OVERFLOW
TS	THICKENED SLUDGE
TSS	TOTAL SUSPENSION SOLIDS
TW	TEMPERED WATER (POTABLE)
TWAS	THICKENED WASTE ACTIVATED SLUDGE
WAS	WASTE ACTIVATED SLUDGE
XX/BYP	BYPASS FUNCTION, NOTE 1
XX/DR	DRAIN FUNTION, NOTE 1
XX/OF	OVERFLOW FUNCTION, NOTE 1
XX/SL	SAMPLING FUNCTION, NOTE 1
XX/VT	VENT FUNCTION, NOTE 1

NOTES:
1. XX = PRIMARY SERVICE DESIGNATON
2. SYMBOLS SHOWN INDICATE VALVE IN NORMALLY OPEN POSITION. FOR NORMALLY CLOSED VALVES, SYMBOLS HAVE A SOLID FILL.

AS-BUILT

CLV PLAN# 311.57

STATE OF NEVADA — PROFESSIONAL ENGINEER — MARINA DIAZ GONZALEZ — No. 17916 — ELECTRICAL — Exp: 6-30-13 — 1-10-13

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

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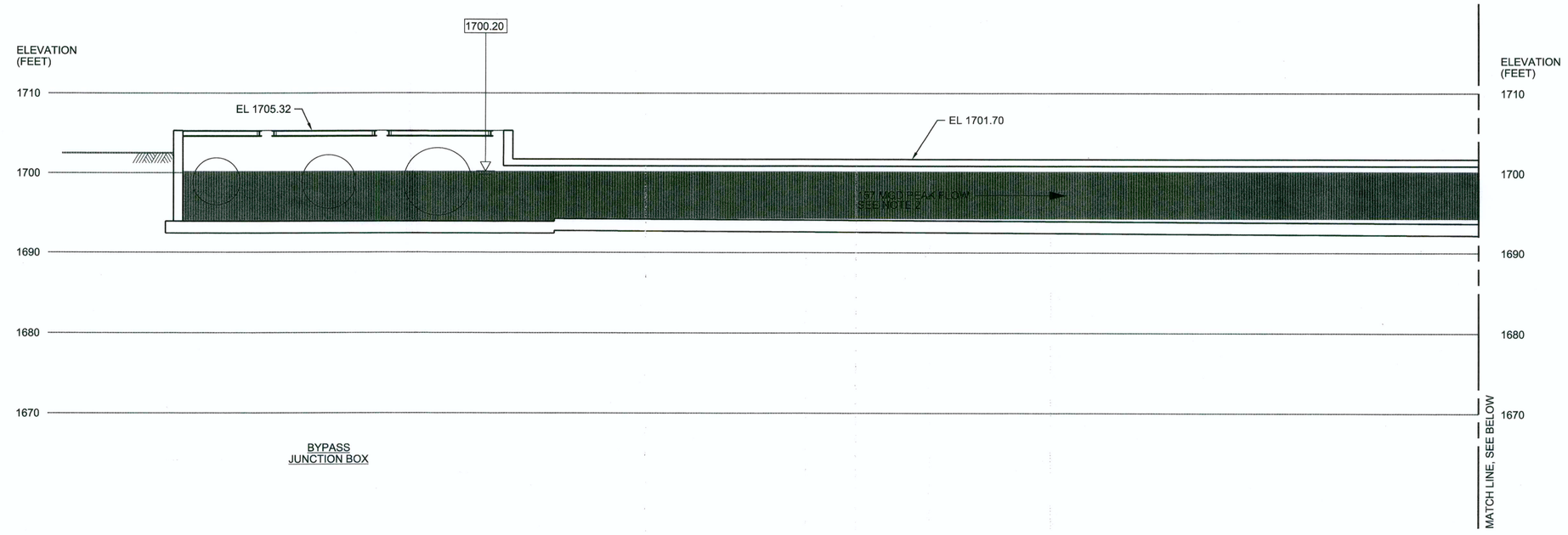
GENERAL

INSTRUMENTATION AND CONTROL LEGEND SHEET 2

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-022
SHEET	22

FILENAME: G-022_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:25:50 PM





NOTES:

1. GRIT BASIN EFFLUENT BOX WATER SURFACE ELEVATIONS BASED ON "INFLUENT FLOW METER TECHNICAL MEMORANDUM" BY MWH (2008) AND ARE DEPENDENT ON WPCF INFLUENT FLOWS AND OPERATION OF GATES UPSTREAM OF LONG-THROATED FLUMES.
2. PEAK HOUR FLOW DESIGN CAPACITY:
   WPCF AVERAGE MONTH CAPACITY (91 MGD) x PEAKING FACTOR (1.73) = 157 MGD.
3. 105 MGD IS PEAK HOUR CAPACITY OF PLANTS 3, 4, 5, AND 6. REMAINING 52 MGD DIVERTED THROUGH INFLUENT JUNCTION BOX TO FUTURE PLANTS 7 & 8.

AS-BUILT

CLV PLAN# 311.57

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WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

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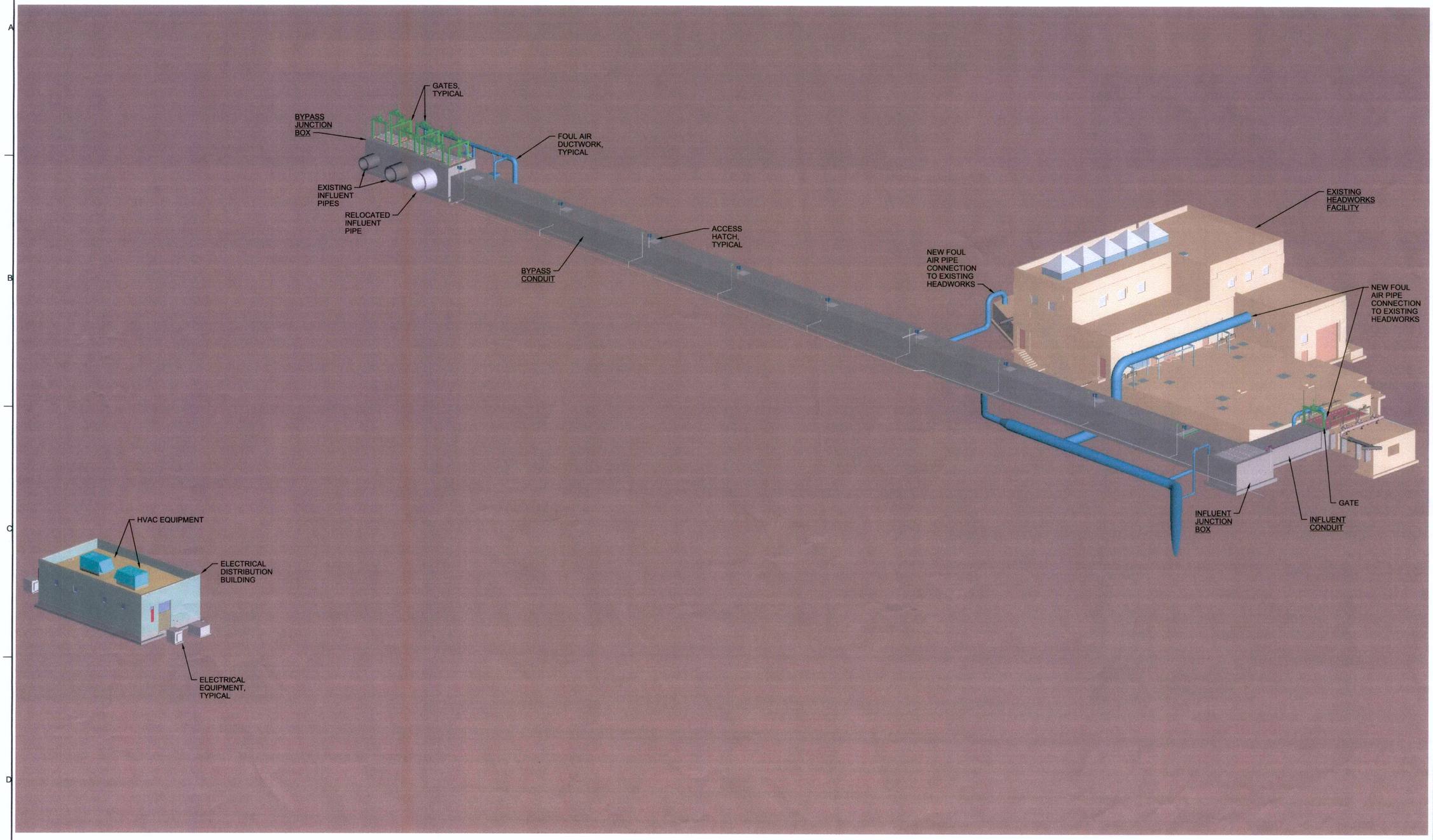
GENERAL

HYDRAULIC PROFILE

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-023
SHEET	23

FILENAME: G-023_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 3:12:37 PM



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CLV PLAN# 311.57

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

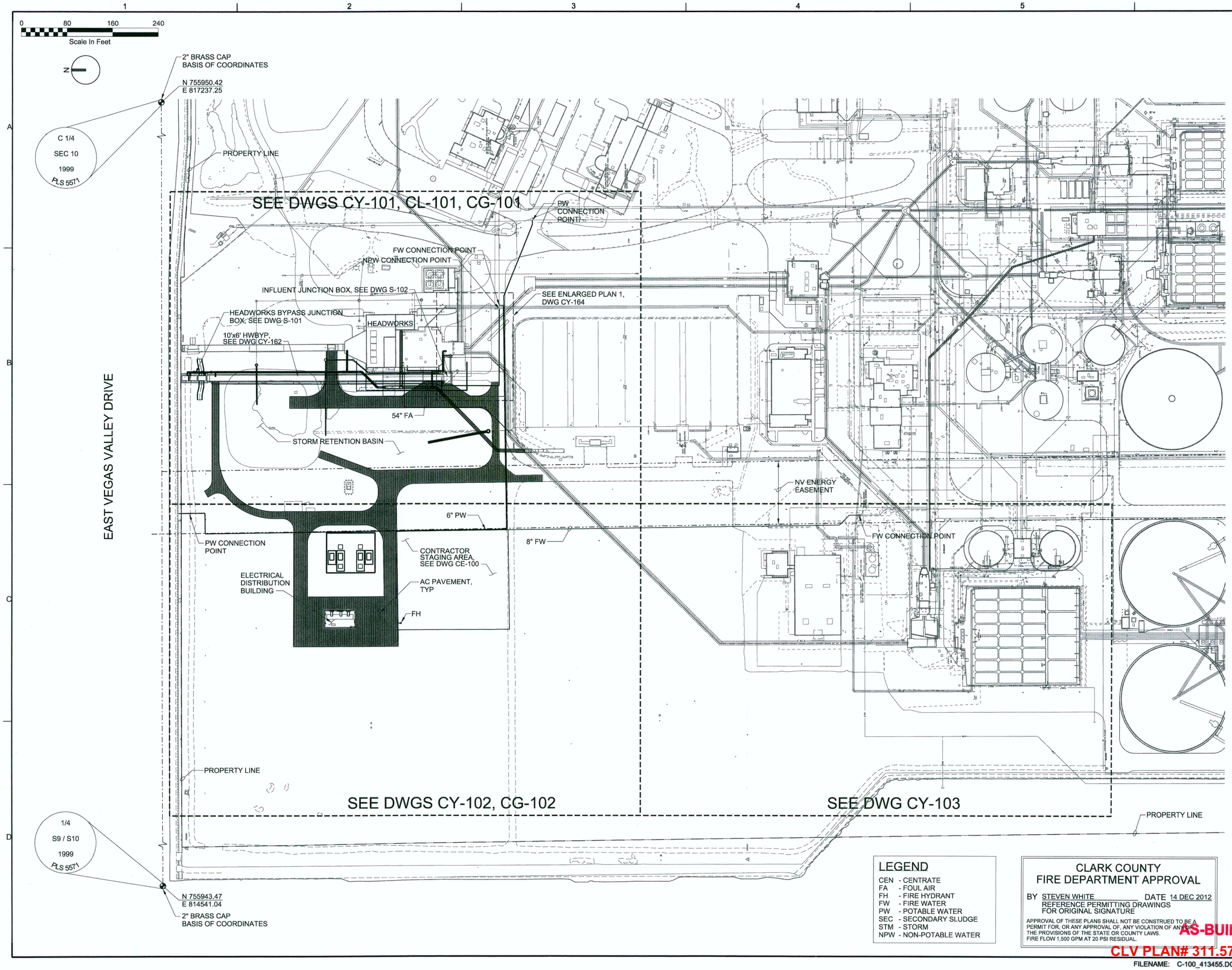
CH2MHILL

GENERAL
MODEL VIEW

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	G-024
SHEET	24

FILENAME: G-024_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 3:13:37 PM



LEGEND

CEN - CENTRATE
FA - FOUL AIR
FH - FIRE HYDRANT
FW - FIRE WATER
PW - POTABLE WATER
SEC - SECONDARY SLUDGE
STM - STORM
NPW - NON-POTABLE WATER

CLARK COUNTY FIRE DEPARTMENT APPROVAL

BY STEVEN WHITE DATE 14 DEC 2012
REFERENCE PERMITTING DRAWINGS FOR ORIGINAL SIGNATURE

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR ANY APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS.
FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL.

AS-BUILT
CLV PLAN# 311.57

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

Avoid overhead power line contact. It's costly.
Call before you OVERHEAD
1-702-227-2929

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM CONDUITS IT'S COSTLY
CALL BEFORE YOU DO UNDERGROUND
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AND
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LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

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NO.	DATE	DSGN	DR	CHK	APVD
		TG YAMADA	TR UY	DJ PETERSON	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

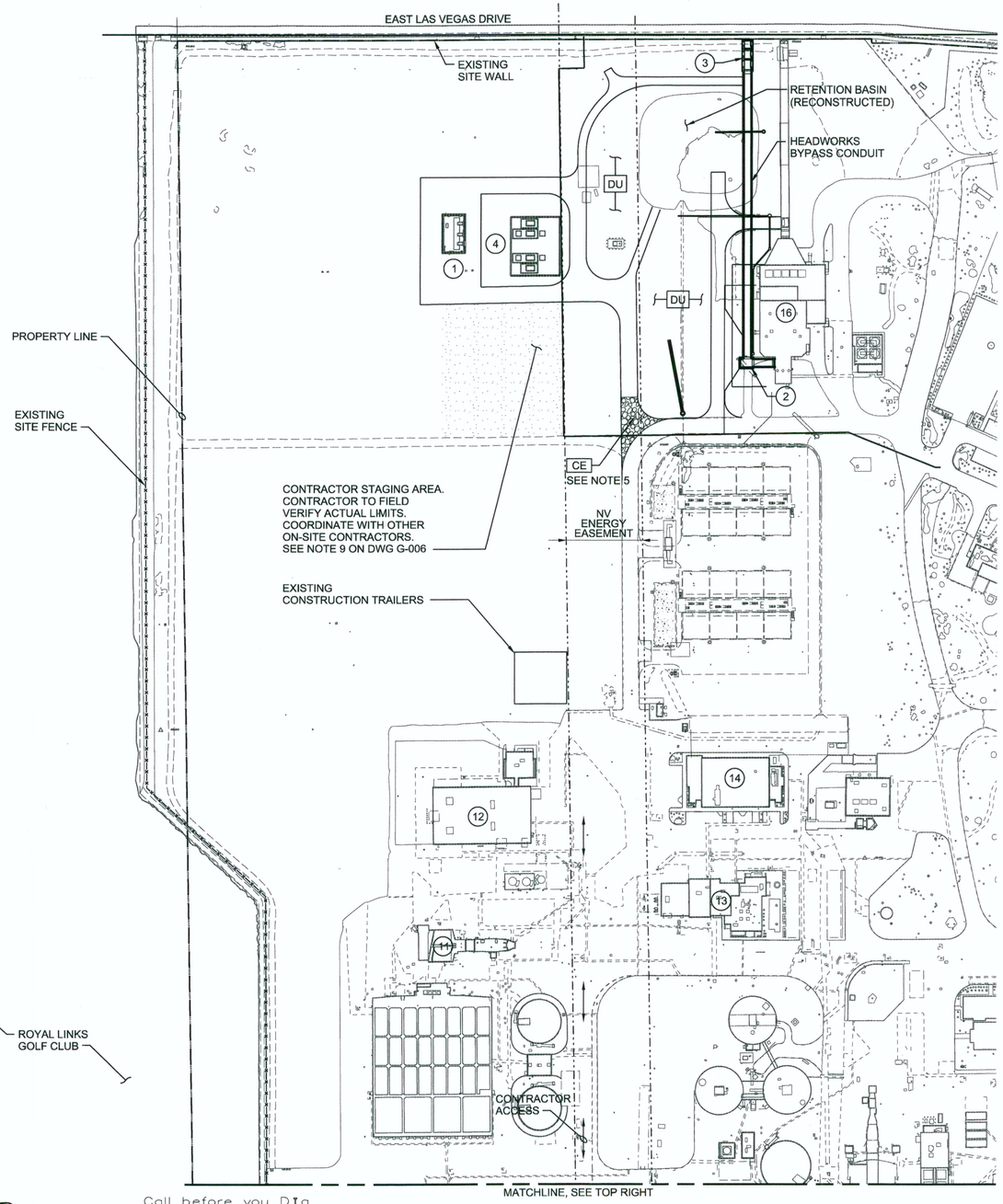
SITE DEVELOPMENT

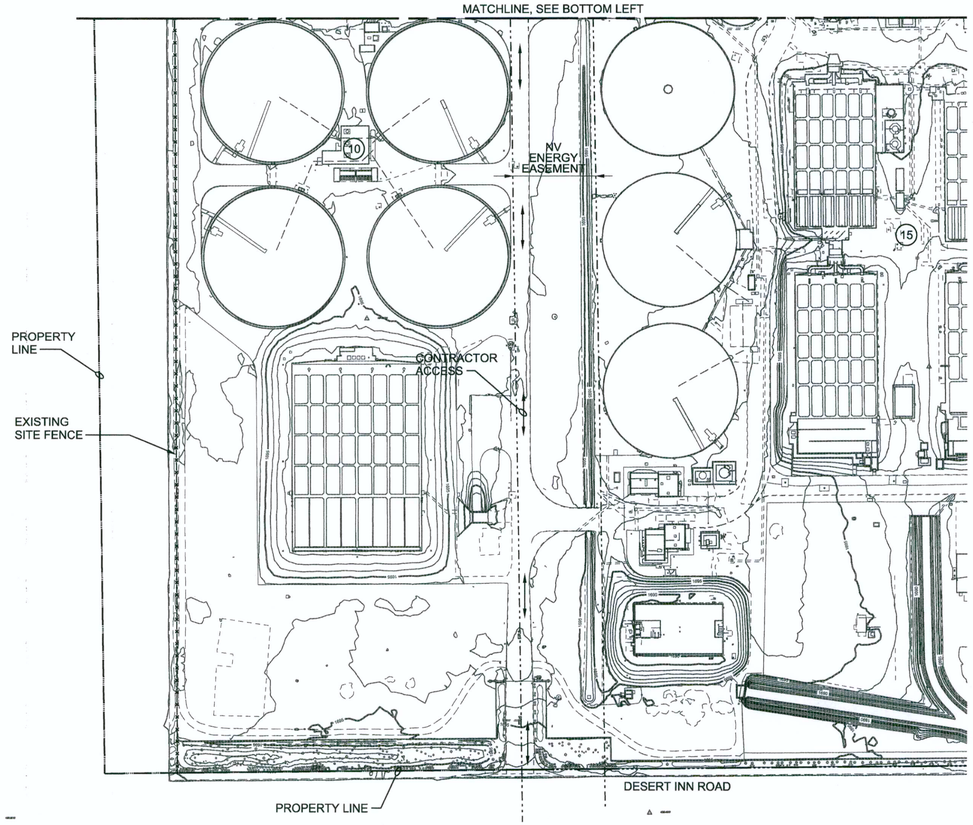
OVERALL SITE PLAN /KEY PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	C-100
SHEET	25

FILENAME: C-100_413455.DGN PLOT DATE: 2013\01\03 PLOT TIME: 4:13:31 PM





LEGEND:

- CONTRACTOR STAGING AREA
- CE — CONSTRUCTION ENTRANCE (3125-130).
- DU — DUST CONTROL ON DISTURBED AREAS, SEE SPECIFICATION 01 57 13.

FACILITY LEGEND:

NO.	NEW FACILITY
1	ELECTRICAL DISTRIBUTION BUILDING
2	INFLUENT JUNCTION BOX
3	BYPASS JUNCTION BOX
4	NV ENERGY SWITCHYARD

NO.	EXISTING FACILITY
10	PLANTS 3 & 4
11	PLANTS 3 & 4 GRIT CHAMBER
12	SUPPLY WAREHOUSE
13	MAINTENANCE BUILDING
14	OPERATIONS AND MAINTENANCE BUILDING
15	PLANTS 1 & 2
16	HEADWORKS

NOTES:

1. CONTRACTOR REQUIRED TO COVER TEMPORARY INACTIVE (e.g. > 30 DAYS) STOCKPILES (3125-140).
2. CONTRACTOR TO LOCATE INTERCEPTOR SWALES AND DIKES AT THE TOP OF EXCAVATIONS TO PREVENT STORM WATER FROM ENTERING EXCAVATIONS (3125-145).
3. FOR ALL EROSION CONTROL FEATURES, SEE SPECIFICATION 01 57 13.
4. SEE GENERAL SITE NOTES 14 AND 15 ON DWG G-006.
5. CONTRACTOR TO DETERMINE LOCATIONS FOR CONSTRUCTION ENTRANCES TO MINIMIZE TRACK-OUT ON TO PAVED SURFACES. USE STREET SWEEPER OR OTHER BMPS IF NECESSARY TO KEEP PAVED SURFACES CLEAN OF SEDIMENT.

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Avoid cutting underground utility lines. It's costly.
Call 811
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Avoid overhead power line contact. It's costly.
Call before you OVERHEAD
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CLARK COUNTY TRAFFIC OPERATIONS
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LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

AS-BUILT

0 100 200 300
1"=100'

CLV PLAN# 311.57

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McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

SITE DEVELOPMENT
EROSION CONTROL PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CE-100
SHEET	26

FILENAME: CE-100_413455.DGN PLOT DATE: 2012\12\28 PLOT TIME: 12:43:48 PM

COORDINATE TABLE				
POINT NO.	INV ELEV	NORTHING	EASTING	DESCRIPTION
SD 1	N/A	N 755780.38	E 816161.04	CL MH
SD 2	1689.70	N 755780.38	E 816091.81	PIPE END
SD 3	N/A	N 755374.13	E 816044.95	CL MH
SD 4	1690.00	N 755479.54	E 816025.10	CL BETW PIPE
SD 5	1690.00	N 755659.60	E 816037.89	CL INLET
SD 6	N/A	N 755659.60	E 816169.97	SD PUMP MH
SD 7	N/A	N 755611.97	E 816169.97	CL INLET
SD 8	N/A	N 755584.58	E 816146.40	CL INLET
SD 9	N/A	N 755459.93	E 816146.40	CL INLET

NOTES:
1. SEE PIPE SCHEDULE, CY-100, FOR PIPE MATERIAL.
2. YARD PIPING NOT SHOWN FOR CLARITY.
3. FILL SLOPE =3H:1V
4. ELEVATIONS ARE FINISHED GRADE UNLESS OTHERWISE NOTED.
5. PROVIDE TEMPORARY ACCESS DURING CONSTRUCTION SO CITY STAFF CAN ACCESS ELECTRICAL ROOM AT HEADWORK FACILITY.

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AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM CONDUITS
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Call before you UnderGround
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CLARK COUNTY TRAFFIC OPERATIONS
AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

Avoid overhead power line contact. It's costly.
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1-702-227-2929

RFI 090
DATE ANSWERED 12/1/14
INLET MH ELEVATION TO BE APPROX 1697.5. ADJUST FILL SO WATER CAN FLOW INTO BEEHIVE GRATE INLET.

RFI 055
DATE ANSWERED 8/22/13
RAISE GRATE ELEVATION OF SD-7, -8, -9 BY 1' RAISE INVERT ELEVATIONS OF SD-8, -9 BY 1' EA.

RFI 029
DATE ANSWERED 6/28/13
WEST MAIN INLET ELEVATION = 1689.70'

PROPERTY LINE
NEW ELECTRICAL DUCT, SEE DWG E-006
EXISTING AND NEW ELECTRICAL DUCT, SEE DWG E-006
SD 1
48" MH WITH BEEHIVE GRATE AND FRAME INSTALL OVER EXIST STM AND INSTALL NEW PIPE DOWN STREAM
3305-710 | 3305-720 | 3305-725 | 2 | CY-121
GRATE (BOTTOM) = 1702.00 IE = 1689.20 (W) IE = 1689.80 (E,VERIFY)
SD 6
SD PUMP MH
RIM = 1702.50
IE = 1696.00 (W)
IE = 1693.52 (S)
1 CY-121
SD 7
INLET
GRATE = 1700.00
IE = 1694.00 (S)
IE = 1694.89 (SW)
12" SD PVC
1701.50
SD 8
INLET
GRATE = 1700.00
IE = 1695.22 (NE,S)
SD 9
INLET
GRATE = 1700.00
IE = 1696.50 (N)
SEE NOTE 5
12" SD PVC
3 CY-121, TYP.
1701.50
1701.20
1701.29 – 1701.50
12" SD PVC
G1
G2
G3
G4
G5
G6
G7
G8
G9
G10
G11
G12
G13
G14
G15
G16
G17
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G48
G49
G50
G51
G52
G53
G54
G55
G56
G57
G58
G59
1700
1695
1690
18" SD RCP
3:1
2:1
SD 2
WITH TAPERED END SECTION
4 CY-121
SD 5
4 CY-121
EXISTING ELECTRICAL DUCT, SEE DWG D-005
4 CY-121
SD 4
WITH TAPERED END SECTIONS
SD 3
2-12" SD
3:1, TYP
D CY-125
NV ENERGY EASEMENT
FIBER OPTIC DUCT, SEE DWG E-001
TOP OF RETENTION POND PAVEMENT, SEE DWG CY-120
MATCH LINE, SEE DWG CY-102
EXISTING 18" RCP (INV ELEV ~ 1694.6)
2-12" PVC IE = 1690.00
60" MANHOLE
3305-710 | 3305-720 | 3305-725 | 2 | CY-121

COORDINATE TABLE (GRADE BREAK)				
POINT NO.	ELEV NOTE 4	NORTHING	EASTING	DESCRIPTION
G1	1701.29	N 755635.60	E 816186.27	GRADE BREAK
G2	1701.20	N 755635.60	E 816143.82	GRADE BREAK
G3	1701.20	N 755634.39	E 816131.81	GRADE BREAK
G4	1701.00	N 755605.60	E 816110.48	GRADE BREAK
G5	1701.00	N 755525.55	E 816110.48	GRADE BREAK
G6	1701.20	N 755492.70	E 816131.82	GRADE BREAK
G7	1701.50	N 755435.82	E 816130.48	GRADE BREAK
G8	1701.50	N 755405.02	E 816110.48	GRADE BREAK
G9	1701.00	N 755394.24	E 816110.48	GRADE BREAK
G10	1699.50	N 755373.56	E 816126.73	GRADE BREAK
G11	1699.81	N 755368.25	E 816154.49	GRADE BREAK
G12	1700.06	N 755368.74	E 816041.83	GRADE BREAK
G13	1700.06	N 755371.95	E 816063.39	GRADE BREAK
G14	1700.50	N 755391.74	E 816080.48	GRADE BREAK
G15	1700.50	N 755406.49	E 816080.48	GRADE BREAK
G16	1699.77	N 755445.00	E 816080.48	GRADE BREAK
G17	1699.77	N 755485.15	E 816080.48	GRADE BREAK
G18	1700.50	N 755525.55	E 816080.48	GRADE BREAK
G19	1700.50	N 755605.60	E 816080.48	GRADE BREAK
G20	1700.50	N 755721.00	E 816080.48	GRADE BREAK
G21	1700.50	N 755726.00	E 816085.48	GRADE BREAK
G22	1701.20	N 755726.00	E 816113.48	GRADE BREAK
G23	1701.20	N 755693.60	E 816113.48	GRADE BREAK
G24	1701.20	N 755665.97	E 816131.82	GRADE BREAK
G25	1701.20	N 755663.60	E 816143.82	GRADE BREAK
G26	1701.29	N 755663.60	E 816186.26	GRADE BREAK
G27	1700.06	N 755343.81	E 816042.20	GRADE BREAK
G28	1700.41	N 755278.58	E 815981.15	GRADE BREAK
G29	1700.44	N 755278.27	E 815955.57	GRADE BREAK
G30	1699.98	N 755367.44	E 815954.24	GRADE BREAK
G31	1700.43	N 755427.43	E 815953.35	GRADE BREAK
G32	1699.87	N 755427.85	E 815981.35	GRADE BREAK
G33	1700.28	N 755504.00	E 815952.21	GRADE BREAK
G34	1699.72	N 755504.42	E 815980.21	GRADE BREAK
G35	1700.22	N 755533.55	E 815921.77	GRADE BREAK
G36	1700.22	N 755569.53	E 815938.13	GRADE BREAK
G37	1700.18	N 755569.73	E 815945.48	GRADE BREAK
G38	1700.19	N 755577.94	E 815979.11	GRADE BREAK
G39	1700.00	N 755584.34	E 815966.55	GRADE BREAK
G40	1690.00	N 755668.43	E 816012.83	GRADE BREAK
G41	1690.00	N 755673.32	E 815999.71	GRADE BREAK
G42	1701.20	N 755726.00	E 816131.82	GRADE BREAK
G43	1701.20	N 755844.96	E 816131.72	GRADE BREAK
G44	1701.52	N 755860.96	E 816131.72	GRADE BREAK
G45	1704.15	N 755873.63	E 816152.40	GRADE BREAK
G46	1704.15	N 755906.82	E 816152.41	GRADE BREAK
G47	1704.22	N 755906.79	E 816126.49	GRADE BREAK
G48	1704.22	N 755873.63	E 816126.48	GRADE BREAK
G49	1698.82	N 755861.02	E 816071.77	GRADE BREAK
G50	1698.50	N 755845.02	E 816071.75	GRADE BREAK
G51	1698.51	N 755861.10	E 816001.51	GRADE BREAK
G52	1697.95	N 755845.10	E 816001.49	GRADE BREAK
G53	1700.67	N 755861.15	E 815960.52	GRADE BREAK
G54	1701.31	N 755870.46	E 815944.77	GRADE BREAK
G55	1701.50	N 755874.84	E 815942.36	GRADE BREAK
G56	1701.50	N 755867.12	E 815928.35	GRADE BREAK
G57	1701.04	N 755857.02	E 815933.91	GRADE BREAK
G58	1700.98	N 755834.66	E 815929.85	GRADE BREAK
G59	1700.50	N 755822.51	E 815940.26	GRADE BREAK

SITE GRADING PLAN - AREA 101
1"=30'

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	APVD	BY
		TG YAMADA		TR UY	DJ PETERSON	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

SITE DEVELOPMENT
SITE GRADING PLAN
AREA 101

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CG-101
SHEET	27

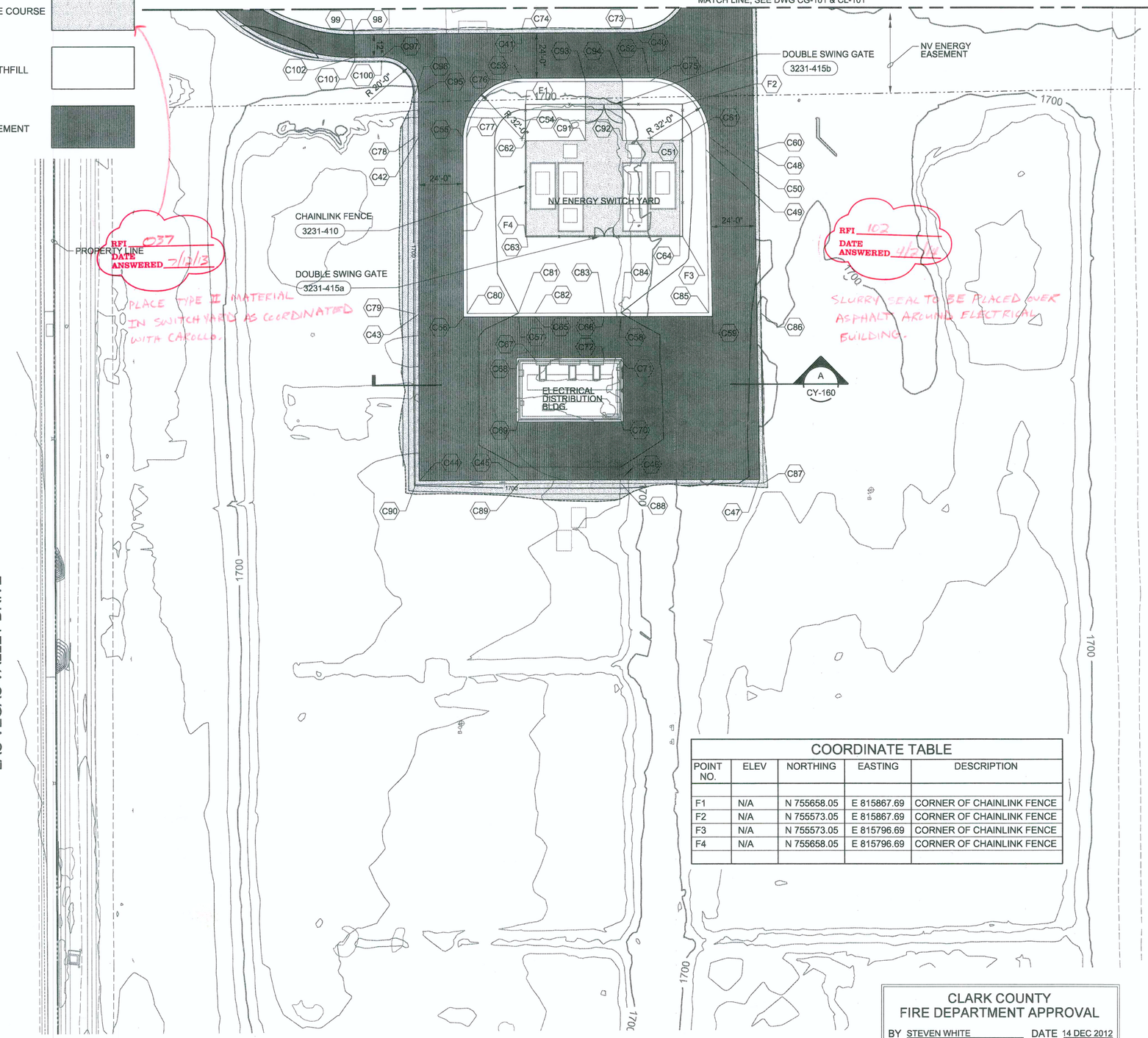
FILENAME: CG-101_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:47:33 PM

LEGEND

BASE COURSE

EARTHFILL

PAVEMENT



COORDINATE TABLE

POINT NO.	ELEV	NORTHING	EASTING	DESCRIPTION
F1	N/A	N 755658.05	E 815867.69	CORNER OF CHAINLINK FENCE
F2	N/A	N 755573.05	E 815867.69	CORNER OF CHAINLINK FENCE
F3	N/A	N 755573.05	E 815796.69	CORNER OF CHAINLINK FENCE
F4	N/A	N 755658.05	E 815796.69	CORNER OF CHAINLINK FENCE

COORDINATE TABLE

POINT NO.	ELEV	NORTHING	EASTING	DESCRIPTION
C40	1700.26	N 755599.47	E 815905.68	END OF CURVE (EOP)
C41	1700.26	N 755660.00	E 815905.57	END OF CURVE (EOP)
C42	1700.26	N 755715.87	E 815850.81	END OF CURVE (EOP)
C43	1700.31	N 755715.87	E 815755.83	EDGE OF PAVEMENT
C44	1700.25	N 755715.87	E 815666.66	EDGE OF PAVEMENT
C45	1700.86	N 755662.06	E 815666.66	EDGE OF PAVEMENT
C46	1700.86	N 755606.53	E 815666.66	EDGE OF PAVEMENT
C47	1699.87	N 755531.75	E 815666.66	EDGE OF PAVEMENT
C48	1700.20	N 755534.39	E 815843.59	EDGE OF PAVEMENT
C49	1700.72	N 755560.38	E 815843.20	GRADE BREAK
C50	1700.68	N 755558.49	E 815850.18	END OF CURVE (EOP)
C51		N 755590.48	E 815849.70	CENTER OF CURVE
C52	1700.74	N 755590.55	E 815881.70	END OF CURVE (EOP)
C53	1700.74	N 755659.95	E 815881.57	END OF CURVE (EOP)
C54		N 755659.89	E 815849.57	CENTER OF CURVE
C55	1700.74	N 755691.87	E 815850.51	END OF CURVE (EOP)
C56	1700.73	N 755691.87	E 815753.83	EDGE OF PAVEMENT
C57	1701.04	N 755662.06	E 815753.83	EDGE OF PAVEMENT
C58	1701.04	N 755606.53	E 815753.83	EDGE OF PAVEMENT
C59	1700.58	N 755557.05	E 815753.83	EDGE OF PAVEMENT
C60	1700.16	N 755532.39	E 815843.62	GRADE BREAK
C61	1701.25	N 755574.55	E 815848.40	GRADE BREAK
C62	1701.25	N 755657.55	E 815848.31	GRADE BREAK
C63	1701.25	N 755657.55	E 815797.34	GRADE BREAK
C64	1701.25	N 755574.55	E 815797.34	GRADE BREAK
C65	1701.38	N 755652.96	E 815753.83	EDGE OF PAVEMENT
C66	1701.38	N 755615.63	E 815755.83	EDGE OF PAVEMENT
C67	1701.95	N 755652.96	E 815730.93	EDGE OF PAVEMENT
C68	1701.50	N 755662.06	E 815730.93	EDGE OF PAVEMENT
C69	1701.50	N 755662.06	E 815698.73	EDGE OF PAVEMENT
C70	1701.50	N 755606.53	E 815698.73	EDGE OF PAVEMENT
C71	1701.50	N 755606.53	E 815730.93	EDGE OF PAVEMENT
C72	1701.95	N 755615.63	E 815730.93	EDGE OF PAVEMENT
C73	1700.22	N 755599.47	E 815907.68	GRADE BREAK
C74	1700.22	N 755660.00	E 815907.57	GRADE BREAK
C75	1700.78	N 755590.54	E 815879.70	GRADE BREAK
C76	1700.78	N 755659.94	E 815879.57	GRADE BREAK
C77	1700.78	N 755689.87	E 815850.48	GRADE BREAK
C78	1700.22	N 755717.87	E 815850.83	GRADE BREAK
C79	1700.28	N 755717.87	E 815755.83	GRADE BREAK
C80	1700.74	N 755689.87	E 815755.83	GRADE BREAK
C81	1701.00	N 755662.06	E 815755.83	GRADE BREAK
C82	1701.33	N 755652.96	E 815755.83	GRADE BREAK
C83	1701.33	N 755615.63	E 815755.83	GRADE BREAK
C84	1701.00	N 755606.53	E 815755.83	GRADE BREAK
C85	1700.42	N 755559.08	E 815755.83	GRADE BREAK
C86	1699.91	N 755531.08	E 815755.83	GRADE BREAK
C87	1699.83	N 755529.72	E 815664.66	GRADE BREAK
C88	1700.82	N 755606.53	E 815664.66	GRADE BREAK
C89	1700.82	N 755662.06	E 815664.66	GRADE BREAK
C90	1700.20	N 755717.87	E 815664.66	GRADE BREAK
C91	1701.25	N 755625.55	E 815848.37	GRADE BREAK
C92	1701.25	N 755605.55	E 815848.34	GRADE BREAK
C93	1700.78	N 755625.55	E 815879.63	GRADE BREAK
C94	1700.78	N 755605.55	E 815879.67	GRADE BREAK
C95	1700.24	N 755715.87	E 815873.42	EDGE OF PAVEMENT
C96	1700.20	N 755717.87	E 815873.42	GRADE BREAK
C97	1700.45	N 755735.91	E 815893.42	EDGE OF PAVEMENT
C98	1700.25	N 755750.56	E 815907.39	GRADE BREAK
C99	1700.29	N 755750.91	E 815905.39	EDGE OF PAVEMENT
C100	1700.50	N 755735.91	E 815891.42	GRADE BREAK
C101	1700.57	N 755750.47	E 815891.39	GRADE BREAK
C102	1700.52	N 755750.89	E 815893.39	EDGE OF PAVEMENT

NOTES:

1. SEE DWG CY-120 FOR TYPICAL AC PAVEMENT SECTION.
2. FILL SLOPE =3H:1V

N

SITE PLAN - AREA 102

1"=30'

CLARK COUNTY
FIRE DEPARTMENT APPROVAL

BY STEVEN WHITE DATE 14 DEC 2012
REFERENCE PERMITTING DRAWINGS
FOR ORIGINAL SIGNATURE

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR ANY APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS.
FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL.

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM CONDUITS IT'S COSTLY
CALL BEFORE YOU DIG UNDERGROUND
Call before you UnderGround
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS
AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

Avoid overhead power line contact. It's costly.
Call before you OVERHEAD
1-702-227-2929

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	TG YAMADA	DR	TR UY	APVD
		CHK	DJ PETERSON	

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

SITE DEVELOPMENT
SITE LAYOUT AND GRADING PLAN
AREA 102

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CG-102
SHEET	28

FILENAME: CG-102_413455.dgn PLOT DATE: 2013\01\03 PLOT TIME: 11:46:20 AM

LEGEND

BASE COURSE

EARTHFILL

PAVEMENT

WEIGHT LIMIT
TANDEM AXLE 46,000 LBS

① ②

CAUTION
BURIED PIPE
NO VEHICULAR TRAFFIC

RFI 101
DATE ANSWERED 3/20/14

~~MILL ASPHALT~~ IN BASIN SLOPES ~~½" & fill~~ WITH 18" KEY AT BASE OF SLOPE. OVERLAY WITH ½" MIX, 1½" THICK.

MILL ROADWAY TIE INS AND OVERLAY ALL ROADWAYS WITH ½" MIX AT 1½" THICK, EXCEPT AROUND ELECTRICAL BUILDING.

MILL SEPTAGE UNLOAD AREA AND OVERLAY WITH ½" MIX AT 1½" THICK

R 099 IFR 2/24/13

CHANGE 1"x8" DOWELS AT 2 FT O.C. TO 1"x16" PINS AS REQUIRED BY BARRIER RAILS. CHANGE ELEVATION AT POINTS C3, C42, 48, 49 TO 1702.43

LAS VEGAS VALLEY DRIVE

PROPERTY LINE

10'x6' HWBYP, SEE DWG CY-161

18"

10' X 6' HWBYP

CONCRETE BARRIER, 6 EA

EXISTING ELECTRICAL DUCT TO BE RELOCATED, SEE DWG E-001

18'-0"

25'-0"

20'-0"

12"

R 35'-0"

R 25'-0"

R 32'-0"

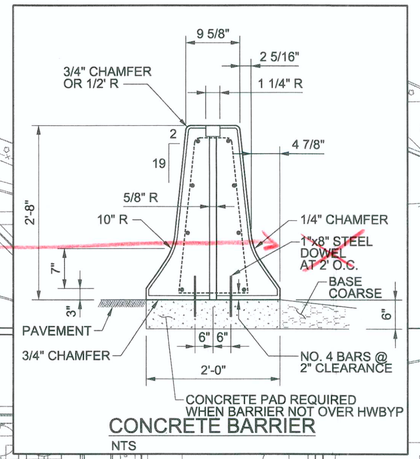
R 29'-0"

TOP OF RETENTION POND PAVEMENT, SEE DWG CY-120

NV ENERGY EASEMENT

AC PAVEMENT, TYP SEE B CY-120

MATCH LINE, SEE DWG CG-102



CONCRETE BARRIER
NTS

RFI DATE ANSWERED

See RFI #242 regarding obtain rock subgrade at existing Headworks structure 7/31/13

COORDINATE TABLE (EDGE OF PAVEMENT)

POINT NO.	ELEV	NORTHING	EASTING	DESCRIPTION
C1	1702.00	N 755658.60	E 816186.26	EDGE OF PAVEMENT
C2	1702.00	N 755640.60	E 816186.26	EDGE OF PAVEMENT
C3	~~1702.20~~	N 755640.60	E 816143.82	END OF CURVE (EOP)
C4		N 755605.58	E 816140.50	CENTER OF CURVE
C5	1700.92	N 755604.99	E 816105.48	END OF CURVE (EOP)
C6	1700.92	N 755525.55	E 816105.48	EDGE OF PAVEMENT
C7	1701.20	N 755485.15	E 816131.72	EDGE OF PAVEMENT
C8	1701.20	N 755454.01	E 816131.72	EDGE OF PAVEMENT
C9	1701.20	N 755454.01	E 816126.75	EDGE OF PAVEMENT
C10	1701.20	N 755439.24	E 816126.75	EDGE OF PAVEMENT
C11	1701.31	N 755406.50	E 816105.48	EDGE OF PAVEMENT
C12	1700.92	N 755393.21	E 816105.48	END OF CURVE (EOP)
C13		N 755393.24	E 816130.51	CENTER OF CURVE
C14	1700.00	N 755368.21	E 816130.60	END OF CURVE (EOP)
C15	EXIST	N 755356.06	E 816130.60	EDGE OF PAVEMENT
C16	EXIST	N 755353.65	E 815968.45	EDGE OF PAVEMENT
C17	EXIST	N 755278.35	E 815969.57	EDGE OF PAVEMENT
C18	1700.48	N 755278.35	E 815957.57	EDGE OF PAVEMENT
C19	1700.58	N 755391.74	E 816085.48	END OF CURVE (EOP)
C20		N 755391.75	E 816060.47	CENTER OF CURVE
C21	1700.00	N 755366.74	E 816060.86	END OF CURVE (EOP)
C22	1700.11	N 755366.30	E 816012.08	END OF CURVE (EOP)
C23		N 755398.30	E 816011.79	CENTER OF CURVE
C24	1700.01	N 755397.82	E 815979.79	END OF CURVE (EOP)
C25	1700.24	N 755504.03	E 815954.21	END OF CURVE (EOP)
C26		N 755503.55	E 815922.21	CENTER OF CURVE
C27	1700.26	N 755535.55	E 815921.74	END OF CURVE (EOP)
C28	1700.17	N 755570.84	E 815977.22	END OF CURVE (EOP)
C29		N 755571.21	E 816002.22	CENTER OF CURVE
C30	1700.00	N 755579.94	E 815978.79	END OF CURVE (EOP)
C31	1690.00	N 755668.78	E 816011.89	END OF CURVE (EOP)
C32	1690.00	N 755672.97	E 816000.65	END OF CURVE (EOP)
C33	1700.00	N 755583.99	E 815967.49	EDGE OF PAVEMENT
C34		N 755592.71	E 815944.06	CENTER OF CURVE
C35		N 755599.53	E 815937.68	CENTER OF CURVE
C36	1700.20	N 755567.72	E 815944.44	EDGE OF PAVEMENT
C37	1700.23	N 755567.53	E 815938.16	EDGE OF PAVEMENT
C38	1700.58	N 755723.00	E 816085.37	EDGE OF PAVEMENT
C39	1701.50	N 755723.00	E 816105.48	EDGE OF PAVEMENT
C40	1701.50	N 755693.60	E 816105.48	END OF CURVE (EOP)
C41		N 755693.61	E 816140.49	CENTER OF CURVE
C42	~~1701.20~~	N 755658.60	E 816143.82	END OF CURVE (EOP)
C43	1700.58	N 755602.97	E 816085.48	EDGE OF PAVEMENT
C44		N 755525.55	E 816085.48	EDGE OF PAVEMENT
C45	1699.91	N 755485.15	E 816085.48	EDGE OF PAVEMENT
C46	1699.92	N 755444.98	E 816085.48	EDGE OF PAVEMENT
C47	1700.66	N 755406.49	E 816085.48	EDGE OF PAVEMENT
C48	~~1702.20~~	N 755639.50	E 816131.82	EDGE OF PAVEMENT
C49	~~1702.20~~	N 755659.70	E 816131.82	EDGE OF PAVEMENT

1702.43
1702.43
1702.43

NOTES:
1. SEE DWG CY-120 FOR TYPICAL AC PAVEMENT SECTION.

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL, ITS AND STREET LIGHT SYSTEM CONDUITS
ITS 0.0010
CALL BEFORE YOU DO UNDERGROUND
Call before you UnderGround
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CLARK COUNTY TRAFFIC OPERATIONS AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

Call before you Dig
Avoid cutting underground utility lines. It's costly.
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AS-BUILT
CLV PLAN# 311.57

Avoid overhead power line contact. It's costly.
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CLARK COUNTY FIRE DEPARTMENT APPROVAL

BY STEVEN WHITE DATE 14 DEC 2012
REFERENCE PERMITTING DRAWINGS FOR ORIGINAL SIGNATURE

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR ANY APPROVAL OF, ANY VIOLATION OF ANY OF **THE PROVISIONS OF THE STATE OR COUNTY LAWS.**
FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL.

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	CHK	APVD	BY
DSGN	TG YAMADA	DR	TR UY	APVD	DJ PETERSON
					BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

SITE DEVELOPMENT
SITE LAYOUT AREA 101

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CL-101
SHEET	29

N

SITE PLAN - AREA 101
1"=30'

FILENAME: CL-101_413455.dgn PLOT DATE: 2013\01\03 PLOT TIME: 11:53:28 AM

FLOW STREAM ABBREVIATION	SERVICE	SIZE (INCHES)	INSTALLATION NOTE 1	PIPE MATERIAL NOTE 2	SPEC SECTION NOTE 3	PROTECTIVE COATINGS (NOTE 6) INTERIOR	EXTERIOR	JOINTS NOTE 4	TEST PRESSURE PSIG, TYPE NOTE 5	REMARKS
CA	COMPRESSED AIR	ALL	BUR	STL	SEE NOTE 8	NONE	SEE REMARKS	S	P	PAINT EXPOSED PIPING PER SYSTEM 5. TAPE WRAP ALL BURIED PIPING PER SYSTEM 8.
CEN	CENTRATE	ALL	EXP	CLDI	33 05 01.02	CEMENT-MORTAR	PAINTED; SYSTEMS 2 AND 5	FL,GR	125PSI, H	PAINT EXPOSED PIPING PER SYSTEM 5.
			BUR				NOTE 7	PRJ		
FA	FOUL AIR	ALL	EXP EXTERIOR	FRP	23 31 16.16	SEE SPEC	NONE	SEE SPEC	-	EXPOSED OUTDOORS FRP SHALL INCLUDE INTEGRAL UV PROTECTION.
			BUR	PWPE	33 41 01.07	NONE	NONE	SEE SPEC	G	
FW	FIRE PROTECTION WATER	ALL	BUR	CLDI	33 05 01.02	CEMENT-MORTAR	NOTE 7	PRJ	125PSI, H	
INF	PLANT INFLUENT WASTEWATER	LARGER THAN 36"	BUR	RCPLH	33 05 01.07	T-LOK LINER	NONE	HU	JOINT TEST PER 33 05 01.07	
NPW	NON POTABLE WATER	3" OR LESS	EXP	PVC	33 05 01.09	NONE	PAINTED; SYSTEM 2 AND 5	FL, W	125PSI, H	
			BUR				NONE			
		LARGER THAN 4"	BUR	CLDI	33 05 01.02	CEMENT-MORTAR	NOTE 7	PRJ		
PW	POTABLE WATER	3" OR LESS	EXP/BUR	PVC	33 05 01.09	NONE	EXPOSED PAINTED; SYSTEM 2 AND 5	FL, W	125PSI, H	
		LARGER THAN 4"	EXP/BUR	CLDI	33 05 01.02	CEMENT-MORTAR	NOTE 7	PRJ		
SD	STORM DRAIN	12" OR LESS	BUR	PVC	33 41 01.03	NONE	NONE	HU	-	
		LARGER THAN 12"	BUR	RCP	33 41 01.05	NONE	NONE	SEE SPEC	-	
SEC	SECONDARY SLUDGE	LARGER THAN 4"	BUR	CLDI	34 05 01.02	CEMENT-MORTAR	NOTE 7	PRJ	125PSI, H	
SPD	SUMP PUMP DISCHARGE	4" OR LESS	EXP/BUR	PVC	33 05 01.09	NONE	EXPOSED PAINTED; SYSTEM 2 AND 5	W	125PSI,H	

NOTES:

1. INSTALLATIONS:
   EXP: EXPOSED (INTERIOR OR EXTERIOR)
   BUR: BURIED
   ALL: ALL INSTALLATIONS

2. CLDI: CEMENT-LINED DUCTILE IRON
   FRP: FIBERGLASS REINFORCED RESIN PIPE AND DUCT

   PVC: POLYVINYL CHLORIDE
   PWPE: PROFILE-WALL POLYETHYLENE
   RCPLH: REINFORCED CONCRETE, LOW HEAD PRESSURE PIPE, ASTM C361
   STL: STEEL

3. SEE THE SPECIFICATION SECTIONS INDICATED.

4. JOINTS AS SPECIFIED IN RELEVANT PIPE SPECIFICATIONS.
   FL: FLANGED
   GR: GROOVED
   HU: HUB AND SPIGOT
   NH: NO-HUB
   PRJ: PROPRIETARY RESTRAINED JOINT
   S: SCREWED
   W: WELDED (INCLUDING SOLVENT AND FUSION WELDING OF PLASTICS, SOLDERING)

5. TEST TYPE:
   G: GRAVITY TEST
   H: HYDROSTATIC TEST
   FC: TEST PER FIRE CODE AND NFPA 13
   P: PNEUMATIC TEST

6. SEE SPECIFICATION 09 90 00, PAINTING AND COATINGS FOR PAINTING REQUIREMENTS AND PAINT SYSTEM NO.

7. BURIED DUCTILE IRON PIPE JOINTS SHALL BE BONDED IN ACCORDANCE WITH 26 42 01, AND CATHODICALLY PROTECTED IN ACCORDANCE WITH 26 42 02. EXTERIOR SURFACE OF BURIED PIPE SHALL BE COATED WITH SYSTEM 8 IN ACCORDANCE WITH SECTION 09 90 00 PAINTING AND COATING. EXPOSED PIPES COATED WITH SYSTEM 5. BURIED ENCASED PIPES COATED WITH SYSTEM 7.

8. CA SHALL BE BLACK CARBON STEEL, ASTM A106 GRADE B, SCH 40, SEAMLESS PIPE. JOINTS SHALL BE THREADED. FITTINGS SHALL BE THREADED 150 OR 300 POUND MALLEABLE IRON ASTM A 197 OR A 47, DIMENSIONS IN ACCORDANCE WITH ASME B 16.3. BURIED PIPE SHALL BE CATHODICALLY PROTECTED IN ACCORDANCE WITH 26 42 02. PIPE SHALL BE COATED WITH THE SYSTEMS SPECIFIED IN THE PIPE SCHEDULE, IN ACCORDANCE WITH SECTION 09 90 00.

9. BURIED CLDI PRESSURE PIPE SHALL BE RESTRAINED FOR THRUST MINIMUM DIMENSIONS ARE SHOWN IN THE FOLLOWING TABLE. PIPE SHALL BE RESTRAINED ON ALL LEGS OF THE JOINT.

MINIMUM RESTRAINED LENGTH (BASED ON 125PSI TEST PRESSURE)					
SIZE	TEE	45° BENDS	90° BENDS	REMAINING BENDS	DEAD END (IN-LINE VALVE, BLIND FLANGE, BULK HEAD)
6"	18'	18'	18'	18'	70'
6"	18'	18'	18'	18'	90'
14"	70'	45'	96'	18'	145'

RFI 065-1
DATE ANSWERED 11/1/13
REVISED BURIED FA DUCT LEAKAGE TEST BASED ON SMACNA STANDARDS PER PROCEDURE OUTLINED IN RFI.

RFI 0002
DATE ANSWERED 5/22/13
P RFI 0002 (5/22/13)
Per section 09 90 00 3.07G.3 for ductile iron pipes: coal tar epoxy, polyethylene tape coat similar to AWWA C209 and C214, or comparable bonded coating to be used at contractors option.

RFI 068
DATE ANSWERED 10/22/13
BURIED VALVES NEED CATHODIC PROTECTION. FOLLOW DETAIL 2642-846 FOR MJ AND FLANGED JOINT. ATTACH BOND WIRE TO THICK SECTION OF VALVE AS DESCRIBED IN 26 42 01 3.05A 1-3. USE 18" NO.2 AWG WIRE.

RECEIVED
FEB 11 2013
McCarthy Building Companies

NO.	DSGN	DATE	DR	REVISION	CHK	APVD	BY
	TG YAMADA			TR UY	DJ PETERSON	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

SITE DEVELOPMENT

PIPE SCHEDULES

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CY-100
SHEET	30

AS-BUILT
CLV PLAN# 311.57

Call before you UnderGround
1-702-455-7511 CLARK COUNTY TRAFFIC OPERATIONS AND 1-702-229-6611 LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 OR 1-800-227-2600 AND CLARK COUNTY TRAFFIC OPERATIONS 1-702-455-7544

Avoid overhead power line contact. It's costly.
Call before you OVERHEAD 1-702-227-2929

FILENAME: CY-100_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:50:14 PM

NOTES:

1. SEE PIPE SCHEDULE, DWG CY-100, FOR PIPE MATERIAL.
2. FOR TYPICAL TRENCH SECTION, SEE DWG CY-120.
3. CONNECT TO EXISTING HOSE BIB PIPE.
4. INSTALL ANODE AND CONNECT TO NEW PIPE IN TEST STATION.
5. INSTALL INSULATING JOINTS (2642-925).
6. CONNECT TO EXISTING 4" PW WITH 4" TEE, 4" GATE VALVE AND 6"x4" REDUCER.
7. CONNECT TO EXISTING 6" FW. REPLACE EXISTING 6" 90° BEND WITH 6" TEE, 6" GATE VALVE, 8"x6" REDUCER AND 8" 90° BEND (VERTICAL); SEE CY-164 PROFILE.
8. CONNECT TO EXISTING 6" NPW WITH 6" TEE (VERTICAL), 6" 90° BEND (VERTICAL), 6" GATE VALVE AND 10"x 6" REDUCER; SEE CY-164 PROFILE.
9. NEW NPW SERVICE BRANCH. INSTALL 10" TEE AND REDUCERS TO REDUCE DOWN TO 3" SERVICE WITH 3" GATE VALVE. SERVICE SADDLE CONNECTION NOT ALLOWED.
10. NEW PW SERVICE BRANCH. INSTALL 6" TEE, 6"x3"REDUCER, 3" GATE VALVE AND 3"x1" REDUCER. SERVICE SADDLE CONNECTION NOT ALLOWED.
11. CONNECT TO EXISTING 8" SEC. REMOVE EXISTING 8" 45° BEND AND INSTALL NEW 8" PIPE.
12. CONNECT TO EXISTING 2" ABOVE GROUND CA WITH 2" HORIZONTAL 45° BEND AND 2" VERTICAL 45° BEND.
13. CONNECT TO EXISTING ABOVE GROUND 14" CEN. CONNECT WITH HORIZONTAL 14" 45° BEND AND VERTICAL 14" 45° WYE, SEE DWG CY-164 FOR ISOMETRIC DRAWING.
14. CONNECT TO EXISTING 2" ABOVE GROUND CA. CONNECT TO UPPER 90° BEND THAT EXITS THE HEADWORKS BUILDING. INSTALL 2" DIELECTRIC UNION.
15. RAISE EXISTING 1" PW BACKFLOW PREVENTER ASSEMBLY AND ENCLOSURE TO PROVIDE 14" MINIMUM SEPARATION BETWEEN THE BOTTOM OF THE ENCLOSURE AND THE REVISED GROUND ELEVATION.
16. CONNECT TO EXISTING ABOVE GROUND 14" CEN. CONNECT TO CEN ON THE WEST SIDE OF EXISTING PIPE SUPPORT CLOSEST TO HEADWORKS FACILITY WITH A 14" VERTICAL 90° BEND.
17. RAISE AND SUPPORT EXISTING INSULATED 1 1/2" NPW PIPE TO PROVIDE 6" MINIMUM SEPARATION BETWEEN THE PIPE INSULATION AND THE REVISED GRADES.

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Call before UnderGround
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

Call 811 OR 1-800-227-2600 AND CLARK COUNTY TRAFFIC OPERATIONS 1-702-455-7544

Avoid overhead power line contact. It's costly.
Call before you OVERHEAD
1-702-227-2929

CLARK COUNTY FIRE DEPARTMENT APPROVAL
BY STEVEN WHITE DATE 14 DEC 2012
REFERENCE PERMITTING DRAWINGS FOR ORIGINAL SIGNATURE
APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR ANY APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS.
FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL.

RECEIVED
FEB 11 2013
McAfee Building Consultants, Inc.

LAS VEGAS VALLEY DRIVE

PROPERTY LINE

HEADWORKS BYPASS JUNCTION BOX

84" INF, SEE DWG CY-161

10' X 6' HWBYP, SEE DWG CY-162 AND S-100

SD, SEE DWG CG-101

NV ENERGY EASEMENT

MATCH LINE, SEE DWG CY-102

SEE DWG P-100 — 1 1/2" NPW (TYP) — 2" NPW — TYP 9 PLACES

SEE DWG P-100 — 1 1/2" NPW — 2" NPW — 3" NPW — REDUCER

EXISTING ELECTRICAL DUCT, SEE DWG D-005

FOR FA PIPING, SEE DWG CY-163

NPW RELOCATED, SEE NOTE 17

PW BFP RELOCATION, SEE NOTE 15

14" CEN

SEC 10 SEE NOTE 5

PRESSURE CLEANOUT TYP, 2 LOCATIONS — 1 CY-120

8" SEC

1" PW

6" PW
8" FW

54" FA, SEE DWG CY-163

FIBER OPTIC DUCT, SEE DWG E-001

10" NPW

INFLUENT PUMP JUNCTION BOX

3" NPW

PW CONNECTION POINT, SEE NOTES 4, 5 AND 6 — 2642-824 — 4027-640 V135

FW CONNECTION POINT, SEE NOTES 4, 5 AND 7 — 2642-824 — 4027-640 V135

NPW CONNECTION POINT, SEE NOTES 4, 5 AND 8 — 2642-824 — 4027-640 V135

SEC CONNECTION POINT, SEE NOTES 4, 5 AND 11 — 2642-824 — 2642-925

CEN CONNECTION POINT, SEE NOTES 5 AND 13

CA CONNECTION POINT, SEE NOTES 5 AND 12

CA 7 CA CONNECTION POINT, SEE NOTES 4, 5 AND 14 — 2642-822

CEN 6 CEN CONNECTION POINT, SEE NOTES 4, 5 AND 16 — 2642-822

2642-822 SEE NOTE 4

4027-640 V135 SEE NOTE 9

SEE NOTE 10

SEE DWG CY-164

RFI 023 DATE ANSWERED 6/27/13

RFI 086 DATE ANSWERED 1/22/14

RFI 094 DATE ANSWERED 3/6/14

RFI 039 DATE ANSWERED 07/31/13

RFI 081 DATE ANSWERED 12/16/13

RFI 055 DATE ANSWERED 8/29/13

BURY 1" NPW BY 30" OF COVER, OTHERWISE FOLLOW NOTE 17.

Tack and Bore to be used to pass new ductbank and utilities BELOW under existing channel.

RESTORE CMU WALL AS NEAR AS POSSIBLE TO ORIGINAL CONDITION. TIE INTO BYPASS JUNCTION BOX WITH COLUMNS. REFER TO RFI RESPONSE SKETCH.

Relocate CEN and CA Test Stations Here.

AT BENDS IN SEC LINE, INSTALL MJ WYES FOR THE CLEANOUTS AND ATTACH TO PIPE WITH MJ RESTRAINTS.

ROUTE 8" SEC AND 48" FA OVER TOP OF BYPASS CONDUIT. REFER TO RFI FOR DETAILS.

Z

YARD PIPING PLAN - AREA 101
1"=30'

AS-BUILT
CLV PLAN# 311.57

COORDINATE TABLE

POINT NO.	INV ELEV	NORTHING	EASTING	DESCRIPTION
CA 1	1703.20	N 755412.63	E 816165.79	CONNECTION POINT
CA 2	1690.00	N 755412.56	E 816152.59	45° VERT BEND
CA 3	1690.00	N 755412.35	E 816115.93	HORIZONTAL BEND
CA 4	1690.00	N 755461.02	E 816115.93	DEFLECT
CA 5	1690.15	N 755589.01	E 816115.93	HORIZONTAL BEND
CA 6	1690.16	N 755589.03	E 816125.65	DEFLECT
CA 7	1690.16	N 755589.00	E 816162.80	90° VERT BEND
CEN 1	1703.20	N 755411.64	E 816166.77	CONNECTION POINT
CEN 2	1690.00	N 755411.56	E 816153.57	45° VERT BEND
CEN 3	1690.00	N 755411.35	E 816114.93	HORIZONTAL BEND
CEN 4	1689.99	N 755460.03	E 816114.93	DEFLECT
CEN 5	1689.22	N 755605.62	E 816114.93	HORIZONTAL BEND
CEN 6	1688.94	N 755605.60	E 816168.34	90° VERT BEND
FW 1	1691.48	N 755355.05	E 816266.76	CONNECTION POINT
FW 2	1691.48	N 755348.24	E 816266.79	90° VERT BEND
	1688.42	N 755348.24	E 816266.79	90° VERT BEND
FW 3	1688.42	N 755347.68	E 816229.21	22.5° VERT BEND
FW 4	1696.40	N 755347.39	E 816209.94	22.5° VERT BEND
FW 5	1696.40	N 755345.02	E 816051.09	DEFLECT
NPW 1	1691.43	N 755355.20	E 816260.76	CONNECTION POINT
NPW 2	1688.42	N 755355.20	E 816260.76	90° VERT BEND
NPW 3	1688.42	N 755355.20	E 816221.89	22.5° VERT BEND
NPW 4	1695.89	N 755355.20	E 816203.86	22.5° VERT BEND
NPW 5	1695.89	N 755355.20	E 816123.81	TEE
NPW 6	1695.89	N 755376.08	E 816123.81	22.5° VERT BEND
NPW 7	1690.91	N 755388.09	E 816123.81	22.5° VERT BEND
NPW 8	1690.91	N 755403.34	E 816123.83	22.5° VERT BEND
NPW 9	1697.69	N 755419.72	E 816123.77	22.5° VERT BEND
NPW 10	1697.81	N 755460.39	E 816123.81	HORIZONTAL BEND
NPW 11	1697.82	N 755463.69	E 816127.12	HORIZONTAL BEND
NPW 12	1697.86	N 755476.20	E 816127.14	BRANCH
NPW 13	1697.90	N 755488.88	E 816127.17	BRANCH
	1689.50	N 755488.88	E 816127.17	90° VERT BEND
NPW 14	1698.00	N 755524.20	E 816127.24	BRANCH
NPW 15	1698.00	N 755572.20	E 816127.33	BRANCH
NPW 16	1698.00	N 755620.20	E 816127.42	BRANCH
NPW 17	1698.00	N 755668.20	E 816127.52	BRANCH
NPW 18	1696.50	N 755716.20	E 816127.61	BRANCH
NPW 19	1696.60	N 755764.20	E 816127.71	BRANCH
NPW 20	1696.70	N 755812.20	E 816127.80	BRANCH
NPW 21	1696.80	N 755860.20	E 816127.89	BRANCH
NPW 22		N 755461.25	E 816155.40	CONNECTION POINT
NPW 23		N 755461.23	E 816150.40	
NPW 24		N 755516.49	E 816150.40	
NPW 25		N 755516.51	E 816155.18	CONNECTION POINT
PW 1	1696.05	N 755344.32	E 816104.84	CONNECTION POINT
PW 2	1697.87	N 755389.48	E 816104.93	DEFLECT
PW 3	1697.46	N 755446.57	E 816104.84	DEFLECT
PW 4	1697.46	N 755559.24	E 816104.84	HORIZONTAL BEND
PW 5	1689.75	N 755559.33	E 816126.20	90° VERT BEND
	1697.46	N 755559.33	E 816126.20	90° VERT BEND
PW 6	1689.75	N 755559.44	E 816152.86	90° VERT BEND
PW 7	1691.96	N 755297.38	E 816416.15	CONNECTION POINT
PW 8	1691.96	N 755297.19	E 816408.83	HORIZONTAL BEND
PW 9	1691.96	N 755346.98	E 816283.37	HORIZONTAL BEND
PW 10	1691.96	N 755346.88	E 816276.01	22.5° VERT BEND
PW 11	1688.37	N 755346.75	E 816267.46	22.5° VERT BEND
PW 12	1688.41	N 755346.20	E 816230.70	22.5° VERT BEND
PW 13	1695.88	N 755345.93	E 816212.67	22.5° VERT BEND
PW 14	1695.88	N 755344.32	E 816104.84	DEFLECT
PW 15	1696.50	N 755343.50	E 816049.59	DEFLECT
PW 16	1696.06	N 755342.02	E 815950.14	DEFLECT
SEC 1	1695.04	N 755334.76	E 816040.95	CONNECTION POINT
SEC 2	1695.04	N 755373.39	E 816079.12	22.5° VERT BEND
SEC 3	1690.62	N 755380.98	E 816086.62	WYE
SEC 4	1690.17	N 755382.06	E 816086.62	22.5° VERT BEND
SEC 5	1690.17	N 755397.73	E 816086.62	DEFLECT
SEC 6	1691.14	N 755518.45	E 816086.62	HORIZONTAL BEND
SEC 7	1691.17	N 755521.45	E 816089.62	WYE
SEC 8	1691.45	N 755521.47	E 816124.05	45° VERT BEND
SEC 9	1688.85	N 755521.47	E 816126.65	45° VERT BEND
SEC 10	1688.85	N 755521.45	E 816155.45	90° VERT BEND

NO.	DATE	DSGN	DR	CHK	APVD
		TG YAMADA	TR UY	DJ PETERSON	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

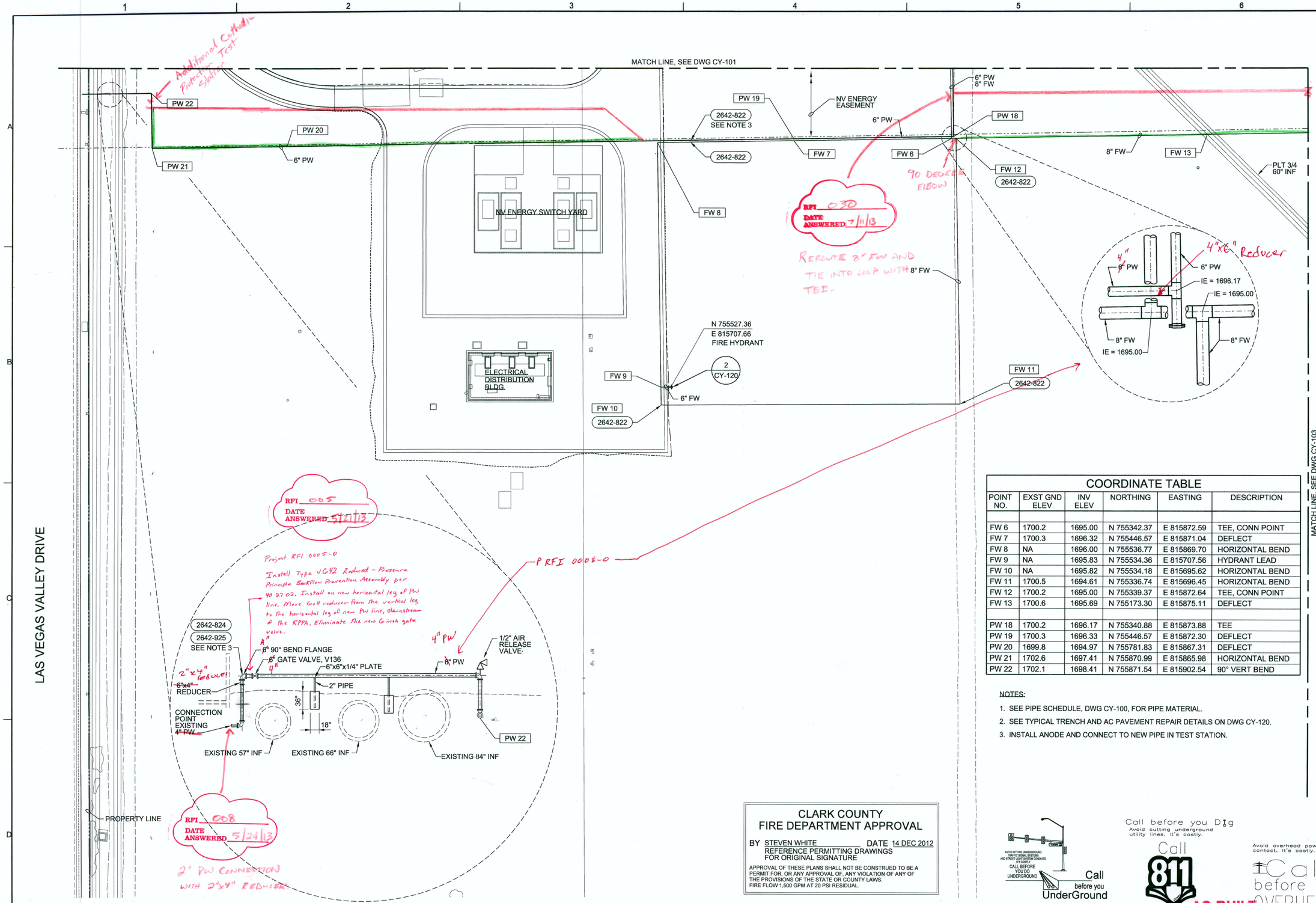
CH2MHILL

SITE DEVELOPMENT
YARD PIPING PLAN
AREA 101

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CY-101
SHEET	31

FILENAME: CY-101_413455.dgn PLOT DATE: 2013\01\03 PLOT TIME: 11:19:57 AM



COORDINATE TABLE					
POINT NO.	EXST GND ELEV	INV ELEV	NORTHING	EASTING	DESCRIPTION
FW 6	1700.2	1695.00	N 755342.37	E 815872.59	TEE, CONN POINT
FW 7	1700.3	1696.32	N 755446.57	E 815871.04	DEFLECT
FW 8	NA	1696.00	N 755536.77	E 815869.70	HORIZONTAL BEND
FW 9	NA	1695.83	N 755534.36	E 815707.56	HYDRANT LEAD
FW 10	NA	1695.82	N 755534.18	E 815695.62	HORIZONTAL BEND
FW 11	1700.5	1694.61	N 755336.74	E 815696.45	HORIZONTAL BEND
FW 12	1700.2	1695.00	N 755339.37	E 815872.64	TEE, CONN POINT
FW 13	1700.6	1695.69	N 755173.30	E 815875.11	DEFLECT
PW 18	1700.2	1696.17	N 755340.88	E 815873.88	TEE
PW 19	1700.3	1696.33	N 755446.57	E 815872.30	DEFLECT
PW 20	1699.8	1694.97	N 755781.83	E 815867.31	DEFLECT
PW 21	1702.6	1697.41	N 755870.99	E 815865.98	HORIZONTAL BEND
PW 22	1702.1	1698.41	N 755871.54	E 815902.54	90° VERT BEND

NOTES:

1. SEE PIPE SCHEDULE, DWG CY-100, FOR PIPE MATERIAL.
2. SEE TYPICAL TRENCH AND AC PAVEMENT REPAIR DETAILS ON DWG CY-120.
3. INSTALL ANODE AND CONNECT TO NEW PIPE IN TEST STATION.

CLARK COUNTY
FIRE DEPARTMENT APPROVAL

BY STEVEN WHITE DATE 14 DEC 2012
REFERENCE PERMITTING DRAWINGS FOR ORIGINAL SIGNATURE

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR ANY APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS.
FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL

N

YARD PIPING PLAN - AREA 102

1"=30'

Call before you UnderGround
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

Avoid overhead power line contact. It's costly.
Call before you OVERHEAD
1-702-227-2929

AS-BUILT
CLV PLAN# 311.57

PROFESSIONAL ENGINEER STATE OF NEVADA
No. 13043
1/8/13

RECEIVED
FEB 11 2013
McCormick Rolling Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	TG YAMADA	DR	TR UY	CHK	DJ PETERSON	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

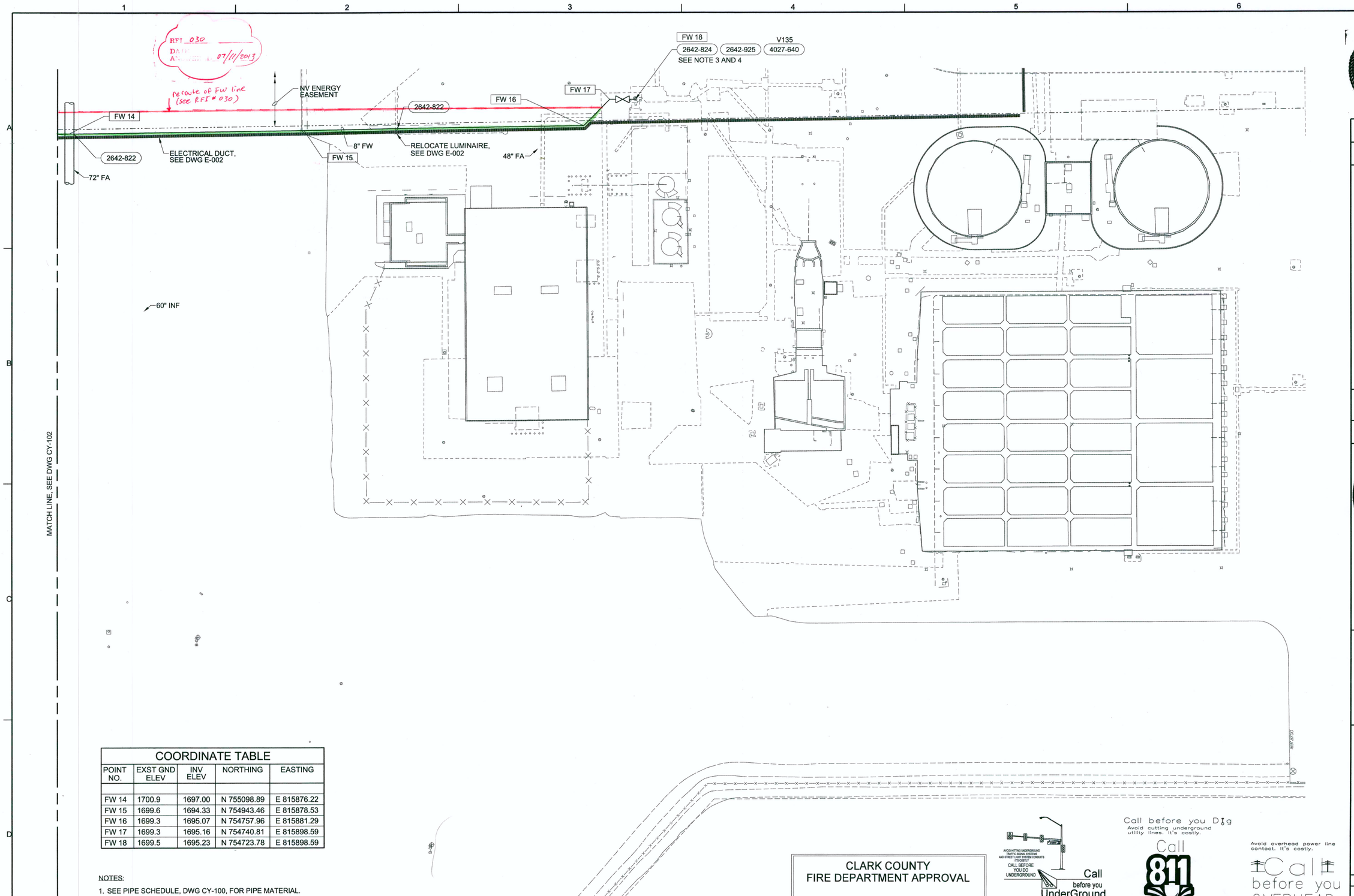
CH2MHILL

SITE DEVELOPMENT
YARD PIPING PLAN
AREA 102

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CY-102
SHEET	32

FILENAME: CY-102_413455.dgn PLOT DATE: 2013\01\03 PLOT TIME: 11:24:25 AM



COORDINATE TABLE				
POINT NO.	EXST GND ELEV	INV ELEV	NORTHING	EASTING
FW 14	1700.9	1697.00	N 755098.89	E 815876.22
FW 15	1699.6	1694.33	N 754943.46	E 815878.53
FW 16	1699.3	1695.07	N 754757.96	E 815881.29
FW 17	1699.3	1695.16	N 754740.81	E 815898.59
FW 18	1699.5	1695.23	N 754723.78	E 815898.59

NOTES:

1. SEE PIPE SCHEDULE, DWG CY-100, FOR PIPE MATERIAL.
2. SEE TYPICAL TRENCH AND AC PAVEMENT REPAIR DETAILS ON DWG CY-120.
3. INSTALL ANODE AND CONNECT TO NEW PIPE IN TEST STATION.
4. CONNECT TO EXISTING 8" FW WITH 8" GATE VALVE.

SITE PLAN - AREA 103

1"=30'

CLARK COUNTY
FIRE DEPARTMENT APPROVAL

BY _____ DATE _____

APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR ANY APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS. FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL.

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM CONDUITS IT'S COSTLY
CALL BEFORE YOU DO UNDERGROUND
Call before you UnderGround
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS
AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

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1-702-455-7544

Avoid overhead power line contact. It's costly.
Call before you OVERHEAD
1-702-227-2929

AS-BUILT
CLV PLAN# 311.57

PROFESSIONAL ENGINEER - STATE OF NEVADA
YAMADA
CIVIL
No. 18847
1/8/13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD

DSGN TG YAMADA | DR TR UY | CHK DJ PETERSON | APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

SITE DEVELOPMENT
YARD PIPING PLAN
AREA 103

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

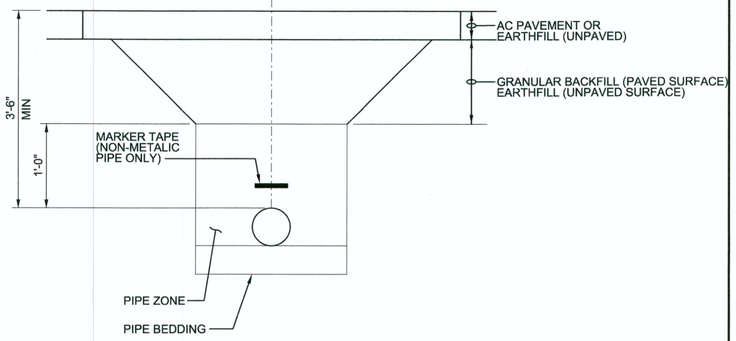
DATE	JANUARY 2013
PROJ	413455
DWG	CY-103
SHEET	33

FILENAME: CY-103_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:52:54 PM

CLARK COUNTY
FIRE DEPARTMENT APPROVAL

BY STEVEN WHITE DATE 14 DEC 2012
REFERENCE PERMITTING DRAWINGS
FOR ORIGINAL SIGNATURE

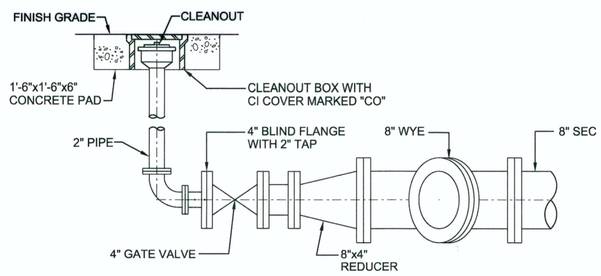
APPROVAL OF THESE PLANS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR ANY APPROVAL OF, ANY VIOLATION OF ANY OF THE PROVISIONS OF THE STATE OR COUNTY LAWS.
FIRE FLOW 1,500 GPM AT 20 PSI RESIDUAL.



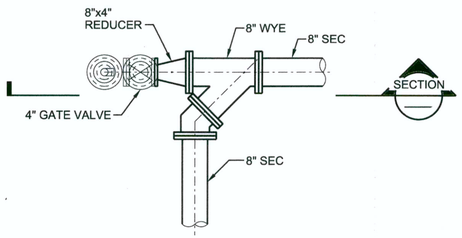
NOTES:
1. SEE PIPE SCHEDULE, DWG CY-100, FOR PIPE MATERIAL.
2. SEE SECTION 31 23 16 FOR MINIMUM TRENCH DIMENSIONS.

A TYPICAL TRENCH SECTION
3/4"=1'-0"

CY-101
CY-102
CY-103



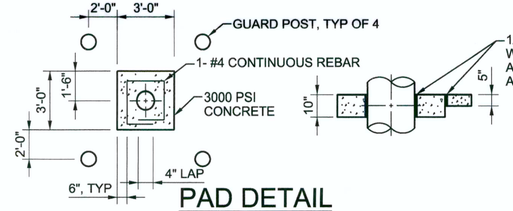
SECTION



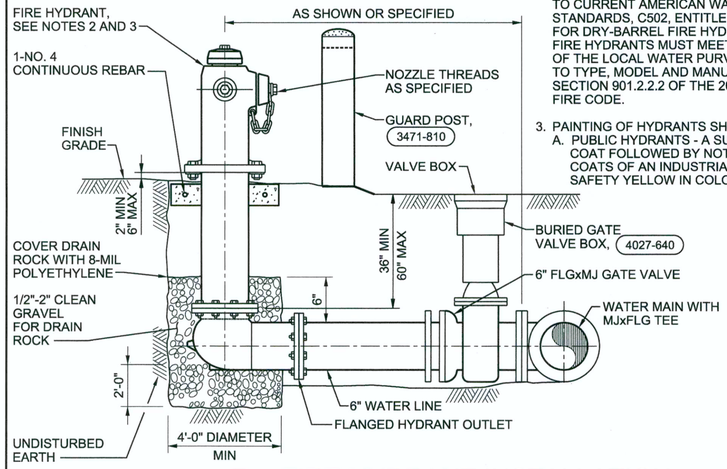
PLAN

1 PRESSURE CLEANOUT
NTS

CY-101



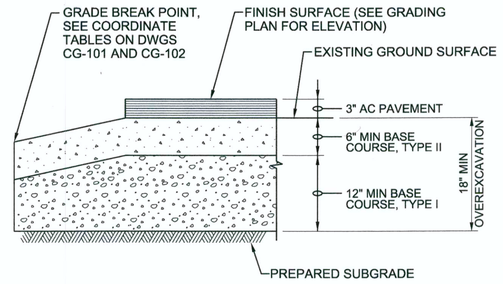
PAD DETAIL
NTS



2 FIRE HYDRANT INSTALLATION
NTS

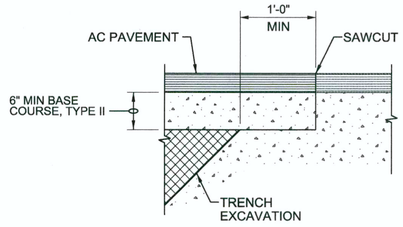
CY-102

NOTES:
1. ALL JOINTS TO BE RESTRAINED.
2. PUBLIC FIRE HYDRANTS APPROVED BY THE FIRE PREVENTION BUREAU SHALL CONFORM TO CURRENT AMERICAN WATER WORKS STANDARDS, C502, ENTITLED "STANDARD FOR DRY-BARREL FIRE HYDRANTS". IN ADDITION FIRE HYDRANTS MUST MEET THE APPROVAL OF THE LOCAL WATER PURVEYOR WITH RESPECT TO TYPE, MODEL AND MANUFACTURER. SEE SECTION 901.2.2.2 OF THE 2005 CLARK COUNTY FIRE CODE.
3. PAINTING OF HYDRANTS SHALL BE AS FOLLOWS:
   A. PUBLIC HYDRANTS - A SUITABLE PRIME COAT FOLLOWED BY NOT LESS THAN 2 COATS OF AN INDUSTRIAL GRADE ENAMEL SAFETY YELLOW IN COLOR.



B AC PAVEMENT SECTION
1"=1'-0"

CY-101
CY-102
CY-103



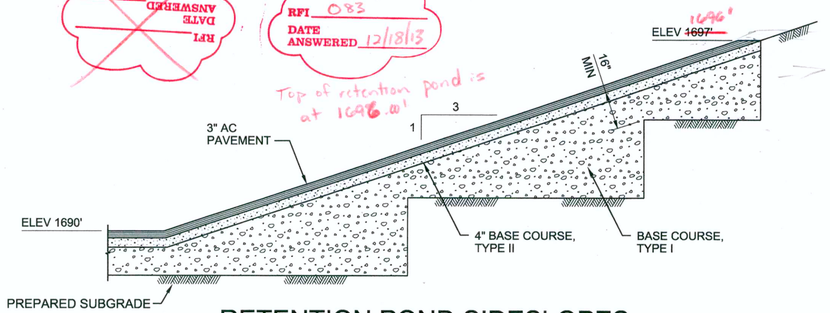
C AC PAVEMENT REPAIR SECTION
1"=1'-0"

CY-101
CY-102
CY-103

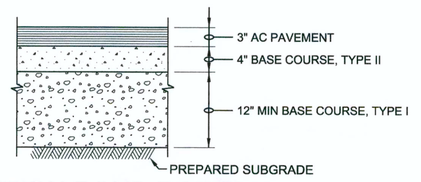
RFI
DATE ANSWERED

RFI 083
DATE ANSWERED 12/18/13

Top of retention pond is at 1696.00'



RETENTION POND SIDESLOPES
3/8"=1'-0"



RETENTION POND BOTTOM
1"=1'-0"

D RETENTION POND PAVEMENT SECTIONS
AS NOTED

CY-101
CY-102
CY-103

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	BY
REVISION		TG YAMADA	TR UY	DJ PETERSON	APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

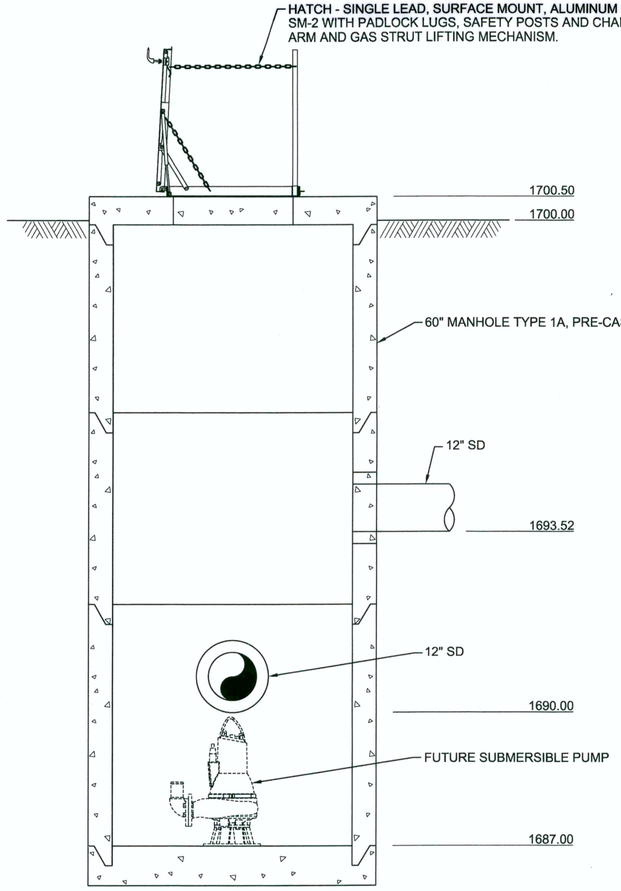
SITE DEVELOPMENT

YARD PIPING - DETAILS

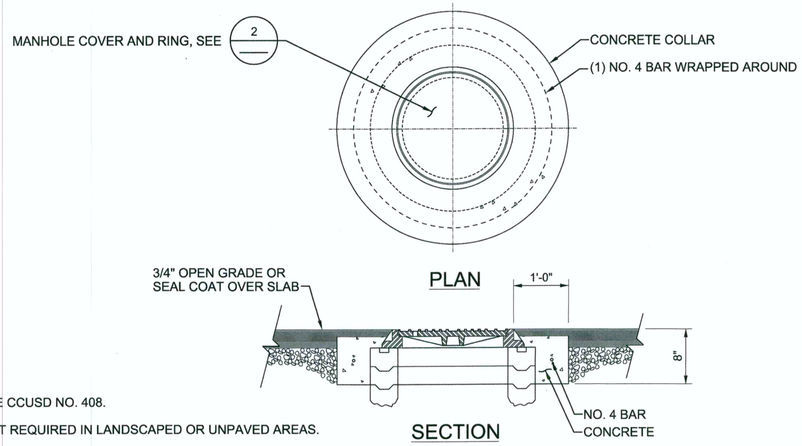
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CY-120
SHEET	34

FILENAME: CY-120_413455.dgn PLOT DATE: 2013\01\03 PLOT TIME: 11:30:21 AM

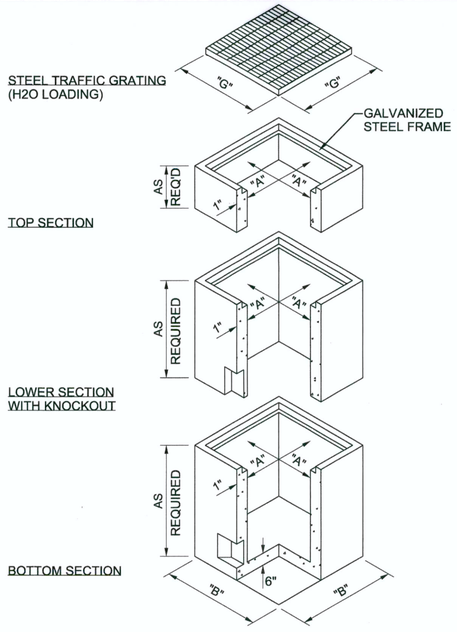


1 STORM DRAIN PUMP MANHOLE
NTS



NOTES:
1. REFERENCE CCUSD NO. 408.
2. COLLAR NOT REQUIRED IN LANDSCAPED OR UNPAVED AREAS.

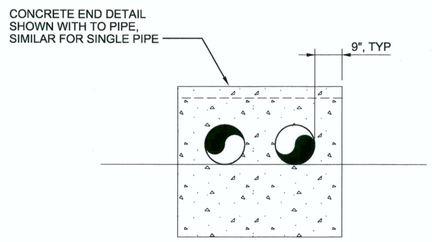
2 CONCRETE COLLAR
NTS



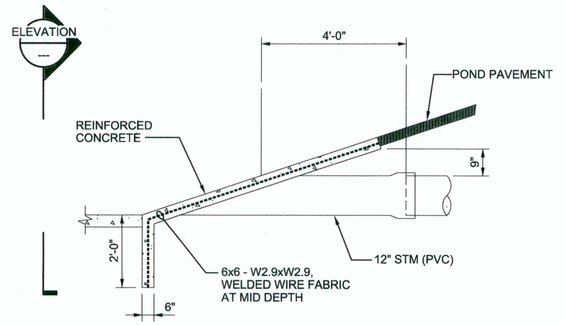
NOTES:
1. CUSTOM ORDER BLOCKOUTS OR KNOCKOUTS FOR PIPES IN THE SIZES AND LOCATIONS SHOWN ON PLANS. GROUT PIPES IN WITH NON-SHRINK GROUT.
2. GROUT BOTTOM TO DRAIN WITH 0.1 FT FALL MINIMUM.
3. REINFORCE PER MANUFACTURER'S RECOMMENDATIONS FOR H-20 LOADING.
4. COMBINE A MIX OF TOP, LOWER AND BOTTOM SECTIONS TO MEET INSTALLATION DEPTH REQUIREMENTS. INCLUDE GALVANIZED FRAME.
5. FOR 18"x18" CATCH BASIN, PROVIDE PRECAST OR CAST-IN-PLACE CONCRETE BASE. 5" MIN THICKNESS W/0.1 FT FALL MINIMUM.

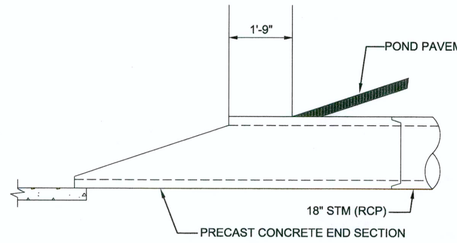
BASIN SIZE (IN)	DIMENSION			
	A	B	T	G
24 x 24	24"	36"	5"	26"

3 CATCH BASIN
NTS



ELEVATION





4 DETAIL
NTS
CG-101

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	CHK	APVD
DSGN	TG YAMADA	DR	TR UY	DJ PETERSON	APVD	BA JOHNSON

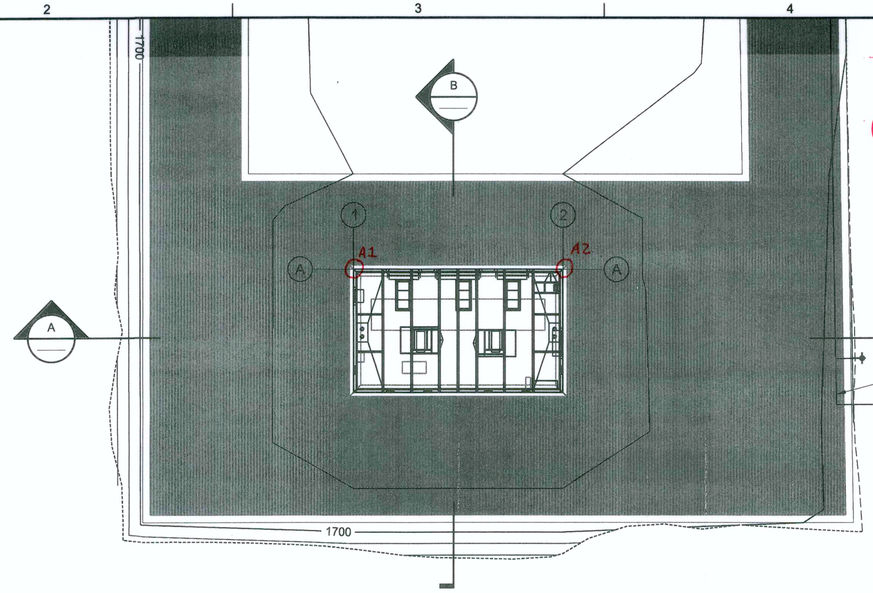
CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL
SITE DEVELOPMENT
YARD PIPING - DETAILS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CY-121
SHEET	35

FILENAME: CY-121_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:54:14 PM



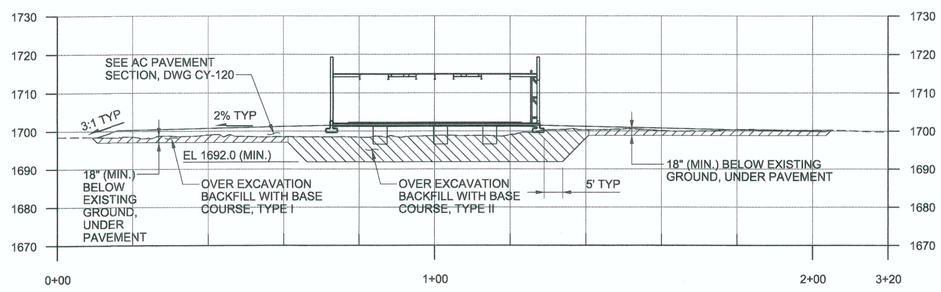
RFI_ 018
DATE ANSWERED 6/13/13

RFI 018 (6/13/13)
corner A1 Northing 755661.96
Easting 815730.83
corner A2 Northing 755606.63
Easting 815730.83

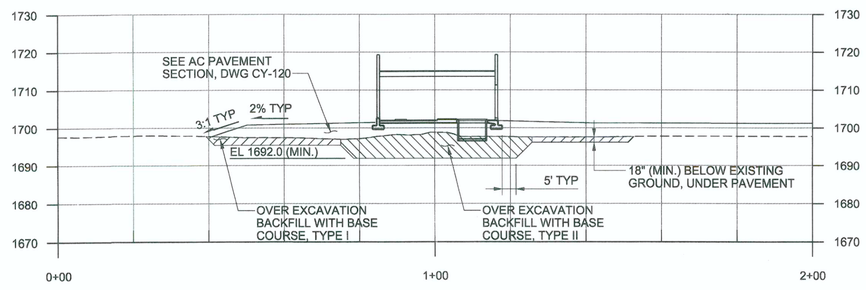
NOTES:
1. SEE DWG CG-102 FOR SPOT ELEVATIONS AND COORDINATES.

N

ELECTRICAL DISTRIBUTION BLDG. - SITE PLAN
1"=20'



A SECTION
1"=20'



B SECTION
1"=20'

AVOID HITTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHTING SYSTEM CONDUITS IT'S COSTLY!
CALL BEFORE YOU DIG UNDERGROUND
Call before you UnderGround
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS
AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

Avoid overhead power line contact. It's costly.
Call before you OVERHEAD
1-702-[illegible]

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	REVISION	APVD	BY
		TG YAMADA		TR UY		DJ PETERSON	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

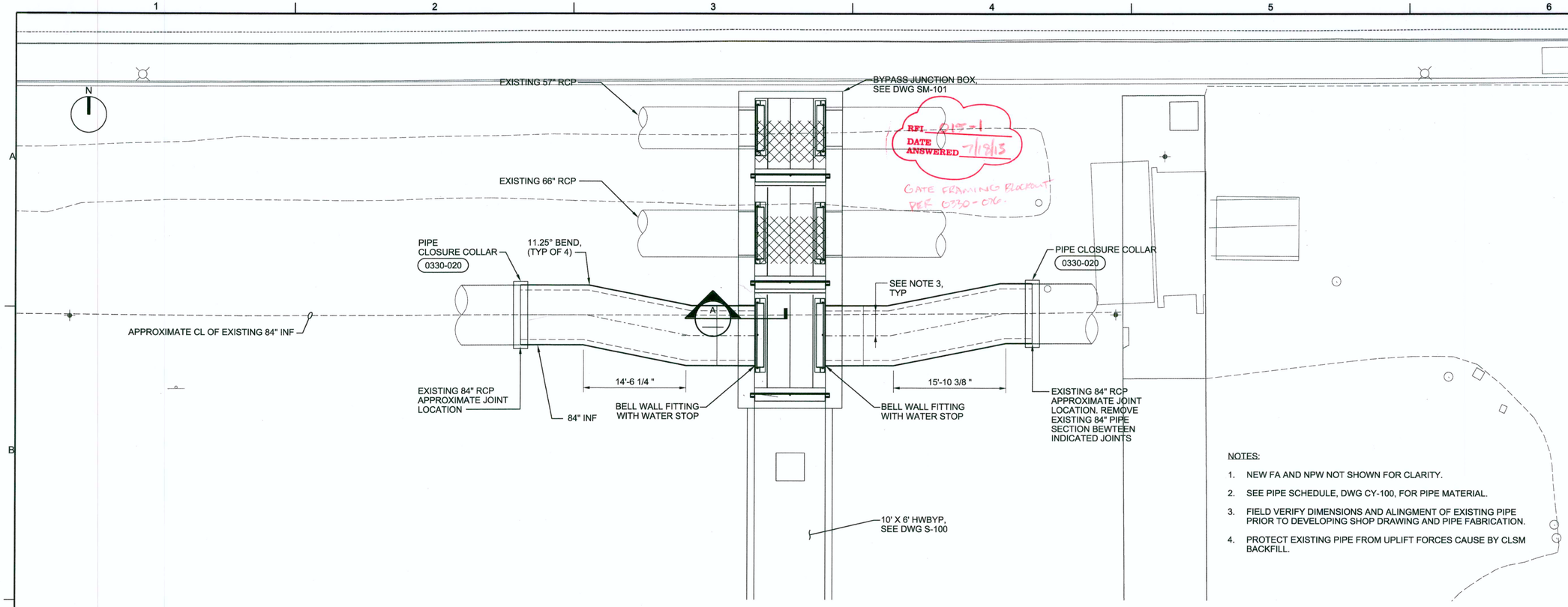
CH2MHILL

SITE DEVELOPMENT
SITE GRADING - PARTIAL PLAN AND SECTIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CY-160
SHEET	36

FILENAME: CY-160_413455.DGN PLOT DATE: 2013\01\03 PLOT TIME: 3:12:43 PM



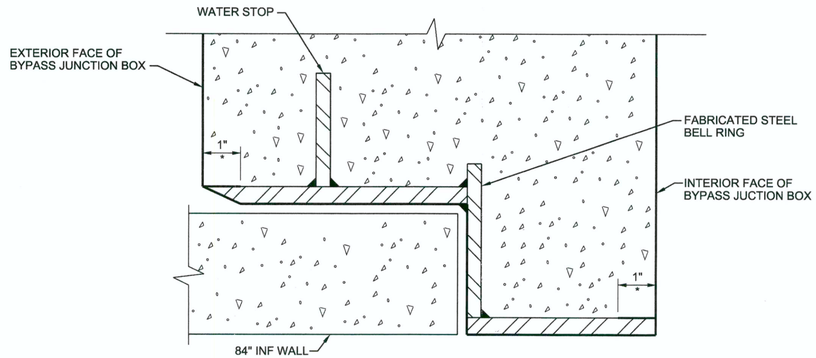
NOTES:

1. NEW FA AND NPW NOT SHOWN FOR CLARITY.
2. SEE PIPE SCHEDULE, DWG CY-100, FOR PIPE MATERIAL.
3. FIELD VERIFY DIMENSIONS AND ALINGMENT OF EXISTING PIPE PRIOR TO DEVELOPING SHOP DRAWING AND PIPE FABRICATION.
4. PROTECT EXISTING PIPE FROM UPLIFT FORCES CAUSE BY CLSM BACKFILL.

PARTIAL PLAN - INFLUENT BYPASS STRUCTURE

1/8"=1'-0"

RFI # 033 (07/16/13)
Bell wall fitting applies only to 84" pipe.



* COATING WITHIN LIMITS SHOWN.

NOTES:

1. ALL EXPOSED STEEL SURFACES OF BELL WALL FITTINGS (BWF) SHALL BE COATED WITH SYSTEM 7 EPOXY COATING IN ACCORDANCE WITH SECTION 09 90 00..
2. BELL WALL FITTINGS (BWF) SHALL HAVE SPIDER BRACING INSTALLED AT POINT OF MANUFACTURING.
3. CONCRETE NOT TO BE POURED AROUND BELL WALL FITTINGS (BWF) WITHOUT ADEQUATE BRACING OR SPIGOT INSERTED SO AS TO KEEP BWF ROUND AND TRUE.

A BELL WALL FITTING

NTS

Call before you UnderGround
1-702-455-7511 CLARK COUNTY TRAFFIC OPERATIONS AND 1-702-229-6611 LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 OR 1-800-227-2600 AND CLARK COUNTY TRAFFIC OPERATIONS 1-702-455-7544

Avoid overhead power line contact. It's costly.
Call before you OVERHEAD 1-702-227-2929

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies

NO.	DATE	DSGN	DR	REVISION	CHK	APVD	BY
		TG YAMADA	TR UY		DJ PETERSON	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

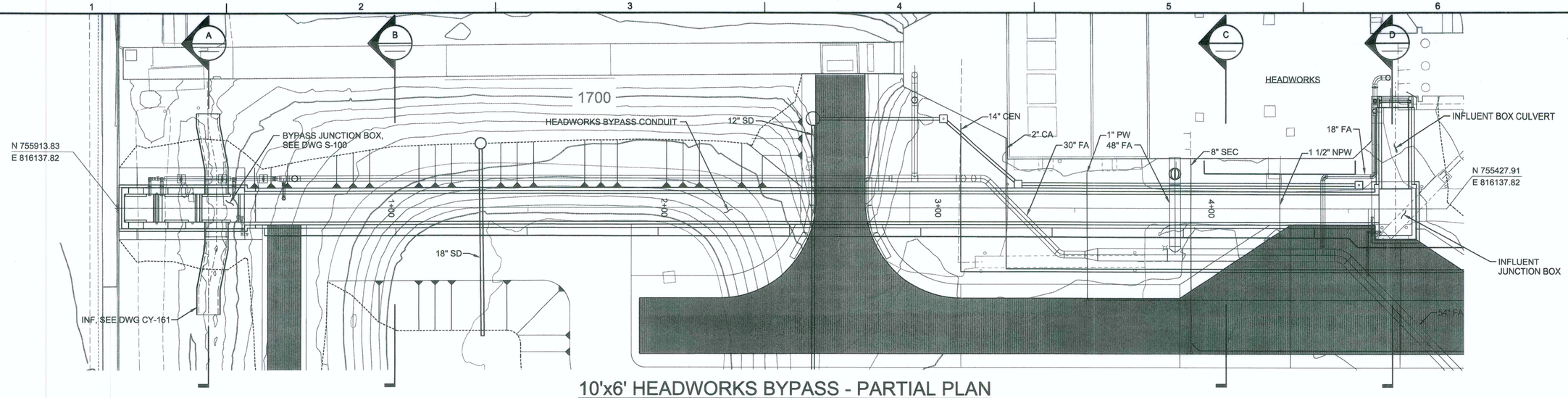
CH2MHILL

SITE DEVELOPMENT
YARD PIPING
PARTIAL PLAN AND DETAIL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CY-161
SHEET	37

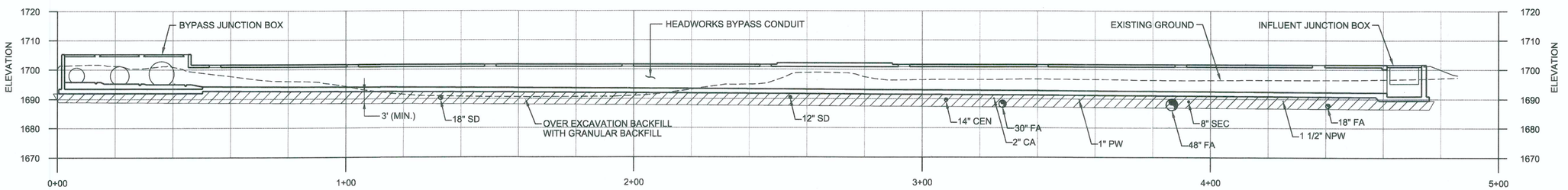
FILENAME: CY-161_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:55:50 PM



10'x6' HEADWORKS BYPASS - PARTIAL PLAN

1"=20'

C-100
CY-101



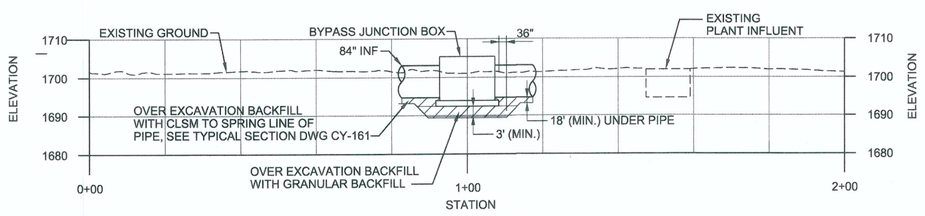
NOTE:

1. SEE PIPE SCHEDULE, DWG CY-100, FOR PIPE MATERIAL.

10'x6' HEADWORKS BYPASS - PROFILE

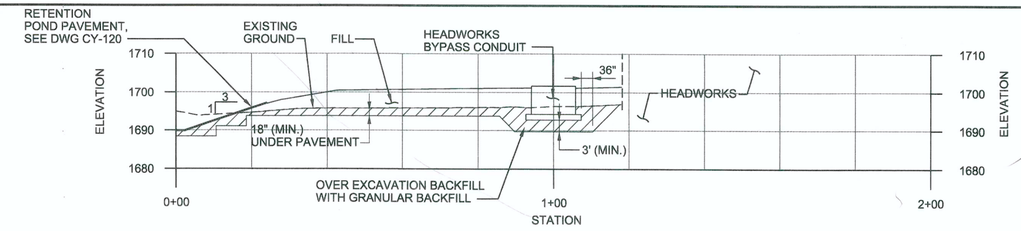
1"=20'

C-100
CY-101



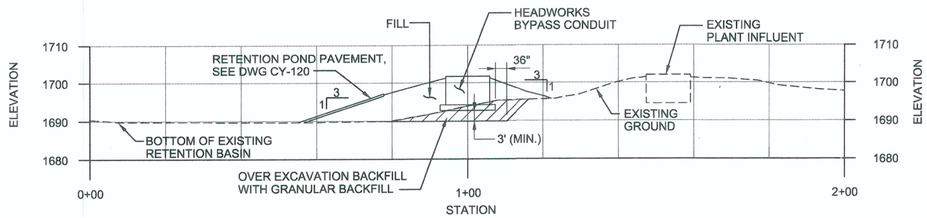
A SECTION

1"=20'



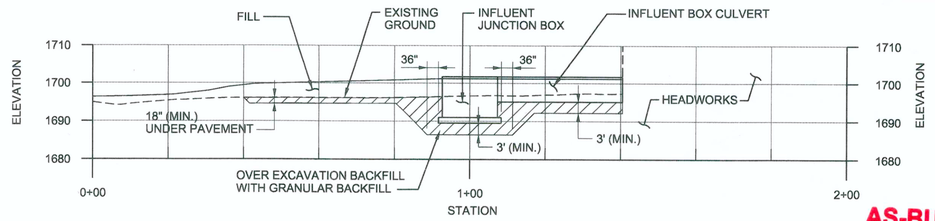
C SECTION

1"=20'



B SECTION

1"=20'



D SECTION

1"=20'

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	REVISION	CHK	BY	APVD
		TG YAMADA	TR UY		DJ PETERSON		BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

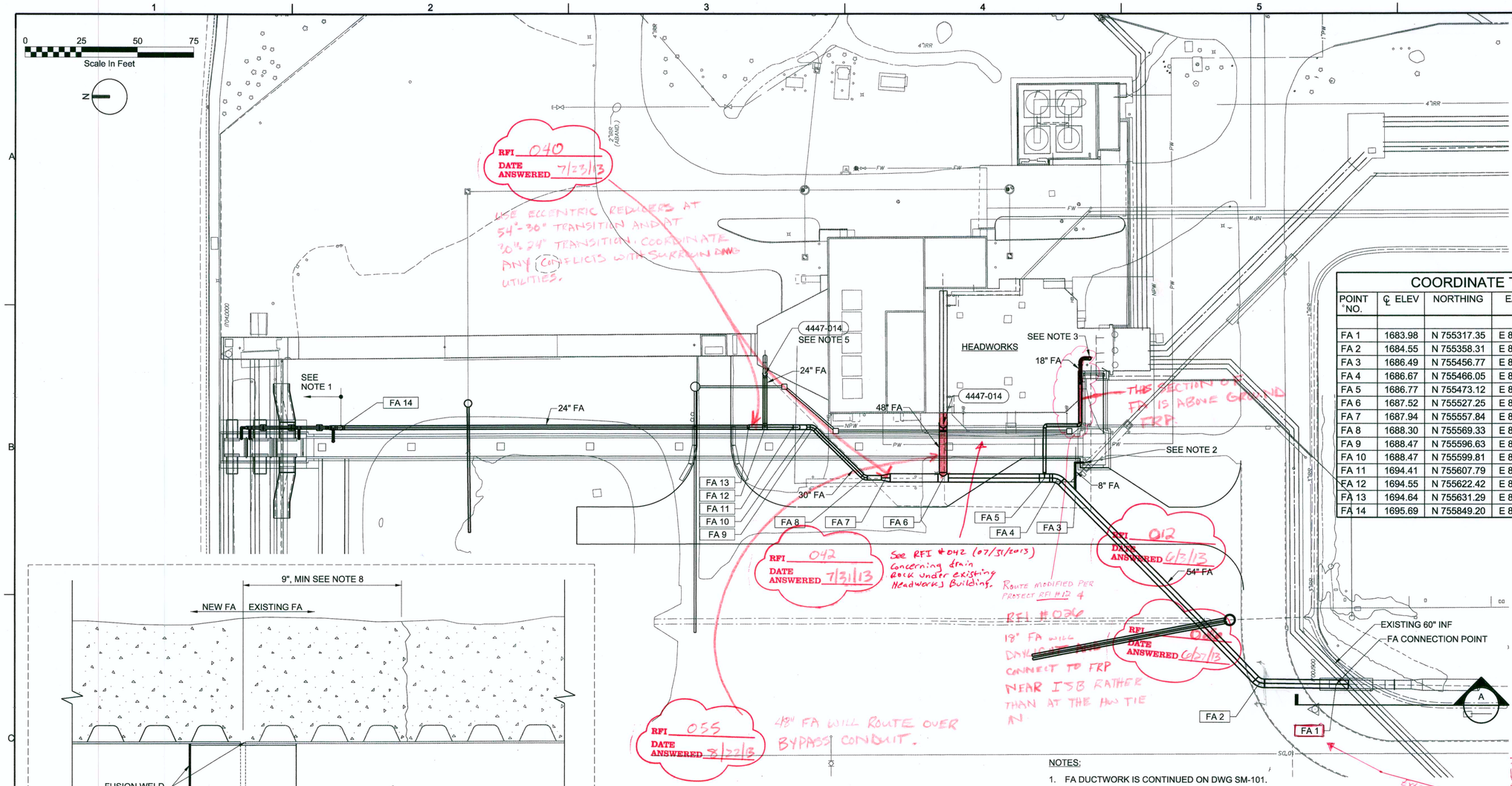
CH2MHILL

SITE DEVELOPMENT
YARD PIPING AND SITE GRADING
PARTIAL PLAN AND PROFILES

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CY-162
SHEET	38

FILENAME: CY-162_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:56:37 PM



ENLARGED PARTIAL PLAN

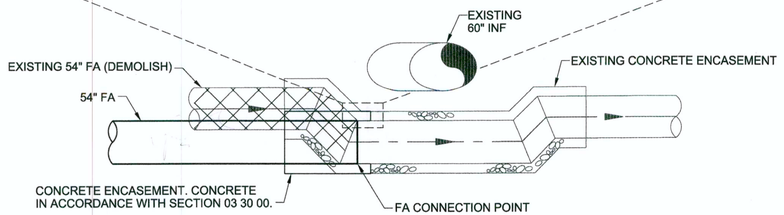
1"= 30'

COORDINATE TABLE				
POINT NO.	℄ ELEV	NORTHING	EASTING	DESCRIPTION
FA 1	1683.98	N 755317.35	E 816010.92	CONNECTION POINT
FA 2	1684.55	N 755358.31	E 816011.37	HORIZONTAL BEND
FA 3	1686.49	N 755456.77	E 816111.60	BRANCH
FA 4	1686.67	N 755466.05	E 816121.06	HORIZONTAL BEND
FA 5	1686.77	N 755473.12	E 816121.07	BRANCH
FA 6	1687.52	N 755527.25	E 816121.06	BRANCH
FA 7	1687.94	N 755557.84	E 816121.09	54"x30" REDUCER
FA 8	1688.30	N 755569.33	E 816121.08	HORIZONTAL BEND
FA 9	1688.47	N 755596.63	E 816148.39	HORIZONTAL BEND
FA 10	1688.47	N 755599.81	E 816148.43	VERTICAL BEND
FA 11	1694.41	N 755607.79	E 816148.41	VERTICAL BEND
FA 12	1694.55	N 755622.42	E 816148.41	BRANCH
FA 13	1694.64	N 755631.29	E 816148.40	30"x24" REDUCER
FA 14	1695.69	N 755849.20	E 816148.40	CONNECTION POINT

NOTES:

1. FA DUCTWORK IS CONTINUED ON DWG SM-101.
2. FA DUCTWORK IS CONTINUED ON DWG SM-102.
3. FA DUCTWORK IS CONTINUED ON DWG SM-103.
4. NPW, CEN, PW, CA AND SEC PIPES ARE NOT SHOWN FOR CLARITY.
5. CONNECT BURIED FA TO EXISTING ABOVE GROUND DUCT. CUT BACK EXISTING DUCT AND CONNECT NEW (4447-014). BALANCE FA FLOW FROM INFLUENT BOX TO 5,470 CFM.
6. CONNECT BURIED FA TO EXISTING ABOVE GROUND DUCT. BALANCE FA FLOW FROM HEADWORKS TO 20,850 CFM. CUT BACK EXISTING DUCTWORK AND CONNECT NEW (4447-014)
7. SEE PIPE SCHEDULE, DWG CY-100, FOR MATERIAL.
8. CUT BACK EXISTING CONCRETE ENCASEMENT A MINIMUM OF 9" BEYOND END TO EXPOSE EXISTING PIPE. TRIM AND SQUARE END OF EXISTING PIPE. FUSION WELD 12" WIDE X 1/4" THICK HIGH DENSITY POLYETHYLENE STRIP TO CONNECT THE INTERIOR OF NEW AND EXISTING PIPE

REVISED PER PRE-BID RFI # 5



A SECTION

NTS

Call before you UnderGround
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

Call before you Dig
Avoid cutting underground utility lines. It's costly.
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OR
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AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

Avoid overhead power line contact. It's costly.
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1-702-227-2929

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	APVD	BY
		TG YAMADA	TR UY	DJ PETERSON	APVD	BA JOHNSON
			REVISION			

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

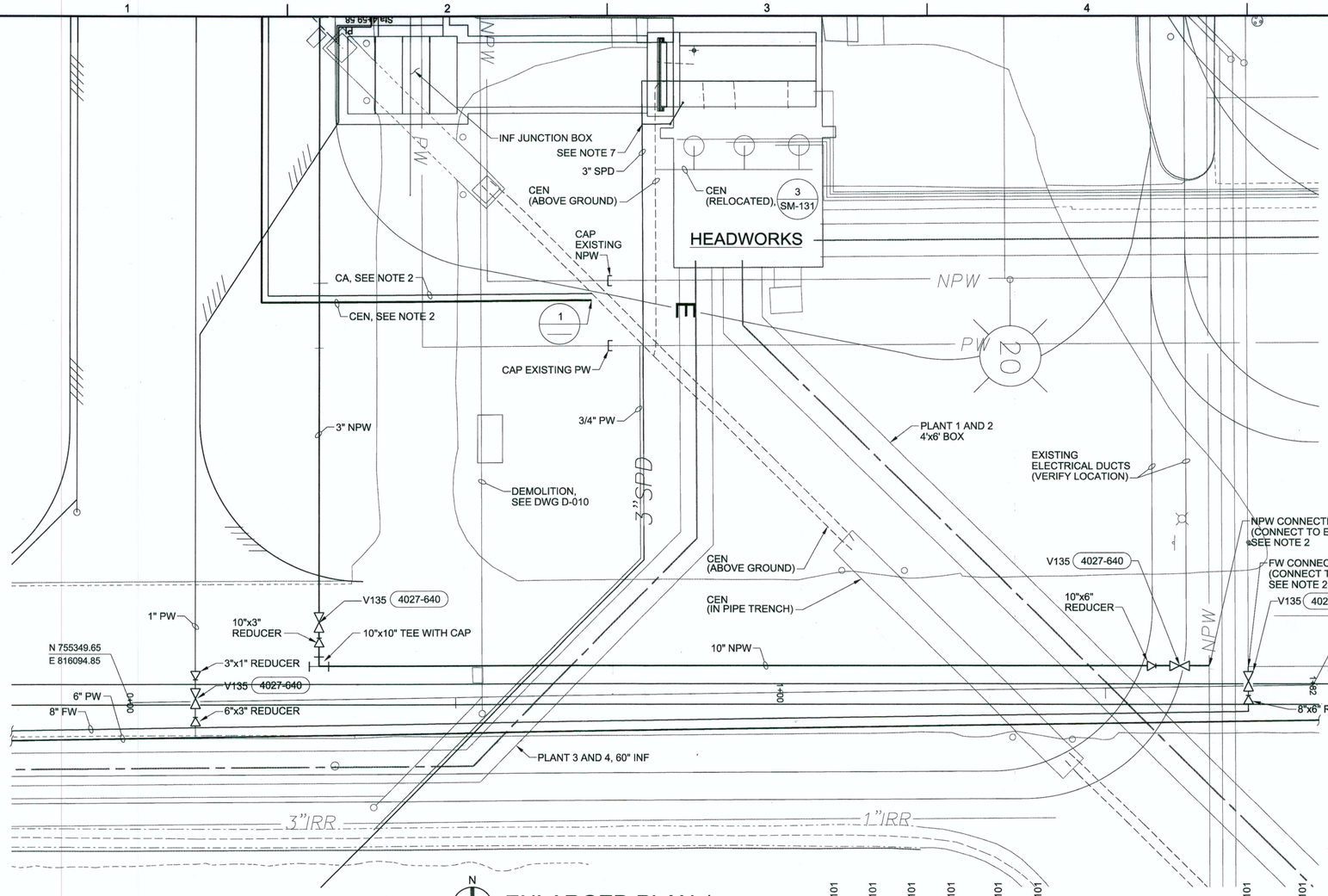
CH2MHILL

SITE DEVELOPMENT
YARD PIPING
PARTIAL PLAN AND DETAIL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

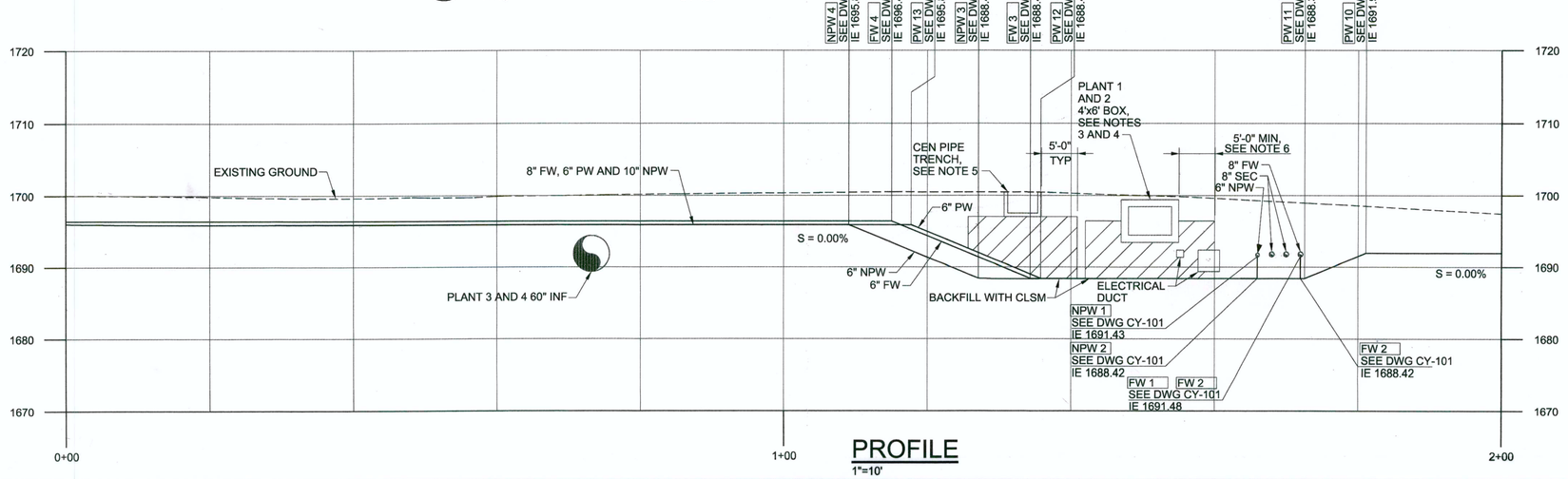
DATE	JANUARY 2013
PROJ	413455
DWG	CY-163
SHEET	39

FILENAME: CY-163_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 12:57:26 PM



ENLARGED PLAN 1

1"=10' CY-101

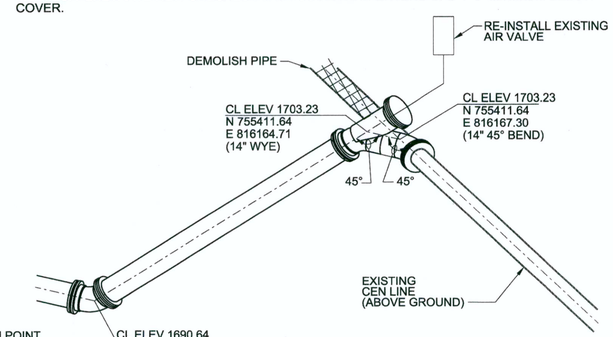


PROFILE

1"=10'

NOTES:

1. SEE PIPE SCHEDULE, DWG CY-100, FOR PIPE MATERIAL.
2. SEE COORDINATE TABLE ON CY-101 FOR HORIZONTAL AND VERTICAL INFORMATION.
3. EXCAVATE UNDER EXISTING INF BOX, TEMPORARY SUPPORT AND BACKFILL WITH CLSM.
4. ANCHOR PIPE FROM UPLIFT FORCES DURING PLACEMENT OF CLSM.
5. EXISTING CEN PIPE TRENCH MAY BE REMOVED AND REPLACED OR TEMPORARLY SUPPORTED FOR INSTALLATION ON NEW PIPE. BACKFILL WITH CLSM. IF TEMPORARLY SUPPORTED.
6. PW AND FW PIPES MUST BE ENCASED IN CLSM A MINIMUM OF 10 FEET BEYOND THE VERTICAL FACE OF THE 4'x6' BOX.
7. CONNECT TO EXISTING BURIED 3" SPD WITH 90° BEND (HORIZONTAL) AND TW0 90° BENDS (VERTICAL). ROTATE UPPER 90° BEND TO ROUTE SPD BETWEEN THE NEW AND EXISTING GATE FRAMES. PENETRATE NEW CHECKED PLATE COVER AND EXTEND SPD 1'-0" MINIMUM BELOW COVER.



1 CONNECTION DETAIL

NTS

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN
DR	TG YAMADA	
CHK	TR UY	
APVD	DJ PETERSON	
BY	APVD	BA JOHNSON
REVISION		

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

Call before you UnderGround
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS
AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

Avoid overhead power line contact. It's costly.
Call before you OVERHEAD
1-702-227-2929

CH2MHILL

SITE DEVELOPMENT
YARD PIPING - PARTIAL PLAN AND DETAIL

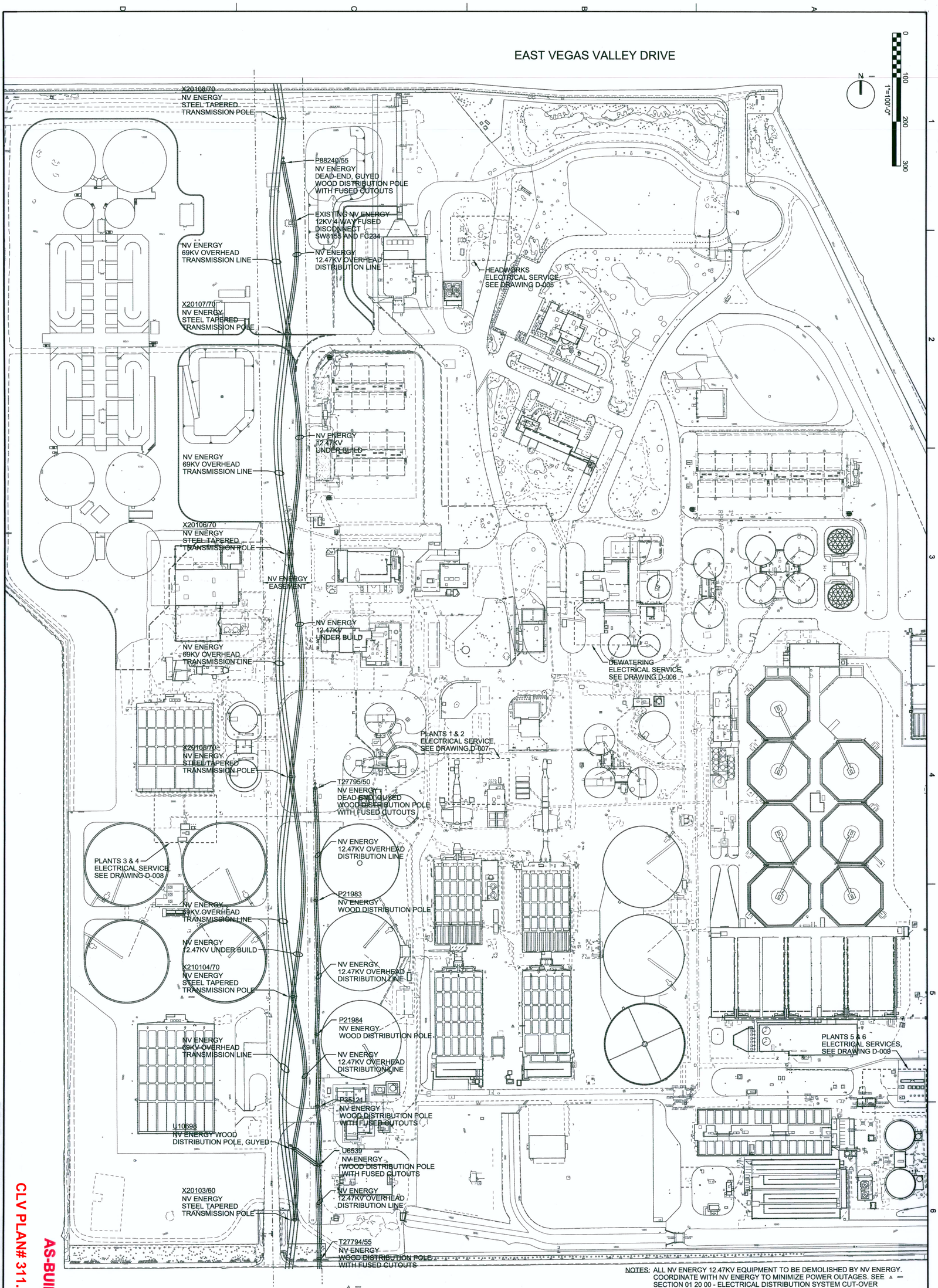
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CY-164
SHEET	40

AS-BUILT

CLV PLAN# 311.57

FILENAME: CY-164_413455.DGN PLOT DATE: 2012\12\28 PLOT TIME: 12:58:21 PM



NOTES: ALL NV ENERGY 12.47KV EQUIPMENT TO BE DEMOLISHED BY NV ENERGY. COORDINATE WITH NV ENERGY TO MINIMIZE POWER OUTAGES. SEE SECTION 01 20 00 - ELECTRICAL DISTRIBUTION SYSTEM CUT-OVER CONSTRAINED SEQUENCE OF WORK.

AS-BUILT

CLV PLAN# 311.57

FILENAME: D-004_413455.dgn PLOT DATE: 20121228

PLOT TIME: 1:04:27 PM

CH2MHILL

DEMOLITION

NV ENERGY DISTRIBUTION
ELECTRICAL DEMOLITION
KEY PLAN

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD

DSGN	DR	CHK	APVD
AJ HALL	J MARTINEZ	JR HOYLE	BA JOHNSON

PROFESSIONAL ENGINEER STATE OF NEVADA
AARON J. HALL
ELECTRICAL
No. 12961
EXP. 6/30/13
1/8/13

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

DATE JANUARY 2013
PROJ 413455
DWG D-004
SHEET 41

0 5 10 15
Scale In Feet

N

COORDINATE FOR
NV ENERGY TO DEMOLISH
EXISTING POWER SUPPLY
CIRCUIT TO EXISTING SW8155
PRESERVE AND PROTECT UNTIL
NEW 12KV FEEDER CIRCUIT TO
HEADWORKS IS AVAILABLE FOR USE

EXISTING ELECTRICAL VAULT
UGM11866

EXISTING STORM DRAIN

COORDINATE FOR
NV ENERGY TO DEMOLISH
PRIMARY CABLING

DEMOLISH
SECONDARY CABLING

COORDINATE WITH NV ENERGY TO PLAN AND SCHEDULE
THEIR DEMOLITION AND REMOVAL OF EXISTING NV ENERGY
1500 kVA XFMR HHH36484

EXISTING GENERATOR
GEN-V05ELE408-GEN-8-1

POWER PLAN
1"=5'-0"

NOTES:

1. ALL NV ENERGY 12.47KV EQUIPMENT TO BE DEMOLISHED BY NV ENERGY. COORDINATE WITH NV ENERGY TO MINIMIZE POWER OUTAGES. SEE SECTION 01 20 00 - ELECTRICAL DISTRIBUTION SYSTEM CUT-OVER CONSTRAINED SEQUENCE OF WORK.

AS-BUILT

CLV PLAN# 311.57

STATE OF NEVADA
PROFESSIONAL ENGINEER
AARON J HALL
ELECTRICAL
No. 12981
Exp: 6/30/15
1/8/13

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McCarthy Building

NO.	DATE	REVISION	DR	CHK	APVD	BY	APVD
DSGN		AJ HALL		TR UY	JR HOYLE		BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

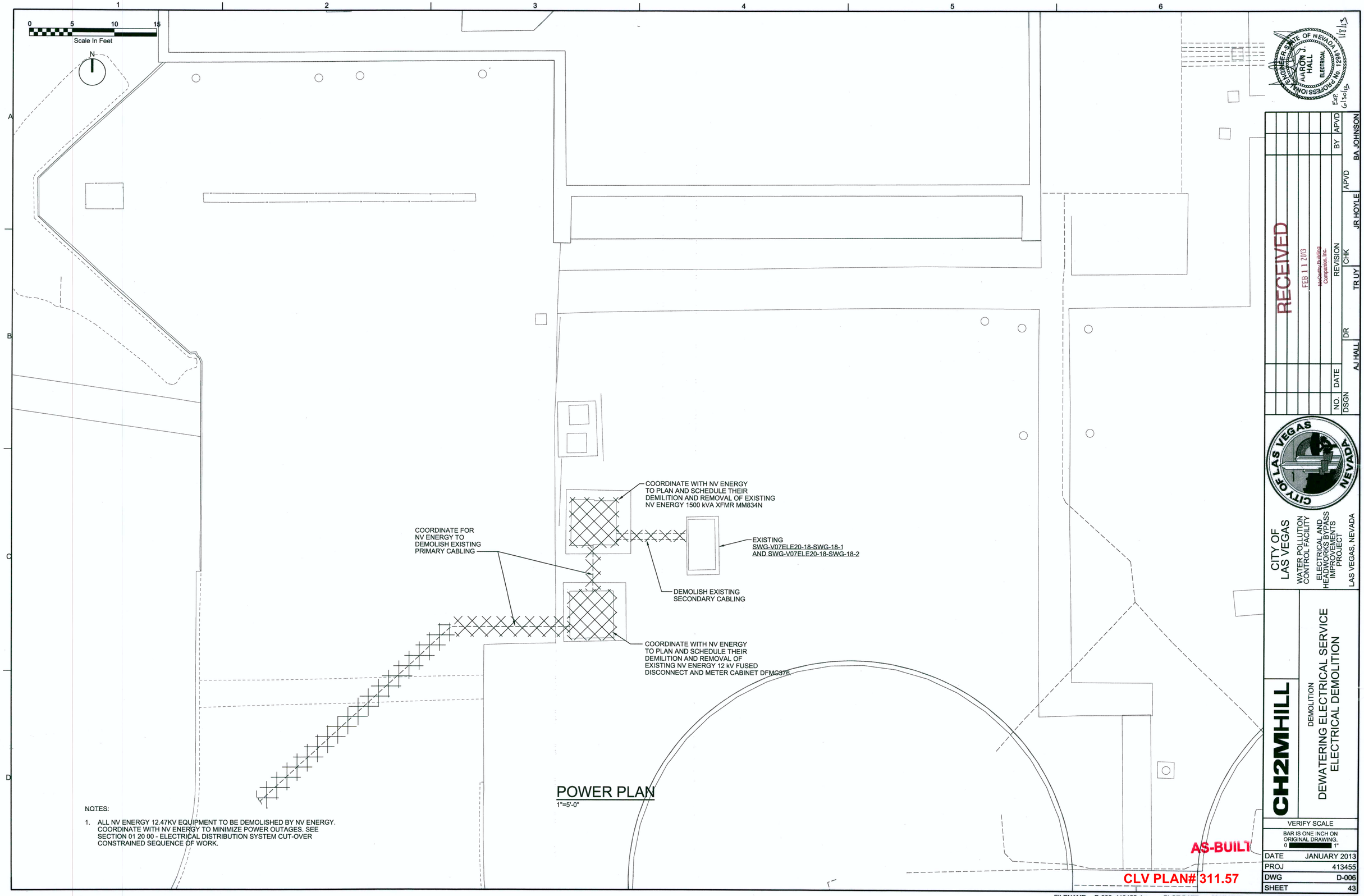
CH2MHILL

DEMOLITION
HEADWORKS ELECTRICAL SERVICE
ELECTRICAL DEMOLITION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	D-005
SHEET	42

FILENAME: D-005_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:05:18 PM



POWER PLAN

1"=5'-0"

NOTES:

1. ALL NV ENERGY 12.47KV EQUIPMENT TO BE DEMOLISHED BY NV ENERGY. COORDINATE WITH NV ENERGY TO MINIMIZE POWER OUTAGES. SEE SECTION 01 20 00 - ELECTRICAL DISTRIBUTION SYSTEM CUT-OVER CONSTRAINED SEQUENCE OF WORK.

STATE OF NEVADA
PROFESSIONAL ENGINEER
AARON J. HALL
ELECTRICAL
No. 12967
Exp. 6/30/15
1/21/13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	CHK	APVD
DSGN	AJ HALL	DR	TR UY	JR HOYLE	APVD	BA JOHNSON	BY	APVD

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

DEMOLITION
DEWATERING ELECTRICAL SERVICE ELECTRICAL DEMOLITION

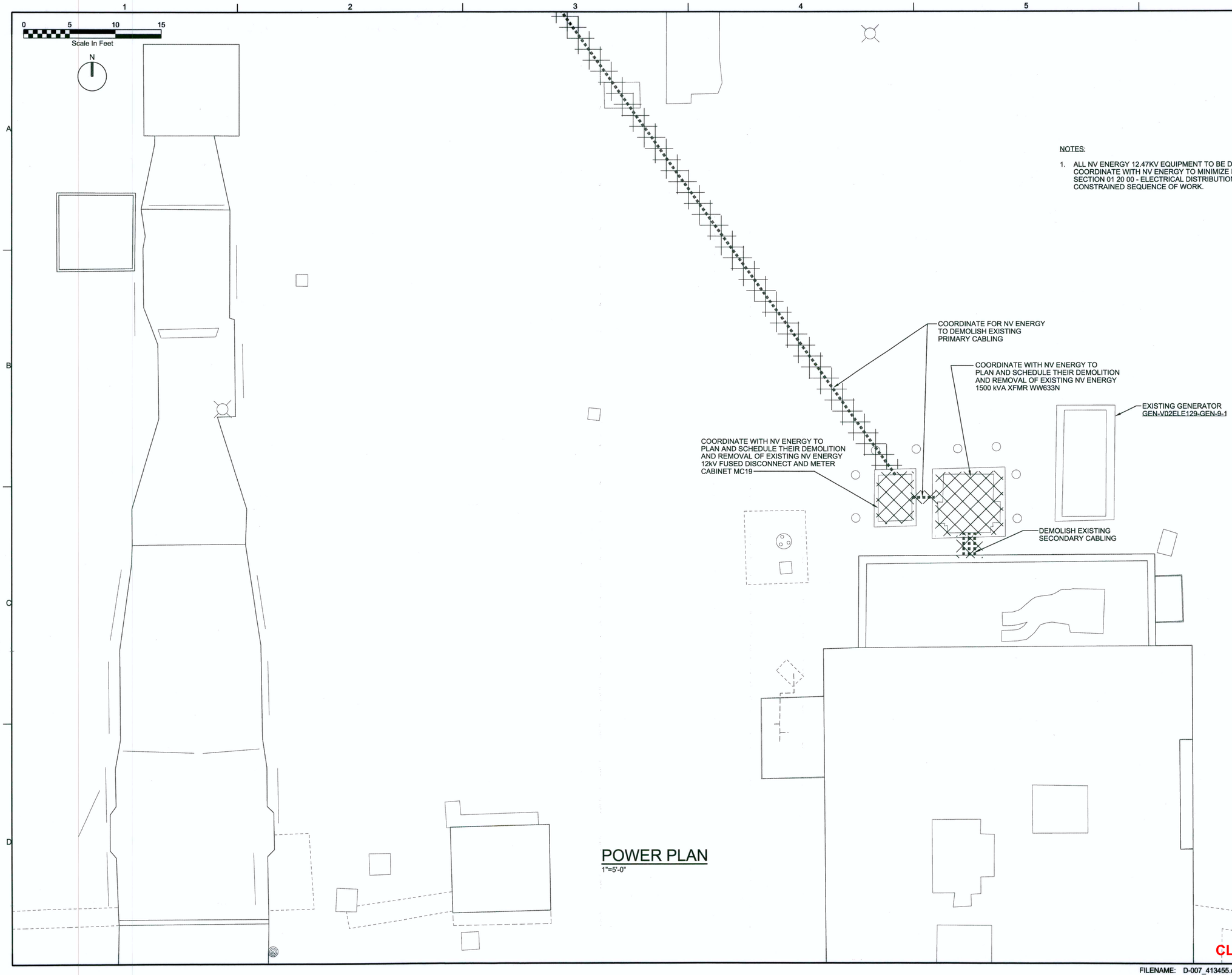
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	D-006
SHEET	43

AS-BUILT

CLV PLAN# 311.57

FILENAME: D-006_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:06:03 PM



NOTES:

1. ALL NV ENERGY 12.47KV EQUIPMENT TO BE DEMOLISHED BY NV ENERGY. COORDINATE WITH NV ENERGY TO MINIMIZE POWER OUTAGES. SEE SECTION 01 20 00 - ELECTRICAL DISTRIBUTION SYSTEM CUT-OVER CONSTRAINED SEQUENCE OF WORK.

POWER PLAN
1"=5'-0"

AS-BUILT

CLV PLAN# 311.57

STATE OF NEVADA
PROFESSIONAL ENGINEER
AARON J. HALL
No. 12961
ELECTRICAL
1/8/13
Exp. 6/30/13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	REVISION	BY	APVD
	AJ HALL		DR	TR UY	CHK	JR HOYLE	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

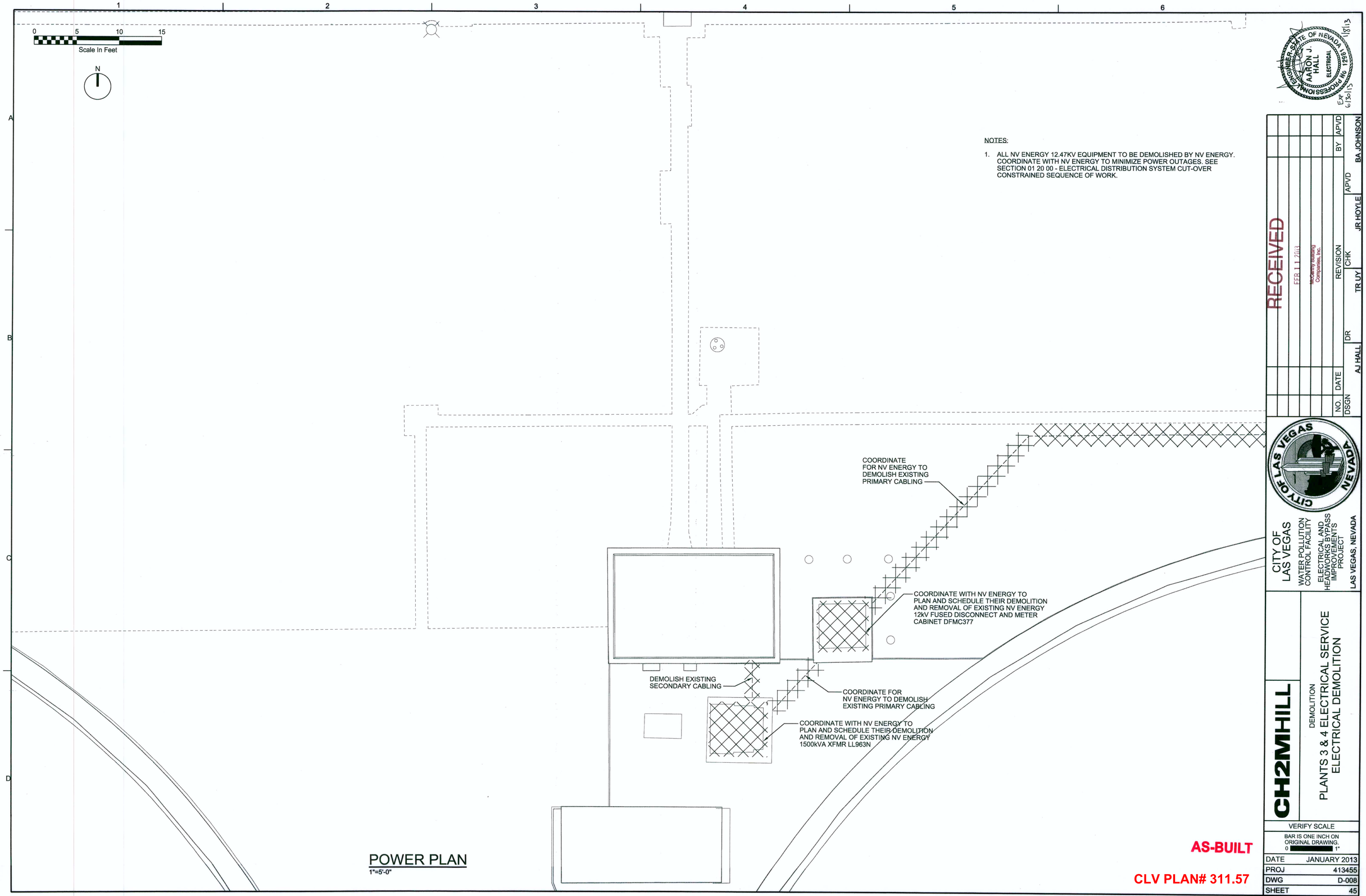
CH2MHILL

DEMOLITION
PLANTS 1 & 2 ELECTRICAL SERVICE
ELECTRICAL DEMOLITION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	D-007
SHEET	44

FILENAME: D-007_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:06:45 PM



NOTES:

1. ALL NV ENERGY 12.47KV EQUIPMENT TO BE DEMOLISHED BY NV ENERGY. COORDINATE WITH NV ENERGY TO MINIMIZE POWER OUTAGES. SEE SECTION 01 20 00 - ELECTRICAL DISTRIBUTION SYSTEM CUT-OVER CONSTRAINED SEQUENCE OF WORK.

POWER PLAN
1"=5'-0"

AS-BUILT

CLV PLAN# 311.57

STATE OF NEVADA — REGISTERED PROFESSIONAL ENGINEER — AARON J. HALL — ELECTRICAL — No. 12951 — EXP 6/30/13 — 1/8/13

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FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	AJ HALL	DR TR UY	CHK JR HOYLE	APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

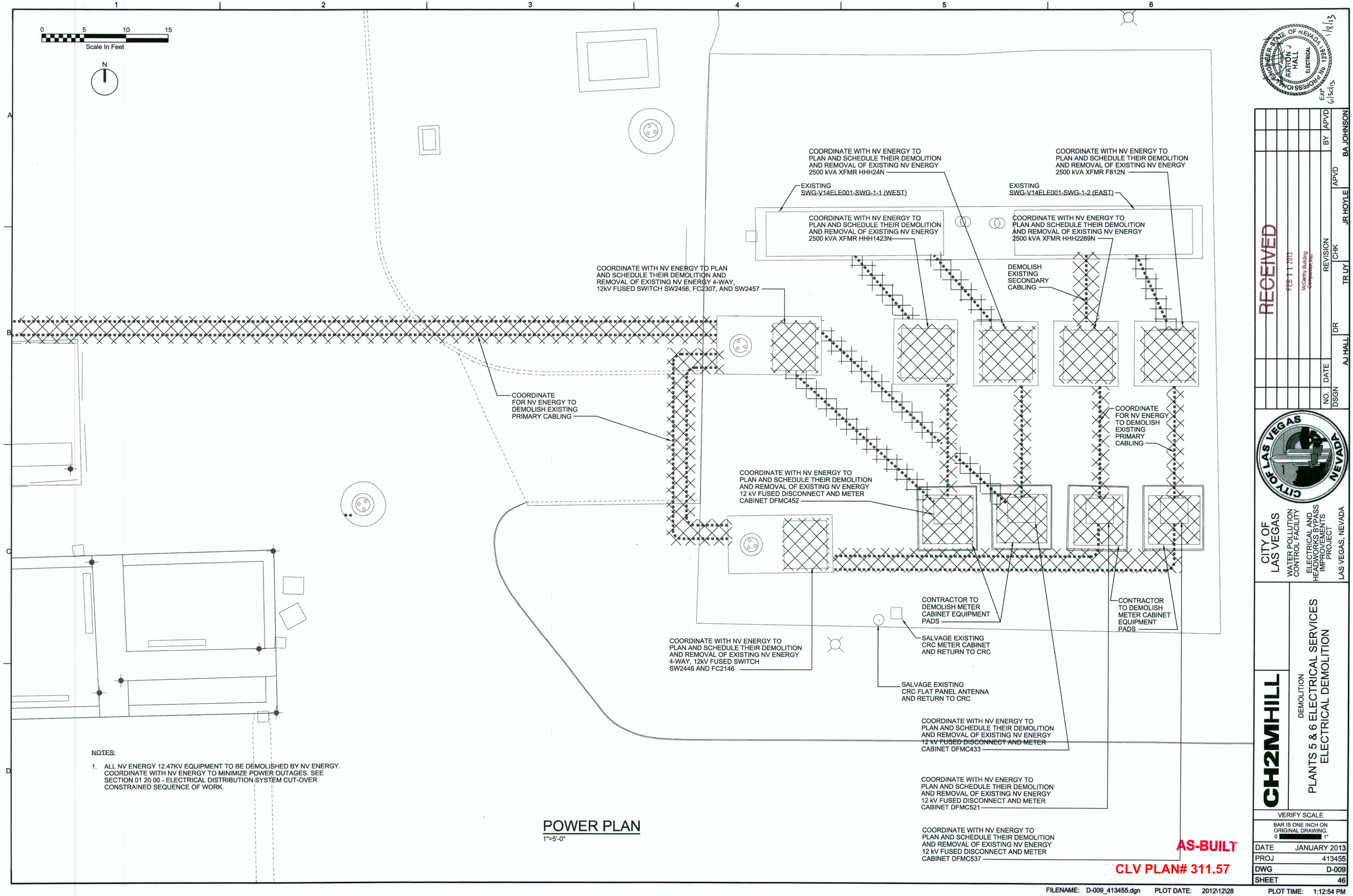
CH2MHILL

DEMOLITION
PLANTS 3 & 4 ELECTRICAL SERVICE
ELECTRICAL DEMOLITION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	D-008
SHEET	45

FILENAME: D-008_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:12:11 PM



NOTES:

1. ALL NV ENERGY 12.47KV EQUIPMENT TO BE DEMOLISHED BY NV ENERGY. COORDINATE WITH NV ENERGY TO MINIMIZE POWER OUTAGES. SEE SECTION 01 20 00 - ELECTRICAL DISTRIBUTION SYSTEM CUT-OVER CONSTRAINED SEQUENCE OF WORK.

POWER PLAN

1"=5'-0"

AS-BUILT

CLV PLAN# 311.57

STATE OF NEVADA — PROFESSIONAL ENGINEER — FRITON J HALL — ELECTRICAL — No. 12961 — Exp 6/30/13 — 1/8/13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DR	REVISION	CHK	APVD	BY	APVD
DSGN	AJ HALL		TR UY	JR HOYLE			BA JOHNSON

CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY

ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT

LAS VEGAS, NEVADA

CH2MHILL

DEMOLITION

PLANTS 5 & 6 ELECTRICAL SERVICES ELECTRICAL DEMOLITION

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	D-009
SHEET	46

FILENAME: D-009_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:12:54 PM

0 40 80 120
Scale In Feet

N

CONTRACTOR SHALL AS-BUILT EXISTING WALL AND FOUNDATION PRIOR TO REMOVING THE WALL. REMOVE AND REPLACE EXISTING WALL AND SIDEWALK DURING INSTALLATION OF THE BYPASS JUNCTION BOX. TEMPORARY FENCING SHALL BE INSTALL TO SECURE THE WPCF WHEN THIS WALL IS NOT IN PLACE.

PROPERTY LINE

DEMOLISH EXISTING LIGHT AND CONDUIT MOUNTED ON WALL

SEC (ABANDON AND CAP OR PLUG IN PLACE)

DIGESTER SLUDGE PIPE (CURRENTLY ABANDONED)

NV ENERGY EASEMENT

PWBFP

EAST VEGAS VALLEY DRIVE

OBSCURED CONCRETE DITCH

RFI 0014 (6/4/13) Remove existing drainage structure during the removal of pavement in Bond. Backfill over excavation with granular fill.

DEMOLITION PLAN
1"=40'

LEGEND:
- PIPE TO BE DEMOLISHED
- PAVEMENT TO BE DEMOLISHED

NOTE:
1. LIMITS TO DEMOLITION SHALL BE COORDINATED WITH THE IMPROVEMENT DRAWINGS.

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY
DSGN	TG YAMADA	DR	TR UY
		CHK	DJ PETERSON
		APVD	APVD
			BA JOHNSON

PROFESSIONAL ENGINEER - STATE OF NEVADA - TIMOTHY G. YAMADA - No. 10451 - CIVIL

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

SITE DEVELOPMENT

CIVIL DEMOLITION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	D-010
SHEET	47

FILENAME: D-010_413455.DGN PLOT DATE: 2012\12\28 PLOT TIME: 12:59:18 PM

NOTES:

1. FOR ARCHITECTURAL GENERAL NOTES, MATERIAL SYMBOLS, LEGEND AND WALL TYPES, SEE DWG G-007.
2. FOR BUILDING CODE DATA AND LIFE SAFETY PLAN, SEE DWG G-008.

55'-4"

9'-4" | 8'-0" MO | 4'-8" | 11'-4" MO | 4'-8" | 8'-0" MO | 9'-4"

7101C | CJ | 7101D | CJ | 7101E

NEVADA ENERGY PULLBOXES, TYP OF 3

7101A 7W-1 ABOVE

F. EXT-2

LADDER TO ROOF ACCESS

0762-103 ROOF / OVERFLOW DRAIN NOZZLE, TYP

HOLLOW METAL DOOR AND WINDOW FRAME, TYP

7W-8 ABOVE 7101B

F. EXT-2

FAC

CONCRETE EQUIPMENT PAD, SEE STRUCTURAL DRAWINGS, TYP

ELECTRICAL ROOM 7101

FF EL 1702.00

5'-4" | 3'-4" MO | 2'-0" MO | 4'-8" | 32'-0" | 16'-8" | 4'-10" | 16'-0" | 6'-8" MO | 2'-8" | 2'-0" MO | 4'-8"

7W-2 | 7W-7

CJ

7W-3 | 7W-4 | 7W-5 | 7W-6

CONTROL JOINT (CJ), SEE STRUCTURAL DRAWINGS FOR LOCATION, TYP

TRANSLUCENT WALL PANEL WINDOW ABOVE, TYP

8'-8" | 2'-0" MO | 8'-0" | 2'-0" MO | 14'-0" | 2'-0" MO | 8'-0" | 2'-0" MO | 8'-8"

RFI 088
DATE ANSWERED 11/9/14

MOVE CONCRETE ATS PAD, MAINTAINING ENOUGH CLEARANCE FOR ATS DOOR TO OPEN FULL 90 DEGREES. EXTEND PAD 8" WEST AND MOVE ATS 4" WEST. RECESS ATS 3 3/8" INTO WALL, FILL VOID AROUND ATS WITH CAULK. MAINTAIN 32" CLEARANCE BETWEEN ATS AND SWITCHGEAR.

RFI 059
DATE ANSWERED 8/28/13

SHORTEN BEAM POCKET WIDTH BY 2 INCHES. ADD ONE MORE #5 REBAR IN LINTEL OF WINDOW OPENING. THE 2 #5 REBAR IN THE LINTEL EXTEND 0" BEYOND WINDOW OPENING.

GROUND LEVEL FLOOR PLAN

3/8"=1'-0"

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	CHK	DR	DSGN
		BY	APVD		
		APVD	JE CAVE	GT MALIN	GB KIRSTEN
		BA JOHNSON			

GEOFFREY B KIRSTEN No. 6358 REGISTERED ARCHITECT STATE OF NEVADA

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL DISTRIBUTION BUILDING
ARCHITECTURAL
GROUND LEVEL FLOOR PLAN

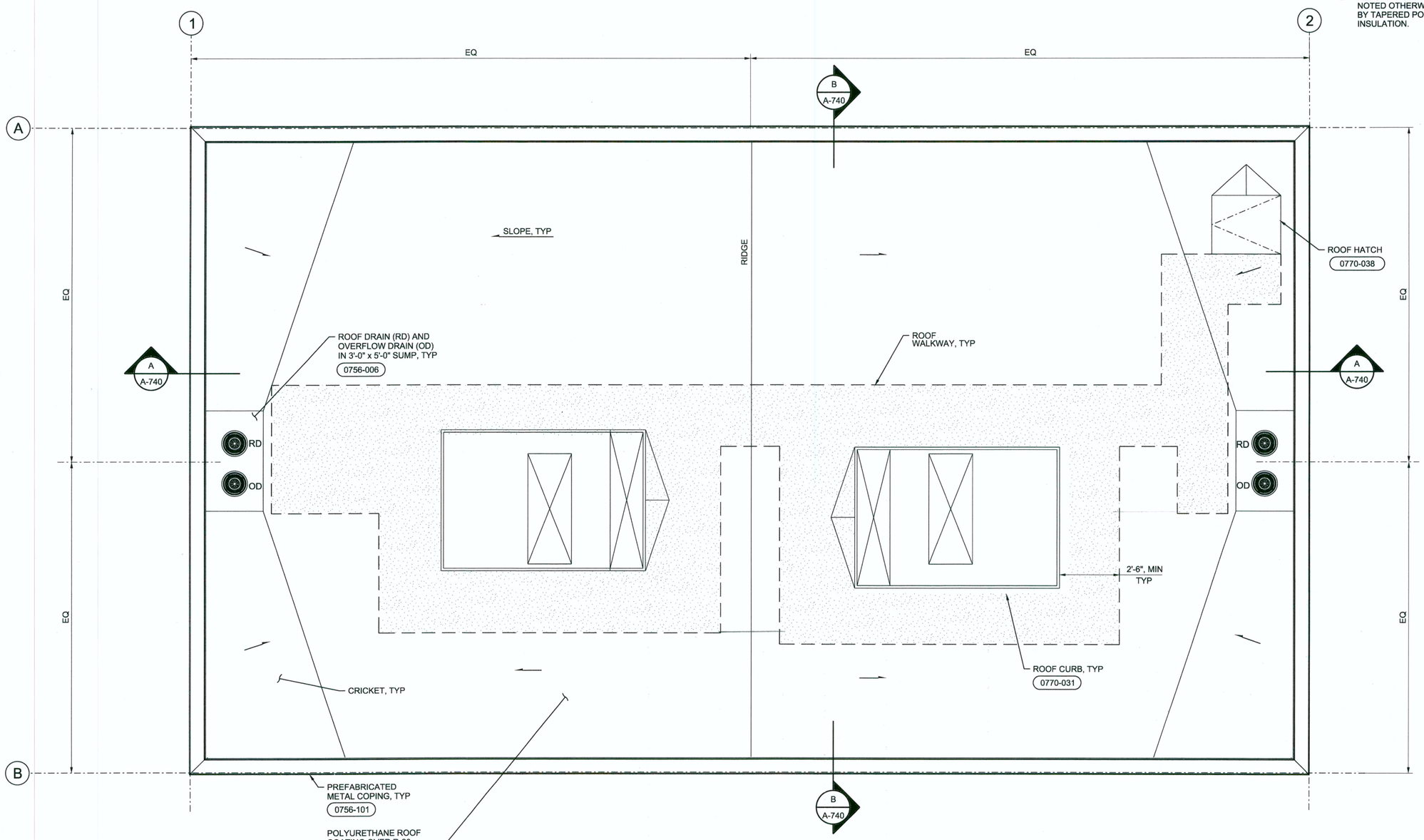
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	A-701
SHEET	48

FILENAME: A-701_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:15:51 PM

NOTES:

1. FOR ARCHITECTURAL GENERAL NOTES, MATERIAL SYMBOLS, LEGEND AND WALL TYPES, SEE DWG G-007.
2. ALL SLOPES ARE 1/4" PER FOOT UNLESS NOTED OTHERWISE, AND ARE PROVIDED BY TAPERED POLYURETHANE FOAM INSULATION.



N

ROOF PLAN

3/8"=1'-0"

AS-BUILT

CLV PLAN# 311.57

GEOFFREY B KIRSTEN
No. 6358
STATE OF NEVADA
ARCHITECT

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY
DSGN	GB KIRSTEN	DR GT MALIN	CHK JE CAVE APVD BA JOHNSON APVD

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

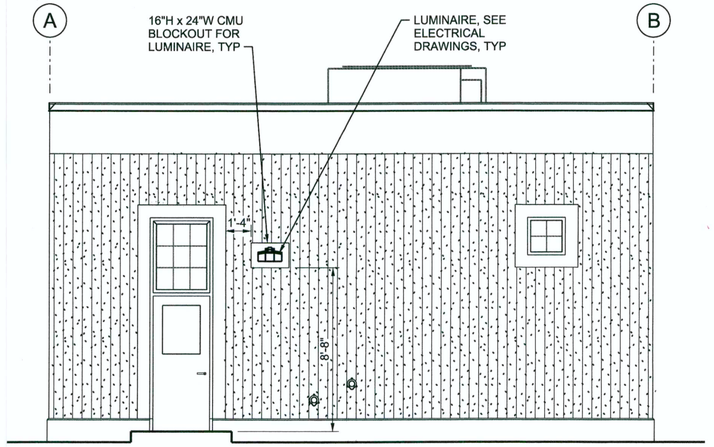
CH2MHILL

ELECTRICAL DISTRIBUTION BUILDING
ARCHITECTURAL
ROOF PLAN

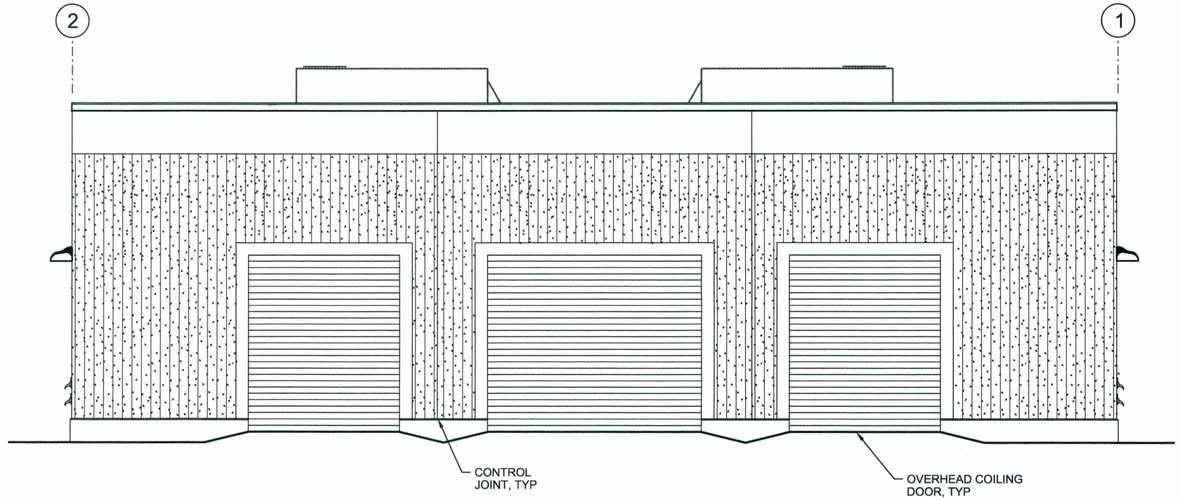
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	A-702
SHEET	49

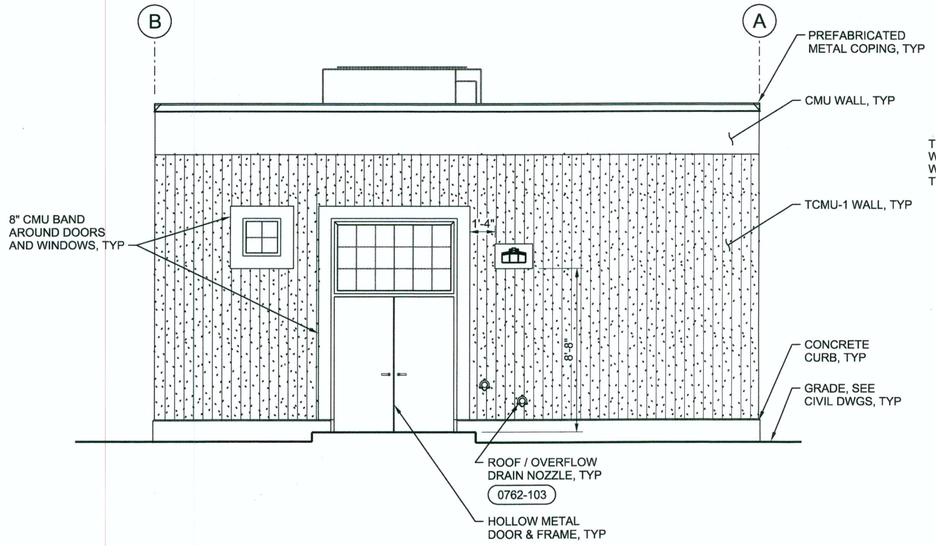
FILENAME: A-702_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:16:33 PM



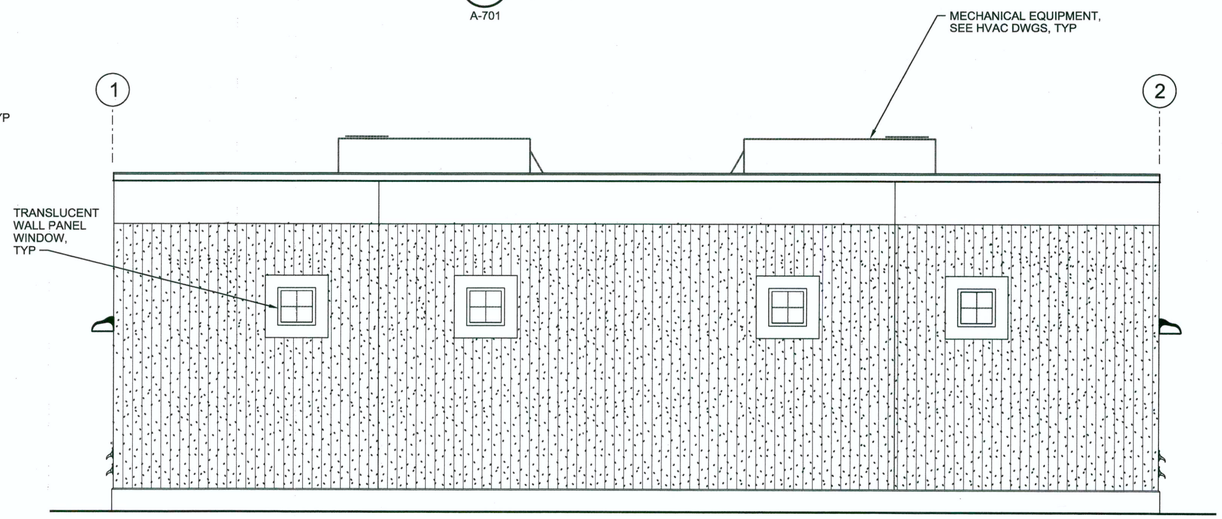
1 NORTH ELEVATION
1/4"=1'-0"
A-701



2 EAST ELEVATION
1/4"=1'-0"
A-701



3 SOUTH ELEVATION
1/4"=1'-0"
A-701



4 WEST ELEVATION
1/4"=1'-0"
A-701

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

GEOFFREY B KIRSTEN
No. 6358
REGISTERED ARCHITECT
STATE OF NEVADA

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION	CHK	APVD	BY
		GB KIRSTEN	GT MALIN	JE CAVE	APVD	BA JOHNSON				

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

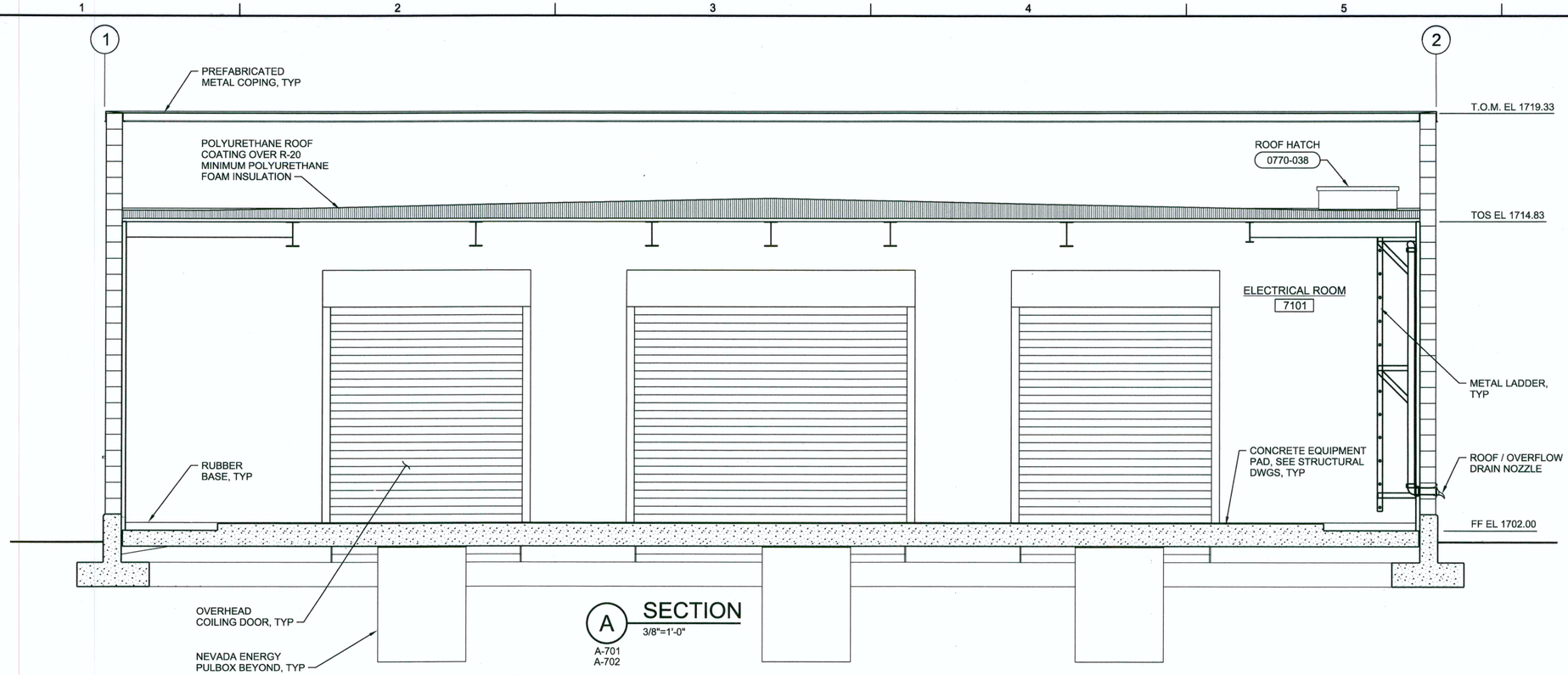
CH2MHILL

ELECTRICAL DISTRIBUTION BUILDING
ARCHITECTURAL ELEVATIONS

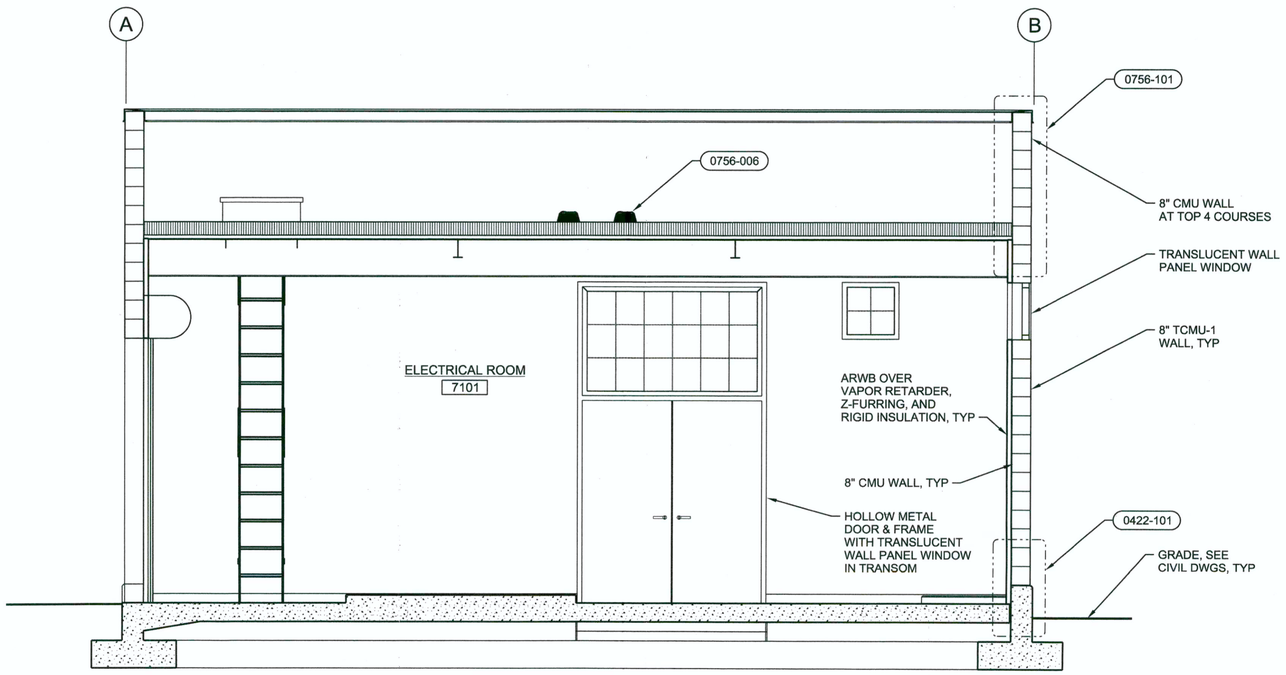
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	A-730
SHEET	50

FILENAME: A-730_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:17:20 PM



A SECTION
3/8"=1'-0"
A-701
A-702



B SECTION
3/8"=1'-0"
A-701
A-702

AS-BUILT

CLV PLAN# 311.57

GEOFFREY B KIRSTEN
REGISTERED
No. 6358
ARCHITECT
STATE OF NEVADA

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	REVISION	BY	APVD
		GB KIRSTEN	DR	GT MALIN	CHK	JE CAVE	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

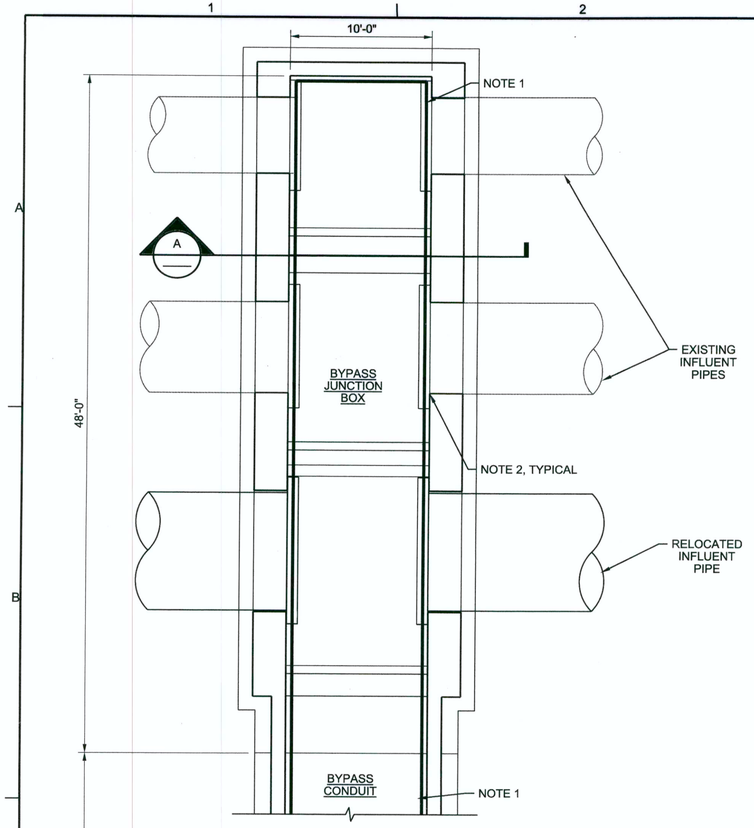
CH2MHILL

ELECTRICAL DISTRIBUTION BUILDING
ARCHITECTURAL SECTIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	A-740
SHEET	51

FILENAME: A-740_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:18:03 PM



N

BYPASS JUNCTION BOX PLAN

3/16"=1'-0"

GENERAL NOTES:

1. APPLY COATING SYSTEM CRC-4, PER SPECIFICATION SECTION 09 96 35, ON ALL INTERIOR CONCRETE SURFACES EXCEPT FLOOR.
2. CONNECT EXISTING COATING TO SYSTEM CRC-4 FOR CONTINUOUS PROTECTION OF CONCRETE, SUBMIT PROPOSED CONNECTION DETAILS FOR REVIEW.
3. SEE STRUCTURAL AND MECHANICAL DRAWINGS FOR DIMENSIONS AND DETAILS. DIMENSIONS SHOWN ON THIS DRAWING ARE APPROXIMATE AND FOR CONTRACTOR'S CONVENIENCE ONLY.

RFI 080-0,-1,-2
DATE ANSWERED 12/24/13

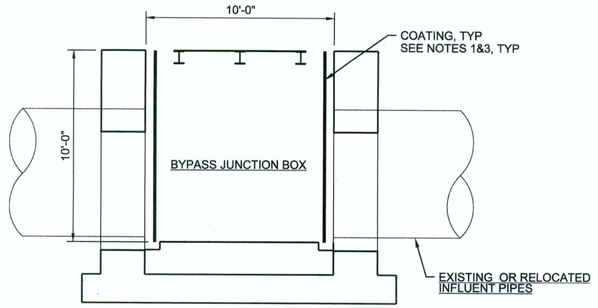
SAUEREISEN COATINGS TO TERMINATE INSIDE INFLUENT LINES BY LAPPING OVER T-LOCK LINER. SAUEREISEN TO TERMINATE AT DECK WITH A CHAMFER JOINT AND JOINT SEALANT. SEE RFI'S FOR DETAILS.

RFI 082
DATE ANSWERED 12/16/13

SAUEREISEN COATING MAY TERMINATE 2" ABOVE THE FILLET SLAB ON THE WALLS, TERMINATED AT A 1/4" x 1/4" KEYWAY.

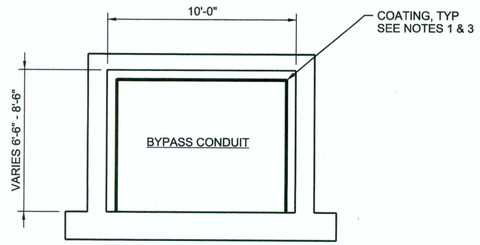
RFI 096
DATE ANSWERED 2/13/14

LAP SAUEREISEN COATING OVER FIBERGLASS LINER IN 57"/66" INFLUENT LINES BY 3-4". THE CUT END OF THE FIBERGLASS LINER WILL BE BURIED IN THE CONCRETE WALL.



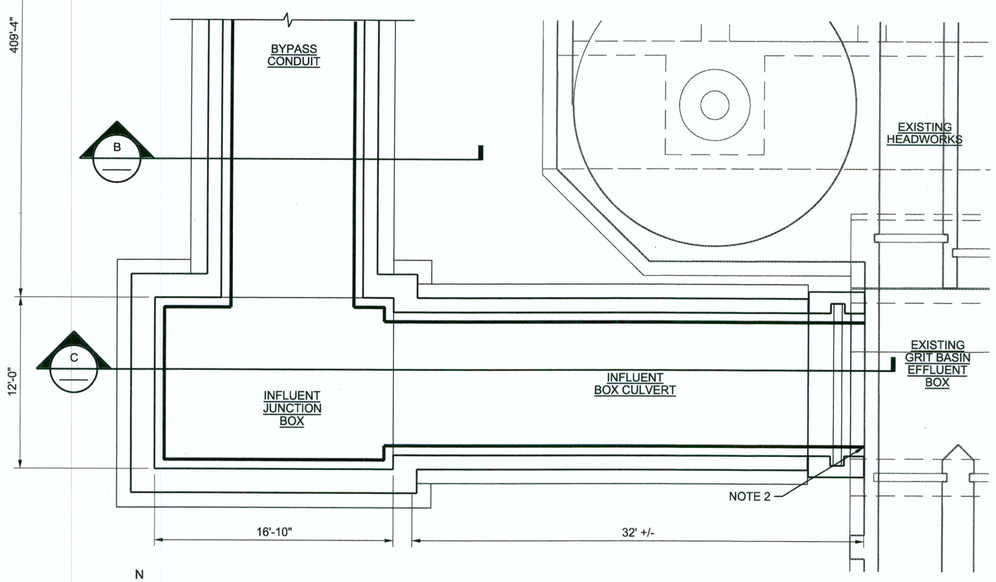
A SECTION

1/4"=1'-0"



B SECTION

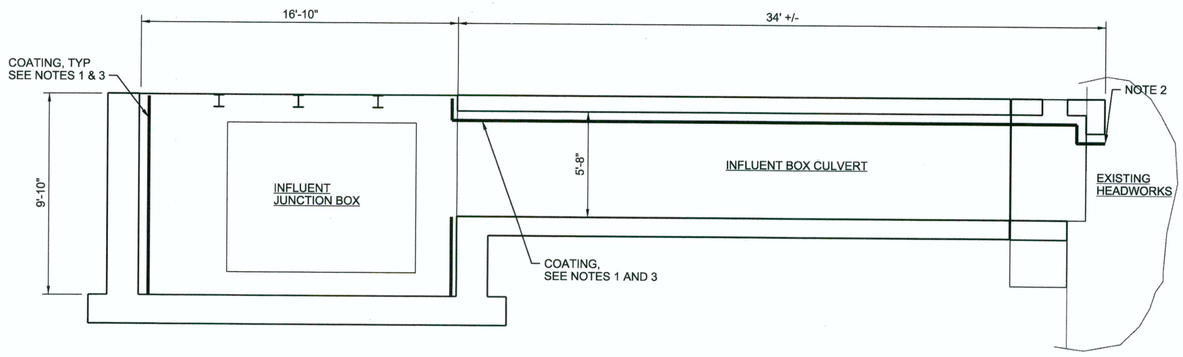
1/4"=1'-0"



N

INFLUENT JUNCTION BOX PLAN

3/16"=1'-0"



C SECTION

1/4"=1'-0"

CLV PLAN# 311.57
AS-BUILT

RECEIVED
FEB 11
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	REVISION	BY	APVD
	DR	RZ JACKSON	CHK	KL AQUINO	RM BRACKEN
			APVD	BA JOHNSON	

GEOFFREY B KIRSTEN * REGISTERED * No. 6358 * ARCHITECT * STATE OF NEVADA

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

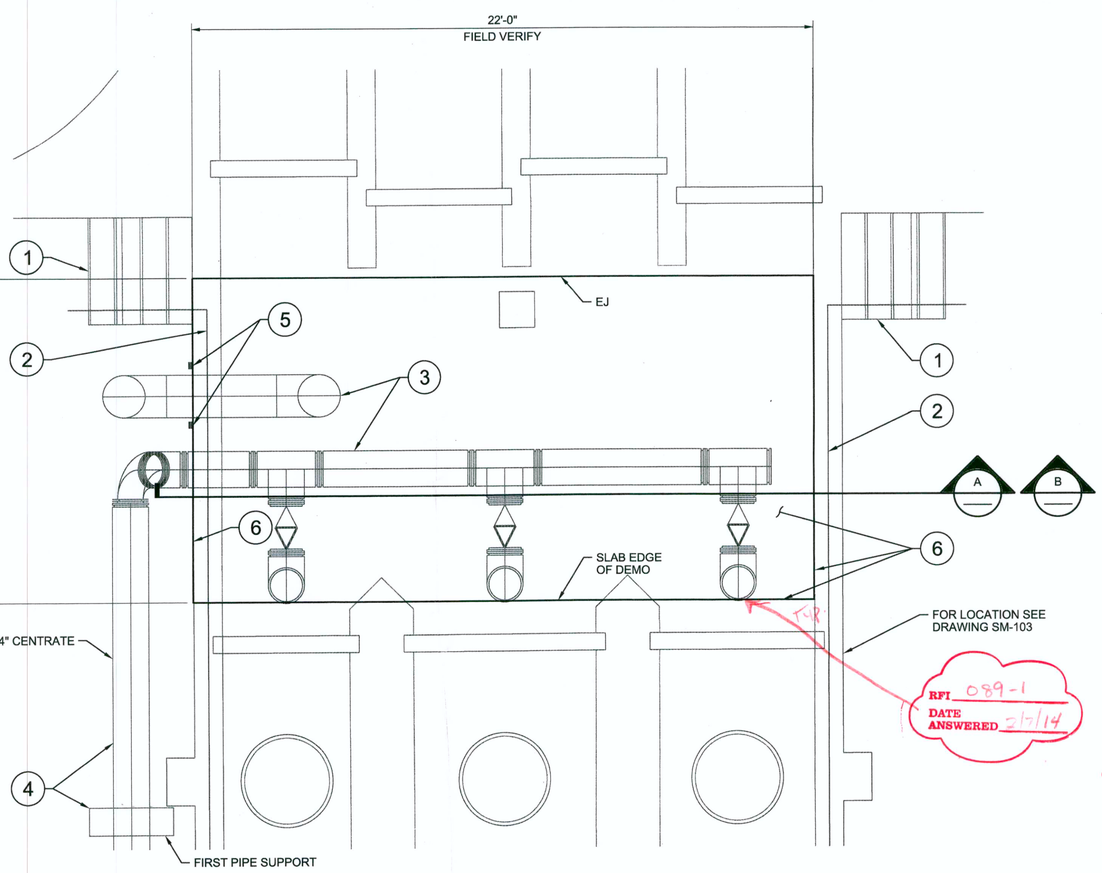
CORROSION CONTROL

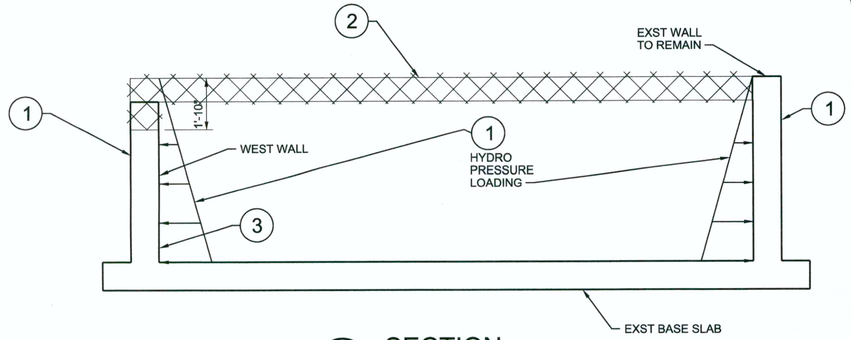
CONCRETE COATINGS PLANS AND SECTIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	CT-100
SHEET	52

FILENAME: CT-100_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:21:27 PM





A SECTION
3/8" = 1'-0"

RFI 089-1
DATE ANSWERED 2/7/14

Patch back existing CEN penetrations with #4 or #5 reinforcement, drilled and epoxied into deck in 3 locations with 8" embedment and grouted back. Coat exposed concrete with Tnemec coating. See RFI for details and product information.

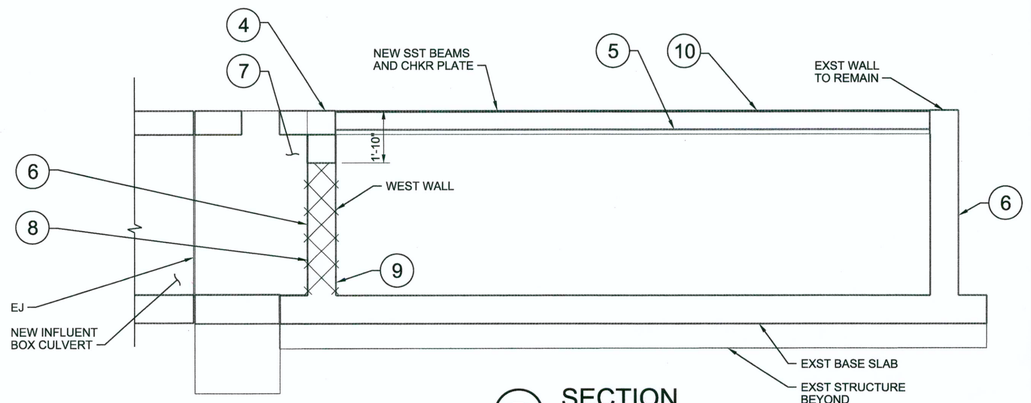
CONSTRUCTION SEQUENCE NOTES

1. EXCAVATE THE BACKFILL ADJACENT TO THE BASIN WALL AND INSTALL TEMPORARY WALL BRACES. THE TEMPORARY BRACES SHALL BE ABLE TO SUPPORT 6'-0" HYDRO-PRESSURE, MINIMUM, AS SHOWN.
2. CUT THE EXISTING TOP SLAB OFF AS SHOWN IN THE DEMOLITION PLAN. CUT THE SLAB AS SHOWN AT THE WEST WALL AND CUT THE SLAB AT THE INSIDE OF THE EAST WALL.
3. INSTALL THE BULKHEAD STEEL PLATE AT THE INSIDE OF THE WEST WALL.
4. CAST IN PLACE THE HEADER BEAM ABOVE THE FUTURE OPENING.
5. INSTALL THE SST BEAMS PER DRAWING SM-103.
6. REMOVE THE TEMPORARY BRACES.
7. CAST LAST SEGMENT OF BOX CONDUIT AND CONNECT TO THE EXISTING WEST WALL.
8. CUT AND REMOVE EXISTING WEST WALL.
9. REMOVE BULKHEAD STEEL PLATE.
10. INSTALL THE CHECKERED PLATES ON TOP OF THE SST BEAMS. SEE DRAWING SM-103

1. DEMOLISH THE STAIRS AND RAILINGS.
2. DEMOLISH THE GUARDRAILS TO THE SOUTH EDGE OF DEMOLISHED SLAB.
3. DEMOLISH ALL PIPES AND VALVES ON ELEVATED DECK LOCATED BETWEEN EXPANSION JOINT AND EDGE OF SLAB SHOWN.
4. DEMOLISH PIPES NORTH BEYOND FIRST PIPE SUPPORT. SEE DRAWING SM-131 FOR NEW 14" CENTRATE.
5. DEMOLISH ELECTRICAL CONDUIT AND DRAINAGE PIPE ON THE WEST WALL.
6. FIELD VERIFY NO CONDUIT OR PIPES EMBEDDED IN EXISTING SLAB TO BE DEMOLISHED.
7. DEMOLISH THE ELEVATED CONCRETE SLAB AS SHOWN. AT WEST SIDE, DEMOLISH THE TOP OF WALL TO 1'-10" BELOW TOP OF SLAB ELEVATION.

N

DEMOLITION PLAN
3/8"=1'-0"



B SECTION
3/8" = 1'-0"

SUGGESTED CONSTRUCTION SEQUENCE
3/8"=1"

AS-BUILT

CLV PLAN# 311.57

RECEIVED
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McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
		L YANG	KL AQUINO	WC SHERMAN	APVD	BA JOHNSON	

PROFESSIONAL ENGINEER - STATE OF NEVADA
LIAO YANG
Exp. 6-30-2014
CIVIL
N. 021810
1-4-2013

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

HEADWORKS BYPASS
STRUCTURAL DEMOLITION
EXISTING HEADWORKS DEMOLITION AND CONSTRUCTION SEQUENCING

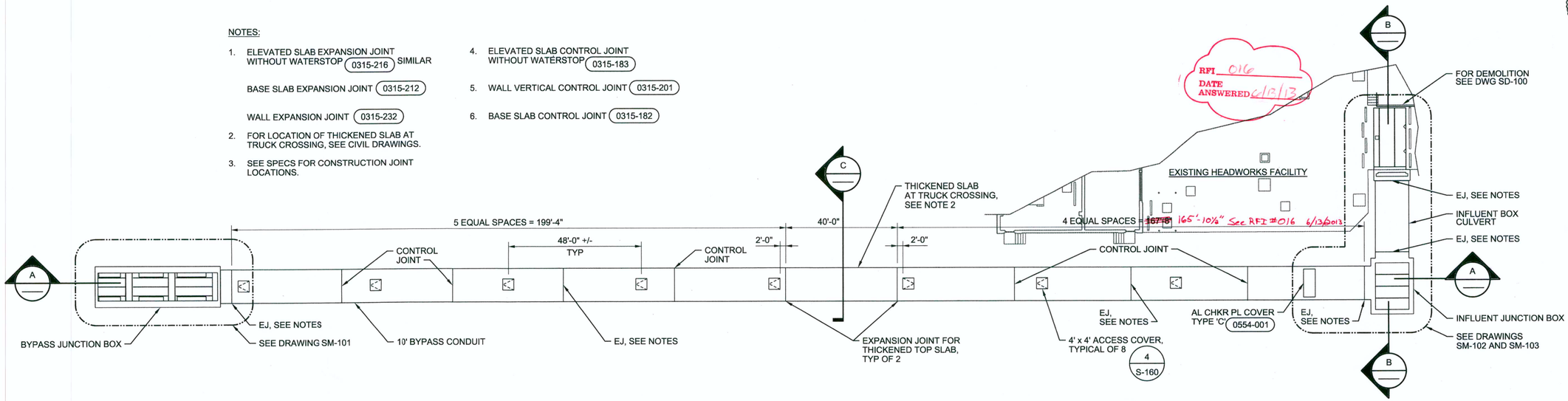
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	SD-100
SHEET	53

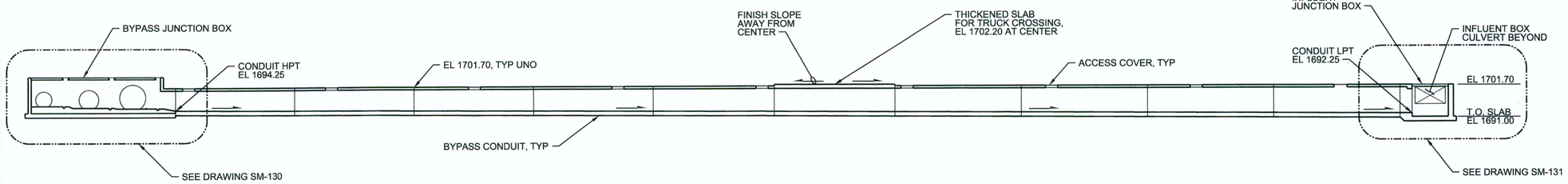
FILENAME: SD-100_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:24:00 PM

NOTES:

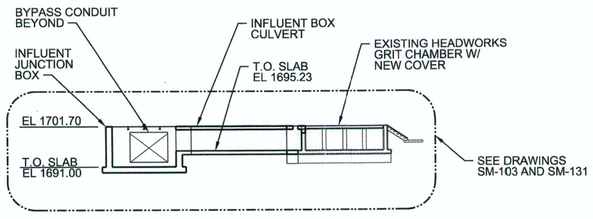
1. ELEVATED SLAB EXPANSION JOINT WITHOUT WATERSTOP (0315-216) SIMILAR
   BASE SLAB EXPANSION JOINT (0315-212)
   WALL EXPANSION JOINT (0315-232)
2. FOR LOCATION OF THICKENED SLAB AT TRUCK CROSSING, SEE CIVIL DRAWINGS.
3. SEE SPECS FOR CONSTRUCTION JOINT LOCATIONS.
4. ELEVATED SLAB CONTROL JOINT WITHOUT WATERSTOP (0315-183)
5. WALL VERTICAL CONTROL JOINT (0315-201)
6. BASE SLAB CONTROL JOINT (0315-182)



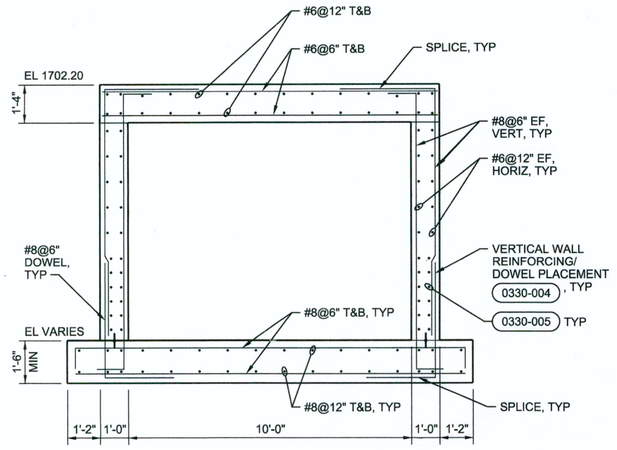
OVERALL BYPASS PLAN
1"=20'-0"



A OVERALL BYPASS SECTION
1"=20'-0"



B INFLUENT JUNCTION BOX AND CONDUIT SECTION
1"=20'-0"



C CONDUIT SECTION AT TRUCK CROSSING
3/8"=1'-0"

AS-BUILT
CLV PLAN# 311.57

RECEIVED
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McCarthy Building Companies, Inc.

NO.	DATE	REVISION	DSGN	DR	CHK	APVD	BY
			L YANG	KL AQUINO	WC SHERMAN	APVD	BA JOHNSON

PROFESSIONAL ENGINEER STATE OF NEVADA
LIAO YANG
Exp. 6-30-2014
CIVIL
No. 021401
1-14-2013

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

HEADWORKS BYPASS
STRUCTURAL
OVERALL PLAN AND SECTIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	S-100
SHEET	54

FILENAME: S-100_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:24:46 PM

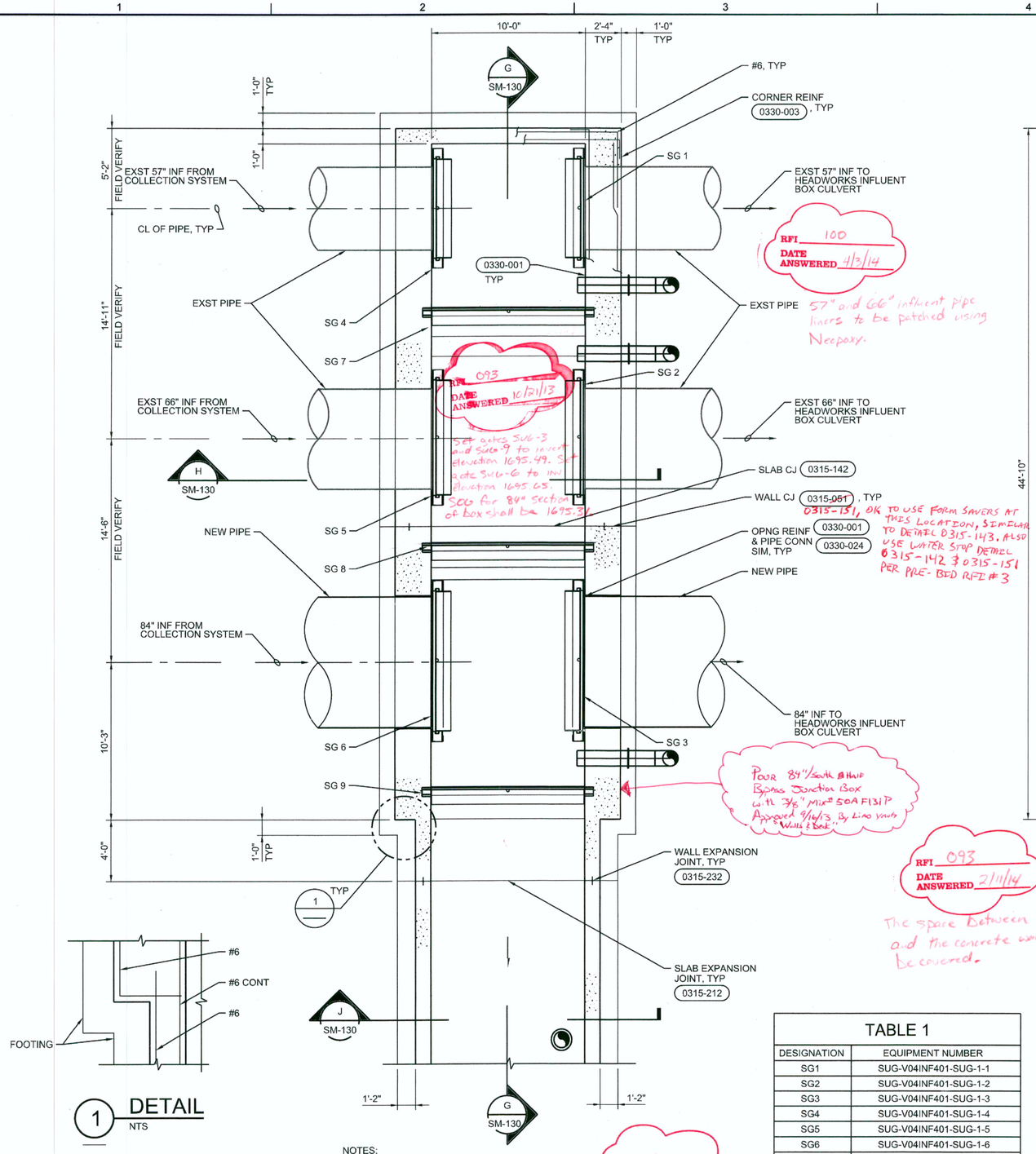


TABLE 1	
DESIGNATION	EQUIPMENT NUMBER
SG1	SUG-V04INF401-SUG-1-1
SG2	SUG-V04INF401-SUG-1-2
SG3	SUG-V04INF401-SUG-1-3
SG4	SUG-V04INF401-SUG-1-4
SG5	SUG-V04INF401-SUG-1-5
SG6	SUG-V04INF401-SUG-1-6
SG7	SUG-V04INF401-SUG-1-7
SG8	SUG-V04INF401-SUG-1-8
SG9	SUG-V04INF401-SUG-1-9

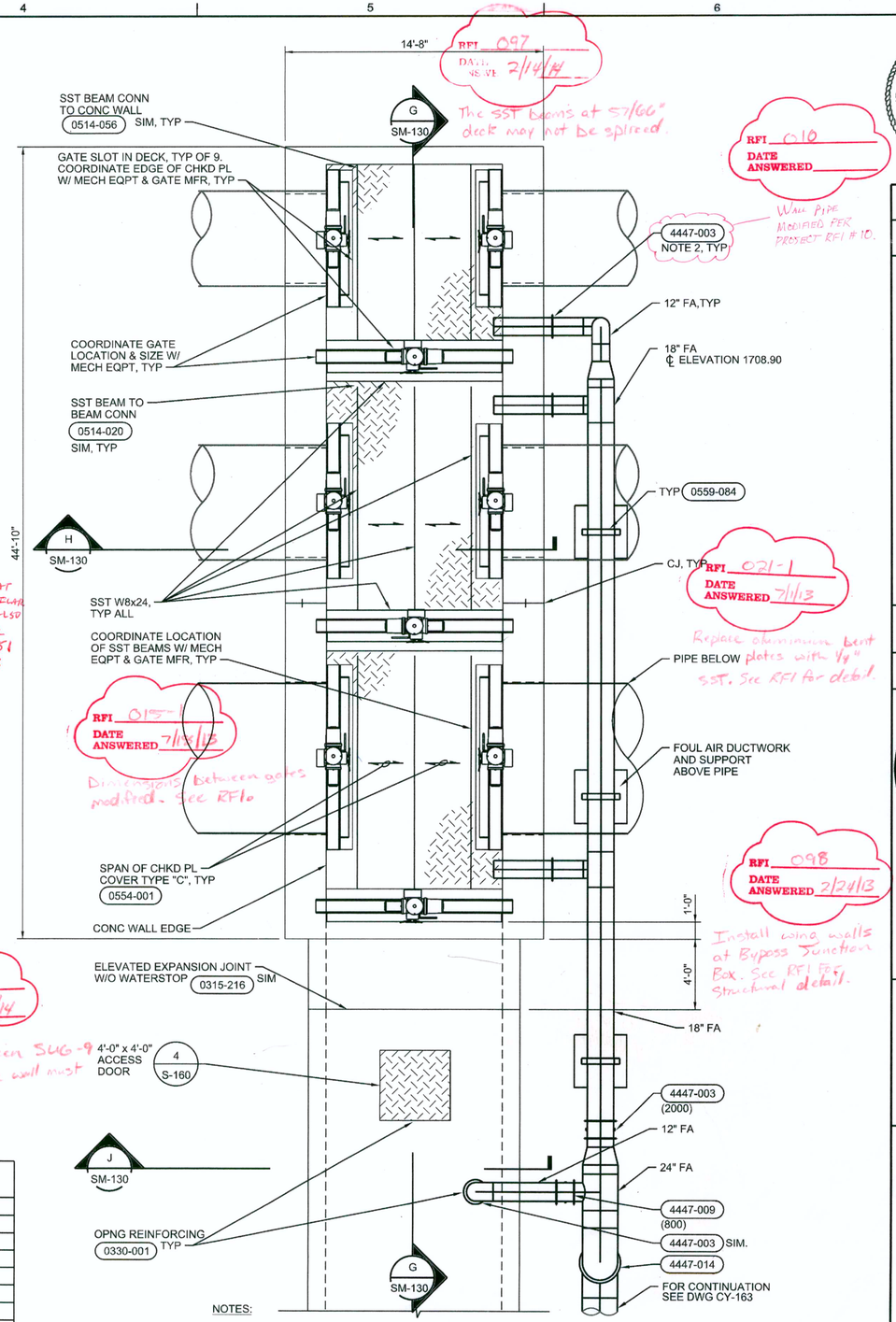
1 DETAIL
NTS

NOTES:

1. GATE SCHEDULE, SEE TABLE 1.

BYPASS JUNCTION BOX FOUNDATION PLAN

1/4"=1'-0"



NOTES:

1. FIELD VERIFICATION REQUIRED TO DETERMINE EXISTING SEWER CENTERLINE AND INVERT ELEVATIONS.
2. FRP DUCTWORK EXTENDS UNDERGROUND TO WALL PIPE CONNECTION. CENTERLINE ELEVATION 1703.12.

FOR CONTRACTOR'S REFERENCE IN DETERMINING HOW TO KEEP FLOW THROUGH INFLUENT LINES DURING CONSTRUCTION OF JUNCTION BOX, APPROXIMATE CAPACITIES OF INFLUENT LINES ARE AS FOLLOWS:

57" INFLUENT - 31 MGD
66" INFLUENT - 45 MGD
84" INFLUENT - 81 MGD

BYPASS JUNCTION BOX TOP PLAN

1/4"=1'-0"

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2014
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	REVISION	DR	CHK	APVD	APVD
				L YANG	KL AQUINO	WC SHERMAN	BA JOHNSON

PROFESSIONAL ENGINEER - STATE OF NEVADA - LIAO YANG - Exp. 6-30-2015 - No. 021409 - CIVIL - 1-4-2013

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

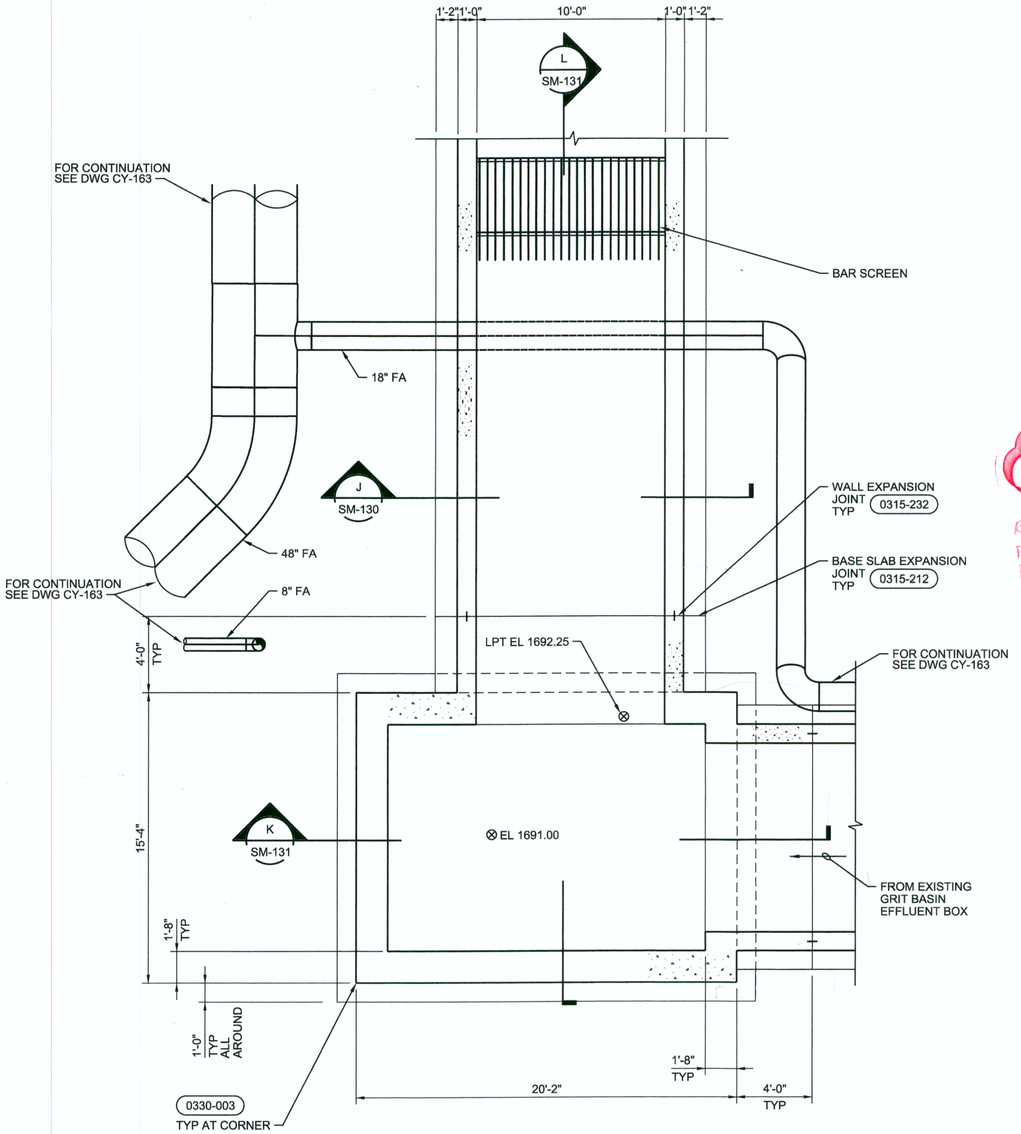
CH2MHILL

BYPASS JUNCTION BOX
STRUCTURAL/MECHANICAL PLANS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	SM-101
SHEET	55

FILENAME: S-101_413455.dgn PLOT DATE: 2013\01\02 PLOT TIME: 1:35:13 PM



N

INFLUENT JUNCTION BOX FOUNDATION PLAN

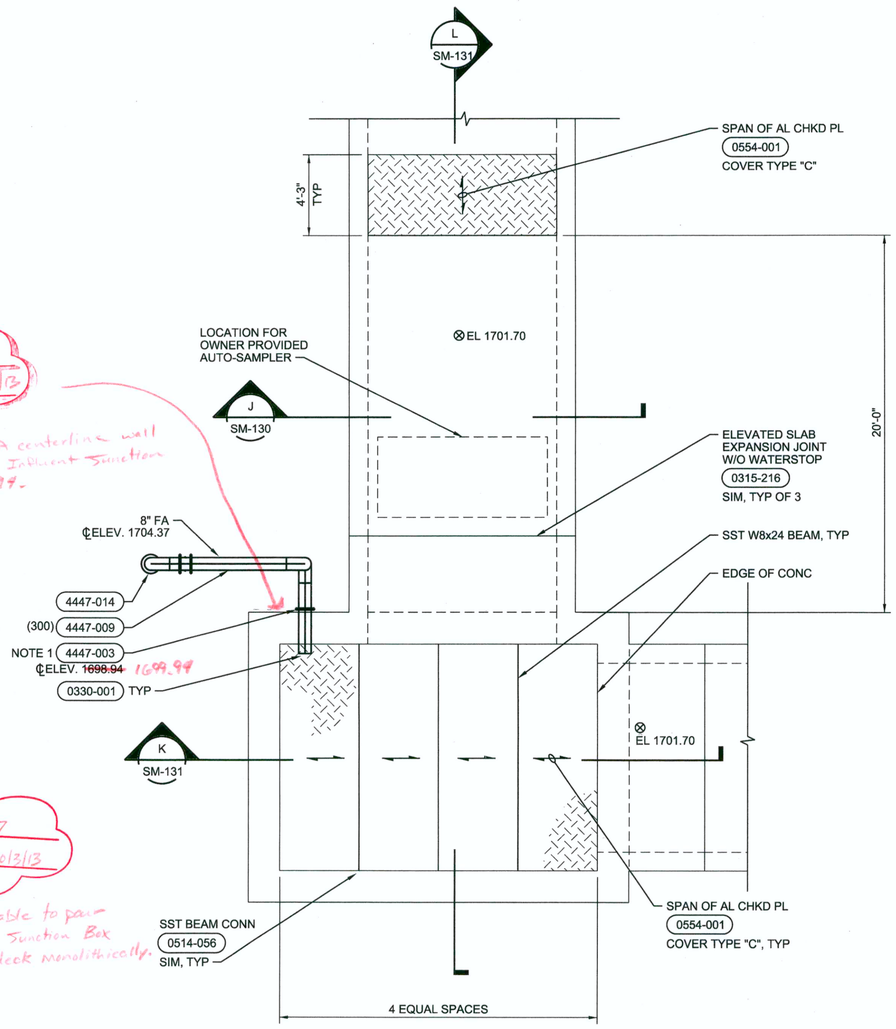
1/4"=1'-0"

RFI 036
DATE ANSWERED 12/3/13

Raise the 8" FA centerline wall penetration at Influent Junction Box to 1699.94.

RFI 067
DATE ANSWERED 10/3/13

It is acceptable to pour the Influent Junction Box walls and deck monolithically.



NOTES:

1. FRP DUCTWORK EXTENDS UNDERGROUND TO WALL PIPE CONNECTION.

N

INFLUENT JUNCTION BOX TOP PLAN

1/4"=1'-0"

CLV PLAN# 311.57

AS-BUILT

PROFESSIONAL ENGINEER · STATE OF NEVADA · LIAO YANG · Exp. 6-30-2014 · CIVIL · No. 021410 · 1-14-2014

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McCarthy Building Companies, Inc.

NO.	DSGN	DATE	REVISION	BY	APVD
	L YANG	DR	KL AQUINO	CHK	WC SHERMAN
				APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

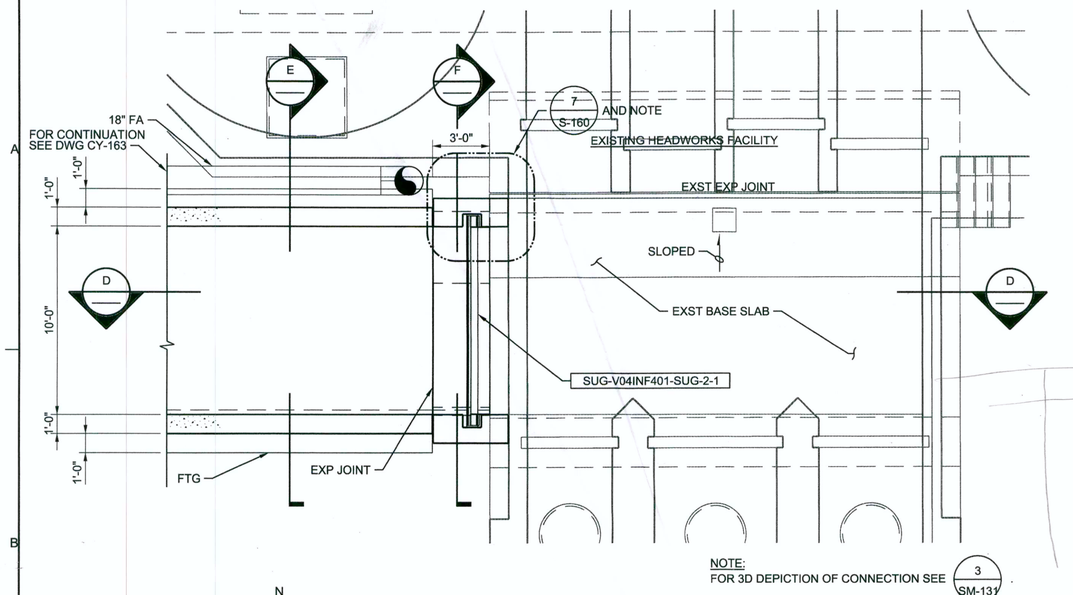
CH2MHILL

INFLUENT JUNCTION BOX
STRUCTURAL/MECHANICAL PLANS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	SM-102
SHEET	56

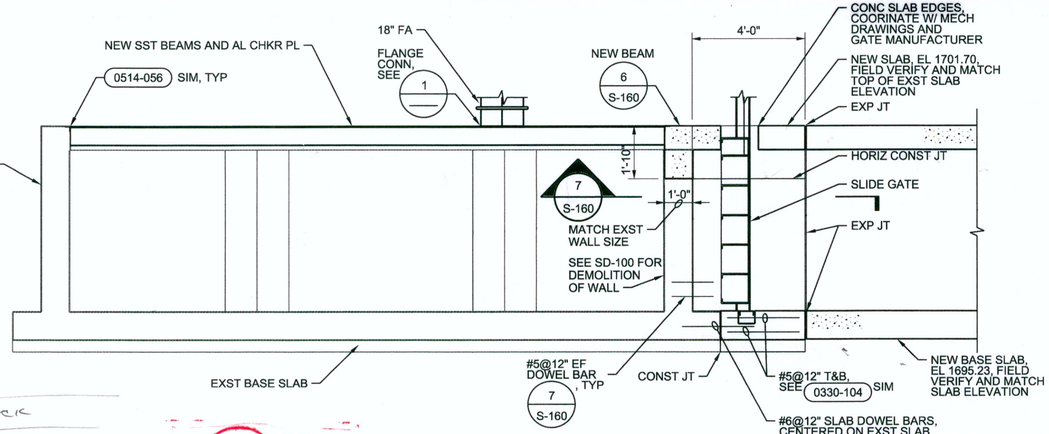
FILENAME: S-102_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:26:02 PM



NOTE:
FOR 3D DEPICTION OF CONNECTION SEE 3 SM-131

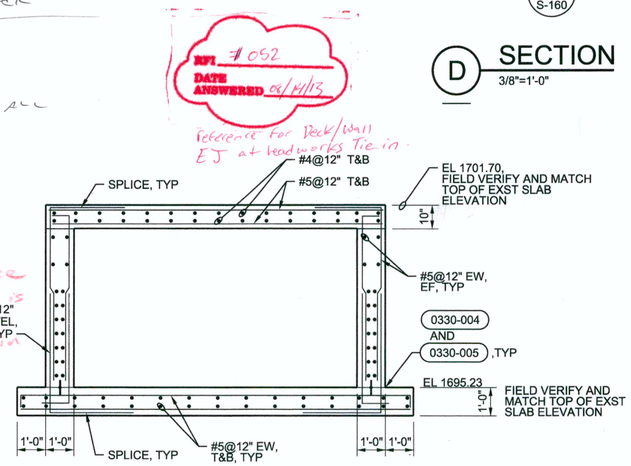
N

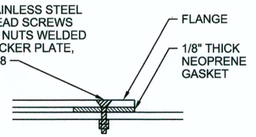
INFLUENT BOX CULVERT FOUNDATION PLAN
1/4"=1'-0"

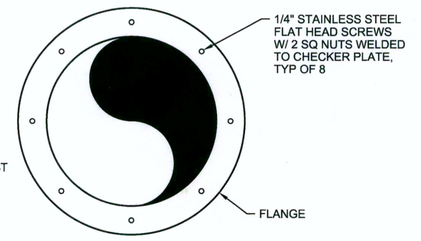


D SECTION
3/8"=1'-0"

RFI #052
DATE ANSWERED 06/11/13
Reference for Deck/Wall Tie-in EJ at Headworks Tie-in.

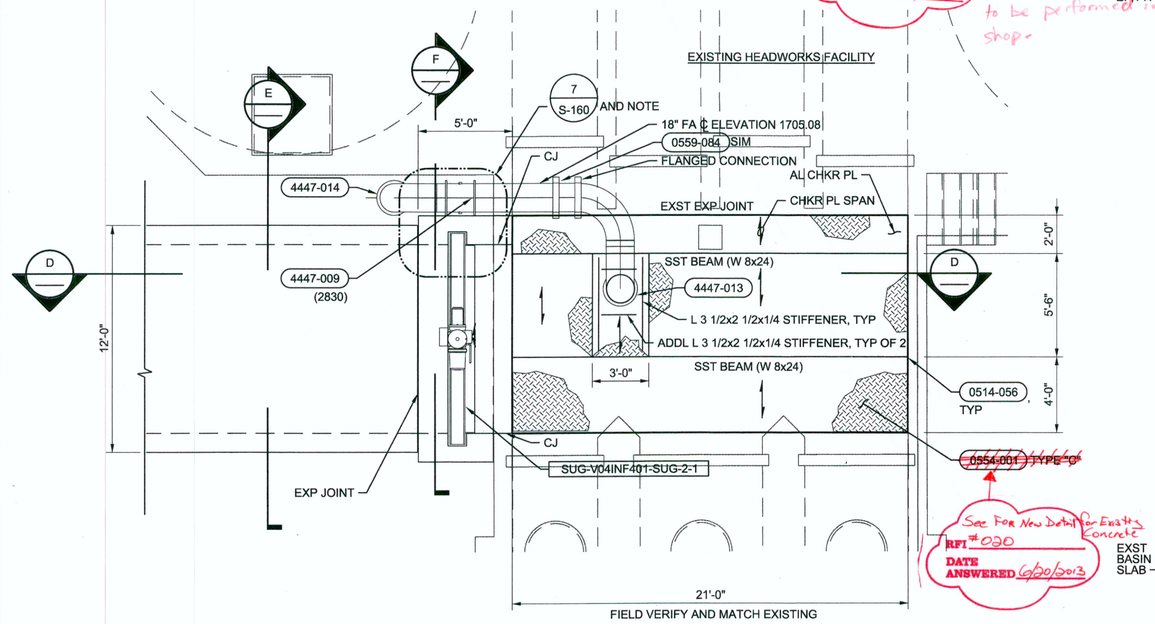






1 FOUL AIR DUCT CONNECTION
NTS

RFI #079-2
DATE ANSWERED 1/8/14
Welded beam splice at HW deck beam is acceptable - weld to be performed in shop.



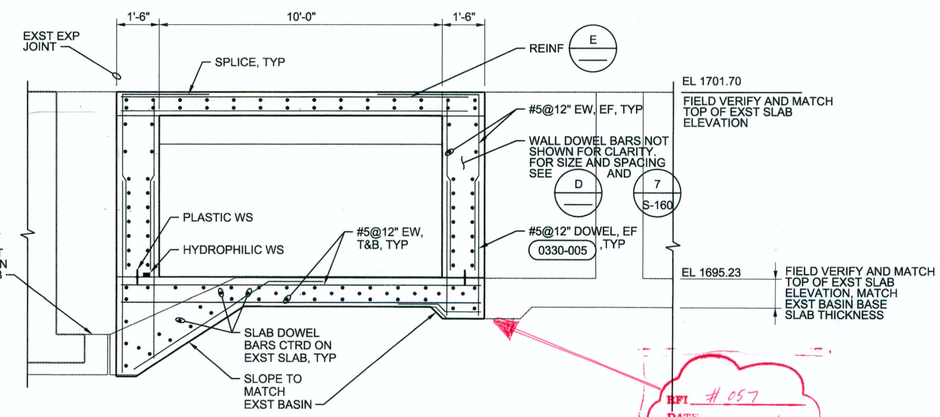
RFI #030
DATE ANSWERED 6/20/2013
See For New Detail for Existing Concrete

N

INFLUENT BOX ROOF PLAN
1/4"=1'-0"

NOTE:
FOR NEW 14" CENTRATE PIPE SEE 3 SM-131

E SECTION
3/8"=1'-0"



RFI #057
DATE ANSWERED 06/14/13

NOTE:
FOR WATERSTOP ARRANGEMENT AT THE FACE OF EXISTING CONCRETE CONNECTION TO NEW CONCRETE SEE 5 S-160

F SECTION
3/8"=1'-0"

CLV PLAN# 311.57
AS-BUILT

RECEIVED
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NO.	DATE	REVISION	DR	CHK	APVD	BY
DSGN			RM BRACKEN	KL AQUINO	WC SHERMAN	APVD BA JOHNSON

PROFESSIONAL ENGINEER, STATE OF NEVADA
LIAO YANG
Exp. 6-30-2014
No. 021210
CIVIL
1-4-2013

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

HEADWORKS BYPASS
STRUCTURAL/MECHANICAL
INFLUENT CONDUIT
PLANS AND SECTIONS

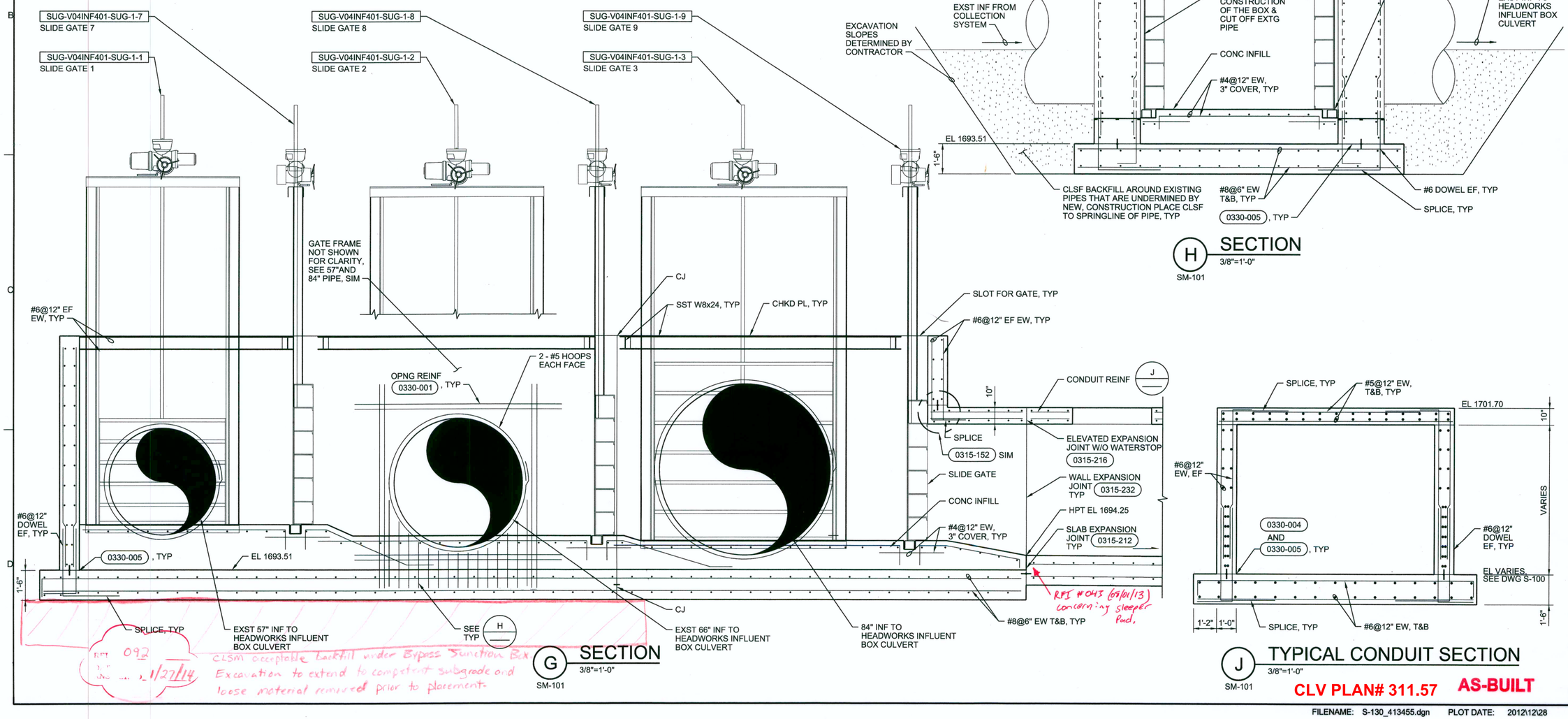
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	SM-103
SHEET	57

FILENAME: S-103_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:26:52 PM

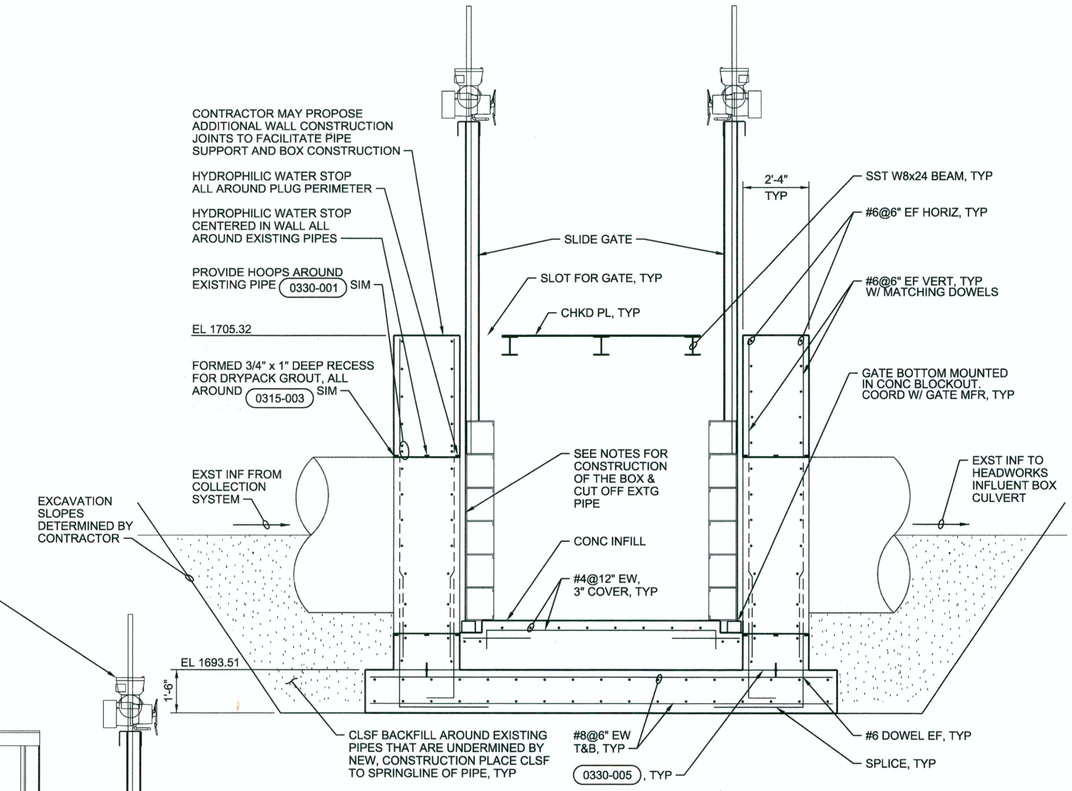
NOTES:

1. EXISTING PIPE TO REMAIN IN SERVICE DURING CONSTRUCTION. PROVIDE SUPPORT FOR EXISTING PIPE THROUGH OUT CONSTRUCTION OF JUNCTION BOX.
2. FOR SEQUENCE REQUIREMENTS ALLOWING DEMOLITION OF EXISTING PIPE, SEE COORDINATION IN SPECIFICATIONS.
3. CONTRACTOR SHALL SUBMIT DETAILED PLAN FOR EXCAVATION, PROTECTION AND SUPPORT OF EXISTING PIPE, CONSTRUCTION OF JUNCTION BOX, SHUT DOWN COORDINATION AND SCHEDULE, DEMOLITION OF EXISTING PIPE AND FLOW MANAGEMENT PROCEDURES.
4. FIELD VERIFY ELEVATIONS WITH EXISTING CONDITIONS.
5. FA DUCTWORK NOT SHOWN ON THIS DRAWING FOR CLARITY.
6. REINFORCING FOR PIPE OPENING IS SHOWN FOR 66" DIAMETER PIPE OPENING. REINFORCING IS SIMILAR FOR 57" DIAMETER AND 84" DIAMETER PIPE OPENINGS.



G SECTION
3/8"=1'-0"
SM-101

CLSM acceptable backfill under Bypass Junction Box Excavation to extend to competent subgrade and loose material removed prior to placement.



H SECTION
3/8"=1'-0"
SM-101

J TYPICAL CONDUIT SECTION
3/8"=1'-0"
SM-101

CLV PLAN# 311.57 AS-BUILT

RECEIVED
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McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	L YANG	DR	KL AQUINO	CHK	WC SHERMAN	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

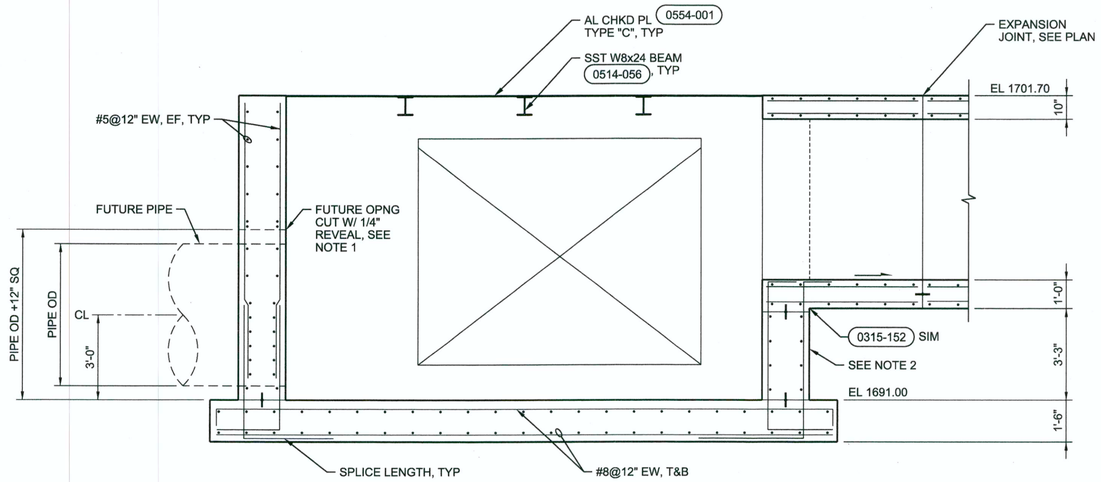
CH2MHILL

BYPASS JUNCTION BOX
STRUCTURAL/MECHANICAL SECTIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

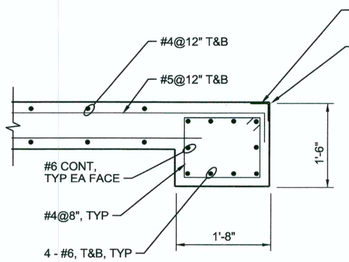
DATE	JANUARY 2013
PROJ	413455
DWG	SM-130
SHEET	58

FILENAME: S-130_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:27:49 PM

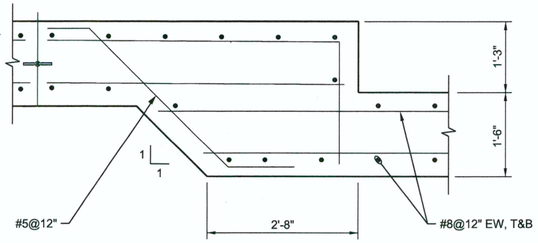


K SECTION
3/8"=1'-0"
SM-102

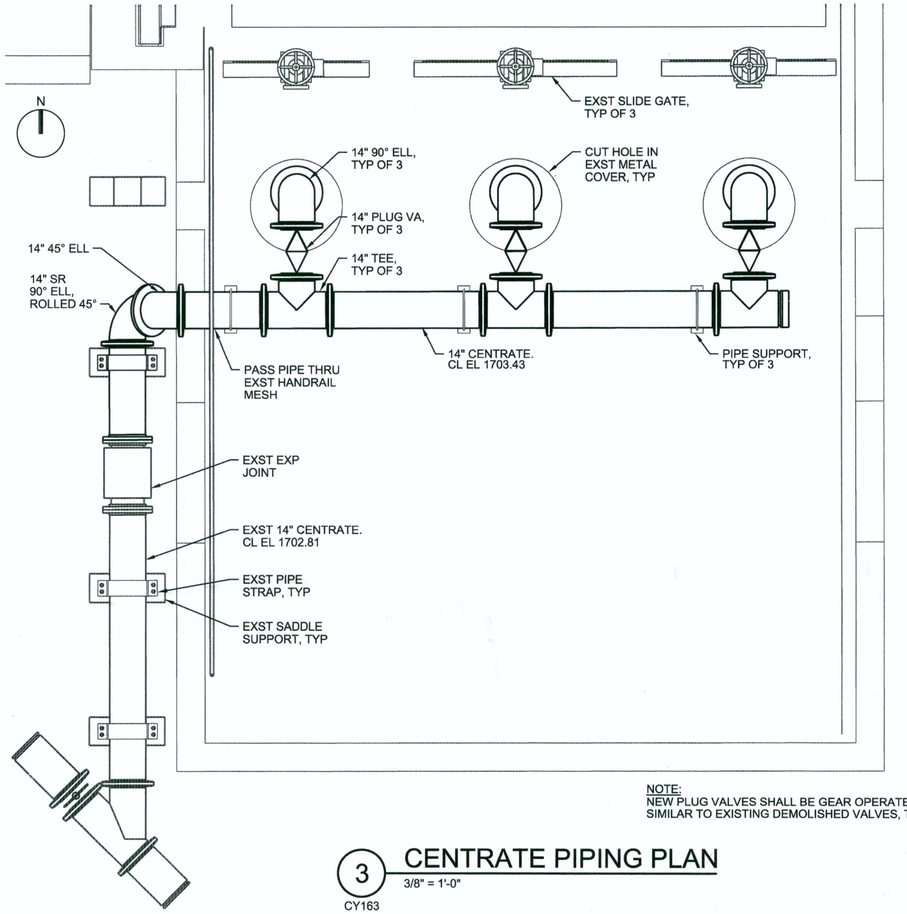
NOTES:
1. FA DUCTWORK NOT SHOWN FOR CLARITY.
2. BACKFILL OF LOWER 3'-3" WALL BEFORE LEAKAGE TEST IS ACCEPTABLE.



1 DETAIL
3/4"=1'-0"

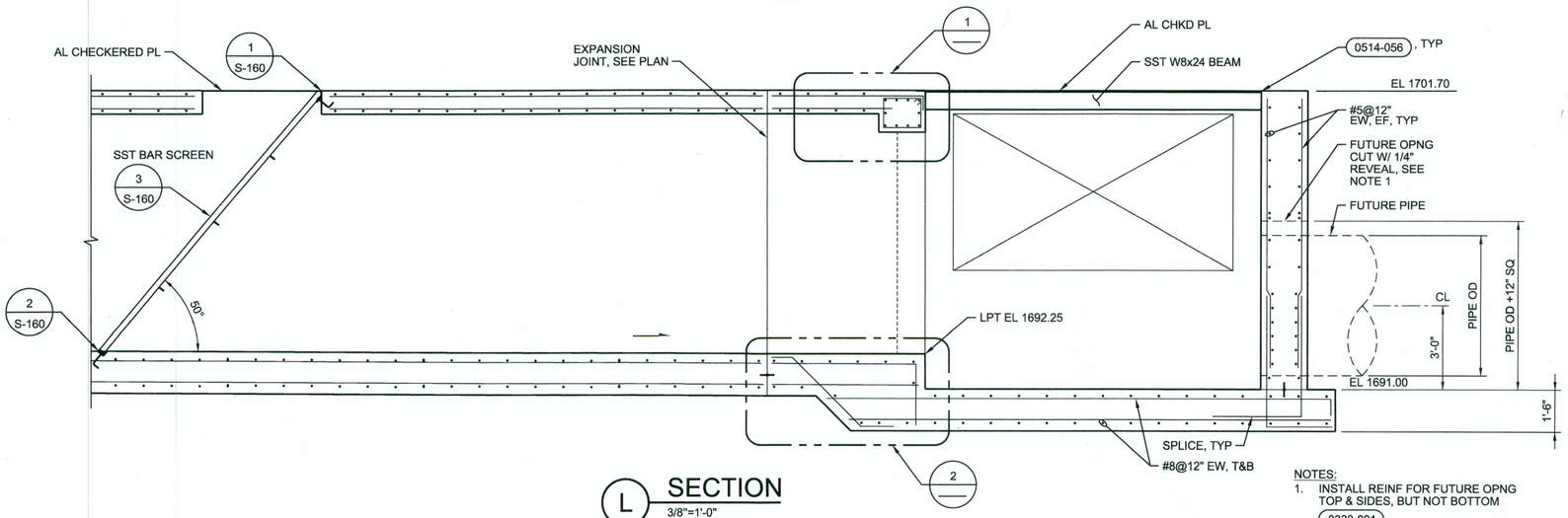


2 DETAIL
3/4"=1'-0"



NOTE:
NEW PLUG VALVES SHALL BE GEAR OPERATED AND SIMILAR TO EXISTING DEMOLISHED VALVES, TYP OF 3.

3 CENTRATE PIPING PLAN
3/8" = 1'-0"
CY163



L SECTION
3/8"=1'-0"
SM-102

NOTES:
1. INSTALL REINF FOR FUTURE OPNG TOP & SIDES, BUT NOT BOTTOM
0330-001

RFI 067
DATE ANSWERED 10/3/13
Influent Junction Box deck and walls may be poured monolithically.

CLV PLAN# 311.57

AS-BUILT

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PROFESSIONAL ENGINEER · STATE OF NEVADA
LIAO YANG
Exp. 6-30-2014
CIVIL
No. 021
2-4-13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

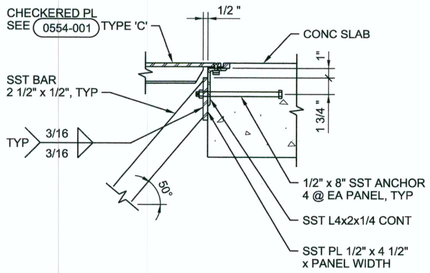
CH2MHILL

INFLUENT JUNCTION BOX
STRUCTURAL/MECHANICAL SECTIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	SM-131
SHEET	59

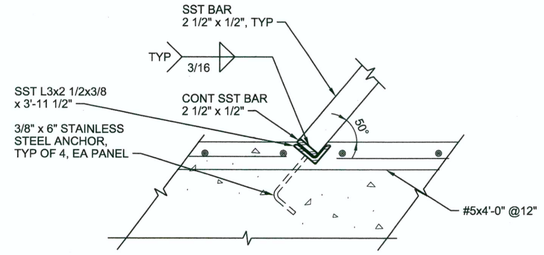
FILENAME: S-131_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:28:48 PM



1 BAR SCREEN SUPPORT DETAIL

1 1/2"=1'-0"

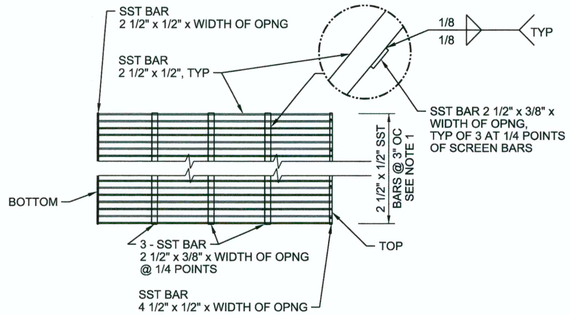
SM-131



2 BAR SCREEN SUPPORT DETAIL

1 1/2"=1'-0"

SM-131



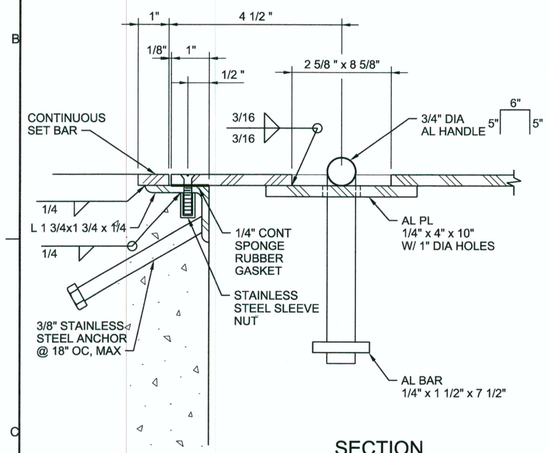
NOTES:

1. TWO PANELS IN 3'-0" +/- WIDE, ONE PANEL IN 4'-0" +/- OVERALL DIMENSIONS TO FIT CHANNEL SHOWN.

3 BAR SCREEN DETAIL

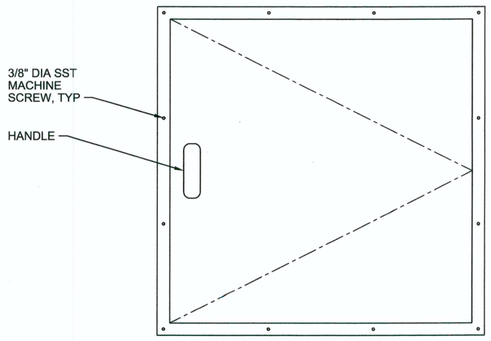
NTS

SM-131



SECTION

6" = 1'-0"



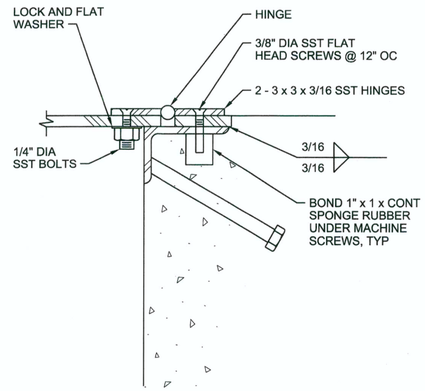
PLAN

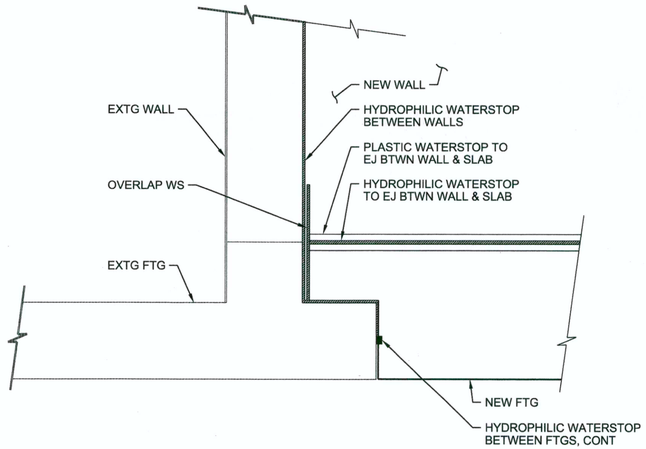
1"=1'-0"

4 ACCESS DOOR DETAIL

NTS

S-100

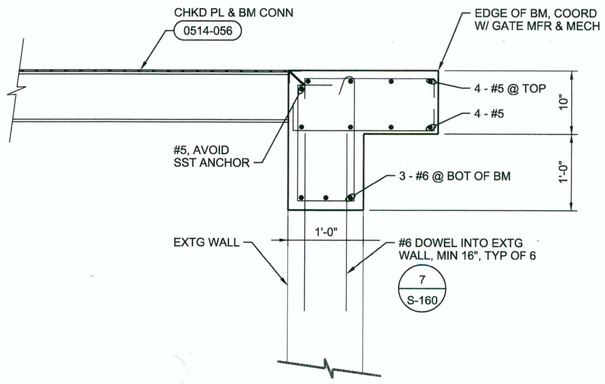




5 WATER STOP ARRANGEMENT

1"=1'-0"

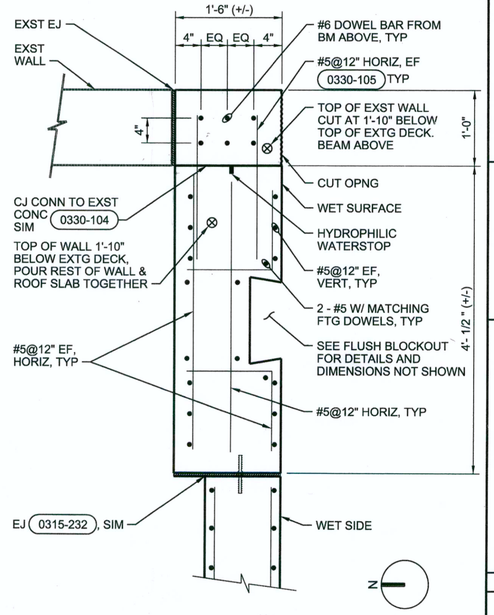
SM-103



6 BEAM REINFORCING

1"=1'-0"

S-103



7 GATE GUIDE BLOCKOUT PLAN

1"=1'-0"

S-103

CLV PLAN# 311.57

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PROFESSIONAL ENGINEER, STATE OF NEVADA
LIAO YANG
Exp. 6-30-2013
CIVIL
No. 021401
6-30-13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

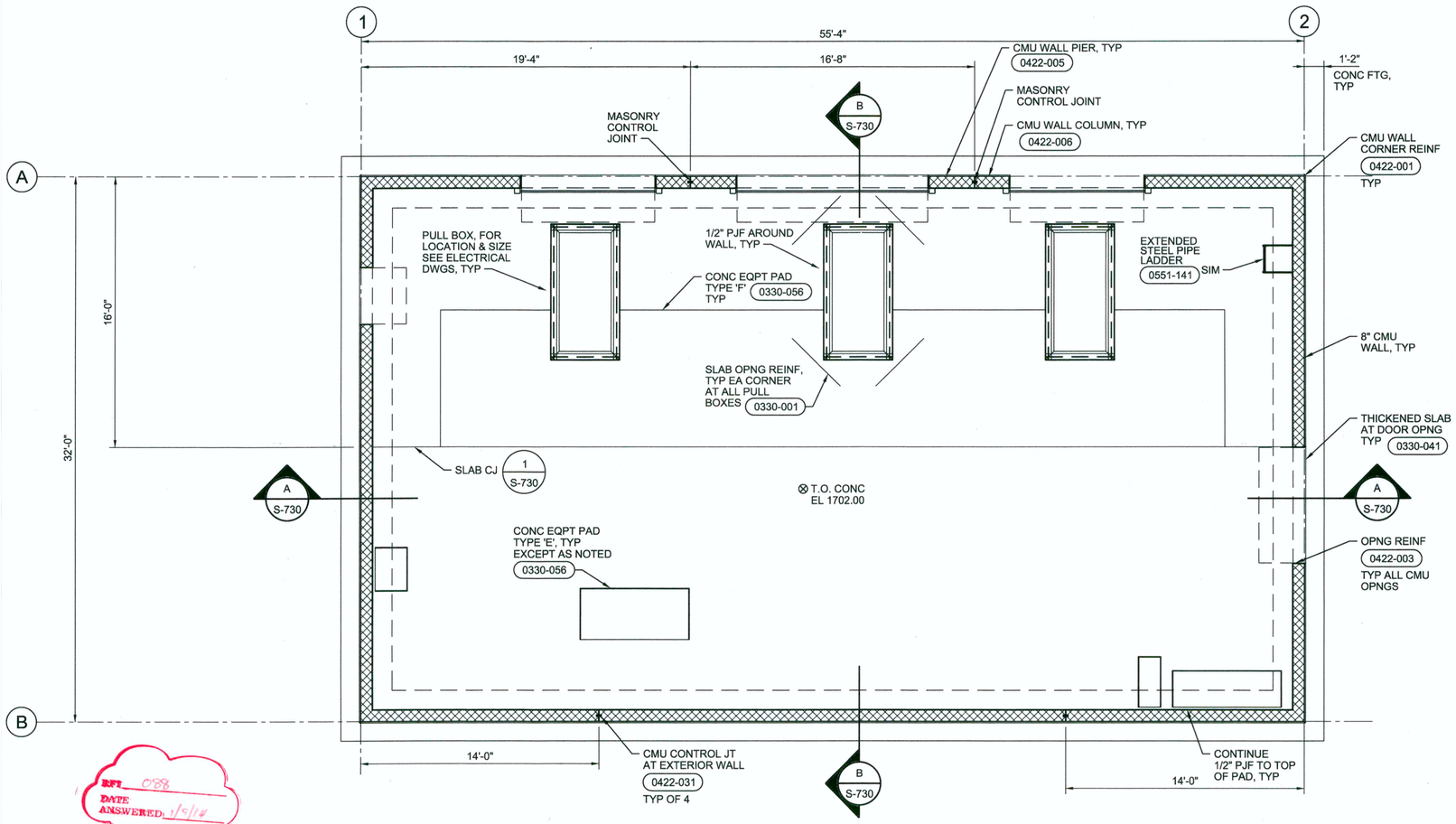
HEADWORKS BYPASS
STRUCTURAL DETAILS

AS-BUILT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	S-160
SHEET	60

FILENAME: S-160_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:29:44 PM



RFI 088
DATE ANSWERED: 1/9/14

ATS pad to move 8" west, ATS move 4" west. Recess ATS 3 3/8" into wall and caulk around openings. Make sure ATS door can open full 90 degrees and there is 32 inches minimum between ATS and switchgear.

FOUNDATION PLAN

1/4"=1'-0"

NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWINGS G-009 AND G-010.
2. STRUCTURE SPECIFIC LOADS:
   A. FLOOR LIVE LOAD = 300 PSF
3. FACILITY SEISMIC FORCE-RESISTING SYSTEM PER ASCE 7-05, TABLE 12.2-1: BEARING WALL SYSTEM WITH SPECIAL REINFORCED MASONRY SHEAR WALLS.
   A. SEISMIC RESPONSE COFFICIENT: 0.15
   B. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE.
4. FOR TYPICAL CMU DETAILS AND REINFORCING AT PIERS, CORNERS AND OPENINGS, SEE STANDARD DETAILS.
5. CONTRACTOR TO COORDINATE THE SIZE AND LOCATION OF ALL EQUIPMENT PADS WITH MECHANICAL, ELECTRICAL, AND HVAC EQUIPMENT MANUFACTURERS AND ANCHOR CALCULATIONS.
6. CONTRACTOR TO COORDINATE SIZE AND LOCATION OF ALL OPENINGS IN CMU WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND HVAC.

AS-BUILT

CLV PLAN# 311.57

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WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

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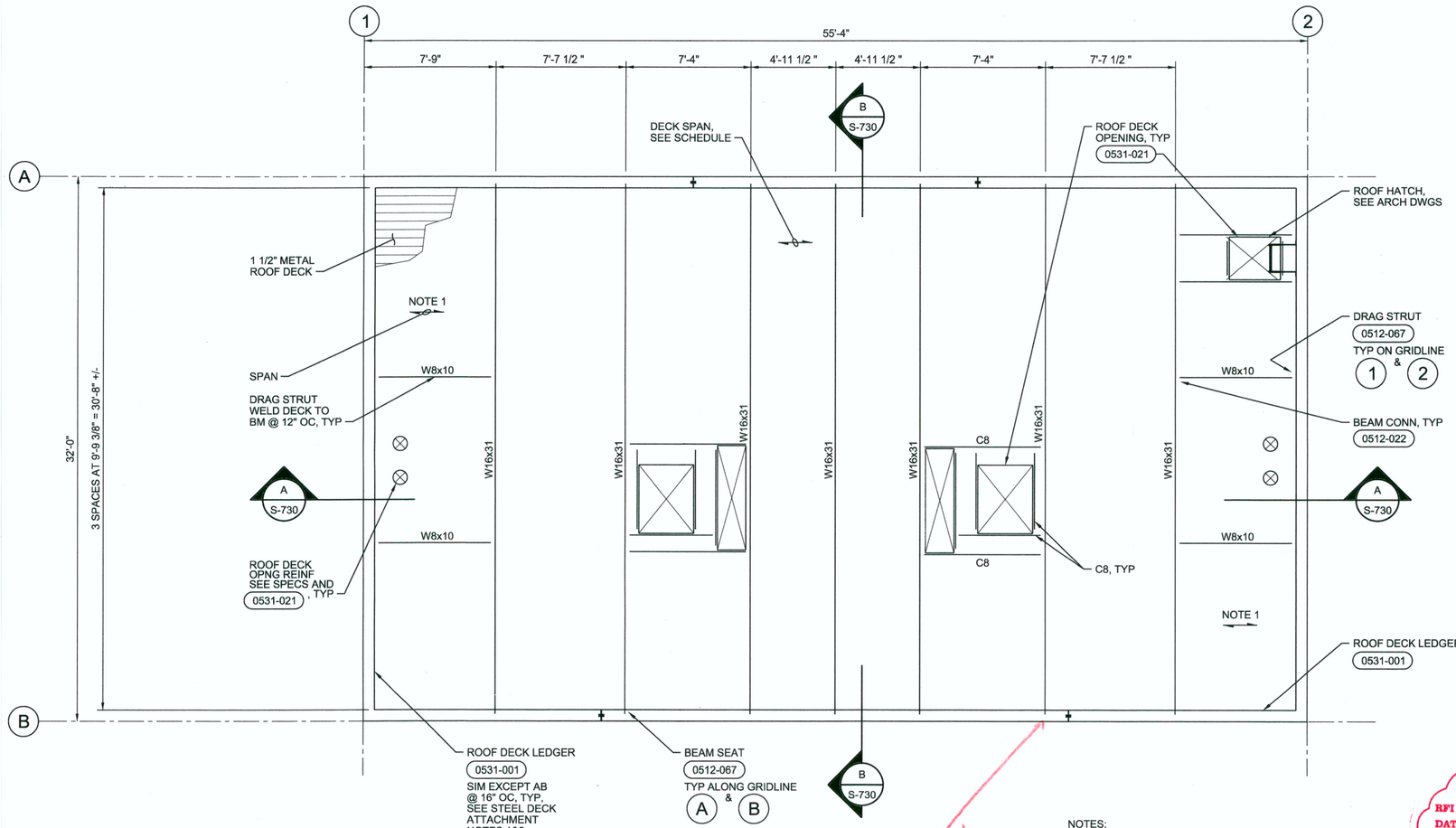
ELECTRICAL DISTRIBUTION BUILDING
STRUCTURAL FOUNDATION PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	S-701
SHEET	61

FILENAME: S-701_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:30:36 PM



ROOF FRAMING PLAN

1/4"=1'-0"

STEEL DECK & ATTACHMENT SCHEDULE													
TYPE	DEPTH	PANEL WIDTH	DESIGN THICKNESS	MIN YIELD STRENGTH Fy (ksi)	MIN (+) S (in^3/ft)	MIN I (in^4/ft)	MIN DIAPHRAGM SHEAR CAPACITY (lbs/ft)	FINISH	AT PERPENDICULAR* SUPPORTS		AT PARALLEL* SUPPORTS		AT SIDELAPS*	
									TYPE	NO. PER SHEET	TYPE	SPACING	TYPE	SPACING
ROOF DECK	1 1/2"	36"	18 GA	33	0.322	O.3O2	300	GALV, G-90	5/8" DIA SPOT WELDS	4	5/8" DIA SPOT WELDS	12"	1 1/2" SEAM WELD	12"

1. ★OTHER TYPE CONNECTIONS ARE ALLOWED.
2. MANUFACTURER'S STANDARD SIDELAP CONNECTION OROTHER SIDELAP CONNECTIONS ARE ALLOWED PER APPROVAL OF CH2MHILL ENGINEER.

NOTES:

1. FIRST SPAN OF DECKING ADJACENT TO CMU SHALL BE SINGLE SPAN.
2. SEE STEEL DECK AND ATTACHMENT SCHEDULE FOR METAL DECK REQUIREMENTS.
3. CONTRACTOR TO COORDINATE LOCATIONS OF OPENINGS WITH MECHANICAL AND HVAC.

RFI 066
DATE ANSWERED 9/30/13

Typical

Beam base plate is offset to accommodate anchor bolts. It is acceptable to weld the beam flange to the plate on 3 sides with a gap at the anchor bolt nut. Minimum weld length is 1". See RFI for details. Typ.

RFI 058-1
DATE ANSWERED 9/9/13

HVAC beam supports relocated to accommodate Johnson Controls units. See RFI for details.

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

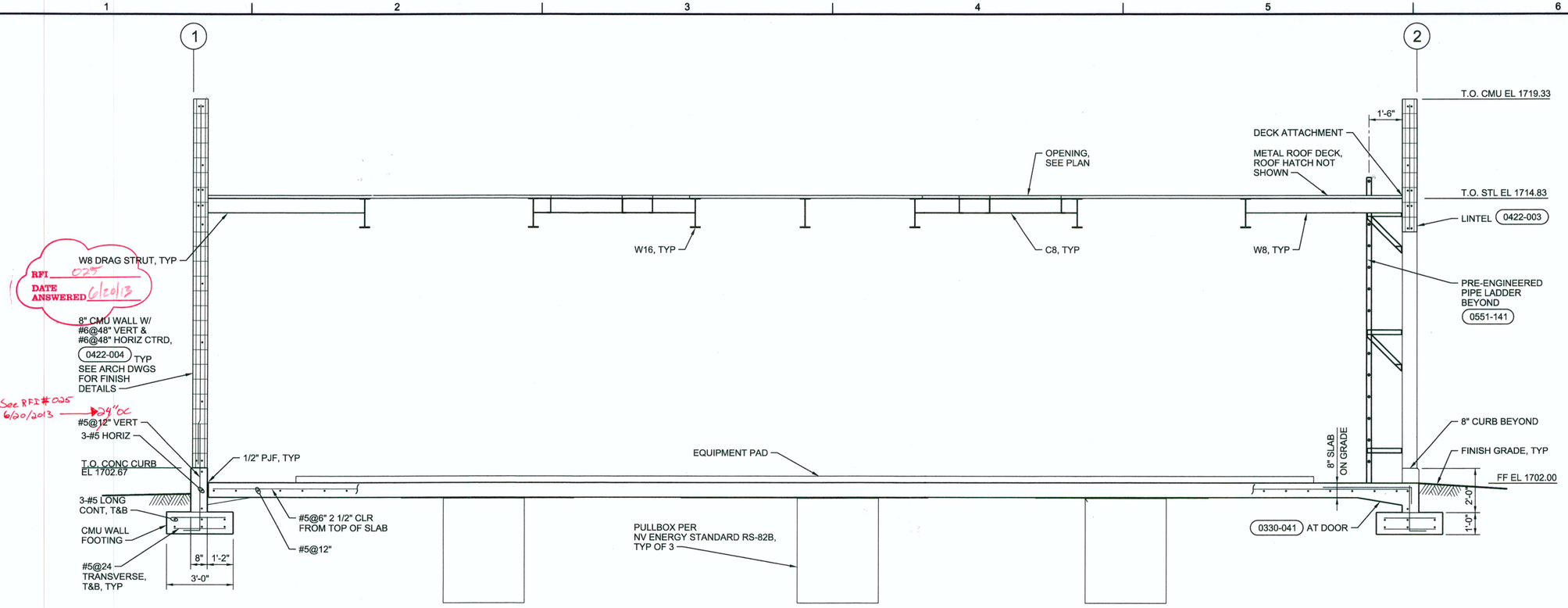
ELECTRICAL DISTRIBUTION BUILDING
STRUCTURAL
ROOF FRAMING PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	S-702
SHEET	62

AS-BUILT
CLV PLAN# 311.57

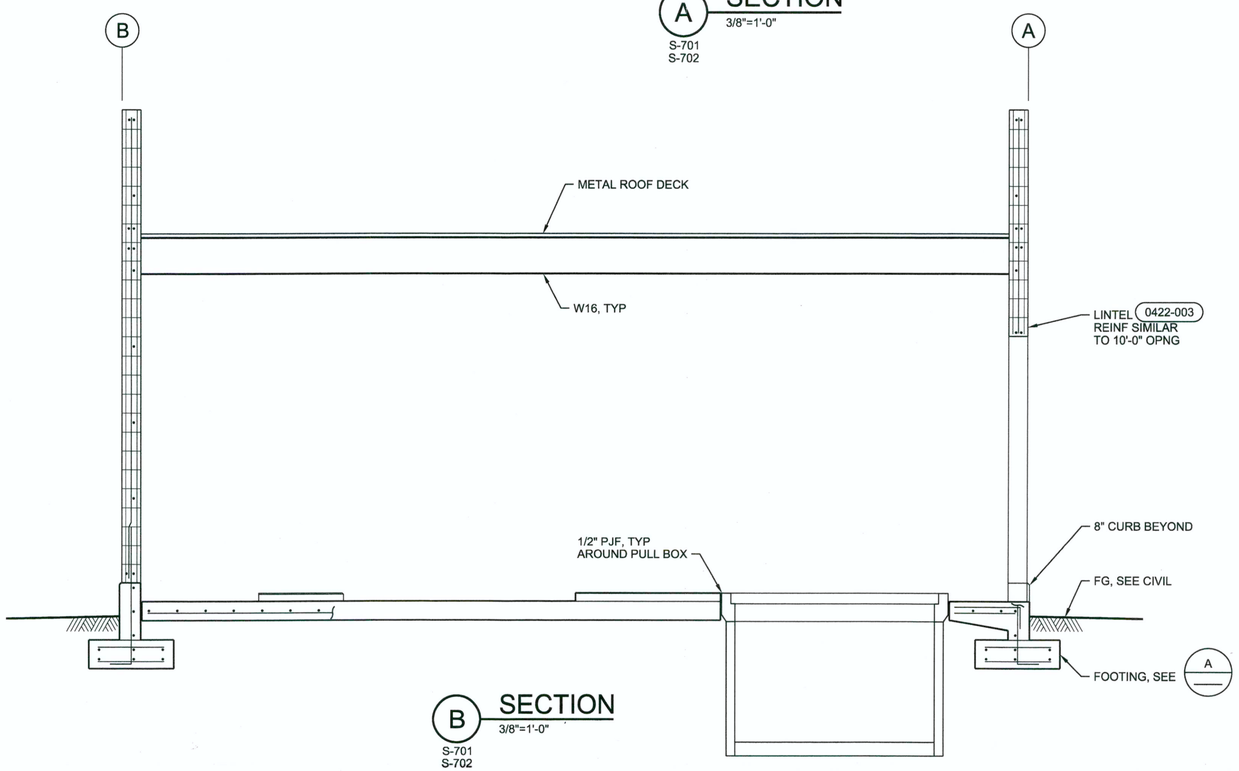
FILENAME: S-702_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:31:16 PM



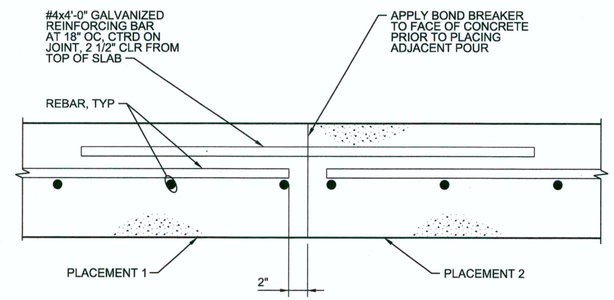
RFI 025
DATE ANSWERED 6/20/13

See RFI #025 6/20/2013 → 24" oc

A SECTION
3/8"=1'-0"
S-701
S-702



B SECTION
3/8"=1'-0"
S-701
S-702



1 SLAB ON GRADE CONSTRUCTION JOINT
1"=1'-0"
S-701

AS-BUILT

CLV PLAN# 311.57

PROFESSIONAL ENGINEER STATE OF NEVADA LIAO YANG Exp. 6-30-2014 CIVIL No. 021401 1-4-2013

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

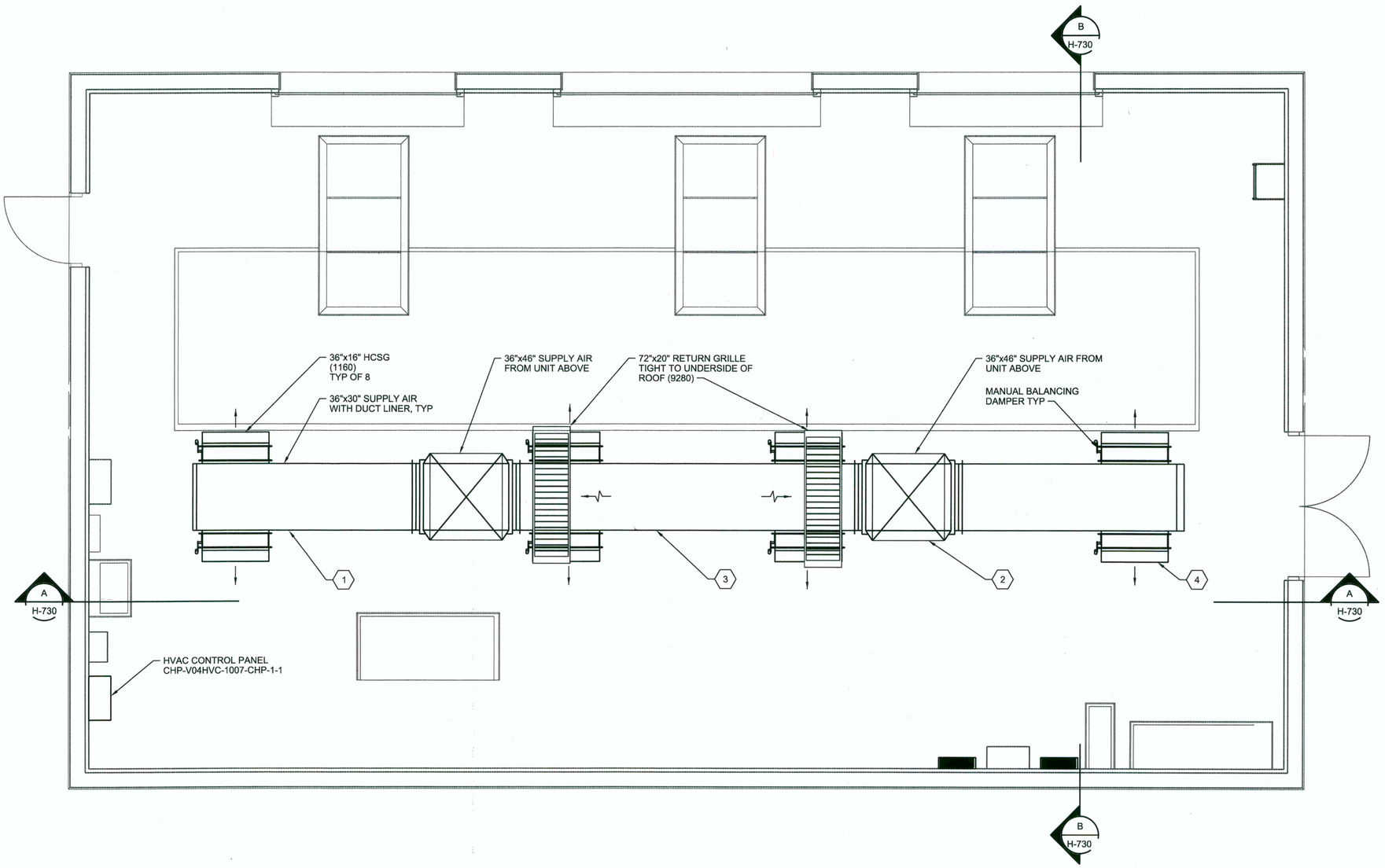
CH2MHILL

ELECTRICAL DISTRIBUTION BUILDING
STRUCTURAL SECTIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	S-730
SHEET	63

FILENAME: S-730_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:32:00 PM



NOTES:

1. DUCT AND DIFFUSERS ARE OVER SIZED TO ACCOMMODATE FUTURE EXPANSION.
2. CONSTRUCT SUPPLY DUCT TEE FITTINGS AT SUPPLY CONNECTIONS TO UNITS OF 18 GAGE GALVANIZED STEEL,TO REDUCE DUCT NOISE.
3. CENTER SUPPLY DUCT AND DIFFUSERS IN AISLE BETWEEN ELECTRICAL EQUIPMENT. COORDINATE AS REQUIRED WITH OTHER TRADES. DUCT OR DIFFUSER SHALL NOT BE LOCATED DIRECTLY OVER ELECTRICAL EQUIPMENT.
4. ADJUST HIGH CAPACITY SUPPLY GRILLE'S FRONT HORIZONTAL AND REAR VERTICAL BLADES FOR PROPER AIR DEFLECTION, THROW, AND COVERAGE. ELIMINATE DRAFTS AND NOISE WHERE POSSIBLE.

N

GROUND LEVEL FLOOR PLAN

3/8"=1'-0"

AS-BUILT
CLV PLAN# 311.57

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WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

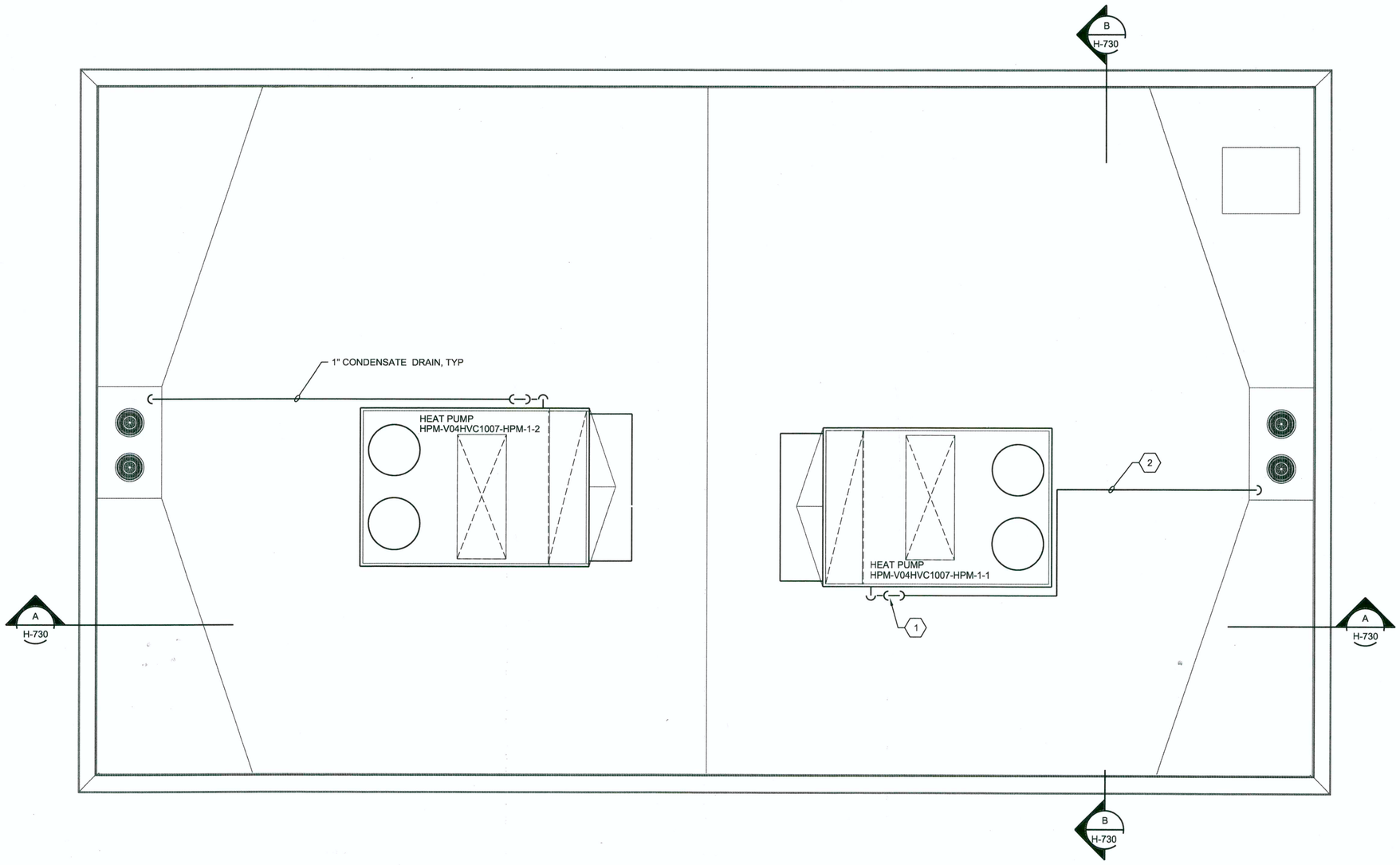
CH2MHILL

ELECTRICAL DISTRIBUTION BUILDING
HVAC
GROUND LEVEL FLOOR PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	H-701
SHEET	64

FILENAME: H-701_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:32:57 PM



NOTES:

1. PROVIDE CONDENSATE DRAIN TRAP FOR EACH HEAT PUMP. SIZE THE TRAP ACCORDING TO HEAT PUMP MANUFACTURERS INSTALLATION MANUAL.
2. SCHEDULE 40 PVC CONDENSATE DRAIN PIPE AT 1% SLOPE.

ROOF PLAN

3/8"=1'-0"

AS-BUILT

CLV PLAN# 311.57

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CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY

ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT

LAS VEGAS, NEVADA

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ELECTRICAL DISTRIBUTION BUILDING

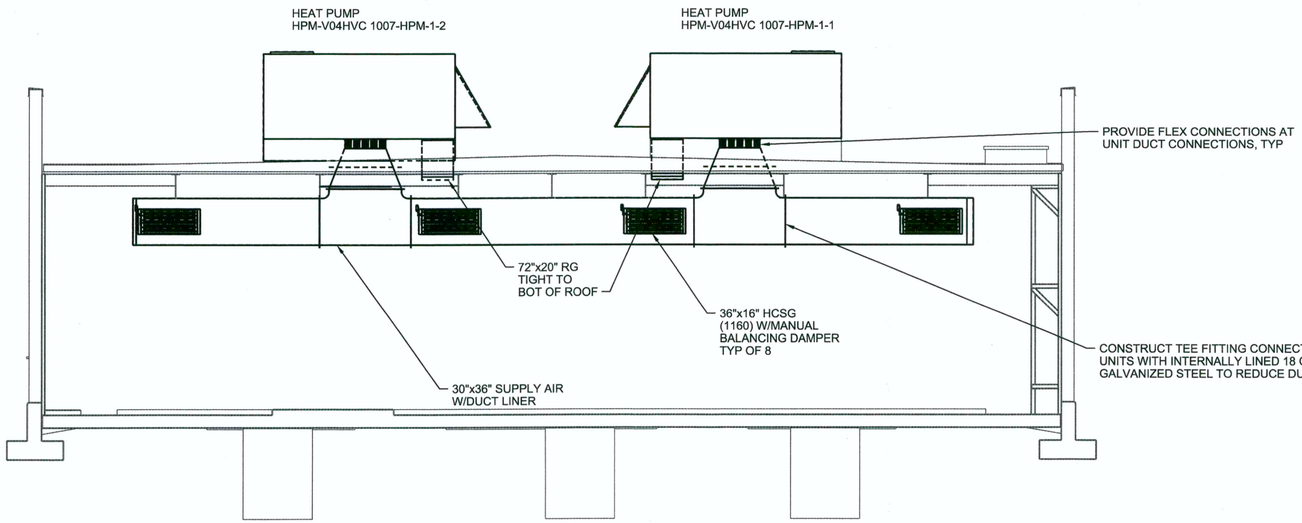
HVAC ROOF PLAN

VERIFY SCALE

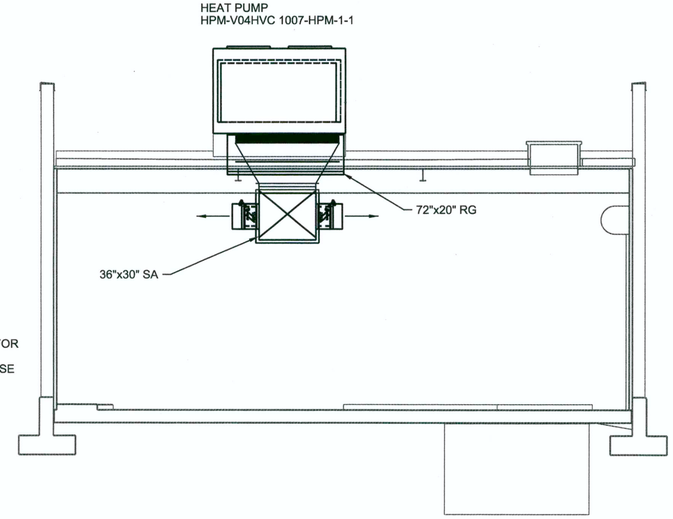
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	H-702
SHEET	65

FILENAME: H-702_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:33:37 PM



A SECTION
1/4"=1'-0"
H-701
H-702



B SECTION
1/4"=1'-0"
H-701
H-702

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LAS VEGAS, NEVADA

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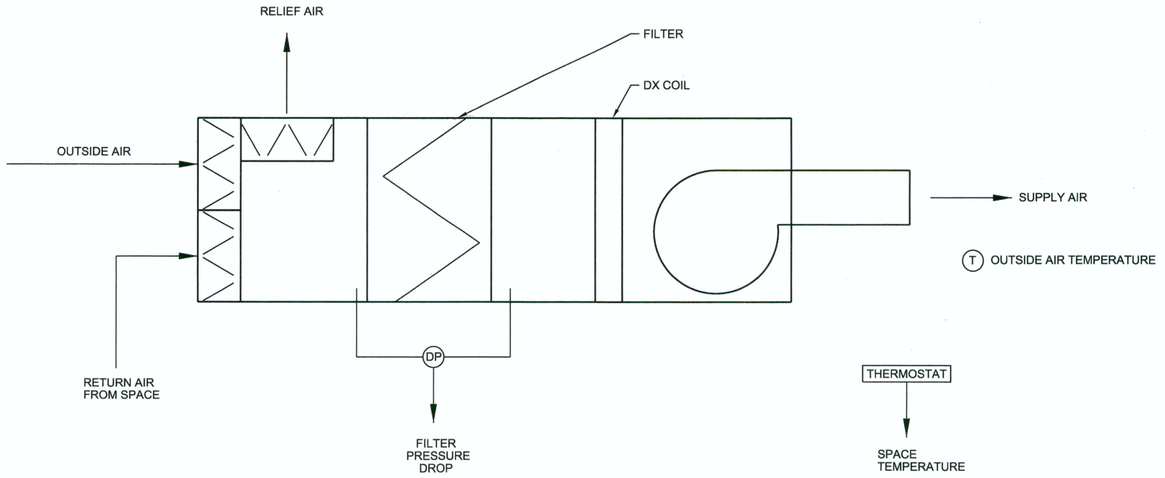
ELECTRICAL DISTRIBUTION BUILDING
HVAC SECTIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	H-730
SHEET	66

FILENAME: H-730_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:34:16 PM



HPM-V04HVC1007-HPM-1-1 AND HPM-V04HVC1007-HPM-1-2 HEAT PUMP CONTROLS

HEAT PUMP CONTROL

SETPOINTS

COOLING: 75 DEG F (ADJUSTABLE)

HEATING: 55 DEG F (ADJUSTABLE)

A HEAT PUMP SYSTEM SERVES THIS FACILITY.

TWO HEAT PUMP SYSTEMS SERVE THIS FACILITY. THE UNITS SHALL BE STAGED IN A LEAD/LAG CONFIGURATION AS REQUIRED TO MAINTAIN SETPPOINTS. LEAD/LAG STATUS SHALL BE ALTERNATED ON A WEEKLY BASIS.

THE HEAT PUMPS SHALL OPERATE UNDER THEIR OWN PACKAGE CONTROLS AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SETPOINTS.

THE LEAD HEAT PUMP FAN SHALL RUN CONTINUOUSLY WITH MINIMUM OUTSIDE AIR FLOW AS INDICATED IN THE HEAT PUMP EQUIPMENT SCHEDULE. CONTINUOUS FAN OPERATION SHALL MAINTAIN A POSITIVE SPACE PRESSURIZATION TO MINIMIZE THE ENTRY OF DUST INTO THE SPACE. THE LAG HEAT PUMP FAN SHALL BE COMMANDED ON AND OFF AS REQUIRED TO MEET SETPOINT.

THE PACKAGE CONTROLS SHALL PROVIDE INTEGRATED ECONOMIZER OPERATION BASED ON A COMPARISON OF RETURN AIR AND OUTSIDE AIR DRY BULB TEMPERATURES.

THE HEAT PUMP PACKAGE CONTROLS SHALL INCLUDE A BACNET INTERFACE THAT SHALL ALLOW MONITORING OF THE SYSTEM BY THE CENTRAL HVAC CONTROL SYSTEM. CONNECTION TO THE CENTRAL HVAC CONTROL SYSTEM WILL BE PROVIDED BY OTHERS UNDER A SEPARATE CONTRACT.

FILTER PRESSURE DROP FOR THE UNIT AND SPACE TEMPERATURE SHALL BE CONTINUALLY MONITORED FOR COMMUNICATION TO THE CENTRAL HVAC CONTROL SYSTEM. THESE POINTS AND THE REQUIRED COMMUNICATION INTERFACE SHALL BE PROVIDED UNDER THIS CONTRACT.

PACKAGED ROOFTOP HEAT PUMP

EQUIPMENT ID	SERVICE	REFRIG	MIN SENSIBLE COOLING CAPACITY (BTUH)	AMBIENT TEMP FOR COOLING (DEG F)	COOLING EAT DB/WB (DEG F)	MINIMUM HEATING CAPACITY AT 29 DEG F AMBIENT	HEATING EAT (DEG F)	AUX RESISTANCE HEAT	SUPPLY FAN DATA				ELECTRICAL			FILTER DATA		DESIGN BASIS MANUFACTURER AND MODEL
									CFM	OSA CFM MIN.	EXT S.P. IN WG	HP	VOLT	PH	MCA	MERV RATING	THICKNESS (INCHES)	
HPM-V04HVC1007-HPM-1-1	ELECTRIC DISTIBUTION BLDG	R410A	192,000	115	77 / 61	SEE NOTES	65	NO	9,280	150	0.5	7.5	460	3	56	8	2	TRANE 20 TON R410 PACKAGED HEAT PUMP
HPM-V04HVC1007-HPM-1-2	ELECTRIC DISTIBUTION BLDG	R410A	192,000	115	77 / 61	SEE NOTES	65	NO	9,280	150	0.5	7.5	460	3	56	8	2	TRANE 20 TON R410 PACKAGED HEAT PUMP

UNITS SHALL INCLUDE FULL INTEGRATED DRY BULB ECONOMIZER OPTION WITH DAMPERS, INTAKE HOOD AND RELIEF HOOD FOR 100% ECONOMIZER OPERATION
UNITS SHALL INCLUDE FULL PACKAGE CONTROLS FOR FULL HEATING, COOLING AND ECONOMIZER OPERATION INCLUDING ADJUSTABLE SPACE TEMPERATURE SENSOR
PACKAGE CONTROLS SHALL INCLUDE BACNET COMMUNICATION CAPABILITY TO ALLOW THE CENTRAL HVAC CONTROL SYSTEM TO MONITOR BUT NOT CONTROL HEAT PUMP OPERATION
ROOF CURBS SHALL BE PROVIDED UNDER ARCHITECTURAL
FOR HEATING CAPACITIES NOT LISTED PROVIDE MANUFACTURER'S STANDARD HEATING CAPACITY FOR UNIT MEETING THE COOLING LOAD REQUIREMENT
DISCONNECTS SHALL BE PROVIDED BY DIVISION 26 ELECTRICAL

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CLV PLAN# 311.57

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WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

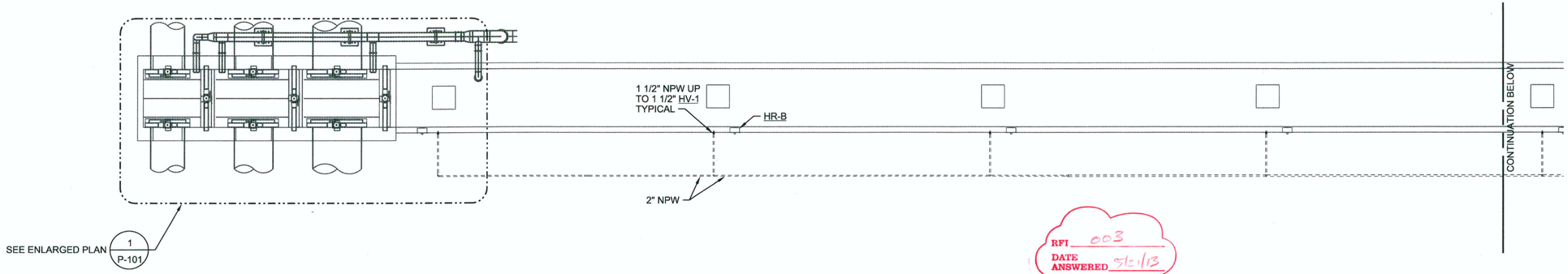
ELECTRICAL DISTRIBUTION BUILDING
HVAC
CONTROLS AND SCHEDULE

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

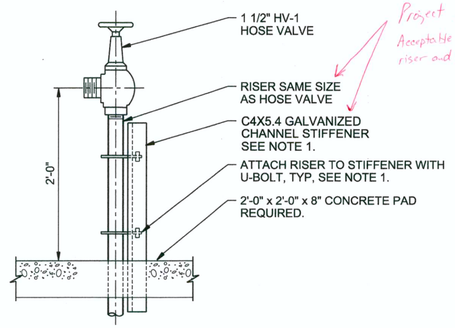
DATE	JANUARY 2013
PROJ	413455
DWG	H-790
SHEET	67

FILENAME: H-790_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:34:53 PM

NOTE:
1. REFERENCE DWG CY-101 FOR COORDINATE TABLE OF EXACT LOCATIONS OF HOSE VALVES.



RFI 003
DATE ANSWERED 5/2/13



Project RFI 0003-0
Acceptable to use galvanized riser and galvanized stiffener.

NOTES:
1. CHANNEL STIFFENER AND RISER ATTACHMENT HARDWARE SHALL BE STAINLESS STEEL. (RFI 0003-0, Galvanized)

1 DETAIL
NTS

BYPASS PLAN
3/16""=1"

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	REVISION	CHK	APVD	BY
		AG OLSON	CR ORR		PW RAUSCH	BA JOHNSON	APVD

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

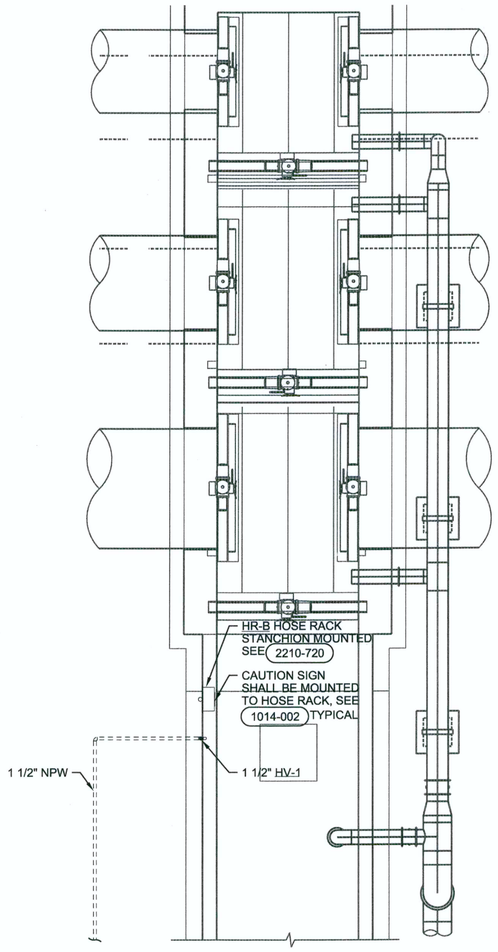
CH2MHILL

BYPASS AND INFLUENT JUNCTION BOX
PLUMBING
OVERALL PLAN

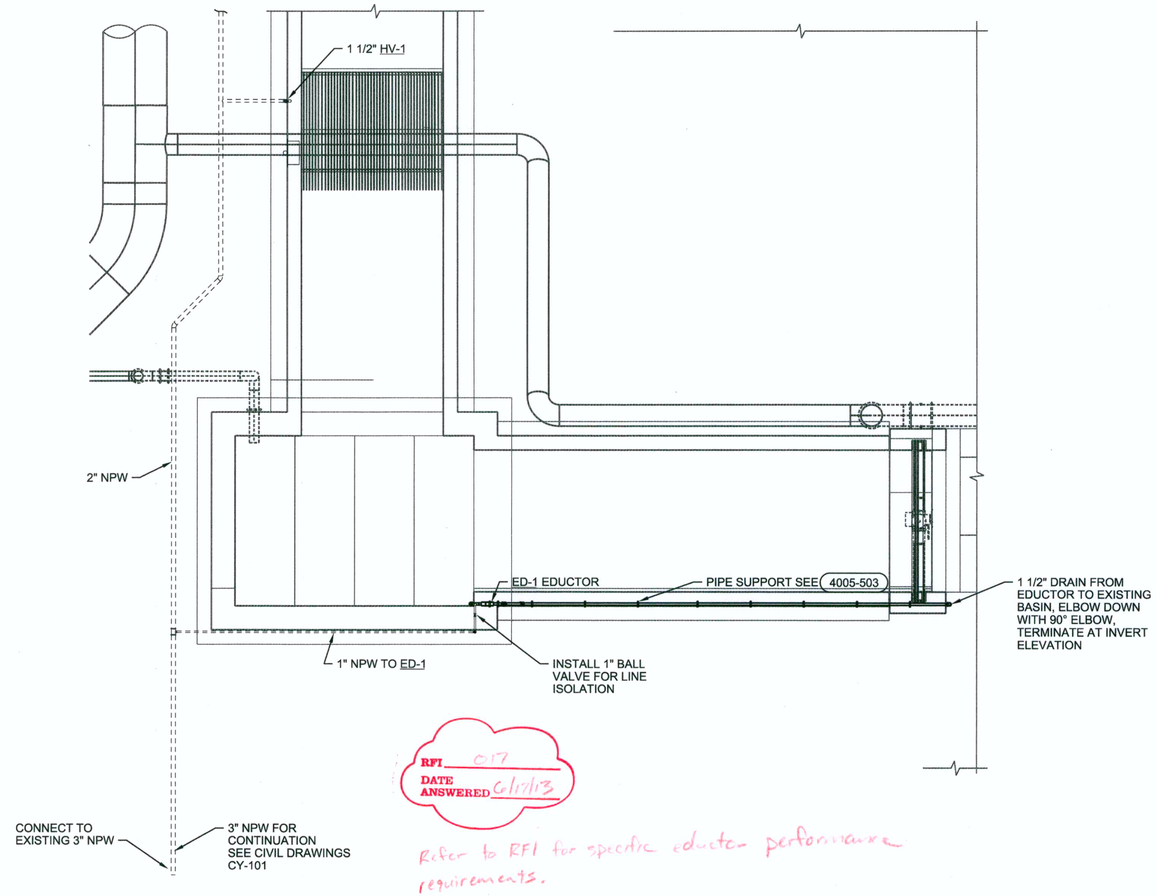
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P-100
SHEET	68

FILENAME: P-100_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:37:04 PM



1 BYPASS JUNCTION BOX PLAN
3/16"=1'-0"
P-100



RFI 017
DATE ANSWERED 6/17/13

Refer to RFI for specific eductor performance requirements.

2 INFLUENT JUNCTION BOX PLAN
3/16"=1'-0"
P-100

AS-BUILT
CLV PLAN# 311.57

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

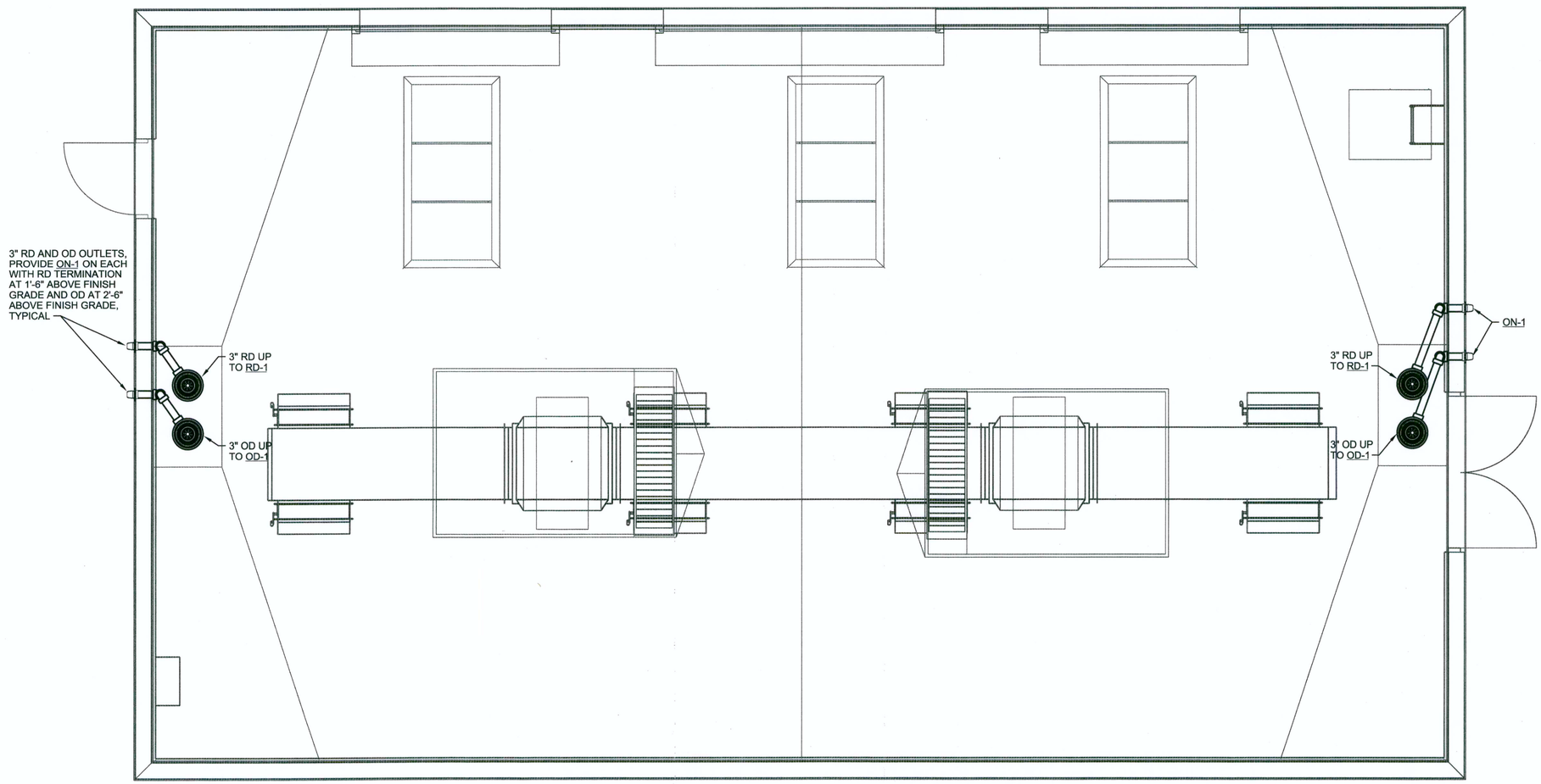
CH2MHILL

BYPASS AND INFLUENT JUNCTION BOX
PLUMBING PLANS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P-101
SHEET	69

FILENAME: P-101_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:37:46 PM



GROUND LEVEL FLOOR PLAN
3/8"=1'-0"

AS-BUILT

CLV PLAN# 311.57

RECEIVED
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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL DISTRIBUTION BUILDING
PLUMBING
GROUND LEVEL FLOOR PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P-701
SHEET	70

FILENAME: P-701_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:38:44 PM

0 150 300 450
1"=150'

N

EAST VEGAS VALLEY DRIVE

AREA 206 | AREA 207 | AREA 208 | AREA 209 | AREA 210

AREA 211 | AREA 212

AREA 201 | AREA 202 | AREA 203 | GOLF COURSE | AREA 204 | AREA 205

PLANTS 5 & 6 SUBSTATION
SWG-V14ELE1061-SWG-12-5
XMR-V14ELE1061-XMR-12-1
XMR-V14ELE1061-XMR-12-2
SWG-V14ELE1061-SWG-12-6
XMR-V14ELE1061-XMR-12-3
XMR-V14ELE1061-XMR-12-4

DEWATERING
SWG-V07ELE1058-SWG-12-2
XMR-V07ELE1058-XMR-12-2

PLANTS 1 & 2
SWG-V01ELE1021-SWG-12-3
XMR-V01ELE1041-XMR-12-3

EXISTING ELECTRICAL VAULT

(DWG NOT USED)

EXISTING ELECTRICAL VAULT

HEADWORKS
SWG-V05ELE1038-SWG-12-1
XMR-V05ELE1038-XMR-12-1

EXISTING HEADWORKS

EXISTING ELECTRICAL VAULT

EXISTING NV ENERGY 12.47KV OVERHEAD DISTRIBUTION LINE

NV ENERGY EASEMENT

NEW ELECTRICAL VAULT

NEW ELECTRICAL VAULT

NV ENERGY EASEMENT

NVE WINTERWOOD 1224
NVE CABANA 1206
NVE WINTERWOOD 1214

NEW NV ENERGY SWITCHYARD

EXISTING NV ENERGY 69KV OVERHEAD TRANSMISSION LINE

EXISTING ELECTRICAL VAULT

XMR-V04ELE1007-XMR-12-3

ELECTRICAL DISTRIBUTION BLDG.

XMR-V04ELE1007-XMR-12-4

PLANTS 3 & 4
SWG-V03ELE1021-SWG-12-4
XMR-V03ELE1021-XMR-12-4

STATE OF NEVADA
PROFESSIONAL ENGINEER
AARON J. HALL
ELECTRICAL
No. 12961
1/8/13
Exp 6/30/15

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Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	AJ HALL	DR	TR UY	CHK
		APVD	JR HOYLE	
			BA JOHNSON	

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
OVERALL SITE PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-000
SHEET	71

AS-BUILT
CLV PLAN# 311.57

FILENAME: E-000_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:47:06 PM

McCARTHY

Request For Information
Project RFI #: 0009-0
Date Created: 05/21/2013
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 06/04/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Missing Detail Documents
Discipline: Details
Category:
Reason: Plans/Specs Discrepancy

Initiated By: McCarthy - Cody Harris
Ref RFI:

Question
The following Details are missing from the Detail Booklet:
1. Drawing E-001 calls out detail 2605-207, 2605-207 is missing.

2. Drawing E-702 calls out detail 2650-100, 2650-100 is missing.

3. Detail 0315-142 calls out detail 0315-153, 0315-153 is missing.

4. Detail 0330-106 calls out detail 0330-018, 0330-018 is missing.

Suggestion
Please provide details 0315-153, 0330-018, 2650-100, and 2605-207.

Answer **Date Answered: 06/03/2013**
1. The correct detail callout is 2650-207.

2. The correct detail callout is 2650-101. Note: The photocell is to be installed in accordance with detail 2650-101 or per manufacturer's recommendation.

3. Revise the note 2 in the detail 0315-142 to read "6 ½" maximum when used in conjunction with detail 0315-154."

4. Delete note 2 in detail 0330-016, and note 5 in detail 0330-017. Please note detail 0330-106 doesn't refer to any other detail. In detail 0330-016 and 0330-017, detail 0330-018 were referred.

Architect/Engineer Signature
By:_____ Date:_____
Consultant:

McCARTHY

Request For Information
Project RFI #: 0031-0
Date Created: 06/26/2013
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 07/10/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Vaults MHLV1 & MHLV2 West of New Electrical Building
Discipline: Civil
Category:
Reason: Field Condition

Initiated By: McCarthy - Nick Partin
Ref RFI:

Attachments

Type	Name	Description	Content
File	E-001 and Details		072_-_E-001_Site_Plan_Area_201.pdf

Question
Electric Vaults MHLV1 and MHLV2 on drawing E-001 Site plan area 201. Detail 2605-443A and 2605-443B shows top of Electric vault mounted at grade. The locations of these boxes lays out in an existing Sludge Basin if boxes are set to grade at this time they will be around 3-1/2 feet to 4 feet lower than grade elevation 1700.00. Possible issue water infiltration.

Suggestion
Suggested Solution – Need Survey point close to new elevation for future plants 7 and 8. We can install top of that box at higher elevation around 1700.00 then take native that has been excavated from building and place around the area.

Answer **Date Answered: 06/28/2013**
Install the top of vault (cover) elevation at EL. 1700.5. Bottom of vault and conduit elevations to remain per design.

Architect/Engineer Signature
By:_____ Date:_____
Consultant:

CLV PLAN# 311.57

SITE PLAN - AREA 201

1"=30'

EAST VEGAS VALLEY DRIVE

X20108/70
NV ENERGY
STEEL TAPERED
TRANSMISSION POLE

NVE WINTERWOOD 1224
NVE CABANA 1206
NVE WINTERWOOD 1214

[(3) 6"C NEW - 3#1000 kCMIL (15kV) BY NVE IN 2 OF 3 - 1 SPARE]
[(3) 6"C NEW - 3#1000 kCMIL (15kV) BY NVE IN 2 OF 3 - 1 SPARE]
[(3) 6"C NEW - 3#1000 kCMIL (15kV) BY NVE IN 2 OF 3 - 1 SPARE]

PB-LT-4

[1"C - 2#10, 1#10G]

HEADWORKS
BYPASS
JUNCTION BOX,
SEE DWG E-101

NV ENERGY
69KV OVERHEAD
TRANSMISSION LINE

SEE NOTE 5

P88240/55
NV ENERGY
DEAD-END, GUYED
WOOD DISTRIBUTION POLE
WITH FUSED CUTOUTS

[1"C - 3#10, 1#10G]

[2"C - 60#14, 1#14G]
[2"C - 48#14, 1#14G]

NV ENERGY
12.47KV OVERHEAD
DISTRIBUTION LINE

[2"C - 4#1, 1#8G]
[2"C - PULLWIRE]
[1"C - 3#10, 1#10G]

10' X 6' HWBYP

EXISTING
ELECTRICAL
VAULT

PULL BOX
PB-FO-2

[(20) 4"C - EMPTY]

PULL BOX
PB-FO-3
2605-400c

FIBER OPTIC
[(2) 3"C - (2) TYPE FO]
[(2) 3"C - EMPTY]
[(2) 2"C - (1) TYPE TELE]

XMR-V04ELE1007-XMR-12-3

[FUTURE FIBER OPTIC DUCTBANK]

[FUTURE POWER DUCTBANK]

ELECTRICAL VAULT
MHLV1

[1"C - 2#10, 1#10G]

PB-MV-8 (PULL BOX)

PB-MV-1 (PULL BOX)

PB-LT-3

[1"C - 2#10, 1#10G]

PB-LT-2

ELECTRICAL VAULT
MHLV2

2605-443a
2605-443b
2605-446 , TYP.

2605-446 , TYP.

SEE DWG E-701

SEE NOTE 4,
TYP OF 2

2605-207 , TYP.

XMR-V04ELE1007-XMR-12-4

NV ENERGY
SWITCHYARD
(NOTE 2)

SEE NOTE 3,
TYP OF 2

[(3) 4"C - 3#4/0 (15kV),
1#4G (600V)]
[(1) 4"C - EMPTY]

FORMER
LOCATION OF
NV ENERGY
SW8155

[(1) 4"C - 3#4/0 (15kV),
1#4G (600V)]
[(1) 4"C - EMPTY]

[1"C - 2#10, 1#10G]

[1"C - 2#10, 1#10G]

[FUTURE
CIRCUITS TO PLANT 7 AND 8]

[FUTURE POWER DUCTBANK]

[FUTURE POWER
DUCTBANK]

FUTURE
SWG-V04ELE1015-SWG-12-1

FUTURE
XMR-V04ELE1015-XMR-12-1

FUTURE
SWG-V04ELE1015-SWG-1-1

FUTURE
SWG-V04ELE1015-SWG-12-2

FUTURE
XMR-V04ELE1015-XMR-12-2

FUTURE
PLC-49

[FUTURE POWER DUCTBANK]

FUTURE
PLC-43

FUTURE
MCC-V04ELE431-MCC-1-1

[FUTURE FIBER
OPTIC DUCTBANK]

NV ENERGY
EASEMENT

X20107/70
NV ENERGY
STEEL TAPERED
TRANSMISSION
POLE

FIBER OPTIC
[(1) 3"C - (2) TYPE FO]
[(3) 3"C - EMPTY]
[(2) 2"C - (1) TYPE TELE]

[1"C - 3#10, 1#10G]

[1"C - 2#10, 1#10G]
[1"C - 1 TYPE TSP]

[1"C - 2#10, 1#10G]
[1"C - 12#14, 1#14G]

PULL BOX
PB-FO-1
2605-444 , TYP

[1"C - 2#10, 1#10G]

PB-LT-6

INFLUENT
JUNCTION BOX,
SEE DWG E-101

FIBER OPTIC
[(1) 3"C - (2) TYPE FO]
[(3) 3"C - EMPTY]
[(2) 2"C - (1) TYPE TELE]

PULL BOX
PB-MV-2

MATCH LINE, SEE DWG E-002

MATCH LINE, SEE DWG E-006

SEE ALSO DWG E-024

RFI 009 (6/3/2013)
Correct detail Callout is 2650-207

RFI 009
DATE ANSWERED 6/7/13

RFI 031
DATE ANSWERED 6/28/13

Install the top of vault (cover) at EL. 1700.5. Bottom per design

NOTES:

1. COORDINATE CONNECTION REQUIREMENTS WITH NV ENERGY.
2. PROVIDE COMPLETE INSTALLATION OF SERVICE EQUIPMENT IN ACCORDANCE WITH NV ENERGY DRAWINGS AND REQUIREMENTS. SEE NV ENERGY PROJECT 3000019599 DRAWING 16 OF 27.
3. NVE SWITCHYARD LIGHTS FED FROM LPB-V04ELE1007-LPB-1-1 CKT 7 VIA PHOTO CELL, SEE DWG E-702 FOR LUMINAIRE SCHEDULE.
4. ELECTRICAL DISTRIBUTION PARKING LIGHTS FED FROM LPB-V04ELE1007-LPB-1-1 CKT 5 VIA PHOTO CELL, SEE DWG E-702 FOR LUMINAIRE SCHEDULE.
5. CONDUIT MAY BE CAST INTO BYPASS CONDUIT WALL OR DIRECT-BURIED IN EARTH AT CONTRACTOR'S DISCRETION.

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
		AJ HALL	TR UY	JR HOYLE			BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
SITE PLAN
AREA 201

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-001
SHEET	72

FILENAME: E-001_413455.dgn PLOT DATE: 2013\01\10 PLOT TIME: 9:28:17 AM

MATCH LINE, SEE DWG E-001

NV ENERGY
12.47KV
UNDERBUILD

NV ENERGY
EASEMENT

NV ENERGY
69KV OVERHEAD
TRANSMISSION LINE

FUTURE CKTS TO PLANT 7 & 8

[(3) 4"C NEW - 3#4/0 (15kV), 1#4G (600V) NEW]
[(1) 4"C NEW - EMPTY]

X20106/70
NV ENERGY
STEEL TAPERED
TRANSMISSION POLE

MATCH LINE, SEE DWG E-007

MATCH LINE, SEE DWG E-003

N

SITE PLAN - AREA 202
1"=30'

AS-BUILT
CLV PLAN# 311.57

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		APVD	BA JOHNSON

STATE OF NEVADA
PROFESSIONAL ENGINEER
AARON J. HALL
ELECTRICAL
No. 12951
EXP. 6/30/13
1/8/13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
SITE PLAN
AREA 202

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-002
SHEET	73

FILENAME: E-002_413455.dgn PLOT DATE: 2013\01\10 PLOT TIME: 10:00:28 AM

MATCH LINE, SEE DWG E-002

[(1) 4"C NEW - 3#4/0 (15kV), 1#4G (600V) NEW]
[(1) 4"C NEW - EMPTY]

NV ENERGY
12.47KV
UNDERBUILD

NV ENERGY
69KV OVERHEAD
TRANSMISSION LINE

GOLF COURSE

NV ENERGY EASEMENT

NEW ELECTRICAL
PULL BOX WITH NEW
FEED THRU JUNCTIONS
PB-MV-7

[(3) 4"C NEW - 3#4/0 (15kV),
1#4G (600V) NEW]
[(1) 4"C NEW EMPTY]

MATCH LINE, SEE DWG E-008

T27795/50
NV ENERGY
DEAD-END, GUYED
WOOD DISTRIBUTION POLE
WITH FUSED CUTOUTS

EXISTING
ELECTRICAL
VAULT

SEE DWG E-027

X20105/70
NV ENERGY
STEEL TAPERED
TRANSMISSION POLE

[(1) 4"C EXISTING - 3#4/0 (15kV), 1#4G(600V) NEW]

PLANTS 3 & 4
SWG-V03ELE1021-SWG12-4
XMR-V03ELE1021-XMR-12-4

[(1) 4"C - 3#4/0 (15kV), 1#4G (600V) NEW]
[(1) 4"C NEW - EMPTY]

NEW ELECTRICAL
PULL BOX
PB-MV-6

[(1) 4"C EXISTING - 3#4/0 (15kV), 1#4G (600V) NEW]

[(2) 4"C NEW - 3#4/0 (15kV), 1#4G (600V) NEW]

MATCH LINE, SEE DWG E-004

N

SITE PLAN - AREA 203

1"=30'

AS-BUILT
CLV PLAN# 311.57

STATE OF NEVADA
AARON J HALL
ELECTRICAL
No. 12967
PROFESSIONAL ENGINEER
1/8/13
EXP. 6/30/13

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NO.	DATE	REVISION	BY
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		CHK	JR HOYLE
		APVD	BA JOHNSON

CITY OF LAS VEGAS

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

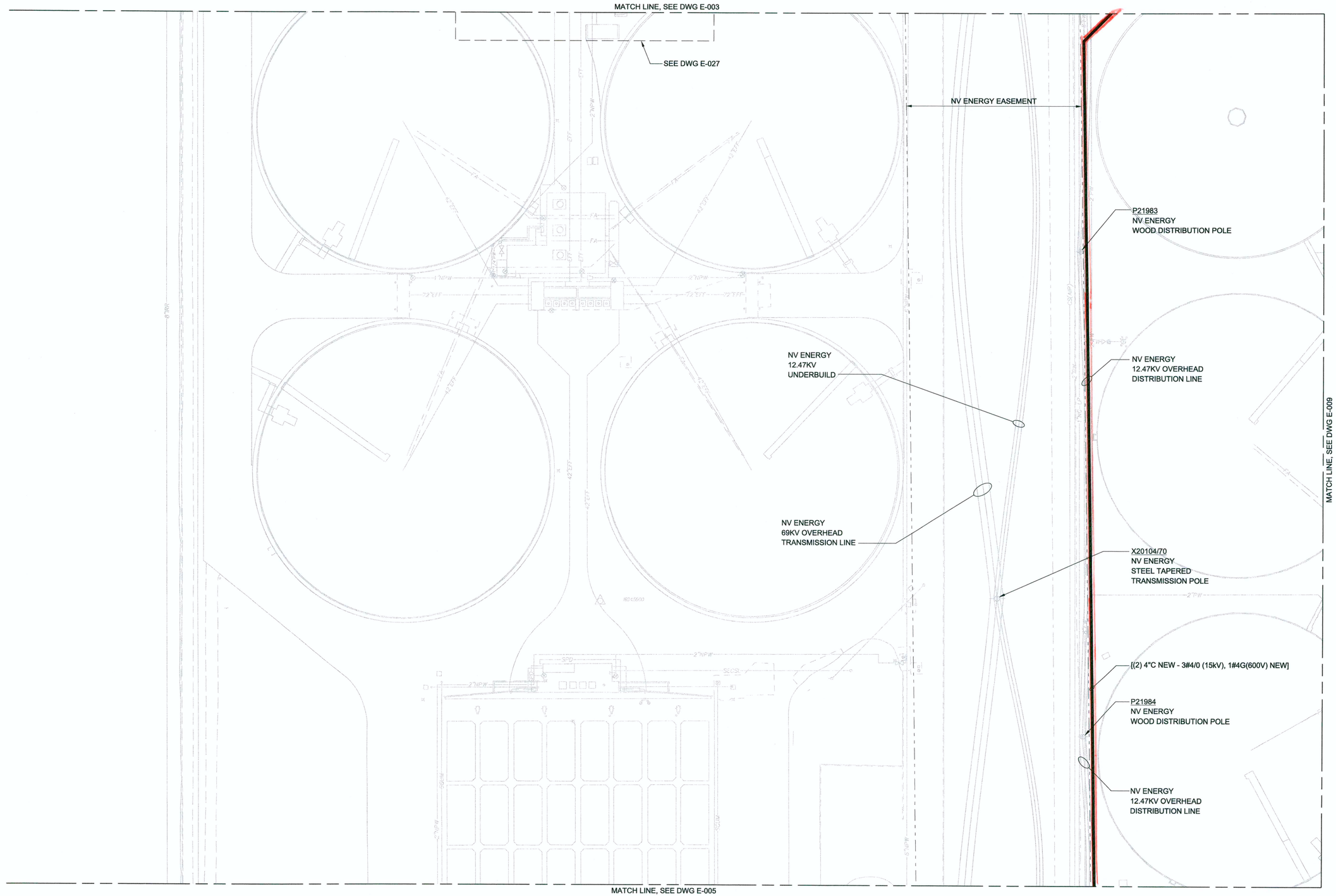
CH2MHILL

ELECTRICAL
SITE PLAN
AREA 203

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-003
SHEET	74

FILENAME: E-003_413455.dgn PLOT DATE: 2013\01\10 PLOT TIME: 9:59:14 AM



N

SITE PLAN - AREA 204

1"=30'

AS-BUILT
CLV PLAN# 311.57

PROFESSIONAL ENGINEER - STATE OF NEVADA
AARON J. HALL
ELECTRICAL
No. 12961
EXP. 6/30/13
1/8/13

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NO.	DATE	REVISION	BY	APVD

DSGN AJ HALL | DR TR UY | CHK JR HOYLE | APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

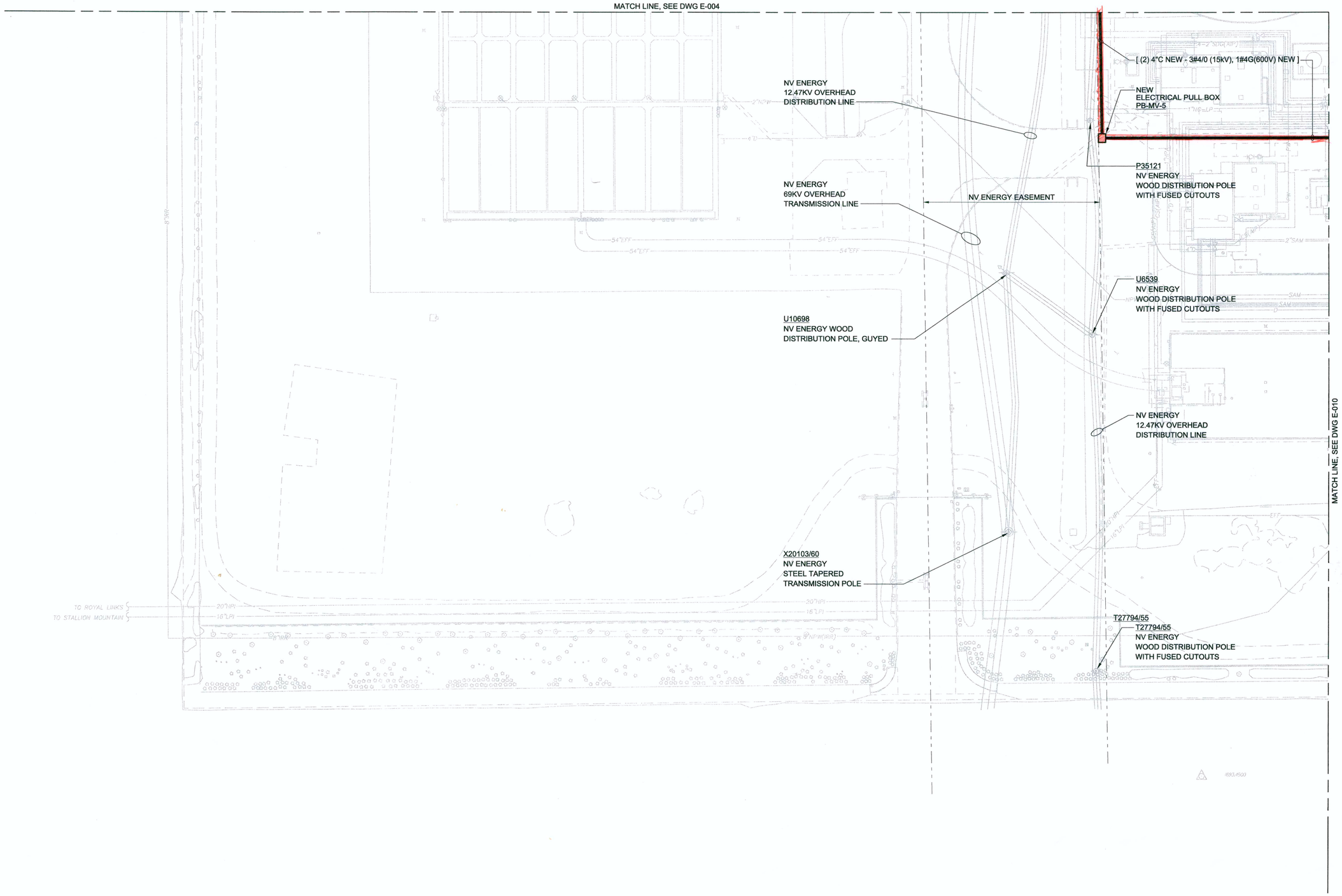
CH2MHILL

ELECTRICAL
SITE PLAN
AREA 204

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-004
SHEET	75

FILENAME: E-004_413455.dgn PLOT DATE: 2013\01\10 PLOT TIME: 10:02:46 AM



N

SITE PLAN - AREA 205

1"=30'

AS-BUILT
CLV PLAN# 311.57

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McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD

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AJ HALL	TR UY	JR HOYLE	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

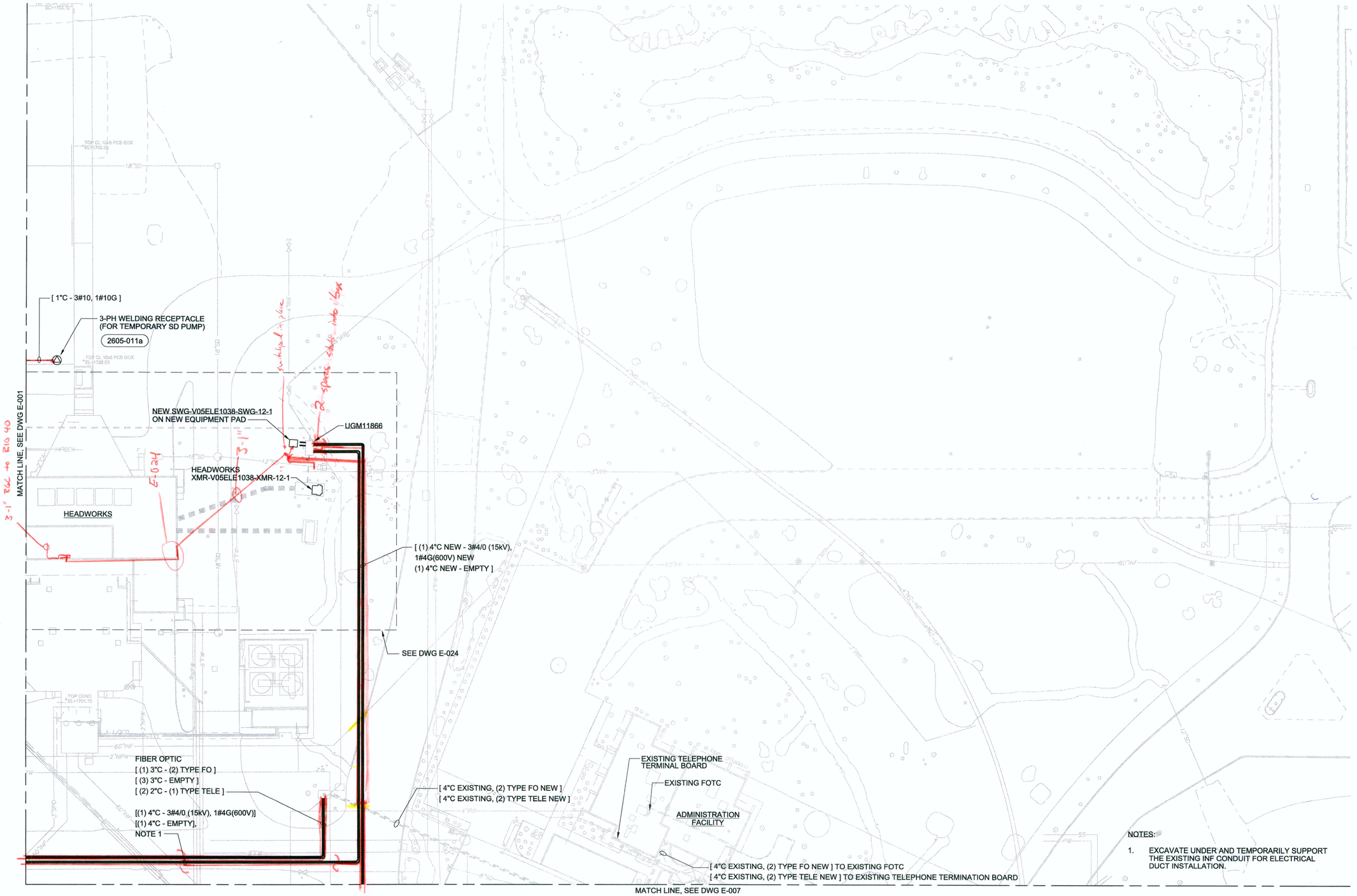
CH2MHILL

ELECTRICAL
SITE PLAN
AREA 205

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-005
SHEET	76

FILENAME: E-005_413455.dgn PLOT DATE: 2013\01\10 PLOT TIME: 10:05:49 AM



NOTES:

1. EXCAVATE UNDER AND TEMPORARILY SUPPORT THE EXISTING INF CONDUIT FOR ELECTRICAL DUCT INSTALLATION.

SITE PLAN - AREA 206

1"=30'

AS-BUILT

CLV PLAN# 311.57

REGISTERED ENGINEER STATE OF NEVADA
AARON J. HALL
ELECTRICAL
PROFESSIONAL No. 12951
Exp. 6/30/15
1/8/13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	DR	REVISION	CHK	APVD	BY	APVD
			AJ HALL		TR UY	JR HOYLE		BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
SITE PLAN
AREA 206

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-006
SHEET	77

FILENAME: E-006_413455.dgn PLOT DATE: 2013\01\10 PLOT TIME: 10:18:19 AM

MATCH LINE, SEE DWG E-006

[4"C EXISTING, (2) TYPE FO NEW]
[4"C EXISTING, (1) TYPE TELE NEW]

E
E-023

MATCH LINE, SEE DWG E-002

NEW ELECTRICAL
PULL BOX
PB-MV-3

[(1) 4"C NEW - 3#4/0 (15kV),
1#4G(600V) NEW
(1) 4"C NEW - EMPTY]

MATCH LINE, SEE DWG E-008

N

SITE PLAN - AREA 208
1"=30'

AS-BUILT
CLV PLAN# 311.57

STATE OF NEVADA
AARON J. HALL
ELECTRICAL
No. 12361
EXP. 6/30/13
1/8/13

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		CHK	JR HOYLE
		APVD	APVD
			BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
SITE PLAN
AREA 207

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-007
SHEET	78

FILENAME: E-007_413455.dgn PLOT DATE: 2013\01\10 PLOT TIME: 1:13:43 PM

MATCH LINE, SEE DWG E-007

[(1) 4"C NEW - 3#4/0 (15kV), 1#4G(600V)NEW
(1) 4"C NEW - EMPTY]

3 - 1" PVC conduit

NEW ELECTRICAL PULL BOX PB-MV-4

DEWATERING
SWG-V07ELE1058-SWG-12-2
XMR-V07ELE01058-XMR-12-2

Expose NVE duct for cutover 1/14

SEE DWG E-025

[(1) 4"C EXISTING - 3#4/0 (15kV), 1#4G(600V) NEW]

EXISTING ELECTRICAL VAULT UGM3

[(1) 4"C EXISTING - 3#4/0 (15kV), 1#4G(600V) NEW]

MATCH LINE, SEE DWG E-003

EXISTING ELECTRICAL VAULT UGM2

New 4" conduit 2(4") stub to existing BA bank

(3) 1" PVC

(3) 1" conduit

[(1) 4"C NEW - 3#4/0 (15kV), 1#4G(600V)NEW]

[(1) 4"C EXISTING - 3#4/0 (15kV), 1#4G(600V)NEW]

PLANTS 1 & 2
SWG-V01ELE1041-SWG-12-3
XMR-V01ELE1041-XMR-12-3

PVC Conduit across channel

LB's in to existing Box.

[(1) 4"C EXISTING - 3#4/0 (15kV), 1#4G(600V) NEW]

SEE DWG E-026

MATCH LINE, SEE DWG E-009

N

SITE PLAN - AREA 208

1"=30'

AS-BUILT
CLV PLAN# 311.57

FILENAME: E-008_413455.dgn PLOT DATE: 2013\01\10 PLOT TIME: 1:15:10 PM

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			APVD BA JOHNSON

ENGINEER - STATE OF NEVADA
AARON J. HALL
ELECTRICAL
No. 12251
PROFESSIONAL
EXP. 6/30/13
1/8/13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
SITE PLAN
AREA 208

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-008
SHEET	79

McCARTHY

Request for Information with Comments

Project RFI #: 0046-0
Date Created: 07/30/2013
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 08/13/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: MH1 refeed location
Discipline: Electrical
Category:
Reason: Field Condition

Initiated By: Helix Electric - Jason Getty
Ref RFI: 007

Attachments

Type	Name	Description	Content
File	MH1 refeed location		RFI-007_MH1.pdf

Question
The new feed to MH1 is located approx. 360' to the east of what is indicated on the dwgs. Please verify if we need to install additional conduit and wire? Does Transformer EEE409F need to be re-fed?

Suggestion

Date Answered: 08/09/2013

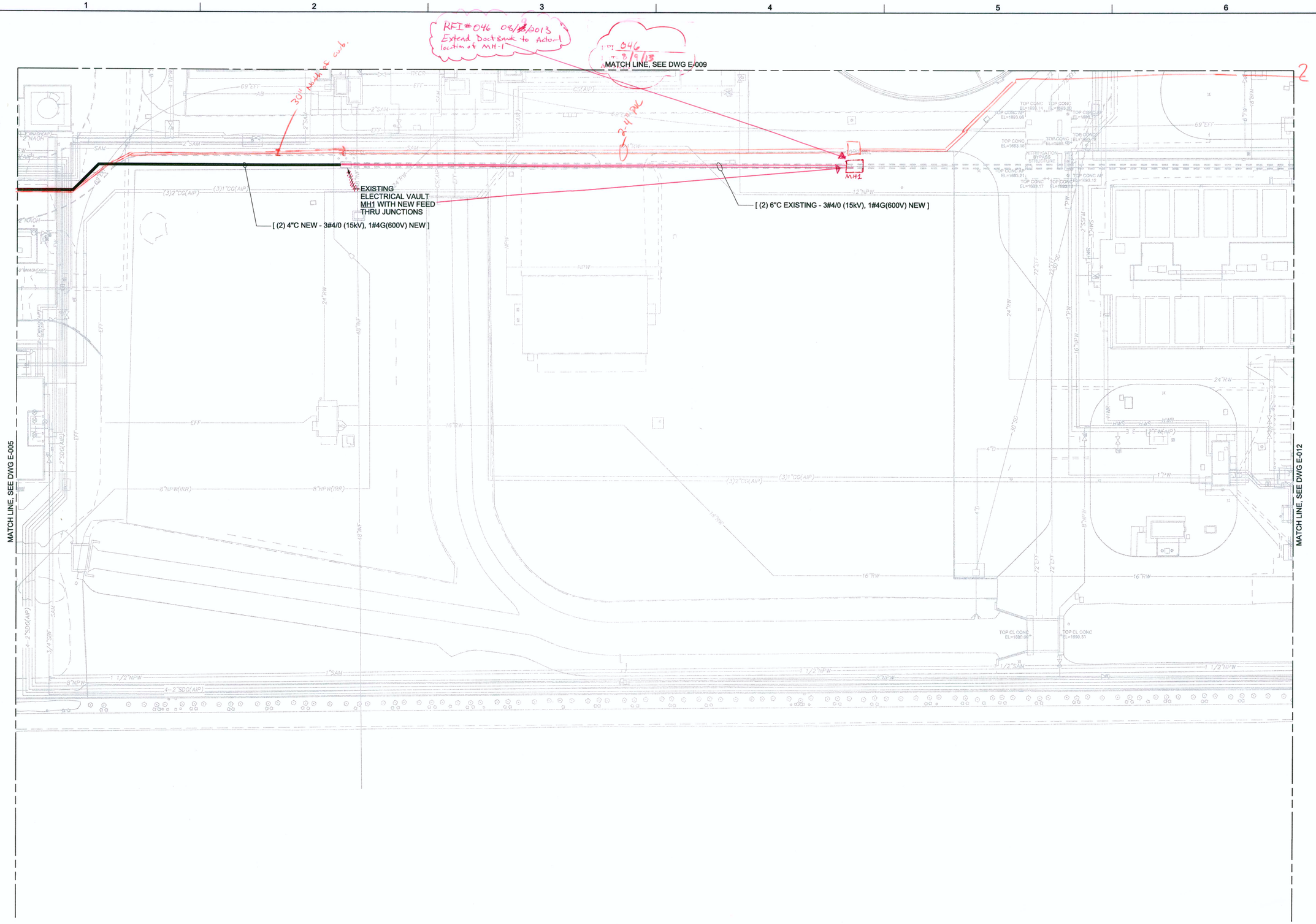
Answer
Provide the additional length of underground duct bank to extend to the actual location of "MH1". No changes are required respecting NV Energy's Transformer EEE409F.

Comments
Provide the additional length of underground duct bank to extend to the actual location of "MH1". No changes are required respecting NV Energy's Transformer EEE409F. — Aaron Hall — 8/6/13 12:49

Architect/Engineer Signature
By:_____ Date:_____

Consultant:

CLV PLAN# 311.57



N

SITE PLAN - AREA 210

1"=30'

AS-BUILT
CLV PLAN# 311.57

STATE OF NEVADA
AARON J. HALL
ELECTRICAL
No. 12961
PROFESSIONAL ENGINEER
1/8/13
EX. 6/30/13

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AJ HALL	TR UY	JR HOYLE	BA JOHNSON

CITY OF LAS VEGAS NEVADA

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

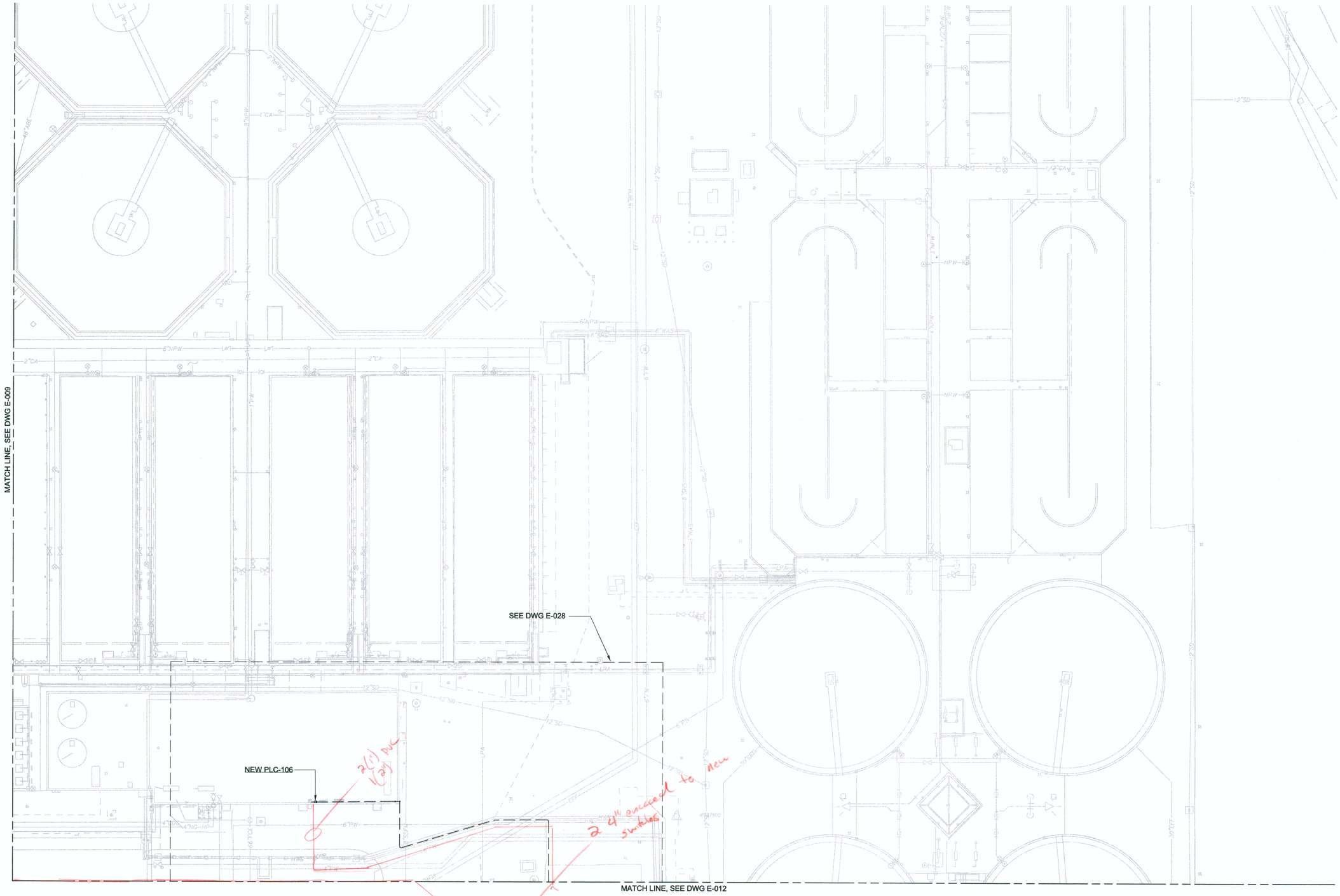
CH2MHILL

ELECTRICAL
SITE PLAN
AREA 210

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-010
SHEET	80

FILENAME: E-010_413455.dgn PLOT DATE: 2013\01\10 PLOT TIME: 1:21:54 PM



SITE PLAN - AREA 211

1"=30'

AS-BUILT
CLV PLAN# 311.57

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McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD

DSGN AJ HALL | DR TR UY | CHK JR HOYLE | APVD BA JOHNSON

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WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
SITE PLAN
AREA 211

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-011
SHEET	81

FILENAME: E-011_413455.dgn PLOT DATE: 2013\01\10 PLOT TIME: 1:23:55 PM

MATCH LINE, SEE DWG E-011

Manhole will be placed

Re use existing tie

SEE DWG E-028

[(2) 6"C EXISTING - 3#4/0 (15kV), 1#4G(600V) NEW]

PLANTS 5 & 6 SUBSTATION
SWG-V14ELE1061-SWG-12-5
XMR-V14ELE1061-XMR-12-1
XMR-V14ELE1061-XMR-12-2

SWG-V14ELE1061-SWG-12-6
XMR-V14ELE1061-XMR-12-3
XMR-V14ELE1061-XMR-12-4

MATCH LINE, SEE DWG E-010

N

SITE PLAN - AREA 212

1"=30'

CLV PLAN# 311.57

AS-BUILT

STATE OF NEVADA
PROFESSIONAL ENGINEER
AARON J. HALL
ELECTRICAL
No. 12951
Exp: 6/30/15
1/8/13

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NO.	DSGN	DATE	DR	REVISION	CHK	APVD	BY	APVD
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CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY

ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT

LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
SITE PLAN
AREA 212

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-012
SHEET	82

FILENAME: E-012_413455.dgn PLOT DATE: 2013\01\10 PLOT TIME: 1:25:40 PM

EXISTING HEADWORKS AREA EQUIPMENT | EXISTING DEWATERING AREA EQUIPMENT | EXISTING PLANT 1 & 2 AREA EQUIPMENT | EXISTING PLANT 3 & 4 AREA EQUIPMENT | EXISTING PLANT 5 & 6 AREA EQUIPMENT

NV ENERGY UG 12.47 kV (NORMAL) SERVICE-WW1224
MC (NC)
LOOP 2 CKT C
SWG-V04ELE1007-SWG-12-2 BUS C
SWG-V05ELE1038 -SWG-12-1
XMR-V05ELE1038 -XMR-12-1
LOOP 1 CKT C
SWG-V07ELE1058 -SWG-12-2
XMR-V07ELE1058 -XMR-12-2
SWG-V01ELE1041 -SWG-12-3
XMR-V01ELE1041 -XMR-12-3
SWG-V03ELE1021 -SWG-12-4
XMR-V03ELE1021 -XMR-12-4
SPARE
TIE BC (NO)
DEMO EXISTING NVE 12.47 kV OH SERVICE
1500 kVA 12.47-48 kV
SWG-V05ELE408 -SWG-8-1
2000A
800A
12.47-.48 kV
SWG-V07ELE20 -18-SWG-18-1
MCC-V07ELE20 -MCC-18-1
MCC-V07ELE20 -MCC-18-2
MCC-V07ELE20 -MCC-18-3
SWG-V02ELE081-SWG-1-1
MCC-V01ELE51 -MCC-1-1
MCC-V02ELE544 -MCC-4-1
MCC-V01ELEC151 -MCC-1-2
MCC-V02ELE085 -MCC-5-4
MCC-V07ELE20 -MCC-18-3
MCC-V05ELE408 -MCC-8-3
SWG-V07ELE20 -18-SWG-18-2
CENTRATE ELEC BLDG
MCC-V05ELE004 -MCC-4-1
MCC-V07ELE20 18-MCC-18-4
FUTURE
MCC-V02ELEC122 -MCC-2-2
MCC-V02ELE122 -MCC-2-1
MCC-V01ELE511 -MCC-1-4
MCC-V02ELE085 -MCC-5-3
MCC-V07ELE004 -MCC-4-2
MCC-V07ELE004 -MCC-4-3
SWG-V03ELE631-SWG-1-1
MCC-V03ELEC631 -MCC-1-2
MCC-V10ELE015 -MCC-5-1
MCC-V03ELE041 -MCC-1-1
MCC-V10ELE015 -MCC-5-3
MCC-V01ELE534 -MCC-4-1
MCC-V01ELE151 -MCC-1-2
MCC-V03ELE521 -MCC-1-3
MCC-V10GCW013 -MCC-3-2
MCC-V10GCW013 -MCC-3-1
MCC-V03ELE551 -MCC-1-4
SWG-V05ELE004 -SWG-4-1
MCC-V07ELE004-4-1
MCC-V05ELE408 -MCC-8-4
LOOP 1 CKT B
TIE AB (NO)
SWG-V04ELE1007-SWG-12-2 BUS A
LOOP 2 CKT A
NV ENERGY OH 12.47 kV (NORMAL) SERVICE-WW1214
MA (NC)
NV ENERGY UG 12.47 kV (BACKUP) SERVICE-CAB1206
MB (NO)
EXISTING 12.47 kV NVE UG SERVICE
SWG-V14ELE1061 -SWG-12-6
NO
12.47 - 4160V TYP OF 4
XMR-V14ELE1061 -XMR-12-4
SWGR-V14ELE001 -SWG-1-4 (EAST)
FILTER BLDG SWG-V12-ELE824 -SWG-4-1
TWAS BLDG SWG-V08-ELE887 -SWG-7-1
BNR BLDG SWG-V14-ELE671 -SWG-1-1
XMR-V14ELE1061 -XMR-12-3
SWGR-V14ELE001 -SWG-1-3 (EAST)
MCC-V11ELE867 -MCC-7-5R
SWGV11ELE867-SWG-7-2R
MCC-V11ELE867-MCC-7-4
XMR-V04ELE1007 -XMR-12-4
225 kVA 12.47 - 48 kV
SWGR-V14ELE001 -SWG-1-2 (WEST)
MCC-V11ELE867 -MCC-7-5L
SWGV11ELE867-SWG-7-2L
MCC-V11ELE867-MCC-7-2
XMR-V14ELE1061 -XMR-12-2
BNR ELEC BLDG SWG-V14-ELE671 -SWG-1-1
TWAS BLDG SWG-V08-ELE887 -SWG-7-1
FILTER BLDG SWG-V12-ELE824 -SWG-4-1
NC
SWG-V14ELE1061 -SWG-12-5
XMR-V14ELE1061 -XMR-12-1
12.47 - 4160V TYP OF 4
XMR-V04ELE1007 -XMR-12-3
225 kVA 12.47 - .48 kV
200 A ATS-V04ELE1007 -ATS-1-1
XMR-V04ELE1007-XMR-1-1
45 kVA 480-208Y/120V, 3-PH
PNL
LPB
MBS
UPS
LIGHTING PANELBOARD LPB-V04ELE1007-LPB-1-1
30 A MAINTENANCE BYPASS SWITCH MBS-V04ELE1007-MBS-1
POWER DISTRIBUTION PANEL PNL-V04ELE1007-PNL-1-1
2000 VA UPS-V04ELE1007 -UPS-1-1
INSTRUMENT PANELBOARD PNL-V04ELE1007-PNL-1-2

AS-BUILT
CLV PLAN# 311.57

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ENGINEER — STATE OF NEVADA — AARON J. HALL — ELECTRICAL — No. 12958 — PROFESSIONAL
8/1/12
EXP 6/30/13

NO.	DATE	DSGN	DR	REVISION	CHK	BY	APVD
		AJ HALL	TR UY		JR HOYLE	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEATING, VENTILATING & AIR CONDITIONING (HVAC) IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
ONE-LINE DIAGRAM OVERALL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-013
SHEET	83

FILENAME: E-013_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:01:42 PM

McCARTHY

Request For Information

Pre-Bid RFI #: 0008-0
Date Created: 01/29/2013
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 404426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 02/05/2013

Submitted To
Carollo Engineers
Kevin Love
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: ATS Tag number for Ele. Building.
Discipline:
Category:
Reason:

Initiated By: McCarthy - Nick Partin
Ref RFI:

Question

Reference E-014;
On sheet 84 appears to misrepresent the ATS tag number at the electrical distribution building. Please clarify

Suggestion

Re-assign tag for ATS to ATS-V04ELE1007-ATS-1-1

Answer **Date Answered: 01/30/2013**

Agreed. Change ATS tag number to ATS-V04ELE1007-ATS-1-1.

Architect/Engineer Signature

By:_____ Date:_____

Consultant:

Printed On: 4/2/13 Page 1 of 1

McCARTHY

Request For Information

Project RFI #: 0022-0
Date Created: 06/14/2013
Priority: Critical

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 06/28/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Electrical One-Line Information - Transformers
Discipline: Electrical
Category:
Reason: Plans/Specs Discrepancy

Initiated By: McCarthy - Nick Partin
Ref RFI:

Attachments

Type	Name	Description	Content
File	Drawing 084 - E-014		084_-_E-014_One-Line_Diagram_-_MV_Switchgear.pdf

Question

Reference E-014.
- Please confirm which kVA rating is correct, drawing E-014 shows 75kVA and on drawing E-013 states 225kVA. (see attached for clarification)
- Drawing E-014 also calls out XMR-V14ELE1007-XMR-12-3 and drawing E-013 calls out XMR-V04ELE1007-XMR-12-3. Please confirm which lab is correct. (see attached for clarification)
- Pre-Bid RFI #08 on 1/30/2013 states change ATS tag number to ATS-V04ELE1007-ATS-1-1. Please verify both ATS notes should change to that number? (see attached for clarification).

Answer **Date Answered: 06/18/2013**

1. 225kVA is the correct rating for both XMR-V04ELE1007-XMR-12-3 and -4. Either transformer must be sized to continuously supply the full 200A of 480V, 3-ph power to the panelboard that they feed.

2. XMR-V04ELE1007-XMR-12-3 is the correct tag number (Area 04 is the Electrical Distribution Building, Area 14 is the existing SE substation)

3. ATS-V04ELE1007-ATS-1-1 is the correct tag number for all instances on drawings and notes. This is the only new ATS on the project.

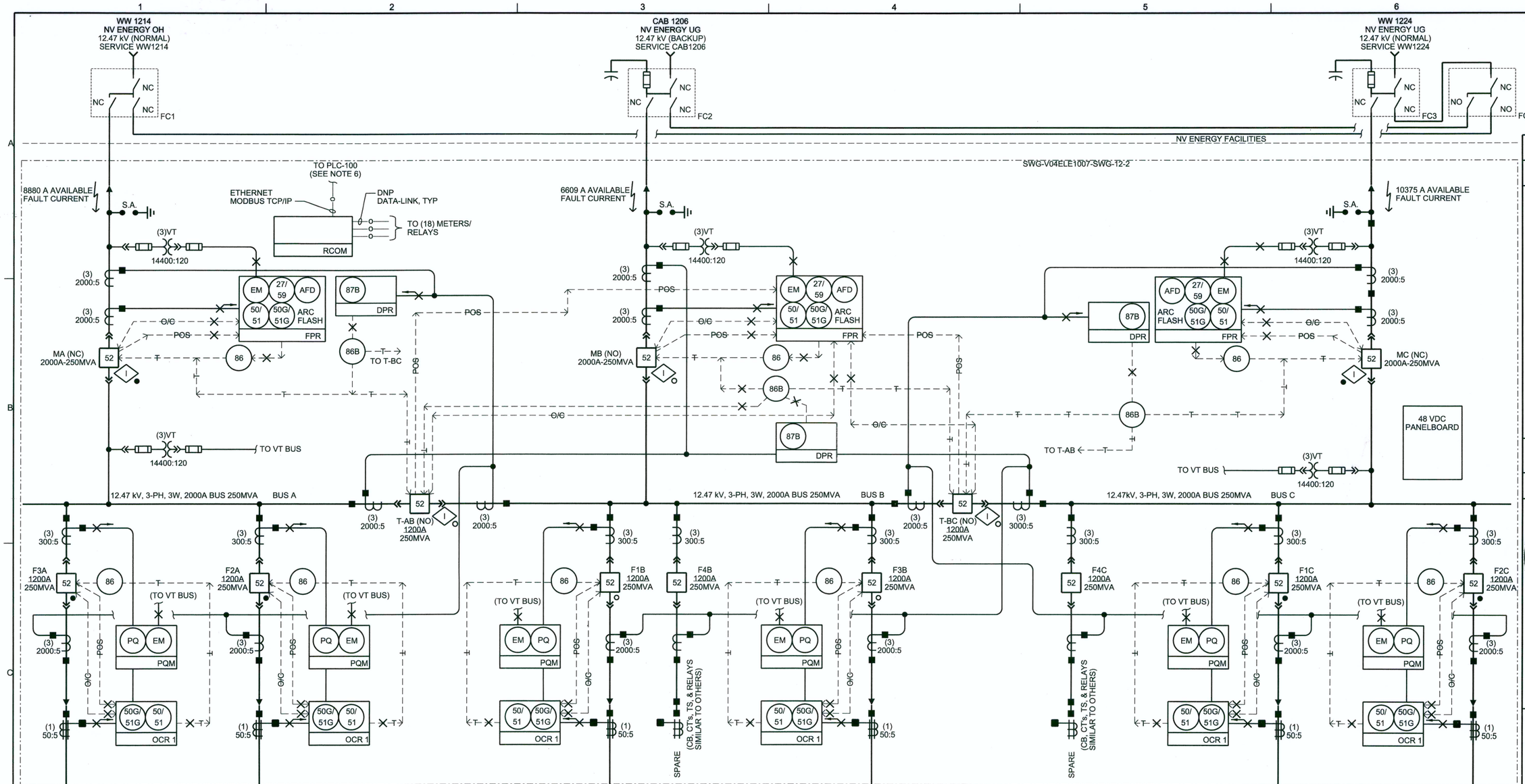
Architect/Engineer Signature

By:_____ Date:_____

Consultant:

Printed On: 6/18/13 Page 1 of 1

CLV PLAN# 311.57



GENERAL NOTES:

1. FPR = FEEDER PROTECTIVE RELAY. GENERAL ELECTRIC; MODEL GE-F60, OR SCHWEITZER ENGINEERING LABORATORIES; MODEL SEL-751A
2. DPR = DIFFERENTIAL PROTECTIVE RELAY. GENERAL ELECTRIC; MODEL GE-B30, OR SCHWEITZER ENGINEERING LABORATORIES; MODEL SEL-587Z
3. PQM = POWER QUALITY METER. GENERAL ELECTRIC; MODEL GE EPM 9450, OR SCHWEITZER ENGINEERING LABORATORIES; MODEL SEL-735
4. OCR 1 = OVERCURRENT RELAY, SINGLE-FEEDER GENRAL ELECTRIC; MODEL GE-F35, OR SCHWEITZER ENGINEERING LABORATORIES; MODEL SEL-351
5. RCOM = RELAY COMMUNCATION MODULE GENERAL ELECTRIC; MODEL GE MULTILIN D400 SCHWEITZER ENGINEERING LABORATORIES; MODEL SEL-RTAC, OR EQUAL.
6. FOR HARDWIRED CONTROL CIRCUITS BETWEEN MV SWITCHGEAR AND PLC-100. AS WELL AS SHUNT TRIP CONNECTIONS, SEE DWGS E-35 THRU E-37.

AS-BUILT
CLV PLAN# 311.57

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

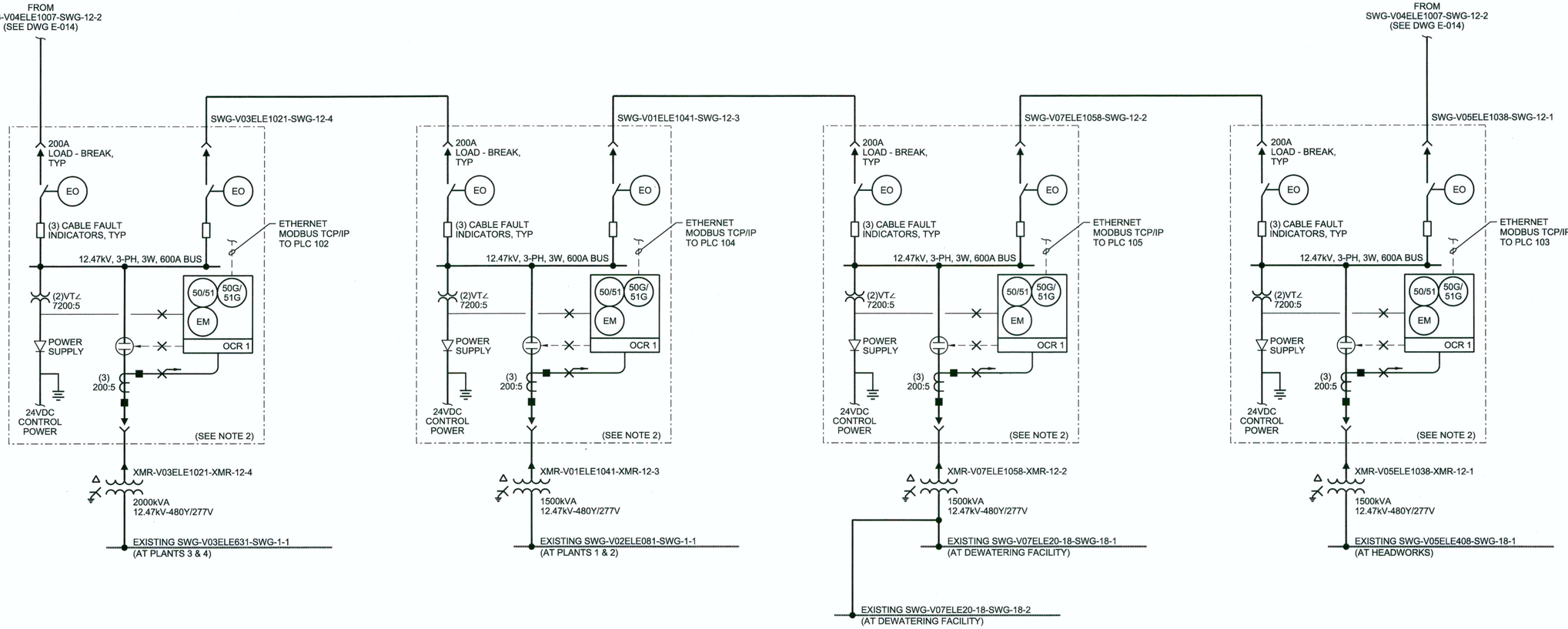
CH2MHILL

ELECTRICAL
ONE-LINE DIAGRAM
MV SWITCHGEAR

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-014
SHEET	84

FILENAME: E-014_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:05:46 PM



GENERAL NOTE:

1. OCR 1 = OVERCURRENT RELAY, SINGLE - FEEDER. GENERAL ELECTRIC; MODEL GE-F35, OR SCHWEITZER ENGINEERING LABORATORIES; MODEL SEL-351.
2. FOR HARDWIRED CONTROL CIRCUITS BETWEEN PADMOUNT SWITCHGEAR AND PLCS, SEE DWG I-062.

AS-BUILT

CLV PLAN# 311.57

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McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD

DSGN AJ HALL | DR SG METCALF | CHK JR HOYLE | APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

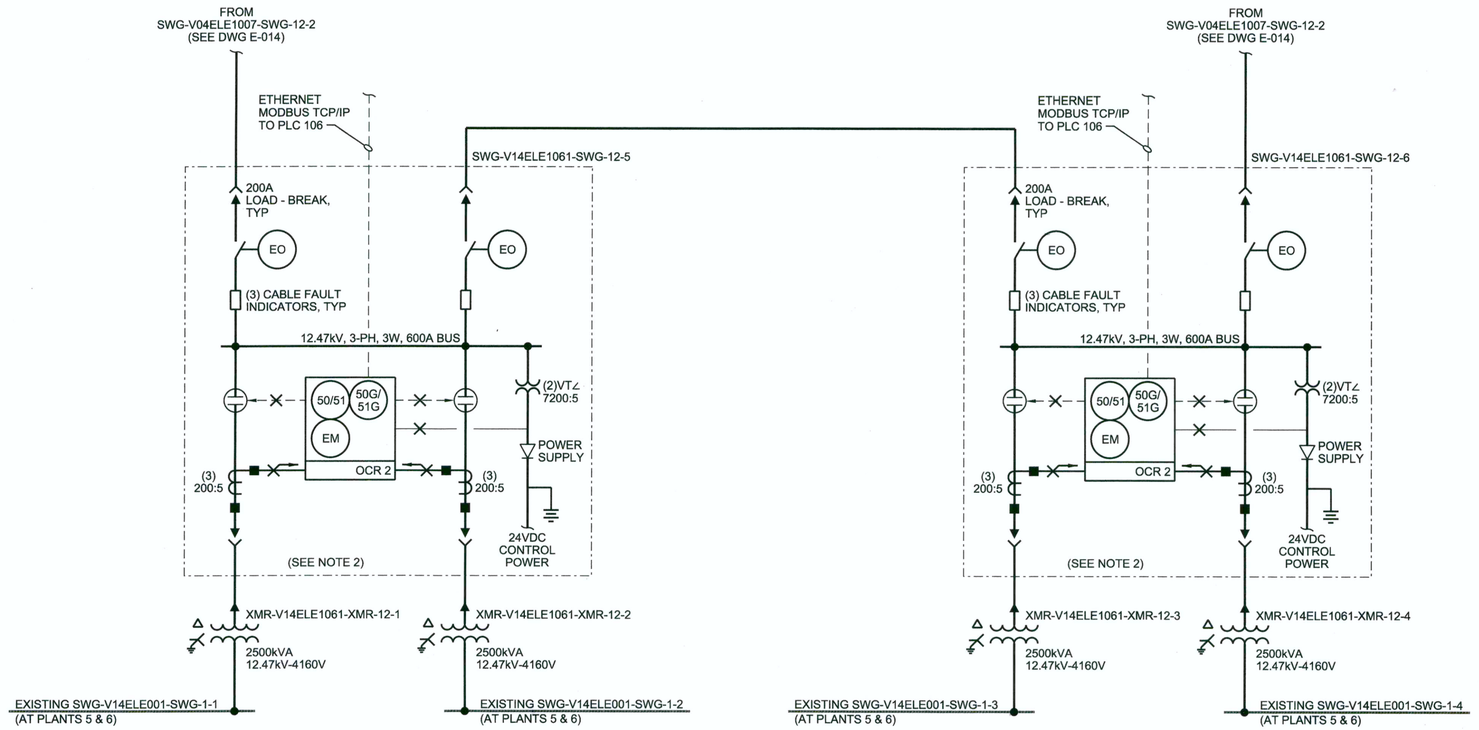
CH2MHILL

ELECTRICAL
ONE-LINE DIAGRAM
PRIMARY LOOP 1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-015
SHEET	85

FILENAME: E-015_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:06:37 PM



GENERAL NOTE:

1. OCR 2 = OVERCURRENT RELAY, TWO - FEEDER. GENERAL ELECTRIC; MODEL GE-F35, OR SCHWEITZER ENGINEERING LABORATORIES; MODEL SEL-451.
2. FOR HARDWIRED CONTROL CIRCUITS BETWEEN PAD-MOUNT SWITCHGEAR AND PLC, SEE DWG I-063.

AS-BUILT
CLV PLAN# 311.57

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FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD

DSGN A J HALL | DR SG METCALF | CHK JR HOYLE | APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
ONE-LINE DIAGRAM
PRIMARY LOOP 2

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-016
SHEET	86

FILENAME: E-016_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:08:59 PM

McCARTHY

Request For Information
Pre-Bid RFI #: 0004-0
Date Created: 01/23/2013
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 404426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 01/30/2013

Submitted To
Carollo Engineers
Kevin Love
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Electrical Duct Bank Conduits
Discipline: Electrical
Category:
Reason: Plans/Specs Discrepancy

Initiated By: McCarthy - Nick Partin
Ref RFI:

Question
Please confirm that G1, G2 & G3 Conduits on E-023 Detail C are empty to match up with E-001.

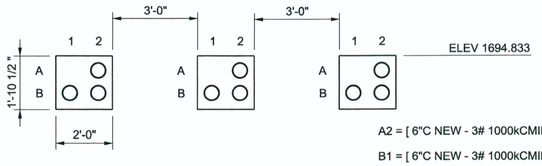
Answer **Date Answered: 01/25/2013**
The Contractor identifies a typographical error in the drawings, showing fiber optic and telephone cabling on E-023, Section C for conduit that should be shown empty.

Please correct the callouts on E-023, Section C to match E-001 as follows:
F1 = [3"C - (2) TYPE FO] (no change)
F2 = [3"C - EMPTY]
F3 = [2"C -(I) TYPE TELE]
G1 = [3"C - EMPTY]
G2 = [3"C - EMPTY]
G3 = [2UC - (1) TYPE TELE]

Architect/Engineer Signature
By:_____ Date:_____
Consultant:

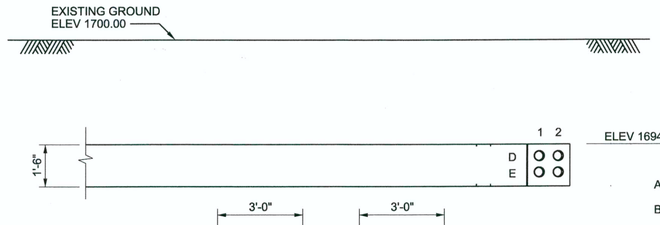
CLV PLAN# 311.57





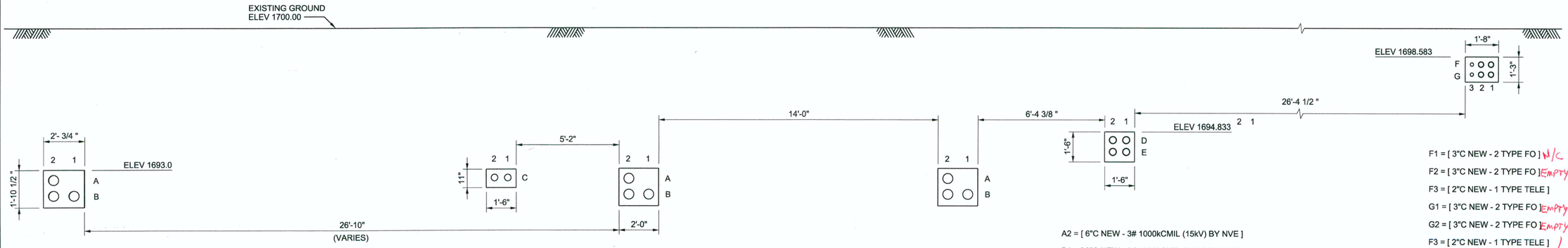
A2 = [6"C NEW - 3# 1000kCMIL (15kV) BY NVE]
B1 = [6"C NEW - 3# 1000kCMIL (15kV) BY NVE]
B2 = [6"C NEW - EMPTY]

A SECTION
NTS
E-001



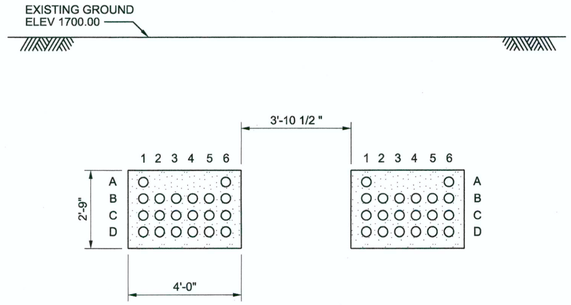
A2 = [6"C NEW - 3# 1000kCMIL (15kV) BY NVE]
B1 = [6"C NEW - 3# 1000kCMIL (15kV) BY NVE]
B2 = [6"C NEW - EMPTY]
D1 = [4"C NEW - EMPTY]
D2 = [4"C NEW - 3# 4/0 (15kV), 1#4G (600V)]
E1 = [4"C NEW - 3# 4/0 (15kV), 1#4G (600V)]
E2 = [4"C NEW - 3# 4/0 (15kV), 1#4G (600V)]

B SECTION
NTS
E-001

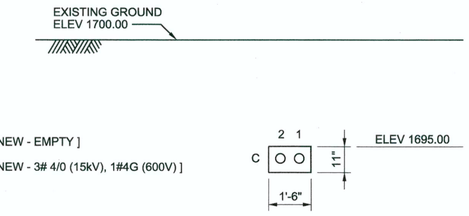


C SECTION
NTS
E-001

A1 = [4"C NEW - EMPTY]
A6 = [4"C NEW - EMPTY]
B1 = [4"C NEW - EMPTY]
B2 = [4"C NEW - EMPTY]
B3 = [4"C NEW - EMPTY]
B4 = [4"C NEW - EMPTY]
B5 = [4"C NEW - EMPTY]
B6 = [4"C NEW - EMPTY]
C1 = [4"C NEW - EMPTY]
C2 = [4"C NEW - EMPTY]
C3 = [4"C NEW - EMPTY]
C4 = [4"C NEW - EMPTY]
C5 = [4"C NEW - EMPTY]
C6 = [4"C NEW - EMPTY]
D1 = [4"C NEW - EMPTY]
D2 = [4"C NEW - EMPTY]
D3 = [4"C NEW - EMPTY]
D4 = [4"C NEW - EMPTY]
D5 = [4"C NEW - EMPTY]
D6 = [4"C NEW - EMPTY]



D SECTION
NTS
E-001



E SECTION
NTS
E-007

C1 = [4"C NEW - EMPTY]
C2 = [4"C NEW - 3# 4/0 (15kV), 1#4G (600V)]

A2 = [6"C NEW - 3# 1000kCMIL (15kV) BY NVE]
B1 = [6"C NEW - 3# 1000kCMIL (15kV) BY NVE]
B2 = [6"C NEW - EMPTY]
C1 = [4"C NEW - EMPTY]
C2 = [4"C NEW - 3# 4/0 (15kV), 1#4G (600V)]
D1 = [4"C NEW - EMPTY]
D2 = [4"C NEW - 3# 4/0 (15kV), 1#4G (600V)]
E1 = [4"C NEW - 3# 4/0 (15kV), 1#4G (600V)]
E2 = [4"C NEW - 3# 4/0 (15kV), 1#4G (600V)]

F1 = [3"C NEW - 2 TYPE FO] W/C
F2 = [3"C NEW - 2 TYPE FO] EMPTY
F3 = [2"C NEW - 1 TYPE TELE]
G1 = [3"C NEW - 2 TYPE FO] EMPTY
G2 = [3"C NEW - 2 TYPE FO] EMPTY
F3 = [2"C NEW - 1 TYPE TELE]

PER PRE-BID RFI #4

AS-BUILT

CLV PLAN# 311.57

STATE OF NEVADA
AARON J. HALL
No. 12961
ELECTRICAL
PROFESSIONAL ENGINEER
EXP 6/30/13
1/8/13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	REVISION	DR	CHK	APVD	BY	APVD
				AJ HALL	TR UY	JR HOYLE		BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

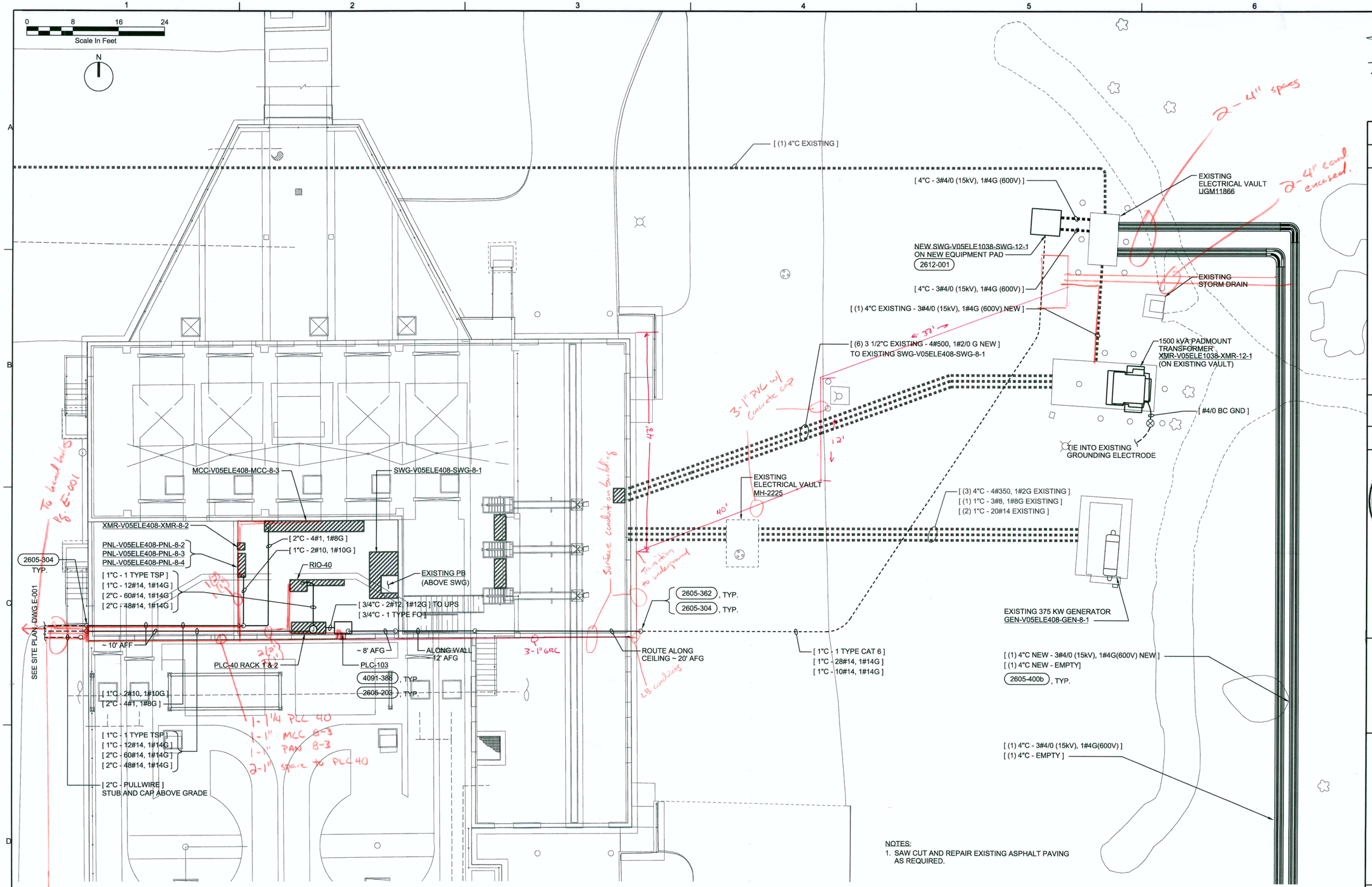
CH2MHILL

ELECTRICAL
POWER DUCT BANK SECTIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-023
SHEET	87

FILENAME: E-023_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:10:20 PM



NOTES:
1. SAW CUT AND REPAIR EXISTING ASPHALT PAVING AS REQUIRED.

POWER PLAN
1/8"=1'-0"

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	AJ HALL	DR	TR UY	CHK	JR HOYLE	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
POWER PLAN
HEADWORKS ELECTRICAL SERVICE

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-024
SHEET	88

FILENAME: E-024_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:11:28 PM

McCARTHY

Request For Information

Project RFI #: 0027-0

Date Created: 06/19/2013

Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 06/25/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Quantity of Conduits from Switch SWG-V07ELE1058-SWG-12-2 to PLC-105
Discipline: Electrical
Category:
Reason: Plans/Specs Discrepancy
Initiated By: Helix Electric - Jason Getty
Ref RFI: 002

Attachments

Type	Name	Description	Content
File	RFI-002 PLC-105 Conduits	Quantity of Conduits from Switch SWG-V07ELE1058-SWG-12-2 to Pull Box less than from Pull Box to PLC-105.	RFI-002_PLC-105_Conduits.pdf

Question

There appears to be a discrepancy on Dwg E-025. (3) 1"C are called out between PLC-105 and the Pull Box near SWG-V07ELE1058-SWG-12-2. Only (1) 1"C is called out between Pull Box and SWG-V07ELE1058-SWG-12-2. Do we need to add additional conduits between the Pull Box and SWG-V07ELE1058-SWG-12-2?

Suggestion

Install (3) 1" Conduits from SWG-V07ELE1058-SWG-12-2 to Pull Box.

Answer **Date Answered: 06/25/2013**

Correct. Please provide three 1" conduits from the pullbox at the base of SWG-V07ELE1058-SWG-12-2 to SWG-V07ELE1058-SWG-12-2.

Architect/Engineer Signature

By:_____ Date:_____

Consultant:

McCARTHY

Request for Information with Comments

Project RFI #: 0070-0

Date Created: 10/08/2013

Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 10/22/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Gear Location & Designation
Discipline: Electrical
Category:
Reason: Plans/Specs Discrepancy
Initiated By: Helix Electric - Jason Getty
Ref RFI: 018

Attachments

Type	Name	Description	Content
File	RFI-018 Dewatering SWG discrepency		RFI-018_Dewatering_SWG_discrepency.pdf
File	RFI-018		RFI-018_Dewatering_SWG_discrepency.pdf

Question

Drawing E-025 calls the existing outside switchgear SWG-V07ELE20-18-1. This gear is field confirmed to be located on the second floor inside the electrical room of Dewatering. The gear shown on drawing E-025 is field verified to be SWG-V07ELE20-18-SWG-18-2. Where should the 7 sets of feeders be routed?

Suggestion

Run (3) sets of (4) 500kcmil feeders to SWG-V07ELE20-18-SWG-18-2. Run (4) sets of (4) 500kcmil feeders to SWG-V07ELE20-18-SWG-18-1.

Answer **Date Answered: 10/18/2013**

The suggested solution to "Run (3) sets of (4) 500kcmil feeders to SWG-V07ELE20-18-SWG-18-2. Run (4) sets of (4) 500kcmil feeders to SWG-V07ELE20-18-SWG-18-1." is acceptable. The new transformer secondary conductors shall be routed to mimic the existing circuit routing that is being replaced.

Comments

Contractor's suggested solution is correct: the new transformer secondary conductors shall be routed to mimic the existing circuit routing that is being replaced. Aaron Hall 10/17/13 17:0

Architect/Engineer Signature

By:_____ Date:_____

Consultant:

CLV PLAN# 311.57

RFI 070
DATE ANSWERED 10/18/13

RUN (3) SETS OF (4) 500 Kmil FEEDERS TO SWG-V07ELE20-18-SWG-18-1.

RUN (4) SETS OF (4) 500 Kmil FEEDERS TO SWG-V07ELE20-18-SWG-18-1.

THE NEW TRANSFORMERS SECONDARY CONDUCTORS SHALL BE ROUTED TO MIMIC THE EXISTING CIRCUIT ROUTING.

SWG-V07ELE20-18-SWG-18-1 IS LOCATED UPSTAIRS IN THE SOUTH ELECTRICAL ROOM IN DEWATERING BUILDING.

SECOND STORY OF DEWATERING BLDG.

EXISTING SECURITY PANEL

EXISTING PNL-V07ELE20-18-PNL-1-32

[3/4"C - 2#12, 1#12G] TO UPS POWER
[3/4"C - 1 TYPE FQ]

MCC-V07ELE20-18-MCC-18-1

SWG-V07ELE20-18-SWG-18-1

(WALL BELOW)

EXISTING PNL-V07ELE20-18-PNL-1-4, 5

NEW PLC-105
4091-388

ROUTE CONDUIT CONCEALED ABOVE SUSPENDED CEILING OF FIRST STORY (BELOW)

CORE-DRILL WALL AT DEWATERING CONTROL ROOM IN FIRST STORY OF BUILDING (BELOW)

[1"C - 1 TYPE CAT 6]
[1"C - 10#14, 1#14G]
[1"C - 28#14, 1#14G]
APPROX. 10' AFF OF FIRST STORY OF DEWATERING BLDG. (BELOW)

2605-017, TYP.

EXISTING JUNCTION BOX (NEAR GROUND LEVEL)

(3) 4"C existing w/ 3 #500, 1#2/0G

[(7) 3-1/2"C EXISTING - 3#500, 1#2/0G NEW]

EXISTING SWITCHGEAR SWG-V07ELE20-18-SWG-18-1

1500 kVA PADMOUNT TRANSFORMER XMR-V07ELE1058-XMR-12-2 (ON EXISTING PAD)

2605-204, TYP.

TIE INTO EXISTING GROUNDING ELECTRODE

[#4/0 BC GND]

[(1) 4"C EXISTING - 3#4/0 (15kV), 1#4G (600V) NEW]

NEW SWITCHGEAR SWG-V07ELE1058-SWG-12-2 (ON NEW PAD) (SEE NOTE 2)

Conduit thru old pad location

[1"C EXISTING - 1 TYPE CAT 6 NEW]
[1"C - 10#14, 1#14G]
[1"C - 28#14, 1#14G]

PULL BOX

[1"C - 12#14, 1#14G NEW]

Install (3) 1" conduits between Pullbox and SWG-V07ELE1058-SWG-12-2

RFI 0027
DATE ANSWERED 06/25/13

[(1) 4"C NEW - EMPTY]

7 (4"C) (existing) w/ 4 500 kmil + 2/0G New

[(1) 4"C NEW - 3#4/0 (15kV), 1#4G(600V) NEW]
SEE NOTE 1

[(1) 4"C EXISTING - 3#4/0 (15kV), 1#4G (600V) NEW]

Bus Duct Termination box

New switch 12-2

PULL BOX
PB-MV-5

3-1" PVC w/ concrete CR

Switch locations

NOTES:

1. SAW-CUT AND REPAIR EXISTING ASPHALT PAVING AS REQUIRED.
2. EXTEND EQUIPMENT PAD AS REQUIRED FOR NEW EQUIPMENT.

POWER PLAN
3/16"=1'-0"

AS-BUILT

CLV PLAN# 311.57

Scale In Feet: 0 4 8 16

N

REGISTERED PROFESSIONAL ENGINEER STATE OF NEVADA AARON J. HALL ELECTRICAL 15826 No. PROFESSIONAL
Exp. 6/30/15
1/8/13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	REVISION	CHK	APVD	BY	APVD
	AJ HALL			TR UY	JR HOYLE		BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

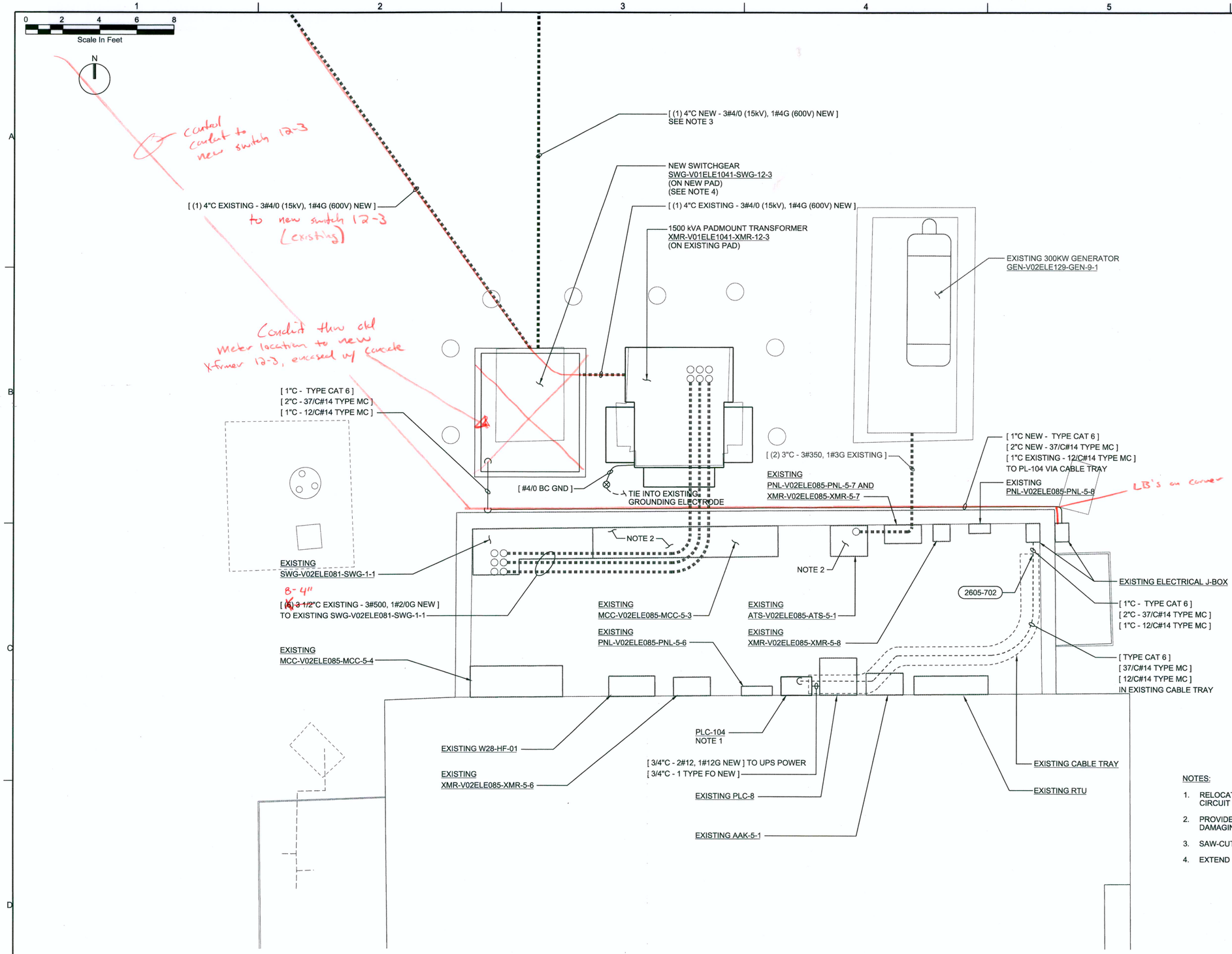
CH2MHILL

ELECTRICAL
POWER PLAN
DEWATERING ELECTRICAL SERVICE

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-025
SHEET	89

FILENAME: E-025_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:12:11 PM



POWER PLAN

3/8"=1'-0"

NOTES:

1. RELOCATE EXISTING THERMOSTAT AND CONTROL POWER CIRCUIT FOR PLC-8 TO MAKE ROOM FOR PLC-104 ON WALL.
2. PROVIDE DRIP SHIELD TO PREVENT ROOF DRAIN LEAKS FROM DAMAGING ELECTRICAL EQUIPMENT.
3. SAW-CUT AND REPAIR EXISTING ASPHALT PAVING AS REQUIRED.
4. EXTEND EQUIPMENT PAD AS REQUIRED FOR NEW EQUIPMENTS.

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD

DSGN AJ HALL | DR TR UY | CHK JR HOYLE | APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
POWER PLAN
PLANTS 1 & 2 ELECTRICAL SERVICE

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-026
SHEET	90

FILENAME: E-026_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:12:58 PM

McCARTHY

Request for Information with Comments

Project RFI #: 0041-0
Date Created: 07/18/2013
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 08/01/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Crispy Critter Demo
Discipline: Electrical
Category: Bldg Enclosure
Reason: Field Condition

Initiated By: Helix Electric - Jason Getty
Ref RFI: 006

Attachments

Type	Name	Description	Content
File	RFI-006	Crispy Critter Demo	RFI-006_Crispy_Critter.pdf

Question
Transformer Crispy Critter is scheduled for demo. It appears to have been used as a raceway to feed other loads. We won't be able to demo the XFMR without taking other loads out of service.

How shall we proceed?

Suggestion
Refeed loads.

Answer **Date Answered: 08/01/2013**
The City of Las Vegas has committed to removing this existing wiring from the Crispy-Critter. Please add this as an action item to our weekly progress meetings until the work is completed by CLV.

Comments
The City of Las Vegas has committed to removing this existing wiring from the Crispy-Critter. Please add this as an action item to our weekly progress meetings until the work is completed by CLV. Aaron Hall 7/31/13 15:32

Architect/Engineer Signature
By:_____ Date:_____
Consultant:

Printed On: 8/5/13 Page 1 of 1

McCARTHY

Request for Information with Comments

Project RFI #: 0085-0
Date Created: 01/02/2014
Priority: Critical

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 01/16/2014

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Plants 3 & 4 Existing Conductors
Discipline: Electrical
Category:
Reason: Field Condition

Initiated By: McCarthy - Nick Partin
Ref RFI:

Attachments

Type	Name	Description	Content
File	Picture Inside of Gear		ELE-_3.pdf

Question
The existing feeders that feed from plants 3 & 4 transformer into SWG-V03ELE631-SWG-1-1 on sheet E-027. These are terminated into the SE corner of the gear. Per our discussions (McCarthy & CH2MHILL) earlier we stated that getting to these conductors through the gear would cause possible damage to the secondary plant feeds, gear, breakers, etc. The only way to access them is from the SW part of the gear by climbing over all the other feeds. Is it acceptable to leave these existing conductors in place?

Suggestion
Leave all conductors in place and meager test them. Meggar feeds from the transformer into gear and confirm they have no issues.

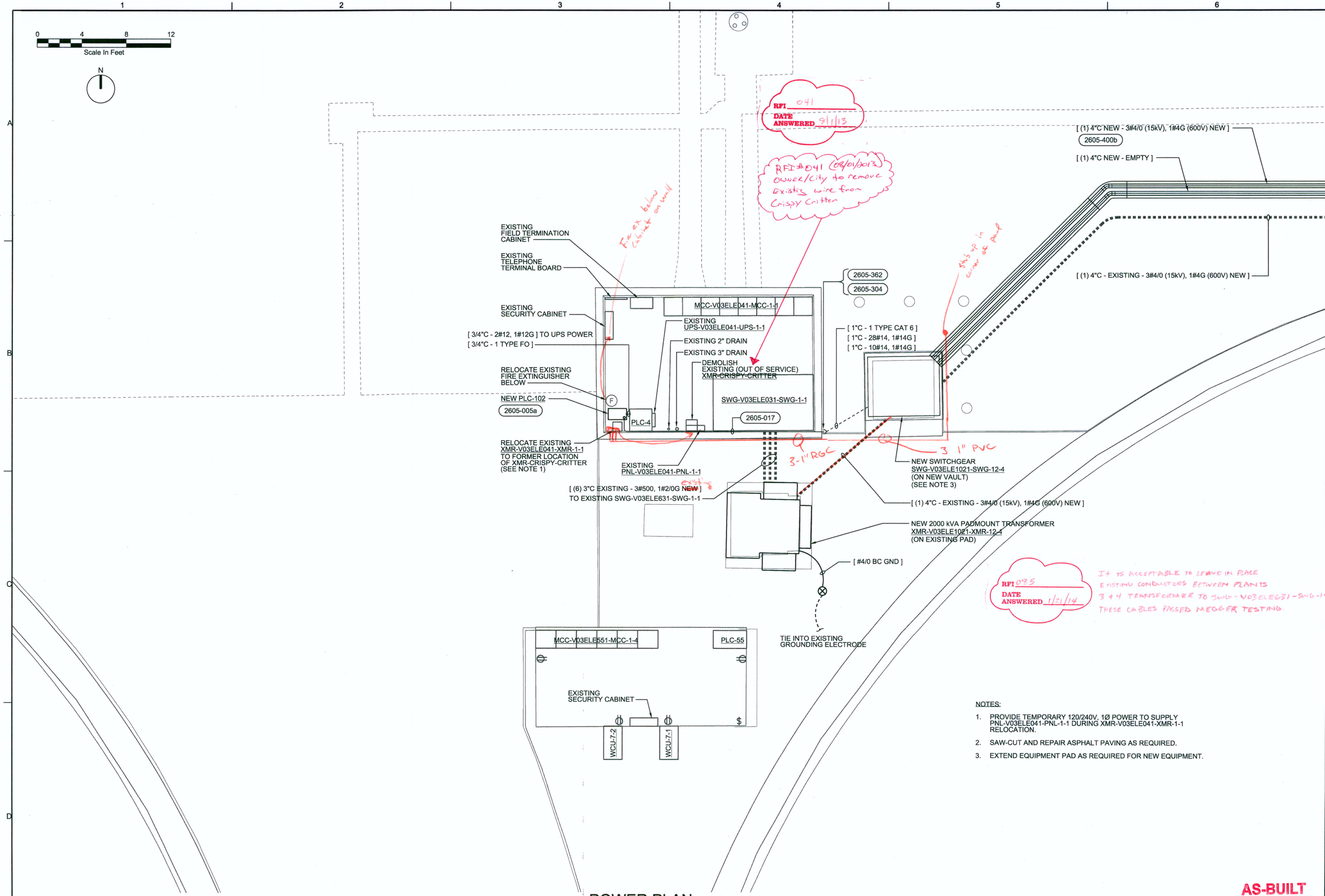
Answer **Date Answered: 01/21/2014**
It is acceptable to leave in place the existing conductors between Plants 3 & 4 transformer to SWG-V03ELE631-SWG-1-1. These cables passed testing.

Comments
It is acceptable to leave in place the existing conductors between Plants 3 & 4 transformer to SWG-V03ELE631-SWG-1-1. These cables passed testing. Marina Gonzalez 1/16/14 17:17

Architect/Engineer Signature
By:_____ Date:_____
Consultant:

Printed On: 1/21/14 Page 1 of 1

CLV PLAN# 311.57



NOTES:

1. PROVIDE TEMPORARY 120/240V, 1Ø POWER TO SUPPLY PNL-V03ELE041-PNL-1-1 DURING XMR-V03ELE041-XMR-1-1 RELOCATION.
2. SAW-CUT AND REPAIR ASPHALT PAVING AS REQUIRED.
3. EXTEND EQUIPMENT PAD AS REQUIRED FOR NEW EQUIPMENT.

POWER PLAN
1/4"=1'-0"

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	AJ HALL	DR	TR UY	CHK	JR HOYLE	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
POWER PLAN
PLANTS 3 & 4 ELECTRICAL SERVICE

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-027
SHEET	91

FILENAME: E-027_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:13:50 PM

1 2 3 4 5 6

A B C D

EXISTING PLC-86

EXISTING PLC-99

NEW PLC-106

4091-388

EXISTING GATEWAY PLC

[1"C - 2 TYPE CAT 6]
[2"C - 68#14, 1#14G]
[1"C - 24#14, 1#14G]
CONCEALED ABOVE SUSPENDED CEILING

~11' AFF

2605-362

2605-304

SEE NOTE 1

2605-424

[3/4"C - 2#12, 1#12G] TO UPS POWER
[3/4"C - 1 TYPE FO]

[1"C - 2 TYPE CAT 6]
[2"C - 68#14, 1#14G]
[1"C - 24#14, 1#14G]
EXISTING CHEMICAL TRENCH

[1"C - 2 TYPE CAT 6]
[2"C - 68#14, 1#14G]
[1"C - 24#14, 1#14G]

EXISTING SWITCHGEAR
SWG-V14ELE001-SWG-1-3 AND
SWG-V14ELE001-SWG-1-4 (EAST)

EXISTING SWITCHGEAR
SWG-V14ELE001-SWG-1-1 AND
SWG-V14ELE001-SWG-1-2 (WEST)

NEW XMR-V14ELE1061-XMR-12-1
(ON EXISTING PAD)

NEW XMR-V14ELE1061-XMR-12-2
(ON EXISTING PAD)

NEW XMR-V14ELE1061-XMR-12-3
(ON EXISTING PAD)

NEW XMR-V14ELE1061-XMR-12-4
(ON EXISTING PAD)

2(4"C) 3 #4/0 15kv w/ #6 each conduit.

#7 box

NEW 4-WAY SWITCHGEAR
SWG-V14ELE1061-SWG-12-5
(ON EXISTING VAULT)
(SEE NOTE 2)

TIE INTO EXISTING GROUNDING ELECTRODE (TYP.)

[(1) 5"C - EXISTING - 3#500 (5kV), 1#1/0G (600V) NEW]

[#4/0 BC GND]

Meter packs removed, piped thru to new xfmrs

[(1) 4"C - EXISTING - 3#4/0 (15kV), 1#4G (600V) NEW]

[2"C - 34#14, 1#14G]
[1"C - 12#14, 1#14G]
[1"C - 1 TYPE CAT 6]

[(1) 6"C - EXISTING - 3#4/0 (15kV), 1#4G (600V) NEW]

[(1) 6"C - EXISTING - 3#4/0 (15kV), 1#4G (600V) NEW]

[(1) 6"C - EXISTING - 3#4/0 (15kV), 1#4G (600V) NEW]

[(1) 6"C EXISTING - 3#4/0 (15kV), 1#4G (600V) NEW]

[(1) 6"C - EXISTING - 3#4/0 (15kV), 1#4G (600V) NEW]

NEW 4-WAY SWITCHGEAR
SWG-V14ELE1061-SWG-12-6
(ON EXISTING VAULT)
(SEE NOTE 2)

NEW PULLBOX IN FORMER LOCATION OF NVE METER CABINET DFMC452

NEW PULLBOX IN FORMER LOCATION OF NVE METER CABINET DFMC433

NEW PULLBOX IN FORMER LOCATION OF NVE METER CABINET DFMC537

NEW PULLBOX IN FORMER LOCATION OF NVE METER CABINET DFMC521 OR CONDUIT EXTENTION

NOTES:

1. SAW-CUT AND REPAIR ASPHALT PAVING AS REQUIRED.
2. EXTEND EQUIPMENT PAD AS REQUIRED FOR NEW EQUIPMENT.

POWER PLAN

3/32"=1'-0"

0 4 8 16
Scale In Feet

N

STATE OF NEVADA
PROFESSIONAL ENGINEER
AARON J. HALL
ELECTRICAL
No. 12961
1/31/13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	DR	REVISION	CHK	APVD	BY	APVD
			AJ HALL		TR UY	JR HOYLE		BA JOHNSON

CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

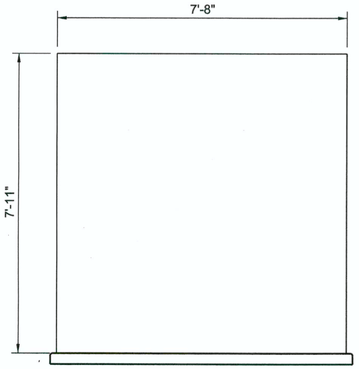
ELECTRICAL
POWER PLAN
PLANTS 5 & 6 ELECTRICAL SERVICE

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

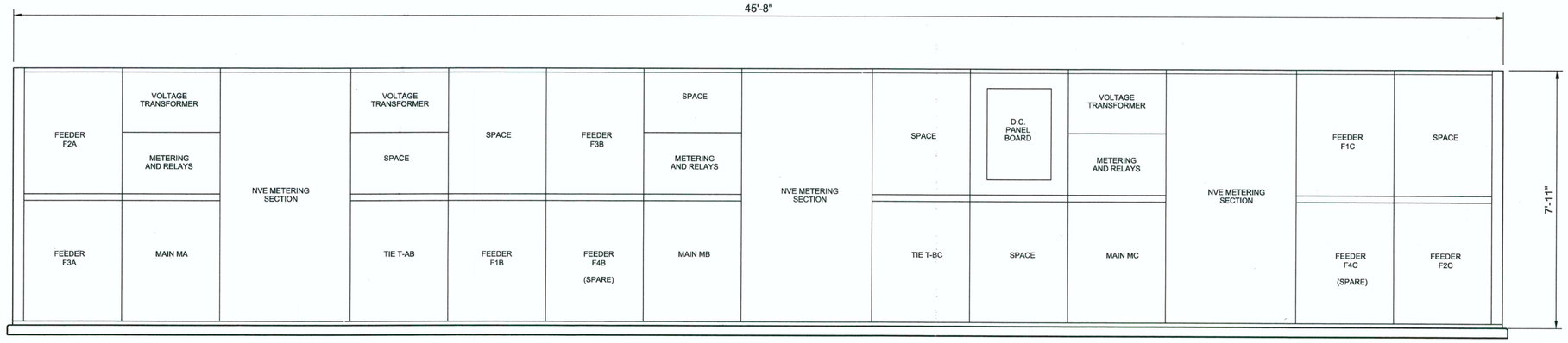
DATE	JANUARY 2013
PROJ	413455
DWG	E-028
SHEET	92

AS-BUILT
CLV PLAN# 311.57

FILENAME: E-028_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:14:40 PM



SIDE VIEW



FRONT VIEW

SWG-V04ELE1007-SWG-12-2

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

ENGINEER STATE OF NEVADA
AARON J HALL
ELECTRICAL
No. 12981
EXPIRATION DATE 6/30/13
1/8/13

NO.	DATE	DSGN	DR	CHK	APVD	BY
		AJ HALL	TR UY	JR HOYLE	APVD	BA JOHNSON

REVISION

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
EQUIPMENT ELEVATION
MV SWITCHGEAR

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-029
SHEET	93

FILENAME: E-029_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:15:20 PM

McCARTHY

Request for Information with Comments

Project RFI #: 0060-0

Date Created: 08/28/2013

Priority: Critical

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 09/11/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Justin Barnes
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: MV Switchgear Auto-throwover
Discipline: Electrical
Category: Bldg Enclosure
Reason: Plans/Specs Discrepancy

Initiated By: Helix Electric - Jason Getty
Ref RFI: 015

Attachments

Type	Name	Description	Content
File	RFI-015 MV SG Auto-Throwover		RFI-015_MV_SG_Auto-Throwover.pdf

Question

In accordance with this drawing the auto-throwover can only be accomplished by the PLC-100
Also, the CS/C cannot be used to close the breaker in the connected position, doing so would bypass all of the anti-paralleling interlocks.

Suggestion

We are suggesting that the CS/C should be used for testing the breaker only while it is in the test position.
To accomplish this, we must use a TOC contact in series with it.

Answer **Date Answered: 09/06/2013**

1. The auto-throwover must be accomplished in the RTAC as specified.

2. The CS/C should be wired to the associated SEL 751 relay for anti-parallel interlocking. Note: for the tie breakers, the associated relay is at Main B.

3. Each circuit breaker should also have a TOC contact wired to its SEL 751 for use by the RTAC.

Comments

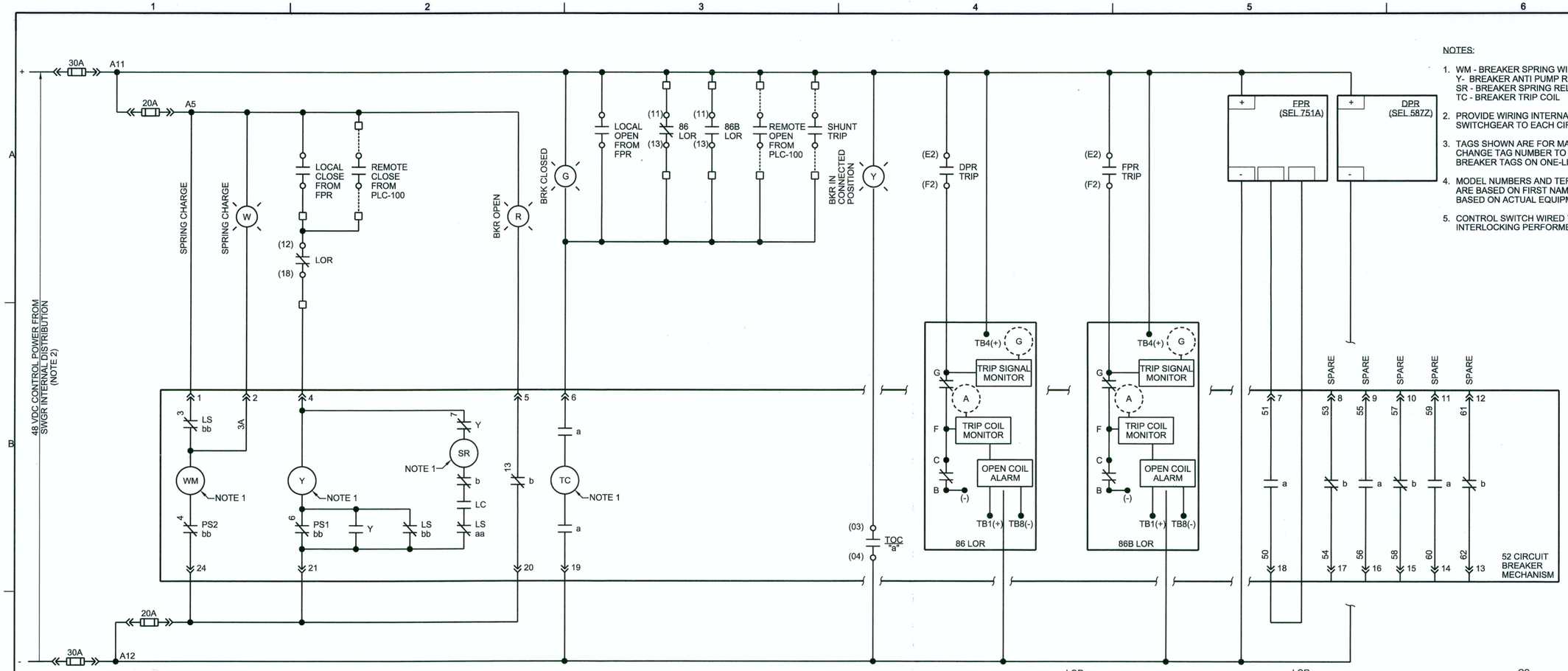
1. The auto-throwover must be accomplished in the RTAC as specified 2. The CS/C should be wired to the associated SEL 751 relay for anti-parallel interlocking. Note: for the tie breakers, the associated relay is at Main B. 3. Each circuit breaker should also have a TOC contact wired to its SEL 751 for use by the RTAC.	Aaron Hall	9/4/13 15:59
This RFI is referring to Drawing E-035	Carollo Team	8/30/13 9:33

Architect/Engineer Signature

By:_____ Date:_____

Consultant:

CLV PLAN# 311.57

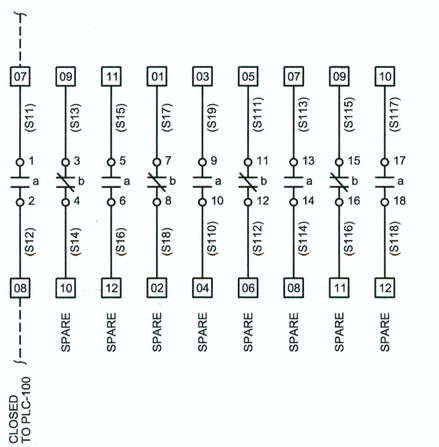


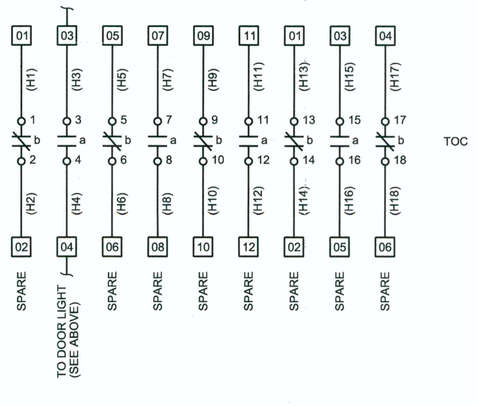
NOTES:

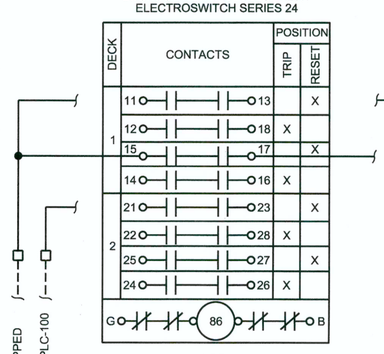
1. WM - BREAKER SPRING WINDING MOTOR
   Y- BREAKER ANTI PUMP RELAY
   SR - BREAKER SPRING RELEASE COIL
   TC - BREAKER TRIP COIL
2. PROVIDE WIRING INTERNAL TO THE SWITCHGEAR TO EACH CIRCUIT BREAKER
3. TAGS SHOWN ARE FOR MAIN BREAKER MA. CHANGE TAG NUMBER TO MATCH CIRCUIT BREAKER TAGS ON ONE-LINE DIAGRAM.
4. MODEL NUMBERS AND TERMINATIONS SHOWN ARE BASED ON FIRST NAME MFR. UPDATE DWG BASED ON ACTUAL EQUIPMENT SUPPLIED.
5. CONTROL SWITCH WIRED TO FPR. LOGICAL INTERLOCKING PERFORMED BY RCOM.

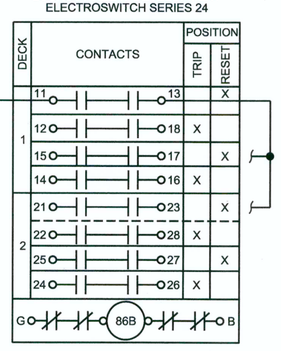
RFI 060
DATE ANSWERED 9/6/13

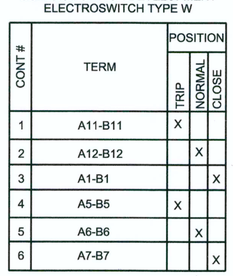
1. THE AUTO THROW OVER MUST BE ACCOMPLISHED IN THE RTAC AS SPECIFIED.
2. THE CS/K SHOULD BE WIRED TO THE ASSOCIATED SEL 751 RELAY FOR ANTI-PARALLELING INTERLOCKING. NOTE: FOR THE TIE BREAKERS, THE ASSOCIATED RELAY IS AT MAIN B.
3. EACH CIRCUIT BREAKER SHOULD HAVE A TOC CONTACT WIRED TO ITS SEL 751 FOR USE BY THE RTAC.

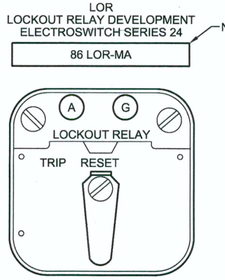


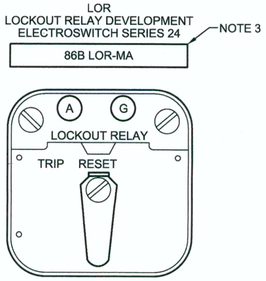


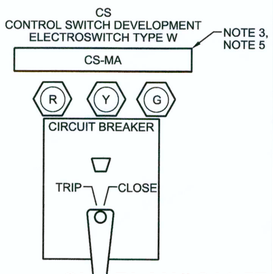












CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building
Communities, Inc.

NO.	DSGN	DATE	REVISION	CHK	BY	APVD
	AJ HALL		DR	TR UY	APVD	BA JOHNSON
					JR HOYLE	

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

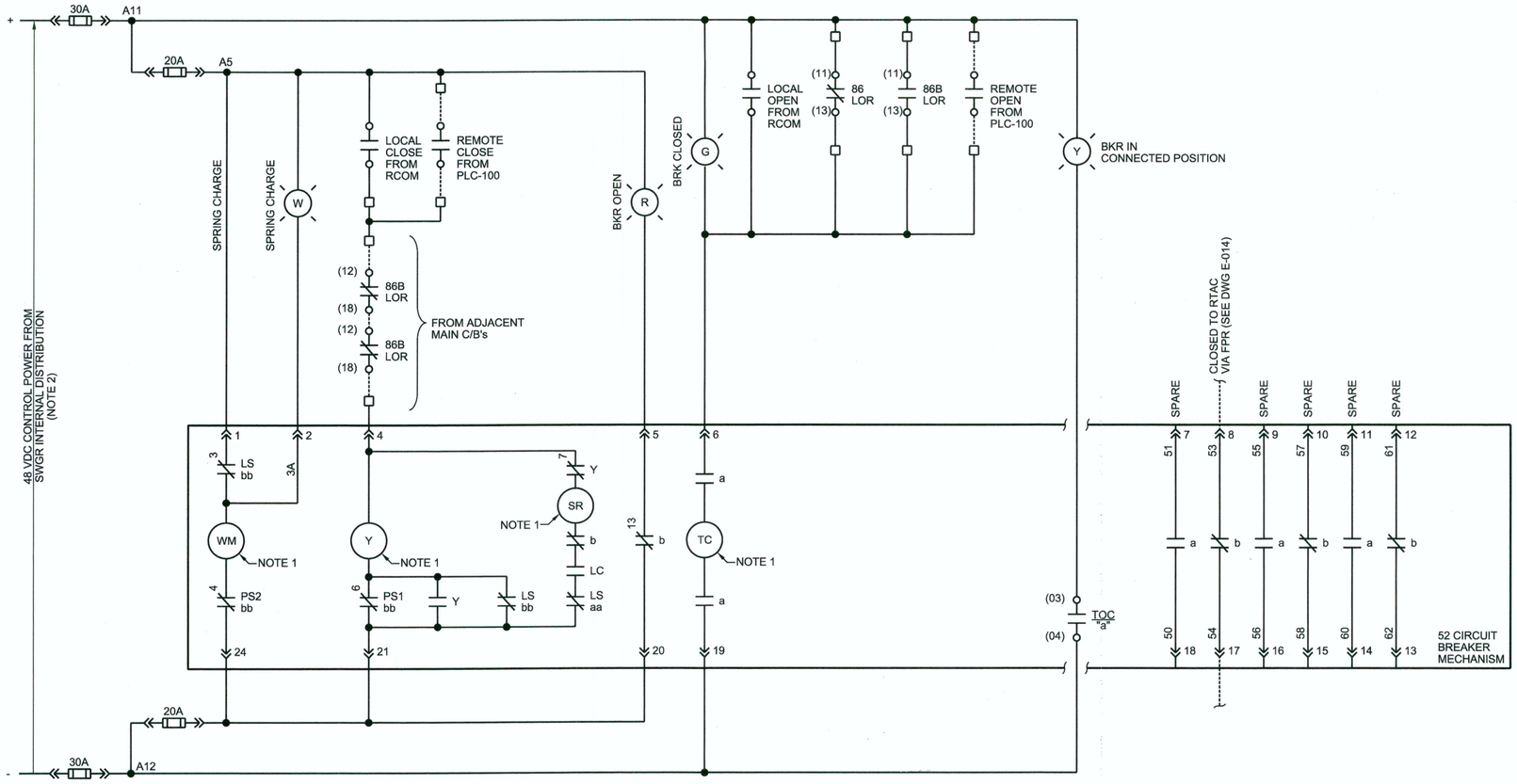
CH2MHILL

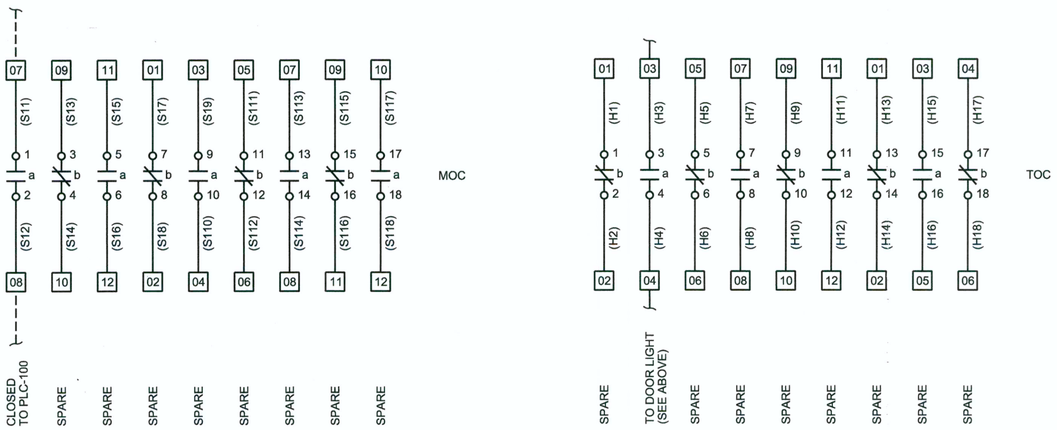
ELECTRICAL
CONTROL DIAGRAM
MV MAIN CIRCUIT BREAKERS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-035
SHEET	94

FILENAME: E-035_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:16:02 PM



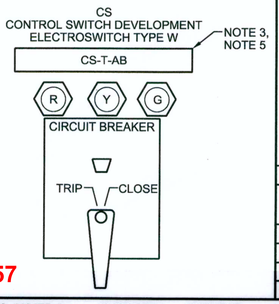


NOTES:

1. WM - BREAKER SPRING WINDING MOTOR
   Y- BREAKER ANTI PUMP RELAY
   SR - BREAKER SPRING RELEASE COIL
   TC - BREAKER TRIP COIL
2. PROVIDE WIRING INTERNAL TO THE SWITCHGEAR TO EACH CIRCUIT BREAKER
3. TAGS SHOWN ARE FOR TIE BREAKER T-AB. CHANGE TAG NUMBER TO T-BC FOR OTHER TIE TO MATCH CIRCUIT BREAKER TAGS ON ONE-LINE DIAGRAM.
4. MODEL NUMBERS AND TERMINATIONS SHOWN ARE BASED ON FIRST NAME MFR. UPDATE DWG BASED ON ACTUAL EQUIPMENT SUPPLIED.
5. CONTROL SWITCH WIRED TO FPR. LOGICAL INTERLOCKING PERFORMED BY RCOM.

CS
CONTROL SWITCH DEVELOPMENT
ELECTROSWITCH TYPE W

CONT #	TERM	POSITION		
		TRIP	NORMAL	CLOSE
1	A11-B11	X		
2	A12-B12		X	
3	A1-B1			X
4	A5-B5	X		
5	A6-B6		X	
6	A7-B7			X



CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
		AJ HALL	TR UY	JR HOYLE			BA JOHNSON

REVISION

AARON J HALL
STATE OF NEVADA
PROFESSIONAL ENGINEER
No. 12961
ELECTRICAL
EXP 6/30/15
1/8/13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

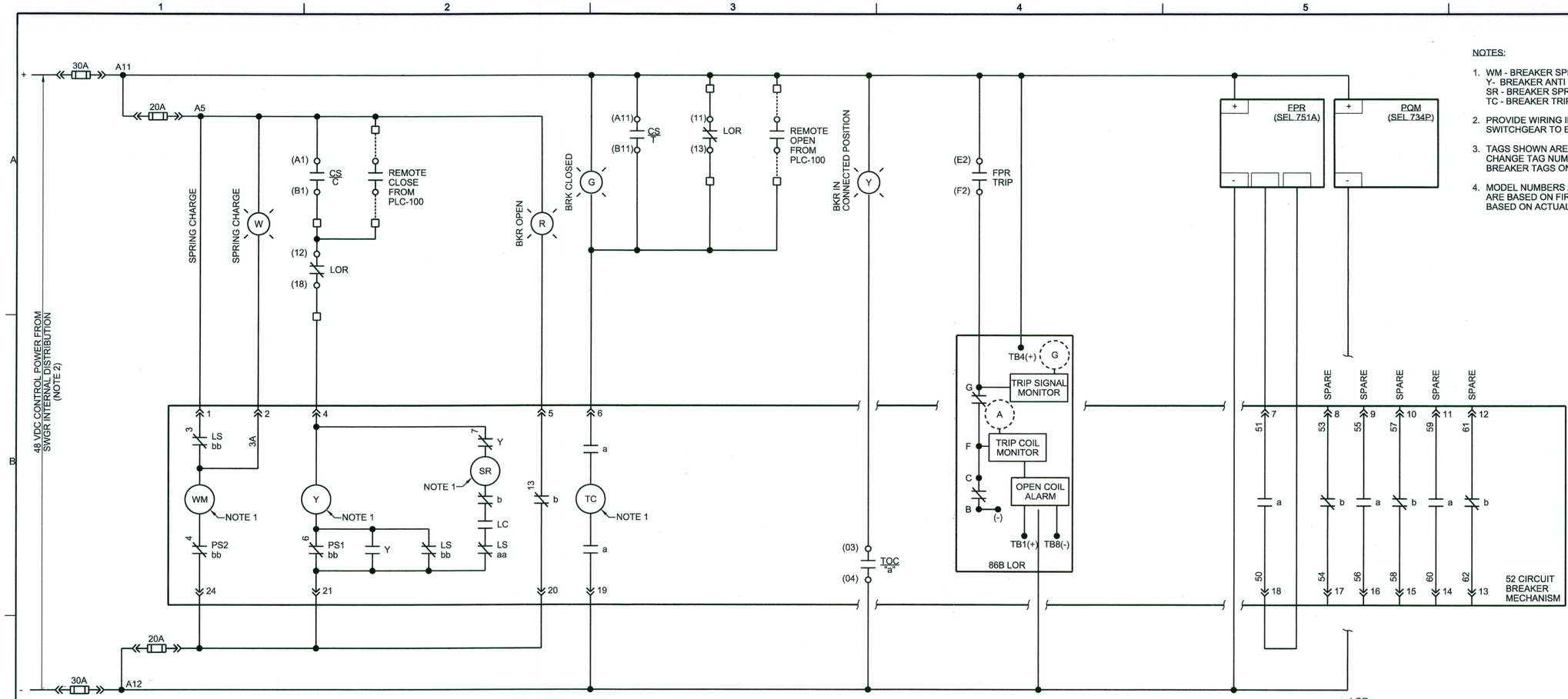
CH2MHILL

ELECTRICAL
CONTROL DIAGRAM
MV TIE CIRCUIT BREAKERS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-036
SHEET	95

FILENAME: E-036_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:16:43 PM



NOTES:

1. WM - BREAKER SPRING WINDING MOTOR
   Y- BREAKER ANTI PUMP RELAY
   SR - BREAKER SPRING RELEASE COIL
   TC - BREAKER TRIP COIL
2. PROVIDE WIRING INTERNAL TO THE SWITCHGEAR TO EACH CIRCUIT BREAKER
3. TAGS SHOWN ARE FOR FEEDER BREAKER F3A. CHANGE TAG NUMBER TO MATCH CIRCUIT BREAKER TAGS ON ONE-LINE DIAGRAM.
4. MODEL NUMBERS AND TERMINATIONS SHOWN ARE BASED ON FIRST NAME MFR. UPDATE DWG BASED ON ACTUAL EQUIPMENT SUPPLIED.

LOR
LOCKOUT RELAY DEVELOPMENT
ELECTROSWITCH SERIES 24

DECK	CONTACTS	POSITION TRIP	POSITION RESET
1	11 – 13		X
	12 – 18	X	
	15 – 17		X
	14 – 16	X	
2	21 – 23		X
	22 – 28	X	
	25 – 27		X
	24 – 26	X	

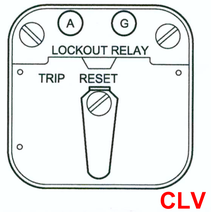
G – 86 – B

CS
CONTROL SWITCH DEVELOPMENT
ELECTROSWITCH TYPE W

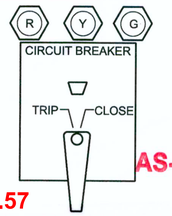
CONT #	TERM	POSITION TRIP	POSITION NORMAL	POSITION CLOSE
1	A11-B11	X		
2	A12-B12		X	
3	A1-B1			X
4	A5-B5	X		
5	A6-B6		X	
6	A7-B7			X

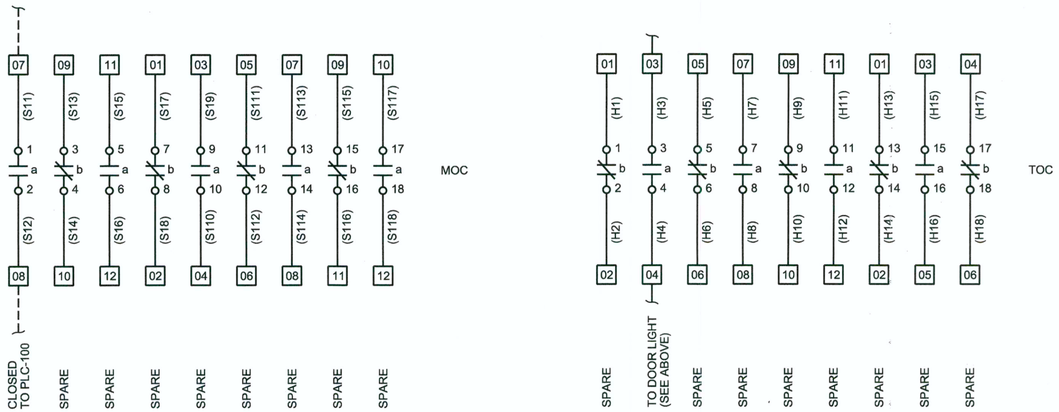
TRIPPED
TO PLC-100

LOR
LOCKOUT RELAY DEVELOPMENT
ELECTROSWITCH SERIES 24
NOTE 3
LOR-F3A



CS
CONTROL SWITCH DEVELOPMENT
ELECTROSWITCH TYPE W
NOTE 3
CS-F3A





AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD

DSGN AJ HALL | DR TR UY | CHK JR HOYLE | APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL
CONTROL DIAGRAM
MV FEEDER CIRCUIT BREAKERS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-037
SHEET	96

FILENAME: E-037_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:17:25 PM

McCARTHY

Request for Information with Comments

Project RFI #: 0078-0
Date Created: 11/08/2013
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 11/22/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Auto Sampler at Bypass Conduit
Discipline:
Category:
Reason:

Initiated By: McCarthy - Nick Partin
Ref RFI:

Attachments

Type	Name	Description	Content
File	SM-102		056_-_SM-102_Influent_Junction_Box_Plans.pdf
File	E-101		097_-_E-101_Bypass_&_Influent_Junction_Box_Lower_Level_Power_Plans.pdf

Question

After walking with Carollo and Plant personnel, please confirm the Auto Sampler shown on drawing SM-102 sits directly on top of the Bypass Conduit deck and requires a 4" block out through the deck which can be accomplished by using a 4"PVC pipe the same thickness as the deck.

Please also confirm that the power switch/plug/pedestal needs to be placed on top the Bypass Conduit deck next to the auto sampler and not where shown on E-101.

Please provide a detail for additional conduit/wire that needs to be ran to the auto sampler for flow signal.

Suggestion

Answer **Date Answered: 12/03/2013**

1. Confirmed, the autosampler sits directly on the bypass conduit deck as shown on SM-102. A 4" PVC sleeve through the deck will suffice for process insertion of a hose from the autosampler.

2. The power circuit to the autosampler may be placed as is convenient for connection to the autosampler. The west or east side of the bypass conduit is permissible.

3. The flow signal wiring may be run along with the level signal wiring from LIT-V04INF401-LIT-1-1, provided NEC conduit fills limits are not exceeded. (1) Type TSP cable, minimum, is required for the autosampler.

Comments

McCARTHY

Request for Information with Comments

Project RFI #: 0084-0
Date Created: 12/19/2013
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 01/02/2014

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Influent Junction Box Level Element
Discipline: Instrumentation & Control
Category:
Reason:

Initiated By: McCarthy - Nick Partin
Ref RFI:

Question

The Influent Junction Box has a level element that is located on top of the checker plate. Please confirm the level element range is 0 to 10feet.

Suggestion

Answer **Date Answered: 12/20/2013**

Confirmed, the level element range is 0-10 feet.

Comments

Architect/Engineer Signature

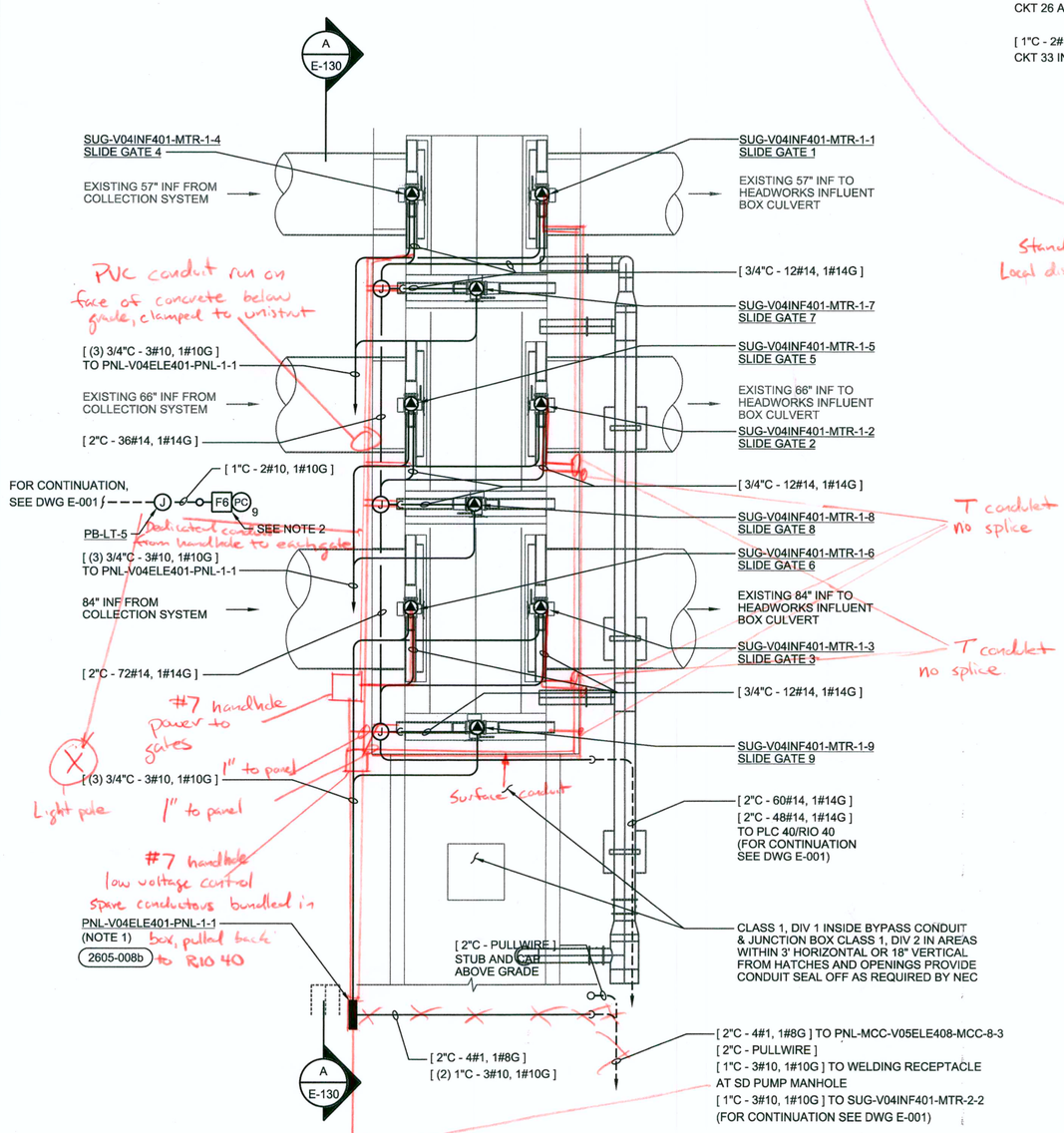
By:_____ Date:_____

Consultant:

CLV PLAN# 311.57

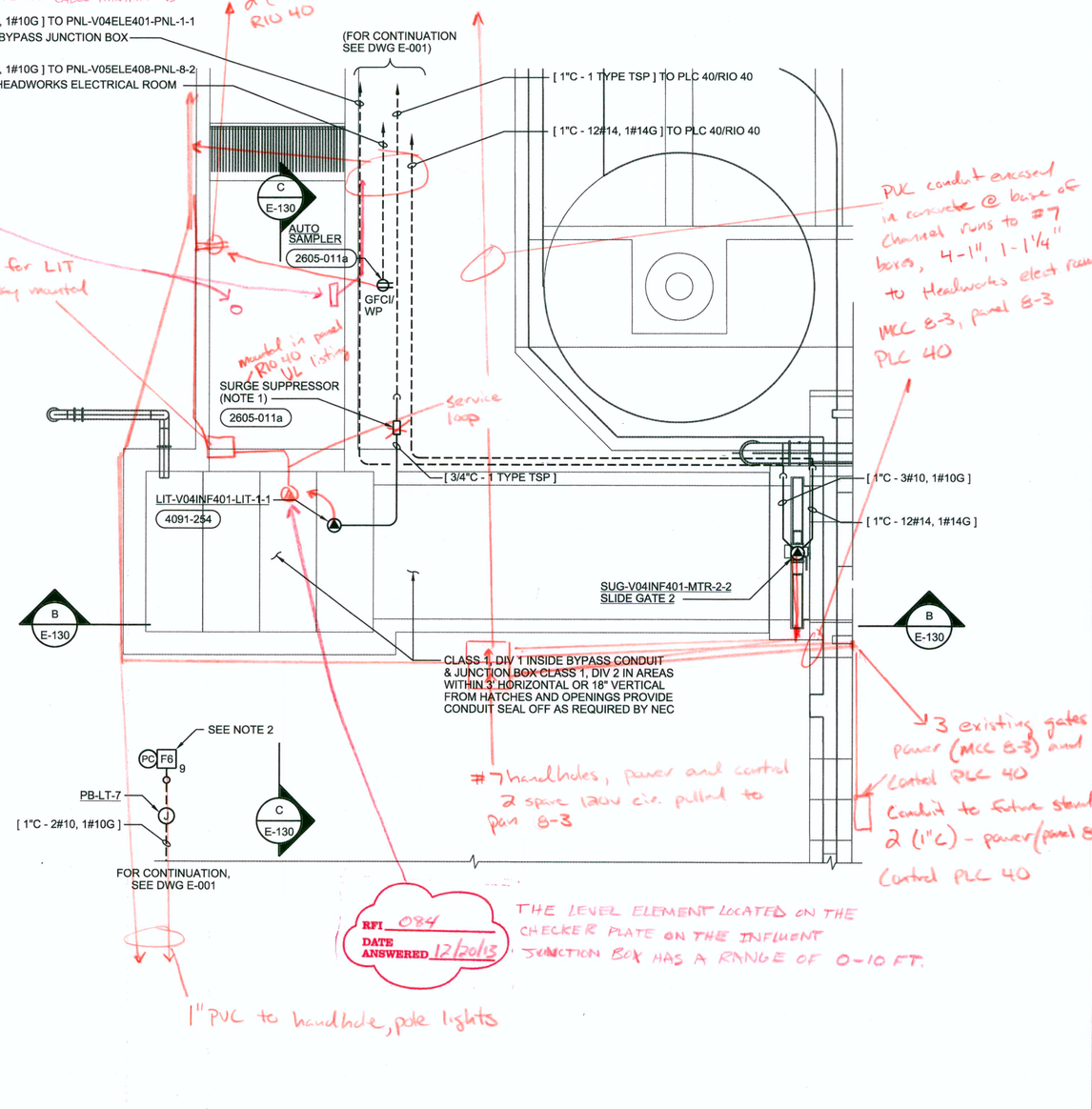
RFI 78
I S
A WERE 12/3/13

1. THE AUTOSAMPLER SITS DIRECTLY ON BYPASS CONDUIT DECK AS SHOWN ON ~~EX~~ SM-102. A 4" PVC SLEEVE THROUGH THE DECK IS ACCEPTABLE FOR HOSE INSERTION FROM THE AUTOSAMPLER.
2. THE POWER CIRCUIT TO THE AUTOSAMPLER MAY BE PLACED AS IS CONVENIENT FOR CONNECTION ON EAST OR WEST SIDE OF BYPASS CONDUIT.
3. FLOW SIGNAL WIRING MAY BE RUN WITH LEVEL SIGNAL WIRING FROM LIT-V04INF401-LIT-1-1, PROVIDED NEC CONDUIT FILL LIMITS ARE NOT EXCEEDED. (1) TYPE TSP CABLE MINIMUM IS REQUIRED.



BYPASS JUNCTION BOX PLAN

3/16"=1'-0"



RFI 084
DATE ANSWERED 12/20/13

THE LEVEL ELEMENT LOCATED ON THE CHECKER PLATE ON THE INFLUENT JUNCTION BOX HAS A RANGE OF 0-10 FT.

INFLUENT JUNCTION BOX PLAN

3/16"=1'-0"

NOTES:

1. MOUNT OUTSIDE OF CLASSIFIED AREA.
2. LIGHTS FED FROM LPB-V04ELE1007-LPB-1-1 CKT 9 VIA PHOTO CELL, SEE DWG E-702 FOR LUMINAIRE SCHEDULE.

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
REVISION							
		BI BEADERSTADT	DW CLARK	JR HOYLE		BA JOHNSON	

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

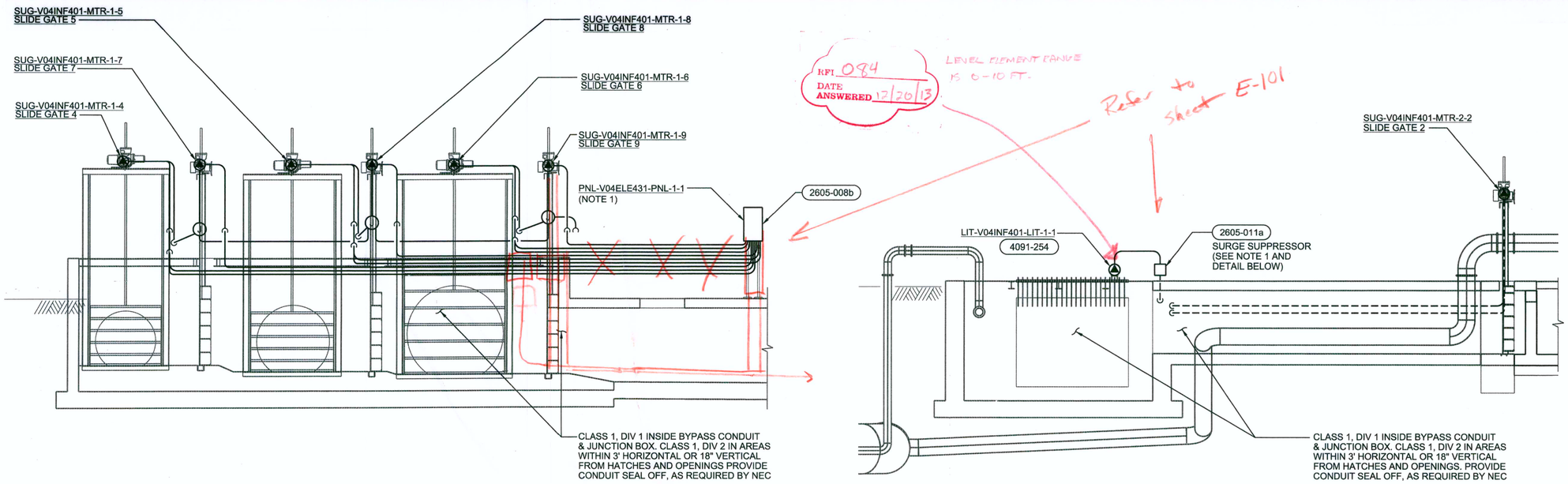
BYPASS AND INFLUENT JUNCTION BOX
ELECTRICAL
LOWER LEVEL POWER PLANS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-101
SHEET	97

AARON J HALL
STATE OF NEVADA
No. 12981
PROFESSIONAL ENGINEER
ELECTRICAL
1/8/13

FILENAME: E-101_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:41:09 PM



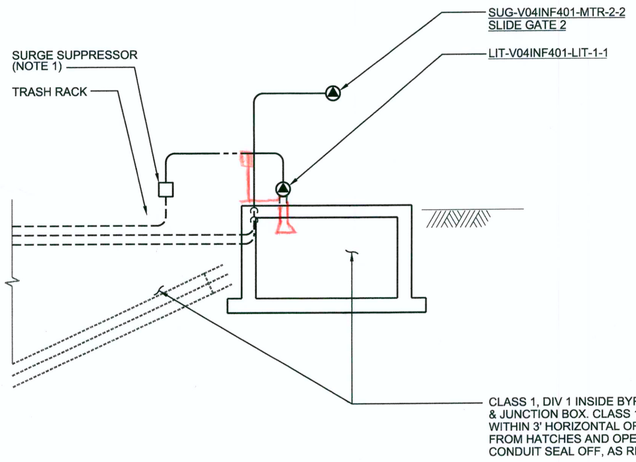
A SECTION
3/16"=1'-0"
E-101

RFI 084
DATE ANSWERED 12/26/13

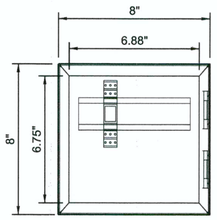
LEVEL ELEMENT RANGE IS 0-10 FT.

Refer to sheet E-101

B SECTION
3/16"=1'-0"
E-101



C SECTION
3/16"=1'-0"
E-101



SURGE SUPPRESSORS JUNCTION BOX DETAIL
3"=1'-0"

NOTES:

1. MOUNT OUTSIDE OF CLASSIFIED AREA.

AS-BUILT
CLV PLAN# 311.57

STATE OF NEVADA — REGISTERED ENGINEER — AARON J. HALL — ELECTRICAL — No. 12961 — PROFESSIONAL — EXP 6/30/13 — 1/31/13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	BI BEADERSTADT	DR	TR UY	CHK	JR HOYLE	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

BYPASS AND INFLUENT JUNCTION BOX
ELECTRICAL SECTIONS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-130
SHEET	98

FILENAME: E-130_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:41:54 PM

McCARTHY

Request for Information with Comments

Project RFI #: 0091-0
Date Created: 01/20/2014
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 02/03/2014

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: JCI HVAC control panel power
Discipline: Electrical
Category:
Reason: Plans/Specs Discrepancy

Initiated By: Helix Electric - Jason Getty
Ref RFI: 022

Attachments

Type	Name	Description	Content
File	RFI-022 JCI Panel Power		RFI-022_JCI_control_panel.pdf

Question

JCI control panel requires 120v power. Sheet E-701 does not show or call out for control power to panel.
Please advise as to how the design intends to feed the JCI Control Panel.

Suggestion

Run 3/4 inch RGC from AIT-V04ELE1007-AIT-1-1 on wall to HVAC control panel. Pull in new circuit from PNL-V04ELE1007-PNL-1-2 to HVAC control panel.

Answer **Date Answered: 02/25/2014**

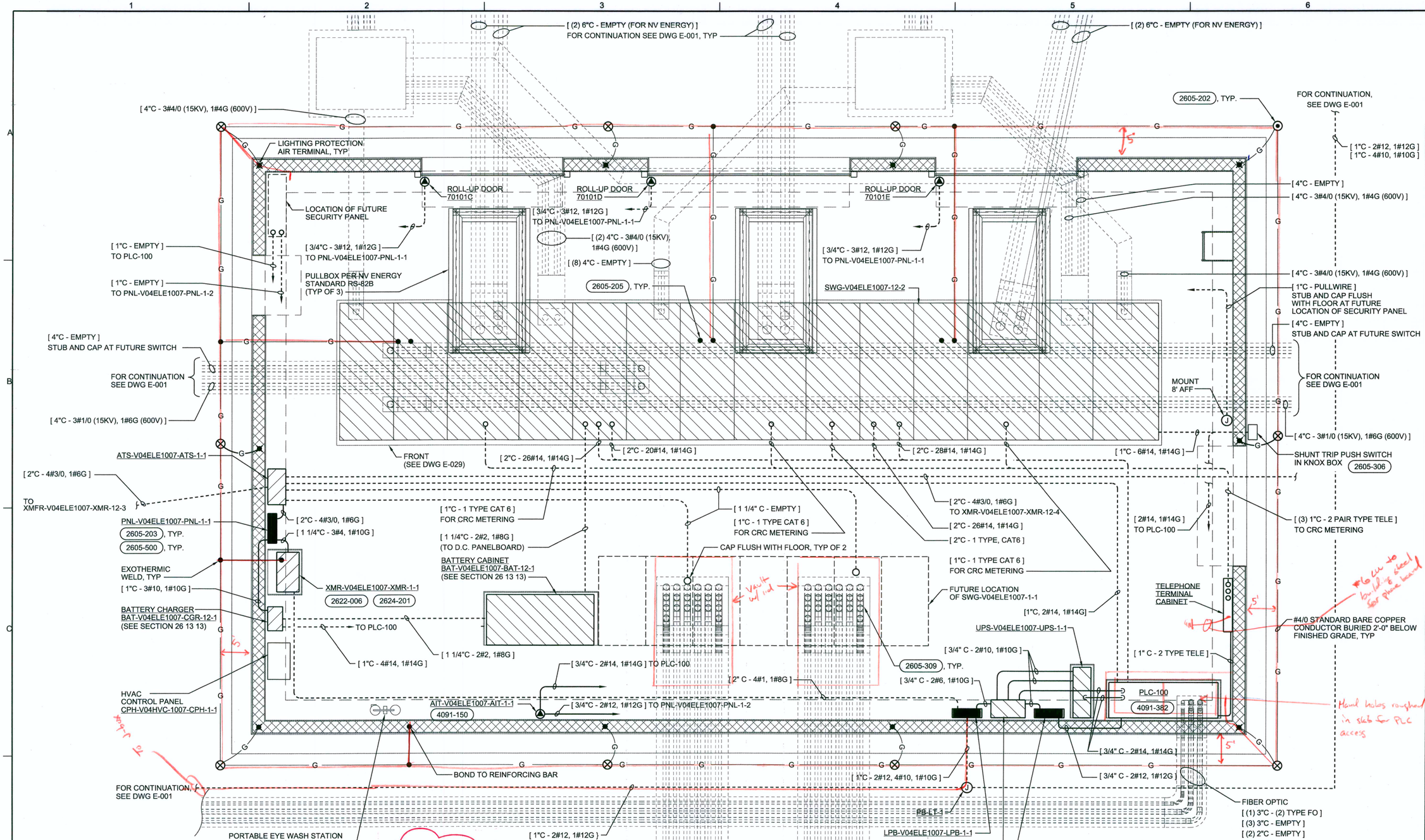
The proposed solution to run ¾ inch RGC from AIT-V04ELE1007-AIT-1-1 on wall to HVAC control panel and pull in new circuit from PNL-V04ELE1007-PNL-1-2 to HVAC control panel, is acceptable.

Comments

Agreed. Please proceed with the Contractors recommended solution. Aaron Hall 2/13/14 17:44

Architect/Engineer Signature
By:_____ Date:_____
Consultant:

CLV PLAN# 311.57



NOTES:

1. ALL CONDUIT, WIRE, AND DUCT BANKS SHOW ON THIS DRAWING ARE NEW. DUCT BANKS ARE SHOWN AS SCREENED FOR CLARITY.

POWER PLAN

3/8"=1'-0"

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	DR	REVISION	CHK	APVD	BY
	AJ HALL		TR UY		JR HOYLE	APVD	BA JOHNSON

STATE OF NEVADA — PROFESSIONAL ENGINEER — AARON J HALL — ELECTRICAL — No. 12951 — Exp. 6-30-13 — 1/31/13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL DISTRIBUTION BUILDING
ELECTRICAL POWER PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-701
SHEET	99

FILENAME: E-701_413455.dgn PLOT DATE: 2012\12\31 PLOT TIME: 9:59:02 AM

McCARTHY

Request For Information
Project RFI #: 0009-0
Date Created: 05/21/2013
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 06/04/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Missing Detail Documents
Discipline: Details
Category:
Reason: Plans/Specs Discrepancy

Initiated By: McCarthy - Cody Harris
Ref RFI:

Question
The following Details are missing from the Detail Booklet:
1. Drawing E-001 calls out detail 2605-207, 2605-207 is missing.

2. Drawing E-702 calls out detail 2650-100, 2650-100 is missing.

3. Detail 0315-142 calls out detail 0315-153, 0315-153 is missing.

4. Detail 0330-106 calls out detail 0330-018, 0330-018 is missing.

Suggestion
Please provide details 0315-153, 0330-018, 2650-100, and 2605-207.

Answer **Date Answered: 06/03/2013**
1. The correct detail callout is 2650-207.

2. The correct detail callout is 2650-101. Note: The photocell is to be installed in accordance with detail 2650-101 or per manufacturer's recommendation.

3. Revise the note 2 in the detail 0315-142 to read "6 ½" maximum when used in conjunction with detail 0315-154."

4. Delete note 2 in detail 0330-016, and note 5 in detail 0330-017. Please note detail 0330-106 doesn't refer to any other detail. In detail 0330-016 and 0330-017, detail 0330-018 were referred.

Architect/Engineer Signature
By:_____ Date:_____
Consultant:

McCARTHY

Request for Information with Comments
Project RFI #: 0088-0
Date Created: 01/09/2014
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 01/23/2014

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: ATS - Shift for Clearance @ Ele Bldg.
Discipline: Electrical
Category:
Reason: Confirmation

Initiated By: McCarthy - Nick Partin
Ref RFI:

Attachments

Type	Name	Description	Content
File	ATS - Shift Drawing		4025_001.pdf

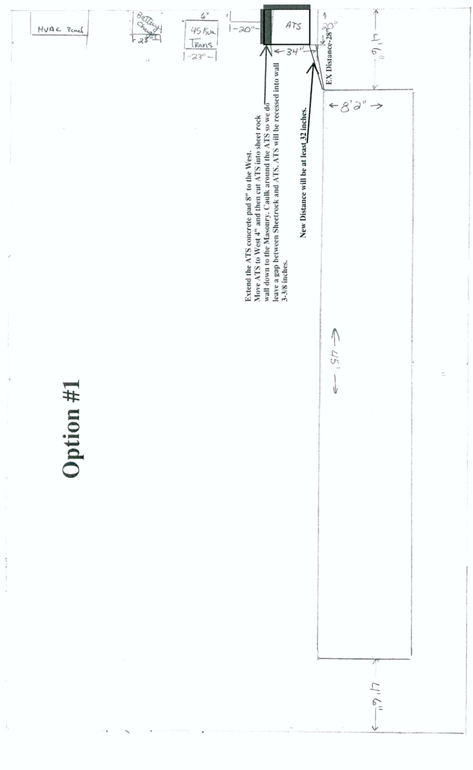
Question
Please confirm it is acceptable to extend the ATS concrete pad 8" to the West and move the ATS to the West 4". Then we will cut the sheet rock wall North of the ATS so we can recess the ATS into the wall 3-3/8". McCarthy will caulk around the ATS to fill the void between sheetrock and ATS. New clearance distance will be at least 32". Please confirm this is an acceptable fix for clearance between ATS and Medium Voltage Switch Gear.

Suggestion

Answer **Date Answered: 01/09/2014**
This is acceptable as long as the ATS dooes can open to a full 90 degrees without obstruction.

Comments

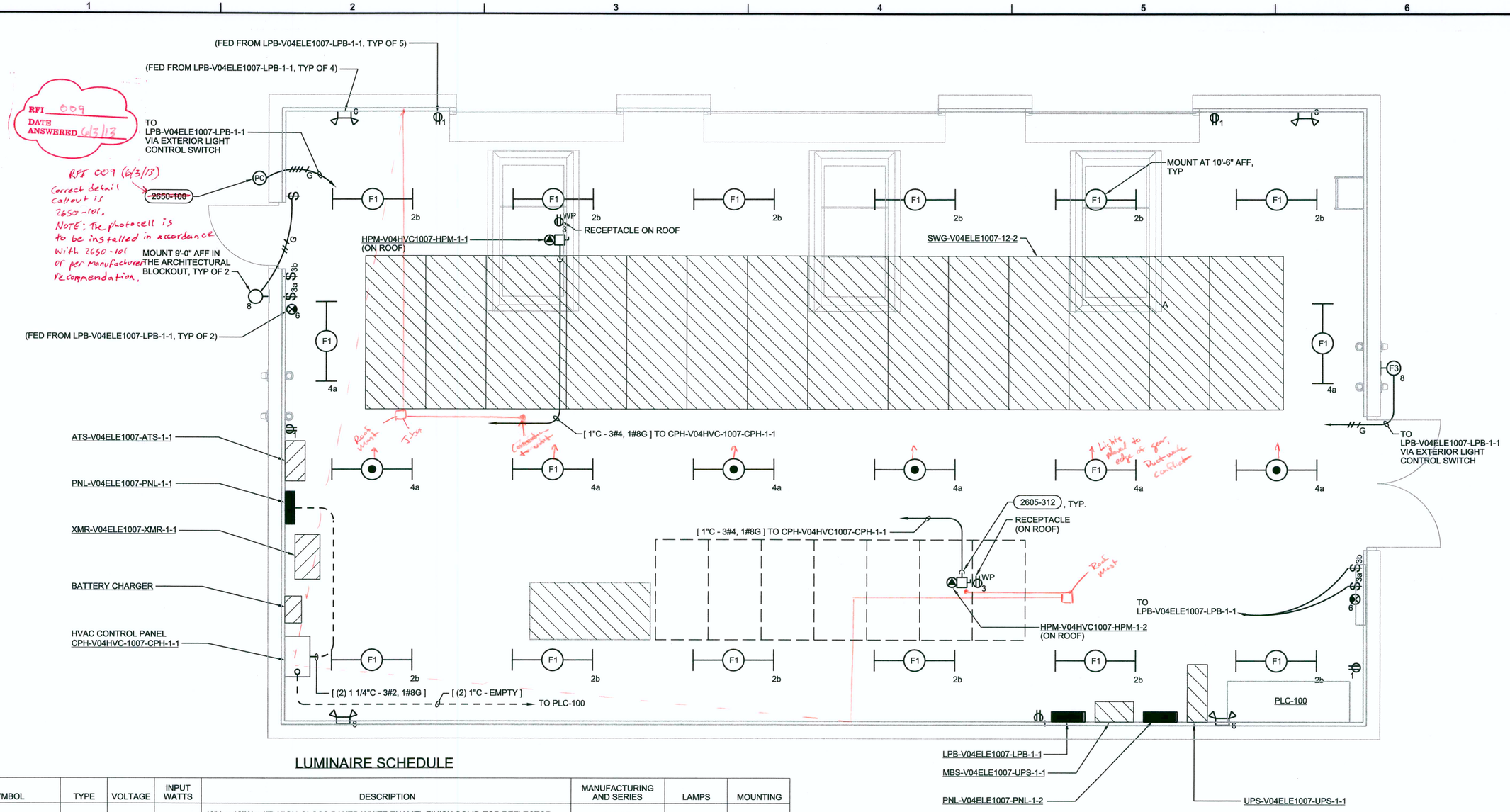
Architect/Engineer Signature
By:_____ Date:_____
Consultant:



Option #1

RFI
DATE
ANSWERED

CLV PLAN# 311.57



LUMINAIRE SCHEDULE

SYMBOL	TYPE	VOLTAGE	INPUT WATTS	DESCRIPTION	MANUFACTURING AND SERIES	LAMPS	MOUNTING
	FLUOR	UNIV	61	48" L x 12"W x 4"D HIGH-GLOSS BAKED WHITE ENAMEL FINISH SOLID-TOP REFLECTOR. PROTECTED, RESETTING, CLASS P, HPF, NON-PCB, UL LISTED, CSA CETIFIED BALLAST. LITHONIA "L" SERIES T-8 FIXTURE, CATALOG NUMBER L 2 32 MVOLT GEB10IS, OR EQUAL.	LITHONIA "AF 10 SERIES" OR EQUAL	(2), F32T8/ 4100K/RS 32W	FENDANT/ SURFACE
	FLUOR	UNIV	61	SAME AS ABOVE EXCEPT PROVIDE TWO 1400 LUMEN EMERGENCY BATTERY PACK BALLASTS.	LITHONIA "AF 10 SERIES" OR EQUAL	(2), F32T8/ 4100K/RS 32W	FENDANT/ SURFACE
F3	MH	UNIV	94	15" W x 13" D x 9" H RUGGED, DIE-CAST, SINGLE PIECE ALUMINUM HOUSING, DIE-CAST DOOR FRAME HAS IMPACT RESISTANT TEMPERED GLASS LENS. DOOR FRAME IS FULLY SEALED WITH A CLOSED CELL SILICONE GASKET. STANDARD DARK BRONZE POLYESTER POWDER FINISH.	LITHONIA "AERIS ASW 1 SERIES" OR EQUAL	(1) 70W METAL HALIDE	WALL
	LED	120/277	1.5	8" L x 12" EXIT SIGN THERMOPLASTIC HOUSING, CORROSION PROOF 6" HIGH LETTERS WITH 3/4" STROKE, WHITE FACE WITH GREEN LETTERS, NICKEL CADMIUM BATTERY.	LITHONIA LQM EL N SD SERIES OR EQUAL	LED	WALL/ CEILING
	KRYPTON	120/277	36	EMERGENCY LIGHTING, RUGGED FRONT. INJECTION-MOLDED THERMO-PLASTIC HOUSING CURRENT LIMITING CHARGER. SEALED, LEAD-CADMIUM BATTERY FOR 90 MINUTES OF EMERGENCY OPERATION.	LITHONIA IND1236 OR EQUAL	(2) 9W-12V KRYPTON	WALL
F6	MH	120	175	RUGGED, HEAVY-GAUGE, LIGHT WEIGHT ALUMINUM HOUSING. SQUARE SHAPE, SEAM WELDED AND INTERNALLY SEALED FOR WEATHER TIGHT INTERGRITY FINISH: DARK BRONZE, POLYESTER POWDER, ELECTROSTATICALLY APPLIED.	LITHONIA "KSE 1 SERIES" OR EQUAL	(1) 175W METAL HALIDE	POLE 20' HIGH

RFI 088
DATE ANSWERED 1/9/14

EXTEND ATS CONCRETE PAD 9" TO THE WEST AND MOVE ATS 4" WEST. RECESS ATS INTO WALL BY 3 7/8", FILL VOID AROUND ATS WITH CAULK. THIS CHANGE WILL PROVIDE 32" MINIMUM BETWEEN ATS AND SWITCHGEAR. VERIFY DOOR CAN OPEN FULL 90 DEGREES.

N

FACILITY PLAN

3/8"=1'-0"

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	BY	APVD
		BI BEADERSTADT	TR UY	JR HOYLE		APVD BA JOHNSON

REVISION

STATE OF NEVADA — PROFESSIONAL ENGINEER — AARON J. HALL — ELECTRICAL — No. 12951 — EXP 6/30/15 — 1/8/13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

ELECTRICAL DISTRIBUTION BUILDING
ELECTRICAL FACILITY PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-702
SHEET	100

FILENAME: E-702_413455.dgn PLOT DATE: 2013\01\07 PLOT TIME: 2:20:17 PM

ELECTRICAL PANELBOARD SCHEDULE

POWER DISTRIBUTION PANELBOARD
PANEL: PNL-V04ELE1007-PNL-1-1
VOLTAGE: 480Y/277V, 3Ph, 4W.
BUS SIZE: 400A
MAINS: 200A Main Breaker
Isc: 22 KA

LOCATION: ELECTRICAL DISTRIBUTION BUILDING
MOUNTING: WALL MOUNTED (SURFACE)
XMR-V04ELE1007-XMR-12-3, 4
...VIA ATS-V04ELE1007-ATS-1-1

CIRCUIT TITLE	BREAKER CKT NO.	AMP	POLE	LOAD, VA PHASE A	PHASE B	PHASE C	LOAD, VA PHASE A	PHASE B	PHASE C	POLE	BREAKER AMP	CKT NO.	CIRCUIT TITLE
HPM-V04HVC1007-HPM-1-1	1	70	3	15,500			15,500			3	70	2	HPM-V04HVC1007-HPM-1-2
I	3				15,500			15,500				4	I
I	5					15,500			15,500			6	I
ROLL-UP DOOR	7	20	3	582			582			3	20	8	ROLL-UP DOOR
I	9				582			582				10	I
I	11					582			582			12	I
ROLL-UP DOOR	13	20	3	582			2,150			3	30	14	BAT-V04ELE1007-CHR-12-1
I	15				582			2,150				16	I
I	17					582			2,150			18	I
SPARE	19	20	3	0			0			3	20	20	SPARE
	21				0			0				22	
	23					0			0			24	
SPARE	25	20	3	0			0			3	20	26	SPARE
	27				0			0				28	
	29					0			0			30	
SPACE	31											32	SPACE
	33											34	
	35											36	
SPACE	37						15,000			3	60	38	SUBFEED TO LPB-V04ELE1007-LPB-1-1
	39							15,000		...	...	40	...VIA XMR-V04ELE1007-XMR-1-1
	41								15,000	...	...	42	... I
TOTAL LOAD				16664	16664	16664	33232	33232	33232				

PHASE A LOAD (VA) 49,896
PHASE B LOAD (VA) 49,896
PHASE C LOAD (VA) 49,896
TOTAL LOAD (KVA)= 150 149.7 KVA
180 AMPS

ELECTRICAL PANELBOARD SCHEDULE

INSTRUMENT PANELBOARD
PANEL: PNL-V04ELE1007-PNL-1-2
VOLTAGE: 120/240V, 1Ph, 3W.
BUS SIZE: 100A
MAINS: MAIN LUGS ONLY
Isc: 22 KA

LOCATION: ELECTRICAL DISTRIBUTI
MOUNTING: WALL MOUNTED (SURF/
FED FROM: LPB-V04ELE1007-LPB-1-
...VIA UPS-V04ELE1007-

CIRCUIT TITLE	BREAKER CKT NO.	AMP	POLE	LOAD, VA PHASE A	PHASE B	LOAD, VA PHASE A	PHASE B	POLE	BREAKER AMP	CKT NO.	CIRCUIT TITLE
PLC-100	1	20	1	2,000		60		1	20	2	AIT-V04ELE1007-AE-1-1
SPARE	3	20	1		0		0	1	20	4	SPARE
SPARE	5	20	1	0		0		1	20	6	SPARE
SPARE	7	20	1		0		0	1	20	8	SPARE
SPARE	9	20	1	0		0		1	20	10	SPARE
SPARE	11	20	1		0		0	1	20	12	SPARE
SPARE	13	20	1	0		0		1	20	14	SPARE
SPARE	15	20	1		0		0	1	20	16	SPARE
SPARE	17	20	1	0		0		1	20	18	SPARE
SPARE	19	20	1		0		0		20	20	SPARE
	21									22	
	23									24	
TOTAL LOAD				2000	0	60	0				

PHASE A LOAD (VA) 2,060
PHASE B LOAD (VA) 0
TOTAL LOAD (VA)= 2,060 2.1 KVA
9 AMPS

ELECTRICAL PANELBOARD SCHEDULE

POWER DISTRIBUTION PANELBOARD
PANEL: PNL-V04ELE401-PNL-1-1 (NEW)
VOLTAGE: 480Y/277V, 3Ph, 4W.
BUS SIZE: 100A
MAINS: 100A Main Breaker
Isc: 22 KA

LOCATION: HW BYPASS
MOUNTING: STANCHION
FED FROM: PNL-MCC-V05ELE408-MCC-8-3

CIRCUIT TITLE	BREAKER CKT NO.	AMP	POLE	LOAD, VA PHASE A	PHASE B	PHASE C	LOAD, VA PHASE A	PHASE B	PHASE C	POLE	BREAKER AMP	CKT NO.	CIRCUIT TITLE
SLIDE GATE SUG-V04INF401-MTR-1-1	1	20	3	1,330			1,330			3	20	2	SLIDE GATE SUG-V04INF401-MTR-1-6
	3				1,330			1,330				4	
	5					1,330			1,330			6	
SLIDE GATE SUG-V04INF401-MTR-1-2	7	20	3	1,330			1,330			3	20	8	SLIDE GATE SUG-V04INF401-MTR-1-7
	9				1,330			1,330				10	
	11					1,330			1,330			12	
SLIDE GATE SUG-V04INF401-MTR-1-3	13	20	3	1,330			1,330			3	20	14	SLIDE GATE SUG-V04INF401-MTR-1-8
	15				1,330			1,330				16	
	17					1,330			1,330			18	
SLIDE GATE SUG-V04INF401-MTR-1-4	19	20	3	1,330			1,330			3	20	20	SLIDE GATE SUG-V04INF401-MTR-1-9
	21				1,330			1,330				22	
	23					1,330			1,330			24	
SLIDE GATE SUG-V04INF401-MTR-1-5	25	20	3	1,330			1,330			3	20	26	SLIDE GATE SUG-V04INF401-MTR-2-2
	27				1,330			1,330				28	
	29					1,330			1,330			30	
SPARE	31	20	3	1,330			0			3	20	32	SPARE
	33				1,330			0				34	
	35					1,330			0			36	
WELDING RECEPTACLE	37	20	3	1500								38	SPACE
	39				1500			0				40	
	41					1500			0	...	...	42	
TOTAL LOAD				9480	9480	9480	6650	6650	6650				

PHASE A LOAD (VA) 16,130
PHASE B LOAD (VA) 16,130
PHASE C LOAD (VA) 16,130
TOTAL LOAD (VA)= 48,390 48.4 KVA
58 AMPS

ELECTRICAL PANELBOARD SCHEDULE

LIGHTING PANELBOARD
PANEL: LPB-V04ELE1007-LPB-1-1
VOLTAGE: 208Y/120V, 3Ph, 4W.
BUS SIZE: 400A
MAINS: 100A Main Breaker
Isc: 22 KA

LOCATION: ELECTRICAL DISTRIBUTION BUILDING
MOUNTING: WALL MOUNTED (SURFACE)
FED FROM: XMR-V04ELE1007-XMR-1-1

CIRCUIT TITLE	BREAKER CKT NO.	AMP	POLE	LOAD, VA PHASE A	PHASE B	PHASE C	LOAD, VA PHASE A	PHASE B	PHASE C	POLE	BREAKER AMP	CKT NO.	CIRCUIT TITLE
RECEPTACLES	1	20	1	900			750			1	20	2	LIGHTING FIXTURES
RECEPTACLES - ROOF	3	20	1		360			600		1	20	4	LIGHTING FIXTURES
YARD LIGHT FIXTURES	5	20	1			350			144	1	20	6	EMERGENCY LIGHTING
SWITCH YARD LIGHTS	7	20	1	350			188			1	20	8	EXTERIOR LIGHTING
HW BYPASS / INFLUENT JB LTS	9	20	1		350			0				10	SPARE
SPACE	11					0			0			12	SPARE
SPACE	13			0			0					14	SPARE
SPACE	15				0			0				16	SPARE
SPACE	17					0			0			18	SPARE
SPACE	19			0			0					20	SPARE
SPACE	21				0			0				22	SPARE
SPACE	23					0			0			24	SPARE
SPACE	25			0			0					26	SPARE
SPACE	27				0			0				28	SPARE
SPACE	29					0			0			30	SPARE
	31											32	
	33											34	
	35											36	
	37											38	
	39							2,060		2	30	40	SUBFEED TO PNL-V04ELE1007-PNL-1-2
	41								0	...	...	42	...VIA UPS-V04ELE1007-UPS-1-1
TOTAL LOAD				1250	710	350	938	2660	144				

PHASE A LOAD (VA) 2,188
PHASE B LOAD (VA) 3,370
PHASE C LOAD (VA) 494
TOTAL LOAD (VA)= 6,052 6.1 KVA
17 AMPS

ELECTRICAL PANELBOARD SCHEDULE

DC DISTRIBUTION PANELBOARD
PANEL: PNL-V04ELE1007-PNL-1-3
VOLTAGE: 48 VDC
BUS SIZE: 100A
MAINS: MAIN LUGS ONLY
Isc: 22 KA

LOCATION: SWG-V04ELE1007-SWG-12-2
MOUNTING: INTEGRAL TO SWGR
FED FROM: BATTERY RACK

CIRCUIT TITLE	BREAKER CKT NO.	AMP	POLE	LOAD, VA PHASE A	PHASE B	LOAD, VA PHASE A	PHASE B	POLE	BREAKER AMP	CKT NO.	CIRCUIT TITLE
CB AND RELAYS (FEEDER F2A)	1	20	2	432		432		2	20	2	CB AND RELAYS (MAIN MB)
I	3				432		432			4	I
CB AND RELAYS (FEEDER F3A)	5	20	2	432		432		2	20	6	CB (TIE T-BC)
I	7				432		432			8	I
CB AND RELAYS (MAIN MA)	9	20	2	432		432		2	20	10	CB AND RELAYS (MAIN MC)
I	11				432		432			12	I
CB (TIE T-AB)	13	20	2	432		432		2	20	14	CB AND RELAYS (FEEDER F1C)
I	15				432		432			16	I
CB AND RELAYS (FEEDER F1B)	17	20	2	432		432		2	20	18	CB AND RELAYS (FEEDER F4C)
I	19				432		432			20	I
CB AND RELAYS (FEEDER F3B)	21	20	2	432		432		2	20	22	CB AND RELAYS (FEEDER F2C)
I	23				432		432			24	I
CB AND RELAYS (FEEDER F4B)	25	20	2	432		10		2	20	26	RCOM
I	27						10			28	I
	29									30	
	31									32	
	33									34	
	35									36	
	37									38	
	39									40	
	41									42	
TOTAL LOAD				3024	2592	2602	2602				

PHASE A LOAD (VA) 5,626
PHASE B LOAD (VA) 5,194
TOTAL LOAD (KVA)= 11 10.8 KVA
45 AMPS

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

STATE OF NEVADA
ENGINEER
AARON J HALL
ELECTRICAL
No. 12361
PROFESSIONAL
Exp. 06/12
11/8/12

NO.	DATE	DSGN	DR	CHK	APVD	BY
		AJ HALL	TR UY	JR HOYLE	APVD	BA JOHNSON

REVISION

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

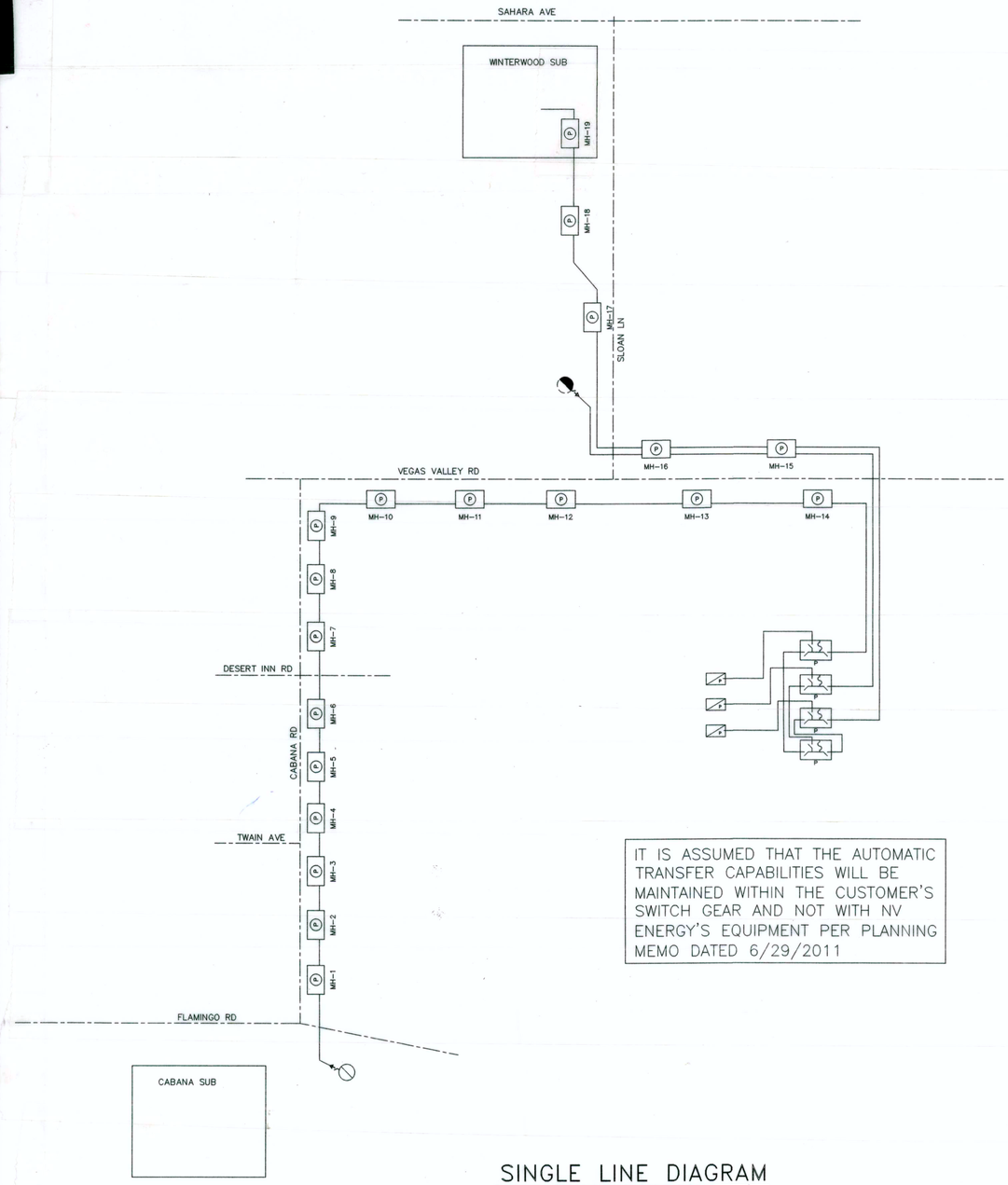
CH2MHILL

ELECTRICAL
ELECTRICAL DISTRIBUTION BUILDING PANELBOARD SCHEDULES

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	E-770
SHEET	101

FILENAME: E-770_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 1:45:23 PM



SINGLE LINE DIAGRAM

–NVE USE ONLY–

IT IS ASSUMED THAT THE AUTOMATIC TRANSFER CAPABILITIES WILL BE MAINTAINED WITHIN THE CUSTOMER'S SWITCH GEAR AND NOT WITH NV ENERGY'S EQUIPMENT PER PLANNING MEMO DATED 6/29/2011

TRANSMISSION REQUIREMENTS

COMPLIANCE WITH ALL NESC AND OSHA REQUIREMENTS.
MATERIALS AND EQUIPMENT CANNOT BE STOCKPILED UNDER LINES.

POLE BOLLARDS ARE REQUIRED AND SHALL BE INSTALLED BY THE OWNER IF PARKING IS WITHIN 10' OF ANY TRANSMISSION STRUCTURE.

A 40'X40' SQUARE MUST BE MAINTAINED ON ONE SIDE OF A TANGENT STRUCTURE AND A 20'X20' SQUARE AROUND A DEAD END STRUCTURE TO ALLOW ACCESS FOR MAINTENANCE PURPOSES.

CUSTOMER MUST OBTAIN PRIOR APPROVAL FROM TRANSMISSION ENGINEERING FOR FUTURE PROJECTS AND ANY CHANGES OR REVISIONS TO THIS PROJECT INCLUDING BUT NOT LIMITED TO THE FOLLOWING ITEMS:

- PARKING OR STORAGE OF VEHICLES EXCEEDING 8' IN HEIGHT
- COVERED PARKING
- PARKING LIGHTS
- METALLIC FENCES OR BLOCK WALLS
- TRASH ENCLOSURES
- BUILDINGS OR STRUCTURES AND FREE STANDING SIGNS
- SWIMMING POOLS
- PINE AND PALM TREES
- ELEVATION OR GRADE CHANGES

CONTRACTOR SHALL MAINTAIN RADIUS OF 10' PLUS 1:1 SLOPE OF UNDISTURBED SOIL AROUND POLES OR CONTRACTOR WILL NEED TO PROVIDE FOR TRENCH SHORING AND/OR BRACING. CONTRACTOR MAY OBTAIN WAIVER FROM NVE CONSTRUCTION SUPERVISOR.

CABANA 1206
WINTERWOOD 1214
WINTERWOOD 1224

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

GENERAL NOTES:

ANY NOTES LOCATED IN DRAWING AREA TAKE PRECEDENCE OVER STANDARD NOTES.

ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE SPECIFICATIONS SET FORTH IN THE ELECTRIC SERVICE REQUIREMENTS HANDBOOK, AS CURRENTLY ADOPTED BY NVE. THE CONTRACTOR SHALL SECURE COPIES OF THE AFOREMENTIONED CONSTRUCTION SPECIFICATIONS ON HIS OR HER OWN BEHALF.

REFER TO A CURRENT NV ENERGY ELECTRIC SERVICE REQUIREMENTS HANDBOOK FOR FURTHER CLARIFICATION OF NVE STANDARDS.

THE APPLICANT SHALL INFORM THE INSPECTOR AT LEAST 48 HOURS BEFORE COMMENCING ANY ITEM OF CONSTRUCTION OR INSTALLATION OF MATERIAL TO ENABLE PROPER INSPECTION OF MATERIALS AND WORKMANSHIP. MAIN TRENCH WIRE PULLS TO BE SCHEDULED 72 HOURS IN ADVANCE OF INSTALLATION. APPLICANT'S PROJECT WILL NOT BE SCHEDULED UNTIL FINAL APPROVAL FROM NVE UNDERGROUND & ELECTRICAL INSPECTORS.

SYMBOLS ARE NOT TO SCALE AND DO NOT NECESSARILY REPRESENT ACTUAL LOCATIONS OF FACILITIES.

THIS DRAWING ILLUSTRATES DATA COLLECTED FROM VARIOUS SOURCES AND MAY NOT REPRESENT A SURVEY OF THE PREMISES.

APPLICANT SHALL FIELD DETERMINE POSITION AND DEPTH OF EXISTING UTILITY EQUIPMENT PRIOR TO COMMENCING CONSTRUCTION.

USE CAUTION PRIOR TO EXCAVATION. CHECK TO ENSURE ADDITIONAL DEPTH IS NOT REQUIRED TO ACCOMMODATE GAS AND/OR WATER FACILITIES AND DRAINAGE CHANNELS.

CALL NV ENERGY UNDERGROUND INSPECTORS 48 HOURS PRIOR TO START OF CONSTRUCTION FOR TRENCH INSPECTION BEFORE COVERING TRENCH.

ALL NVE CABLE TO BE INSTALLED BEHIND CURB, UNLESS OTHERWISE STATED.

APPLICANT IS RESPONSIBLE FOR STAKING OF PROPERTY CORNERS & ELEVATIONS.

ALL HANDHOLES AND PULLBOXES SHALL BE INSTALLED TO FINISHED GRADE OR 6" ABOVE IF GRADE IS NOT ESTABLISHED.

WHEN INSTALLING CONDUIT IN FIELD, USE APPROPRIATE BENDS TO COMPLETE THE INSTALLATION.

DEFLECTION OF CONDUIT BENDS AND CONDUIT NOT TO EXCEED NVE STANDARDS.

EXISTING CONDUIT INSTALLED BY PREVIOUS CONTRACTOR / DEVELOPER. NVE DOES NOT GUARANTEE LOCATION, LENGTH, OR ACCESSIBILITY OF STUB OUT. IF UTILIZING ANY PORTION OF EXISTING CONDUIT, IT MUST BE MANDRELLED PRIOR TO FINAL RELEASE.

PREVIOUSLY MANDRELLED CONDUIT WHICH HAS BEEN IN THE GROUND FOR OVER 6 MONTHS MUST BE RE-MANDRELLED PRIOR TO FINAL RELEASE.

NO COVERED PARKING IN FRONT OF EQUIPMENT.

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA", LATEST ISSUE; THE "UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION, CLARK COUNTY AREA NEVADA", LATEST ISSUE; AND OTHER APPLICABLE APPROVED STANDARDS ISSUED BY THE CONTROLLING AGENCY; ALL LOCAL CITY CODES AND ORDINANCES APPLICABLE.

NVE OVERHEAD SYMBOLS

EXIST.	NEW	
●	○	SOLE USE WOOD POLE
◔	⊘	JOINT USE WOOD POLE
■	□	SOLE USE STEEL POLE
◥	◹	JOINT USE STEEL POLE
◎	◎	GUY POLE.
→	→/	GUY
•	•'	TAP
S	S	SWITCH
F	F	FUSE
⊣⊢	⊣⊢	DOUBLE DEAD END
◂▸	◂▸	INSOLATOR
C	C	CAPACITOR BANK
R	R	REGULATOR
R	R	RECLOSER
FI	FI	FAULT INDICATOR
◀	◁	SINGLE PHASE TRANSFORMER
✸	☼	PAL LIGHT
— —	——	OH PRIMARY WIRE
— —	——	OH SECONDARY WIRE
— —	——	OH SERVICE WIRE

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE_____ DATE_____

* NVE INSPECTOR WILL VERIFY COUNTY PERMIT FOR WORK DONE WITHIN COUNTY RIGHT-OF-WAY

ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

FEEDER

T,R,S: 2162–10
APN:

EXIST.	NEW	NVE WORK AND SERVICES TO CONSIST OF:
▬ ▬	▬ ▬	1000 MCM TRIPLEX, 15 KV AL PRIMARY CABLE IN 6" PLASTIC CONDUIT.
▬ ▬	▬ ▬	1/0 TRIPLEX, 15 KV AL PRIMARY CABLE IN 4" PLASTIC CONDUIT (CONDUIT BY CONTRACTOR).
▬ ▬	▬ ▬	1/0, 15 KV AL PRIMARY CABLE IN 2" PLASTIC CONDUIT (CONDUIT BY CONTRACTOR).
▬▬	▬▬	INSTALL NEW CABLE IN EXISTING VACANT CONDUIT.
⌐	⌐	CONDUIT LOCATING DEVICE 18" ABOVE STUBOUT.
⇝	⇝	600 AMP THREE PHASE, 12.47 KV PRIMARY POLE RISER PER NVE U.G. STD. OEP–101.
SS	SS	SWITCHES (PMH–2, PMH–4, PMH–9, PMH–10, PMH–11, PMH–12).
C	C	1200KVAR CAPACITOR BANK PER NVE U.G. STD. UC–101.
		TERMINATION OF ALL MODULES, MAKES, SPLICES AND FINAL CONNECTIONS.
		PULLING OF CONDUCTOR IS CALCULATED DIRECTIONALLY. CREWS ARE TO ADHERE TO DIRECTION OF PULL WHERE APPLICABLE.
		NVE TO COIL PRIMARY CABLE IN MANHOLE FOR FUTURE SPLICES, WHERE APPLICABLE.

EXIST.	NEW	APPLICANT TO FURNISH AND INSTALL:
		ALL TRENCHING & BACKFILL, MEETING APPLICABLE NVE STANDARD (RT–5, RT–7, OR RT–12).
▬ ▬	▬ ▬	6" PLASTIC CONDUIT, PER NVE U.G. STD. RC–1 AND RC–2.
		6" RGS BENDS (90°, 45°) WITH 48" MIN. RADIUS, TAPED OR PVC COATED.
		AN APPROVED POLYSTER PULL TAPE OF 2500 LBS OF PULL STRENGTH FOR 6" CONDUIT SHALL BE INSTALLED IN EACH COMPLETE CONDUIT RUN.
▬ ▬	▬ ▬	4" PLASTIC CONDUIT, PER NVE U.G. STD. RC–1 AND RC–2.
		4" PLASTIC CONDUIT BENDS (90°, 45°) WITH 36" MIN. RADIUS. (IF CONDUIT LENGTH IS UNDER 100')
		4" RGS BENDS (90°, 45°) WITH 36" MINIMUM RADIUS, TAPED OR PVC COATED. (IF CONDUIT LENGTH IS OVER 100')
●	○	5' X 10'–6" X 7' MANHOLE, PER NVE U.G. STD. RS–94.
SS	SS	5' X 10'–6" X 7' MANHOLE FOR SWITCH, PER NVE U.G. STD. RS–98, RS–99, RS–100, OR RS–101.
PB	PB	3' X 7' X 4' PULLBOX PER NVE U.G. STD. RS–82.
		VEHICLE PROTECTIVE BARRIERS PER NVE U.G. STD. RS–6, WHERE APPLICABLE.
		COUPLING FOR 2", 4", OR 6" CONDUITS (AS APPLICABLE).

CUSTOMER/CONTRACTOR DISCLAIMER:

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL POTENTIAL CONFLICTS BASED ON ASBUILTS PROVIDED BY CUSTOMER. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF EXISTING UTILITIES.

GENERAL CONTRACTOR NOTE:

FOR ALL UTILITY CROSSINGS NOT SHOWN ON PROFILE VIEW REFER TO DETAIL "C" ON SHEET 27 OF 27

APPROVED FOR PERMITTING

THIS APPROVAL IS FOR WORK IN CC R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.

NIGHT WORK: YES ☐ NO ☐
ENCROACHMENT PERMIT # 12-48668

APPROVAL BY: _____ DATE 2/6/13

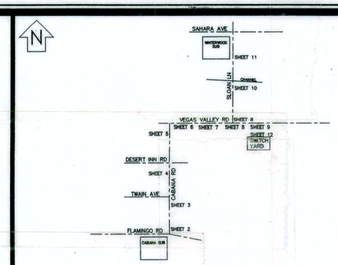
AS-BUILT

CLV PLAN# 311.57

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	——8"S——	– – 8"S – –
WATER LINE *	——8"W——	– – 8"W – –
GAS LINE *	——2"G——	– – 2"G – –
TELEPHONE LINE *	——TEL——	– – TEL – –
CABLE TV LINE *	——CATV——	– – CATV – –
STORM DRAIN LINE *	——12"SD——	– – 12"SD – –
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.



VICINITY MAP

(NOT TO SCALE)

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AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
CALL 1–702–402–2929

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1–800–227–2600
FOR CLARK COUNTY TRAFFIC OPERATIONS
1–702–455–7544

REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST. ADDITIONS/CORRECTIONS–DRAWINGS SERIES 500.385 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, SHEET 1	01/16/2013	

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

TYPE OF EASEMENT:		JPA NOTES:	
AERIAL	☐	EMBARQ CONTACT:	LEN BELLOWS
STANDARD	☐	PHONE NUMBER:	244–7290
R/W–31	☐	DATE OF CONTACT:	09/12/2012
UNDERGROUND	☐	NVE	TO SET NEW POLES
AS BUILT UNDERGROUND	☐	NVE	TO STAKE NEW POLES
R.O.E./R/W–5–COM	■	NVE	TO PROVIDE 1 POLES
3rd PARTY	☐	1 55	FT. CLASS 1
UNDERGROUND BY EXHIBIT	☐		FT. CLASS
(N–DOT) PERMIT	☐		FT. CLASS
(BLM) PERMIT	☐	NVE	TO DIG POLE HOLES
RAILROAD–UPRR–PERMIT	☐	NVE	TO REMOVE EX. POLES
SO. NEVADA WATER PERMIT	☐	MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY	
NOT REQUIRED	☐		
Misc. Info.	☐	JPA#:	P201211103

EXHIBIT 'A'

NVE INFORMATION:

COORDINATOR: PATRICIA BROWN
PHONE: 402–6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402–3008
STAND BY: 402–6788,402–6795,402–6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:

APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953–1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:

AGENCY: CLARK COUNTY
APPROVAL DATE:

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NPC METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS

NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599	SCALE: 1" = 50'
SHEET #: 1 OF 27	DATE: 01/02/2012

Sharing of this drawing and the information contained herein shall be only to individuals/parties who have entered into an agreement with Applicant for the completion of work associated with this specific project. Use for purposes other than this specific project requires the written consent of NV Energy.

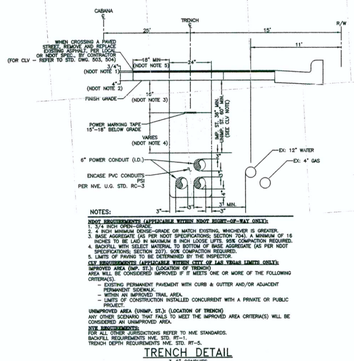
2–REVISION(S)

SEE MATCHLINE A
SHEET 3 OF 27

!!!! CAUTION !!!!
ENERGIZED CABLES...
CALL BEFORE YOU DIG

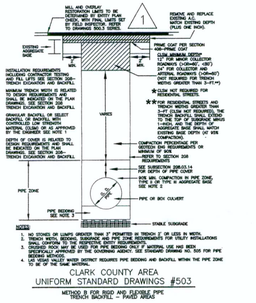
T,R,S: 2162-10
APN:

FLAMINGO RD
(PUBLIC)
CLARK COUNTY
CABANA RD
(PUBLIC)
EX: CHANNEL
CABANA SUB
PAXTON WAY
CARMINE ST
CENTER SECTION LINE
TO FT7596F
TO FC5929
TO MH2759
TO U11254
TO U10934
UGM-22
MH-7
UGM-19739
MH-1
MH-5
MH2367
MH2366
U-6437
U-6438
U-6439
U-6440
U-7940
U-7941
QA 1206
MMM39086
50
AØ
NNN02650
75
BØ
1214
1212
1211
1210
1209
1206
1205
1204
1202
1201
1/4
16
21
3' MIN. CLEARANCE
PRIMARY BORE PIT
IF WATER AND GAS LINES FALL WITHIN BORE PIT PROTECT IN PLACE
IN: 0019
(3)6" PLASTIC CONDUITS, BY CUST
(1)1000 MCM TRI IN 2 OF 3-6"C, BY NVE
CONCRETE ENCASED
EX: (2)6" PLASTIC CONDUITS (2)1000 MCM TRI IN 2 OF 2-6" C
EX: (3)6" PLASTIC CONDUITS (2)1000 MCM TRI IN 2 OF 3-6" C
FOUND 2" INCH BRASS CAP MARKED "PLS 7008" IN MONUMENT WELL PER FILE 178, PAGE 18 OF SURVEYS
RECEIVING BORE PIT
MOVE P1007091/55'/1
NEW POLE NUMBER
NO EQUIPMENT ON POLE
IN: P1007091/55'/1
6018 BSL3/ON-1
OG-101
OPT-102
OEJ-103
OEP-101
STAKE IN EXISTING ALIGNMENT
SEE BORE DETAIL "A"
SHEET 27 OF 27
PLAN AND PROFILE
SHEET 17 OF 27
FOR PLAN AND PROFILE ON CABANA RD SEE SHEETS 17 THRU 23



TRENCH DETAIL
3-4" CONDUITS

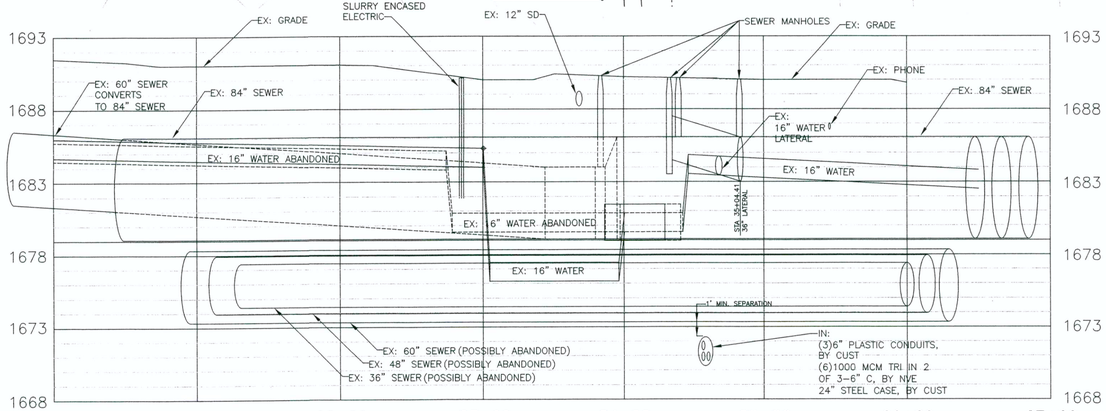
TRENCH DETAIL A-A



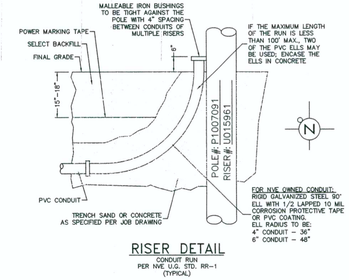
CLARK COUNTY AREA
UNIFORM STANDARD DRAWINGS #503
METHOD A FOR RIGID AND FLEXIBLE PIPE
TRENCH BACKFILL - PAVED AREAS

CLARK COUNTY NOTES:
BACKFILL SHALL CONFORM TO RTC STD 503. PAVEMENT REPAIR SHALL CONFORM TO RTC.
500.3 ①
500.4 ②
500.5 ③
△2

CLARK COUNTY NOTES:
BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.
502 ④
△2



VERTICAL 1"=5'
HORIZONTAL 1"=50'



RISER DETAIL
CONDUIT RUN
PER NVE U.G. STD. RR-1
(TYPICAL)

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*
DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY
HTE_____ DATE_____
* NVE INSPECTOR WILL VERIFY COUNTY PERMIT FOR WORK DONE WITHIN COUNTY RIGHT-OF-WAY
ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

APPROVED FOR PERMITTING
THIS APPROVAL IS FOR WORK IN CC R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.
NIGHT WORK: YES ☐ NO ☐
ENCROACHMENT PERMIT # 12-48868
APPROVAL BY: _____ DATE 2/11/13

AS-BUILT
CLV PLAN# 311.57

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	6"W	6"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

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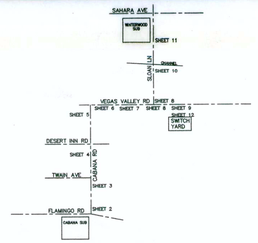

VICINITY MAP
(NOT TO SCALE)

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REVISIONS

NO.	DESCRIPTION	DATE	G.A.
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2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

TYPE OF EASEMENT:

AERIAL	☐
STANDARD	☐
R/W-31	☐
UNDERGROUND	☐
AS BUILT UNDERGROUND	☐
R.O.E./R/W-5-COM	■
3rd PARTY	☐
UNDERGROUND BY EXHIBIT	☐
(N-DOT) PERMIT	☐
(BLM) PERMIT	☐
RAILROAD-UPRR-PERMIT	☐
SO. NEVADA WATER PERMIT	☐
NOT REQUIRED	☐
Misc. Info.	☐

JPA NOTES:
EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:
COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE:

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NPC METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS

NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 2 OF 27 | DATE: 01/02/2012

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2-REVISION(S)

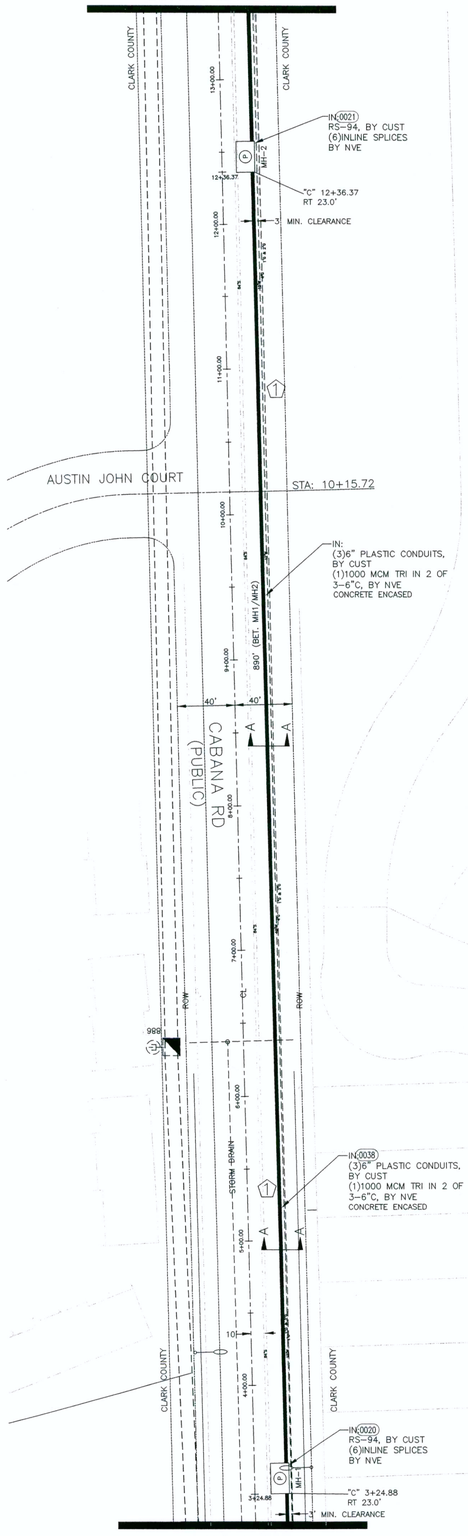
SEE MATCHLINE B
BOTTOM MIDDLE

SEE MATCHLINE C
BOTTOM RIGHT

SEE MATCHLINE D
SHEET 4 OF 27

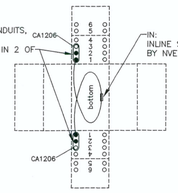
N

T,R,S: 2162-10
APN:



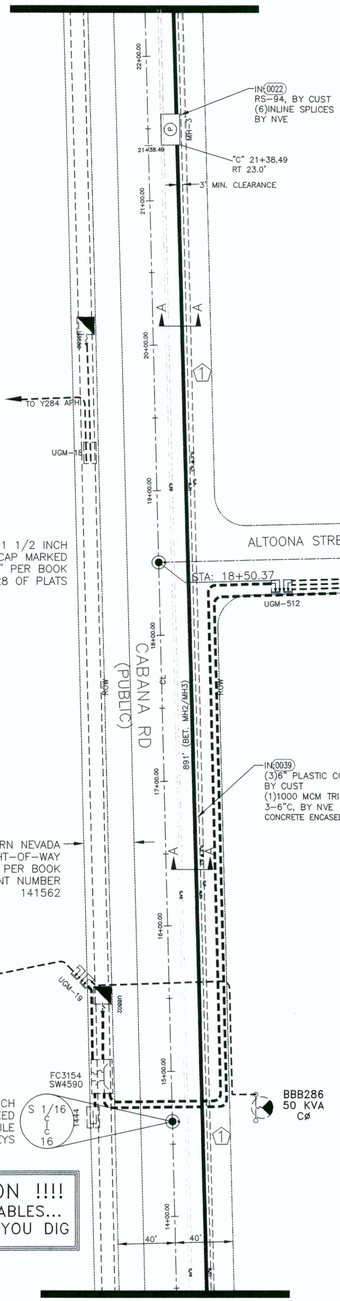
MATCHLINE A
SHEET 2 OF 27

IN:
(3)6" PLASTIC CONDUITS,
BY CUST
(1)1000 MCM TRI IN 2 OF
3-6"C, BY NVE

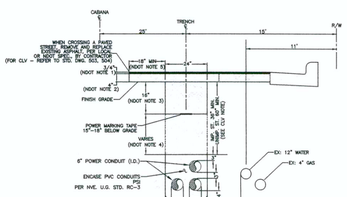


IN:
INLINE SPLICES,
BY NVE

MH-1 THRU MH-9

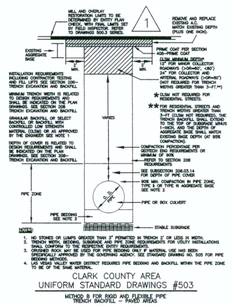


MATCHLINE B
TOP LEFT



TRENCH DETAIL
3-6" CONDUITS

TRENCH DETAIL A-A



CLARK COUNTY AREA
UNIFORM STANDARD DRAWINGS #503
METHOD B FOR RIGID AND FLEXIBLE PIPE
TRENCH BACKFILL - PAVED AREAS

CLARK COUNTY NOTES:

BACKFILL SHALL CONFORM TO RTC STD 503. PAVEMENT REPAIR SHALL CONFORM TO RTC.
500.3 (1)
500.4 (2)
500.5 (3)

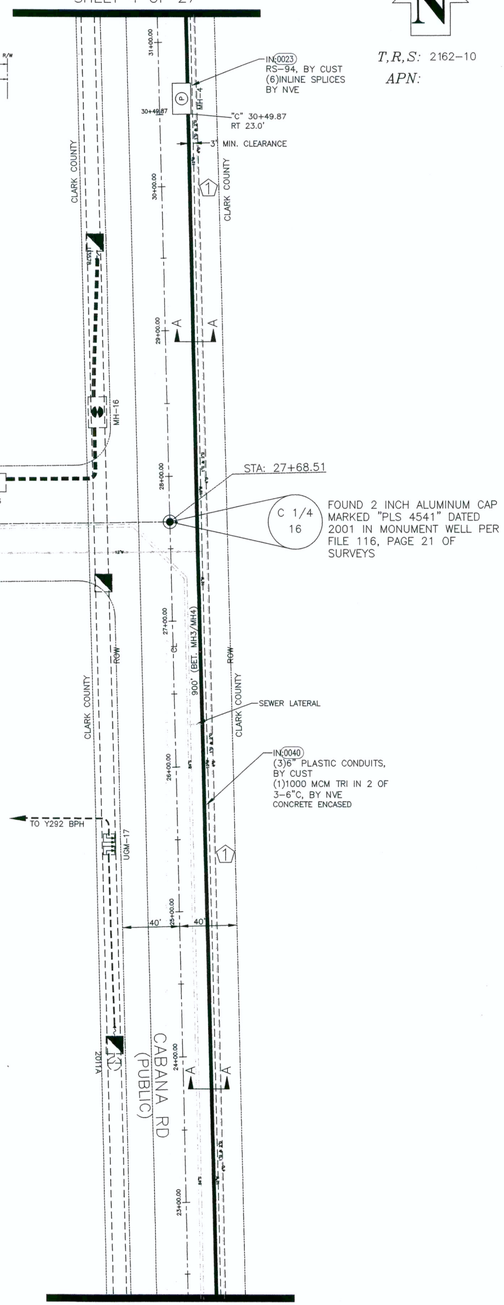
2

CLARK COUNTY NOTES:

BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.

502 (4)

2



MATCHLINE C
TOP MIDDLE

AS-BUILT
CLV PLAN# 311.57

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE_____ DATE_____

* NVE INSPECTOR WILL VERIFY COUNTY PERMIT FOR WORK DONE WITHIN COUNTY RIGHT-OF-WAY

ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

APPROVED FOR PERMITTING

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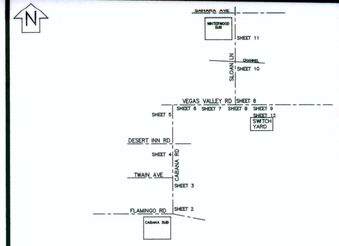
YES NO
NIGHT WORK: ☐ ☐
ENCROACHMENT PERMIT # 12-[illegible] & 8448

APPROVAL BY: _____ DATE 2/6/13

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE	SA	SA

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.



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OR
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REVISIONS

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2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, PER DT	01/16/2013	
	RECEIVED FEB 11 2013 McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:

- ☐ AERIAL
- ☐ STANDARD
- ☐ R/W-31
- ☐ UNDERGROUND
- ☐ AS BUILT UNDERGROUND
- ■ R.O.E./R/W-5-COM
- ☐ 3rd PARTY
- ☐ UNDERGROUND BY EXHIBIT
- ☐ (N-DOT) PERMIT
- ☐ (BLM) PERMIT
- ☐ RAILROAD-UPRR-PERMIT
- ☐ SO. NEVADA WATER PERMIT
- ☐ NOT REQUIRED
- ☐ Misc. Info.

JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:

COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:

APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:

AGENCY: CLARK COUNTY
APPROVAL DATE:

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599	SCALE: 1" = 50'
SHEET #: 3 OF 27	DATE: 01/02/2012

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2-REVISION(S)

SEE MATCHLINE E
BOTTOM MIDDLE

35' WIDE SOUTHERN NEVADA POWER COMPANY RIGHT-OF-WAY GRANT PARCEL 3, PER BOOK 173 INSTRUMENT NUMBER 141562

IN(0024) RS-94, BY CUST (6)INLINE SPLICES BY NVE

"C" 39+61.29 RT 23.0'

3' MIN. CLEARANCE

CLARK COUNTY

CABANA RD (PUBLIC)

ROW

40' 40'

900' (BET. MH14/MH5)

IN(0041) (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6"C, BY NVE CONCRETE ENCASED

MUIR WOODS PARKWAY

STA: 34+48.96

UGM-15

MATCHLINE D
SHEET 3 OF 27

CABANA

TRENCH

25' 15' R/W

11'

WHEN CROSSING A PAVED STREET, REMOVE AND REPLACE EXISTING ASPHALT PAVE SECTION OR AS DIRECTED BY CONTRACTOR (FOR CLV - REFER TO STD. DWG. SCL 504)

18" MIN. (NDOT NOTE 5)

3/4"

(NDOT NOTE 1)

24"

(NDOT NOTE 2)

10" (NDOT NOTE 3)

FINISH GRADE

POWER MARKING TAPE 15"-18" BELOW GRADE

VARIES (NDOT NOTE 4)

6" POWER CONDUIT (I.D.)

EXCASE PVC CONDUITS PER NVE, U.G. STD. RC-3

EX: 12" WATER

EX: 4" GAS

NOTES:

NDOT REQUIREMENTS (APPLICABLE WITHIN NDOT RIGHT-OF-WAY ONLY):
1. 3/4 INCH OPEN-GRADE
2. 4 INCH MINIMUM DENSE-GRADE OR MATCH EXISTING, WHICHEVER IS GREATER.
3. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER NDOT SPECIFICATIONS SECTION 307). MAXIMUM LIFTS 8 INCH LOOSE LIFTS WITH COMPACTION REQUIRED.
4. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER NDOT SPECIFICATIONS SECTION 307). MAXIMUM LIFTS 8 INCH LOOSE LIFTS WITH COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE CITY OR COUNTY ENGINEER.
6. TRENCH DEPTH REQUIREMENTS (APPLICABLE WITHIN NDOT RIGHT-OF-WAY LAS VEGAS LIMITS ONLY):
IMPROVED AREA (SMP. ST.): CLASSIFICATION OF TRENCHING
AREA WILL BE CONSIDERED IMPROVED IF IT MEETS ONE OR MORE OF THE FOLLOWING CRITERIA(S):
- EXISTING PERMANENT PAVEMENT WITH CURB & GUTTER AND/OR ADJACENT SIDEWALK WITHIN
- WITHIN AN IMPROVED TRAIL AREA.
- LIMITS OF CONSTRUCTION INSTALLED CONCURRENT WITH A PRIVATE OR PUBLIC IMPROVEMENT.

UNIMPROVED AREA (SMP. ST.): CLASSIFICATION OF TRENCHING
ANY OTHER SCENARIO THAT FAILS TO MEET THE IMPROVED AREA CRITERIA(S) WILL BE CONSIDERED AN UNIMPROVED AREA.

NVE REQUIREMENTS:
ALL REFERENCES AND DIRECTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE, STD. RT-1.
TRENCH DEPTH REQUIREMENTS NVE, STD. RT-5.

TRENCH DETAIL
3-6" CONDUITS

TRENCH DETAIL A-A

SEE MATCHLINE G
BOTTOM RIGHT

IN(0025) RS-94, BY CUST (6)INLINE SPLICES BY NVE

"C" 48+72.69 RT 23.0'

3' MIN. CLEARANCE

MH-5

48+72.69

48+00.00

47+00.00

46+00.00

45+00.00

UGM-9333

UGM-12

BIGHORN CANYON PARKWAY

STA: 47+23.74

12 UGM-13A

IN(0042) (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6"C, BY NVE CONCRETE ENCASED

CLARK COUNTY

UGM-13

CABANA RD (PUBLIC)

ROW

900' (BET. MH5/MH6)

CLARK COUNTY

A A

TO 2259 BPH

FOUND 1 1/2 INCH ALUMINUM CAP MARKED "ESI PLS 6902" PER BOOK 79, PAGE 88 OF PLATS

STA: 40+88.47

GOLDEN LEFT AVENUE

MATCHLINE E
TOP LEFT

!!!! CAUTION !!!!
ENERGIZED CABLES...
CALL BEFORE YOU DIG

IN: (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6" C, BY NVE

CA1206

IN: INLINE SPLICES, BY NVE

bottom

MH-1 THRU MH-9

SEE MATCHLINE H
SHEET 5 OF 27

IN(0026) RS-94, BY CUST (6)INLINE SPLICES BY NVE

"C" 57+84.12 RT 23.0'

3' MIN. CLEARANCE

MH-7

HHH28228
10 KVA
AØ

40' 40'

57+00.00

56+00.00

55+00.00

54+00.00

DESERT INN ROAD STA: 54+23.70

FOUND 2 INCH ALUMINUM CAP MARKED "PLS 4541" DATED 2001 IN MONUMENT WELL PER FILE 116, PAGE 21 OF SURVEYS

1/4 9 16

FC727
SW1348
SW1349
SW1350

U3873

IN(0043) (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6"C, BY NVE CONCRETE ENCASED

CABANA RD (PUBLIC)

ROW

900' (BET. MH6/MH7)

CLARK COUNTY

CLARK COUNTY

MATCHLINE G
TOP MIDDLE

MATCHLINE D
SHEET 3 OF 27

CLARK COUNTY NOTES:

BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.

502 4

2

CLARK COUNTY NOTES:

BACKFILL SHALL CONFORM TO RTC STD 503. PAVEMENT REPAIR SHALL CONFORM TO RTC.

500.3 1
500.4 2
500.5 3

2

CLARK COUNTY AREA
UNIFORM STANDARD DRAWINGS #503

METHOD A FOR RIGID AND FLEXIBLE PIPE TRENCH BACKFILL - PAVED AREAS

MILL AND OVERLAY REPLACEMENT LIMITS TO BE DETERMINED BY CITY OR COUNTY, WITH FINAL LIMITS SET BY ENGINEER IN THE FIELD TO ENSURE SMOOTH MATCH

1

REMOVE AND REPLACE EXISTING A.C. PAVEMENT TO MAINTAIN EXISTING DEPTH (PLUS OR MINUS)

PRIME COAT PER SECTION 706 OF NDOT SPECIFICATIONS

SLURRY SEAL PER SECTION 715 OF NDOT SPECIFICATIONS

CLSM APPROVED MIXTURE (IF FOR MINOR COLLECTION OF LOCAL STREETS ONLY) OR "CLSM" FOR COLLECTOR AND ARTERIAL ROADWAYS (>2000 ADT) AND/OR WHERE TRENCH WIDTH EXCEEDS THREE TIMES O.D. OF PIPE

CLSM NOT REQUIRED FOR RESIDENTIAL STREETS

FOR RESIDENTIAL STREETS AND WHERE TRENCH WIDTH EXCEEDS 3xO.D. CLSM NOT REQUIRED, THE TRENCH BACKFILL SHALL EXTEND FROM THE BOTTOM OF THE BASE (=UNDO. AND THE DEPTH OF AGGREGATE BASE SHALL MATCH ADJACENT UNDISTURBED DEPTH OF BASE COURSE)

INSTALLATION REQUIREMENTS INCLUDING CONTRACTOR TESTING OF PIPE ZONE AND TRENCH BACKFILL, TRENCH EXCAVATION AND BACKFILL

MINIMUM TRENCH WIDTH IS RELATED TO PIPE ZONE REQUIREMENTS SHOWN ON THIS DRAWING, SEE SECTION FOR TRENCH EXCAVATION AND BACKFILL

GRANULAR BACKFILL OR SELECT BACKFILL MATERIAL OR CONTROLLED LOW STRENGTH MATERIAL (CLSM) AS APPROVED BY THE ENGINEER, SEE SECTION

DEPTH OF COVER IS RELATED TO DESIGN REQUIREMENTS AND SHALL BE SHOWN ON PLANS OR DRAWING, SEE SECTION 104-

TRENCH EXCAVATION AND BACKFILL

VARIES

COMPACTION PERCENTAGE PER PROJECT SPECIFICATIONS OR MINIMUM OF 90%

REFER TO SECTION 208 FOR EXCAVATION

SEE SUBSECTION 208.01.14 FOR DEPTH OF PIPE COVER

PIPE ZONE

PIPE BEDDING SEE NOTE 1

SEE NOTE 3 - COMPACTION IN PIPE ZONE AND WITHIN 6" ALONGSIDE BASE

PIPE OR BOX CULVERT

STABLE SUBGRADE

NOTES:
1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 6' OR LESS IN WIDTH.
2. TRENCH WIDTH, BEDDING, BACKFILL AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE REGISTERED ENGINEER'S REQUIREMENTS AS SHOWN ON THE PLANS OR AS SET FORTH IN THE SPECIFICATIONS, OR AS SPECIFICALLY APPROVED BY THE GOVERNING AGENCY. SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
3. WHERE THE WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE_____ DATE_____

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NIGHT WORK: YES ☐ NO ☐

ENCROACHMENT PERMIT # 12-0861

APPROVAL BY: _____ DATE 12.6.12

AS-BUILT
CLV PLAN# 311.57

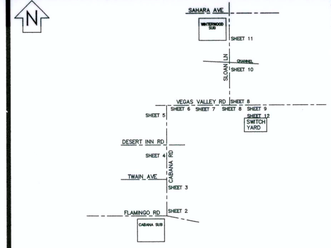
CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.

N

T,R,S: 2162-10
APN:



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	RECEIVED FEB 11 2013 McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:

AERIAL	☐
STANDARD	☐
R/W-31	☐
UNDERGROUND	☐
AS BUILT UNDERGROUND	☐
R.O.E./R/W-5-COM	■
3rd PARTY	☐
UNDERGROUND BY EXHIBIT	☐
(N-DOT) PERMIT	☐
(BLM) PERMIT	☐
RAILROAD-UPRR-PERMIT	☐
SO. NEVADA WATER PERMIT	☐
NOT REQUIRED	☐
Misc. Info.	☐

JPA NOTES:
EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE. REM: 3 POLES. ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:
COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
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CUSTOMER INFORMATION:
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ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 4 OF 27 | DATE: 01/02/2012

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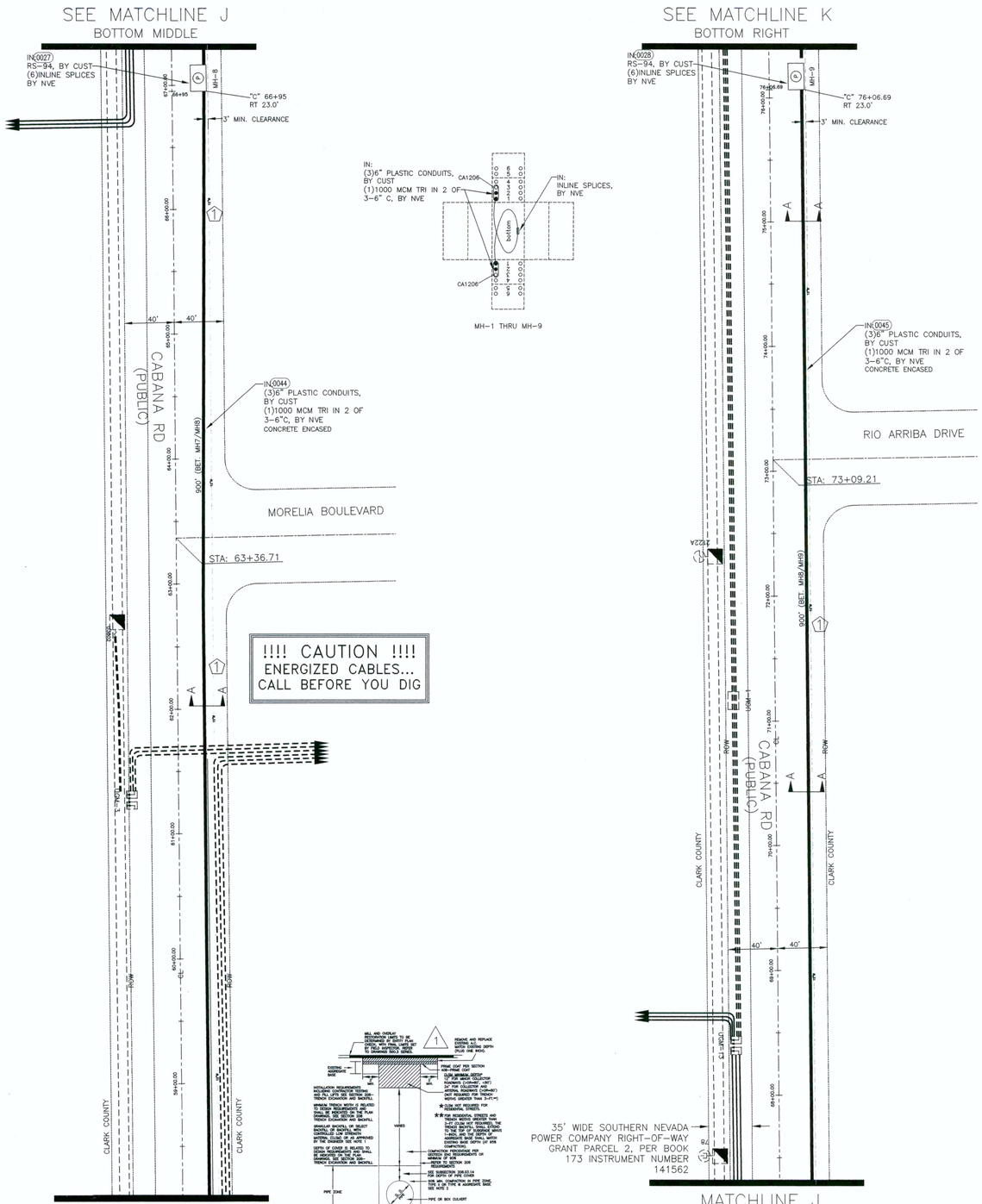

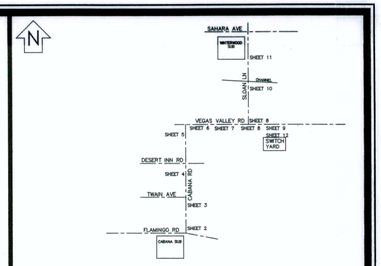

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ENGINEER: CH2MHILL
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VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 5 OF 27 | DATE: 01/02/2012

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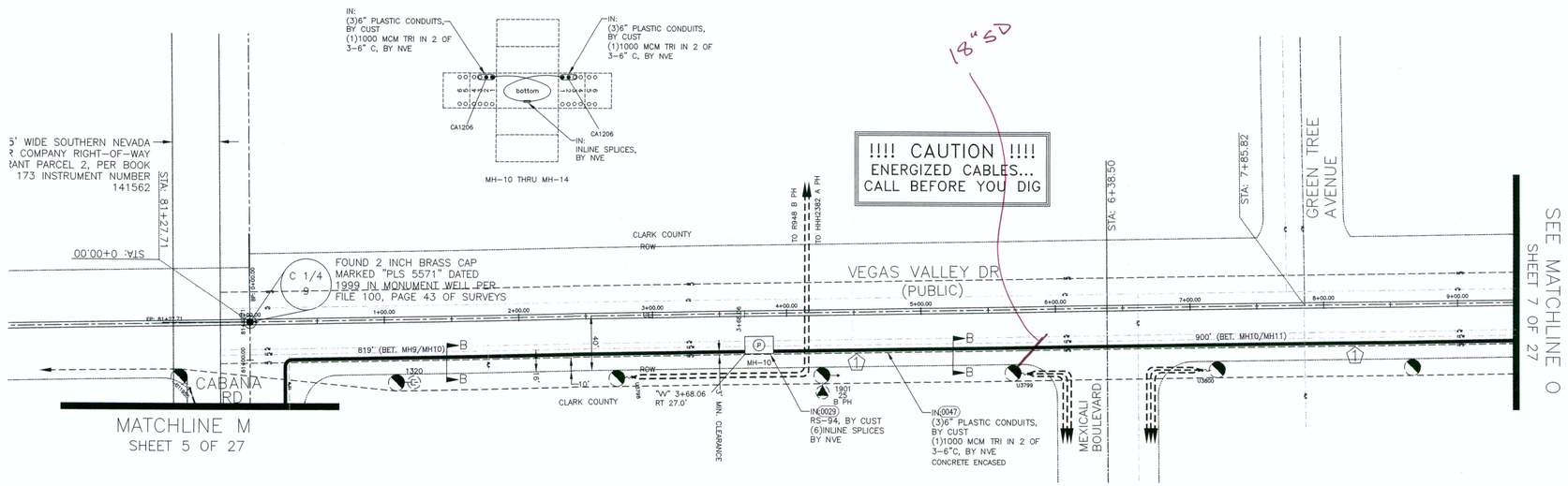
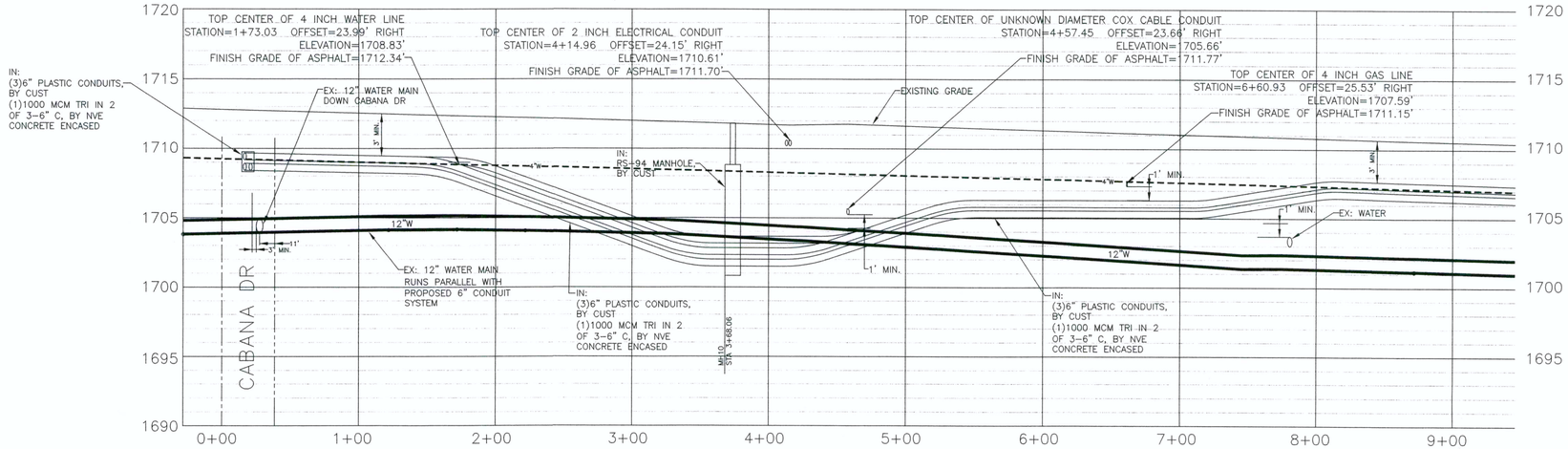
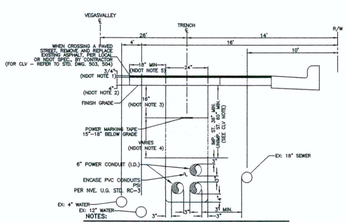
2-REVISION(S)



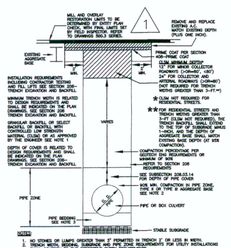


NO SURVEY INFORMATION ON EXISTING 18" SEWER LINE

VERTICAL 1"=5'
HORIZONTAL 1"=50'



TRENCH DETAIL B-B



CLARK COUNTY NOTES:

BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.

502 ④

2

CLARK COUNTY NOTES:

BACKFILL SHALL CONFORM TO RTC STD 503. PAVEMENT REPAIR SHALL CONFORM TO RTC.

500.3 ①
500.4 ②
500.5 ③

2

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLARK COUNTY PUBLIC WORKS PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE_____ DATE_____

* NVE INSPECTOR WILL VERIFY COUNTY PERMIT FOR WORK DONE WITHIN COUNTY RIGHT-OF-WAY

ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

APPROVED FOR PERMITTING

THIS APPROVAL IS FOR WORK IN CC R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.

YES ☐ NO ☐

NIGHT WORK:

ENCROACHMENT PERMIT # 12-08668

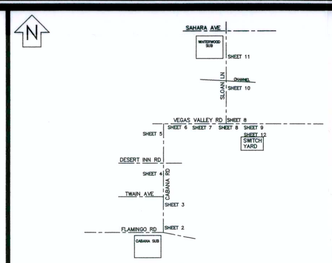
APPROVAL BY: _____ DATE 2/6/13

AS-BUILT
CLV PLAN# 311.57

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.



VICINITY MAP
(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.





REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST, ADDITIONS/CORRECTIONS-DRAWINGS SERIES 500.385 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	
	RECEIVED FEB 11 2013 McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:

AERIAL	☐
STANDARD	☐
R/W-31	☐
UNDERGROUND	☐
AS BUILT UNDERGROUND	☐
R.O.E./R/W-5-COM	■
3rd PARTY	☐
UNDERGROUND BY EXHIBIT	☐
(N-DOT) PERMIT	☐
(BLM) PERMIT	☐
RAILROAD-UPRR-PERMIT	☐
SO. NEVADA WATER PERMIT	☐
NOT REQUIRED	☐
Misc. Info.	☐

JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
___ ___ FT. CLASS ___
___ ___ FT. CLASS ___
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:

COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA: _____
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:

APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:

AGENCY: CLARK COUNTY
APPROVAL DATE: _____

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NPC METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS

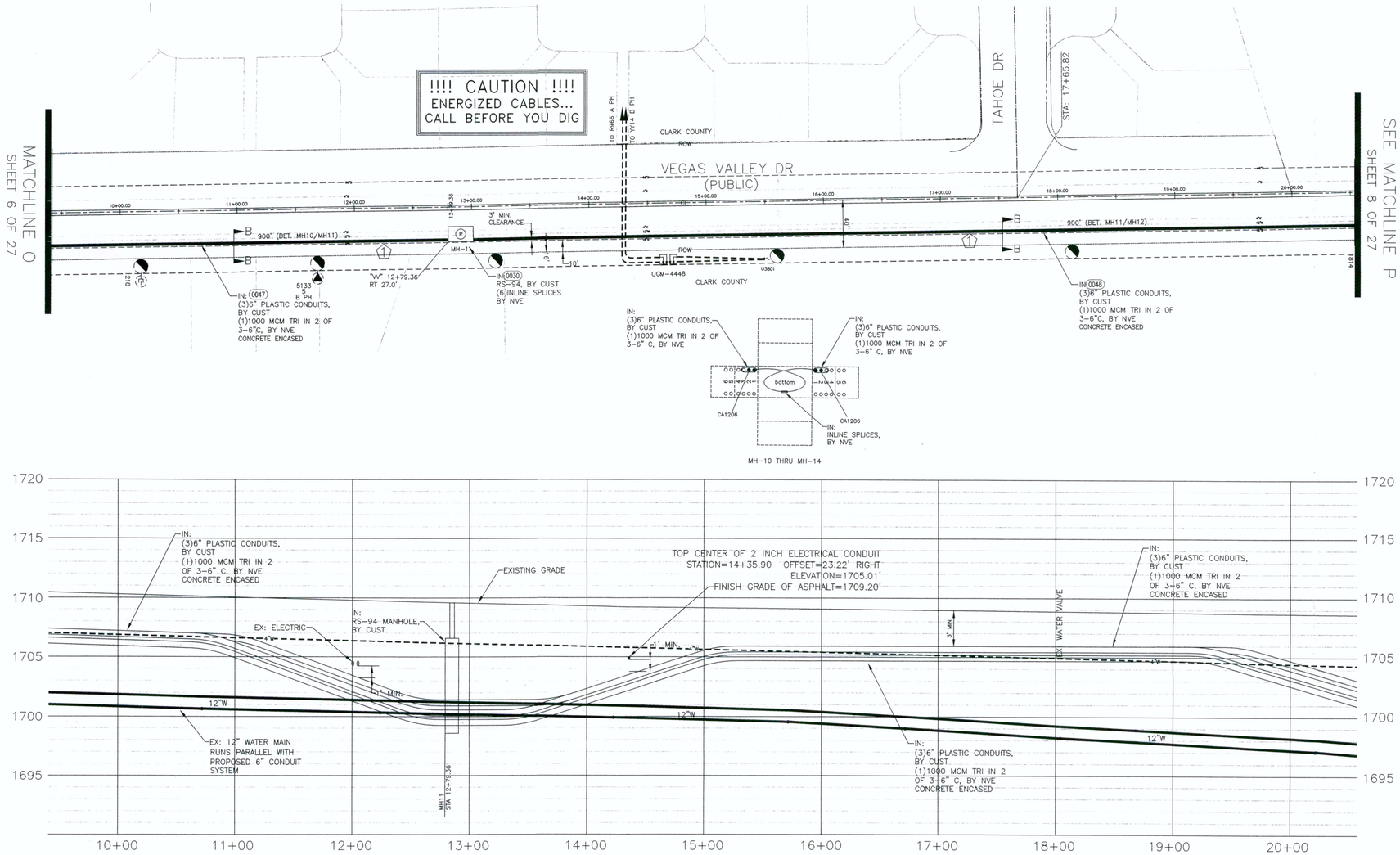
NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 6 OF 27 | DATE: 01/02/2012

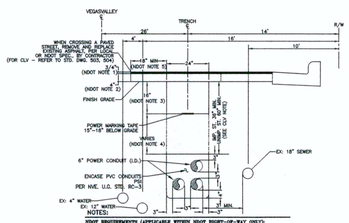
Sharing of this drawing and the information contained herein shall be only to individuals/parties who have entered into an agreement with Applicant for the completion of work associated with this specific project. Use for purposes other than this specific project requires the written consent of NV Energy.

2-REVISION(S)

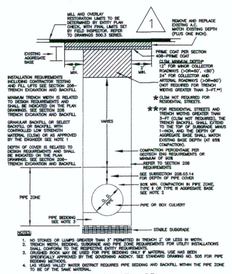


NO SURVEY INFORMATION ON EXISTING 18" SEWER LINE

VERTICAL 1"=5'
HORIZONTAL 1"=50'



TRENCH DETAIL
TRENCH DETAIL B–B



CLARK COUNTY AREA
UNIFORM STANDARD DRAWINGS #503

METHOD B FOR RIGID AND FLEXIBLE PIPE
TRENCH BACKFILL – PAVED AREAS

CLARK COUNTY NOTES:

BACKFILL SHALL CONFORM TO RTC STD 503. PAVEMENT REPAIR SHALL CONFORM TO RTC.

500.3 ①
500.4 ②
500.5 ③

2

CLARK COUNTY NOTES:

BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.

502 ④

2

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE_____ DATE_____

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ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

APPROVED FOR PERMITTING

THIS APPROVAL IS FOR WORK IN CC R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.

	YES	NO
NIGHT WORK:	☐	☐

ENCROACHMENT PERMIT # 12-48628

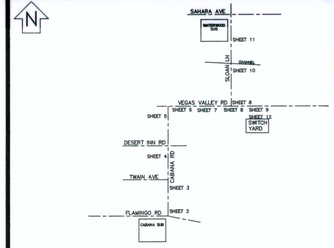
APPROVAL BY: _____ DATE 2/11/13

AS-BUILT
CLV PLAN# 311.57

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE	— — — —	— — — —
PROPERTY LINE/ROW	— — — —	— — — —
CURB	— — — —	— — — —
EDGE OF PAVEMENT	\\\ \\\	\\\ \\\
EDGE OF SIDEWALK	— — — —	— — — —
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

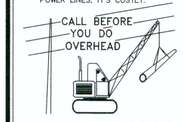
* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.



VICINITY MAP
(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.



CALL 1-702-402-2929

Call before you Dig
Avoid cutting underground utility lines. It's costly.

Call 811

OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST, ADDITIONS/CORRECTIONS–DRAWINGS SERIES 500.3&5 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

TYPE OF EASEMENT:		JPA NOTES:
AERIAL	☐	EMBARQ CONTACT: LEN BELLOWS
STANDARD	☐	PHONE NUMBER: 244-7290
R/W-31	☐	DATE OF CONTACT: 09/12/2012
UNDERGROUND	☐	NVE TO SET NEW POLES
AS BUILT UNDERGROUND	☐	NVE TO STAKE NEW POLES
R.O.E./R/W-5-COM	■	NVE TO PROVIDE 1 POLES
3rd PARTY	☐	1 55 FT. CLASS 1
UNDERGROUND BY EXHIBIT	☐	FT. CLASS
(N-DOT) PERMIT	☐	FT. CLASS
(BLM) PERMIT	☐	NVE TO DIG POLE HOLES
RAILROAD-UPRR-PERMIT	☐	NVE TO REMOVE EX. POLES
SO. NEVADA WATER PERMIT	☐	MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
NOT REQUIRED	☐	JPA#: P201211103
Misc. Info.	☐	

EXHIBIT 'A'

NVE INFORMATION:
COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE:

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599	SCALE: 1" = 50'
SHEET #: 7 OF 27	DATE: 01/02/2012

T,R,S: 2162–10
APN:

Sharing of this drawing and the information contained herein shall be only to individuals/parties who have entered into an agreement with Applicant for the completion of work associated with this specific project. Use for purposes other than this specific project requires the written consent of NV Energy.

2–REVISION(S)

Request for Information with Comments

Project RFI #: 0056-0
Date Created: 08/09/2013
Priority: High

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 08/23/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Conflict between existing sewer lines and both Hill Pince & Winterwood circuits on Vegas Valley Dr.
Discipline: NVE Drawings
Category:
Reason: Field Condition

Initiated By: Sequoia Electric - Eddie Lytle
Ref RFI: 002

Attachments

Type	Name	Description	Content
File	Conflict between existing sewer lines and Both Hill Pince & Winterwood circuits on Vegas Valley Dr.	Conflict between existing sewer lines and Both Hill Pince & Winterwood circuits on Vegas Valley Dr.	Conflict_between_existing_sewer_lines_and_Both_Hill_Pince_&_Winterwood_circuits_on_Vegas_Valley_Dr_08092013_0000.pdf

Question
NV Energy plan sheet 8 of 27 indicates that the Hill Prince and Winterwood circuits be installed above two existing sewer lines once they are installed on Vegas Valley Drive. After potholing activities, it was discovered that the two existing sewer lines are actually 15' farther to the east than shown on the drawings. The actual location is now in conflict with the new duct bank. (See Attached drawings). After discussion with NV Energy, Sequoia purposes to install the new duct bank on top of the existing sewer lines to avoid tunneling of the existing lines. Please advise if this is acceptable?

Suggestion
After discussion with NV Energy, Sequoia purposes to install the new duct bank on top of the existing sewer lines to avoid tunneling of the existing lines.

Answer **Date Answered: 08/22/2013**
Please proceed with the solution that has been suggested by NVE. Note any changes on the as-built drawings.

Comments
Please proceed the solution that has been suggested by NVE (above). As always, please note any changes on the as-built drawings. Aaron Hall 8/15/13 13:11

Architect/Engineer Signature
By:_____ Date:_____
Consultant:

Request for Information with Comments

Project RFI #: 0061-0
Date Created: 09/09/2013
Priority: Critical

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 09/23/2013

Submitted To
Carollo Engineers
Carollo Team
376 E. Warm Springs Road, Suite 250
Las Vegas, NV 89119

Submitted By
McCarthy Building Companies, Inc.
Nick Partin
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Subject: Unforeseen concrete encasement on Vegas Valley Dr. in conflict with NV Energy duct banks.
Discipline: Electrical
Category:
Reason: Unforeseen Condition

Initiated By: Sequoia Electric - Eddie Lytle
Ref RFI: 002

Attachments

Type	Name	Description	Content
File	Location of unforeseen concrete encasement	NV Energy plan sheet 8 of 27 showing location of unforeseen concrete encasement	NV_Energy_Plan_SHeet_8_of_27.pdf

Question
While trenching NV Energy duct bank between Off-Site Manhole 17 & Manhole 16 an existing concrete encasement was discovered on Vegas Valley Drive (See Attached). The existing concrete encasement is approximately 20 feet wide and 11 feet deep from top of asphalt. The top of the existing concrete encasement is approximately 1 1/2 feet from top of asphalt. This existing concrete encasement is not shown on the contract drawings and is in conflict with the Hill Prince & Winterwood NV Energy circuits.

Suggestion
Solution 1 would be to install the duct bank on top of the concrete encasement. This would require the approval from both Clark County Department of Public Works & NV Energy and installed per their requirements.

Solution 2 would be to bore in 2 - 24-Inch casings under the concrete encasement. This method would be per the details on the NV Energy contract drawings.

Answer **Date Answered: 09/17/2013**
This RFI was supposed to have been revised to incorporate the direction and details provided by NVE. NVE will allow the conduit to be spread out and go over the top concrete encased sewer pipe. However, NVE has some very specific requirements for protecting the conduit when there is less than 3-feet of cover. This includes encasement with 3000 psi concrete and placement of plate or pipes over top of encasement. Please revise this RFI to provide details, including drawings of the NVE approved solution.

Comments
This RFI was supposed to have been revised to incorporate the direction and details provided by NVE. NVE will allow the conduit to be spread out and go over the top concrete encased sewer pipe. However, NVE has some very specific requirements for protecting the conduit when there is less than 3-feet of cover. This includes encasement with 3000 psi concrete and placement of plate or pipes over top of encasement. Please revise this RFI to provide details, including drawings of the NVE approved solution. Bruce Johnson 9/16/13 18:19

Architect/Engineer Signature
By:_____ Date:_____

CLV PLAN# 311.57

SEE MATCHLINE S
SHEET 10 OF 27

MATCHLINE P
SHEET 7 OF 27

SEE MATCHLINE R
SHEET 9 OF 27

IN: (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6" C, BY NVE

IN: (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6" C, BY NVE

bottom

CA1206

CA1206

IN: INLINE SPLICES, BY NVE

MH-10 THRU MH-14

IN: (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6"C, BY CUST CONCRETE ENCASED

STA: 23+73.56

CANONERO ST

CLARK COUNTY ROW

TYPECAST RD

IN: (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6"C, BY NVE CONCRETE ENCASED

TO NNN09545 'B PH'

WW1216 (GM-18065)

CLARK COUNTY ROW

UNDEVELOPED

SLOAN LN (PUBLIC)

CLARK COUNTY ROW

09/17/13 RFI #061
72" INF LINE HAS A 20'x11' DEEP ENCASEMENT.

IN: INLINE SPLICES, BY NVE

WW1214 WW1224

WW1224 WW1214

bottom

MH-16

IN: (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6"C, BY NVE

IN: (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6"C, BY NVE CONCRETE ENCASED

"W" 55+33.07 LT 32.0'

IN: 0034 RS-94, BY CUST (12)INLINE SPLICES BY NVE

UGM-3979

0058

0057

"W" 21+90.66 RT 27.0'

MH-12

IN: 0031 RS-94, BY CUST (6)INLINE SPLICES BY NVE

HHH24602 'B PH'

IN: 0049 (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6"C, BY NVE CONCRETE ENCASED

891' (BET. MH12/MH13)

554' (BET. MH16/POLE)

STEPHANIE ST

VEGAS VALLEY DR (PUBLIC)

"W" 31+02.35 RT 34.0'

IN: 0032 RS-94, BY CUST (6)INLINE SPLICES BY NVE

MH-13

FOUND 2 INCH BRASS CAP MARKED "PLS 5571" DATED 1999 IN MONUMENT WELL PER FILE 100, PAGE 43 OF SURVEYS

MH-3354

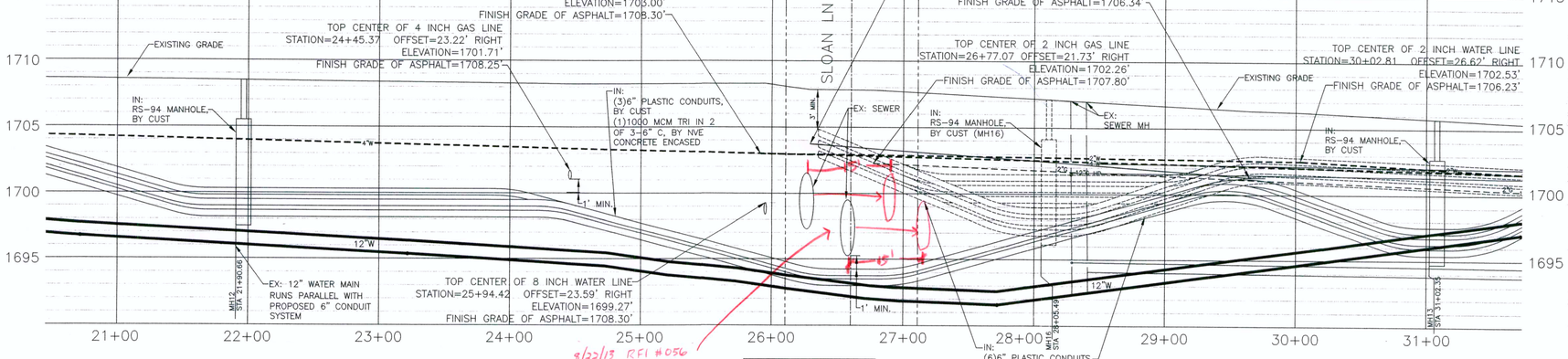
TO MH3353

WW1214

CONTRACTOR:

IDENTIFY EXISTING UTILIITES ALONG SLOAN LN BETWEEN VEGAS VALLEY DR AND CHANNEL FOR POSSIBLE CONFLICTS, THIS SECTION HAS NOT BEEN POTHOLED.

!!!! CAUTION !!!!
ENERGIZED CABLES...
CALL BEFORE YOU DIG

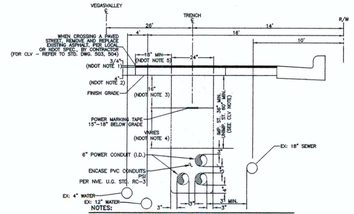


8/22/13 RFI #056
INSTALL OUTBANK ON TOP OF THE EXISTING SEWER LINES.

NO SURVEY INFORMATION ON EXISTING 18" SEWER LINE

VERTICAL 1"=5'
HORIZONTAL 1"=50'

FOR PLAN AND PROFILE ON SLOAN LN SEE SHEETS 24 THRU 26



NOTES:

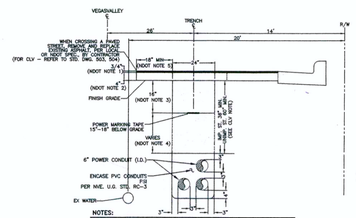
SHORT REQUIREMENTS (APPLICABLE WITHIN SHORT RIGHT-OF-WAY ONLY):
1. 3/4 INCH OPEN-GRADE
2. 4 INCH MINIMUM DENSE-GRADE OR MATCH EXISTING, WHICHEVER IS GREATER.
3. BASE AGGREGATE (AS PER MOST SPECIFICATIONS, SECTION 704), A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS. 95% COMPACTION REQUIRED.
4. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER MOST SPECIFICATIONS, SECTION 307). 90% COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE INSPECTION.

CLV REQUIREMENTS (APPLICABLE WITHIN CITY OF LAS VEGAS LIMITS ONLY):
IMPROVED AREA (IMP. ST.): (LOCATION OF TRENCH)
AREA WILL BE CONSIDERED IMPROVED IF IT MEETS ONE OR MORE OF THE FOLLOWING CRITERIA(S):
– EXISTING PERMANENT PAVEMENT WITH CURB & GUTTER AND/OR ADJACENT PERMANENT SIDEWALK
– WITHIN AN IMPROVED TRAIL AREA.
– LIMITS OF CONSTRUCTION INSTALLED CONCURRENT WITH A PRIVATE OR PUBLIC PROJECT
UNIMPROVED AREA (UNIMP. ST.): (LOCATION OF TRENCH)
ANY OTHER SCENARIO THAT FAILS TO MEET THE IMPROVED AREA CRITERIA(S) WILL BE CONSIDERED AN UNIMPROVED AREA.

NVE REQUIREMENTS:
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE, STD. RT–5.
TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

TRENCH DETAIL
3–4" CONDUITS

TRENCH DETAIL B–B



NOTES:

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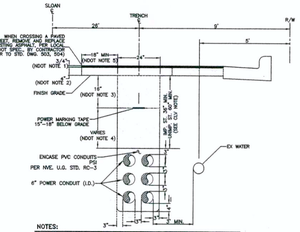
3. BASE AGGREGATE (AS PER MOST SPECIFICATIONS, SECTION 704), A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS. 95% COMPACTION REQUIRED.
4. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER MOST SPECIFICATIONS, SECTION 307). 90% COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE INSPECTION.

CLV REQUIREMENTS (APPLICABLE WITHIN CITY OF LAS VEGAS LIMITS ONLY):
IMPROVED AREA (IMP. ST.): (LOCATION OF TRENCH)
AREA WILL BE CONSIDERED IMPROVED IF IT MEETS ONE OR MORE OF THE FOLLOWING CRITERIA(S):
– EXISTING PERMANENT PAVEMENT WITH CURB & GUTTER AND/OR ADJACENT PERMANENT SIDEWALK
– WITHIN AN IMPROVED TRAIL AREA.
– LIMITS OF CONSTRUCTION INSTALLED CONCURRENT WITH A PRIVATE OR PUBLIC PROJECT
UNIMPROVED AREA (UNIMP. ST.): (LOCATION OF TRENCH)
ANY OTHER SCENARIO THAT FAILS TO MEET THE IMPROVED AREA CRITERIA(S) WILL BE CONSIDERED AN UNIMPROVED AREA.

NVE REQUIREMENTS:
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE, STD. RT–5.
TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

TRENCH DETAIL
5–6" CONDUITS

TRENCH DETAIL K–K



NOTES:

SHORT REQUIREMENTS (APPLICABLE WITHIN SHORT RIGHT-OF-WAY ONLY):
1. 3/4 INCH OPEN-GRADE
2. 4 INCH MINIMUM DENSE-GRADE OR MATCH EXISTING, WHICHEVER IS GREATER.
3. BASE AGGREGATE (AS PER MOST SPECIFICATIONS, SECTION 704), A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS. 95% COMPACTION REQUIRED.
4. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER MOST SPECIFICATIONS, SECTION 307). 90% COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE INSPECTION.

CLV REQUIREMENTS (APPLICABLE WITHIN CITY OF LAS VEGAS LIMITS ONLY):
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– WITHIN AN IMPROVED TRAIL AREA.
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UNIMPROVED AREA (UNIMP. ST.): (LOCATION OF TRENCH)
ANY OTHER SCENARIO THAT FAILS TO MEET THE IMPROVED AREA CRITERIA(S) WILL BE CONSIDERED AN UNIMPROVED AREA.

NVE REQUIREMENTS:
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE, STD. RT–5.
TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

TRENCH DETAIL
6–8" CONDUITS

TRENCH DETAIL D–D

CLARK COUNTY PUBLIC WORKS PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE_____ DATE_____

* NVE INSPECTOR WILL VERIFY COUNTY PERMIT FOR WORK DONE WITHIN COUNTY RIGHT-OF-WAY

ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

APPROVED FOR PERMITTING

THIS APPROVAL IS FOR WORK IN CC R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.

NIGHT WORK: YES ☐ NO ☐

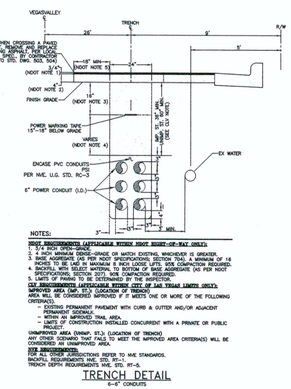
ENCROACHMENT PERMIT # 12-486068

APPROVAL BY: _____ DATE 2/6/13

N

T,R,S: 2162-10

APN:



NOTES:

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UNIMPROVED AREA (UNIMP. ST.): (LOCATION OF TRENCH)
ANY OTHER SCENARIO THAT FAILS TO MEET THE IMPROVED AREA CRITERIA(S) WILL BE CONSIDERED AN UNIMPROVED AREA.

NVE REQUIREMENTS:
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE, STD. RT–5.
TRENCH DEPTH REQUIREMENTS NVE, STD. RT–5.

TRENCH DETAIL
1–4" CONDUITS

TRENCH DETAIL C–C

CLARK COUNTY NOTES:

BACKFILL SHALL CONFORM TO RTC STD 503. PAVEMENT REPAIR SHALL CONFORM TO RTC.
500.3 ①
500.4 ②
500.5

2

CLARK COUNTY NOTES:

BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.
502 ④

2

CABANA 1206

WINTERWOOD 1214

WINTERWOOD 1224

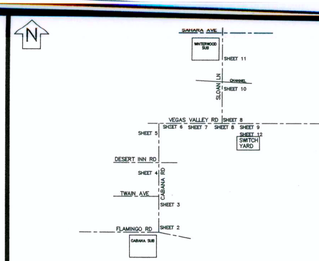
PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLV PLAN# 311.57
AS-BUILT

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.



VICINITY MAP
(NOT TO SCALE)

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AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.



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Call 811
OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST, ADDITIONS/CORRECTIONS–DRAWINGS SERIES 500.365 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	
	RECEIVED FEB 11 2013 McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:

- ☐ AERIAL
- ☐ STANDARD
- ☐ R/W-31
- ☐ UNDERGROUND
- ☐ AS BUILT UNDERGROUND
- ■ R.O.E./R/W-5-COM
- ☐ 3rd PARTY UNDERGROUND BY EXHIBIT
- ☐ (N-DOT) PERMIT
- ☐ (BLM) PERMIT
- ☐ RAILROAD-UPRR-PERMIT
- ☐ SO. NEVADA WATER PERMIT
- ☐ NOT REQUIRED
- ☐ Misc. Info.

JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:

COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:

APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:

AGENCY: CLARK COUNTY
APPROVAL DATE:

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 8 OF 27 | DATE: 01/02/2012

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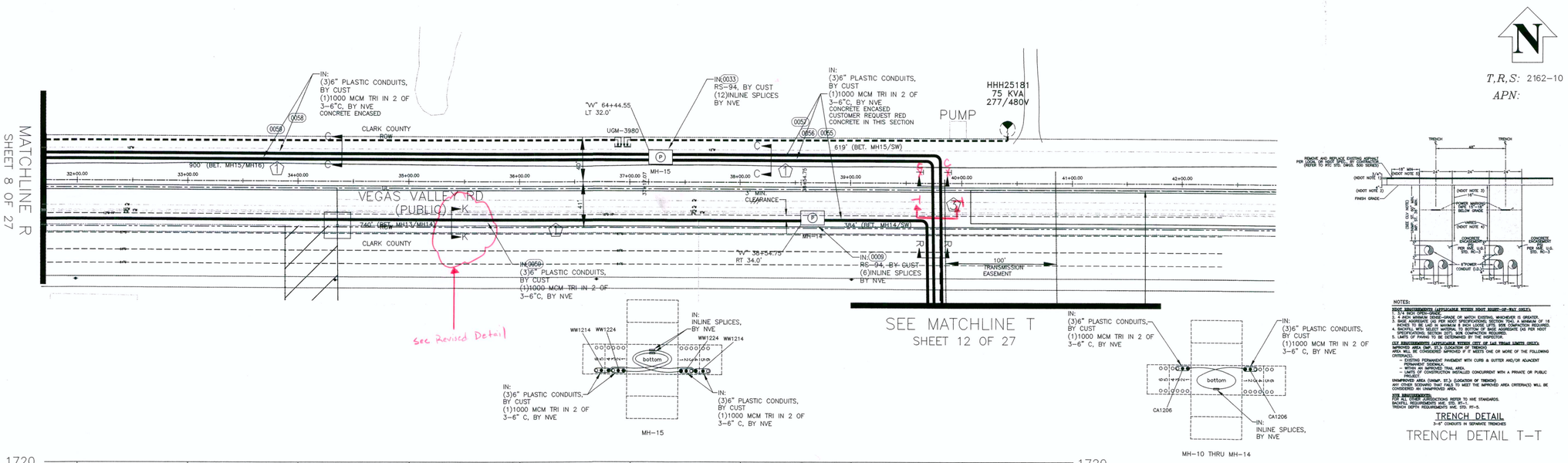

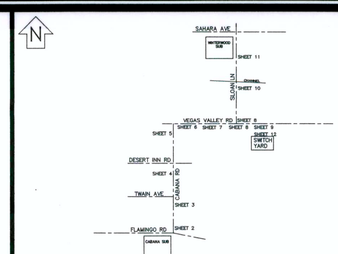

VICINITY MAP
(NOT TO SCALE)

T,R,S: 2162-10

APN:

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REVISIONS

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2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	
	RECEIVED FEB 11 2013 McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:
- AERIAL ☐
- STANDARD ☐
- R/W-31 ☐
- UNDERGROUND ☐
- AS BUILT UNDERGROUND ☐
- R.O.E./R/W-5-COM ■
- 3rd PARTY ☐
- UNDERGROUND BY EXHIBIT ☐
- (N-DOT) PERMIT ☐
- (BLM) PERMIT ☐
- RAILROAD-UPRR-PERMIT ☐
- SO. NEVADA WATER PERMIT ☐
- NOT REQUIRED ☐
- Misc. Info. ☐

JPA NOTES:
EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:
COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE:

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN
CLV PLAN# 311.57

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 9 OF 27 | DATE: 01/02/2012

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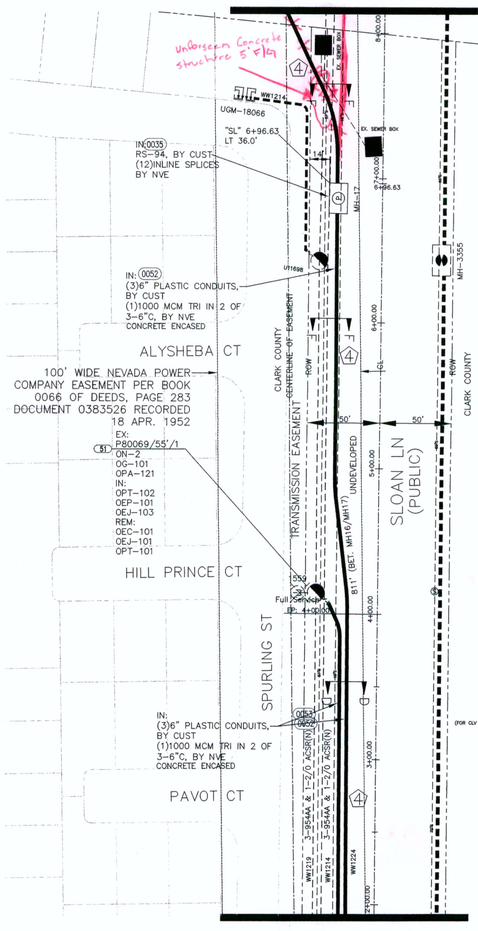
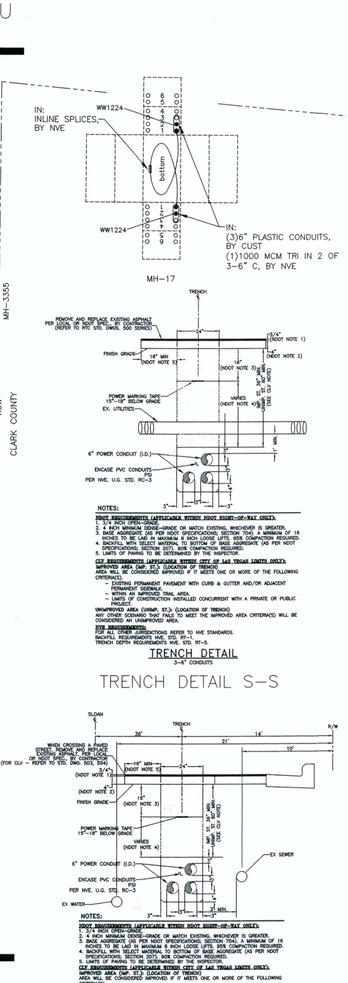
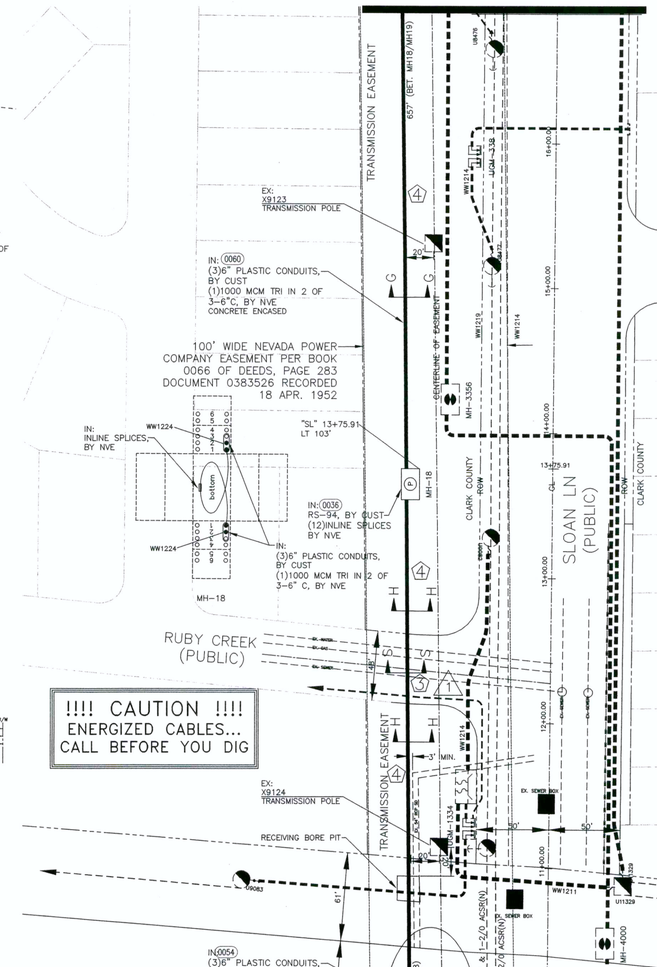
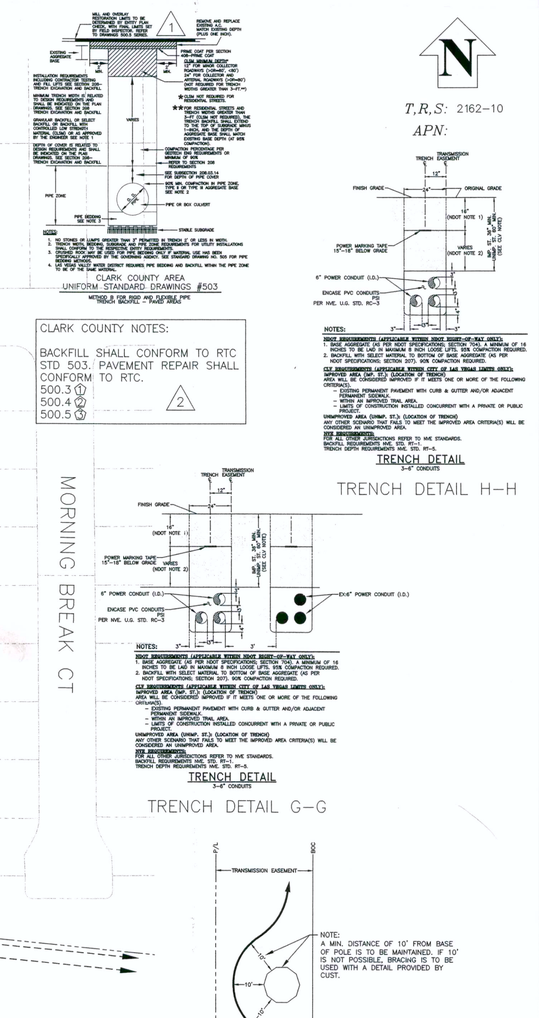
2-REVISION(S)









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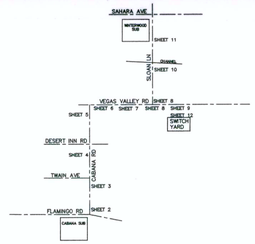
T,R,S: 2162-10

APN:



VICINITY MAP
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REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST, ADDITIONS/CORRECTIONS-DRAWINGS SERIES 500.3&5 PER CLARK COUNTY; ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN. BY DT	01/16/2013	

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

TYPE OF EASEMENT:	
AERIAL	☐
STANDARD	☐
R/W-31	☐
UNDERGROUND	☐
AS BUILT UNDERGROUND	☐
R.O.E./R/W-5-COM	■
3rd PARTY	☐
UNDERGROUND BY EXHIBIT	☐
(N-DOT) PERMIT	☐
(BLM) PERMIT	☐
RAILROAD-UPRR-PERMIT	☐
SO. NEVADA WATER PERMIT	☐
NOT REQUIRED	☐
Misc. Info.	☐

JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
___ FT. CLASS ___
___ FT. CLASS ___
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:

COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:

APPLICANT: CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:

AGENCY: CLARK COUNTY
APPROVAL DATE:

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 10 OF 27 | DATE: 01/02/2012

CONTRACTOR:

IDENTIFY EXISTING UTILIITES ALONG SLOAN LN BETWEEN VEGAS VALLEY DR AND CHANNEL FOR POSSIBLE CONFLICTS, THIS SECTION HAS NOT BEEN POTHOLED.

TRANSMISSION REQUIREMENTS

COMPLIANCE WITH ALL NESC AND OSHA REQUIREMENTS.

MATERIALS AND EQUIPMENT CANNOT BE STOCKPILED UNDER LINES.

POLE BOLLARDS ARE REQUIRED AND SHALL BE INSTALLED BY THE OWNER IF PARKING IS WITHIN 10' OF ANY TRANSMISSION STRUCTURE.

A 40'X40' SQUARE MUST BE MAINTAINED ON ONE SIDE OF A TANGENT STRUCTURE AND A 20'X20' SQUARE AROUND A DEAD END STRUCTURE TO ALLOW ACCESS FOR MAINTENANCE PURPOSES.

CUSTOMER MUST OBTAIN PRIOR APPROVAL FROM TRANSMISSION ENGINEERING FOR FUTURE PROJECTS AND ANY CHANGES OR REVISIONS TO THIS PROJECT INCLUDING BUT NOT LIMITED TO THE FOLLOWING ITEMS:

- PARKING OR STORAGE OF VEHICLES EXCEEDING 8' IN HEIGHT
- COVERED PARKING
- PARKING LIGHTS
- METALLIC FENCES OR BLOCK WALLS
- TRASH ENCLOSURES
- BUILDINGS OR STRUCTURES AND FREE STANDING SIGNS
- SWIMMING POOLS
- PINE AND PALM TREES
- ELEVATION OR GRADE CHANGES

CONTRACTOR SHALL MAINTAIN RADIUS OF 10' PLUS 1:1 SLOPE OF UNDISTURBED SOIL AROUND POLES OR CONTRACTOR WILL NEED TO PROVIDE FOR TRENCH SHORING AND/OR BRACING. CONTRACTOR MAY OBTAIN WAIVER FROM NVE CONSTRUCTION SUPERVISOR.

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PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLARK COUNTY NOTES:
BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.
502 4
2

CABANA 1206
WINTERWOOD 1214
WINTERWOOD 1224

CLARK COUNTY PUBLIC WORKS PERMIT REQUIRED*
DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY
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ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

APPROVED FOR PERMITTING
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NIGHT WORK: YES ☐ NO ☐
ENCROACHMENT PERMIT # 12-A8468
APPROVAL BY: DATE 2/6/13

AS-BUILT
CLV PLAN# 311.57

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

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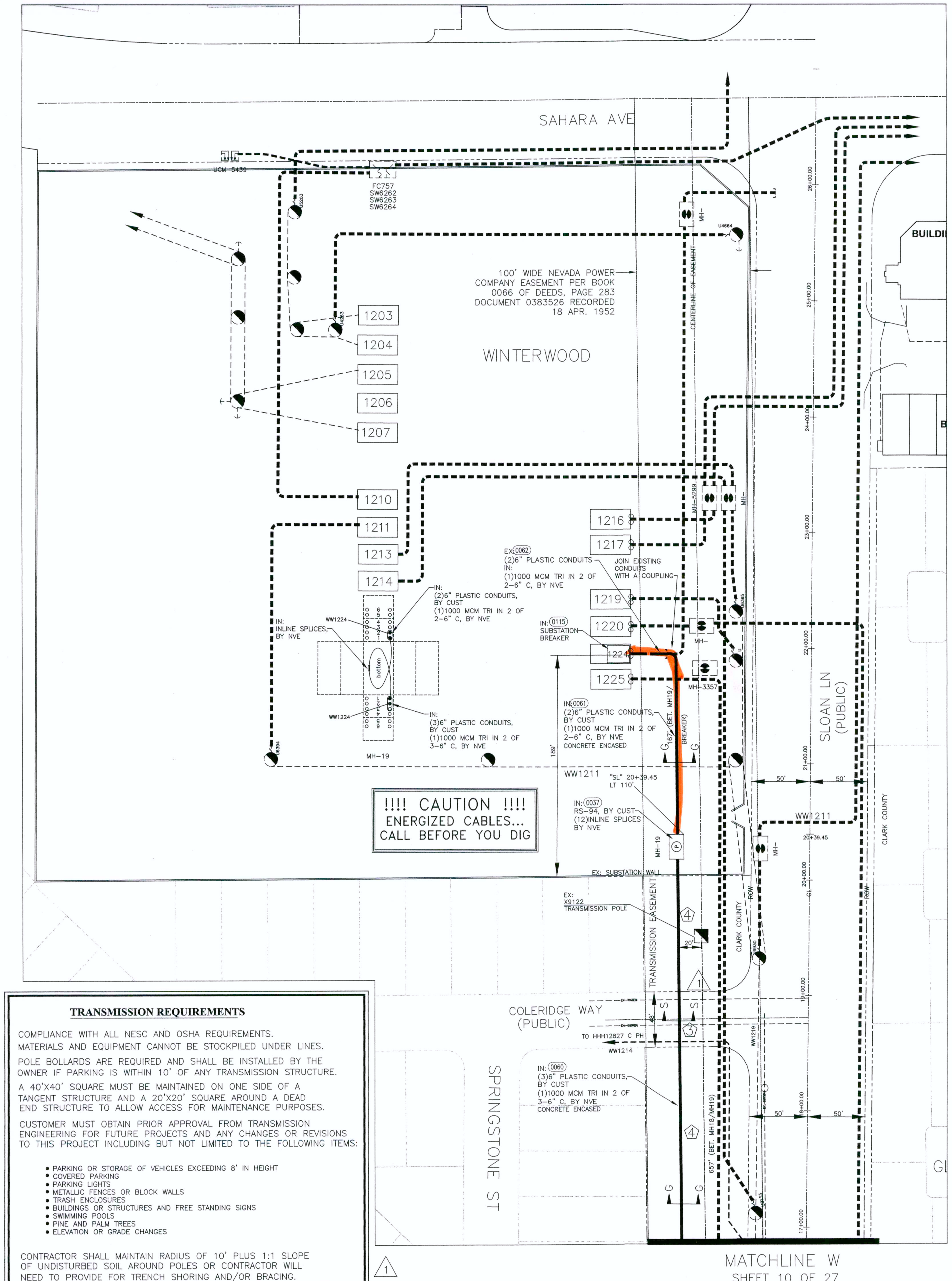
2-REVISION(S)



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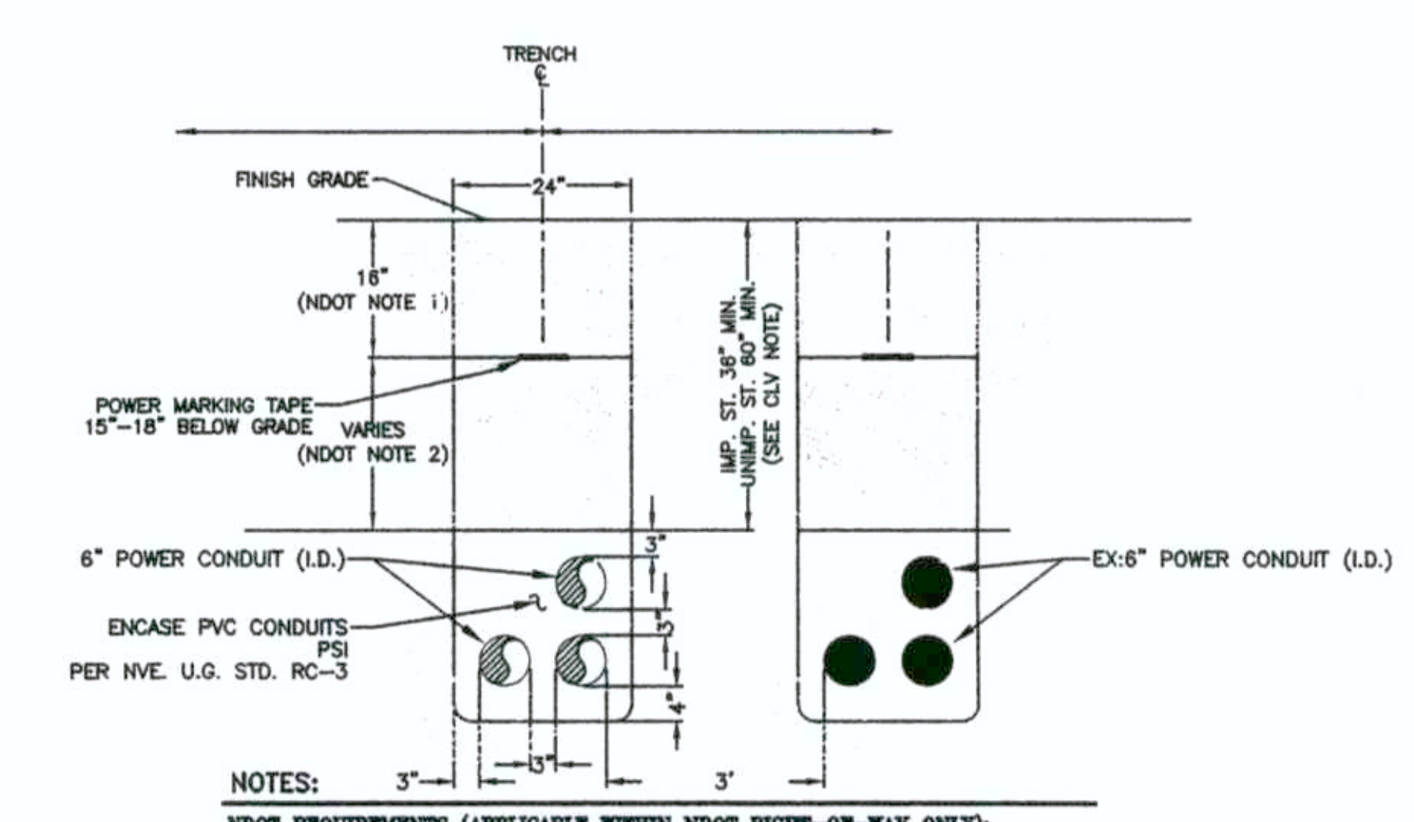
△1

N

T,R,S: 2162–10
APN:



NOTES:
NDOT REQUIREMENTS (APPLICABLE WITHIN NDOT RIGHT-OF-WAY ONLY):
1. BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 704). A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS. 95% COMPACTION REQUIRED.
2. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 207). 90% COMPACTION REQUIRED.

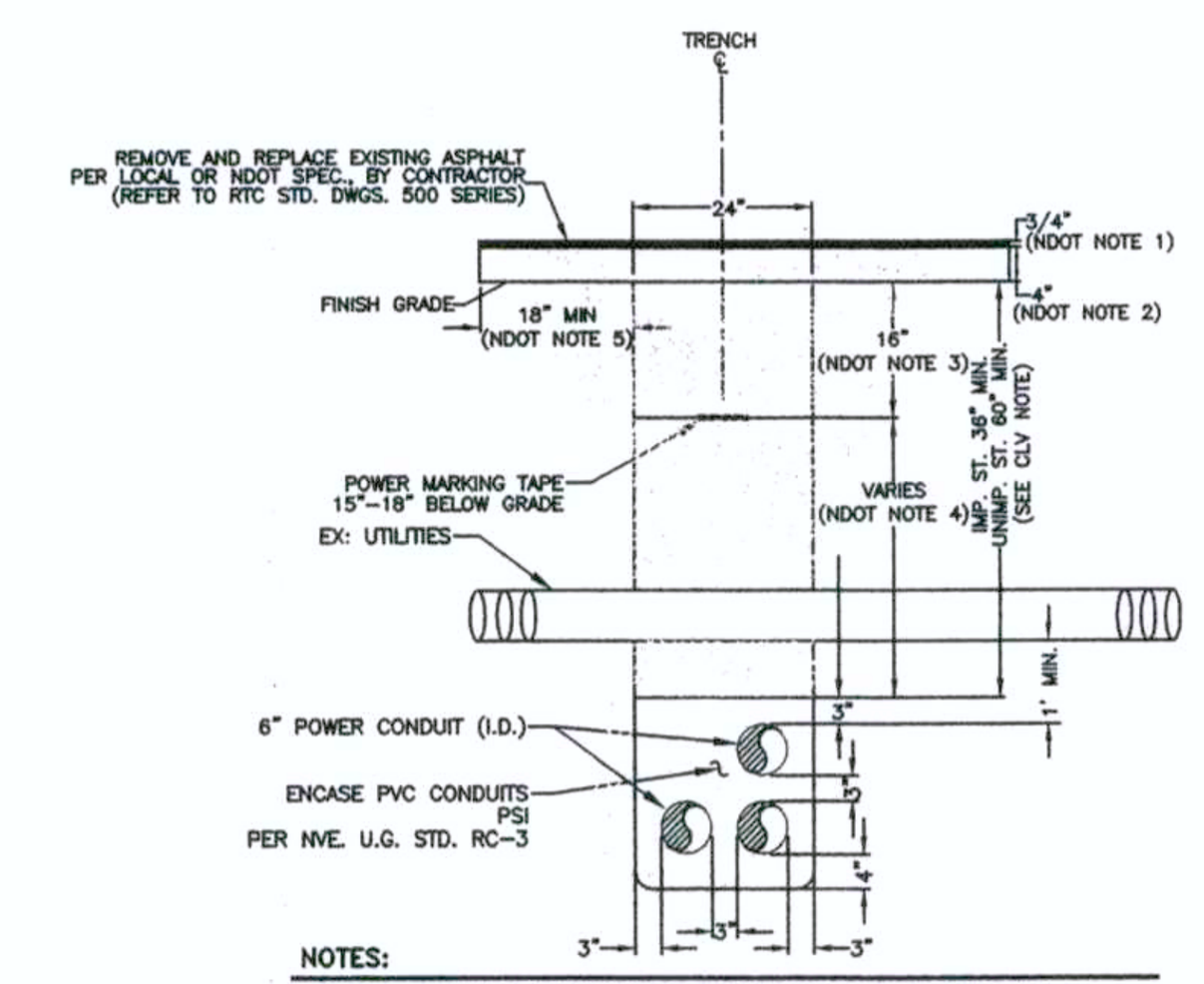
CLV REQUIREMENTS (APPLICABLE WITHIN CITY OF LAS VEGAS LIMITS ONLY):
IMPROVED AREA (IMP. ST.): (LOCATION OF TRENCH)
AREA WILL BE CONSIDERED IMPROVED IF IT MEETS ONE OR MORE OF THE FOLLOWING CRITERIA(S).
- EXISTING PERMANENT PAVEMENT WITH CURB & GUTTER AND/OR ADJACENT PERMANENT SIDEWALK.
- WITHIN AN IMPROVED TRAIL AREA.
- LIMITS OF CONSTRUCTION INSTALLED CONCURRENT WITH A PRIVATE OR PUBLIC PROJECT.

UNIMPROVED AREA (UNIMP. ST.): (LOCATION OF TRENCH)
ANY OTHER SCENARIO THAT FAILS TO MEET THE IMPROVED AREA CRITERIA(S) WILL BE CONSIDERED AN UNIMPROVED AREA.

NVE REQUIREMENTS:
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE. STD. RT-1.
TRENCH DEPTH REQUIREMENTS NVE. STD. RT-5.

TRENCH DETAIL
3–6" CONDUITS

TRENCH DETAIL G–G



NOTES:
NDOT REQUIREMENTS (APPLICABLE WITHIN NDOT RIGHT-OF-WAY ONLY):
1. 3/4 INCH OPEN-GRADE.
2. 4 INCH MINIMUM DENSE-GRADE OR MATCH EXISTING, WHICHEVER IS GREATER.
3. BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 704). A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS. 95% COMPACTION REQUIRED.
4. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 207). 90% COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE INSPECTOR.

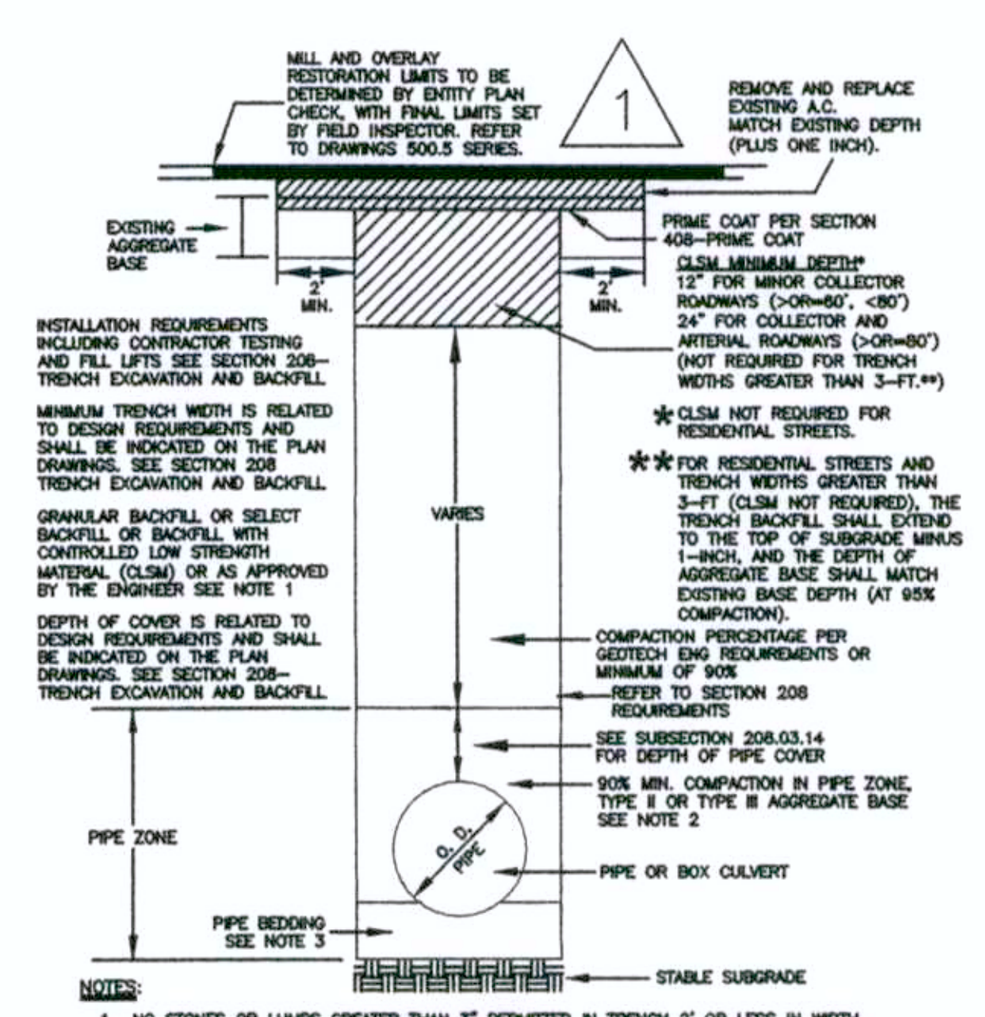
CLV REQUIREMENTS (APPLICABLE WITHIN CITY OF LAS VEGAS LIMITS ONLY):
IMPROVED AREA (IMP. ST.): (LOCATION OF TRENCH)
AREA WILL BE CONSIDERED IMPROVED IF IT MEETS ONE OR MORE OF THE FOLLOWING CRITERIA(S).
- EXISTING PERMANENT PAVEMENT WITH CURB & GUTTER AND/OR ADJACENT PERMANENT SIDEWALK.
- WITHIN AN IMPROVED TRAIL AREA.
- LIMITS OF CONSTRUCTION INSTALLED CONCURRENT WITH A PRIVATE OR PUBLIC PROJECT.

UNIMPROVED AREA (UNIMP. ST.): (LOCATION OF TRENCH)
ANY OTHER SCENARIO THAT FAILS TO MEET THE IMPROVED AREA CRITERIA(S) WILL BE CONSIDERED AN UNIMPROVED AREA.

NVE REQUIREMENTS:
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE. STD. RT-1.
TRENCH DEPTH REQUIREMENTS NVE. STD. RT-5.

TRENCH DETAIL
3–6" CONDUITS

TRENCH DETAIL S–S



NOTES:
1. NO STONES OR LUMPS GREATER THAN 3" PERMITTED IN TRENCH 2' OR LESS IN WIDTH.
2. TRENCH WIDTH, BEDDING, SUBGRADE AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE ENTITY REQUIREMENTS.
3. CRUSHED ROCK MAY BE USED FOR PIPE BEDDING ONLY IF MATERIAL USE HAS BEEN SPECIFICALLY APPROVED BY THE GOVERNING AGENCY. SEE STANDARD DRAWING NO. 505 FOR PIPE BEDDING METHODS.
4. LAS VEGAS VALLEY WATER DISTRICT REQUIRES PIPE BEDDING AND BACKFILL WITHIN THE PIPE ZONE TO BE OF THE SAME MATERIAL.

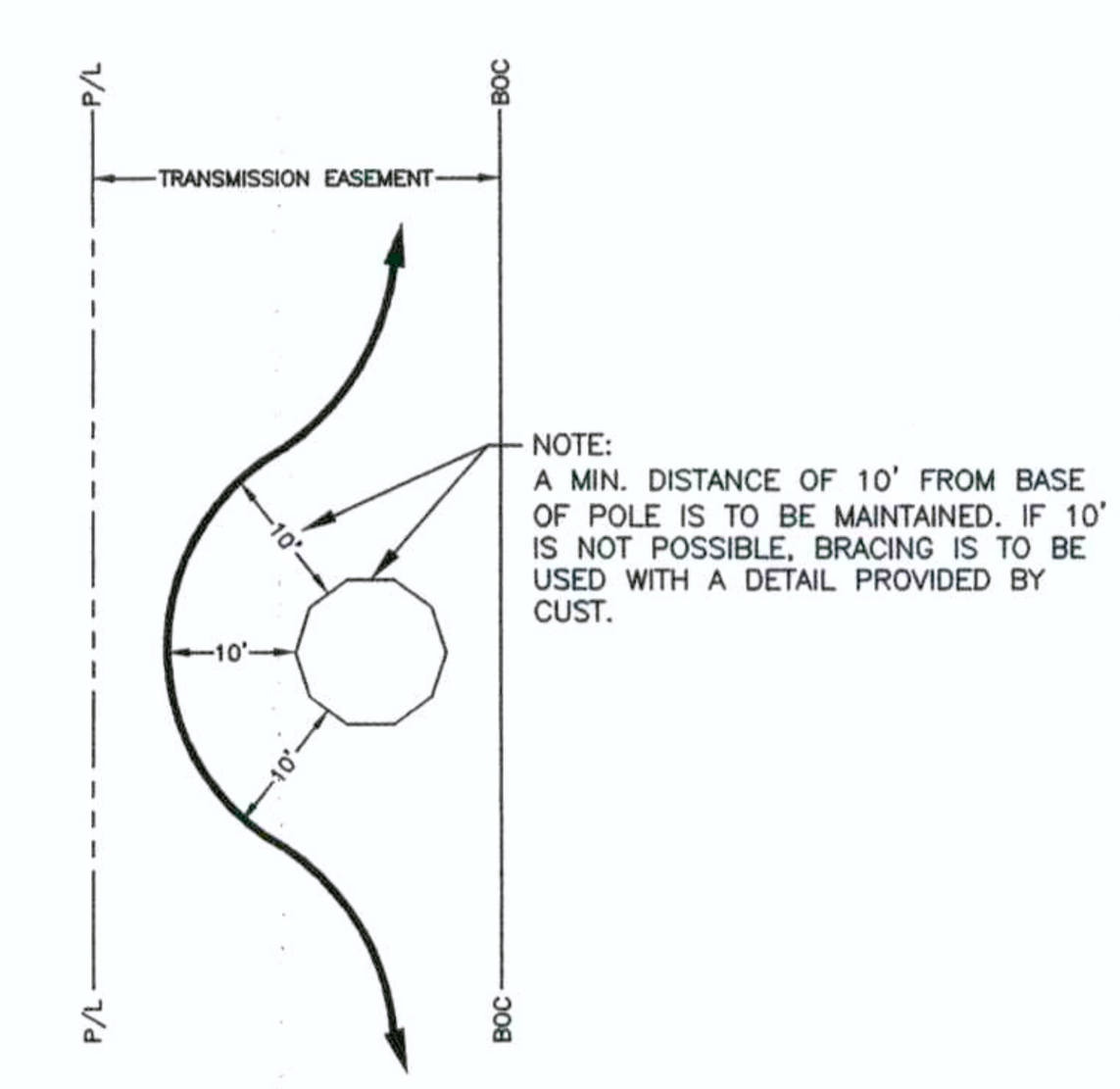
CLARK COUNTY AREA
UNIFORM STANDARD DRAWINGS #503
METHOD B FOR RIGID AND FLEXIBLE PIPE TRENCH BACKFILL – PAVED AREAS

CLARK COUNTY NOTES:

BACKFILL SHALL CONFORM TO RTC STD 503. PAVEMENT REPAIR SHALL CONFORM TO RTC.
500.3 (1)
500.4 (2)
500.5 (3)
△2

CLARK COUNTY NOTES:

BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.
502 (4)
△2



TRANSMISSION POLE CLEARANCE

CONTRACTOR SHALL MAINTAIN RADIUS OF 10' PLUS 1:1 SLOPE OF UNDISTURBED SOIL AROUND POLES OR CONTRACTOR WILL NEED TO PROVIDE FOR TRENCH SHORING AND/OR BRACING. CONTRACTOR MAY OBTAIN WAIVER FROM NVE CONSTRUCTION SUPERVISOR.

CLV PLAN# 311.57

AS-BUILT

▬▬▬	CABANA 1206
▬▬▬	WINTERWOOD 1214
▬▬▬	WINTERWOOD 1224

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE__________ DATE__________

* NVE INSPECTOR WILL VERIFY COUNTY PERMIT FOR WORK DONE WITHIN COUNTY RIGHT-OF-WAY

ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

APPROVED FOR PERMITTING

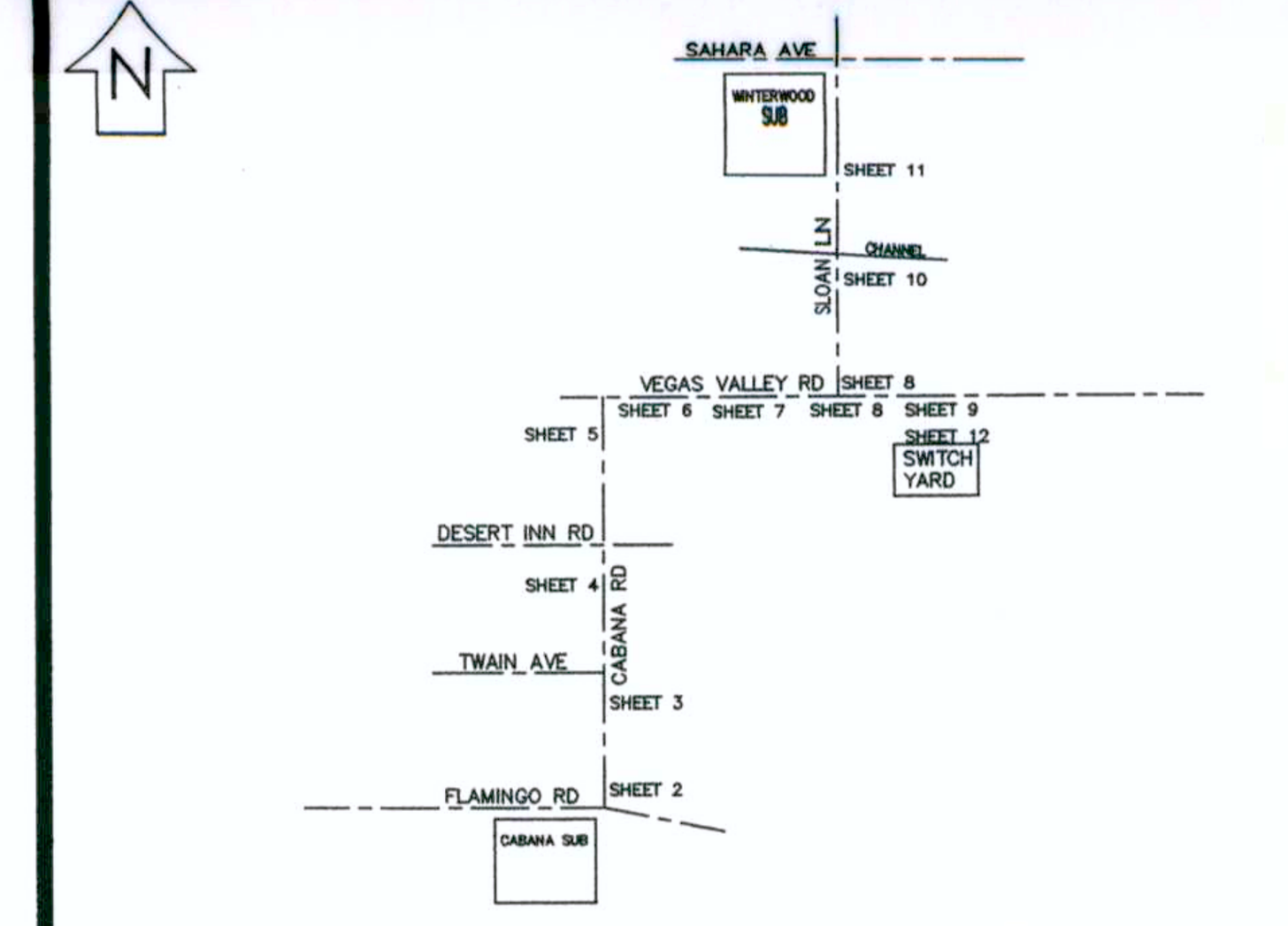
THIS APPROVAL IS FOR WORK IN CC R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.

NIGHT WORK: YES ☐ NO ☐
ENCROACHMENT PERMIT # 12-48668
APPROVAL BY: ✓ DATE 2/1/13

CIVIL LINETYPE LEGEND

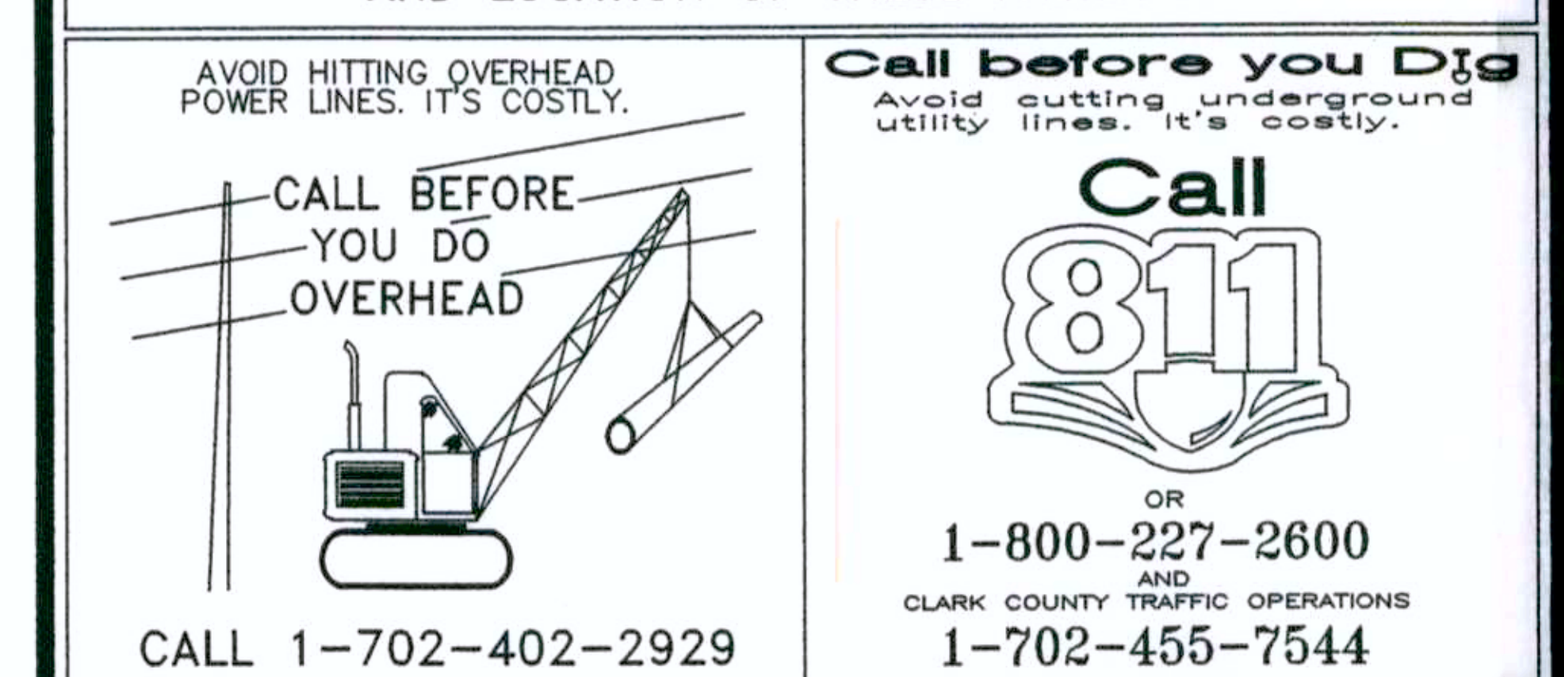
	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.



VICINITY MAP
(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.



REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST, ADDITIONS/CORRECTIONS–DRAWINGS SERIES 500.3&5 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	
	RECEIVED		
	FEB 1 1 2013		
	McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:	
AERIAL	☐
STANDARD	☐
R/W–31	☐
UNDERGROUND	☐
AS BUILT UNDERGROUND	☐
R.O.E./R/W–5–COM	■
3rd PARTY	☐
UNDERGROUND BY EXHIBIT	☐
(N–DOT) PERMIT	☐
(BLM) PERMIT	☐
RAILROAD–UPRR–PERMIT	☐
SO. NEVADA WATER PERMIT	☐
NOT REQUIRED	☐
Misc. Info.	☐

JPA NOTES:
EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244–7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
___ ___ FT. CLASS ___
___ ___ FT. CLASS ___
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:
COORDINATOR: PATRICIA BROWN
PHONE: 402–6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402–3008
STAND BY: 402–6788,402–6795,402–6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953–1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE:

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NPC METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS

NVEnergy.

CLV INFRASTRUCTURE
REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599	SCALE: 1" = 50'
SHEET #: 11 OF 27	DATE: 01/02/2012

Sharing of this drawing and the information contained herein shall be only to individuals/parties who have entered into an agreement with Applicant for the completion of work associated with this specific project. Use for purposes other than this specific project requires the written consent of NV Energy.

2–REVISION(S)

MATCHLINE T
SHEET 9 OF 27

SEE DETAIL "A"
SHEET 16 OF 27

IN: (3)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 2 OF 3-6"C, BY NVE CONCRETE ENCASED - CUSTOMER REQUEST RED CONCRETE IN THIS SECTION (0057) (0066) (0065)

REM: P88240/55'/1 (0001) CN-2 OG-101 OPT-102 OEJ-101 REM: OA-1, L= 50' OPA-102 310'

(0005) ABANDON (2)6" PLASTIC CONDUITS REM: (1)1000 MCM TRI IN 1 OF 2-6" C, BY NVE

100' TRANSMISSION EASEMENT

126'

(0006) ABANDON (1)4" PLASTIC CONDUIT REM: (1)1/0 TRI PRI IN 1-4" C, BY NVE

412'

FC234 SW6155

ABANDON (0002) RS-99, BY CUST REM: PMH-12, BY NVE

IN: (1)4" PLASTIC CONDUIT, BY CUST (1)1/0 TRI PRI IN 1-4" C, BY NVE (0124) (0122)

IN: (2)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 1 OF 2-6" C, BY NVE (0016) (0119) (0121) (0120) (0139)

N/N 2400 (0012) (0017)
N/N 1200 (0010)
N/N 2400 (0015)
N/N 1200 (0014) (0011)

(0118) (0117) (0123) (0116) (0125)

IN: (1)4" PLASTIC CONDUIT, BY CUST (1)1/0 TRI PRI IN 1-4" C, BY NVE

IN: (2)6" PLASTIC CONDUITS, BY CUST (1)1000 MCM TRI IN 1 OF 2-6" C, BY NVE

IN: (1)4" PLASTIC CONDUIT, BY CUST (1)1/0 TRI PRI IN 1-4" C, BY NVE

TRANSMISSION EASEMENT

REM: 400' OF 3-954AA & 1-2/0ACSR(N) (0114)

EX: X20107 (0127) REM: OPC-211

REM: 500' OF 3-954AA & 1-2/0ACSR(N) (0113)

SEE MATCHLINE X
SHEET 13 OF 27

DEDICATED METER BY CRC

HHH36484
1500 KVA
277/480V

ABANDON (0003) RS-82 PULLBOX, BY CUST REM: 3-4 WAY MODULES, BY NVE

(0007) ABANDON (1)4" PLASTIC CONDUIT REM: (1)1/0 TRI PRI IN 1-4" C, BY NVE

ABANDON (0004) RS-37, BY CUST REM: UT-101, BY NVE

ADMINISTRATION BLDG

REMOVE AND REPLACE EXISTING ASPHALT PER LOCAL OR NDOT SPEC. BY CONTRACTOR (REFER TO NTC STD. DWGS. 500 SERIES)

TRENCH TRENCH TRENCH

48" 24" 24"

(NDOT NOTE 3) (NDOT NOTE 3) (NDOT NOTE 3)

POWER MARKING TAPE 15"-18" BELOW GRADE

VARIES (NDOT NOTE 4)

CONCRETE ENCASEMENT PER APP. U.S STD. RD-3

6"CONDUIT (3.0.)

NOTES:
STREET REQUIREMENTS (APPLICABLE WITHIN RIGHT-OF-WAY ONLY):
1. 4 INCH MINIMUM DEPTH OF ASPHALT.
2. 6 INCH MINIMUM DEPTH OF BASE COURSE.
3. BASE AGGREGATE (AB) PER NDOT SPECIFICATIONS SECTION 704), A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS, 95% COMPACTION REQUIRED.
4. SUBGRADE AGGREGATE (SAB) PER NDOT SPECIFICATIONS SECTION 703), 95% COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE INSPECTOR.

CITY REQUIREMENTS (APPLICABLE WITHIN CITY OF LAS VEGAS LIMITS ONLY):
IMPROVED AREA (IMP. ST.) (LOCATION OF TRENCH):
AN AREA IS CONSIDERED IMPROVED IF IT MEETS ONE OR MORE OF THE FOLLOWING CRITERIA(S):
- EXISTING PERMANENT PAVEMENT WITH CURB & GUTTER AND/OR ADJACENT PERMANENT SIDEWALK
- PAVING WITHIN PUBLIC ROW AREA.
- LIMITS OF CONSTRUCTION INSTALLED CONCURRENT WITH A PRIVATE OR PUBLIC PROJECT.

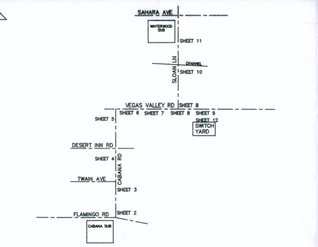
UNIMPROVED AREA (UNIMP. ST.) (LOCATION OF TRENCH):
ANY AREA WITHIN THE PUBLIC ROW THAT DOES NOT MEET THE IMPROVED AREA CRITERIA(S) WILL BE CONSIDERED AN UNIMPROVED AREA.

NVE RECOMMENDS:
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE, STD. RT-1.
TRENCH DEPTH REQUIREMENTS NVE, STD. RT-5.

TRENCH DETAIL
3-4" CONDUITS IN SEPARATE TRENCHES

TRENCH DETAIL R-R

T,R,S: 2162-10
APN:



VICINITY MAP
(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.
CALL BEFORE YOU DO OVERHEAD
CALL 1-702-402-2929

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811
OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST, ADDITIONS/CORRECTIONS-DRAWINGS SERIES 500.3&5 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

TYPE OF EASEMENT:
- ☐ AERIAL
- ☐ STANDARD
- ☐ R/W-31
- ☐ UNDERGROUND
- ☐ AS BUILT UNDERGROUND
- ■ R.O.E./R/W-5-COM
- ☐ 3rd PARTY
- ☐ UNDERGROUND BY EXHIBIT
- ☐ (N-DOT) PERMIT
- ☐ (BLM) PERMIT
- ☐ RAILROAD-UPRR-PERMIT
- ☐ SO. NEVADA WATER PERMIT
- ☐ NOT REQUIRED
- ☐ Misc. Info.

JPA NOTES:
EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT "A"

NVE INFORMATION:
COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE:

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NPC METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS

CABANA 1206
WINTERWOOD 1214
WINTERWOOD 1224

TRANSMISSION REQUIREMENTS

COMPLIANCE WITH ALL NESC AND OSHA REQUIREMENTS.
MATERIALS AND EQUIPMENT CANNOT BE STOCKPILED UNDER LINES.
POLE BOLLARDS ARE REQUIRED AND SHALL BE INSTALLED BY THE OWNER IF PARKING IS WITHIN 10' OF ANY TRANSMISSION STRUCTURE.
A 40'X40' SQUARE MUST BE MAINTAINED ON ONE SIDE OF A TANGENT STRUCTURE AND A 20'X20' SQUARE AROUND A DEAD END STRUCTURE TO ALLOW ACCESS FOR MAINTENANCE PURPOSES.
CUSTOMER MUST OBTAIN PRIOR APPROVAL FROM TRANSMISSION ENGINEERING FOR FUTURE PROJECTS AND ANY CHANGES OR REVISIONS TO THIS PROJECT INCLUDING BUT NOT LIMITED TO THE FOLLOWING ITEMS:

- PARKING OR STORAGE OF VEHICLES EXCEEDING 8' IN HEIGHT
- COVERED PARKING
- PARKING LIGHTS
- METALLIC FENCES OR BLOCK WALLS
- TRASH ENCLOSURES
- BUILDINGS OR STRUCTURES AND FREE STANDING SIGNS
- SWIMMING POOLS
- PINE AND PALM TREES
- ELEVATION OR GRADE CHANGES

(1) CONTRACTOR SHALL MAINTAIN RADIUS OF 10' PLUS 1:1 SLOPE OF UNDISTURBED SOIL AROUND POLES OR CONTRACTOR WILL NEED TO PROVIDE FOR TRENCH SHORING AND/OR BRACING. CONTRACTOR MAY OBTAIN WAIVER FROM NVE CONSTRUCTION SUPERVISOR.

CLARK COUNTY PUBLIC WORKS PERMIT REQUIRED*
DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY
HTE_____ DATE_____
* NVE INSPECTOR WILL VERIFY COUNTY PERMIT FOR WORK DONE WITHIN COUNTY RIGHT-OF-WAY
ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

APPROVED FOR PERMITTING
THIS APPROVAL IS FOR WORK IN CC R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.
NIGHT WORK: YES ☐ NO ☐
ENCROACHMENT PERMIT # 12-48668
APPROVAL BY: _____ DATE 2/11

CLV PLAN# 311.57

AS-BUILT

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.

NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 12 OF 27 | DATE: 01/02/2012

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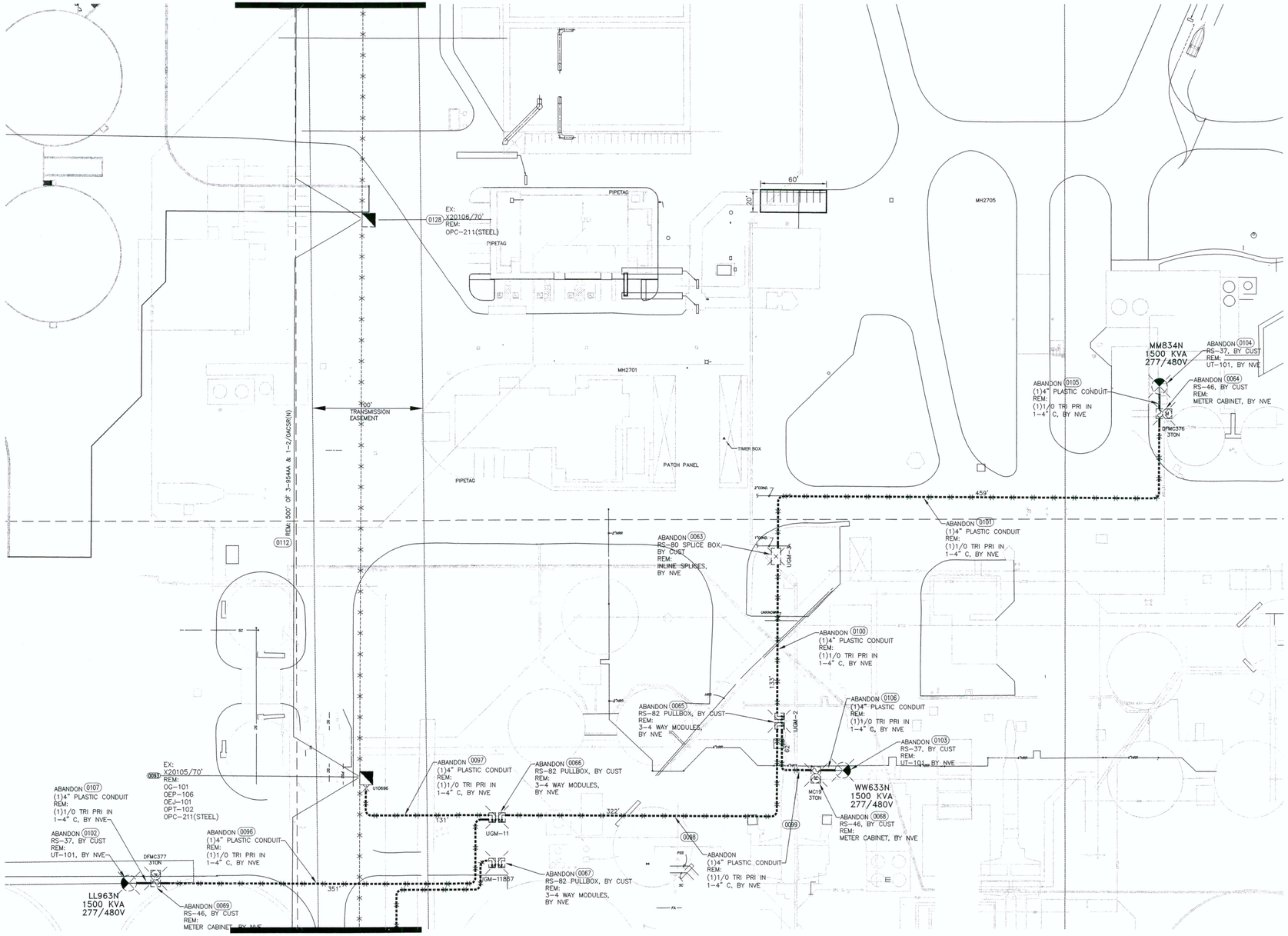
2-REVISION(S)

MATCHLINE X
SHEET 12 OF 27

N

T,R,S: 2162-10
APN:



SEE MATCHLINE Y
SHEET 14 OF 27

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLV PLAN# 311.57
AS-BUILT

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE_____ DATE_____

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ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

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NIGHT WORK: YES ☐ NO ☐

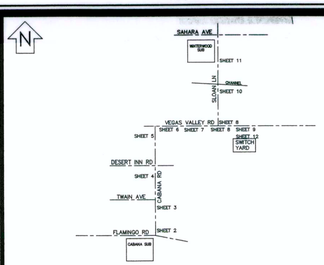
ENCROACHMENT PERMIT # 12-08868

APPROVAL BY: _____ DATE 2/6/13

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.



VICINITY MAP
(NOT TO SCALE)

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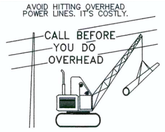
AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.



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Call 811
OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST, ADDITIONS/CORRECTIONS-DRAWINGS SERIES 500.3&5 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

TYPE OF EASEMENT:

AERIAL	☐
STANDARD	☐
R/W-31	☐
UNDERGROUND	☐
AS BUILT UNDERGROUND	☐
R.O.E./R/W-5-COM	■
3rd PARTY	☐
UNDERGROUND BY EXHIBIT	☐
(N-DOT) PERMIT	☐
(BLM) PERMIT	☐
RAILROAD-UPRR-PERMIT	☐
SO. NEVADA WATER PERMIT	☐
NOT REQUIRED	☐
Misc. Info.	☐

JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:
COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE:

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NPC METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS

NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 13 OF 27 | DATE: 01/02/2012

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2-REVISION(S)

MATCHLINE Y
SHEET 13 OF 27

METER CABINET, 3Ø, 1PH

REM: 200' OF 3-954AA & 1-2/0ACSR(N)

(011)

ABANDON (0095)
(1)4" PLASTIC CONDUIT
REM:
(1)1/0 TRI PRI IN
1-4" C, BY NVE

516'

EX:
(0092) X20104/70'
REM:
OG-101
OEP-106
OEJ-101
OPT-102
OPC-211(STEEL)

100'
TRANSMISSION
EASEMENT

EX: (1)4" PLASTIC CONDUIT (1)1/0 TRI PRI IN 1-4" C

EX: RS-82 PULLBOX 3-4 WAY MODULES

EX: (1)4" PLASTIC CONDUIT (1)1/0 TRI PRI IN 1-4" C

EX: RS-82 PULLBOX 3-4 WAY MODULES

ABANDON (0073)
RS-94 MANHOLE, BY CUST
REM:
INLINE SPLICES,
BY NVE

ABANDON (0085)
(2)6" PLASTIC CONDUITS
REM:
(1)1000 MCM TRI IN 1
2-6" C, BY NVE

211'

UGM-11868

239'

564'

UGM-4

MH-1

ABANDON (0090)
(2)6" PLASTIC CONDUITS
REM:
(1)1000 MCM TRI IN 1 OF
2-6" C, BY NVE

217'

EX:
(1)4" PLASTIC CONDUIT
(1)1/0 TRI PRI IN
1-4" C

EX:
(0110) P88239/55'/1
ON-2
OG-101
OPT-102
OEJ-101
OA-1, L= 50'
OEP-106
OPA-102
REM:
OPC-211 (10SL4)

EX: P79678/40'/1
OPA-102
OA-1,L=35'
ON-2
REM:
OEJ-102
OEP-101
OG-101
OPT-102

EX: 79' OF 3-954AA & 1-2/0ACSR(N)

EX: 213' OF 3-954AA & 1-2/0ACSR(N)

WW1214

EEE409F
500 KVA
277/480V

EX:
RS-35
UT-101

EX:
(0129) X20103/60'
REM:
OPC-211(STEEL)

100'
TRANSMISSION
EASEMENT

9675
25 KVA
C PH

WW1214

U5598

U10097

EX:
(0093) T27794/55'/1
ON-2
OG-101
OPT-101
OEJ-101
OEP-101
OEJ-101

EX: 107' OF 3-954AA & 1-2/0ACSR(N)

WW1214

DESERT INN RD

MH-1142

TO U10946
TO UGM13650

TO FC5360

FC6456

CCC153F

SEE MATCHLINE Z
SHEET 15 OF 27

T,R,S: 2162-10
APN:

AS-BUILT

CLV PLAN# 311.57

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM
CABANA AND WINTERWOOD SUBS
TO PROJECT SITE

CLARK COUNTY PUBLIC WORKS PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

NTE_____ DATE_____

* NVE INSPECTOR WILL VERIFY COUNTY PERMIT FOR WORK DONE WITHIN COUNTY RIGHT-OF-WAY

ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

APPROVED FOR PERMITTING

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NIGHT WORK: YES ☐ NO ☐

ENCROACHMENT PERMIT # _____

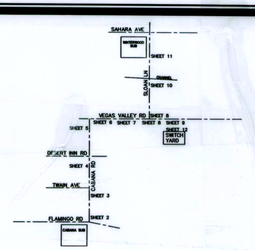
APPROVAL BY: _____ DATE

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.

N



VICINITY MAP
(NOT TO SCALE)

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REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST, ADDITIONS/CORRECTIONS--DRAWINGS SERIES 500.3&5 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	
3	REMOVED REVISION 2 TRIANGLE, ADDED REVISION 3 PER CONVERSATION WITH COUNTY IN REF. TO RTC 502, BY DT	02/14/2013	
4	ADDED 5' TO TRENCH DISTANCE FROM EXISTING UTILITIES, BY DT	04/15/2013	
5	ADJUST PRIMARY BORE PIT, STEEL CASING AND 6" CONDUITS ON SLOAN CHANNEL PER NEW CIVILS, BY DT	05/23/2013	
6	EQUIPMENT FROM POLE T27794 TO TRANS EEE409F TO REMAIN, BY DT	07/08/2013	

TYPE OF EASEMENT:

AERIAL	☐
STANDARD	☐
R/W-31	☐
UNDERGROUND	☐
AS BUILT UNDERGROUND	☐
R.O.E./R/W-5-COM	■
3rd PARTY	☐
UNDERGROUND BY EXHIBIT	☐
(N-DOT) PERMIT	☐
(BLM) PERMIT	☐
RAILROAD-UPRR-PERMIT	☐
SO. NEVADA WATER PERMIT	☐
NOT REQUIRED	☐
Misc. Info.	☐

JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
____ ____ FT. CLASS ____
____ ____ FT. CLASS ____
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:
COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA: _____
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE: 02/01/2013

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 14 OF 27 | DATE: 01/02/2012

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6-REVISION(S)

MATCHLINE Y
SHEET 13 OF 27

METER CABINET, BY NVE

REM: 500' OF 3-954AA & 1-2/0ACSR(N)

(0111)

ABANDON (0095)
(1)4" PLASTIC CONDUIT
REM:
(1)1/0 TRI PRI IN
1-4" C, BY NVE

516'

EX:
(0092) X20104/70'
REM:
OG-101
OEP-106
OEJ-101
OPT-102
OPC-211(STEEL)

0110697

100' TRANSMISSION EASEMENT

ABANDON (0091)
(1)4" PLASTIC CONDUIT
REM:
(1)1/0 TRI PRI IN
1-4" C, BY NVE

ABANDON (0070)
RS-82 PULLBOX, BY CUST
REM:
3-4 WAY MODULES,
BY NVE

ABANDON (0087)
(1)4" PLASTIC CONDUIT
REM:
(1)1/0 TRI PRI IN
1-4" C, BY NVE

ABANDON (0071)
RS-82 PULLBOX, BY CUST
REM:
3-4 WAY MODULES,
BY NVE

ABANDON (0073)
RS-94 MANHOLE, BY CUST
REM:
INLINE SPLICES,
BY NVE

ABANDON (0085)
(2)6" PLASTIC CONDUITS
REM:
(1)1000 MCM TRI IN 1
2-6" C, BY NVE

211'

UGM-11868

239'

564'

UGM-4

MH-1

ABANDON (0090)
(2)6" PLASTIC CONDUITS
REM:
(1)1000 MCM TRI IN 1 OF
2-6" C, BY NVE

REM: 496' OF 3-954AA & 1-2/0ACSR(N)

(0110)

REM:
(0089) P88239/55'/1
ON-2
OG-101
OPT-102
OEJ-101
REM: OA-1, L= 50'
OEP-106
OPA-102

REM:
(0088) P79678/40'/1
ON-2
OG-101
OPT-102
OEJ-102
OEP-101
REM: OA-1, L= 35'
OPA-102

(0108)

REM: 213' OF 3-954AA & 1-2/0ACSR(N)

WW1214

ABANDON (0086)
(1)4" PLASTIC CONDUIT
REM:
(1)1/0 TRI PRI IN
1-4" C, BY NVE

EEE409F
500 KVA
277/480V

ABANDON (0072)
RS-35, BY CUST
REM:
UT-101, BY NVE

REM: 79' OF 3-954AA & 1-2/0ACSR(N)
(0109)

EX:
(0129) X20103/60'
REM:
OPC-211(STEEL)

100' TRANSMISSION EASEMENT

EX:
(0093) T27794/55'/1
ON-2
OG-101
OPT-101
OEJ-101
OEP-101
OEJ-101
IN: OA-1, L= 50'

EX: 107' OF 3-954AA & 1-2/0ACSR(N)
WW1214

9675
25 KVA
C PH

WW1214

U5598

U10097

TO STALLION MOUNTAIN

DESERT INN RD

MH-1142

TO U10946
TO UGM13650

TO FC5360

FC6459

CCC153F

SEE MATCHLINE Z
SHEET 15 OF 27

T,R,S: 2162-10
APN:

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE_____ DATE_____

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APPROVED FOR PERMITTING

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NIGHT WORK: YES ☐ NO ☐

ENCROACHMENT PERMIT # 12-A8668

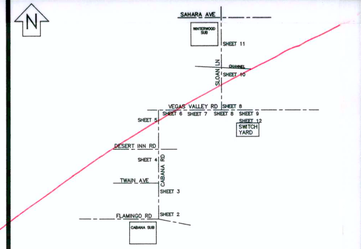
APPROVAL BY: _____ DATE 2/6/13

CLV PLAN# 311.57
AS-BUILT

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.



VICINITY MAP
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REVISIONS

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2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	
	RECEIVED FEB 11 2013 McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:

AERIAL	☐
STANDARD	☐
R/W-31	☐
UNDERGROUND	☐
AS BUILT UNDERGROUND	☐
R.O.E./R/W-5-COM	■
3rd PARTY	☐
UNDERGROUND BY EXHIBIT	☐
(N-DOT) PERMIT	☐
(BLM) PERMIT	☐
RAILROAD-UPRR-PERMIT	☐
SO. NEVADA WATER PERMIT	☐
NOT REQUIRED	☐
Misc. Info.	☐

JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
_____ FT. CLASS _____
_____ FT. CLASS _____
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:

COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA: _____
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:

APPLICANT CLV
ENGINEER: CH2MHILL
C
A
C
A
A

REVISED ON 07/08/2013

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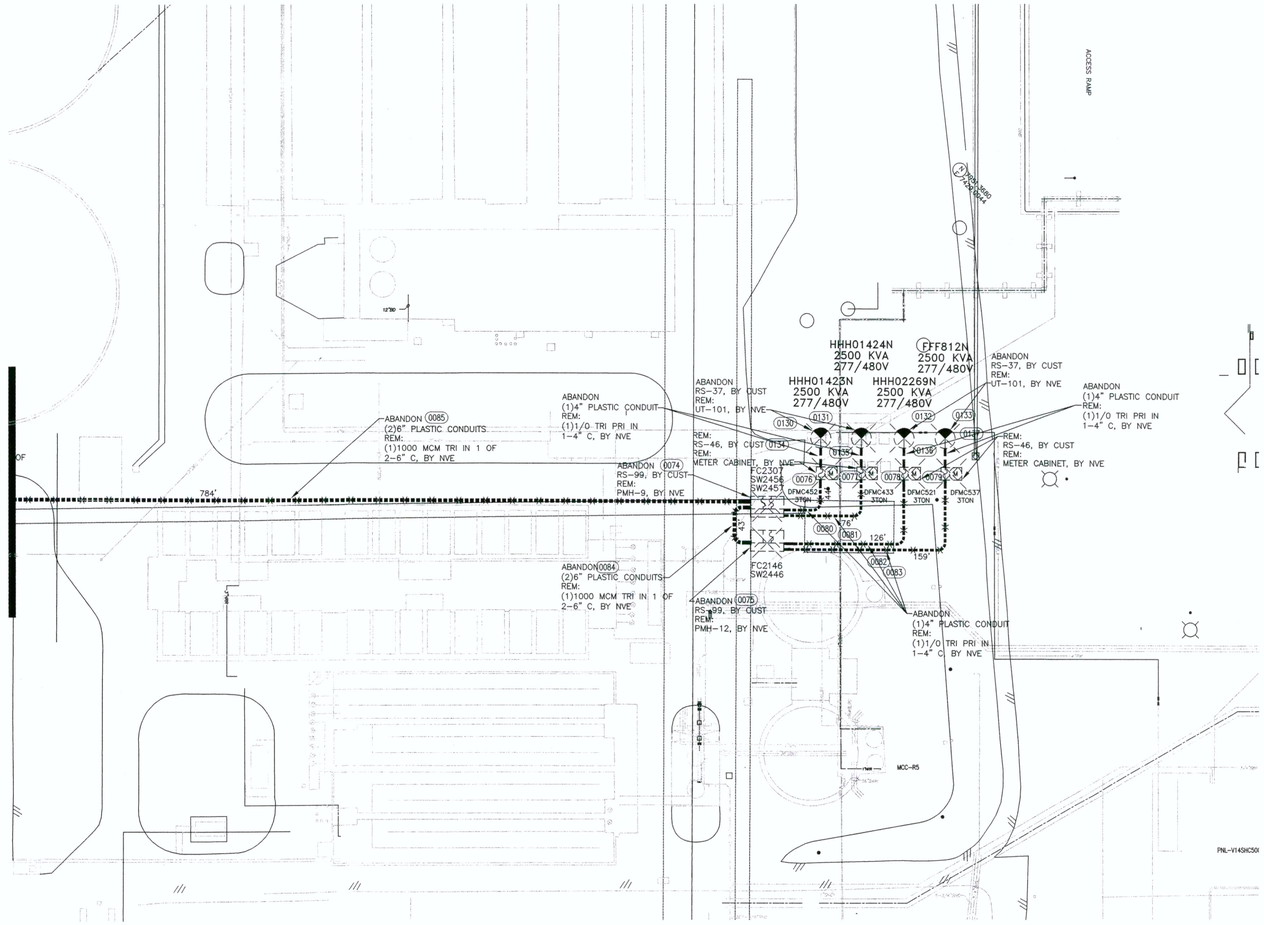
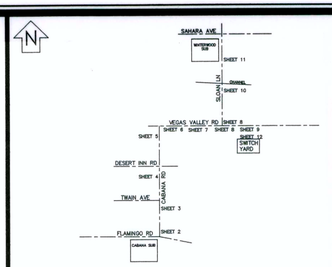


T,R,S: 2162-10

APN:



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RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

TYPE OF EASEMENT:

- [ ] AERIAL
- [ ] STANDARD
- [ ] R/W-31
- [ ] UNDERGROUND
- [ ] AS BUILT UNDERGROUND
- [x] R.O.E./R/W-5-COM
- [ ] 3rd PARTY
- [ ] UNDERGROUND BY EXHIBIT
- [ ] (N-DOT) PERMIT
- [ ] (BLM) PERMIT
- [ ] RAILROAD-UPRR-PERMIT
- [ ] SO. NEVADA WATER PERMIT
- [ ] NOT REQUIRED
- [ ] Misc. Info.

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NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
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FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

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DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE:

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CLV PLAN# 311.57

AS-BUILT

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

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HTE_____ DATE_____

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NIGHT WORK: YES ☐ NO ☐

ENCROACHMENT PERMIT # 12-48629

APPROVAL BY: _____ DATE 2/6/13

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.

NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'

SHEET #: 15 OF 27 | DATE: 01/02/2012

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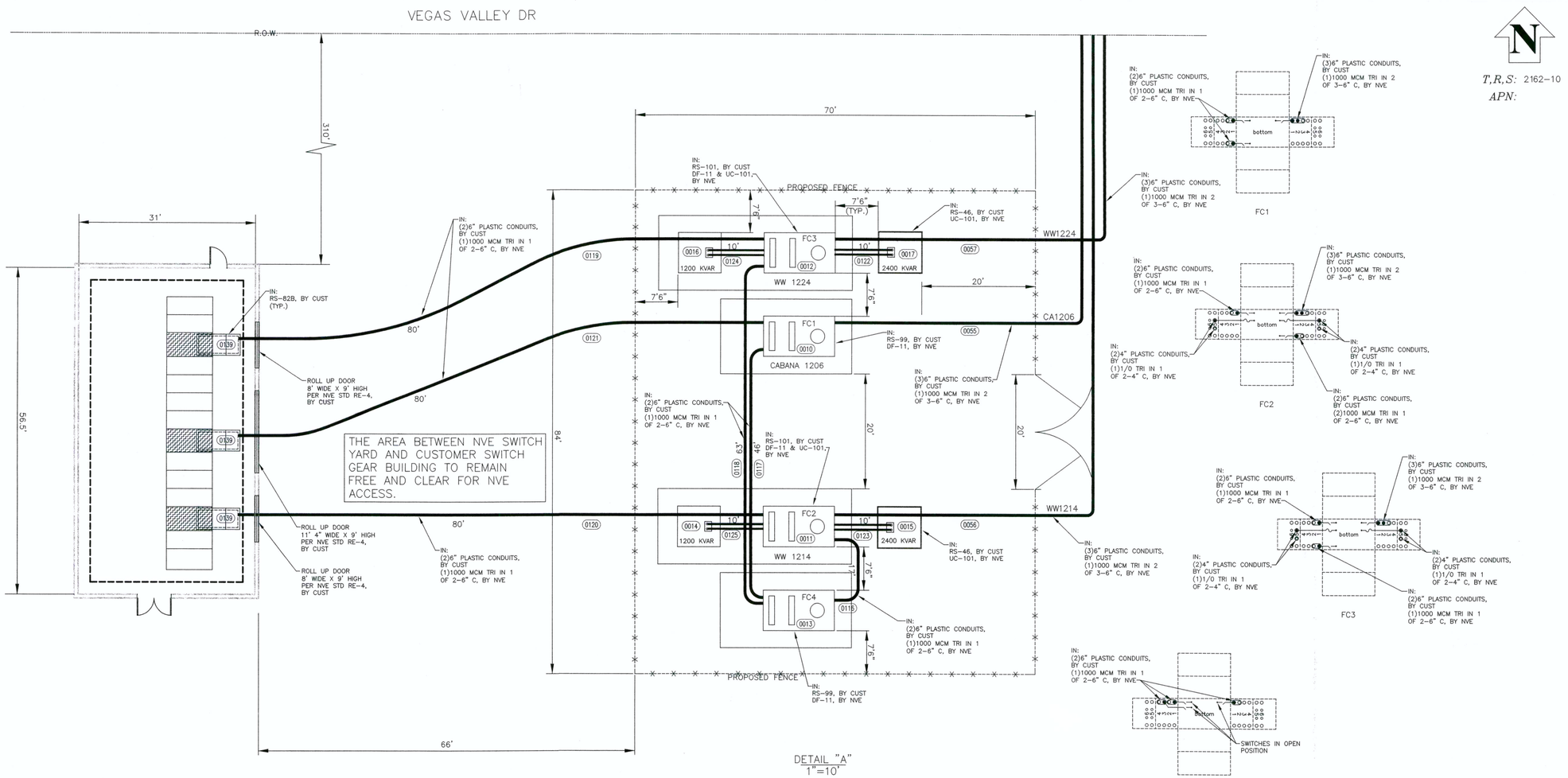
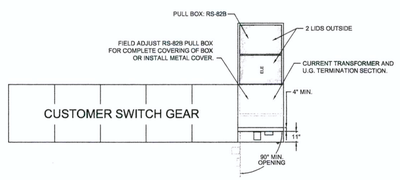
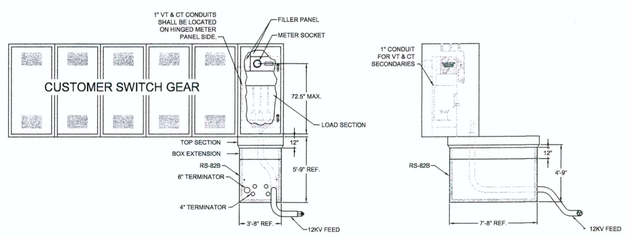
2-REVISION(S)





TOP VIEW



FRONT VIEW

SIDE VIEW

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLV PLAN# 311.57

AS-BUILT

CLARK COUNTY PUBLIC WORKS PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE_____ DATE_____

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APPROVED FOR PERMITTING

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NIGHT WORK: YES ☐ NO ☐

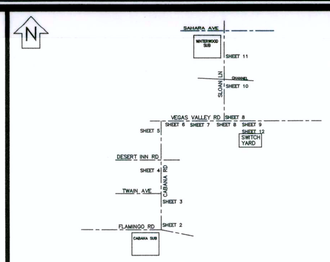
ENCROACHMENT PERMIT # 12-ASSIST

APPROVAL BY: _____ DATE 2/11/13

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.



VICINITY MAP
(NOT TO SCALE)

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AND
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REVISIONS

NO.	DESCRIPTION	DATE	G.A.
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2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

TYPE OF EASEMENT:

- ☐ AERIAL
- ☐ STANDARD
- ☐ R/W-31
- ☐ UNDERGROUND
- ☐ AS BUILT UNDERGROUND
- ■ R.O.E./R/W-5-COM
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- ☐ SO. NEVADA WATER PERMIT
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JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
___ ___ FT. CLASS ___
___ ___ FT. CLASS ___
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:
COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE:

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 16 OF 27 | DATE: 01/02/2012

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2-REVISION(S)

McCARTHY

Request for Information with Comments

Project RFI #: 0087-0
Date Created: 01/07/2014
Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 01/21/2014

Submitted To	**Submitted By**
Carollo Engineers	McCarthy Building Companies, Inc.
Carollo Team	Nick Partin
376 E. Warm Springs Road, Suite 250	6005 East Vegas Valley Drive
Las Vegas, NV 89119	Las Vegas, NV 89142

Subject: Flamingo Bore Casing As-Built Elevations.
Discipline: Civil
Category:
Reason: Confirmation

Initiated By: McCarthy - Nick Partin
Ref RFI:

Attachments

Type	Name	Description	Content
File	MSG - As-built Elevations.		4009_001.pdf

Question

Please confirm from our meeting today between McCarthy, Carollo & CH2MHILL that the as-built elevations of the Flamingo bore casing is acceptable. From our conversation I've verified that that lowest sewer line has a 2'-9" clearance between it and the bore casing. (see attached as-built elevations).

Suggestion

Answer **Date Answered: 01/22/2014**

Based upon your survey data, it appears that there is no interferrence with other utilities and clearance between other utilities is adequate. The location of the casing should be adequate.

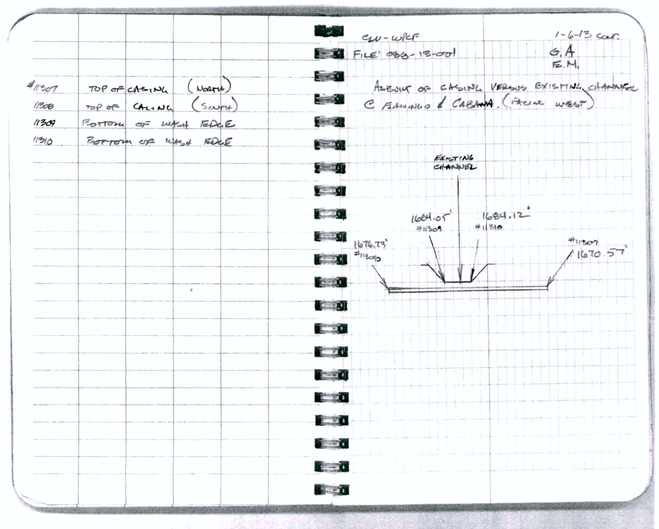
Comments

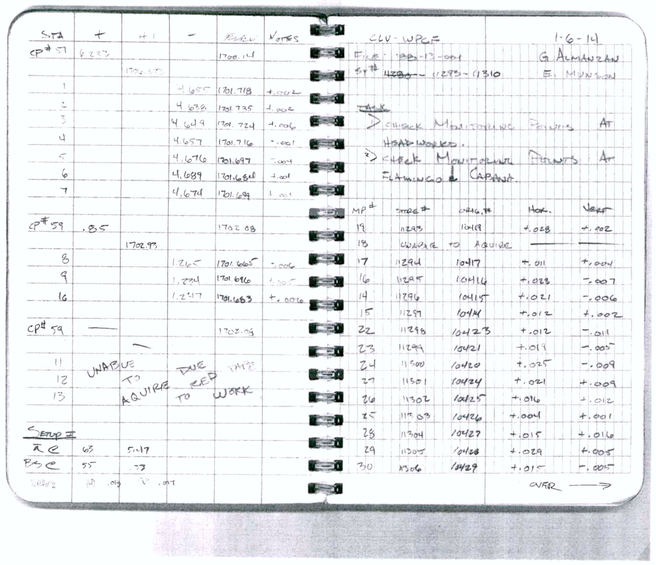
Based upon your survey data, it appears that there is no interferrence with other utilities and clearance between other utilities is adequate. The location of the casing should be adequate. Bruce Johnson 1/14/14 19:00

Architect/Engineer Signature

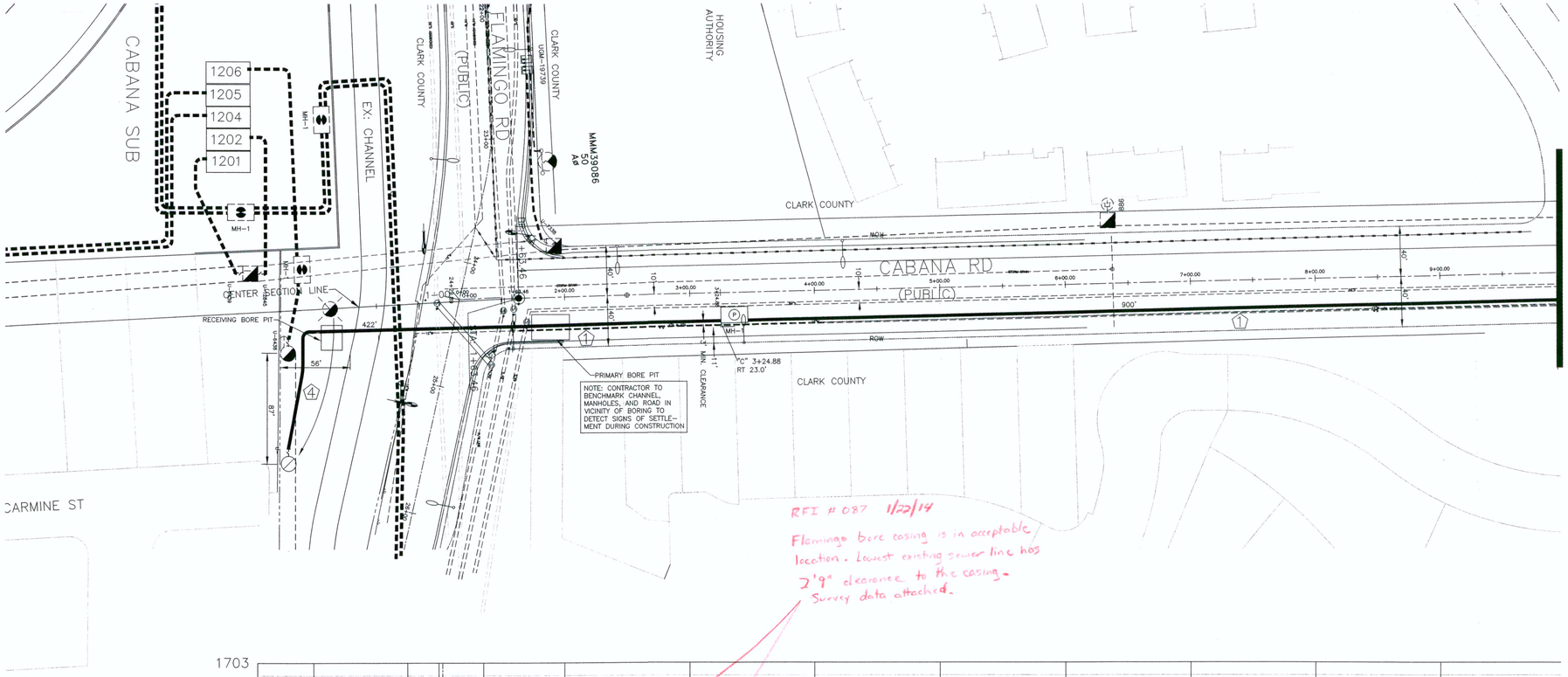
By:_____ Date:_____

Consultant:

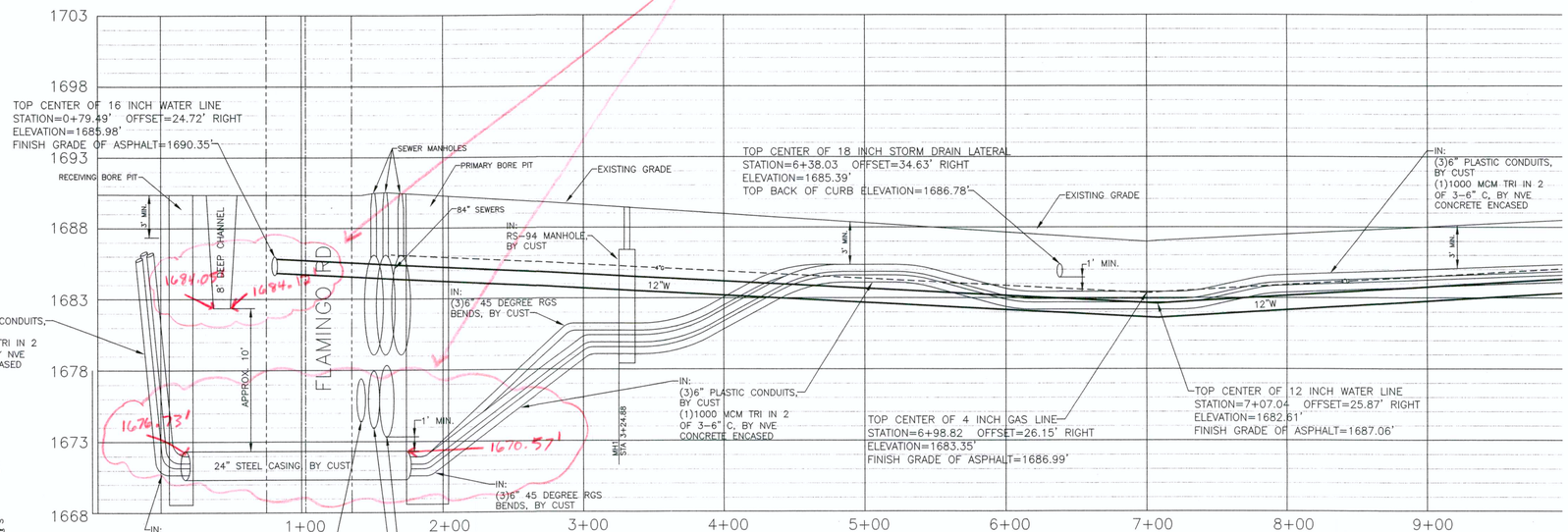




CLV PLAN# 311.57



RFI # 087 11/22/13
Flamingo bore casing is in acceptable location. Lowest existing sewer line has 2'9" clearance to the casing - Survey data attached.



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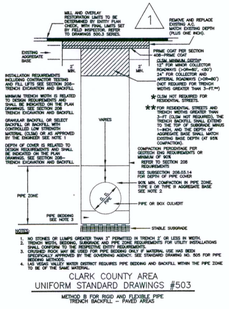
HORIZONTAL 1"=50'



CLARK COUNTY NOTES:

BACKFILL SHALL CONFORM TO RTC STD 503. PAVEMENT REPAIR SHALL CONFORM TO RTC.
500.3 ①
500.4 ②
500.5 ④

2

CLARK COUNTY NOTES:

BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.
502 ④

2

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

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HTE_____ DATE_____

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NIGHT WORK: YES ☐ NO ☐
ENCROACHMENT PERMIT # 12-4868

APPROVAL BY: _____ DATE 2/1/13

CLV PLAN# 311.57
AS-BUILT

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
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STREET LIGHT		
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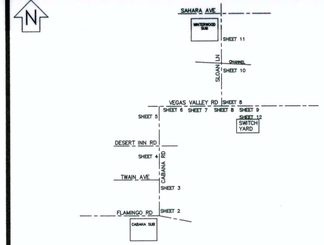

VICINITY MAP
(NOT TO SCALE)

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	RECEIVED FEB 11 2013 McCarthy Building Companies, Inc.		

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PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
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NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
____ ____ FT. CLASS ____
____ ____ FT. CLASS ____
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

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DESIGNER: DARRYL THOMAS
DCA: _____
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 17 OF 27 | DATE: 01/02/2012

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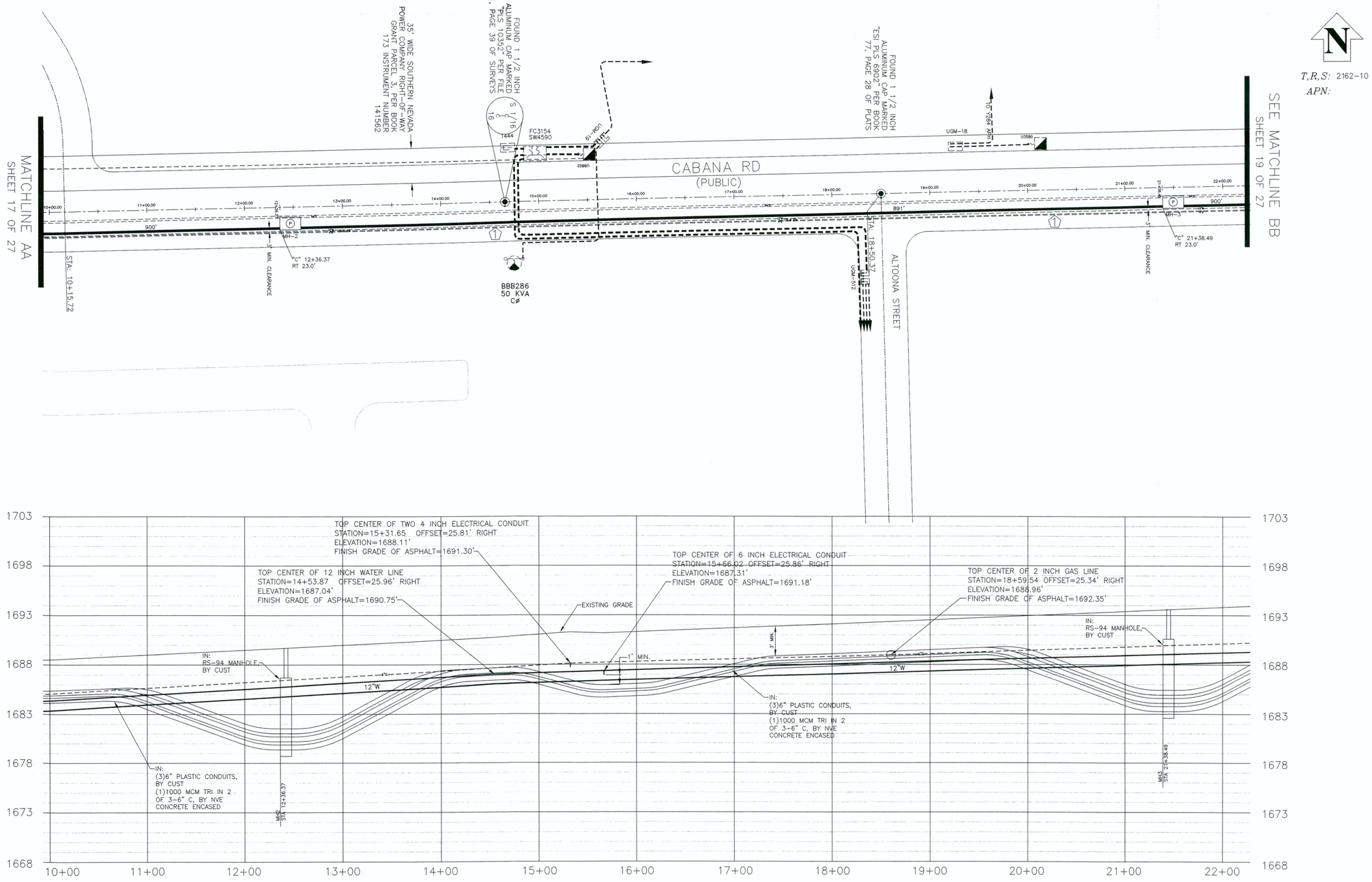

VERTICAL 1"=5'

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T,R,S: 2162-10

APN:

CLARK COUNTY NOTES:

BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.

502 ④ ⚠2

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500.3 ①
500.4 ②
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⚠2

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NIGHT WORK: YES ☐ NO ☐

ENCROACHMENT PERMIT # 12-4266V

APPROVAL BY: _____ DATE 2/11/13

CLV PLAN# 311.57
AS-BUILT

CIVIL LINETYPE LEGEND

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PROPERTY LINE/ROW		
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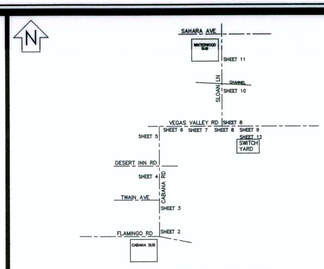

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NVEnergy

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PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 18 OF 27 | DATE: 01/02/2012

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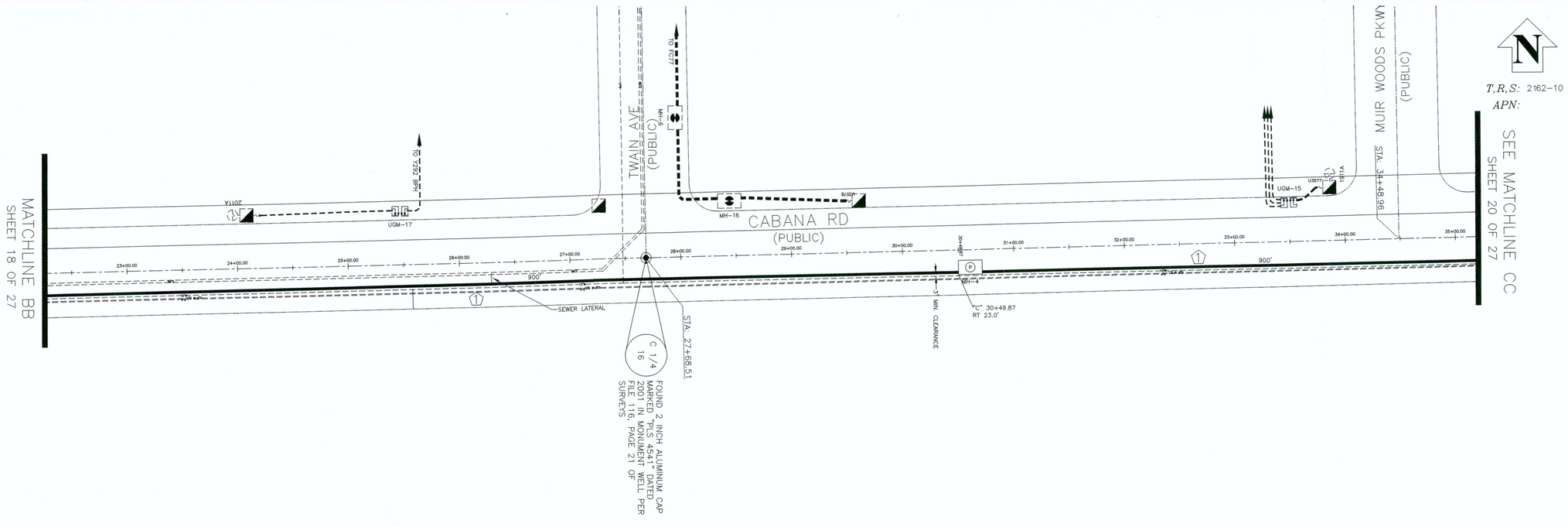

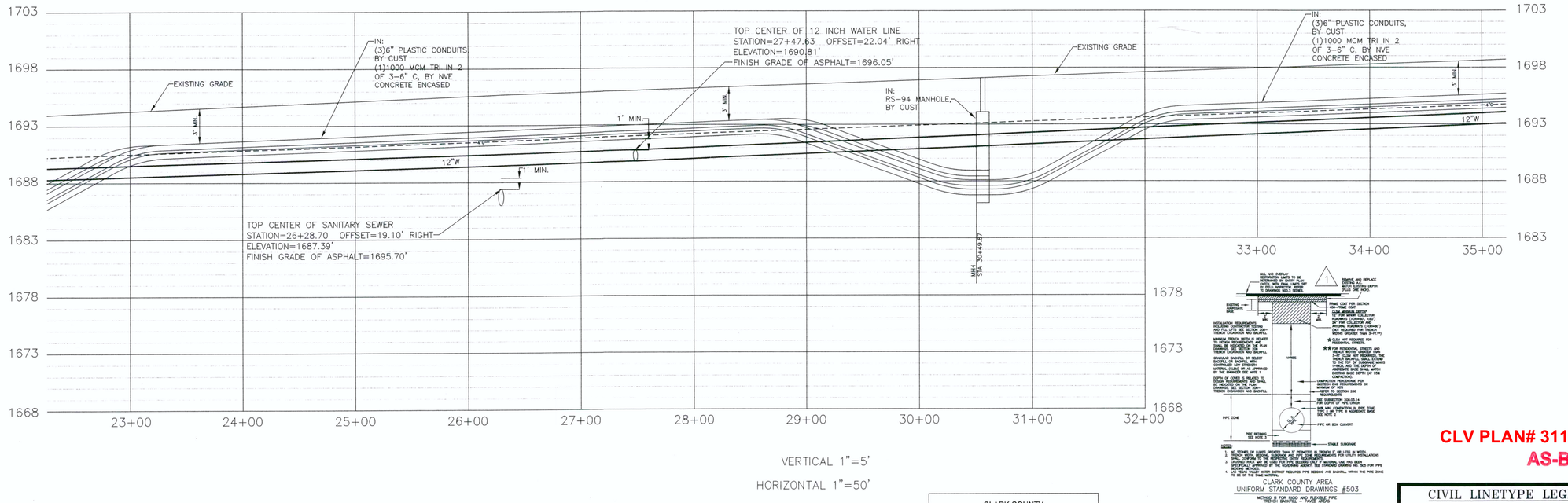

VERTICAL 1"=5'

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CLARK COUNTY AREA
UNIFORM STANDARD DRAWINGS #503
METHOD B FOR RIGID AND FLEXIBLE PIPE
TRENCH BACKFILL - PAVED AREAS

CLV PLAN# 311.57

AS-BUILT

CLARK COUNTY NOTES:

BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.

502 ④ △2

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500.3 ①
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NIGHT WORK: YES ☐ NO ☐

ENCROACHMENT PERMIT # 12-0866.8

APPROVAL BY: [signature] 2/11/13 DATE

CIVIL LINETYPE LEGEND

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CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
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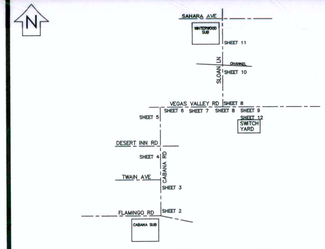

VICINITY MAP
(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.



CALL 1-702-402-2929

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811

OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST, ADDITIONS/CORRECTIONS-DRAWINGS SERIES 500.3&5 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	
	RECEIVED FEB 11 2013 McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:		JPA NOTES:
AERIAL	☐	EMBARQ CONTACT: LEN BELLOWS
STANDARD	☐	PHONE NUMBER: 244-7290
R/W-31	☐	DATE OF CONTACT: 09/12/2012
UNDERGROUND	☐	NVE TO SET NEW POLES
AS BUILT UNDERGROUND	☐	NVE TO STAKE NEW POLES
R.O.E./R/W-5-COM	■	NVE TO PROVIDE 1 POLES
3rd PARTY	☐	1 55 FT. CLASS 1
UNDERGROUND BY EXHIBIT	☐	FT. CLASS
(N-DOT) PERMIT	☐	FT. CLASS
(BLM) PERMIT	☐	NVE TO DIG POLE HOLES
RAILROAD-UPRR-PERMIT	☐	NVE TO REMOVE EX. POLES
SO. NEVADA WATER PERMIT	☐	MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY.
NOT REQUIRED	☐	JPA#: P201211103
Misc. Info.	☐	

EXHIBIT 'A'

NVE INFORMATION:

COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:

APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:

AGENCY: CLARK COUNTY
APPROVAL DATE:

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NPC METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS

NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 19 OF 27 | DATE: 01/02/2012

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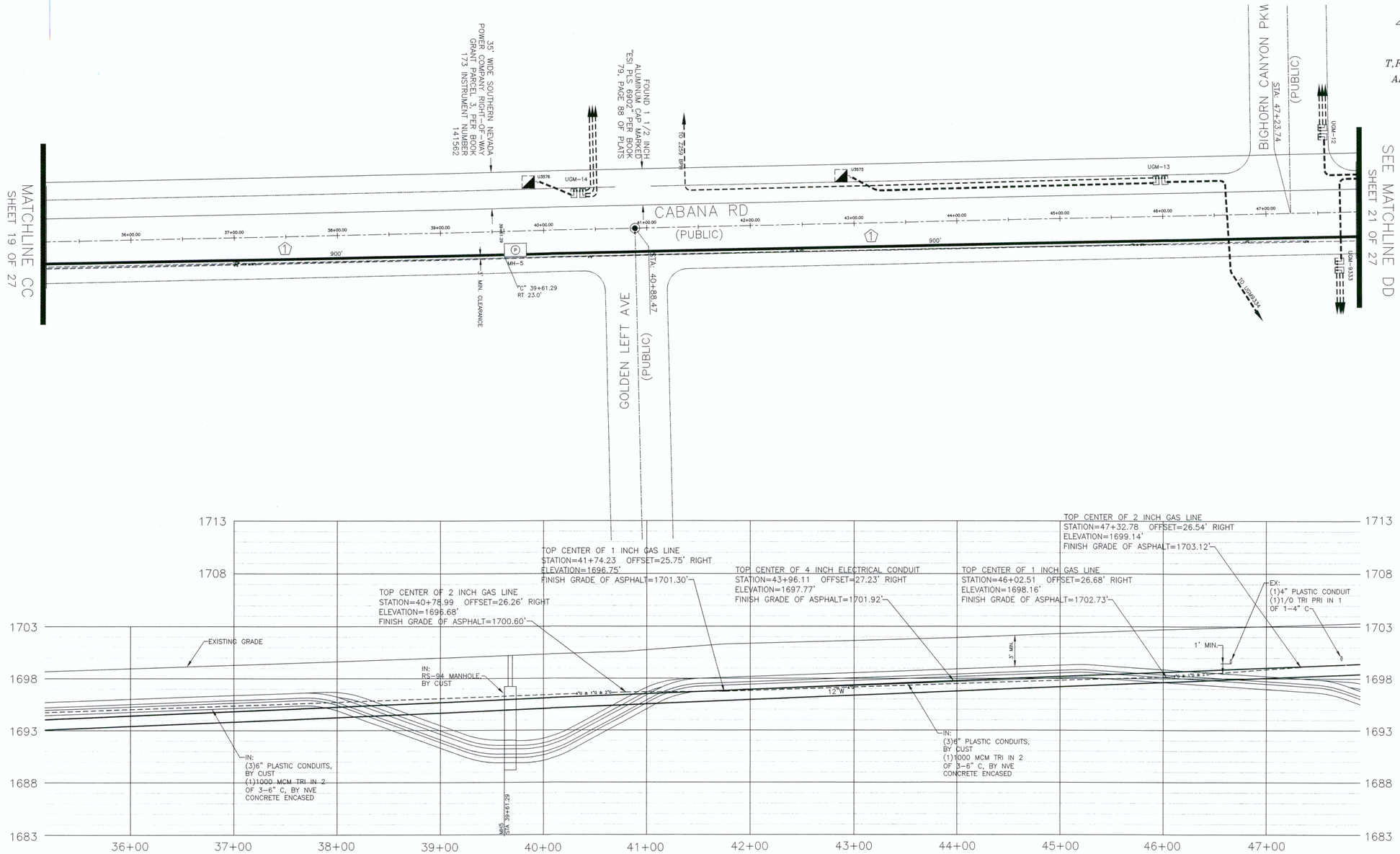
2-REVISION(S)



VERTICAL 1"=5'

HORIZONTAL 1"=50'

CLARK COUNTY NOTES:

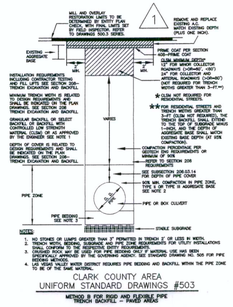
BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.

502 ④ ⚠2

CLARK COUNTY NOTES:

BACKFILL SHALL CONFORM TO RTC STD 503. PAVEMENT REPAIR SHALL CONFORM TO RTC.

500.3 ①
500.4 ②
500.5 ③
⚠2



PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE_____ DATE_____

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ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

APPROVED FOR PERMITTING

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NIGHT WORK: YES ☐ NO ☐

ENCROACHMENT PERMIT # 12.08008

APPROVAL BY: [signature] 2/11/13 DATE

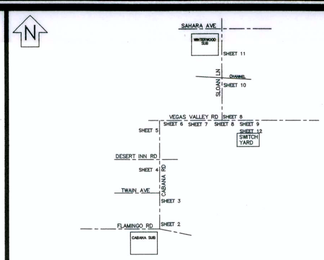
AS-BUILT

CLV PLAN# 311.57

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.



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REVISIONS

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RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

TYPE OF EASEMENT:

- ☐ AERIAL
- ☐ STANDARD
- ☐ R/W-31
- ☐ UNDERGROUND
- ☐ AS BUILT UNDERGROUND
- ■ R.O.E./R/W-5-COM
- ☐ 3rd PARTY
- ☐ UNDERGROUND BY EXHIBIT
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- ☐ RAILROAD-UPRR-PERMIT
- ☐ SO. NEVADA WATER PERMIT
- ☐ NOT REQUIRED
- ☐ Misc. Info.

JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
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NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

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COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:

APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:

AGENCY: CLARK COUNTY
APPROVAL DATE:

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 20 OF 27 | DATE: 01/02/2012

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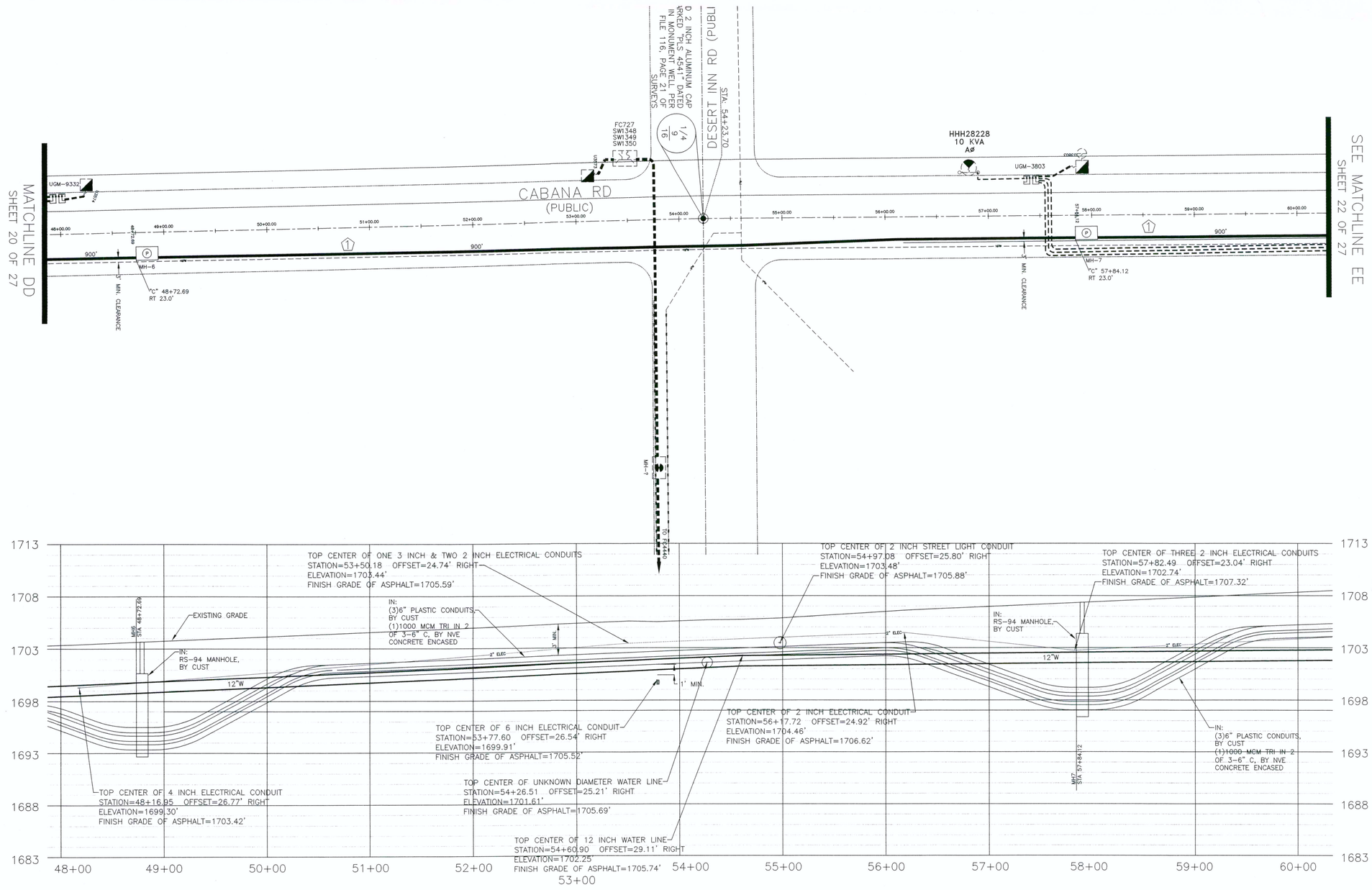
2-REVISION(S)



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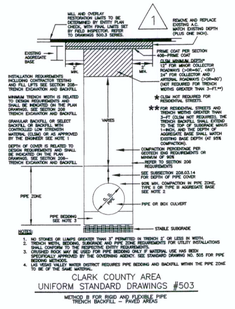

CLARK COUNTY NOTES:

BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.

502 (4)

CLARK COUNTY NOTES:

BACKFILL SHALL CONFORM TO RTC STD 503. PAVEMENT REPAIR SHALL CONFORM TO RTC.

500.3 (1)
500.4 (2)
500.5 (3)

PURPOSE OF PROJECT:
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CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

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APPROVED FOR PERMITTING

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YES NO
NIGHT WORK: ☐ ☐
ENCROACHMENT PERMIT # 12-A8618

APPROVAL BY: _____ DATE 2/6/13

AS-BUILT

CLV PLAN# 311.57

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PVMT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
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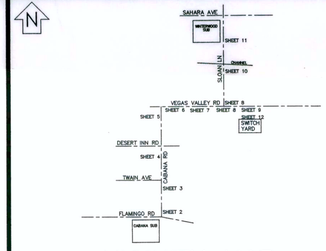
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.



VICINITY MAP
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	RECEIVED FEB 11 2013 McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:

AERIAL	☐
STANDARD	☐
R/W-31	☐
UNDERGROUND	☐
AS BUILT UNDERGROUND	☐
R.O.E./R/W-5-COM	■
3rd PARTY	☐
UNDERGROUND BY EXHIBIT	☐
(N-DOT) PERMIT	☐
(BLM) PERMIT	☐
RAILROAD-UPRR-PERMIT	☐
SO. NEVADA WATER PERMIT	☐
NOT REQUIRED	☐
Misc. Info.	☐

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FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:

COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:

APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:

AGENCY: CLARK COUNTY
APPROVAL DATE:

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 21 OF 27 | DATE: 01/02/2012

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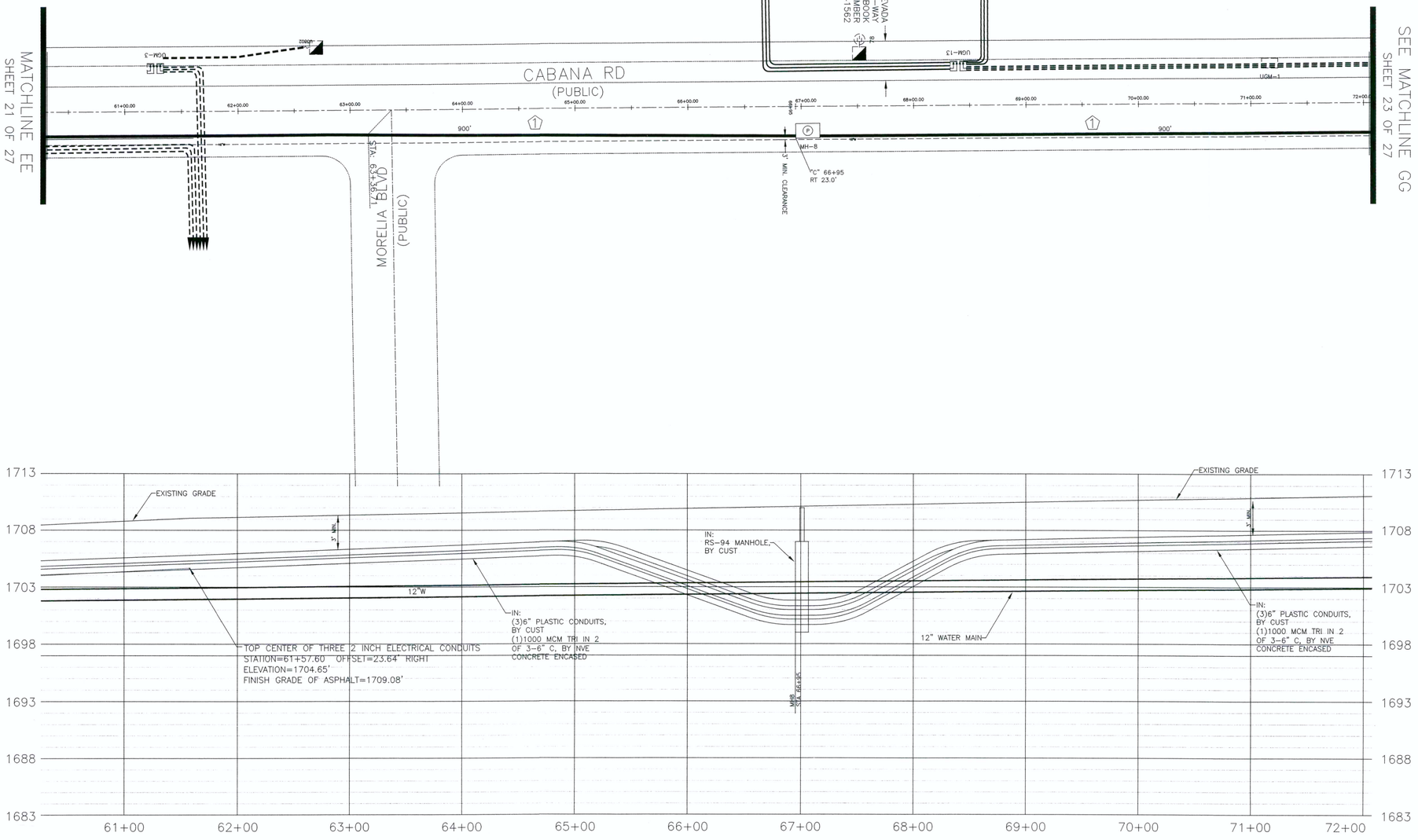
2-REVISION(S)



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502 ④ ⚠2

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500.3 ①
500.4 ②
500.5 ③
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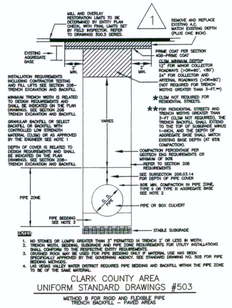

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

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HTE_____ DATE_____

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PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

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NIGHT WORK: YES ☐ NO ☐

ENCROACHMENT PERMIT # 12-48668

APPROVAL BY: _____ DATE 2/1/13

AS-BUILT

CLV PLAN# 311.57

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
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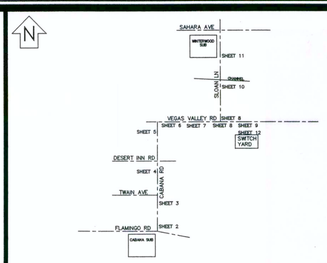

VICINITY MAP
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REVISIONS

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RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

TYPE OF EASEMENT:

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- ☐ R/W-31
- ☐ UNDERGROUND
- ☐ AS BUILT UNDERGROUND
- ■ R.O.E./R/W-5-COM
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JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
____ FT. CLASS ____
____ FT. CLASS ____
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 22 OF 27 | DATE: 01/02/2012

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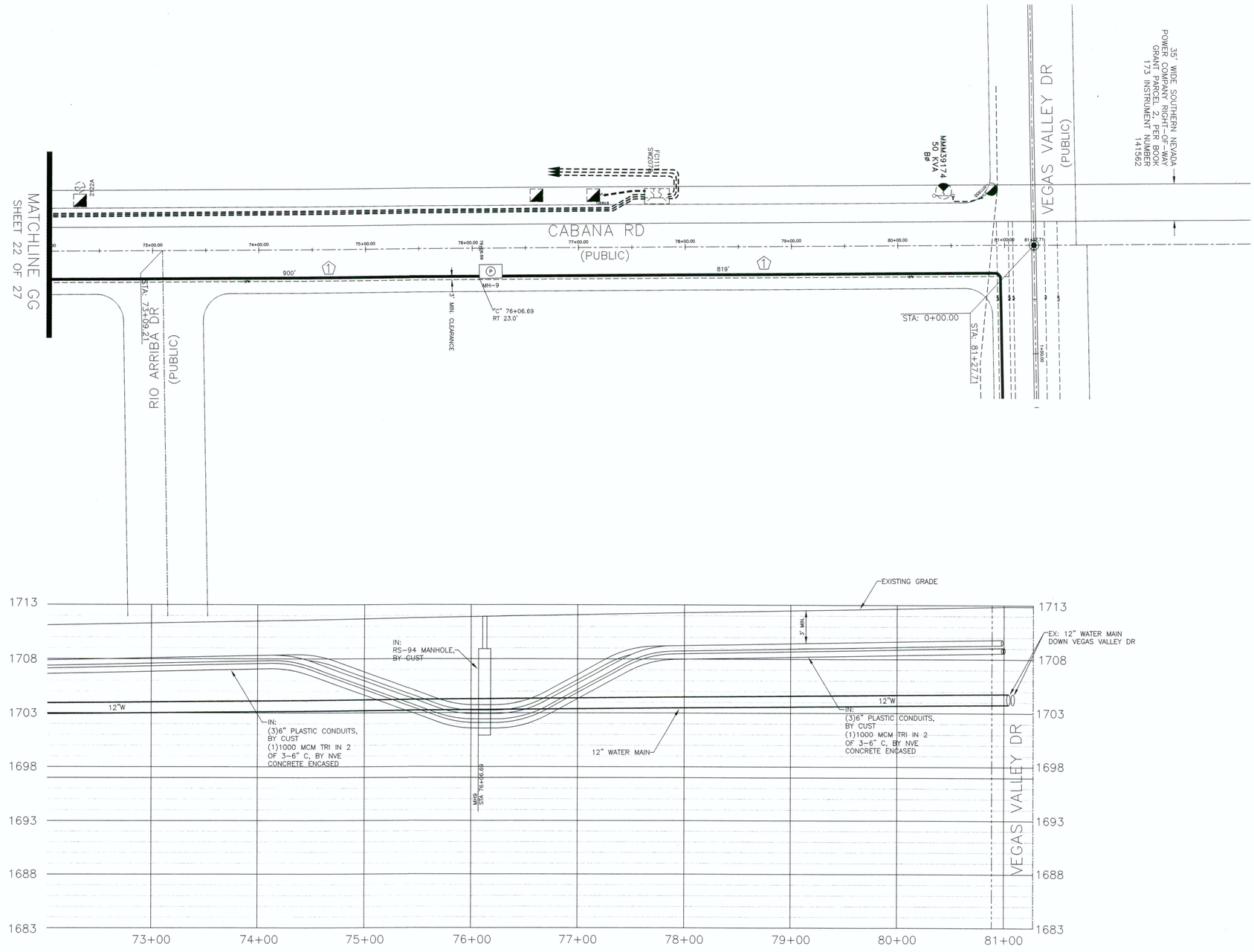
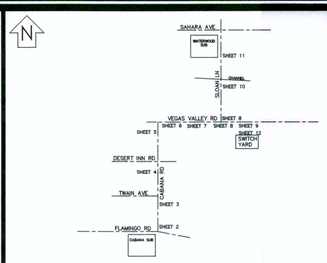


VERTICAL 1"=5'

HORIZONTAL 1"=50'

T,R,S: 2162-10

APN:



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NOT REQUIRED	☐	JPA#: P201211103
Misc. Info.	☐	

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STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE:

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NPC METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS

NVEnergy

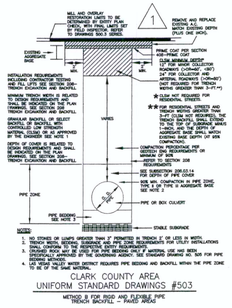
CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 23 OF 27 | DATE: 01/02/2012

AS-BUILT
CLV PLAN# 311.57

CLARK COUNTY NOTES:
BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.
502 ④ △2

CLARK COUNTY NOTES:
BACKFILL SHALL CONFORM TO RTC STD 503. PAVEMENT REPAIR SHALL CONFORM TO RTC.
500.3 ①
500.4 ②
500.5 ③ △2



PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*
DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY
HTE_____ DATE_____
* NVE INSPECTOR WILL VERIFY COUNTY PERMIT FOR WORK DONE WITHIN COUNTY RIGHT-OF-WAY
ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

APPROVED FOR PERMITTING
THIS APPROVAL IS FOR WORK IN CC R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.
NIGHT WORK: YES ☐ NO ☐
ENCROACHMENT PERMIT # 12-28668
APPROVAL BY: 2/11/13 DATE

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.

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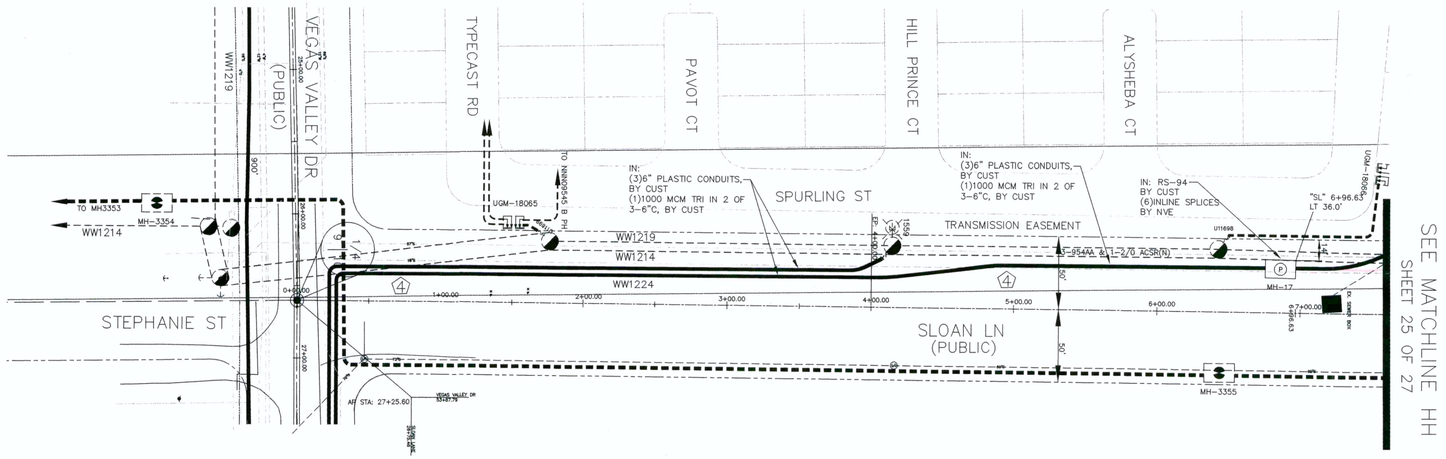
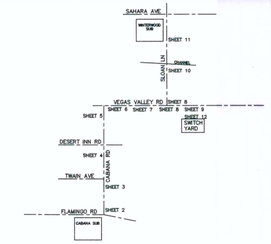
2-REVISION(S)





T,R,S: 2162-10

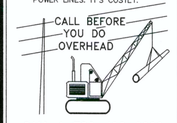
APN:



VICINITY MAP
(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.

AVOID HITTING OVERHEAD POWER LINES. IT'S COSTLY.



CALL 1-702-402-2929

Call before you Dig
Avoid cutting underground utility lines. It's easy.

Call 811
OR
1-800-227-2600
AND
CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST. ADDITIONS/CORRECTIONS-DRAWINGS SERIES 500.3&5 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

TYPE OF EASEMENT:

AERIAL	☐
STANDARD	☐
R/W-31	☐
UNDERGROUND	☐
AS BUILT UNDERGROUND	☐
R.O.E./R/W-5-COM	■
3rd PARTY	☐
UNDERGROUND BY EXHIBIT	☐
(N-DOT) PERMIT	☐
(BLM) PERMIT	☐
RAILROAD-UPRR-PERMIT	☐
SO. NEVADA WATER PERMIT	☐
NOT REQUIRED	☐
Misc. Info.	☐

JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:

COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:

APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:

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APPROVAL DATE:

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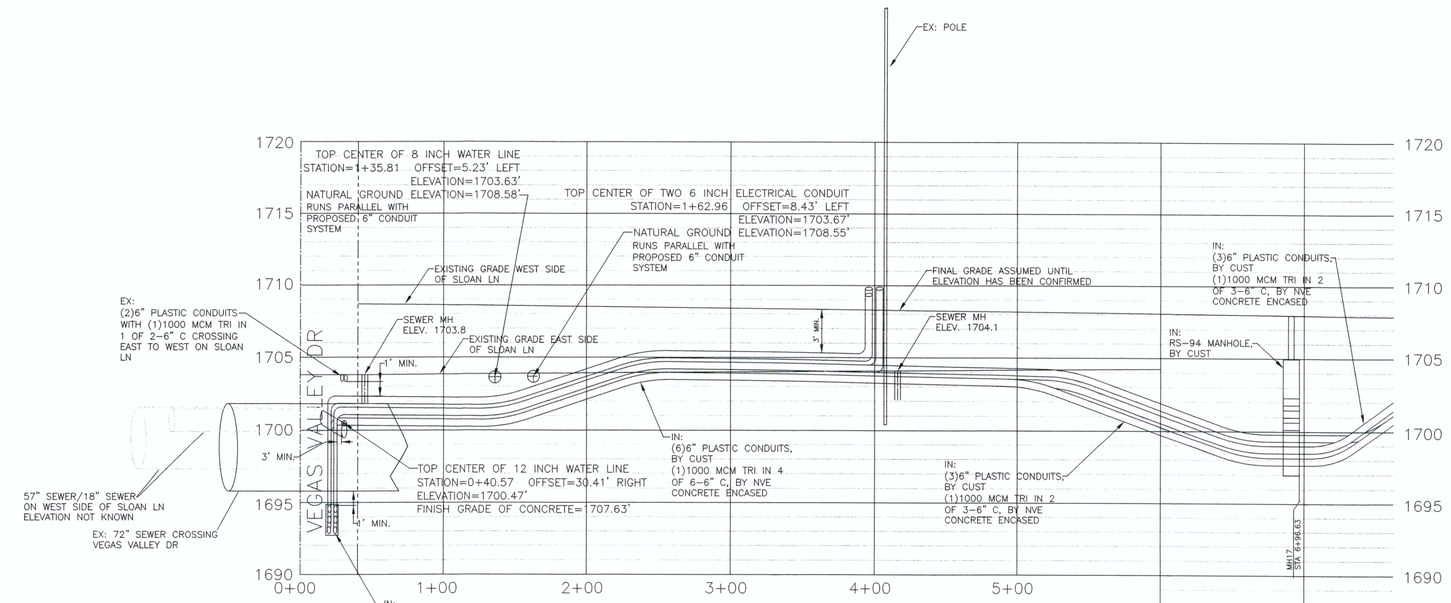

AS-BUILT

CLV PLAN# 311.57

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BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.

502 ④ ②

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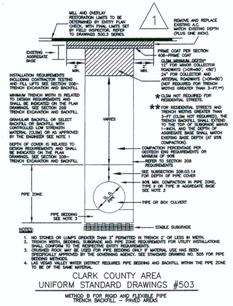
500.3 ①
500.4 ②
500.5 ③

②



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NIGHT WORK: YES ☐ NO ☐

ENCROACHMENT PERMIT # 12-48668

APPROVAL BY: 2/11/13 DATE

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
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STREET LIGHT		
STREET LIGHT SERVICE		

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599	SCALE: 1" = 50'
SHEET #: 24 OF 27	DATE: 01/02/2012

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2-REVISION(S)

McCARTHY

Request for Information with Comments

Project RFI #: 0074-0

Date Created: 10/21/2013

Priority: Normal

CLV WPCF Infrastructure Replacement
Project # 004426.000
6005 East Vegas Valley Drive
Las Vegas, NV 89142

Tel: 702-990-6707 Fax: 702-990-6713
Answer Required By: 11/04/2013

Submitted To	**Submitted By**
Carollo Engineers	McCarthy Building Companies, Inc.
Carollo Team	Nick Partin
376 E. Warm Springs Road, Suite 250	6005 East Vegas Valley Drive
Las Vegas, NV 89119	Las Vegas, NV 89142

Subject: Additional Bore Casing on north side of the Las Vegas Wash on Sloan Lane.
Discipline: Electrical
Initiated By: Sequoia Electric - Eddie Lytle
Category:
Ref RFI: 004
Reason: Field Condition

Attachments

Type	Name	Description	Content
File	Sloan Bore Elevations	Sloan Bore Elevations	Sloan_Bore_Elevations.pdf
File	CLV WPCF RFI 004 Plan Sheet	CLV WPCF RFI 004 Plan Sheet	CLV_WPCF_RFI_004_Plan_Sheet.pdf
File	RFI #0074	Supplemental Information to Response	RFI_74_-_Supplement_to_Response.pdf

Question

The bore casing on the south side of Las Vegas Wash has an elevation of 1684.20. The bore casing elevation on the north side of the las Vegas Wash has an elevation of 1691.03 (See Attached Drawings). Please advise if this is acceptable. Due to safety issues with collapsing dirt and to speed up the installation process, Sequoia also installed 40-Feet of additional bore casing with the final elevation of the added casing being 1700.28. The casing was installed in the same manner as all other casing installed on the project. The casing is the same dimensions as the trenched in duct bank and will provide greater protection of the circuit. Please adive if this is also acceptable.

Suggestion

Answer **Date Answered: 10/22/2013**

The addition of 40 feet of casing is acceptable assuming the spacers and grout in this extension are the same as underneath the Wash. With respect to sloping the casing underneath the wash from 1684 to 1691, this is acceptable as long as there is a minimum of 3 feet separating the bottom of the channel and the top of the encasement. In the near future, the channel will be constructed to have a bottom elevation of about 1694. At that time there will be sufficient distance between the channel bottom and the encasement. However, there will be considerable construction in the channel and therefore there needs to be adequate protection the existing channel and the encasement. This can be determined by getting the station number and the elevation of the existing channel where it intersects the side slope on the north side of the channel (see attached). Please confirm adequate cover by obtaining and submitting this information.

Comments

Submitted To	**Submitted By**
Carollo Engineers	McCarthy Building Companies, Inc.
Carollo Team	Nick Partin
376 E. Warm Springs Road, Suite 250	6005 East Vegas Valley Drive
Las Vegas, NV 89119	Las Vegas, NV 89142

Subject: Additional Bore Casing on north side of the Las Vegas Wash on Sloan Lane.
Discipline: Electrical
Initiated By: Sequoia Electric - Eddie Lytle
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Ref RFI: 004
Reason: Field Condition

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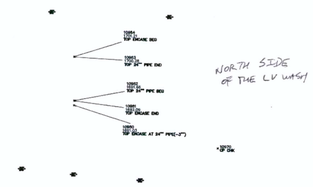
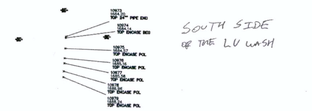
Bruce Johnson 10/21/13 18:54

Architect/Engineer Signature

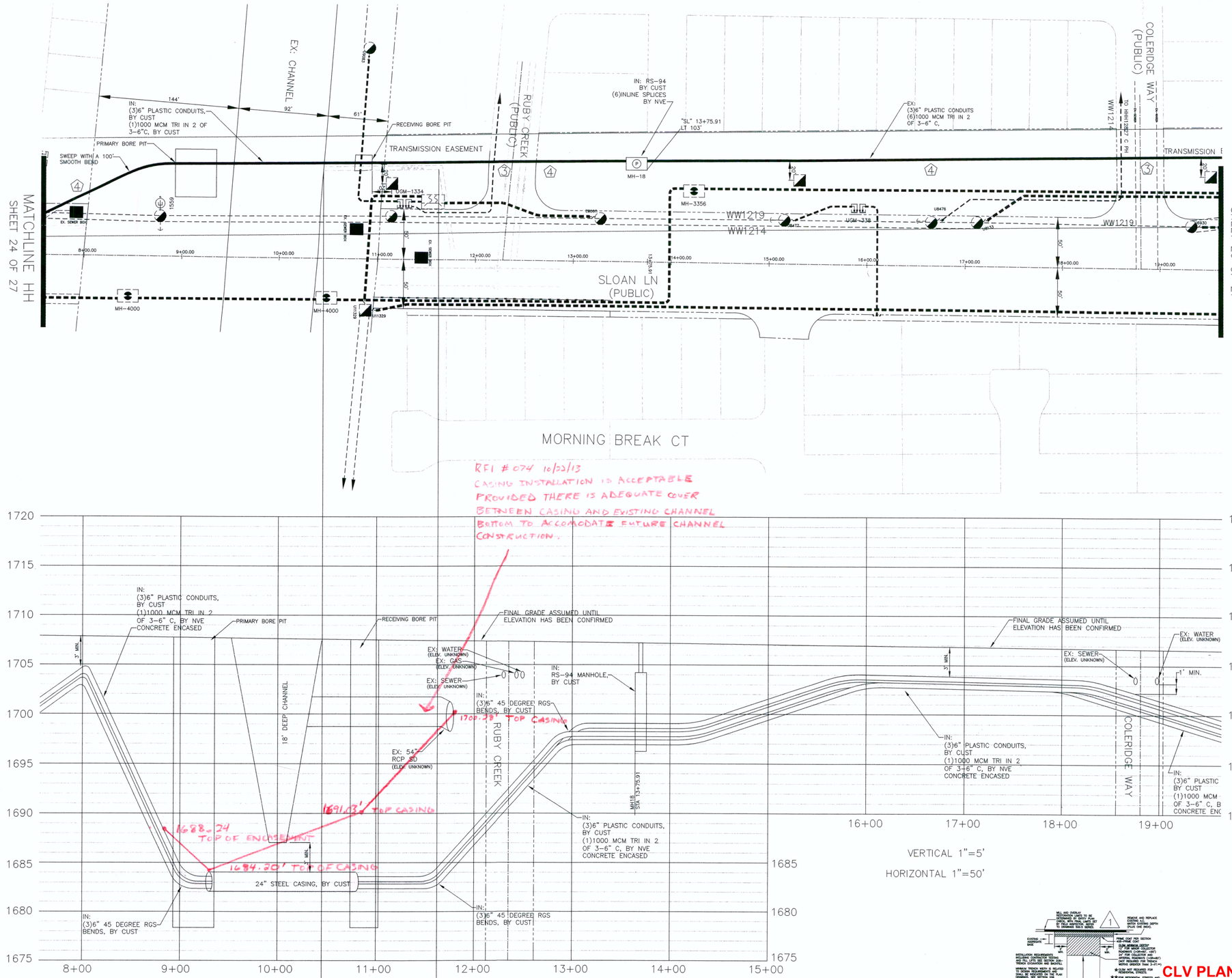
By:_____ Date:_____

Consultant:



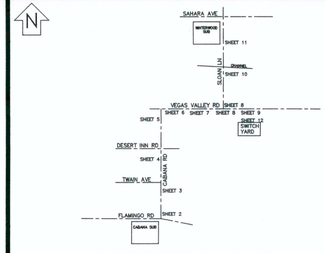


CLV PLAN# 311.57



RFI # 074 10/23/13
CASING INSTALLATION IS ACCEPTABLE PROVIDED THERE IS ADEQUATE COVER BETWEEN CASING AND EXISTING CHANNEL BOTTOM TO ACCOMODATE FUTURE CHANNEL CONSTRUCTION.

T,R,S: 2162-10
APN:



VICINITY MAP
(NOT TO SCALE)

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OR
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1-702-455-7544

REVISIONS

NO.	DESCRIPTION	DATE	G.A.
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2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	
	RECEIVED FEB 11 2013 McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:
- AERIAL
- STANDARD
- R/W-31
- UNDERGROUND
- AS BUILT UNDERGROUND
- R.O.E./R/W-5-COM
- 3rd PARTY
- UNDERGROUND BY EXHIBIT
- (N-DOT) PERMIT
- (BLM) PERMIT
- RAILROAD-UPRR-PERMIT
- NOT REQUIRED
- Misc. Info.

JPA NOTES:
EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
FT. CLASS
FT. CLASS
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:
COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE:

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YES ☐ NO ☐
NIGHT WORK:
ENCROACHMENT PERMIT # 12-0268
APPROVAL BY: 2/11/13 DATE

CLARK COUNTY NOTES:
BACKFILL IN UNPAVED AREAS (DIRT) SHALL CONFORM TO RTC STD 502.
502 4
2

CLARK COUNTY NOTES:
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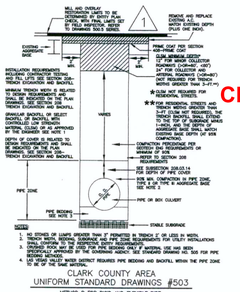
500.3 1
500.4 2
500.5 3
2



AS-BUILT
CLV PLAN# 311.57

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
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STREET LIGHT		
STREET LIGHT SERVICE		

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NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 25 OF 27 | DATE: 01/02/2012

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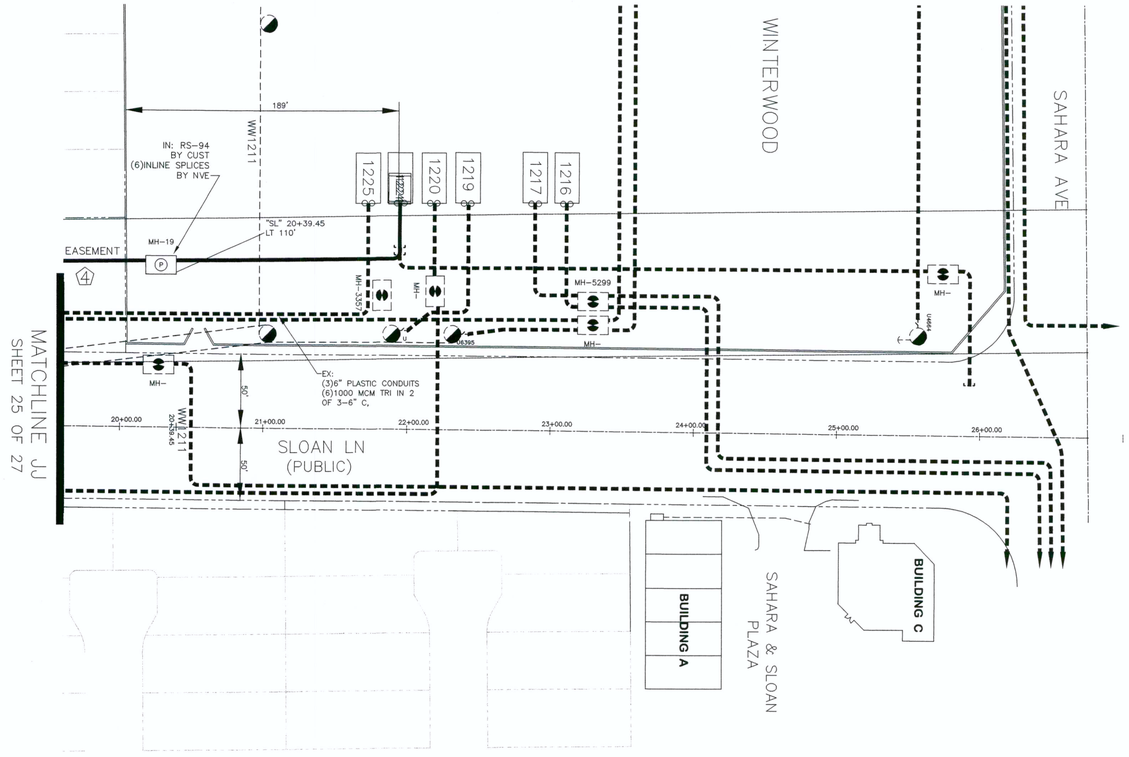
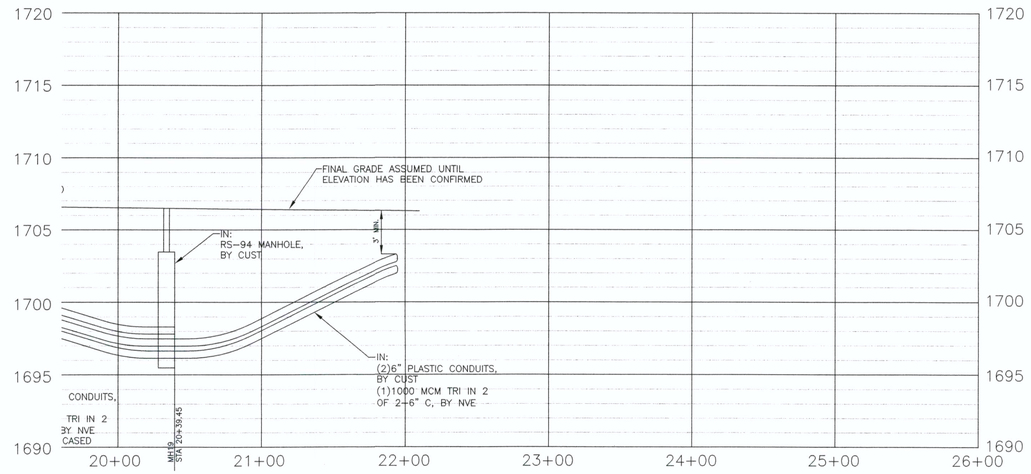
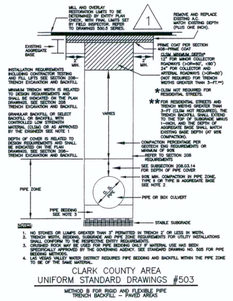
2-REVISION(S)





VERTICAL 1"=5'

HORIZONTAL 1"=50'



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502 ④

2

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500.3 ①
500.4 ②
500.5 ③

2

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NIGHT WORK: YES ☐ NO ☐

ENCROACHMENT PERMIT # 12-486658

APPROVAL BY: _____ DATE 2/1/13

AS-BUILT
CLV PLAN# 311.57

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
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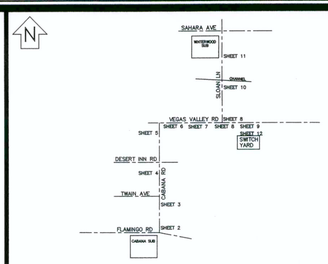

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CLARK COUNTY TRAFFIC OPERATIONS
1-702-455-7544

REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST, ADDITIONS/CORRECTIONS-DRAWINGS SERIES 500.3&5 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	
	RECEIVED FEB 11 '13 McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:

- AERIAL ☐
- STANDARD ☐
- R/W-31 ☐
- UNDERGROUND ☐
- AS BUILT UNDERGROUND ☐
- R.O.E./R/W-5-COM ■
- 3rd PARTY ☐
- UNDERGROUND BY EXHIBIT ☐
- (N-DOT) PERMIT ☐
- (BLM) PERMIT ☐
- RAILROAD-UPRR-PERMIT ☐
- SO. NEVADA WATER PERMIT ☐
- NOT REQUIRED ☐
- Misc. Info. ☐

JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
____ ____ FT. CLASS ____
____ ____ FT. CLASS ____
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:

COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA: _____
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:

APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:

AGENCY: CLARK COUNTY
APPROVAL DATE: _____

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NPC METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS

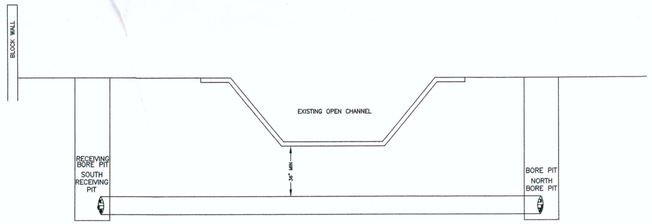
NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 26 OF 27 | DATE: 01/02/2012

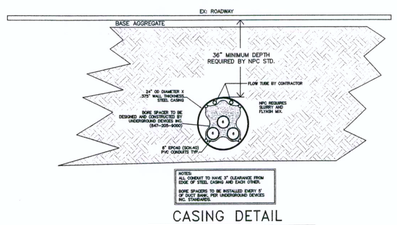
Sharing of this drawing and the information contained herein shall be only to individuals/parties who have entered into an agreement with Applicant for the completion of work associated with this specific project. Use for purposes other than this specific project requires the written consent of NV Energy.

2-REVISION(S)



BORE SECTION LOOKING EAST

NOT TO SCALE

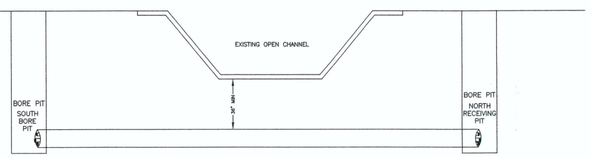


CASING DETAIL

NOT TO SCALE

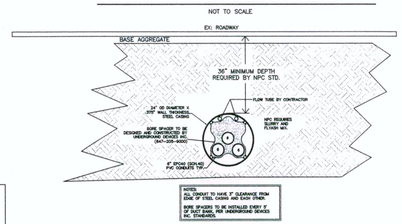
BORE DETAIL

DETAIL "A"
N.T.S.



BORE SECTION LOOKING EAST

NOT TO SCALE



CASING DETAIL

NOT TO SCALE

BORE DETAIL

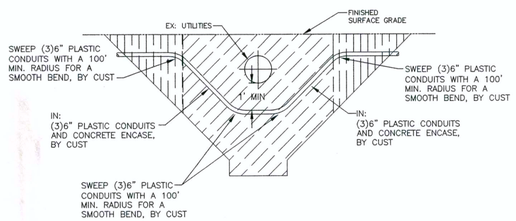
DETAIL "B"
N.T.S.

CONTRACTOR BORE PIT NOTE 1:

CONTRACTOR TO DETERMINE SIZE AND DEPTH OF BORE PITS REQUIRED TO INSTALL CONDUIT SYSTEM AND AVOID CONFLICTS WITH EXISTING UTILITIES AND/OR SUBSTRUCTURES. REFER TO CASING DETAIL FOR CASING AND SPACER SPECS.

CONTRACTOR BORE PIT NOTE 2:

BORE PITS ADJUSTABLE AS NEEDED TO AVOID POTENTIAL CONFLICTS. MINIMUM SPACING AND DISTANCE FROM EXISTING CHANNEL PER GOVERNMENT ENTITY AND CONTRACTOR CONSTRUCTION REQUIREMENTS, CONTRACTOR MUST VERIFY WITH GOVERNMENT AGENCY TO CONFIRM THEIR REQUIREMENTS AND DISTANCES.



NOTES:

NDOT REQUIREMENTS (APPLICABLE WITHIN NDOT RIGHT-OF-WAY ONLY):

1. 3/4 INCH OPEN-GRADE.
2. 4 INCH MINIMUM DENSE-GRADE OR MATCH EXISTING, WHICHEVER IS GREATER.
3. BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 704). A MINIMUM OF 16 INCHES TO BE LAID IN MAXIMUM 8 INCH LOOSE LIFTS. 95% COMPACTION REQUIRED.
4. BACKFILL WITH SELECT MATERIAL TO BOTTOM OF BASE AGGREGATE (AS PER NDOT SPECIFICATIONS; SECTION 207). 90% COMPACTION REQUIRED.
5. LIMITS OF PAVING TO BE DETERMINED BY THE INSPECTOR.

CLV REQUIREMENTS (APPLICABLE WITHIN CITY OF LAS VEGAS LIMITS ONLY):

IMPROVED AREA (IMP. ST.): (LOCATION OF TRENCH)
AREA WILL BE CONSIDERED IMPROVED IF IT MEETS ONE OR MORE OF THE FOLLOWING CRITERIA(S).

- EXISTING PERMANENT PAVEMENT WITH CURB & GUTTER AND/OR ADJACENT PERMANENT SIDEWALK.
- WITHIN AN IMPROVED TRAIL AREA.
- LIMITS OF CONSTRUCTION INSTALLED CONCURRENT WITH A PRIVATE OR PUBLIC PROJECT.

UNIMPROVED AREA (UNIMP. ST.): (LOCATION OF TRENCH)
ANY OTHER SCENARIO THAT FAILS TO MEET THE IMPROVED AREA CRITERIA(S) WILL BE CONSIDERED AN UNIMPROVED AREA.

NVE REQUIREMENTS:
FOR ALL OTHER JURISDICTIONS REFER TO NVE STANDARDS.
BACKFILL REQUIREMENTS NVE. STD. RT-1.
TRENCH DEPTH REQUIREMENTS NVE. STD. RT-5.

DETAIL "C" (TYP.)
N.T.S.

NOTE PER CUSTOMER REQUEST:

BORE PIT ON FLAMINGO RD/CABANA RD

SOME GEOTECHNICAL INFORMATION IS AVAILABLE. SEE "CCWRD FLAMINGO RD RELIEF INTERCEPTORS AND CROSSTOWN/CABANA RELIEF INTERCEPTORS PROJECT. PORTIONS OF FLAMINGO RD, CABANA RD DESERT INN RD, TWAIN AVE, NELLIS BLVD AND THEME RD-CLARK COUNTY NEVADA. PREPARED BY CONVERSE CONSULTANTS FOR CAROLLO ENGINEERS AUG. 15, 2007." THIS REPORT MAY NOT REFLECT CURRENT CONDITIONS. CONTRACTOR TO CONDUCT SUCH INVESTIGATION AS NECESSARY TO DESIGN THE BORING, CASING, SHEETING AND DEWATERING COMPONENTS.

PURPOSE OF PROJECT:
PROVIDE 12 KV SERVICE FROM CABANA AND WINTERWOOD SUBS TO PROJECT SITE

CLARK COUNTY
PUBLIC WORKS
PERMIT REQUIRED*

DEVELOPER/CONTRACTOR SHALL OBTAIN A COUNTY PERMIT BEFORE ANY EXCAVATION WORK WITHIN CLARK COUNTY RIGHT-OF-WAY

HTE_____ DATE_____

* NVE INSPECTOR WILL VERIFY COUNTY PERMIT FOR WORK DONE WITHIN COUNTY RIGHT-OF-WAY

ENERGIZING AND SETTING OF ELECTRIC METER MAY BE DELAYED IF OFF-SITE RESTORATION IS NOT COMPLETED TO THE SATISFACTION OF CLARK COUNTY INSPECTOR

APPROVED FOR PERMITTING

THIS APPROVAL IS FOR WORK IN CC R/W & EASEMENT ONLY. OBTAINING PERMISSIONS OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.

YES ☐ NO ☐

NIGHT WORK:

ENCROACHMENT PERMIT # 12-48648

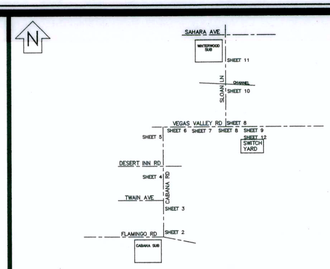
APPROVAL BY: DATE 2/11/13

CIVIL LINETYPE LEGEND

	PROPOSED	EXISTING
CENTERLINE		
PROPERTY LINE/ROW		
CURB		
EDGE OF PAVEMENT		
EDGE OF SIDEWALK		
SEWER LINE *	8"S	8"S
WATER LINE *	8"W	8"W
GAS LINE *	2"G	2"G
TELEPHONE LINE *	TEL	TEL
CABLE TV LINE *	CATV	CATV
STORM DRAIN LINE *	12"SD	12"SD
FIRE HYDRANT		
STREET LIGHT		
STREET LIGHT SERVICE		

* LINETYPES UTILIZED WHERE CONFLICT OCCURS WITH NVE FACILITIES.

AS-BUILT
CLV PLAN# 311.57



VICINITY MAP
(NOT TO SCALE)

EVERY EFFORT HAS BEEN MADE TO IDENTIFY ALL NVE FACILITIES. THE CUSTOMER SHALL CONFIRM THE EXISTENCE AND LOCATION OF THESE FACILITIES.





REVISIONS

NO.	DESCRIPTION	DATE	G.A.
1	REALIGN CIRCUITS IN SWITCH YARD PER CUST, ADDITIONS/CORRECTIONS-DRAWINGS SERIES 500.3&5 PER CLARK COUNTY, ADD NOTES PER	01/07/2013	
2	ADDITIONAL NOTES FROM CLARK COUNTY, ADDED "UNDEVELOPED" ON SOUTHSIDE OF CHANNEL ON SLOAN LN, BY DT	01/16/2013	
	RECEIVED FEB 11 [illegible] 3 McCarthy Building Companies, Inc.		

TYPE OF EASEMENT:

AERIAL	☐
STANDARD	☐
R/W-31	☐
UNDERGROUND	☐
AS BUILT UNDERGROUND	☐
R.O.E./R/W-5-COM	■
3rd PARTY	☐
UNDERGROUND BY EXHIBIT	☐
(N-DOT) PERMIT	☐
(BLM) PERMIT	☐
RAILROAD-UPRR-PERMIT	☐
SO. NEVADA WATER PERMIT	☐
NOT REQUIRED	☐
Misc. Info.	☐

JPA NOTES:

EMBARQ CONTACT: LEN BELLOWS
PHONE NUMBER: 244-7290
DATE OF CONTACT: 09/12/2012
NVE TO SET NEW POLES
NVE TO STAKE NEW POLES
NVE TO PROVIDE 1 POLES
1 55 FT. CLASS 1
____ ____ FT. CLASS ____
____ ____ FT. CLASS ____
NVE TO DIG POLE HOLES
NVE TO REMOVE EX. POLES
MOVE POLE TO EX. LINE, REM: 3 POLES, ADD GUY
JPA#: P201211103

EXHIBIT 'A'

NVE INFORMATION:
COORDINATOR: PATRICIA BROWN
PHONE: 402-6812
DESIGNER: DARRYL THOMAS
DCA:
INSPECTOR: 402-3008
STAND BY: 402-6788,402-6795,402-6840
DISTRICT: LAS VEGAS SOUTH

CUSTOMER INFORMATION:
APPLICANT CLV
ENGINEER: CH2MHILL
CONTACT: AARON HALL 953-1269
APPROVAL DATE: 12/10/2012

GOVERNMENT INFORMATION:
AGENCY: CLARK COUNTY
APPROVAL DATE:

FOR EACH SERVICE POINT (POINT OF DELIVERY), ENERGY FOR EACH TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. ENERGY FOR ALL NON-TENANT SPACE WILL BE MEASURED THROUGH ONE WATTHOUR METER. CONTACT NPC METER OPERATIONS FOR MULTIPLE RATE CLASS INSTALLATIONS

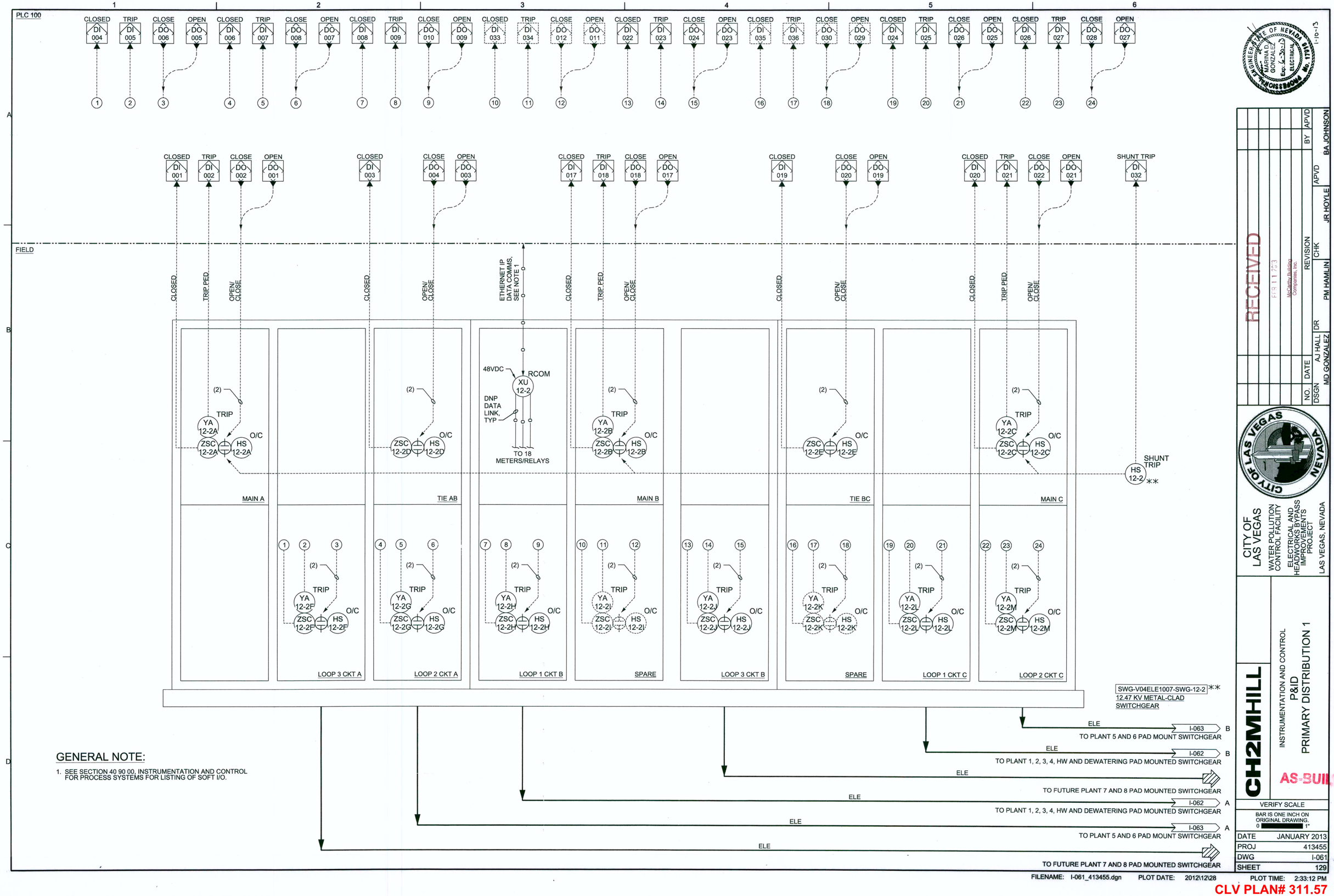
NVEnergy

CLV INFRASTRUCTURE REPLACEMENTS
VEGAS VALLEY DR/SLOAN LN

PROJ. ID: 3000019599 | SCALE: 1" = 50'
SHEET #: 27 OF 27 | DATE: 01/02/2012

Sharing of this drawing and the information contained herein shall be only to individuals/parties who have entered into an agreement with Applicant for the completion of work associated with this specific project. Use for purposes other than this specific project requires the written consent of NV Energy.

2-REVISION(S)



GENERAL NOTE:

1. SEE SECTION 40 90 00, INSTRUMENTATION AND CONTROL FOR PROCESS SYSTEMS FOR LISTING OF SOFT I/O.

STATE OF NEVADA — PROFESSIONAL ENGINEER — MARINA D. GONZALEZ — No. 17918 — Exp: 6-30-13 — ELECTRICAL — 1-10-13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	AJ HALL	DR	CHK	APVD
	MD GONZALEZ	PM HAMLIN	JR HOYLE	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
P&ID
PRIMARY DISTRIBUTION 1

AS-BUILT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	I-061
SHEET	129

FILENAME: I-061_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 2:33:12 PM

CLV PLAN# 311.57

PLC 102

PLC 104

PLC 105

PLC 103

FROM SWG-V04ELE 1007-SWG-12-2 (SEE DWG I-061)

a I-061

TO/FROM SWG-V07ELE 1058-SWG-12-2 (BELOW)

SWG-V03ELE1021-SWG-12-4
12.47 KV PAD-MOUNT SWITCHGEAR

SWG-V01ELE1041-SWG-12-3
12.47 KV PAD-MOUNT SWITCHGEAR

TO EXISTING PLANTS 3 & 4

TO EXISTING PLANTS 1 & 2

TO/FROM SWG-V01ELE 1041-SWG-12-2 (ABOVE)

SWG-V07ELE1058-SWG-12-2
12.47 KV PAD-MOUNT SWITCHGEAR

SWG-V05ELE1038-SWG-12-1
12.47 KV PAD-MOUNT SWITCHGEAR

TO EXISTING DEWATERING

TO EXISTING HEADWORKS

TO/FROM SWG-V01ELE 1007-SWG-12-2 (SEE DWG I-0161)

b I-061

GENERAL NOTE:

1. SEE SECTION 40 90 00, INSTRUMENTATION AND CONTROL FOR PROCESS SYSTEMS FOR LISTING OF SOFT I/O.

CLV PLAN# 311.57 AS-BUILT

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	DR	REVISION	CHK	APVD	BY	APVD
	MD GONZALEZ	AJ HALL	PM HAMLIN		JR HOYLE		BA JOHNSON	

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
P&ID
PRIMARY DISTRIBUTION 2

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	I-062
SHEET	130

FILENAME: I-062_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 3:23:31 PM

PLC 106

CLOSED DI 012 | TRIP DO 009 | OPENED DI 011 | GROUNDED DI 013 | LOW PRESSURE DI 033

OPEN DO 001 | IN REMOTE DI 001 | OPENED DI 002 | FAULT DI 005 | CLOSE DO 002 | CLOSED DI 003 | GROUNDED DI 004

CLOSE DO 004 | OPEN DO 003 | IN REMOTE DI 006 | CLOSED DI 008 | GROUNDED DI 009 | TRIP DO 010 | OPENED DI 007 | FAULT DI 010 | OPENED DI 014 | CLOSED DI 015 | GROUNDED DI 016 | OPENED DI 027 | GROUNDED DI 029 | CLOSED DI 028 | TRIP DO 011 | LOW PRESSURE DI 034

OPEN DO 005 | IN REMOTE DI 017 | OPENED DI 018 | FAULT DI 021 | CLOSE DO 006 | CLOSED DI 019 | GROUNDED DI 020

CLOSE DO 008 | OPEN DO 007 | IN REMOTE DI 022 | CLOSED DI 024 | GROUNDED DI 025 | TRIP DO 012 | OPENED DI 023 | FAULT DI 026 | OPENED DI 030 | CLOSED DI 031 | GROUNDED DI 032

(3) (2) (3) (2) (3) (3) (3) (2) (3) (2) (3) (3)

ETHERNET IP DATA COMMS, SEE NOTE 1

ETHERNET IP DATA COMMS, SEE NOTE 1

FROM SWG-V04ELE 1007-SWG-12-2 (SEE DWG I-061)

a I-061

ELE

PSL | XU | 24VDC

EO | LR | HS 12-5A | OCG | HS 12-5C | OCG | ZS 12-5A | CABLE FAULT | YA 12-5A

EO | LR | HS 12-5B | OCG | HS 12-5D | OCG | ZS 12-5B | CABLE FAULT | YA 12-5B

PSL | XU | 24VDC

EO | LR | HS 12-6A | OCG | HS 12-6C | OCG | ZS 12-6A | CABLE FAULT | YA 12-6A

EO | LR | HS 12-6B | OCG | HS 12-6D | OCG | ZS 12-6B | CABLE FAULT | YA 12-6B

ELE

SWG-V14ELE1061-SWG-12-5
12.47 KV PAD-MOUNT SWITCHGEAR

SWG-V14ELE1061-SWG-12-6
12.47 KV PAD-MOUNT SWITCHGEAR

TO EXISTING PLANTS 5 & 6 SWG-V14ELE001-SWG-1-1

TO EXISTING PLANTS 5 & 6 BLOWERS SWG-V14ELE001-SWG-1-2

TO EXISTING PLANTS 5 & 6 BLOWERS SWG-V14ELE001-SWG-1-3

TO EXISTING PLANTS 5 & 6 SWG-V14ELE001-SWG-1-4

FROM SWG-V04ELE 1007-SWG-12-2 (SEE DWG I-061)

b I-061

ELE

ELE

GENERAL NOTE:

1. SEE SECTION 40 90 00, INSTRUMENTATION FOR PROCESS SYSTEMS FOR LISTING OF SOFT I/O.

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

STATE OF NEVADA — PROFESSIONAL ENGINEER — MARINA D. GONZALEZ — No. 17916 — ELECTRICAL — Exp: 1-30-13 — 1-10-13

NO.	DATE	REVISION	CHK	APVD
DSGN	AJ HALL	DR	PM HAMLIN	BY APVD
	MD GONZALEZ		JR HOYLE	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
P&ID
PRIMARY DISTRIBUTION 3

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	I-063
SHEET	131

FILENAME: I-063_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 3:24:29 PM

PLC 100

BYPASS ON — DI 010

FAIL — DI 015

HI/LOW DC VOLATGE — DI 016

FAIL — DI 011

FAIL — DI 012

FAIL — DI 028

FAIL — DI 029

FAIL — DI 013

NORMAL SOURCE — DI 031

HIGH — DI 030

YA 100-3 — 24VDC POWER SUPPLY #1

YA 100-4 — 24VDC POWER SUPPLY #2

YA 100-5 — 24VDC REDUNDANCY MODULE

YA 100-6 — FIELD NETWORK SWITCH

ELECTRICAL DISTRIBUTION BUILDING

UPS/ BYPASS — YS 100-1 — MAINTENANCE BYPASS SWITCH — MBS-V04ELE1007-UPS-1-1

48V — YA 12-1, YS 12-1 — BATTERY CHARGER BAT-V04ELE1007-CGR-12-1

120V — YA 100-2 — UPS — UPS-V04ELE1007-UPS-1-1

YS 1-1 — ATS-V04ELE1007-ATS-1-1

120V — H2 — AIT 1-1, AE 1-1 — AIT-V04ELE1007-AIT-1-1 / AIT-V04ELE1007-AE-1-1

STATE OF NEVADA — PROFESSIONAL ENGINEER — MARINA D. GONZALEZ — Exp. 6-30-13 — ELECTRICAL — No. 17916 — 1-10-13

RECEIVED
FEB 11 2013
McGraw-Building Companies, Inc.

NO.	DATE	REVISION	BY
DSGN	MD GONZALEZ	DR	PM HAMLIN
		CHK	JR HOYLE
		APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

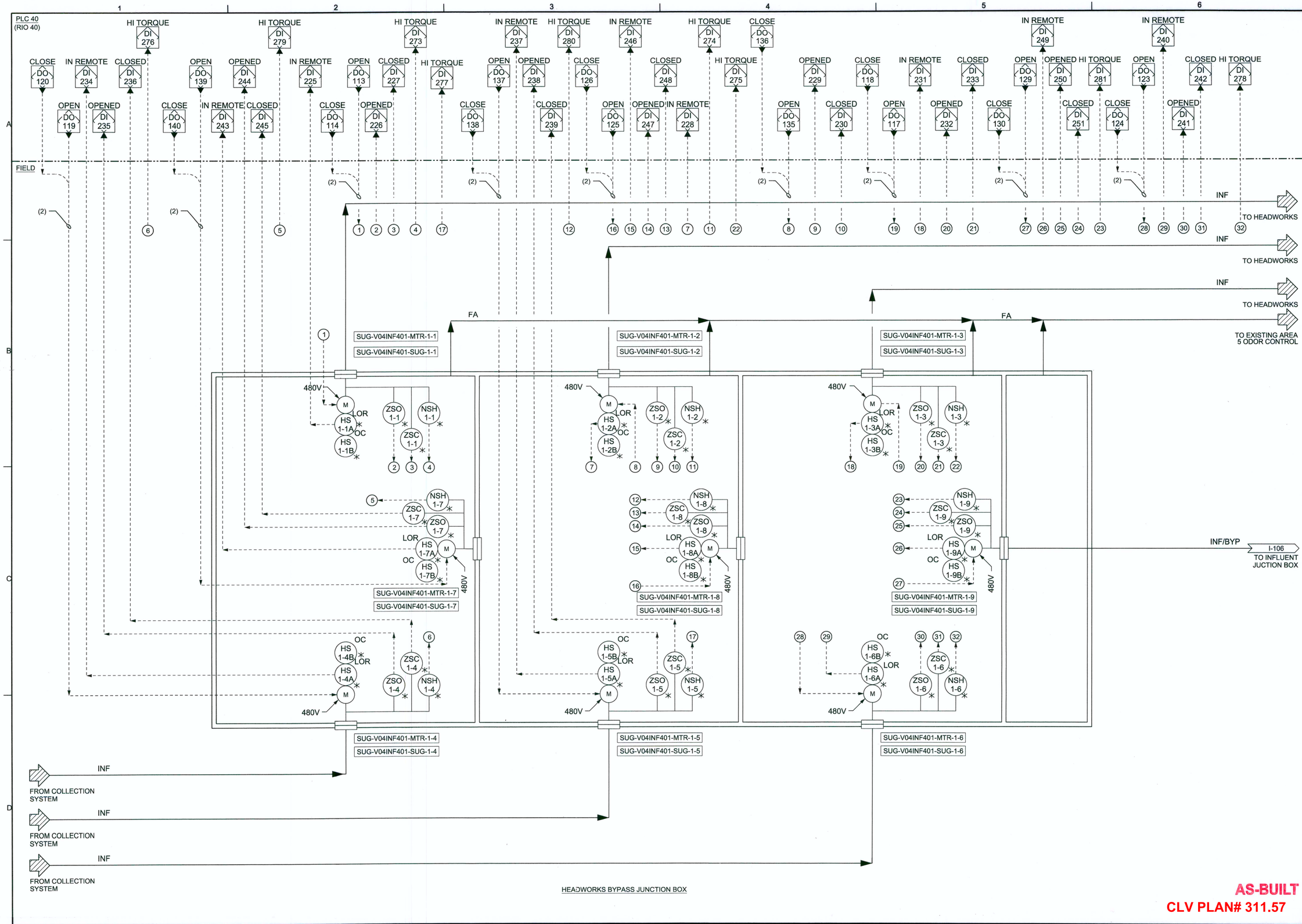
INSTRUMENTATION AND CONTROL
P&ID
PRIMARY DISTRIBUTION
MISCELLANEOUS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	I-064
SHEET	132

AS-BUILT
CLV PLAN# 311.57

FILENAME: I-064_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 3:25:11 PM



AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	JE KOCH	DR	CHK	APVD
MD GONZALEZ		PM HAMLIN	JR HOYLE	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
P&ID
HEADWORKS BYPASS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	I-105
SHEET	133

FILENAME: I-105_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 3:59:00 PM

PLC 40
(RIO 40)

FIELD

CLOSE DO 134
IN REMOTE DI 260
OPENED DI 261
LEVEL AI 028
OPEN DO 133
CLOSED DI 262
HI TORQUE DI 283

(2)

FROM HEADWORKS BYPASS
I-105
INF/BYP

TRASH RACK

V

LIT-V04INF401-LIT-1-1
LIT 1-1
R

A1
LE 1-1
LIT-V04INF401-LE-1-1

OC LOR
HS 2-2B
HS 2-2A
M
480V

ZSC 2-2
ZSO 2-2
NSH 2-2

INF
SUG-V04INF401-SUG-2-2
SUG-V04INF401-MTR-2-2
TO EXISTING GRIT BASIN EFFLUENT BOX

FA
FA
TO EXISTING AREA 5 ODOR CONTROL

INFLUENT JUNCTION BOX

FUTURE INF TO PLANTS 7-8 PRIMARY INFLUENT PUMP STATION

FUTURE INF/BYP TO PLANTS 7-8 FCE

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	CHK	APVD
DSGN	JE KOCH	DR	PM HAMLIN	JR HOYLE
	MD GONZALEZ		BY	APVD
				BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

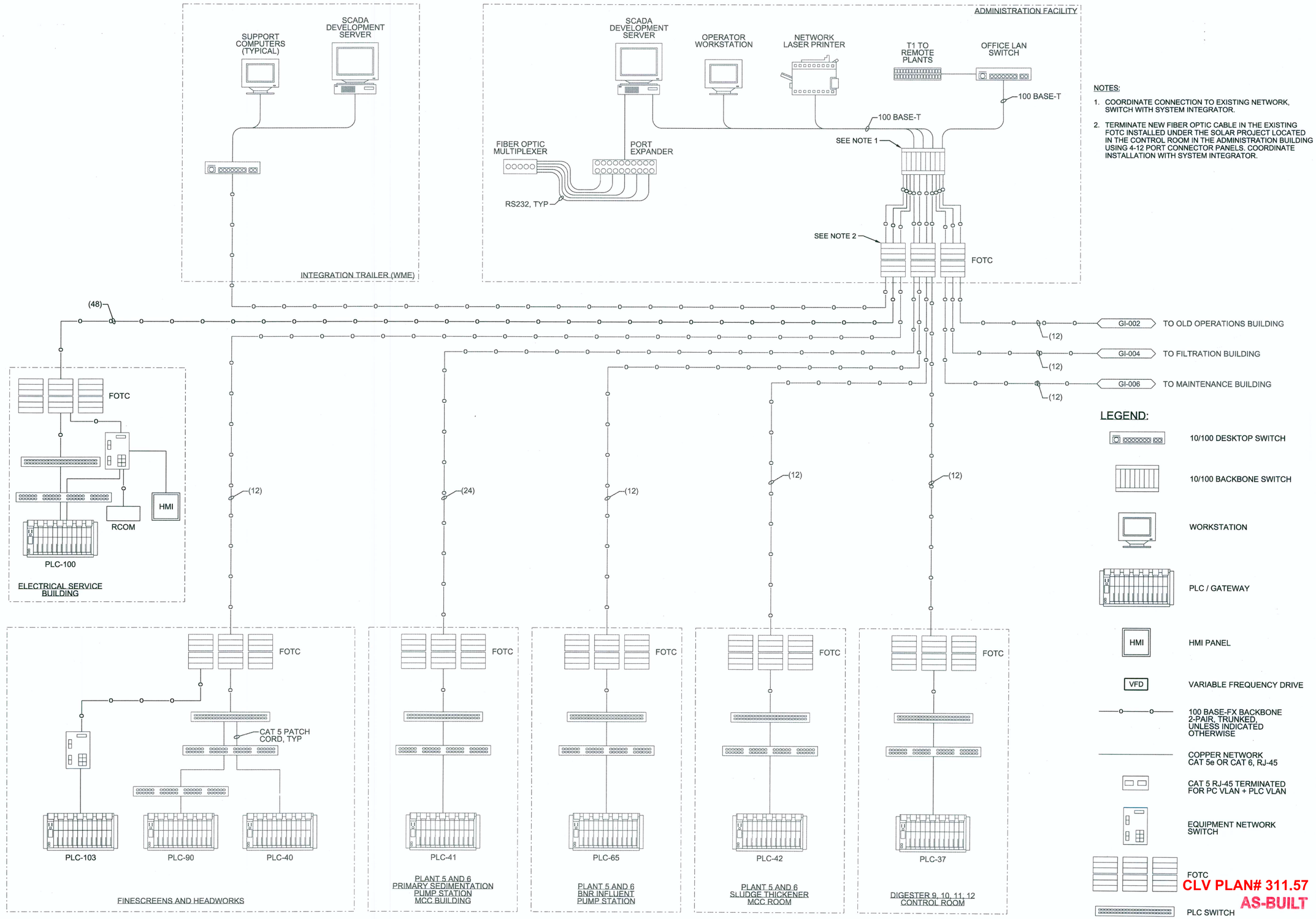
CH2MHILL

INSTRUMENTATION AND CONTROL
P&ID
INFLUENT JUNCTION BOX

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	I-106
SHEET	134

FILENAME: I-106_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:04:03 PM



NOTES:

1. COORDINATE CONNECTION TO EXISTING NETWORK, SWITCH WITH SYSTEM INTEGRATOR.
2. TERMINATE NEW FIBER OPTIC CABLE IN THE EXISTING FOTC INSTALLED UNDER THE SOLAR PROJECT LOCATED IN THE CONTROL ROOM IN THE ADMINISTRATION BUILDING USING 4-12 PORT CONNECTOR PANELS. COORDINATE INSTALLATION WITH SYSTEM INTEGRATOR.

LEGEND:

- 10/100 DESKTOP SWITCH
- 10/100 BACKBONE SWITCH
- WORKSTATION
- PLC / GATEWAY
- HMI PANEL
- VFD — VARIABLE FREQUENCY DRIVE
- 100 BASE-FX BACKBONE 2-PAIR, TRUNKED, UNLESS INDICATED OTHERWISE
- COPPER NETWORK CAT 5e OR CAT 6, RJ-45
- CAT 5 RJ-45 TERMINATED FOR PC VLAN + PLC VLAN
- EQUIPMENT NETWORK SWITCH
- FOTC
- PLC SWITCH
- COPPER PATCH PANEL

CLV PLAN# 311.57
AS-BUILT

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DSGN	MD GONZALEZ		J MARTINEZ	JR HOYLE			BA JOHNSON

ENGINEER STATE OF NEVADA
MARINA D. GONZALEZ
Exp. 6-30-13
ELECTRICAL
No. 17918
PROFESSIONAL
1-10-13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

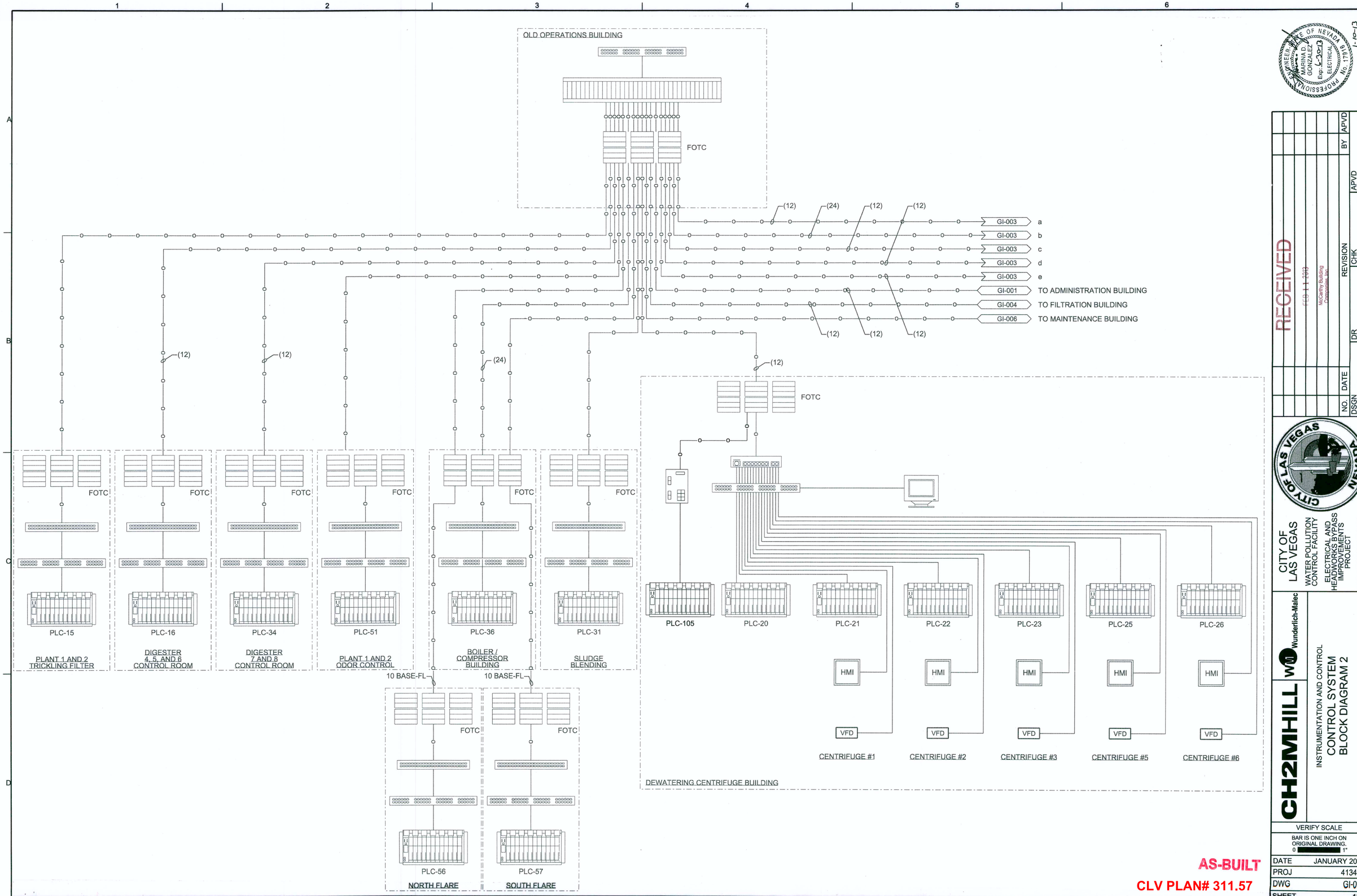
CH2MHILL
Wunderlich-Malec

INSTRUMENTATION AND CONTROL
CONTROL SYSTEM BLOCK DIAGRAM 1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	GI-001
SHEET	135

FILENAME: GI-001_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:04:52 PM



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PROFESSIONAL ENGINEER STATE OF NEVADA MARINA D. GONZALEZ Exp. 6-30-13 ELECTRICAL No. 17918 1-10-13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL Wunderlich-Malec

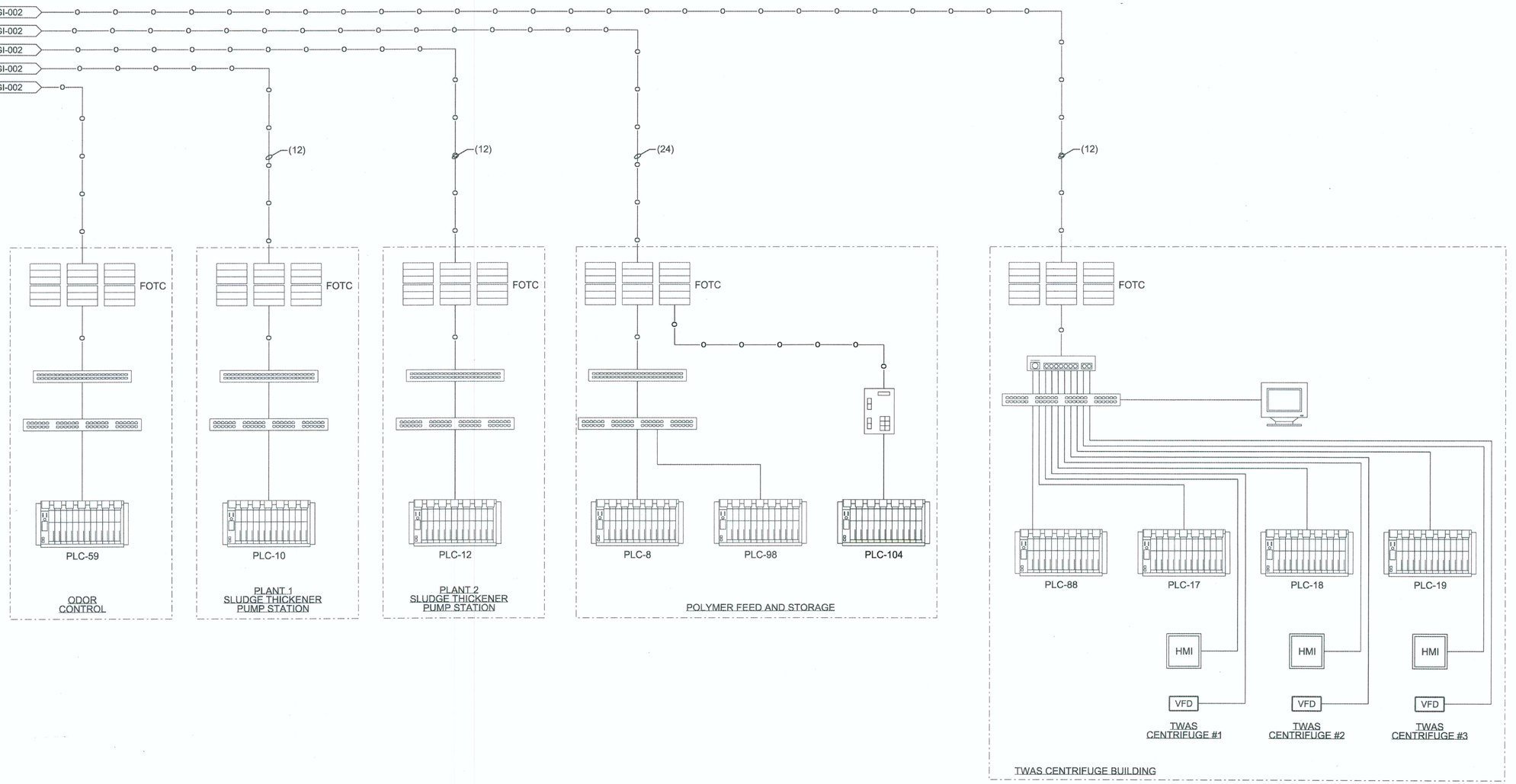
INSTRUMENTATION AND CONTROL
CONTROL SYSTEM BLOCK DIAGRAM 2

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	GI-002
SHEET	136

AS-BUILT
CLV PLAN# 311.57

FILENAME: GI-002_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:05:28 PM



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WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL — Wunderlich-Malec

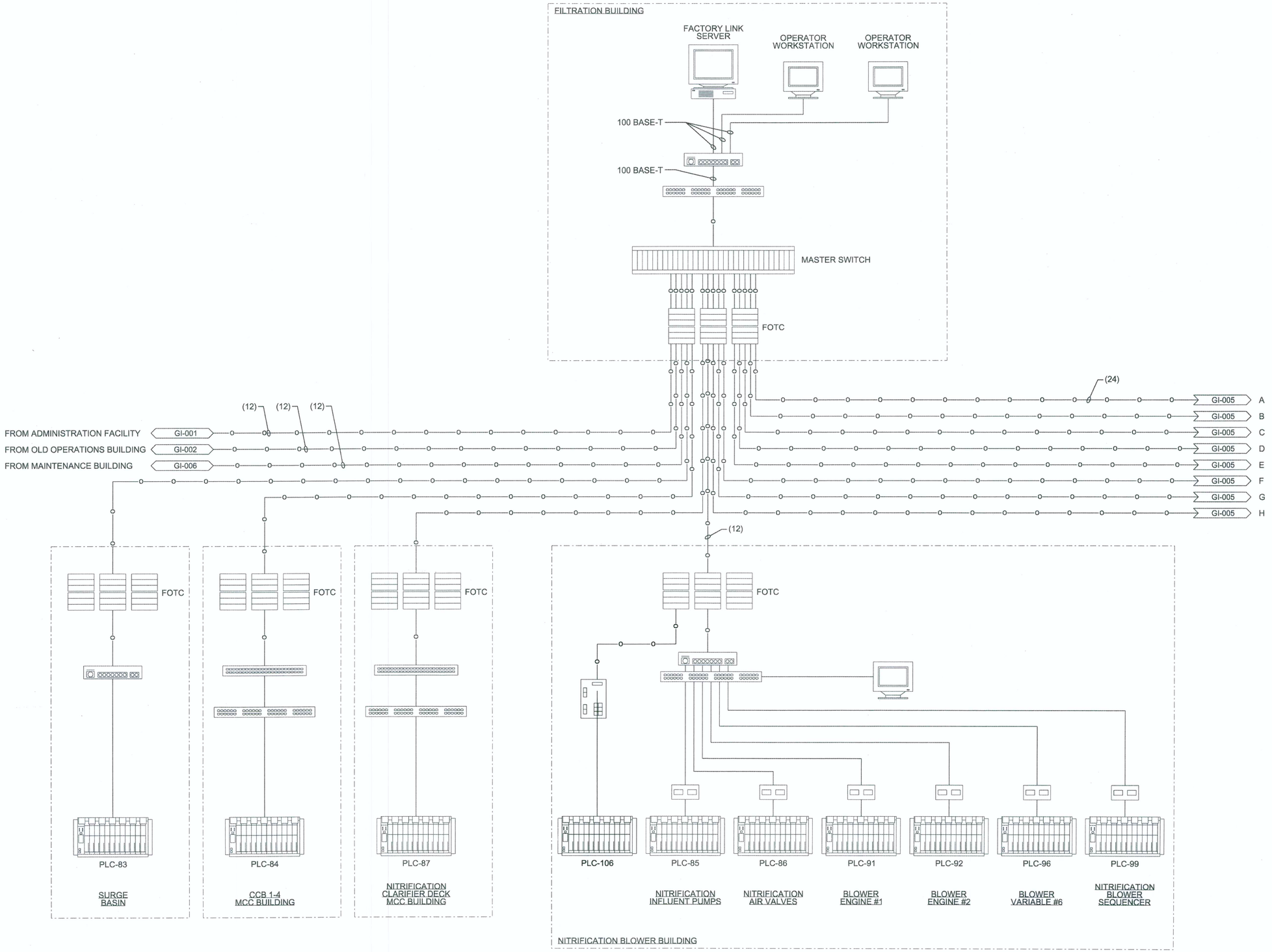
INSTRUMENTATION AND CONTROL
CONTROL SYSTEM BLOCK DIAGRAM 3

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	GI-003
SHEET	137

AS-BUILT
CLV PLAN# 311.57

FILENAME: GI-003_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:06:09 PM



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CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY

ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT

LAS VEGAS, NEVADA

CH2MHILL — Wunderlich-Malec

INSTRUMENTATION AND CONTROL

CONTROL SYSTEM BLOCK DIAGRAM 4

VERIFY SCALE

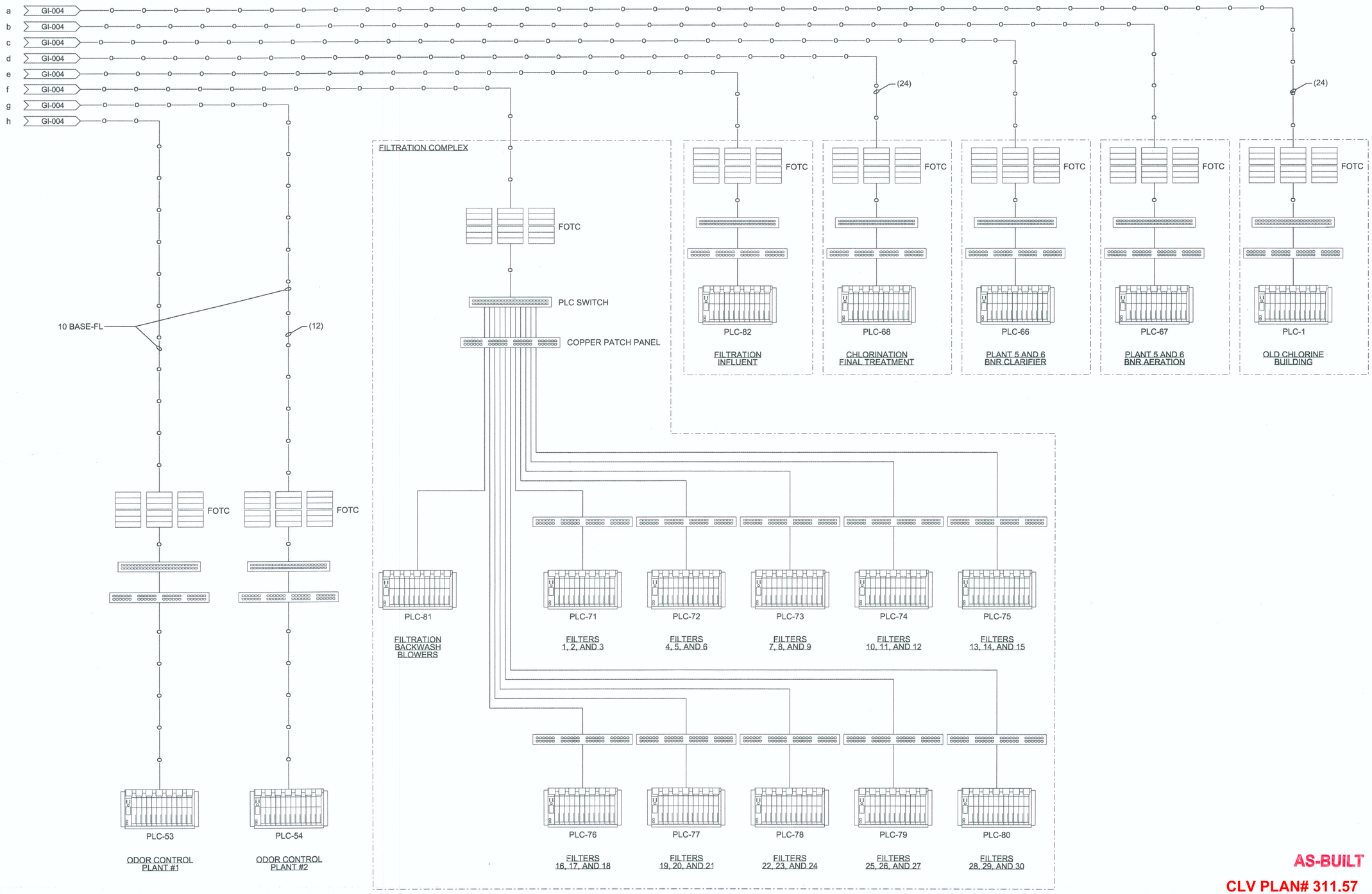
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 — 1"

DATE	JANUARY 2013
PROJ	413455
DWG	GI-004
SHEET	138

AS-BUILT

CLV PLAN# 311.57

FILENAME: GI-004_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:06:49 PM



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REVISION

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL
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INSTRUMENTATION AND CONTROL
CONTROL SYSTEM BLOCK DIAGRAM 5

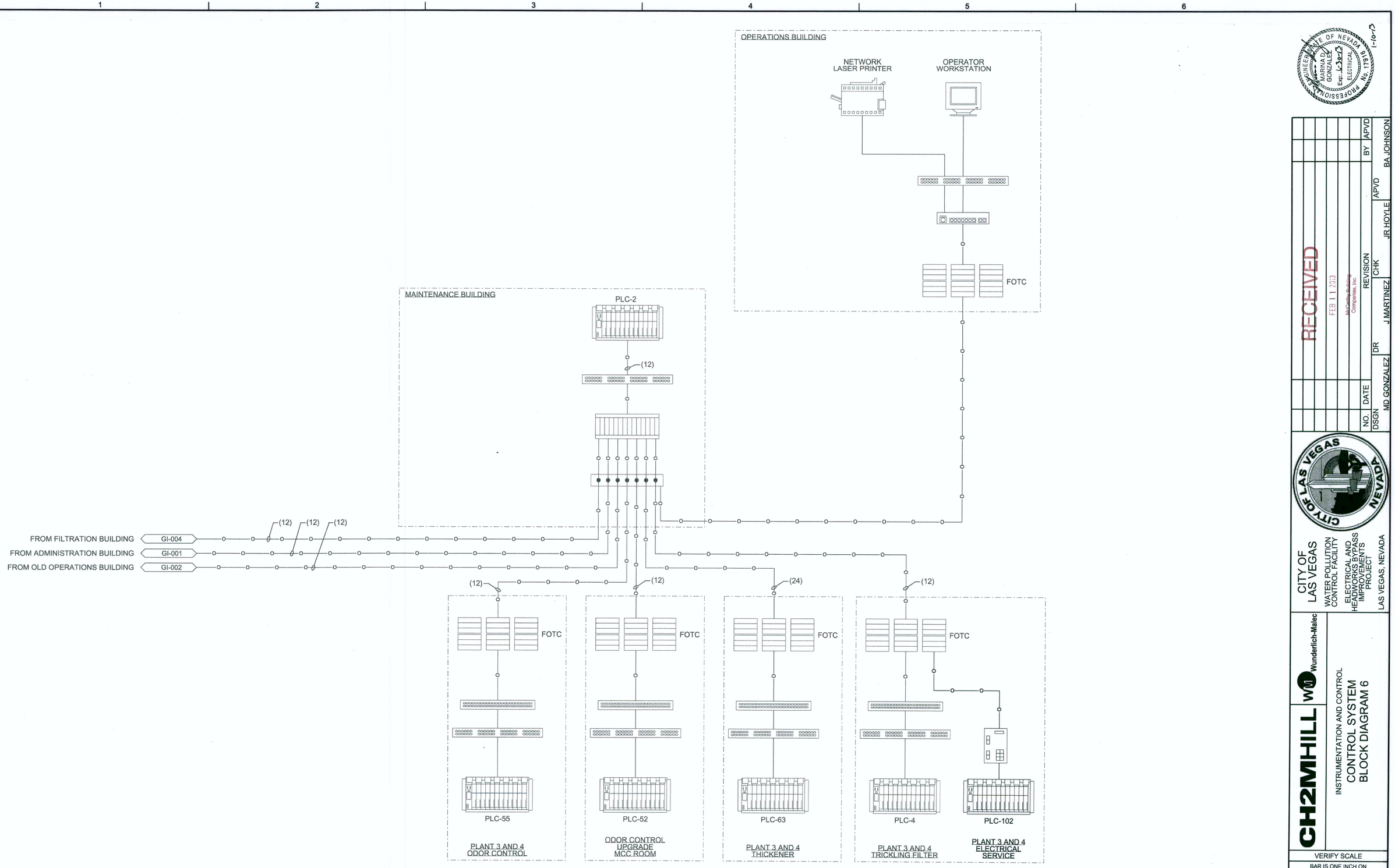
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	GI-005
SHEET	139

AS-BUILT

CLV PLAN# 311.57

FILENAME: GI-005_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:07:27 PM



STATE OF NEVADA
PROFESSIONAL ENGINEER
MARINA D. GONZALEZ
Exp: 12-31-13
No. 17916
ELECTRICAL
1-10-13

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			APVD BA JOHNSON

CITY OF LAS VEGAS

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL
Wunderlich-Malec

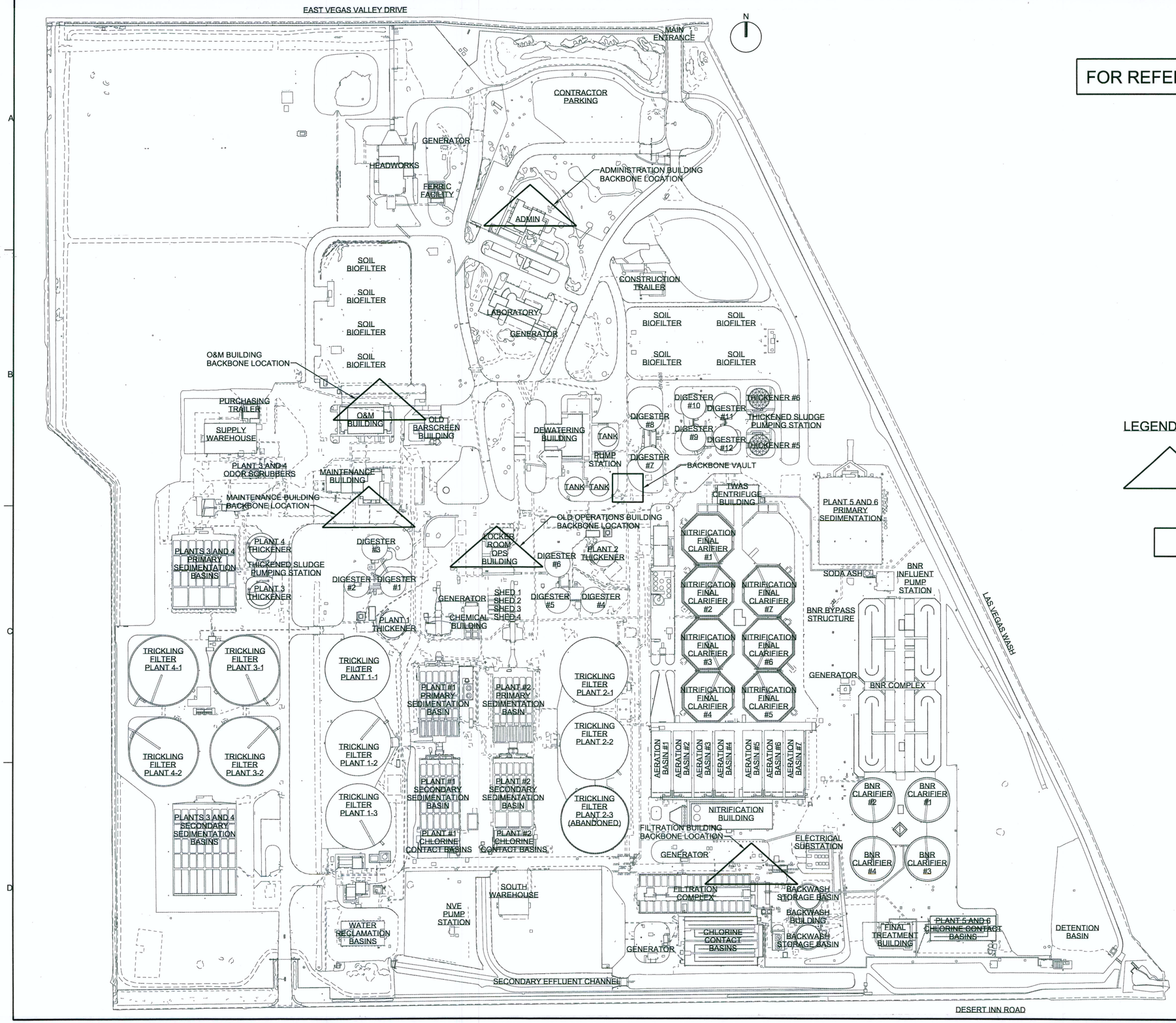
INSTRUMENTATION AND CONTROL
CONTROL SYSTEM BLOCK DIAGRAM 6

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	GI-006
SHEET	140

AS-BUILT
CLV PLAN# 311.57

FILENAME: GI-006_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:08:05 PM



FOR REFERENCE ONLY

LEGEND:

BACKBONE LOCATIONS

BACKBONE VAULTS

AS-BUILT

CLV PLAN# 311.57

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CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY

ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT

LAS VEGAS, NEVADA

CH2MHILL

Wunderlich-Malec

INSTRUMENTATION AND CONTROL

FIBER BACKBONE ROUTING AND FIBER BACKBONE BUILDING LOCATIONS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	GI-007
SHEET	141

FILENAME: GI-007_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:08:59 PM

EAST VEGAS VALLEY DRIVE

N

FOR REFERENCE ONLY

MAIN ENTRANCE
CONTRACTOR PARKING
GENERATOR
HEADWORKS
FERRIC FACILITY
ADMIN
CONSTRUCTION TRAILER
LABORATORY
GENERATOR
SOIL BIOFILTER
PURCHASING TRAILER
SUPPLY WAREHOUSE
O&M BUILDING
OLD BARSCREEN BLDG
DEWATERING BUILDING
TANK
PUMP STATION
DIGESTER #7
DIGESTER #8
DIGESTER #9
DIGESTER #10
DIGESTER #11
DIGESTER #12
THICKENER #6
THICKENED SLUDGE PUMPING STATION
THICKENER #5
PLANT 3 AND 4 ODOR SCRUBBERS
MAINTENANCE BUILDING
TANK
TANK
TWAS CENTRIFUGE BUILDING
PLANT 5 AND 6 PRIMARY SEDIMENTATION
NITRIFICATION FINAL CLARIFIER #1
NITRIFICATION FINAL CLARIFIER #2
NITRIFICATION FINAL CLARIFIER #3
NITRIFICATION FINAL CLARIFIER #4
NITRIFICATION FINAL CLARIFIER #5
NITRIFICATION FINAL CLARIFIER #6
NITRIFICATION FINAL CLARIFIER #7
SODA ASH
BNR INFLUENT PUMP STATION
BNR BYPASS STRUCTURE
GENERATOR
BNR COMPLEX
LAS VEGAS WASH
PLANTS 3 AND 4 PRIMARY SEDIMENTATION BASINS
PLANT 4 THICKENER
THICKENED SLUDGE PUMPING STATION
PLANT 3 THICKENER
DIGESTER #3
DIGESTER #2
DIGESTER #1
LOCKER ROOM OPS BUILDING
DIGESTER #6
DIGESTER #5
PLANT 2 THICKENER
DIGESTER #4
GENERATOR
SHED 1
SHED 2
SHED 3
SHED 4
CHEMICAL BUILDING
PLANT 1 THICKENER
TRICKLING FILTER PLANT 4-1
TRICKLING FILTER PLANT 3-1
TRICKLING FILTER PLANT 4-2
TRICKLING FILTER PLANT 3-2
TRICKLING FILTER PLANT 1-1
TRICKLING FILTER PLANT 1-2
TRICKLING FILTER PLANT 1-3
PLANT #1 PRIMARY SEDIMENTATION BASIN
PLANT #2 PRIMARY SEDIMENTATION BASIN
PLANT #1 SECONDARY SEDIMENTATION BASIN
PLANT #2 SECONDARY SEDIMENTATION BASIN
PLANTS 3 AND 4 SECONDARY SEDIMENTATION BASINS
PLANT #1 CHLORINE CONTACT BASINS
PLANT #2 CHLORINE CONTACT BASINS
TRICKLING FILTER PLANT 2-1
TRICKLING FILTER PLANT 2-2
TRICKLING FILTER PLANT 2-3 (ABANDONED)
AERATION BASIN #1
AERATION BASIN #2
AERATION BASIN #3
AERATION BASIN #4
AERATION BASIN #5
AERATION BASIN #6
AERATION BASIN #7
NITRIFICATION BUILDING
ELECTRICAL SUBSTATION
GENERATOR
BNR CLARIFIER #2
BNR CLARIFIER #1
BNR CLARIFIER #4
BNR CLARIFIER #3
FILTRATION COMPLEX
BACKWASH STORAGE BASIN
BACKWASH BUILDING
BACKWASH STORAGE BASIN
SOUTH WAREHOUSE
NVE PUMP STATION
WATER RECLAMATION BASINS
CHLORINE CONTACT BASINS
GENERATOR
FINAL TREATMENT BUILDING
PLANT 5 AND 6 CHLORINE CONTACT BASINS
DETENTION BASIN
SECONDARY EFFLUENT CHANNEL
DESERT INN ROAD

AS-BUILT
CLV PLAN# 311.57

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STATE OF NEVADA
PROFESSIONAL ENGINEER
MARINA D GONZALEZ
Exp: 12-31-14
No. 17916
ELECTRICAL
1-10-13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL
Wunderlich-Malec

INSTRUMENTATION AND CONTROL
PROGRAMMABLE LOGIC CONTROLLER BUILDING LOCATIONS

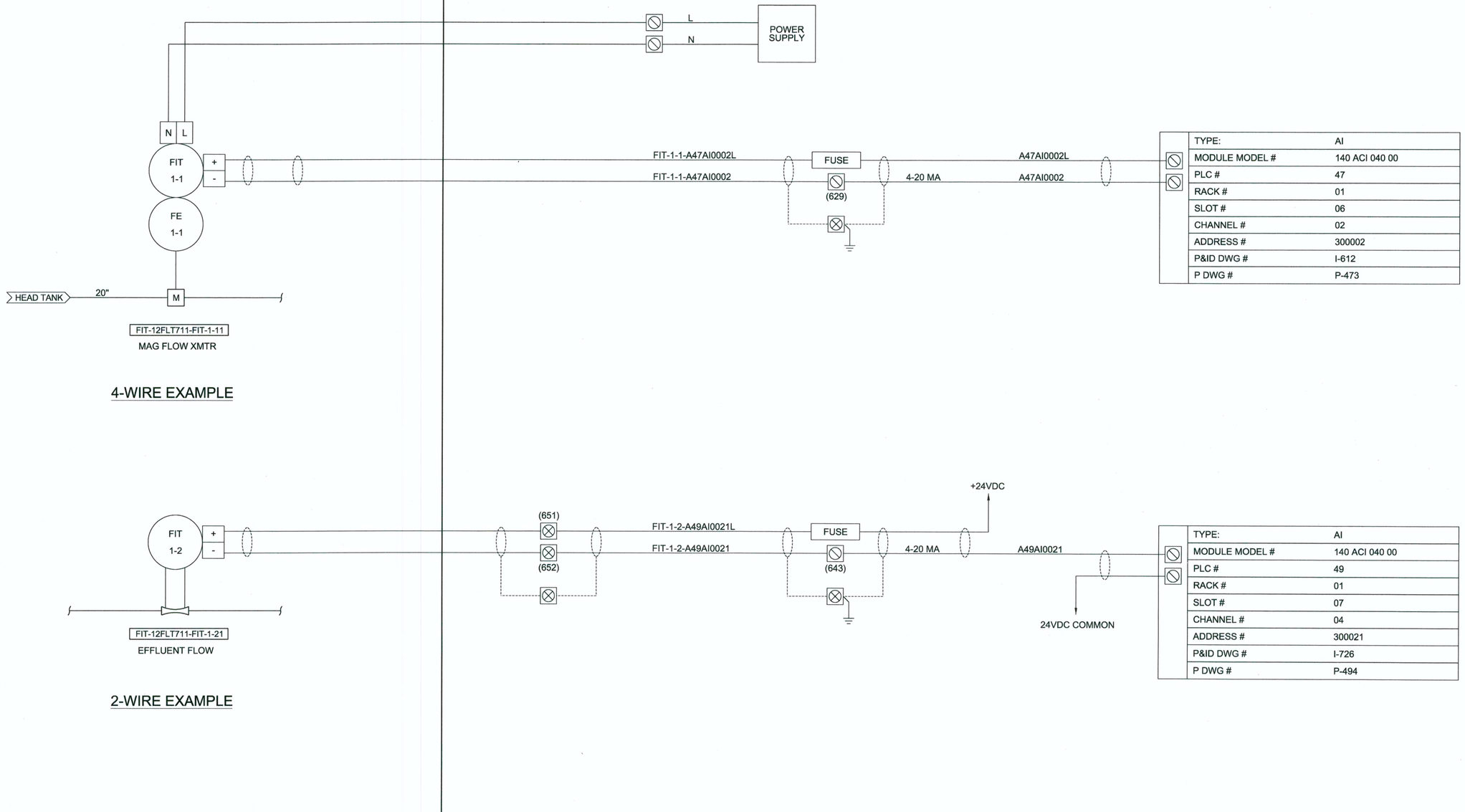
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	GI-008
SHEET	142

FILENAME: GI-008_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:09:49 PM

FIELD

PLC CABINET



STATE OF NEVADA PROFESSIONAL ENGINEER MARINA D. GONZALEZ Exp: 1-31-13 ELECTRICAL No. 17916
1-10-13

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

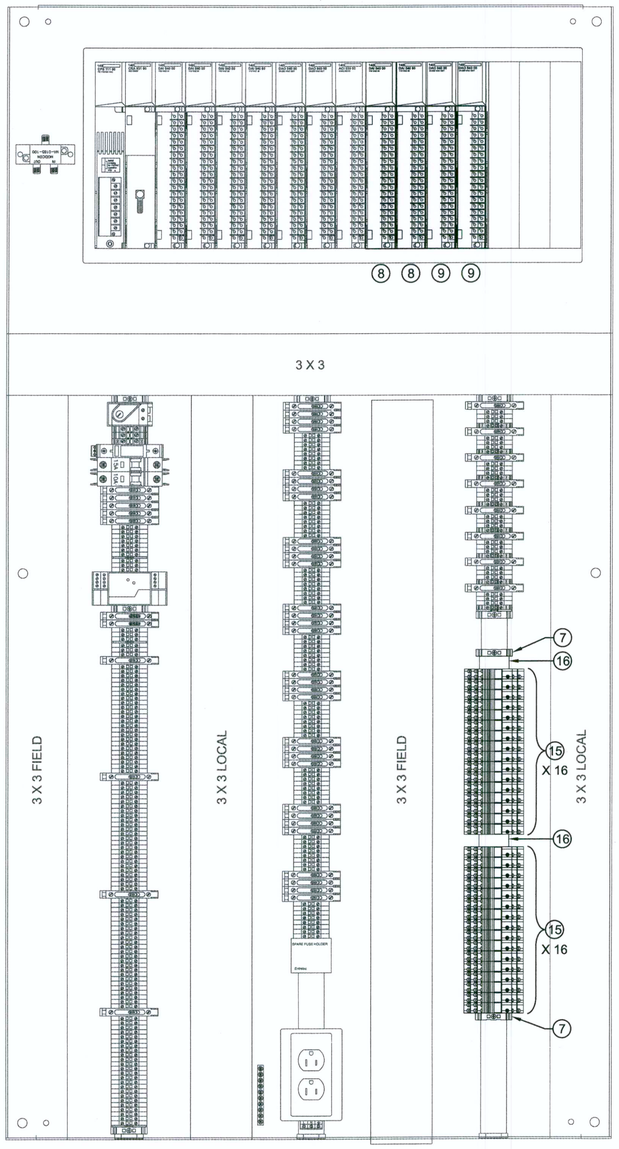
CH2MHILL
Wunderlich-Malec

INSTRUMENTATION AND CONTROL
TYPICAL LOOP DIAGRAM

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

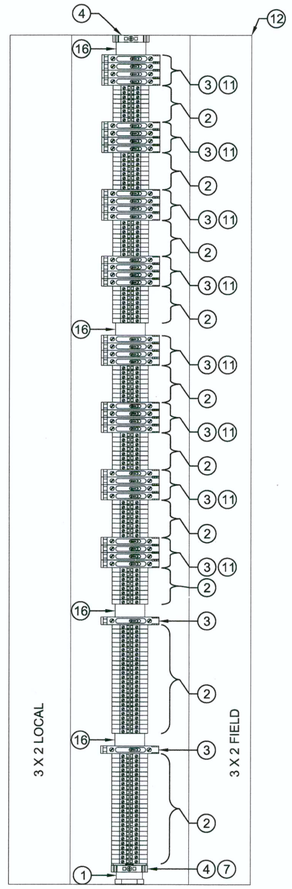
DATE	JANUARY 2013
PROJ	413455
DWG	GI-009
SHEET	143

AS-BUILT
CLV PLAN# 311.57



BACK PANEL LAYOUT

1/4"=1"



RIGHT SIDE PANEL LAYOUT

1/4"=1"

BILL OF MATERIALS				
ITEM	QTY/FT	PART NUMBER	MANUFACTURER	DESCRIPTION
1	AS REQ'D	AM1DP200	SQUARE D	DIN RAIL
2	112	3044102	PHOENIX CONTACT	UT-4 TERMINAL BLOCKS
3	34	3004249	PHOENIX CONTACT	HESILA 120VAC FUSE BLOCK WITH INDICATOR
4	2	3047028	PHOENIX CONTACT	UT-4 END COVER D-UT 2, 5/10
5	AS REQ'D	1021003	PHOENIX CONTACT	TERMINAL BLOCK LABELS ZB6 (UT4)
6	1	1206560	PHOENIX CONTACT	RAIL END CAP
7	AS REQ'D	0800886	PHOENIX CONTACT	DIN RAIL ANCHOR
8	2	140 DAI 540 00	MODICON	115VAC ISOLATED 16PT. INPUT
9	2	140 DRA 840 00	MODICON	115VAC OUTPUT 16PT.
10	2	AGC-1	BUSSMAN	1A FUSE
11	32	AGC-5	BUSSMAN	5A FUSE
12	1		HOFFMAN	SIDE PANEL (SEE NOTE 1)
13	AS REQ'D	F3X2LG6	PANDUIT	3" X 2" PANDUIT
14	AS REQ'D	C3LG6	PANDUIT	PANDUIT COVER
15	32	2967662	PHOENIX CONTACT	120VAC INTERPOSING RELAY
16	4	800310	PHOENIX CONTACT	TERMINAL STRIP MARKER

NOTES:
1. SIZE RIGHT SIDE PANEL FOR EXISTING ENCLOSURE SUCH THAT IT DOES NOT INTERFERE WITH EXISTING COMPONENTS.

AS-BUILT

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

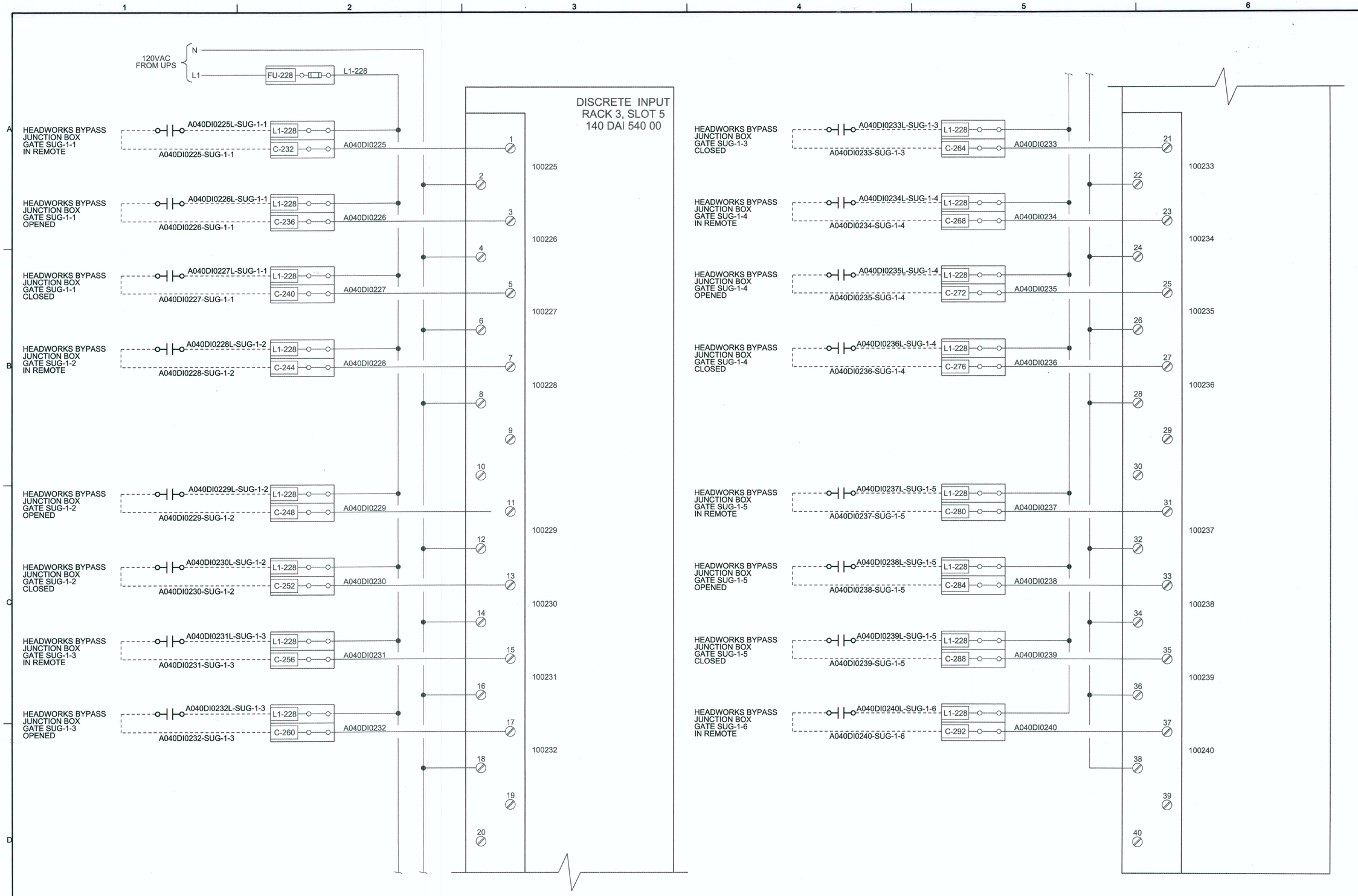
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 40 UPGRADES
CABINET LAYOUT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P040-001
SHEET	144

FILENAME: P040-001_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:11:48 PM



AS-BUILT

NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

CLV PLAN# 311.57

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

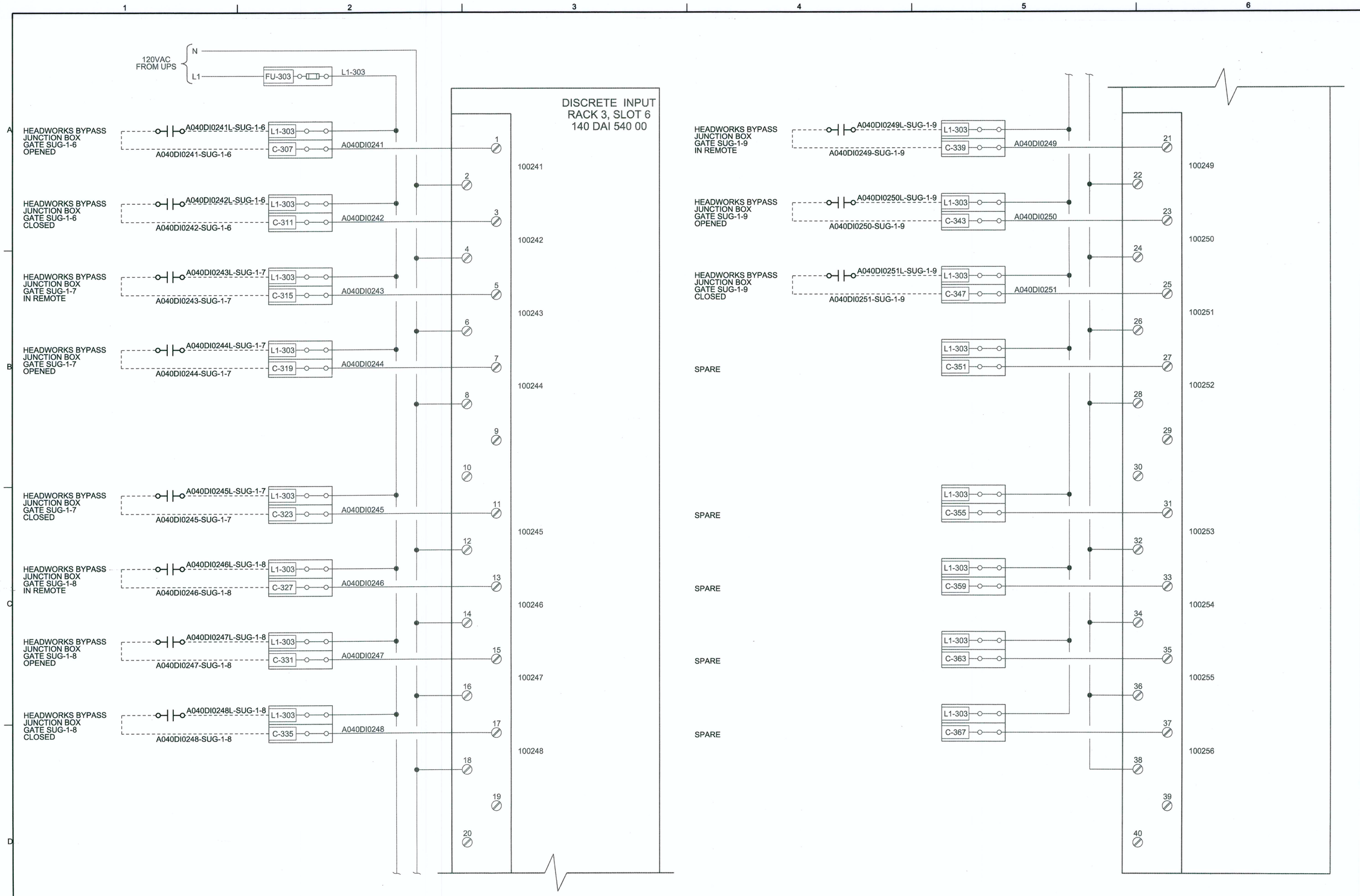
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 40 UPGRADES
I/O ARRANGEMENT
DISCRETE INPUT PLC-040-DI-1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P040-002
SHEET	145

FILENAME: P040-002_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:12:31 PM



AS-BUILT

NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

CLV PLAN# 311.57

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

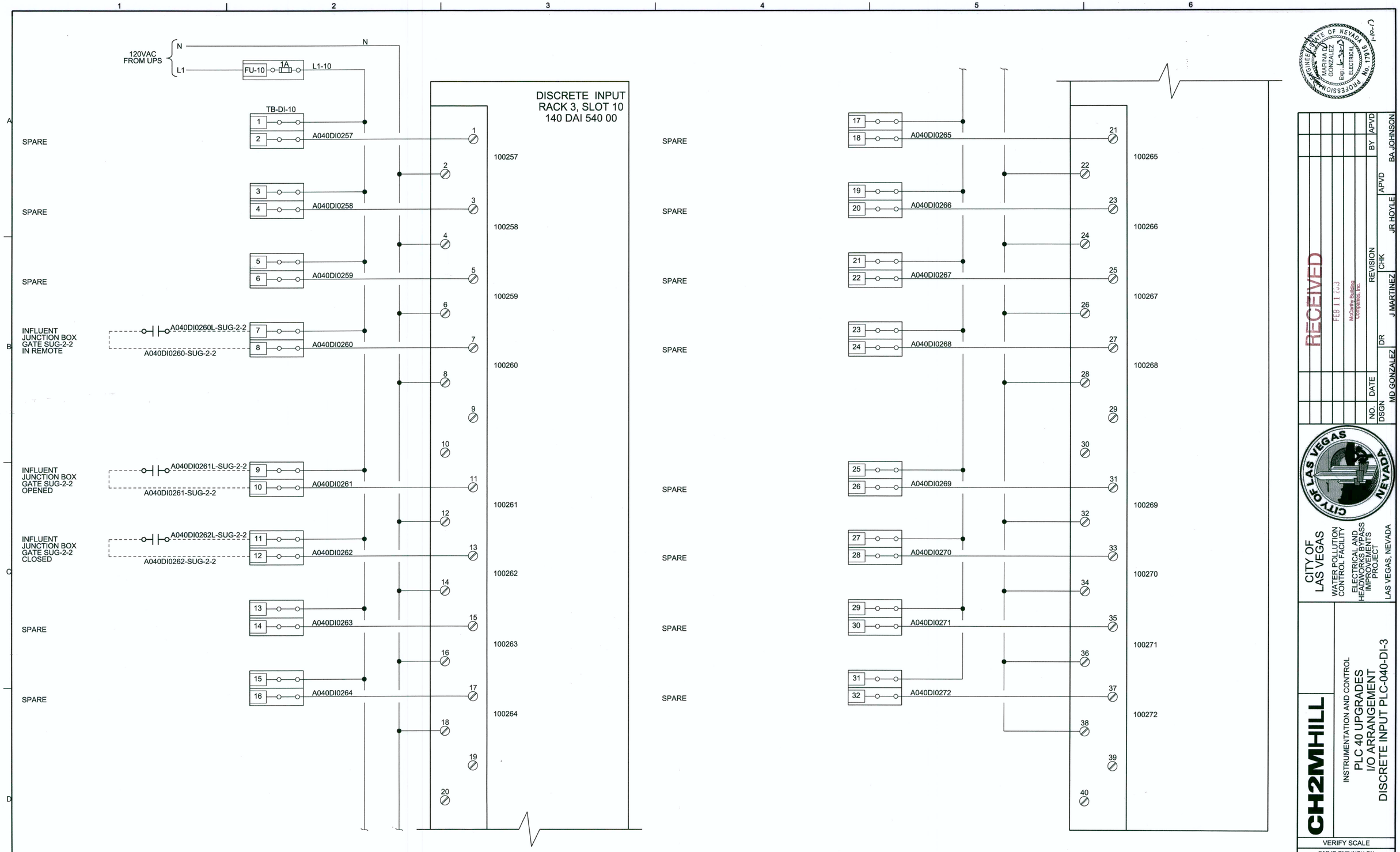
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 40 UPGRADES
I/O ARRANGEMENT
DISCRETE INPUT PLC-040-DI-2

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P040-003
SHEET	146

FILENAME: P040-003_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:13:12 PM



NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT
CLV PLAN# 311.57

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

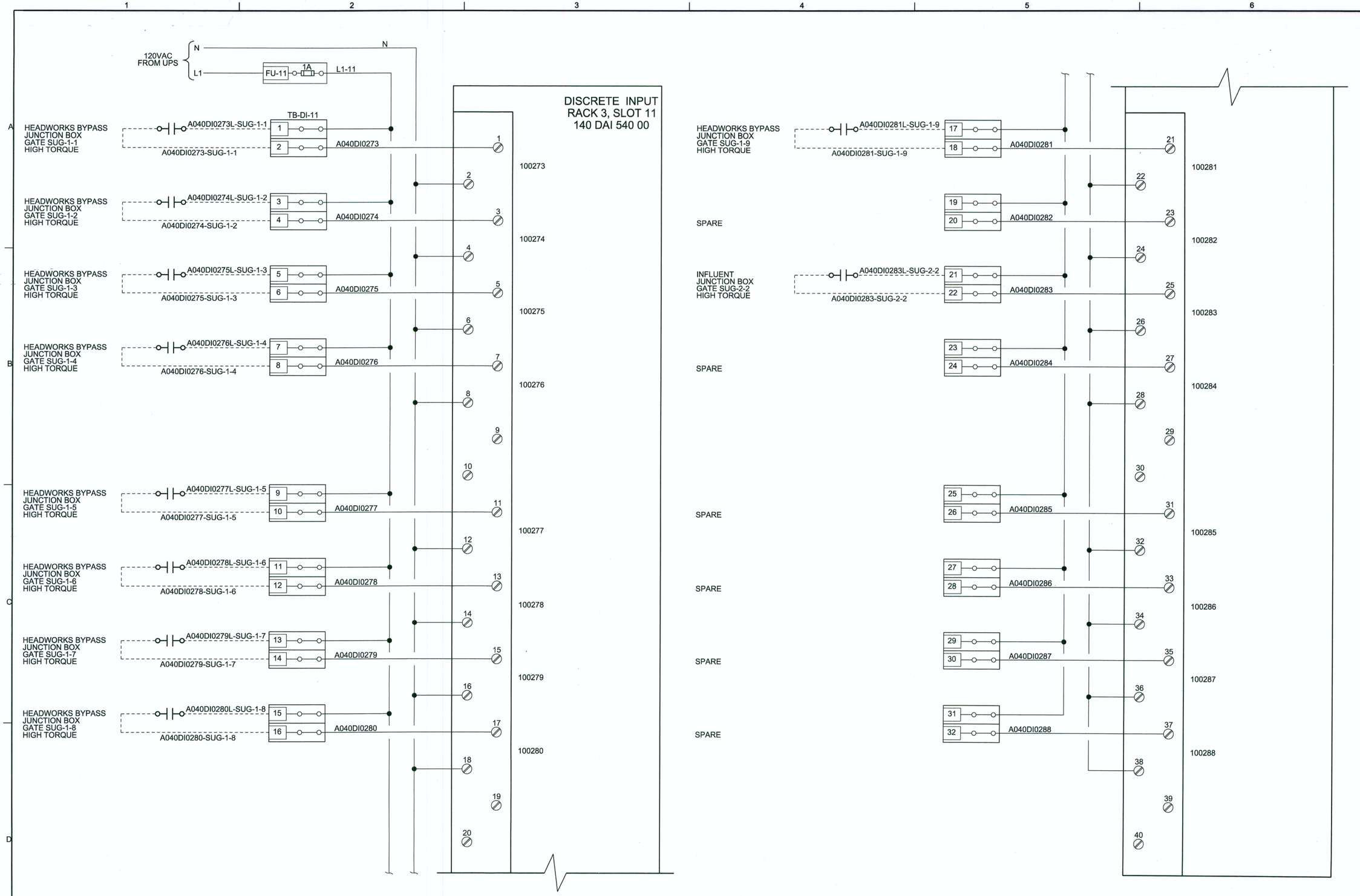
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 40 UPGRADES
I/O ARRANGEMENT
DISCRETE INPUT PLC-040-DI-3

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P040-004
SHEET	147

FILENAME: P040-004_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:13:52 PM



NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT

CLV PLAN# 311.57

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 40 UPGRADES
I/O ARRANGEMENT
DISCRETE INPUT PLC-040-DI-4

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P040-005
SHEET	148

FILENAME: P040-005_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:14:29 PM

DISCRETE OUTPUT
RACK 3, SLOT 12
140 DRA 840 00

L1
N
120VAC
FROM UPS

1	A040DO0113	FU-12-1 5AMP	IR-DO-12-1	TB-DO-12	A040DO0113L-SUG-1-1 / A040DO0113-SUG-1-1	HEADWORKS BYPASS GATE 1 SUG-1-1 OPEN
2				1		
3	A040DO0114	FU-12-2 5AMP	IR-DO-12-2	2	A040DO0114L-SUG-1-1 / A040DO0114-SUG-1-1	HEADWORKS BYPASS GATE 1 SUG-1-1 CLOSE
4				3		
5	A040DO0115	FU-12-3 5AMP	IR-DO-12-3	4		SPARE
6				5		
7	A040DO0116	FU-12-4 5AMP	IR-DO-12-4	6		SPARE
8				7		
9				8		
10						
11	A040DO0117	FU-12-5 5AMP	IR-DO-12-5	9	A040DO0117L-SUG-1-3 / A040DO0117-SUG-1-3	HEADWORKS BYPASS GATE 3 SUG-1-3 OPEN
12				10		
13	A040DO0118	FU-12-6 5AMP	IR-DO-12-6	11	A040DO0118L-SUG-1-3 / A040DO0118-SUG-1-3	HEADWORKS BYPASS GATE 3 SUG-1-3 CLOSE
14				12		
15	A040DO0119	FU-12-7 5AMP	IR-DO-12-7	13	A040DO0119L-SUG-1-4 / A040DO0119-SUG-1-4	HEADWORKS BYPASS GATE 4 SUG-1-4 OPEN
16				14		
17	A040DO0120	FU-12-8 5AMP	IR-DO-12-8	15	A040DO0120L-SUG-1-4 / A040DO0120-SUG-1-4	HEADWORKS BYPASS GATE 4 SUG-1-4 CLOSE
18				16		
19						
20						

21	A040DO0121	FU-12-9 5AMP	IR-DO-12-9	17		SPARE
22				18		
23	A040DO0122	FU-12-10 5AMP	IR-DO-12-10	19		SPARE
24				20		
25	A040DO0123	FU-12-11 5AMP	IR-DO-12-11	21	A040DO0123L-SUG-1-6 / A040DO0123-SUG-1-6	HEADWORKS BYPASS GATE 6 SUG-1-6 OPEN
26				22		
27	A040DO0124	FU-12-12 5AMP	IR-DO-12-12	23	A040DO0124L-SUG-1-6 / A040DO0124-SUG-1-6	HEADWORKS BYPASS GATE 6 SUG-1-6 CLOSE
28				24		
29						
30						
31	A040DO0125	FU-12-13 5AMP	IR-DO-12-13	25	A040DO0125L-SUG-1-8 / A040DO0125-SUG-1-8	HEADWORKS BYPASS GATE 8 SUG-1-8 OPEN
32				26		
33	A040DO0126	FU-12-14 5AMP	IR-DO-12-14	27	A040DO0126L-SUG-1-8 / A040DO0126-SUG-1-8	HEADWORKS BYPASS GATE 8 SUG-1-8 CLOSE
34				28		
35	A040DO0127	FU-12-15 5AMP	IR-DO-12-15	29		SPARE
36				30		
37	A040DO0128	FU-12-16 5AMP	IR-DO-12-16	31		SPARE
38				32		
39						
40						

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McCarthy Building Companies, Inc.

NO.	DATE	REVISION	CHK	DR	DSGN
		APVD	JR HOYLE	J MARTINEZ	MD GONZALEZ
		BY	APVD		
			BA JOHNSON		

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 40 UPGRADES
I/O ARRANGEMENT
DISCRETE OUTPUT PLC-040-DO-1

AS-BUILT

NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

CLV PLAN# 311.57

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P040-006
SHEET	149

FILENAME: P040-006_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:15:08 PM

DISCRETE OUTPUT
RACK 3, SLOT 13
140 DRA 840 00

L1
N
120VAC
FROM UPS

1	A040DO0129	FU-13-1 5AMP	IR-DO-13-1	TB-DO-13	A040DO0129L-SUG-1-9 / A040DO0129-SUG-1-9	HEADWORKS BYPASS GATE 9 SUG-1-9 OPEN
3	A040DO0130	FU-13-2 5AMP	IR-DO-13-2	3 / 4	A040DO0130L-SUG-1-9 / A040DO0130-SUG-1-9	HEADWORKS BYPASS GATE 9 SUG-1-9 CLOSE
5	A040DO0131	FU-13-3 5AMP	IR-DO-13-3	5 / 6		SPARE
7	A040DO0132	FU-13-4 5AMP	IR-DO-13-4	7 / 8		SPARE
11	A040DO0133	FU-13-5 5AMP	IR-DO-13-5	9 / 10	A040DO0133L-SUG-2-2 / A040DO0133-SUG-2-2	INFLUENT JUNCTION BOX GATE 2 SUG-2-2 OPEN
13	A040DO0134	FU-13-6 5AMP	IR-DO-13-6	11 / 12	A040DO0134L-SUG-2-2 / A040DO0134-SUG-2-2	INFLUENT JUNCTION BOX GATE 2 SUG-2-2 CLOSE
15	A040DO0135	FU-13-7 5AMP	IR-DO-13-7	13 / 14	A040DO0135L-SUG-1-2 / A040DO0135-SUG-1-2	HEADWORKS BYPASS GATE 2 SUG-1-2 OPEN
17	A040DO0136	FU-13-8 5AMP	IR-DO-13-8	15 / 16	A040DO0136L-SUG-1-2 / A040DO0136-SUG-1-2	HEADWORKS BYPASS GATE 2 SUG-1-2 CLOSE
21	A040DO0137	FU-13-9 5AMP	IR-DO-13-9	17 / 18	A040DO0137L-SUG-1-5 / A040DO0137-SUG-1-5	HEADWORKS BYPASS GATE 5 SUG-1-5 OPEN
23	A040DO0138	FU-13-10 5AMP	IR-DO-13-10	19 / 20	A040DO0138L-SUG-1-5 / A040DO0138-SUG-1-5	HEADWORKS BYPASS GATE 5 SUG-1-5 CLOSE
25	A040DO0139	FU-13-11 5AMP	IR-DO-13-11	21 / 22	A040DO0139L-SUG-1-7 / A040DO0139-SUG-1-7	HEADWORKS BYPASS GATE 7 SUG-1-7 OPEN
27	A040DO0140	FU-13-12 5AMP	IR-DO-13-12	23 / 24	A040DO0140L-SUG-1-7 / A040DO0140-SUG-1-7	HEADWORKS BYPASS GATE 7 SUG-1-7 CLOSE
31	A040DO0141	FU-13-13 5AMP	IR-DO-13-13	25 / 26		SPARE
33	A040DO0142	FU-13-14 5AMP	IR-DO-13-14	27 / 28		SPARE
35	A040DO0143	FU-13-15 5AMP	IR-DO-13-15	29 / 30		SPARE
37	A040DO0144	FU-13-16 5AMP	IR-DO-13-16	31 / 32		SPARE

NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	DR	CHK	APVD	BY	APVD
	MD GONZALEZ		J MARTINEZ	JR HOYLE			BA JOHNSON

REVISION

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

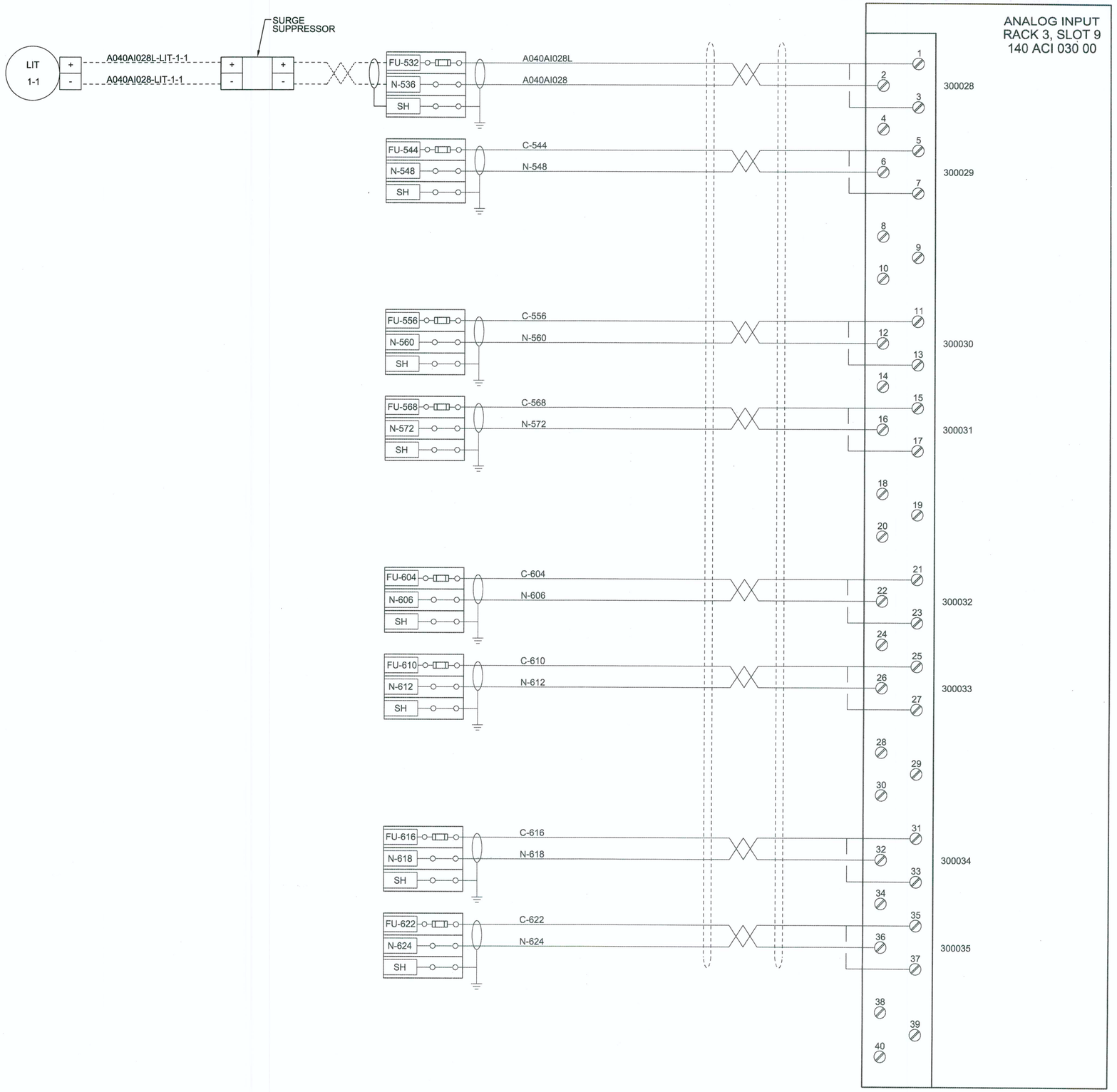
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 40 UPGRADES
I/O ARRANGEMENT
DISCRETE OUTPUT PLC-040-DO-2

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P040-007
SHEET	150

FILENAME: P040-007_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:15:48 PM



STATE OF NEVADA — PROFESSIONAL ENGINEER — MARINA D GONZALEZ — No. 17916 — ELECTRICAL — Exp. 12-31-13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	MD GONZALEZ	DR	J MARTINEZ	CHK	JR HOYLE	APVD	BA JOHNSON

CITY OF LAS VEGAS — NEVADA

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

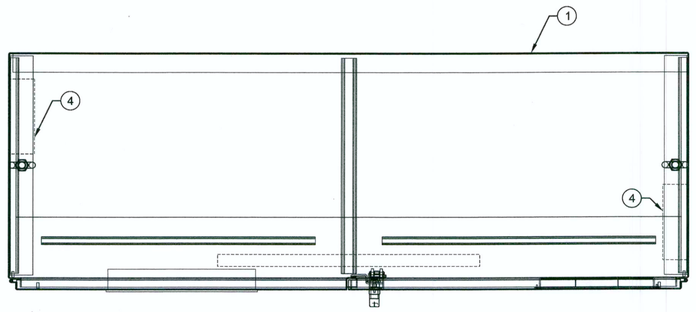
INSTRUMENTATION AND CONTROL
PLC 40 UPGRADES
I/O ARRANGEMENT
ANALOG INPUT PLC-040-AI-1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

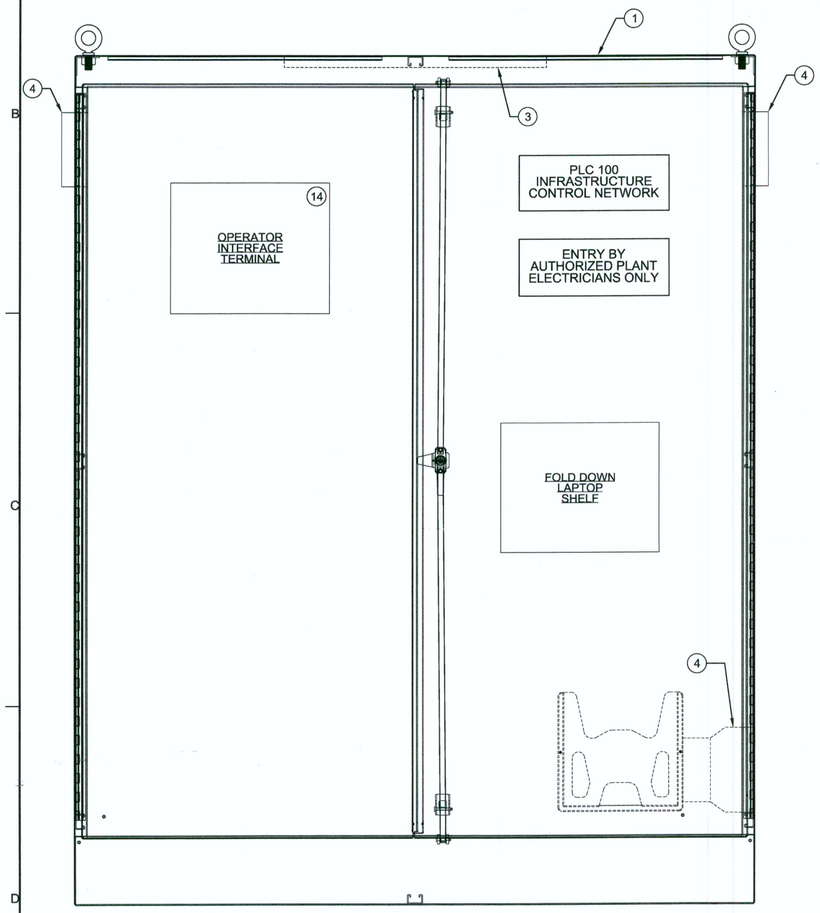
DATE	JANUARY 2013
PROJ	413455
DWG	P040-008
SHEET	151

AS-BUILT
CLV PLAN# 311.57

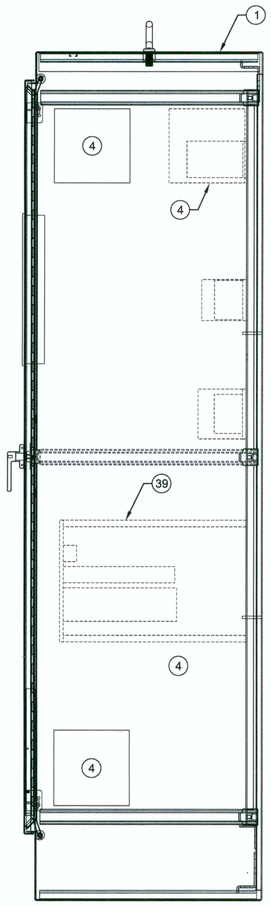
FILENAME: P040-008_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:16:37 PM



TOP VIEW



FRONT VIEW



SIDE VIEW

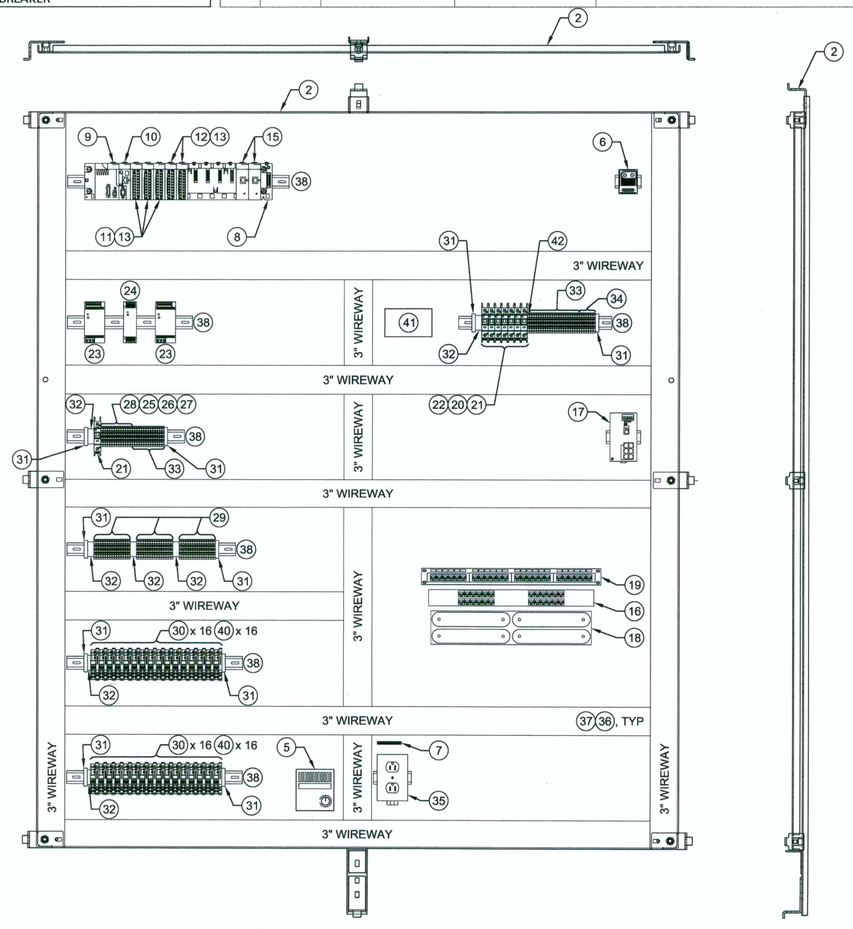
PLC 100 CABINET VIEW

1/8"=1"

BILL OF MATERIALS

ITEM	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
1	1	HOFFMAN	A907224FSD	90"H x 72"W x 24"D PANEL
2	1	HOFFMAN	A90P72F1	BACKPANEL
3	1	HOFFMAN	LF120V28	ENCLOSURE LIGHT AND DOOR SWITCH
4	1	HOFFMAN	SF0916414	FAN, EXHAUST GRILLE AND FILTER
5	1	HOFFMAN	DAH1001A	HEATER
6	1	HOFFMAN	ADLTEMP	DUAL THERMOSTAT
7	1			GROUNDING BAR
8	1	SCHNEIDER ELECTRIC	BMXXBP1200	12-SLOT RACK
9	1	SCHNEIDER ELECTRIC	BMXCPS2010	POWER SUPPLY M340
10	1	SCHNEIDER ELECTRIC	BMXP342020	M340 PROCESSOR
11	3	SCHNEIDER ELECTRIC	BMXDDI1602	16 PT 24VDC DISCRETE INPUT CARD
12	2	SCHNEIDER ELECTRIC	BMXDRA1605	16 PT RELAY OUTPUT CARD
13	5	SCHNEIDER ELECTRIC	BMXFTWB2010	REMOVABLE TERMINAL BLOCK
14	1	SCHNEIDER ELECTRIC	MAGELIS XBTGT73	15" OIT DISPLAY
15	2	SCHNEIDER ELECTRIC	BMXNOE0100	ETHERNET MODULE
16	1	CISCO	3560 SERIES	SCADA NETWORK SWITCH
17	1	HIRSCHMANN	RS20-0800M2M2SDAP	EQUIPMENT NETWORK SWITCH
18	1			FIBER OPTIC PATCH PANEL
19	1			CAT 5e PATCH PANEL
20	3			10A CIRCUIT BREAKER
21	2			3A CIRCUIT BREAKER

ITEM	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
22	2			1A CIRCUIT BREAKER
23	2			24VDC POWER SUPPLY
24	1			24VDC POWER SUPPLY REDUNDANCY MODULE
25	14			FUSED TERMINAL BLOCKS
26	6			3A FUSE
27	1			1A FUSE
28	3			1/2A FUSE
29	48			DOUBLE LEVEL TERMINAL BLOCKS
30	32			FUSED DOUBLE LEVEL TERMINAL BLOCKS
31	AS REQ'D			END CLAMPS
32	AS REQ'D			TERMINAL STRIP MARKER
33	22			SINGLE LEVEL TERMINAL BLOCK; WHITE
34	7			GROUNDING TERMINAL BLOCK; GRN/YEL
35	1			DUPLEX RECEPTACLE
36	AS REQ'D			3"W X 3"D WIREWAY
37	AS REQ'D			3" WIREWAY COVER
38	AS REQ'D			DINRAIL
39	AS REQ'D			19" RACK MOUNTING EQUIPMENT 6U CAPACITY
40	32			10A CIRCUIT BREAKER
41	1			SURGE SUPPRESSOR
42	1			SINGLE LEVEL TERMINAL BLOCK; BLACK



BACKPANEL VIEW

PLC CABINET LAYOUT

1/8"=1"

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	APVD	BY
		MD GONZALEZ	J MARTINEZ	JR HOYLE	APVD	BA JOHNSON

REVISION

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

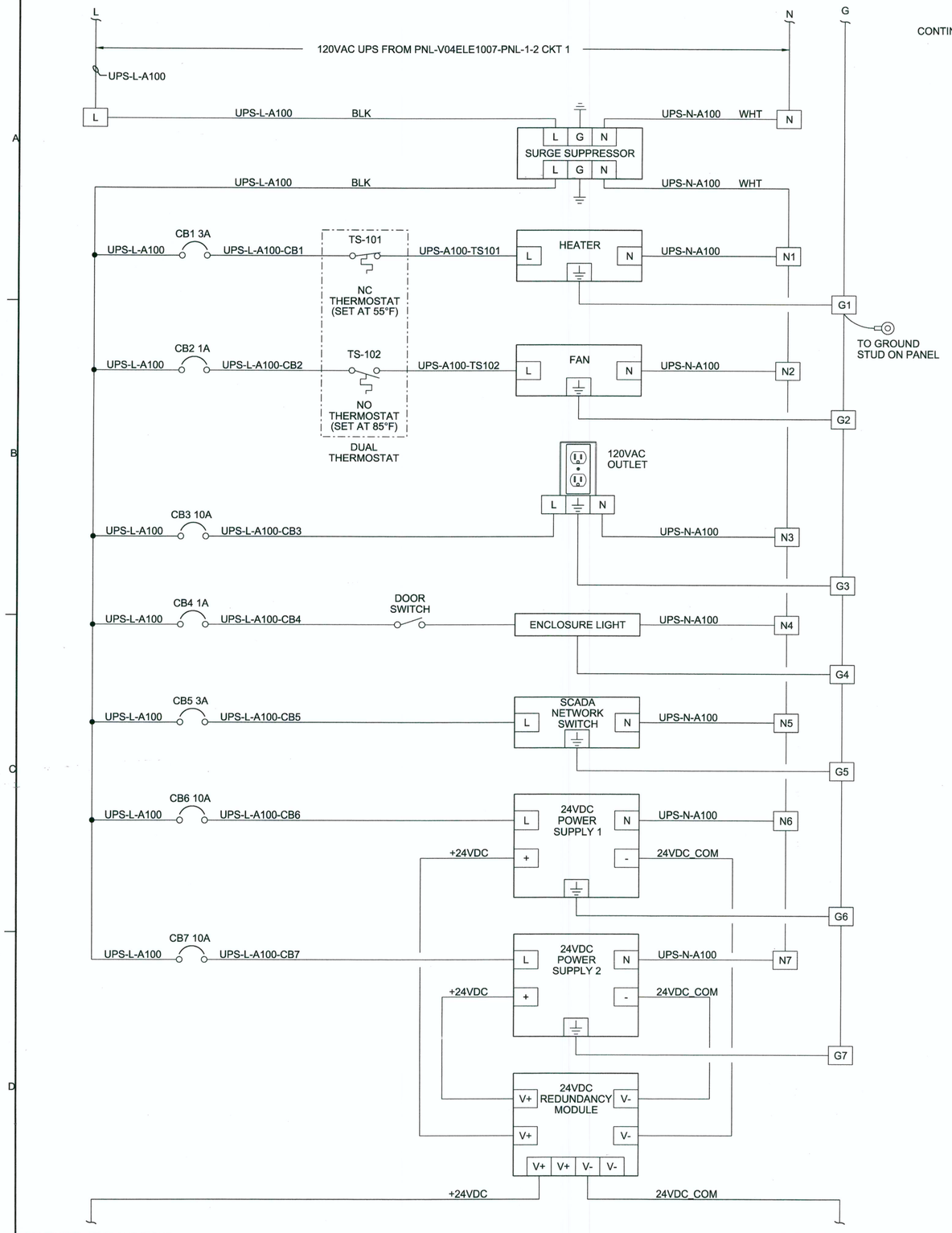
CH2MHILL

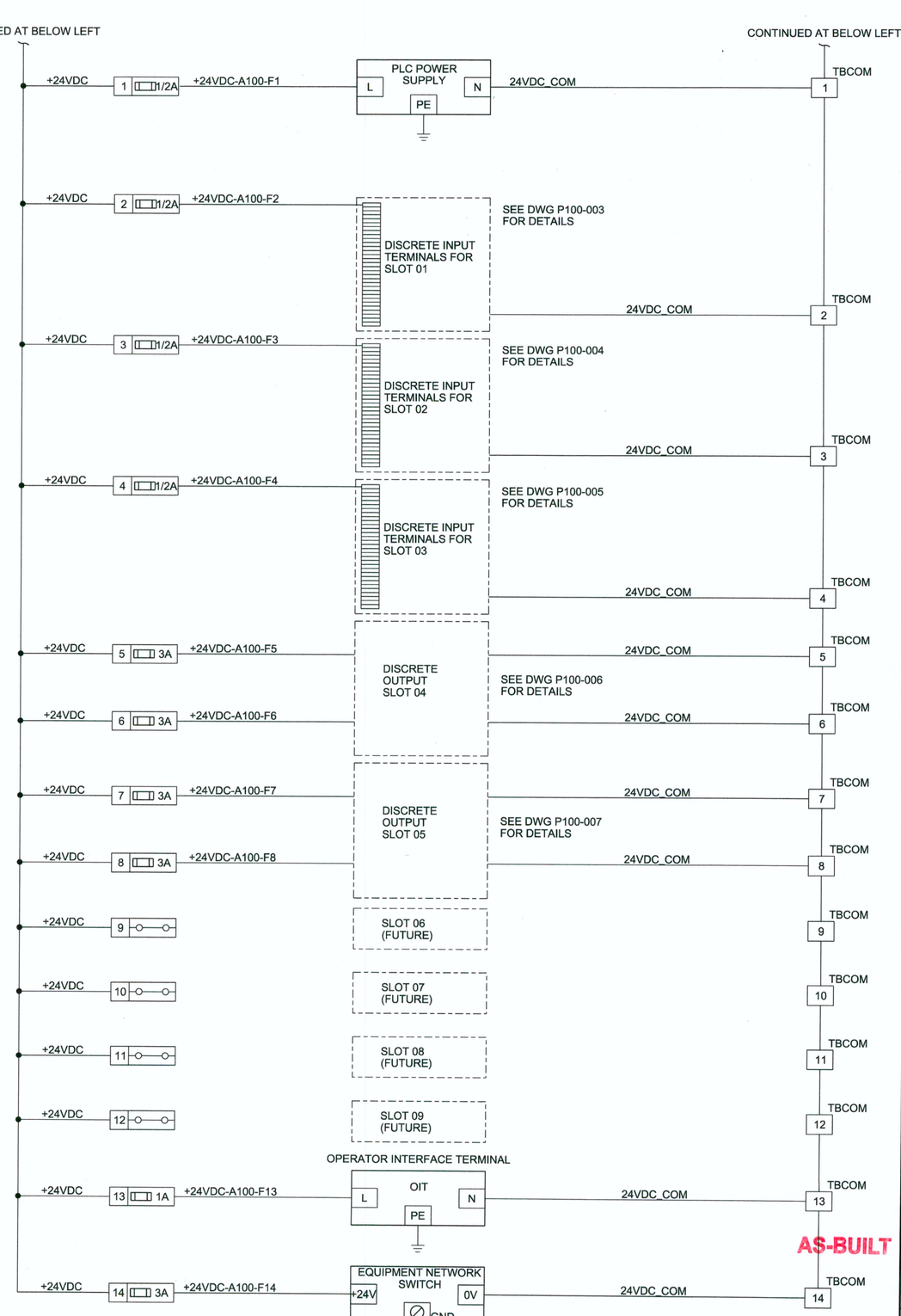
INSTRUMENTATION AND CONTROL
PLC 100
CABINET LAYOUT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P100-001
SHEET	152

FILENAME: P100-001_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:17:17 PM





RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	APVD
		MD GONZALEZ	J MARTINEZ	JR HOYLE	BA JOHNSON

REVISION

STATE OF NEVADA — PROFESSIONAL ENGINEER — MARINA D. GONZALEZ — Expr. 1-31-13 — ELECTRICAL — No. 17918

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

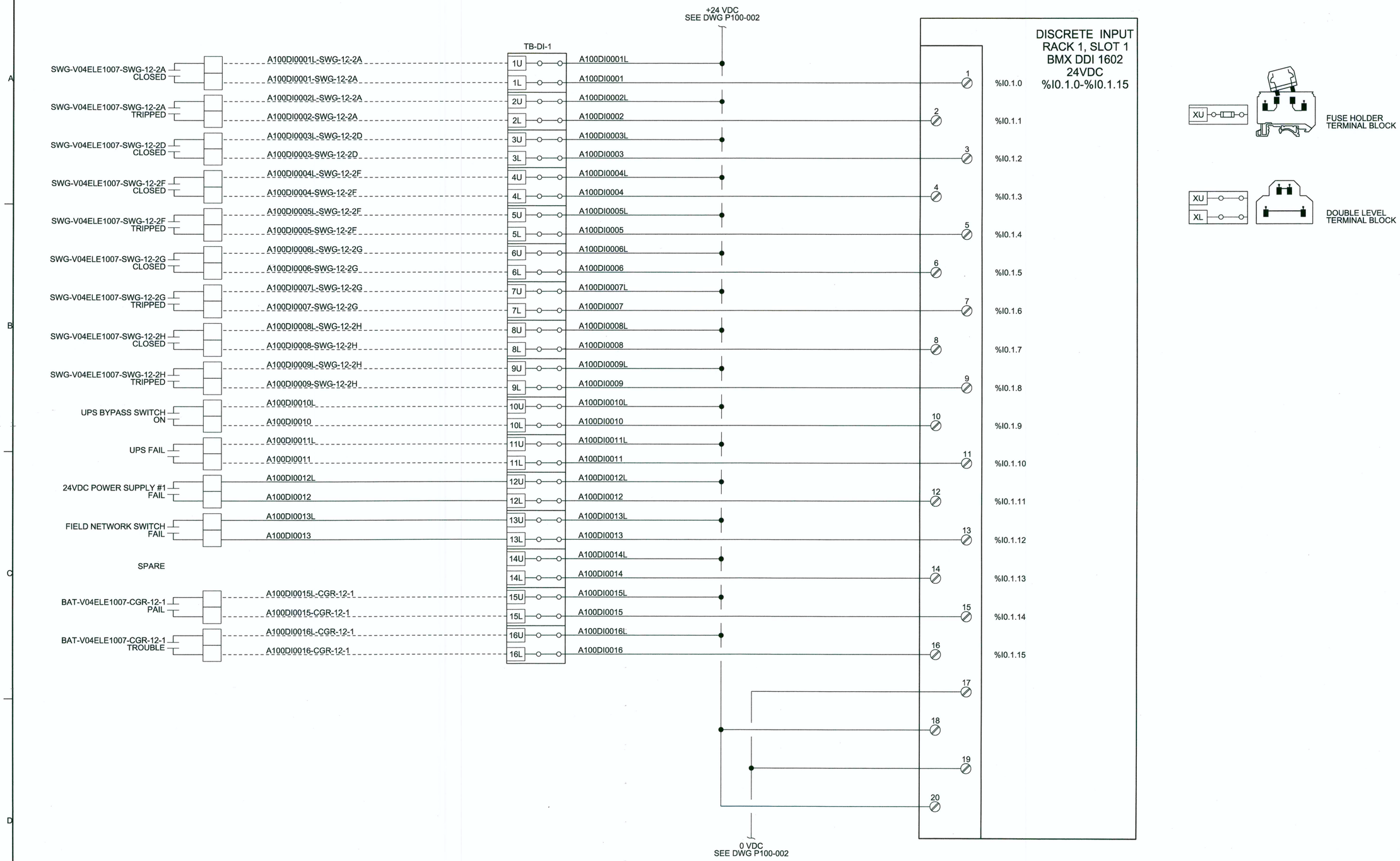
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 100
POWER DISTRIBUTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P100-002
SHEET	153

FILENAME: P100-002_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:18:02 PM



NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD

DSGN MD GONZALEZ | DR J MARTINEZ | CHK JR HOYLE | APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

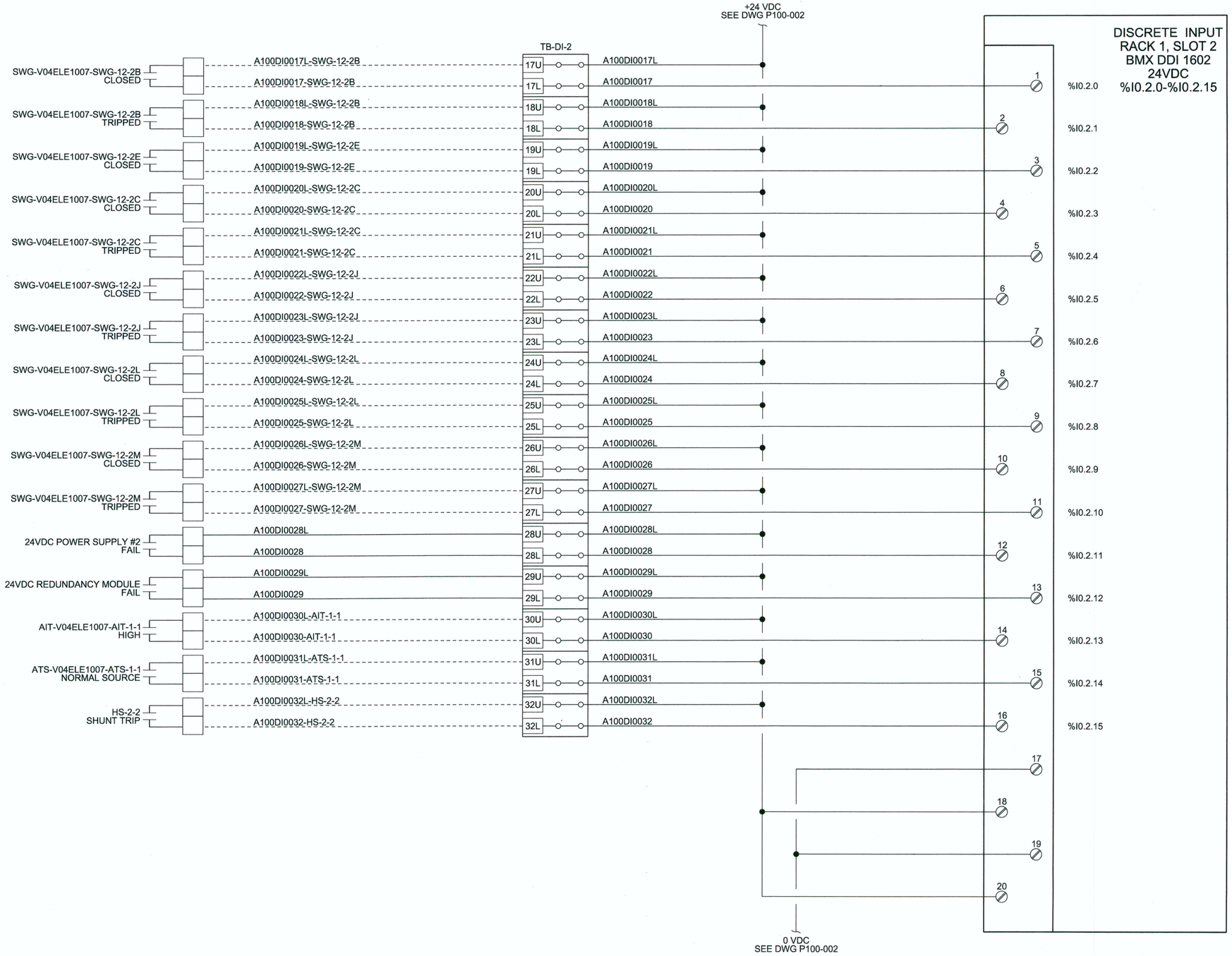
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 100
I/O ARRANGEMENT
DISCRETE INPUT PLC-100-DI-1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P100-003
SHEET	154

FILENAME: P100-003_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:18:43 PM



NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT

CLV PLAN# 311.57

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FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD

DSGN MD GONZALEZ | DR J MARTINEZ | CHK JR HOYLE | APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

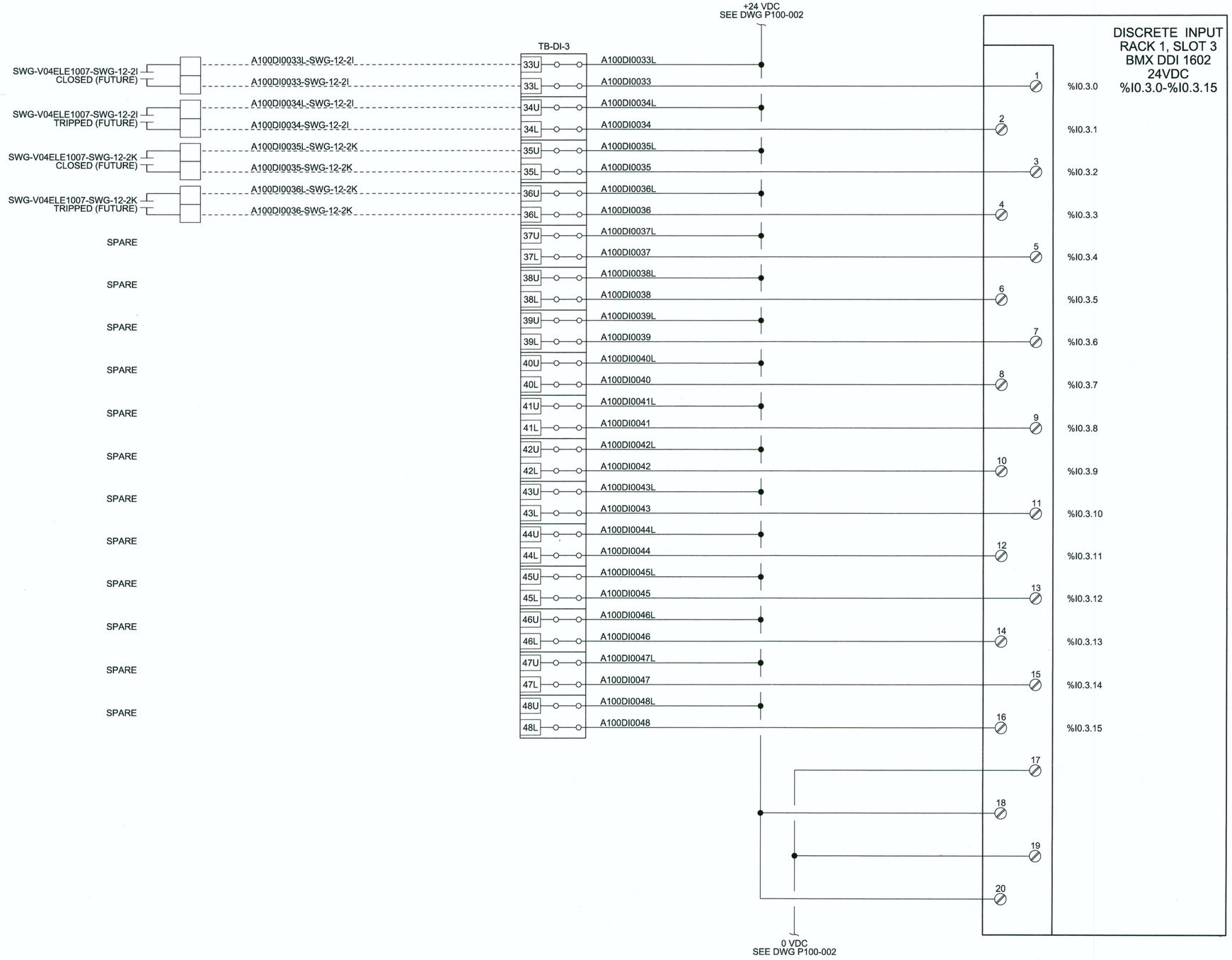
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 100
I/O ARRANGEMENT
DISCRETE INPUT PLC-100-DI-2

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P100-004
SHEET	155

FILENAME: P100-004_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:19:19 PM



NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT

CLV PLAN# 311.57

PROFESSIONAL ENGINEER STATE OF NEVADA MARINA D. GONZALEZ No. 17918 Exp: 6-30-13 ELECTRICAL 1-10-13

RECEIVED FEB 11 2013 McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	REVISION	CHK	APVD	BY
		MD GONZALEZ	J MARTINEZ		JR HOYLE	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 100
I/O ARRANGEMENT
DISCRETE INPUT PLC-100-DI-3

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P100-005
SHEET	156

FILENAME: P100-005_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:20:02 PM

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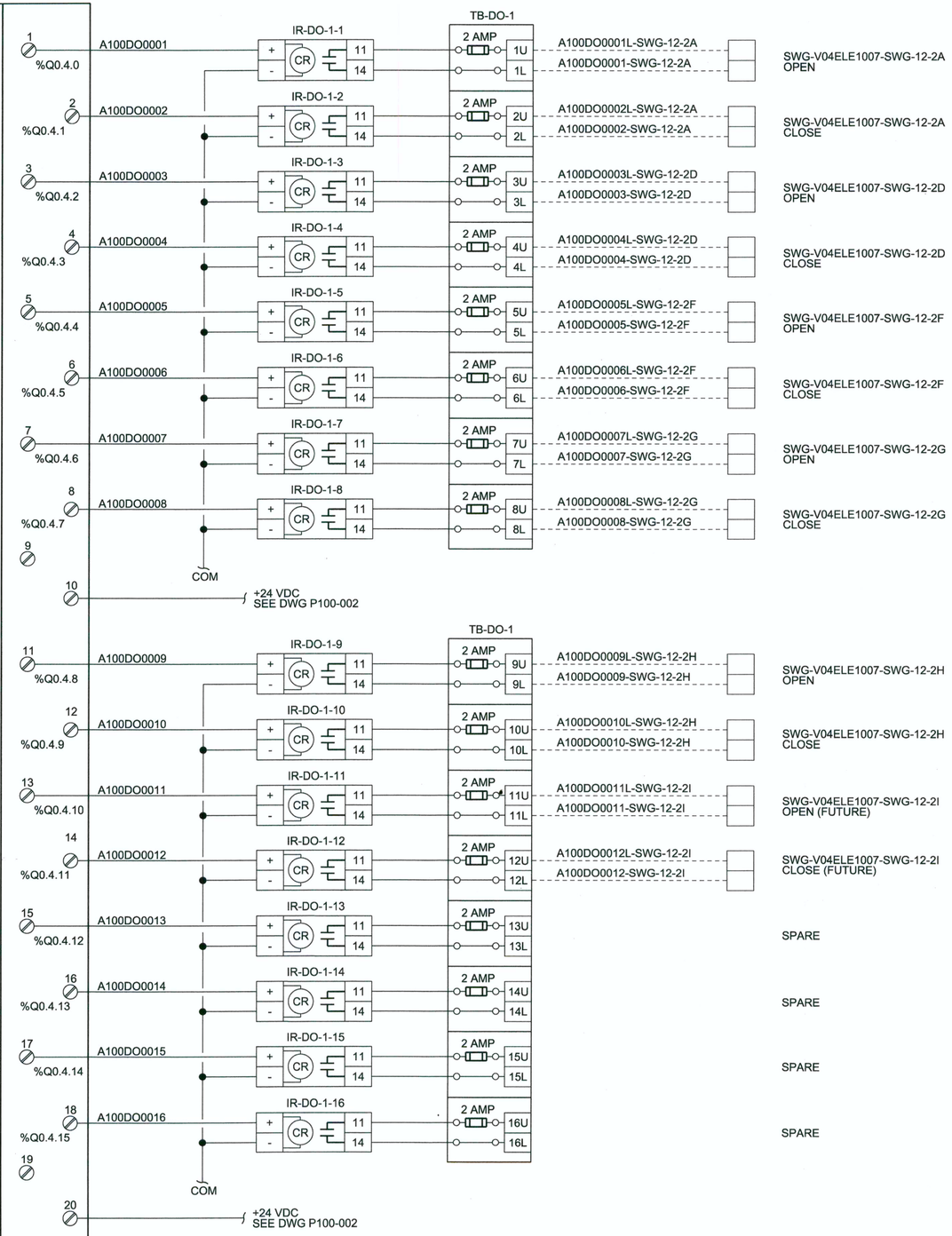

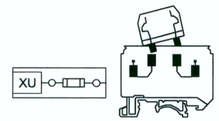

NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT

CLV PLAN# 311.57

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FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	APVD	BY
REVISION		MD GONZALEZ	J MARTINEZ	JR HOYLE	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 100
I/O ARRANGEMENT
DISCRETE OUTPUT PLC-100-DO-1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P100-006
SHEET	157

FILENAME: P100-006_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:24:36 PM

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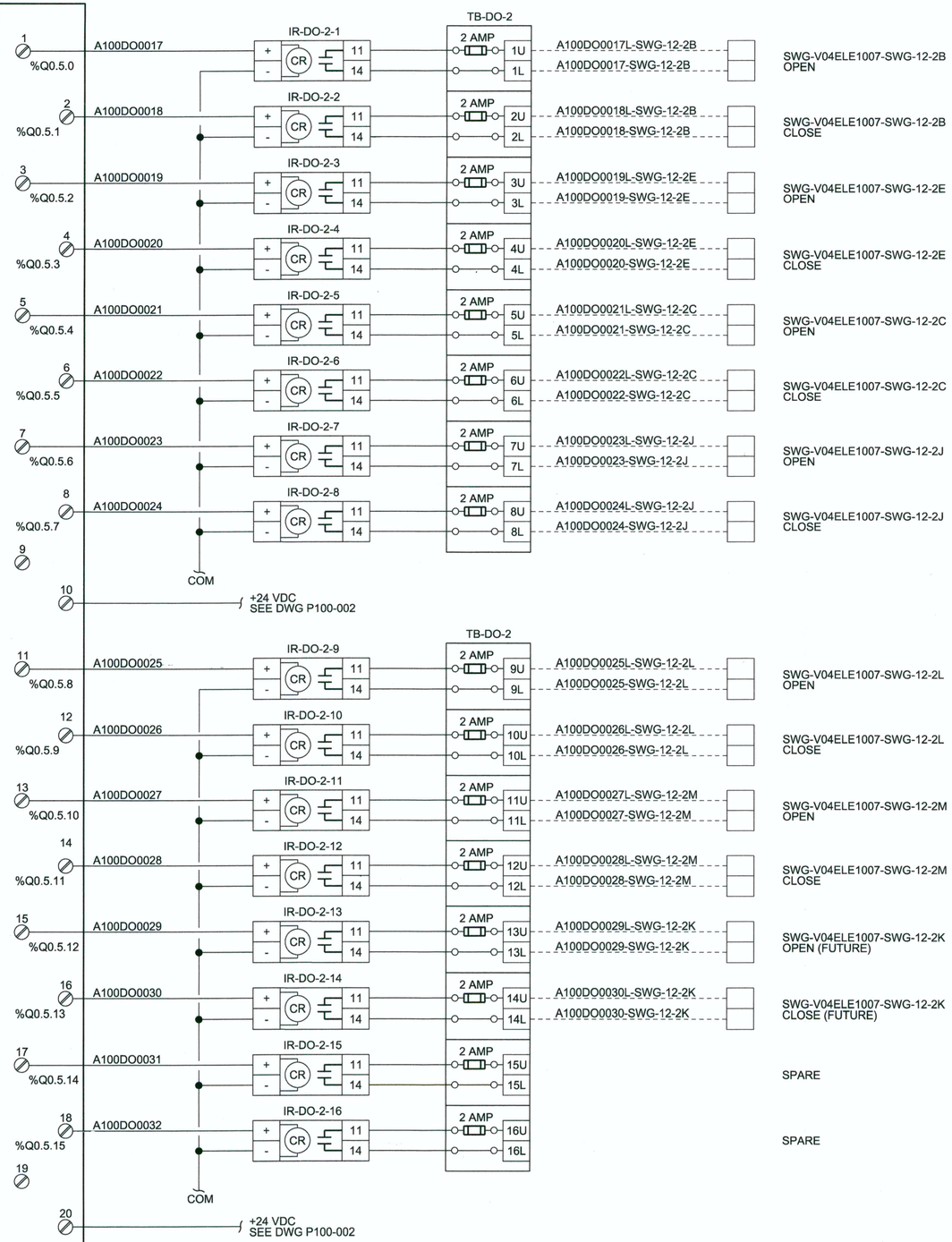
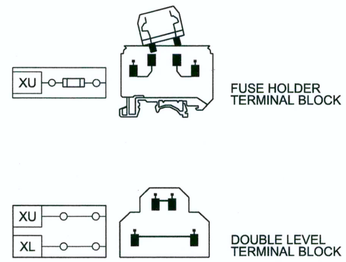




NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT
CLV PLAN# 311.57

STATE OF NEVADA — PROFESSIONAL ENGINEER — MARINA D. GONZALEZ — Exp. 4-30-15 — ELECTRICAL — No. 17918

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	CHK	APVD	BY
DSGN	MD GONZALEZ	DR	J MARTINEZ	APVD	JR HOYLE
					BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 100
I/O ARRANGEMENT
DISCRETE OUTPUT PLC-100-DO-2

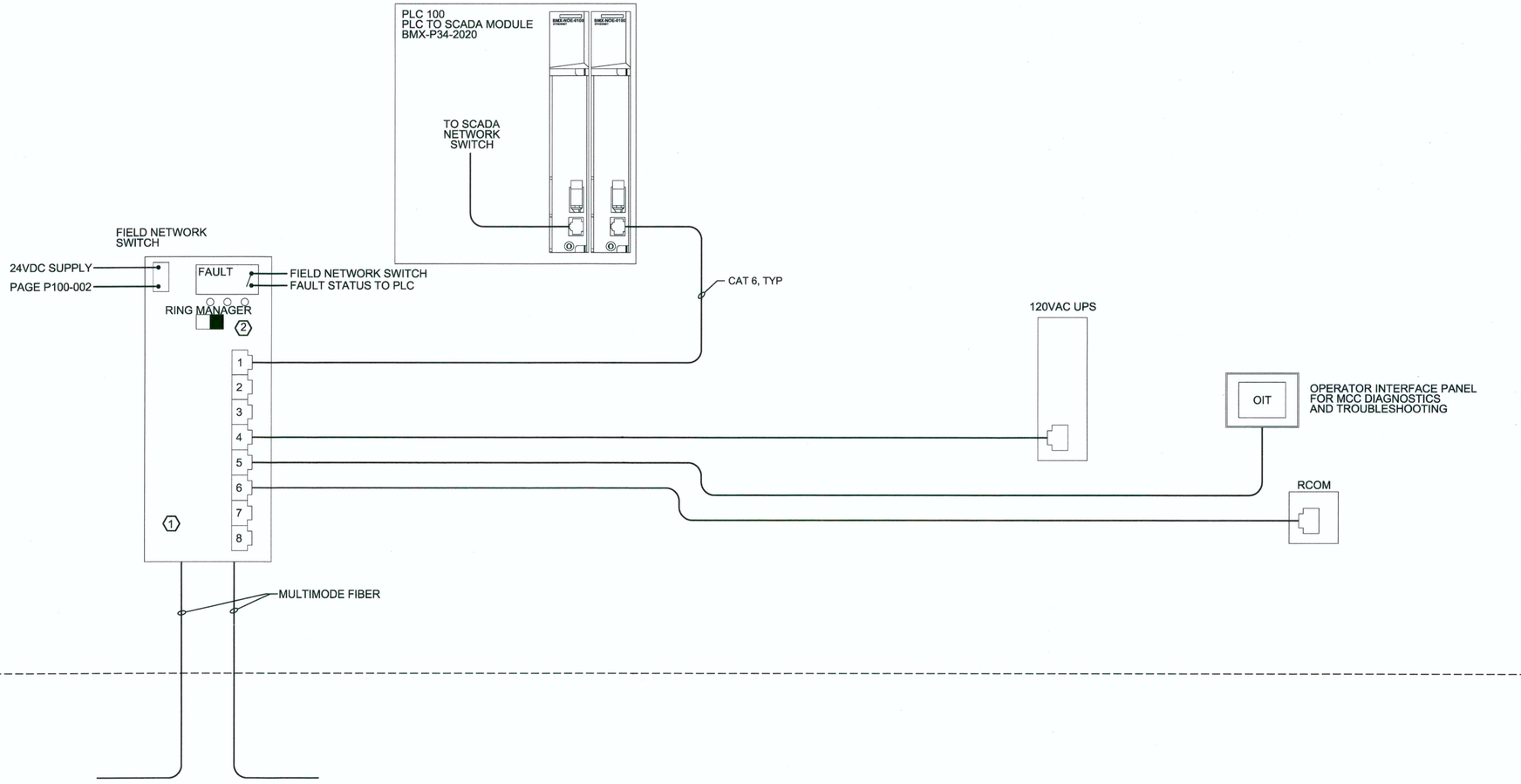
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P100-007
SHEET	158

FILENAME: P100-007_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:25:18 PM

NETWORK SWITCH PORT ASSIGNMENTS

PORT	DEVICE	EQUIPMENT
1	PLC	BMX-NOE-0100
2	HART	
3	HART	
4	UPS	UPS SNMP CARD
5	OIT	OPERATOR INTERFACE
6	RCOM	SWG-12-2
7	UPLINK	TO PLC 101
8	UPLINK	TO PLC 103 (VIA ADMIN)



NOTES:

1. REFER TO PORT ASSIGNMENT TABLE.
2. RING MANAGER SWITCH POSITION, ONLY PLC CABINET IS SET TO RING MANAGER.

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	MD GONZALEZ	DR	CHK	APVD
		J MARTINEZ	JR HOYLE	BA JOHNSON

STATE OF NEVADA PROFESSIONAL ENGINEER
MARINA D GONZALEZ
No. 17918
Exp: 6-30-13
ELECTRICAL
1-10-13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL
Wunderlich-Malec
INSTRUMENTATION AND CONTROL

PLC 100
DIGITAL FIELD NETWORK DIAGRAM FIBER AND CAT5 CONNECTION DETAILS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

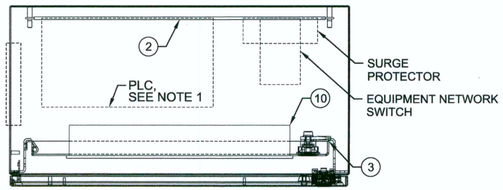
DATE	JANUARY 2013
PROJ	413455
DWG	P100-008
SHEET	159

FILENAME: P100-008_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:25:56 PM

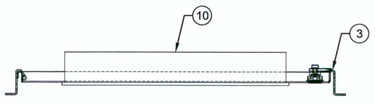
BILL OF MATERIALS				
ITEM	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
1	1	HOFFMAN	CSD482412	48X24X12 ENCLOSURE
2	1	HOFFMAN	CP4824	BACKPANEL
3	1	HOFFMAN	CSPB4824	SWING OUT PANEL
4	1	SCHNEIDER ELECTRIC	BMXXBP0600	6-SLOT RACK
5	1	SCHNEIDER ELECTRIC	BMXCPS2010	POWER SUPPLY M340
6	1	SCHNEIDER ELECTRIC	BMXP342020	M340 PROCESSOR
7	1	SCHNEIDER ELECTRIC	BMXDDI1602	16 PT 24VDC DISCRETE INPUT CARD
8	1	SCHNEIDER ELECTRIC	BMXDRA1605	16 PT RELAY OUTPUT CARD
9		SCHNEIDER ELECTRIC	BMXNOE0100	ETHERNET MODULE
10	1	SCHNEIDER ELECTRIC	MAGELIS XBTGT7340	15" OIT DISPLAY
11	1			15A CIRCUIT BREAKER
12	1			SURGE PROTECTIVE DEVICE
13	2			24VDC POWER SUPPLY
14	1			24VDC INTERPOSING RELAY
15	10			FUSED TERMINAL BLOCKS
16	3			10A FUSE
17	4			3A FUSE
18	1			1/2A FUSE

ITEM	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
19	16			DOUBLE LEVEL TERMINAL BLOCKS
20	16			FUSED DOUBLE LEVEL TERMINAL BLOCKS
21	16			24V INTERPOSING RELAY
22	AS REQ'D			END CLAMPS
23	AS REQ'D			TERMINAL STRIP MARKER
24	1			SINGLE LEVEL TERMINAL BLOCK; BLACK
25	9			SINGLE LEVEL TERMINAL BLOCK; WHITE
26	1			GROUND BAR
27	AS REQ'D			1"W X 3"D WIREWAY
28	AS REQ'D			1" WIREWAY COVER
29	AS REQ'D			2"W X 3"D WIREWAY
30	AS REQ'D			2" WIREWAY COVER
31	AS REQ'D			DINRAIL
32	1	HIRSCHMANN	RS20-0800M2M2SDAP	EQUIPMENT NETWORK SWITCH
33	16			2A FUSE
34	2	SCHNEIDER ELECTRIC	BMXFTB2010	REMOVABLE TERMINAL BLOCK
35	2	HOFFMAN	SF05	FAN/FILTER
36	1	HOFFMAN	ATEMNO	THERMOSTAT

NOTES:
1. FOOTPRINT INCLUDES REMOVABLE TERMINAL BLOCK AND CONNECTORS.



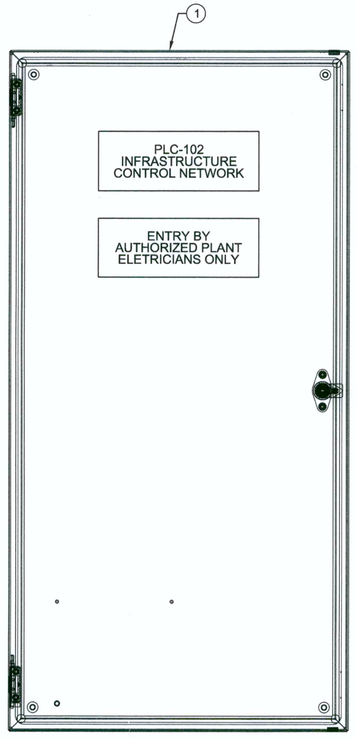
TOP VIEW



FRONT VIEW SIDE VIEW

RECESSED OIT DOOR DETAIL

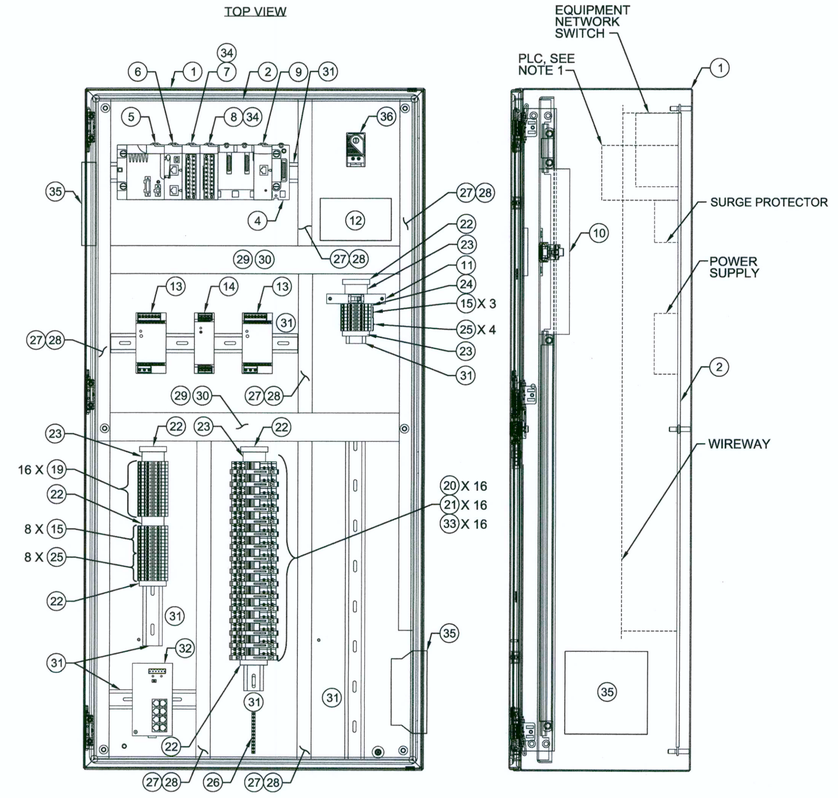
3/16"=1"



FRONT VIEW

EXTERIOR VIEW OF PLC CABINET VIEW

3/16"=1"



BACKPLANE VIEW SIDE VIEW

PLC CABINET LAYOUT

3/16"=1"

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	CHK	APVD	BY	APVD
DSGN	MD GONZALEZ	DR	J MARTINEZ	JR HOYLE	BA JOHNSON	

STATE OF NEVADA
REGISTERED PROFESSIONAL ENGINEER
MARINA D. GONZALEZ
Exp: 12-31-13
ELECTRICAL
No. 17916
1-10-13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

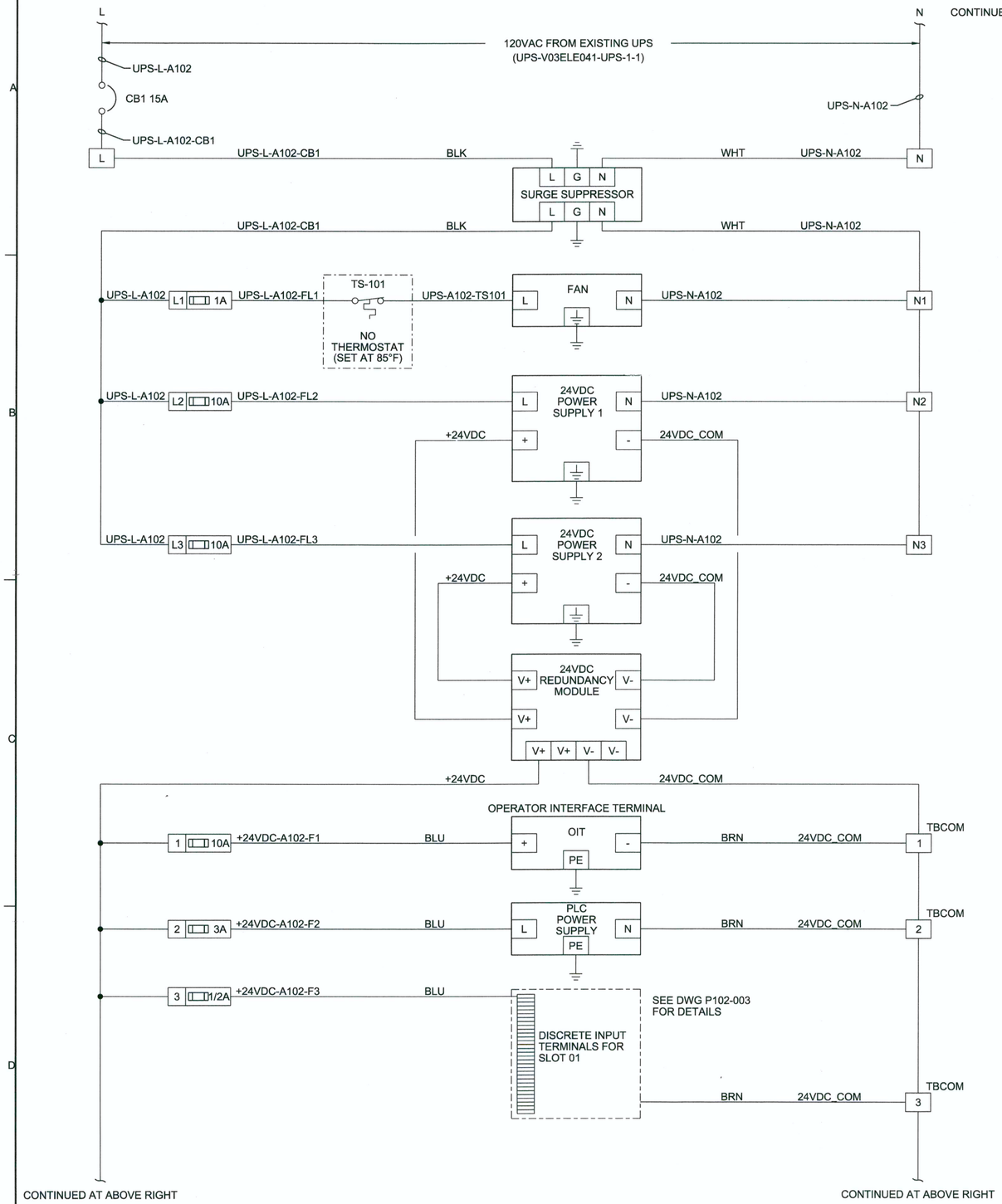
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 102
CABINET LAYOUT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P102-001
SHEET	160

FILENAME: P102-001_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:26:34 PM



RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	REVISION	CHK	DR	APVD
	MD GONZALEZ		BY	J MARTINEZ	JR HOYLE	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

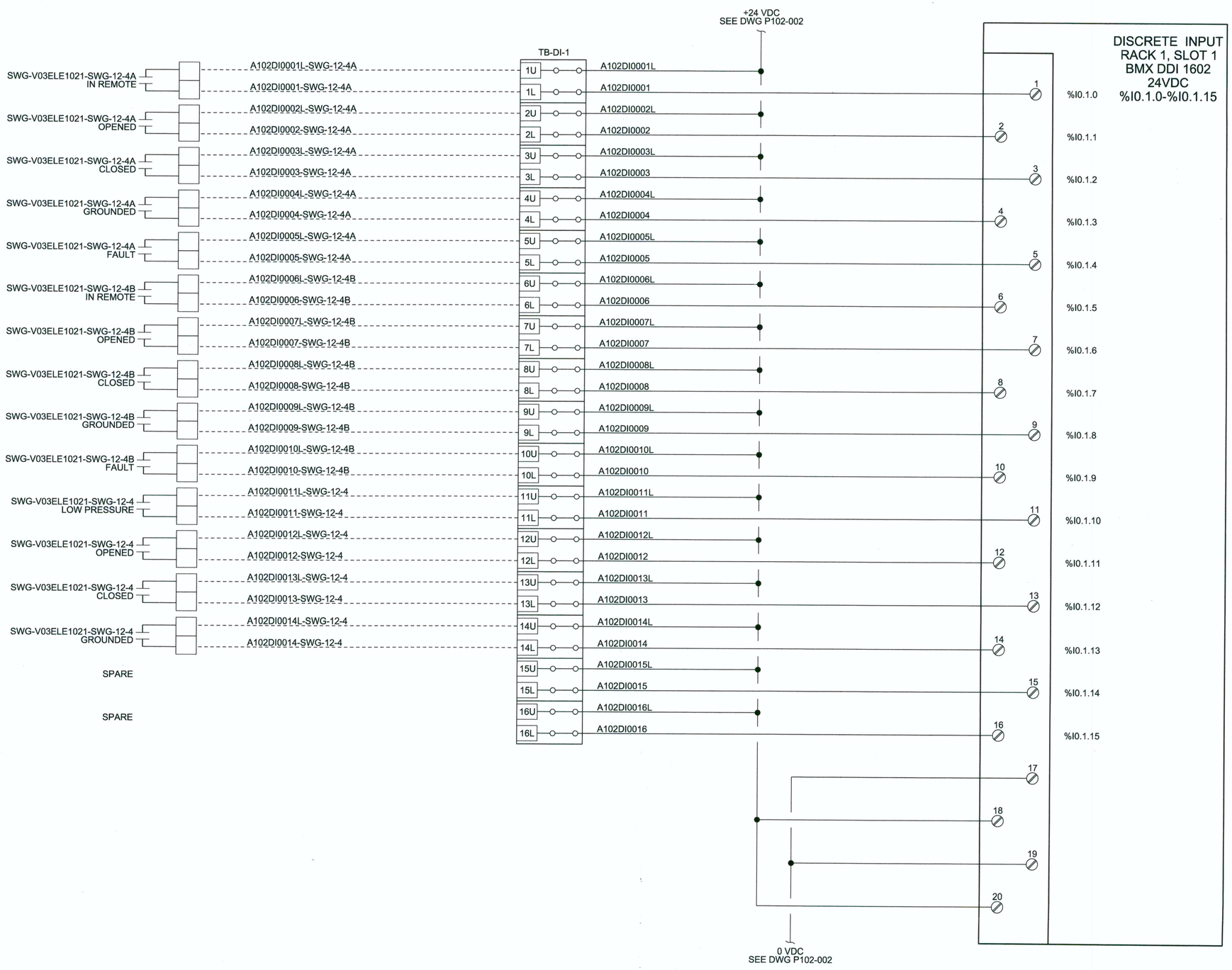
INSTRUMENTATION AND CONTROL
PLC 102
POWER DISTRIBUTION

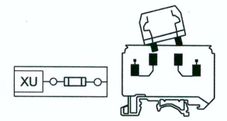
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P102-002
SHEET	161

AS-BUILT
CLV PLAN# 311.57

FILENAME: P102-002_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:29:15 PM







RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DSGN	DATE	DR	REVISION	CHK	BY	APVD
	MD GONZALEZ		J MARTINEZ		JR HOYLE	BA JOHNSON	APVD

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 102
I/O ARRANGEMENT
DISCRETE INPUT PLC-102-DI-1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

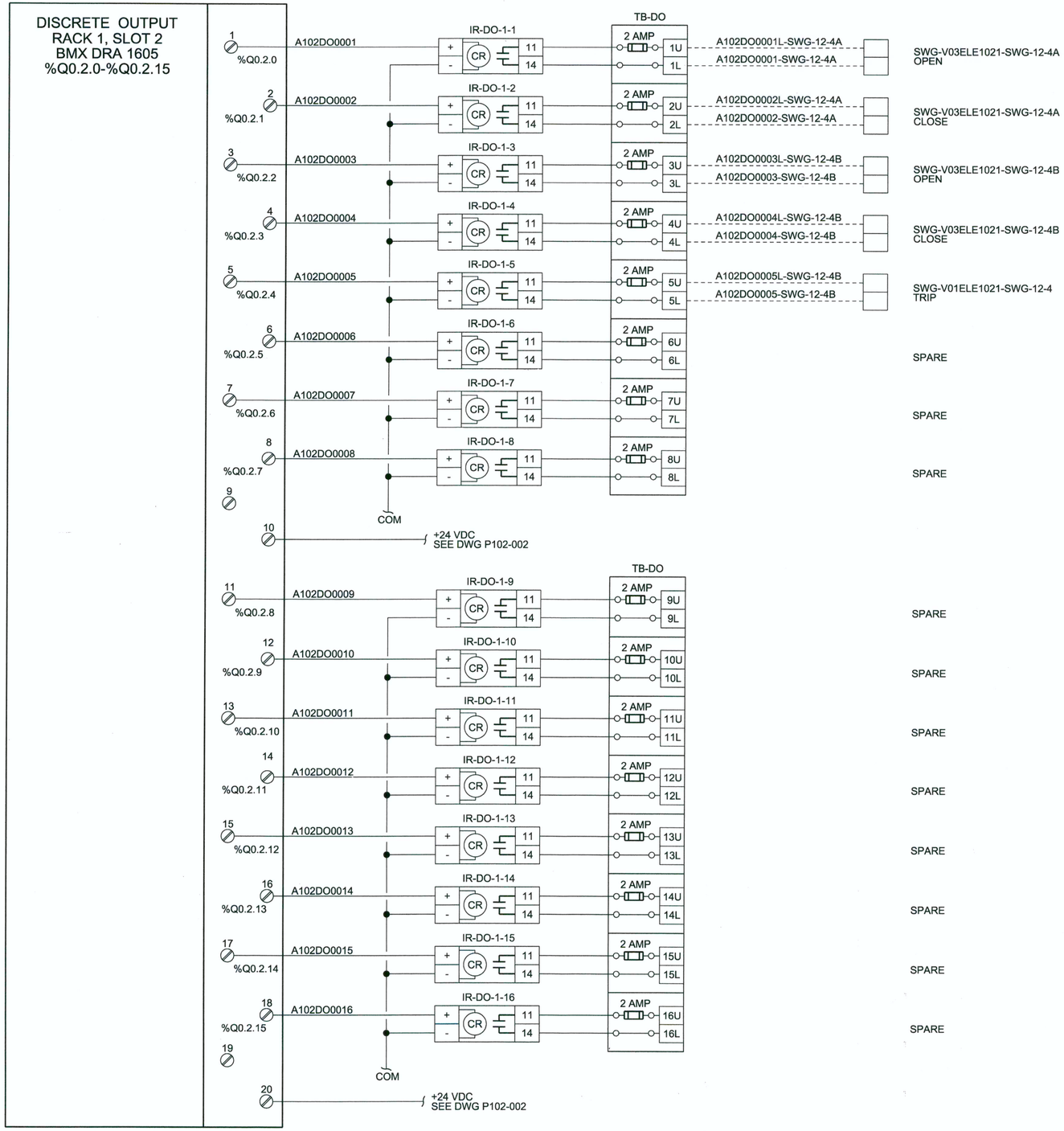
DATE	JANUARY 2013
PROJ	413455
DWG	P102-003
SHEET	162

AS-BUILT

NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

CLV PLAN# 311.57

FILENAME: P102-003_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:29:58 PM



NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	CHK	APVD	BY
DSGN	MD GONZALEZ	DR	J MARTINEZ	APVD	JR HOYLE	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 102
I/O ARRANGEMENT
DISCRETE OUTPUT PLC-102-DO-1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

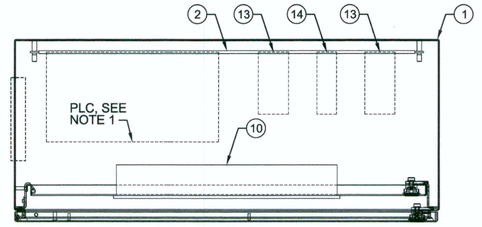
DATE	JANUARY 2013
PROJ	413455
DWG	P102-004
SHEET	163

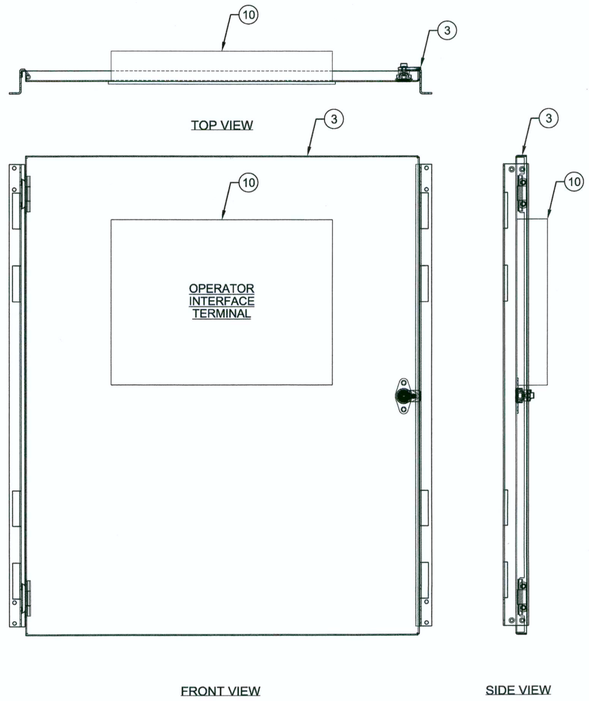
FILENAME: P102-004_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:30:41 PM

BILL OF MATERIALS

ITEM	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
1	1	HOFFMAN	CSD363012	36X30X12 ENCLOSURE
2	1	HOFFMAN	CP3630	BACKPANEL
3	1	HOFFMAN	CSPB3630	SWING OUT PANEL
4	1	SCHNEIDER ELECTRIC	BMXXBP0600	6-SLOT RACK
5	1	SCHNEIDER ELECTRIC	BMXCPS2010	POWER SUPPLY M340
6	1	SCHNEIDER ELECTRIC	BMXP342020	M340 PROCESSOR
7	1	SCHNEIDER ELECTRIC	BMXDDI1602	16 PT 24VDC DISCRETE INPUT CARD
8	1	SCHNEIDER ELECTRIC	BMXDRA1605	16 PT RELAY OUTPUT CARD
9	1	SCHNEIDER ELECTRIC	BMXNOE0100	ETHERNET MODULE
10	1	SCHNEIDER ELECTRIC	MAGELIS XBTGT7340	15" OIT DISPLAY
11	1			15A CIRCUIT BREAKER
12	1			SURGE PROTECTIVE DEVICE
13	1			24VDC POWER SUPPLY
14	1			24VDC POWER SUPPLY REDUNDANCY MODULE
15	11			FUSED TERMINAL BLOCKS
16	3			10A FUSE
17	4			3A FUSE
18	1			1/2A FUSE
19	16			DOUBLE LEVEL TERMINAL BLOCKS
20	16			FUSED DOUBLE LEVEL TERMINAL BLOCKS
21	16			24VDC INTERPOSING RELAY
22	AS REQ'D			END CLAMPS
23	AS REQ'D			TERMINAL STRIP MARKER
24	1			SINGLE LEVEL TERMINAL BLOCK; BLACK
25	12			SINGLE LEVEL TERMINAL BLOCK; WHITE
26	1			GROUND BAR
27	AS REQ'D			1"W X 3"D WIREWAY
28	AS REQ'D			1" WIREWAY COVER
29	AS REQ'D			2"W X 3"D WIREWAY
30	AS REQ'D			2" WIREWAY COVER
31	AS REQ'D			DINRAIL
32	1	HIRSCHMANN	RS20-0800M2M2SDAP	EQUIPMENT NETWORK SWITCH
33	16			2A FUSE
34	2	SCHNEIDER ELECTRIC	BMXFTB2010	REMOVABLE TERMINAL BLOCK
35	2	HOFFMAN	SF05	FAN/FILTER
36	1	HOFFMAN	ATEMNO	THERMOSTAT

NOTES:
1. FOOTPRINT INCLUDES REMOVABLE TERMINAL BLOCK AND CONNECTORS.

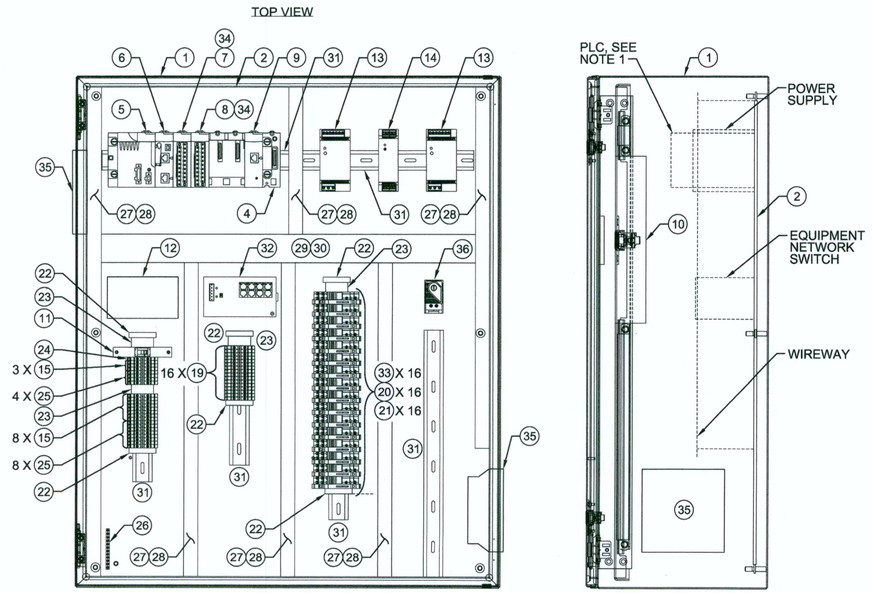




RECESSED OIT DOOR DETAIL
3/16"=1"



EXTERIOR VIEW OF PLC CABINET VIEW
3/16"=1"



PLC CABINET LAYOUT
3/16"=1"

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	REVISION	CHK	APVD	BY	APVD
		MD GONZALEZ	J MARTINEZ		JR HOYLE		BA JOHNSON	

ENGINEER'S STAMP OF NEVADA — MARINA D. GONZALEZ — Exp: 6-30-13 — ELECTRICAL — No. 17918 — PROFESSIONAL — 1-10-13

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

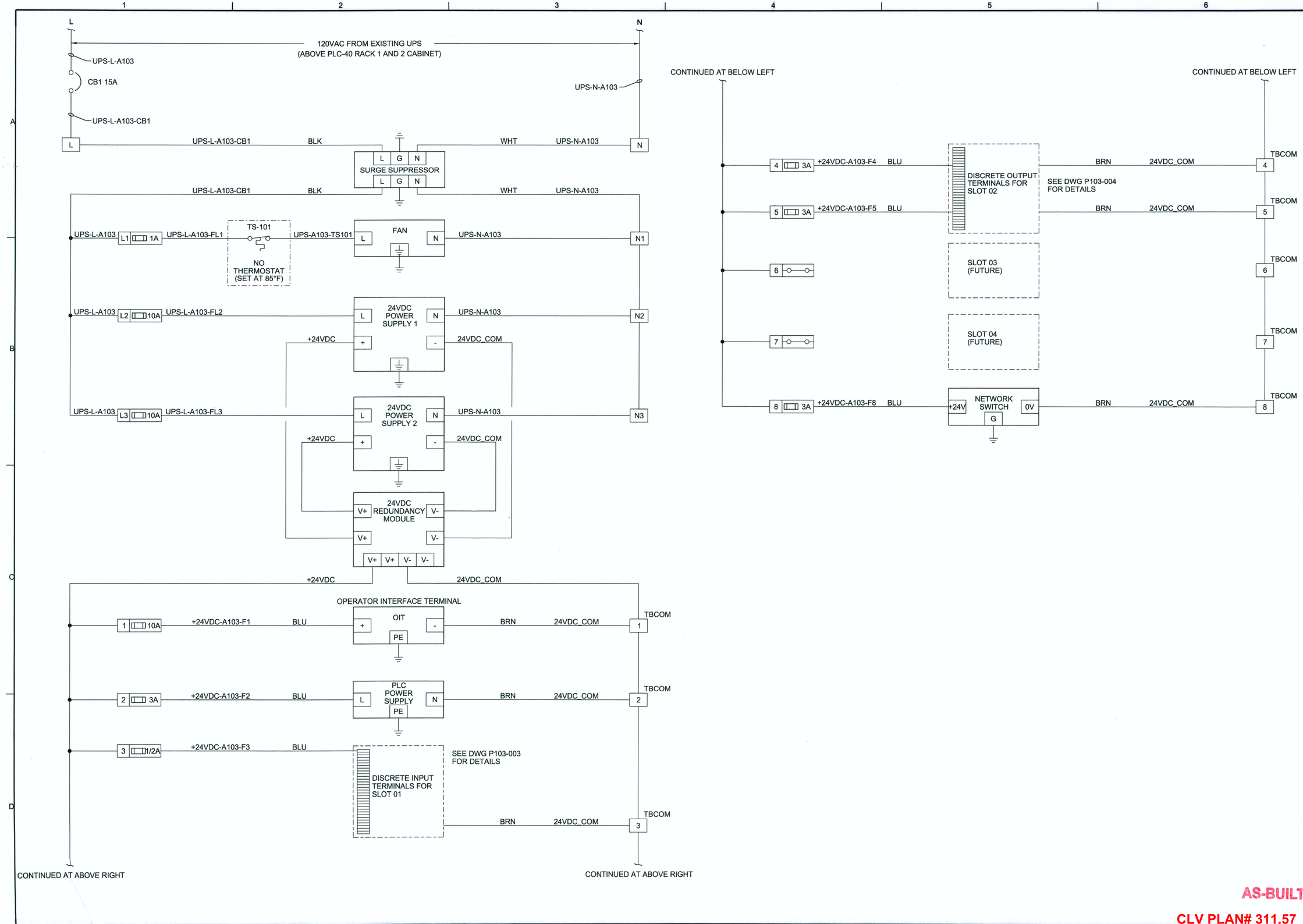
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 103
CABINET LAYOUT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P103-001
SHEET	164

FILENAME: P103-001_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:31:25 PM



AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD
DSGN	MD GONZALEZ	DR	J MARTINEZ	CHK	JR HOYLE	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

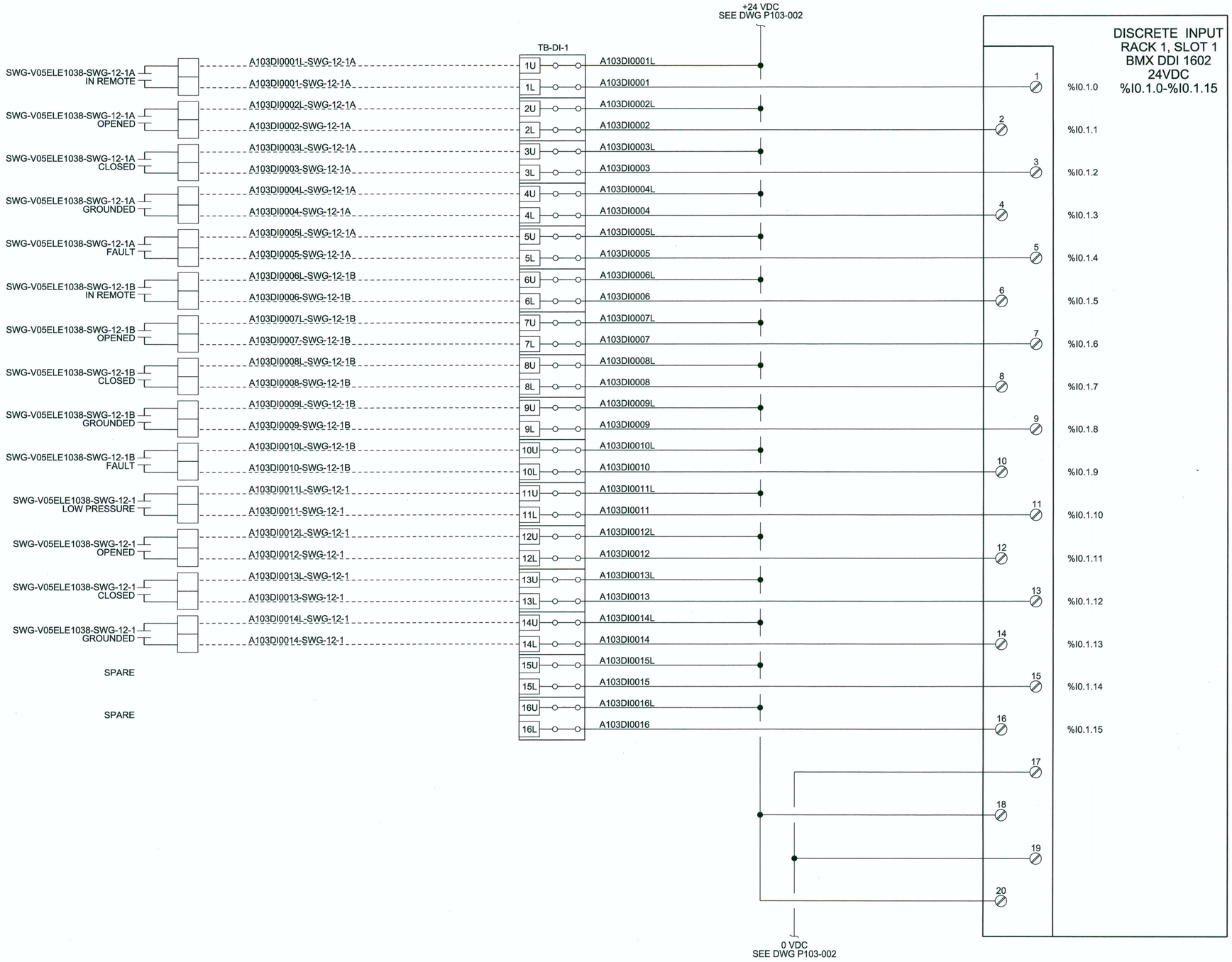
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 103
POWER DISTRIBUTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P103-002
SHEET	165

FILENAME: P103-002_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:32:26 PM



NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	BY	APVD

DSGN MD GONZALEZ | DR J MARTINEZ | CHK JR HOYLE | APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

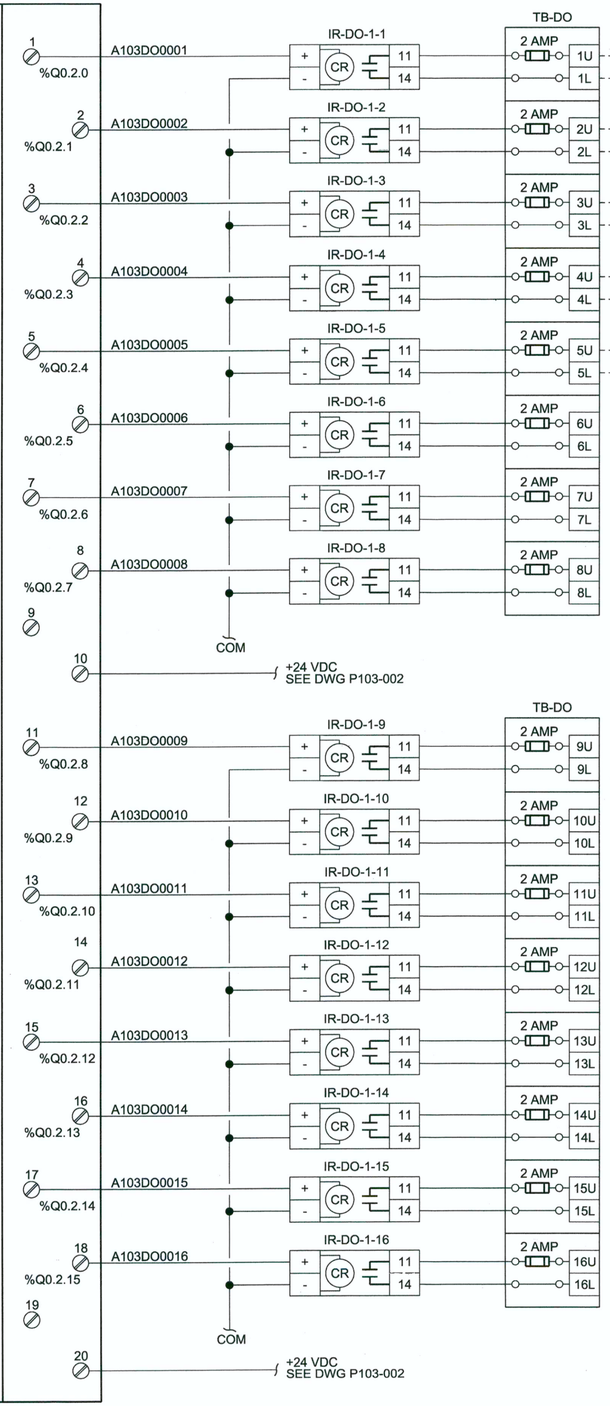
INSTRUMENTATION AND CONTROL
PLC 103
I/O ARRANGEMENT
DISCRETE INPUT PLC-103-DI-1

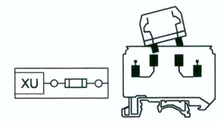
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

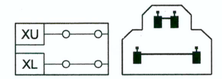
DATE	JANUARY 2013
PROJ	413455
DWG	P103-003
SHEET	166

FILENAME: P103-003_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:33:07 PM

DISCRETE OUTPUT
RACK 1, SLOT 2
BMX DRA 1605
%Q0.2.0-%Q0.2.15







NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT
CLV PLAN# 311.57

STATE OF NEVADA
PROFESSIONAL ENGINEER
MARINA D. GONZALEZ
No. 17916
ELECTRICAL
Exp: 12-31-13
1-10-13

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	REVISION	CHK	BY	APVD
		MD GONZALEZ	J MARTINEZ		JR HOYLE	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 103
I/O ARRANGEMENT
DISCRETE OUTPUT PLC-103-DO-1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P103-004
SHEET	167

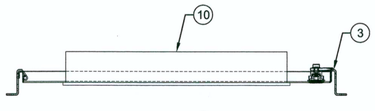
FILENAME: P103-004_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:33:47 PM

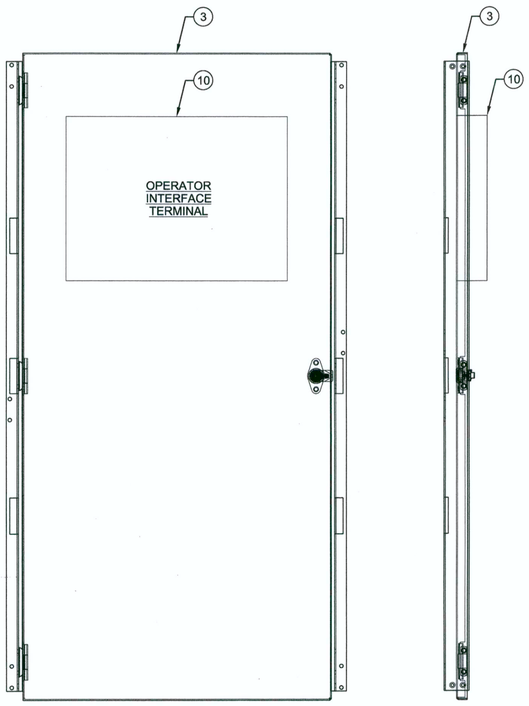
BILL OF MATERIALS

ITEM	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
1	1	HOFFMAN	CSD482412	48X24X12 ENCLOSURE
2	1	HOFFMAN	CP4824	BACKPANEL
3	1	HOFFMAN	CSPB4824	SWING OUT PANEL
4	1	SCHNEIDER ELECTRIC	BMXXBP0600	6-SLOT RACK
5	1	SCHNEIDER ELECTRIC	BMXCPS2010	POWER SUPPLY M340
6	1	SCHNEIDER ELECTRIC	BMXP342020	M340 PROCESSOR
7	1	SCHNEIDER ELECTRIC	BMXDDI1602	16 PT 24VDC DISCRETE INPUT CARD
8	1	SCHNEIDER ELECTRIC	BMXDRA1605	16 PT RELAY OUTPUT CARD
9	1	SCHNEIDER ELECTRIC	BMXNOE0100	ETHERNET MODULE
10	1	SCHNEIDER ELECTRIC	MAGELIS XBTGT7340	15" OIT DISPLAY
11	1			15A CIRCUIT BREAKER
12	1			SURGE PROTECTIVE DEVICE
13	2			24VDC POWER SUPPLY
14	1			24VDC POWER SUPPLY REDUNDANCY MODULE
15	11			FUSED TERMINAL BLOCKS
16	3			10A FUSE
17	4			3A FUSE
18	1			1/2A FUSE

ITEM	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
19	16			DOUBLE LEVEL TERMINAL BLOCKS
20	16			FUSED DOUBLE LEVEL TERMINAL BLOCKS
21	16			24VDC INTERPOSING RELAY
22	AS REQ'D			END CLAMPS
23	AS REQ'D			TERMINAL STRIP MARKER
24	1			SINGLE LEVEL TERMINAL BLOCK; BLACK
25	12			SINGLE LEVEL TERMINAL BLOCK; WHITE
26	1			GROUND BAR
27	AS REQ'D			1"W X 3"D WIREWAY
28	AS REQ'D			1" WIREWAY COVER
29	AS REQ'D			2"W X 3"D WIREWAY
30	AS REQ'D			2" WIREWAY COVER
31	AS REQ'D			DINRAIL
32	1	HIRSCHMANN	RS20-0800M2M2SDAP	EQUIPMENT NETWORK SWITCH
33	16			2A FUSE
34	2	SCHNEIDER ELECTRIC	BMXFTB2010	REMOVABLE TERMINAL BLOCK
35	2	HOFFMAN	SF05	FAN/FILTER
36	1	HOFFMAN	ATEMNO	THERMOSTAT

NOTES:
1. FOOTPRINT INCLUDES REMOVABLE TERMINAL BLOCK AND CONNECTORS.

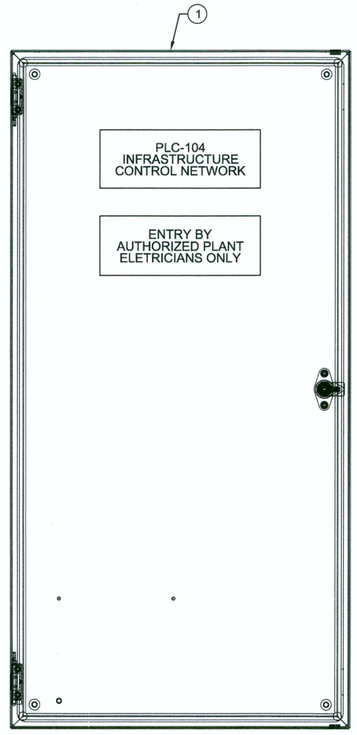




FRONT VIEW SIDE VIEW

RECESSED OIT DOOR DETAIL

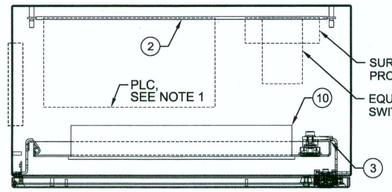
3/16"=1"



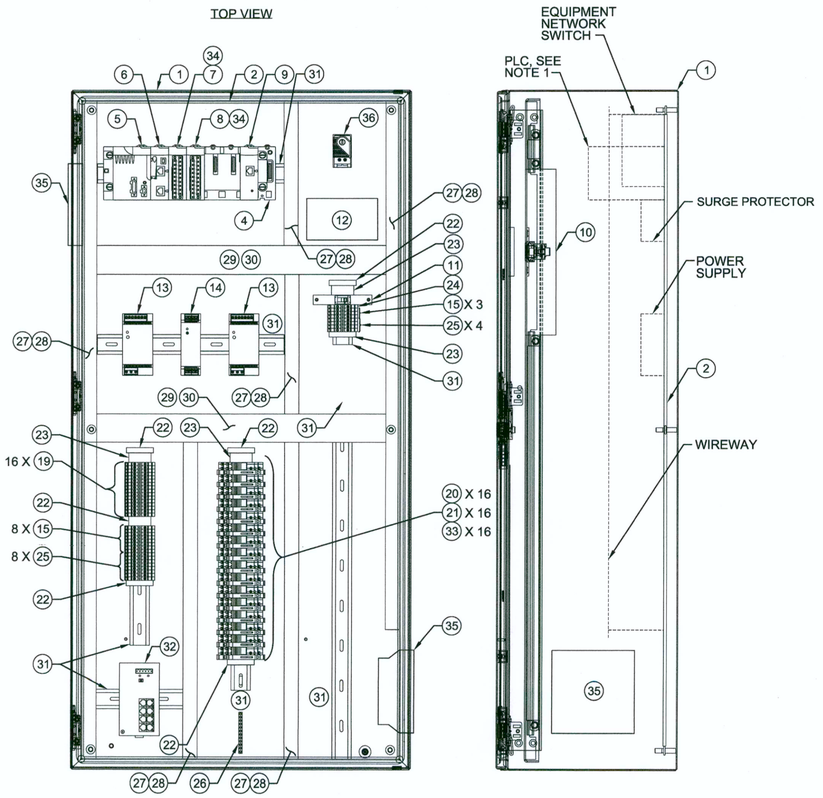
FRONT VIEW

EXTERIOR VIEW OF PLC CABINET VIEW

3/16"=1"



TOP VIEW



BACKPLANE VIEW SIDE VIEW

PLC CABINET LAYOUT

3/16"=1"

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
		MD GONZALEZ	J MARTINEZ	JR HOYLE	APVD	BA JOHNSON	

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

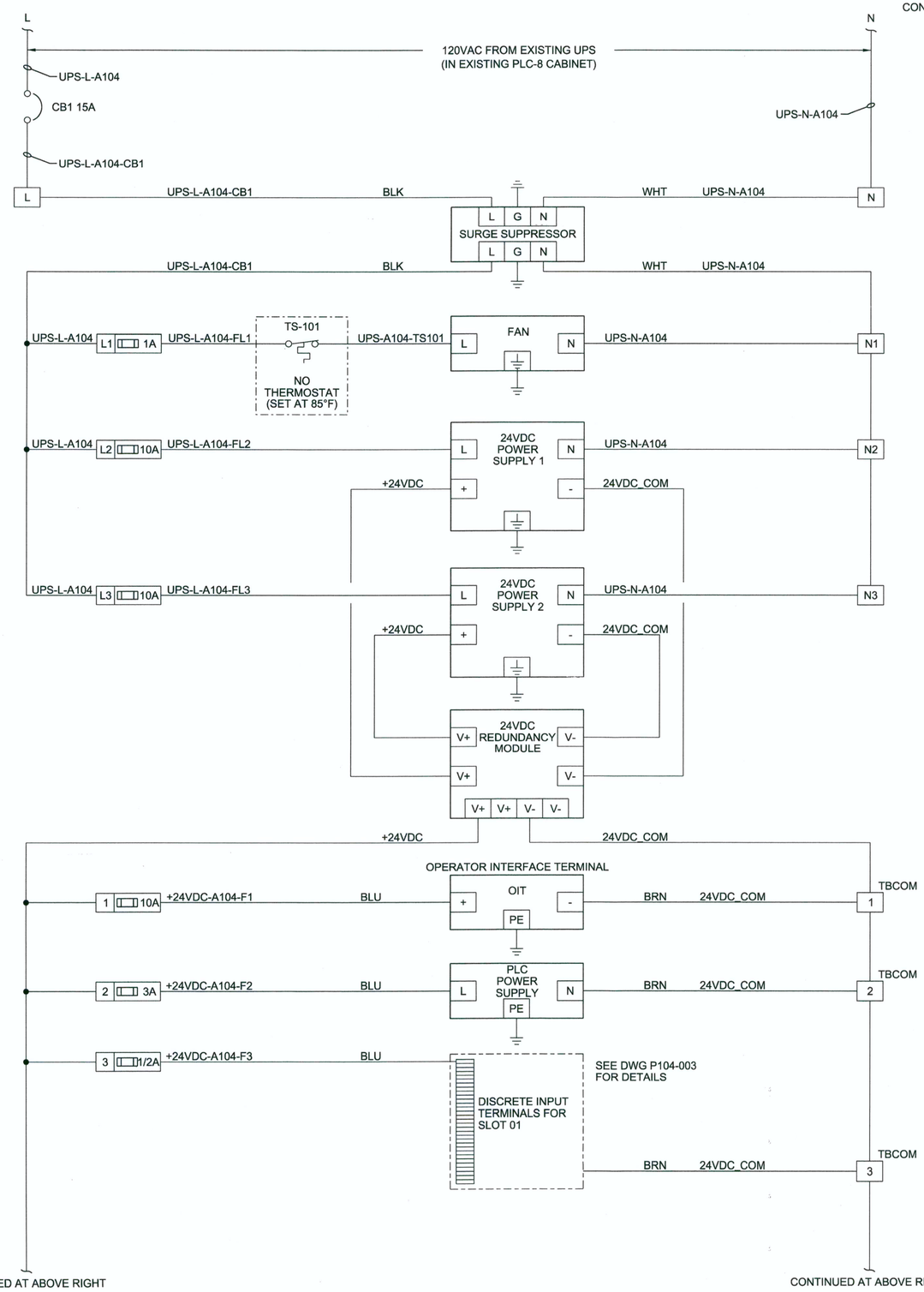
CH2MHILL

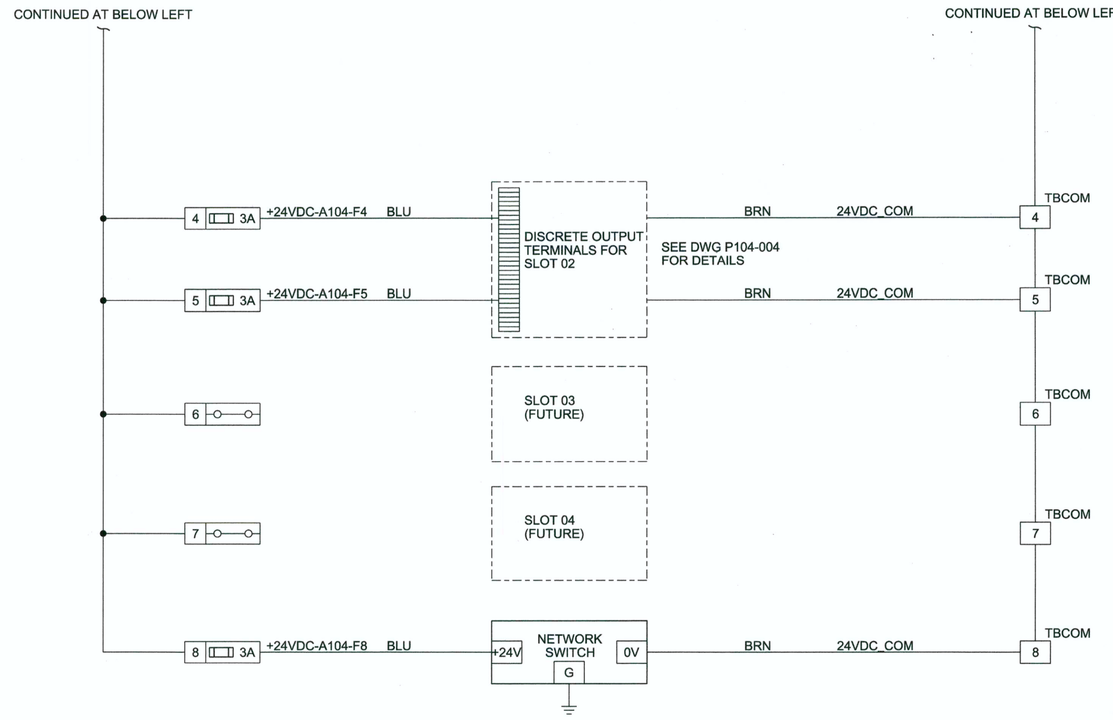
INSTRUMENTATION AND CONTROL
PLC 104
CABINET LAYOUT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P104-001
SHEET	168

FILENAME: P104-001_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:34:32 PM





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NO.	DATE	DSGN	DR	CHK	APVD
REVISION		MD GONZALEZ	J MARTINEZ	JR HOYLE	BA JOHNSON

BY APVD

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

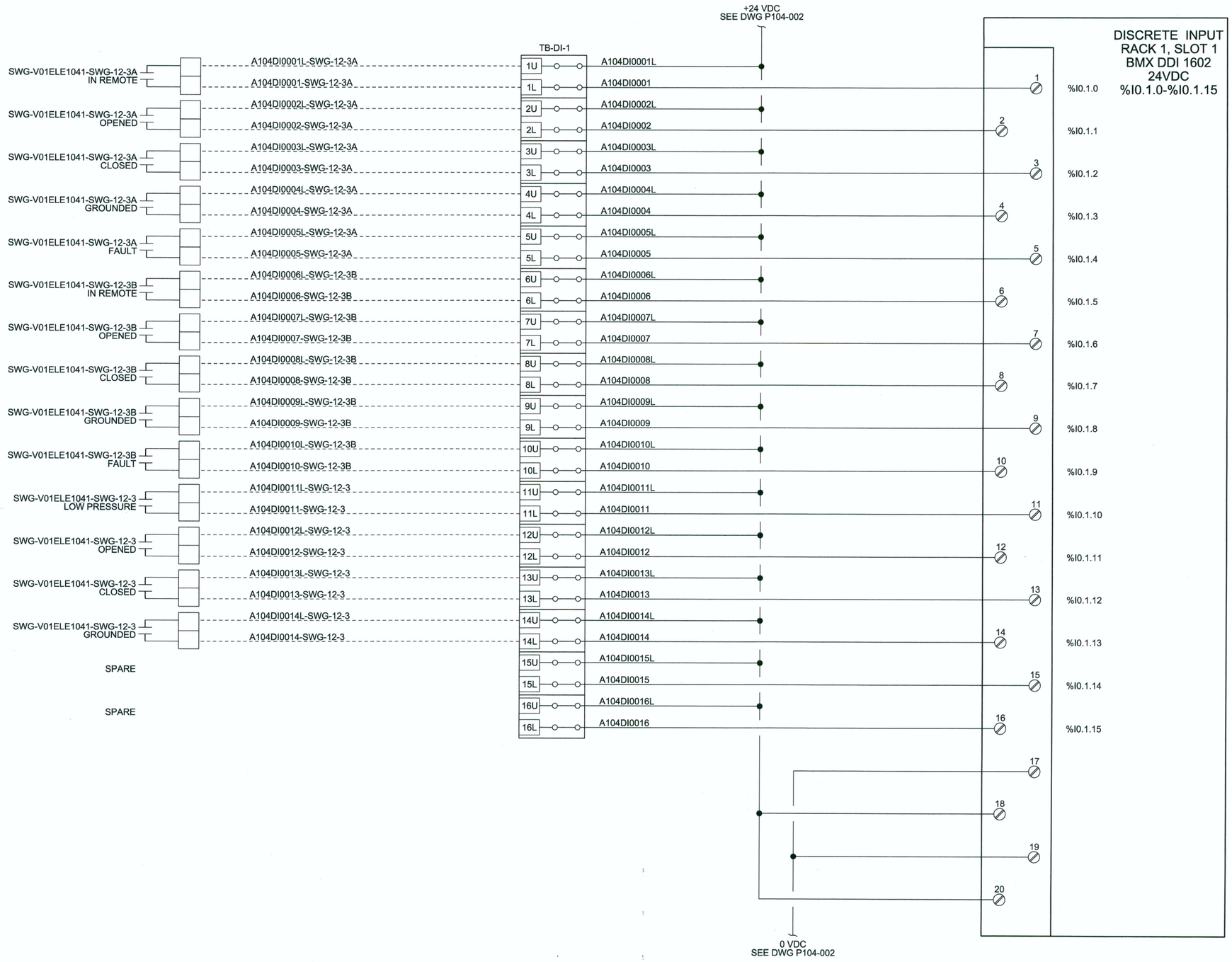
INSTRUMENTATION AND CONTROL
PLC 104
POWER DISTRIBUTION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P104-002
SHEET	169

AS-BUILT
CLV PLAN# 311.57

FILENAME: P104-002_413455.dgn PLOT DATE: 2012\12\28
PLOT TIME: 4:35:34 PM



XU — FUSE HOLDER TERMINAL BLOCK

XU / XL — DOUBLE LEVEL TERMINAL BLOCK

AS-BUILT

NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	CHK	APVD	BY
		MD GONZALEZ	J MARTINEZ	JR HOYLE	APVD	BA JOHNSON

REVISION

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

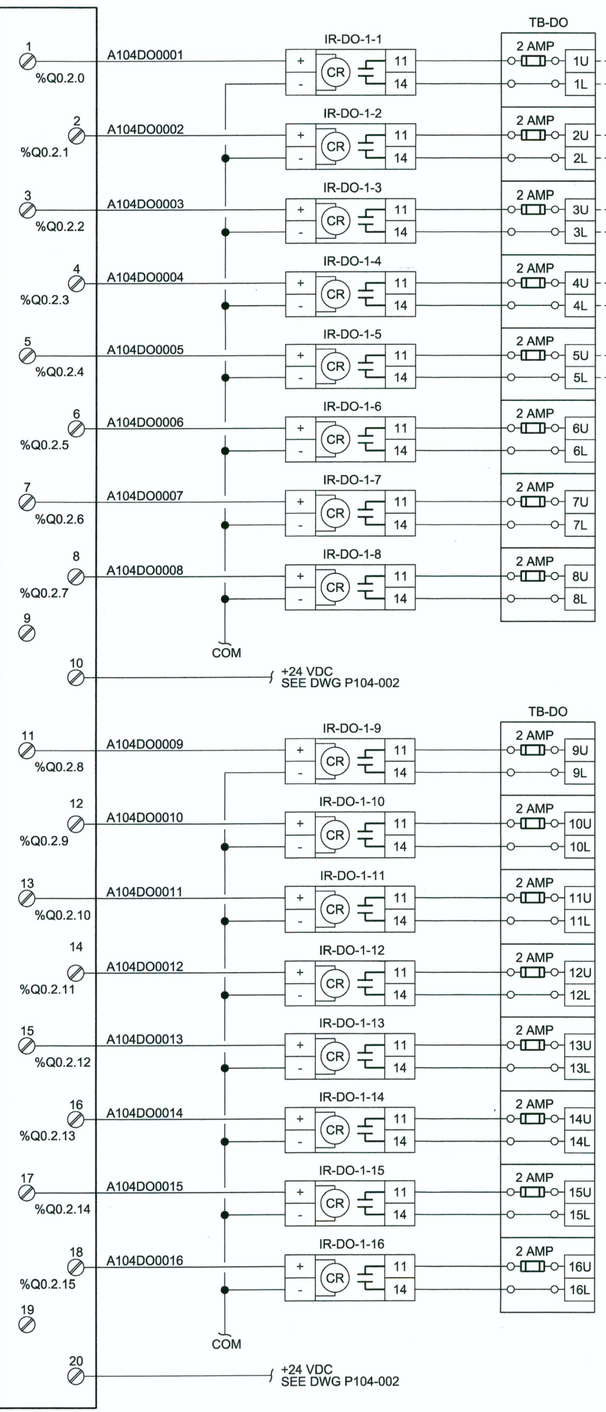
INSTRUMENTATION AND CONTROL
PLC 104
I/O ARRANGEMENT
DISCRETE INPUT PLC-104-DI-1

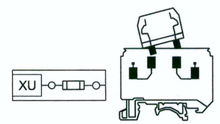
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P104-003
SHEET	170

FILENAME: P104-003_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:36:22 PM

DISCRETE OUTPUT
RACK 1, SLOT 2
BMX DRA 1605
%Q0.2.0-%Q0.2.15





NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	REVISION	CHK	APVD	BY
DSGN	MD GONZALEZ	DR	J MARTINEZ	APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 104
I/O ARRANGEMENT
DISCRETE OUTPUT PLC-104-DO-1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

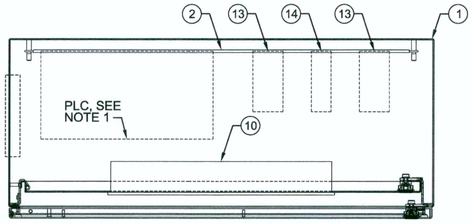
DATE	JANUARY 2013
PROJ	413455
DWG	P104-004
SHEET	171

FILENAME: P104-004_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:36:59 PM

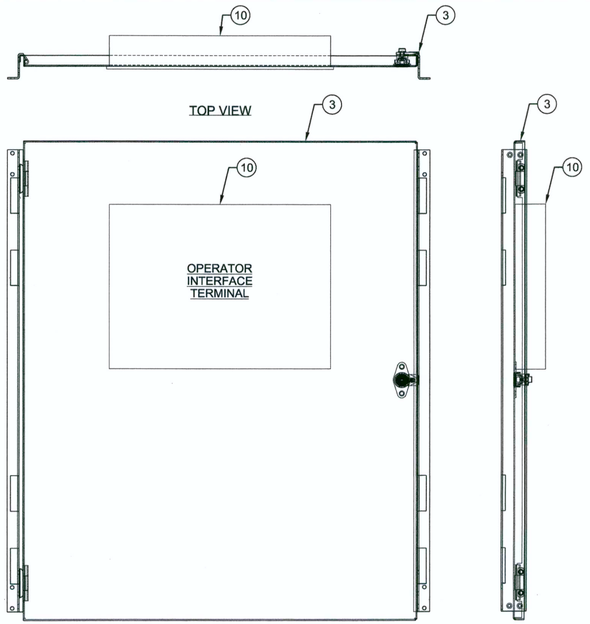
BILL OF MATERIALS

ITEM	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
1	1	HOFFMAN	CSD363012	36X30X12 ENCLOSURE
2	1	HOFFMAN	CP3630	BACKPANEL
3	1	HOFFMAN	CSPB3630	SWING OUT PANEL
4	1	SCHNEIDER ELECTRIC	BMXXBP0600	6-SLOT RACK
5	1	SCHNEIDER ELECTRIC	BMXCPS2010	POWER SUPPLY M340
6	1	SCHNEIDER ELECTRIC	BMXP342020	M340 PROCESSOR
7	1	SCHNEIDER ELECTRIC	BMXDDI1602	16 PT 24VDC DISCRETE INPUT CARD
8	1	SCHNEIDER ELECTRIC	BMXDRA1605	16 PT RELAY OUTPUT CARD
9	1	SCHNEIDER ELECTRIC	BMXNOE0100	ETHERNET MODULE
10	1	SCHNEIDER ELECTRIC	MAGELIS XBTGT7340	15" OIT DISPLAY
11	1			15A CIRCUIT BREAKER
12	1			SURGE PROTECTIVE DEVICE
13	2			24VDC POWER SUPPLY
14	1			24VDC POWER SUPPLY REDUNDANCY MODULE
15	11			FUSED TERMINAL BLOCKS
16	3			10A FUSE
17	4			3A FUSE
18	1			1/2A FUSE
19	16			DOUBLE LEVEL TERMINAL BLOCKS
20	16			FUSED DOUBLE LEVEL TERMINAL BLOCKS
21	16			24VDC INTERPOSING RELAY
22	AS REQ'D			END CLAMPS
23	AS REQ'D			TERMINAL STRIP MARKER
24	1			SINGLE LEVEL TERMINAL BLOCK; BLACK
25	12			SINGLE LEVEL TERMINAL BLOCK; WHITE
26	1			GROUND BAR
27	AS REQ'D			1"W X 3"D WIREWAY
28	AS REQ'D			1" WIREWAY COVER
29	AS REQ'D			2"W X 3"D WIREWAY
30	AS REQ'D			2" WIREWAY COVER
31	AS REQ'D			DINRAIL
32	1	HIRSCHMANN	RS20-0800M2M2SDAP	EQUIPMENT NETWORK SWITCH
33	16			2A FUSE
34	2	SCHNEIDER ELECTRIC	BMXFTB2010	REMOVABLE TERMINAL BLOCK
35	2	HOFFMAN	SF05	FAN/FILTER
36	1	HOFFMAN	ATEMNO	THERMOSTAT

NOTES:
1. FOOTPRINT INCLUDES REMOVABLE TERMINAL BLOCK AND CONNECTORS.



TOP VIEW



FRONT VIEW SIDE VIEW

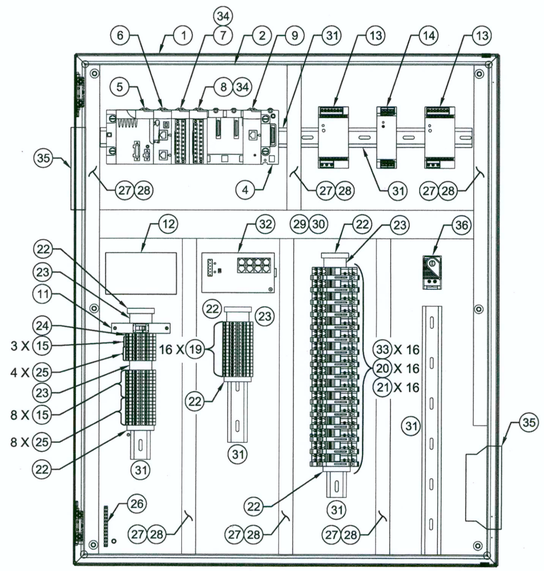
RECESSED OIT DOOR DETAIL
3/16"=1"



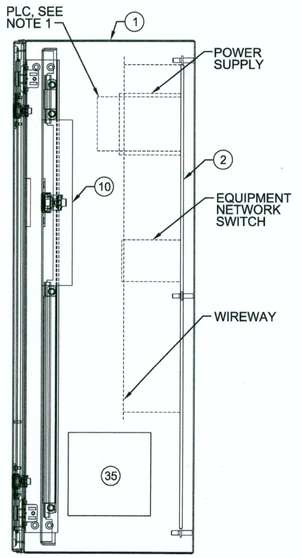
FRONT VIEW

EXTERIOR VIEW OF PLC CABINET VIEW
3/16"=1"

TOP VIEW



BACKPLANE VIEW



SIDE VIEW

PLC CABINET LAYOUT
3/16"=1"

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN	DR	REVISION	CHK	APVD	BY	APVD
		MD GONZALEZ	J MARTINEZ		JR HOYLE	APVD	BA JOHNSON	

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

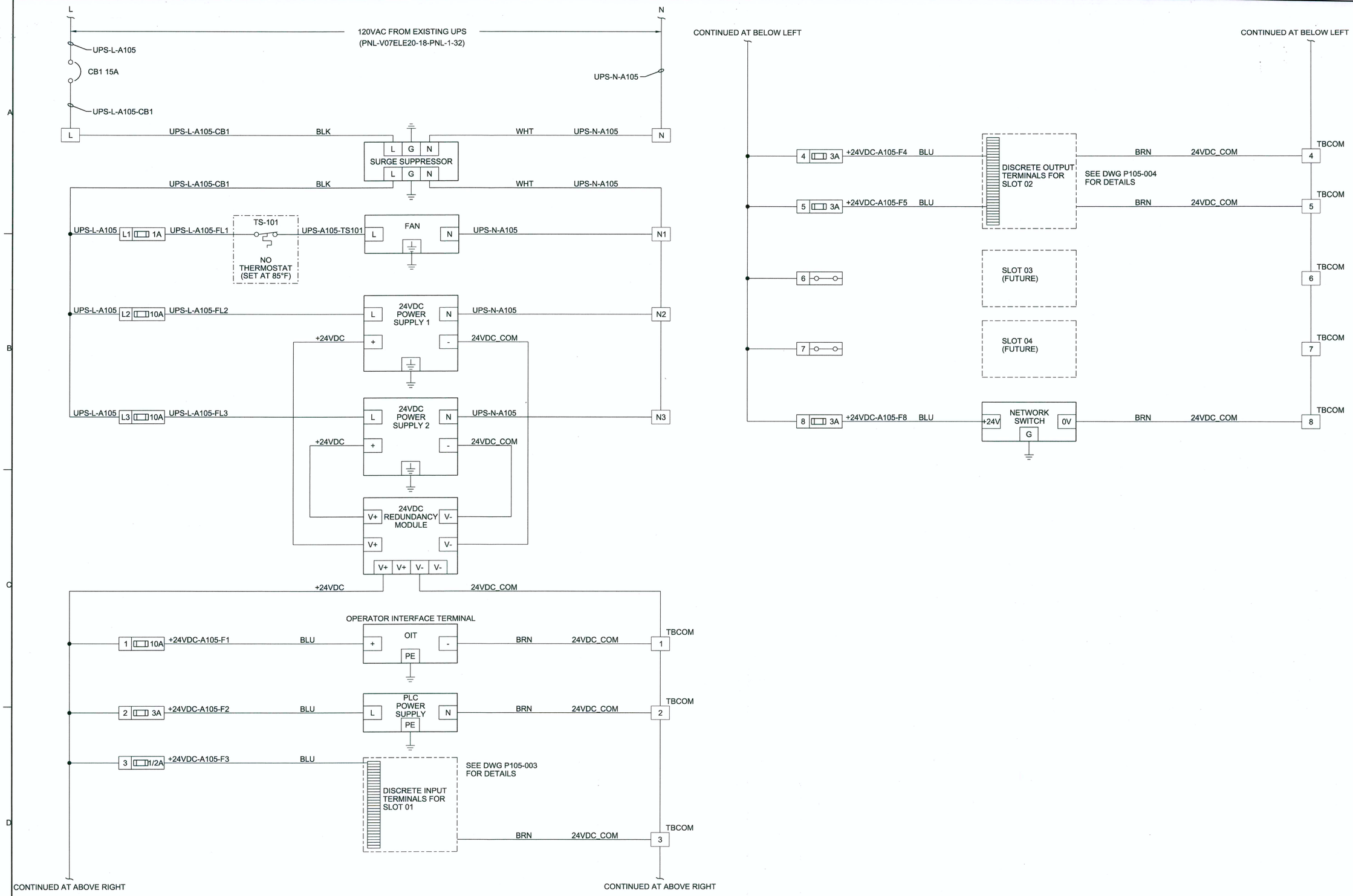
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 105
CABINET LAYOUT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P105-001
SHEET	172

FILENAME: P105-001_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:37:49 PM



PROFESSIONAL ENGINEER
STATE OF NEVADA
MARINA D. GONZALEZ
Exp. 6-30-13
ELECTRICAL
No. 17919

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NO.	DATE	DSGN	REVISION	CHK	BY
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CITY OF LAS VEGAS

WATER POLLUTION CONTROL FACILITY

ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT

LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL

PLC 105
POWER DISTRIBUTION

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P105-002
SHEET	173

AS-BUILT

CLV PLAN# 311.57

FILENAME: P105-002_413455.dgn PLOT DATE: 2012\12\28

PLOT TIME: 4:38:57 PM

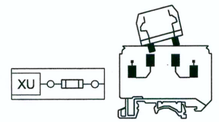
+24 VDC
SEE DWG P105-002

TB-DI-1

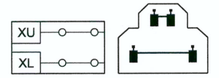
SWG-V07ELE1058-SWG-12-2A IN REMOTE	A105DI0001L-SWG-12-2A	1U	A105DI0001L	
	A105DI0001-SWG-12-2A	1L	A105DI0001	1 %I0.1.0
SWG-V07ELE1058-SWG-12-2A OPENED	A105DI0002L-SWG-12-2A	2U	A105DI0002L	
	A105DI0002-SWG-12-2A	2L	A105DI0002	2 %I0.1.1
SWG-V07ELE1058-SWG-12-2A CLOSED	A105DI0003L-SWG-12-2A	3U	A105DI0003L	
	A105DI0003-SWG-12-2A	3L	A105DI0003	3 %I0.1.2
SWG-V07ELE1058-SWG-12-2A GROUNDED	A105DI0004L-SWG-12-2A	4U	A105DI0004L	
	A105DI0004-SWG-12-2A	4L	A105DI0004	4 %I0.1.3
SWG-V07ELE1058-SWG-12-2A FAULT	A105DI0005L-SWG-12-2A	5U	A105DI0005L	
	A105DI0005-SWG-12-2A	5L	A105DI0005	5 %I0.1.4
SWG-V07ELE1058-SWG-12-2B IN REMOTE	A105DI0006L-SWG-12-2B	6U	A105DI0006L	
	A105DI0006-SWG-12-2B	6L	A105DI0006	6 %I0.1.5
SWG-V07ELE1058-SWG-12-2B OPENED	A105DI0007L-SWG-12-2B	7U	A105DI0007L	
	A105DI0007-SWG-12-2B	7L	A105DI0007	7 %I0.1.6
SWG-V07ELE1058-SWG-12-2B CLOSED	A105DI0008L-SWG-12-2B	8U	A105DI0008L	
	A105DI0008-SWG-12-2B	8L	A105DI0008	8 %I0.1.7
SWG-V07ELE1058-SWG-12-2B GROUNDED	A105DI0009L-SWG-12-2B	9U	A105DI0009L	
	A105DI0009-SWG-12-2B	9L	A105DI0009	9 %I0.1.8
SWG-V07ELE1058-SWG-12-2B FAULT	A105DI0010L-SWG-12-2B	10U	A105DI0010L	
	A105DI0010-SWG-12-2B	10L	A105DI0010	10 %I0.1.9
SWG-V07ELE1058-SWG-12-2 LOW PRESSURE	A105DI0011L-SWG-12-2	11U	A105DI0011L	
	A105DI0011-SWG-12-2	11L	A105DI0011	11 %I0.1.10
SWG-V07ELE1058-SWG-12-2 OPENED	A105DI0012L-SWG-12-2	12U	A105DI0012L	
	A105DI0012-SWG-12-2	12L	A105DI0012	12 %I0.1.11
SWG-V07ELE1058-SWG-12-2 CLOSED	A105DI0013L-SWG-12-2	13U	A105DI0013L	
	A105DI0013-SWG-12-2	13L	A105DI0013	13 %I0.1.12
SWG-V07ELE1058-SWG-12-2 GROUNDED	A105DI0014L-SWG-12-2	14U	A105DI0014L	
	A105DI0014-SWG-12-2	14L	A105DI0014	14 %I0.1.13
SPARE		15U	A105DI0015L	
		15L	A105DI0015	15 %I0.1.14
SPARE		16U	A105DI0016L	
		16L	A105DI0016	16 %I0.1.15
				17
				18
				19
				20

0 VDC
SEE DWG P105-002

DISCRETE INPUT
RACK 1, SLOT 1
BMX DDI 1602
24VDC
%I0.1.0-%I0.1.15



FUSE HOLDER TERMINAL BLOCK



DOUBLE LEVEL TERMINAL BLOCK



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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 105
I/O ARRANGEMENT
DISCRETE INPUT PLC-105-DI-1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P105-003
SHEET	174

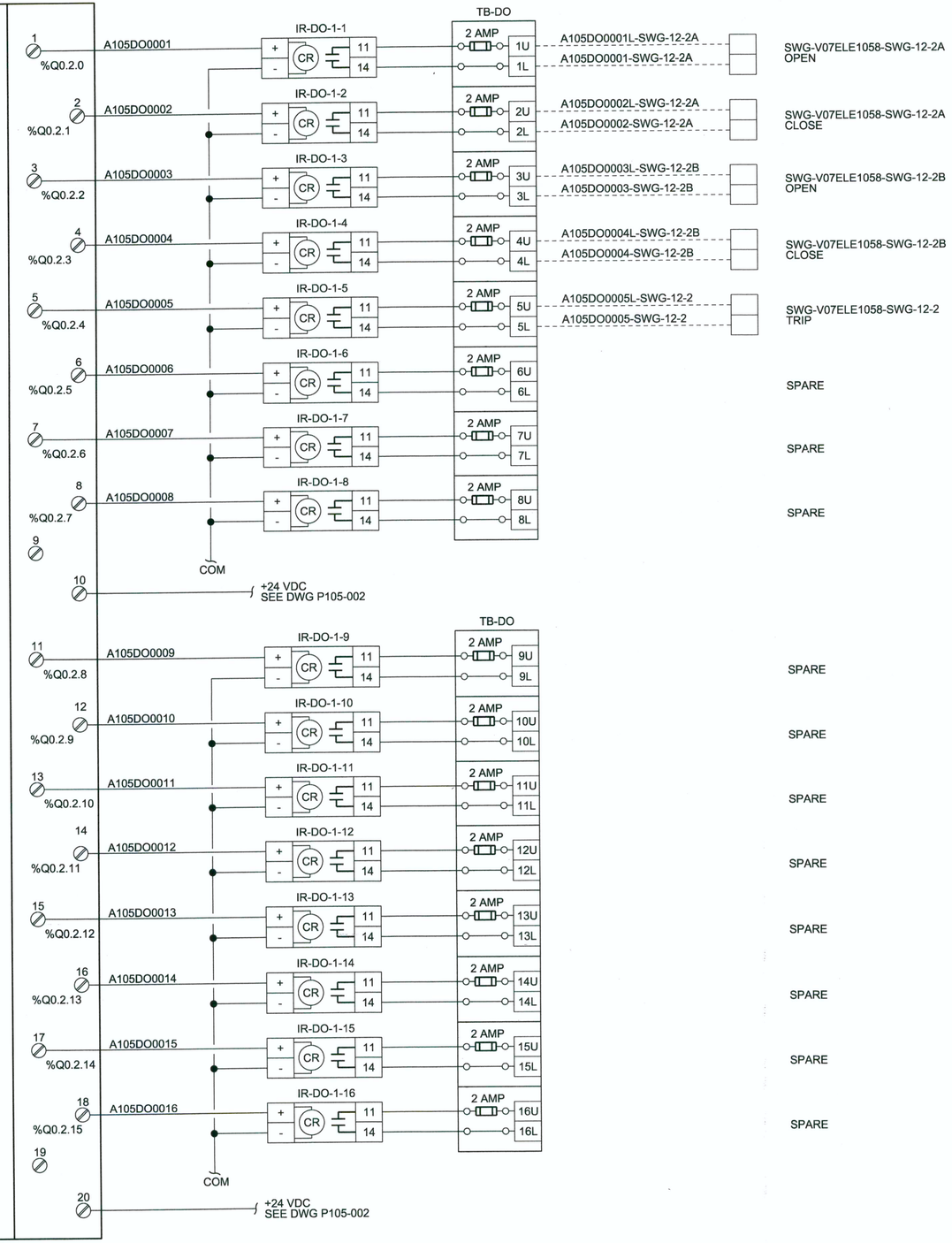
AS-BUILT

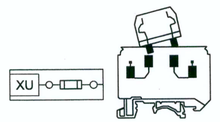
NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

CLV PLAN# 311.57

FILENAME: P105-003_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:39:36 PM

DISCRETE OUTPUT
RACK 1, SLOT 2
BMX DRA 1605
%Q0.2.0-%Q0.2.15





NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT
CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

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		MD GONZALEZ	J MARTINEZ	JR HOYLE		BA JOHNSON	

REVISION

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 105
I/O ARRANGEMENT
DISCRETE OUTPUT PLC-105-DO-1

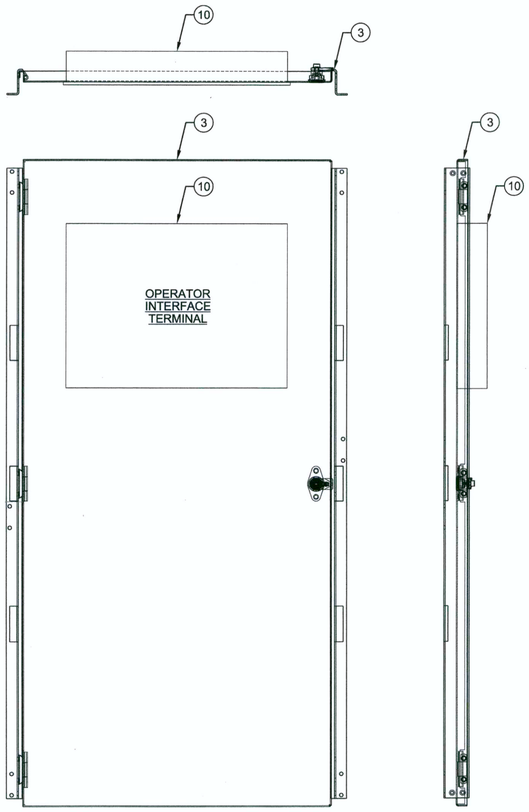
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P105-004
SHEET	175

FILENAME: P105-004_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:40:15 PM

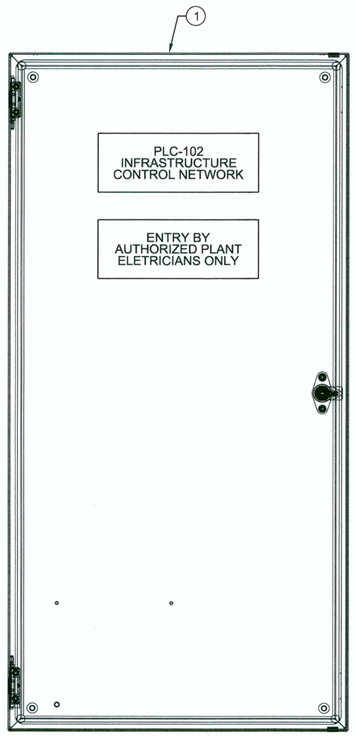
BILL OF MATERIALS				
ITEM	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
1	1	HOFFMAN	CSD482412	48X24X12 ENCLOSURE
2	1	HOFFMAN	CP4824	BACKPANEL
3	1	HOFFMAN	CSPB4824	SWING OUT PANEL
4	1	SCHNEIDER ELECTRIC	BMXXBP0800	8-SLOT RACK
5	1	SCHNEIDER ELECTRIC	BMXCPS2010	POWER SUPPLY M340
6	1	SCHNEIDER ELECTRIC	BMXP342020	M340 PROCESSOR
7	3	SCHNEIDER ELECTRIC	BMXDDI1602	16 PT 24VDC DISCRETE INPUT CARD
8	1	SCHNEIDER ELECTRIC	BMXDRA1605	16 PT RELAY OUTPUT CARD
9	1	SCHNEIDER ELECTRIC	BMXNOE0100	ETHERNET MODULE
10	1	SCHNEIDER ELECTRIC	MAGELIS XBTGT7340	15" OIT DISPLAY
11	1			15A CIRCUIT BREAKER
12	1			SURGE PROTECTIVE DEVICE
13	2			24VDC POWER SUPPLY
14	1			24VDC POWER SUPPLY REDUNDANCY MODULE
15	14			FUSED TERMINAL BLOCKS
16	3			10A FUSE
17	4			3A FUSE
18	3			1/2A FUSE

ITEM	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
19	48			DOUBLE LEVEL TERMINAL BLOCKS
20	16			FUSED DOUBLE LEVEL TERMINAL BLOCKS
21	16			24VDC INTERPOSING RELAY
22	AS REQ'D			END CLAMPS
23	AS REQ'D			TERMINAL STRIP MARKER
24	1			SINGLE LEVEL TERMINAL BLOCK; BLACK
25	15			SINGLE LEVEL TERMINAL BLOCK; WHITE
26	1			GROUND BAR
27	AS REQ'D			1"W X 3"D WIREWAY
28	AS REQ'D			1" WIREWAY COVER
29	AS REQ'D			2"W X 3"D WIREWAY
30	AS REQ'D			2" WIREWAY COVER
31	AS REQ'D			DINRAIL
32	1	HIRSCHMANN	RS20-0800M2M2SDAP	EQUIPMENT NETWORK SWITCH
33	16			2A FUSE
34	4	SCHNEIDER ELECTRIC	BMXFTB2010	REMOVABLE TERMINAL BLOCK
35	2	HOFFMAN	SF05	FAN/FILTER
36	1	HOFFMAN	ATEMNO	THERMOSTAT



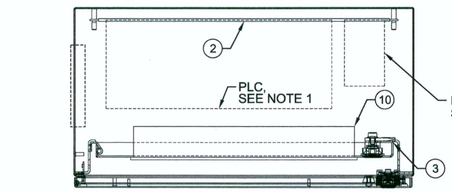
FRONT VIEW SIDE VIEW

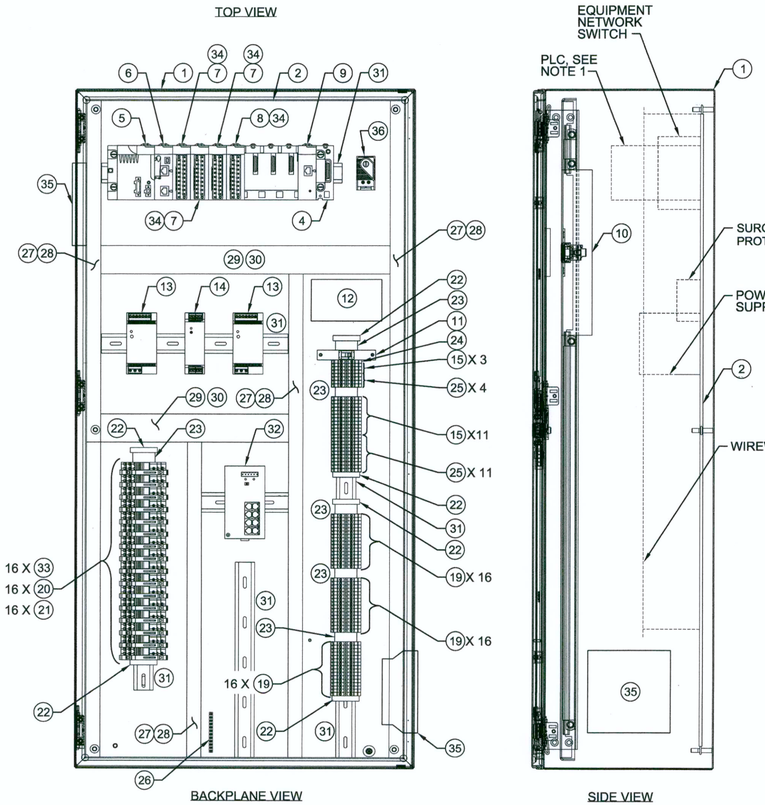
RECESSED OIT DOOR DETAIL
3/16"=1"



FRONT VIEW

EXTERIOR VIEW OF PLC CABINET VIEW
3/16"=1"





PLC CABINET LAYOUT
3/16"=1"

AS-BUILT

CLV PLAN# 311.57

RECEIVED
FEB 11 2013
McCarthy Building Companies, Inc.

NO.	DATE	DSGN
		DR MD GONZALEZ
REVISION		CHK J MARTINEZ
APVD		APVD JR HOYLE
BY		APVD BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

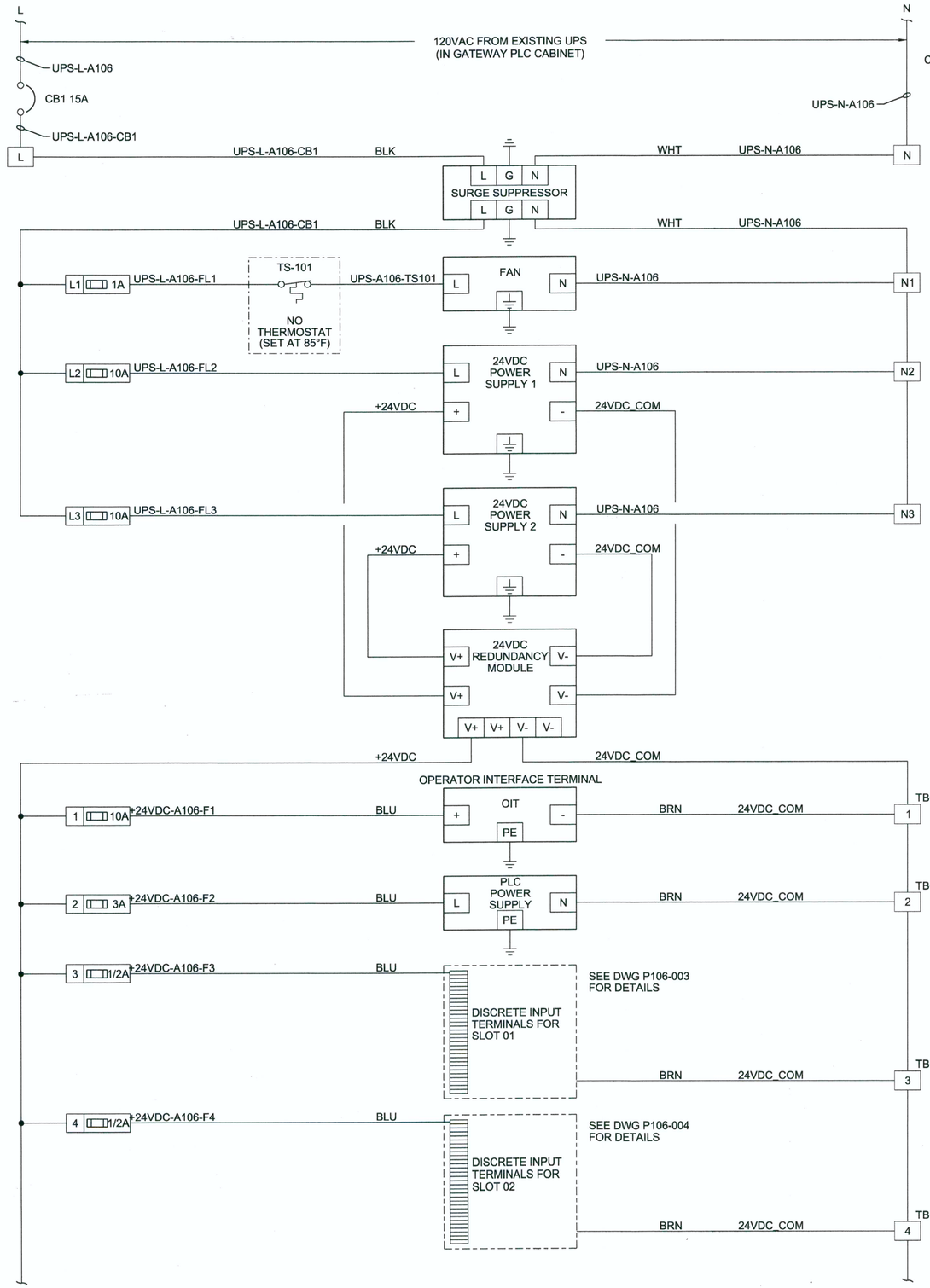
CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 106
CABINET LAYOUT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P106-001
SHEET	176

FILENAME: P106-001_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:40:54 PM



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NO.	DATE	REVISION	BY
DSGN	MD GONZALEZ	DR	J MARTINEZ
		CHK	JR HOYLE
		APVD	BA JOHNSON

CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

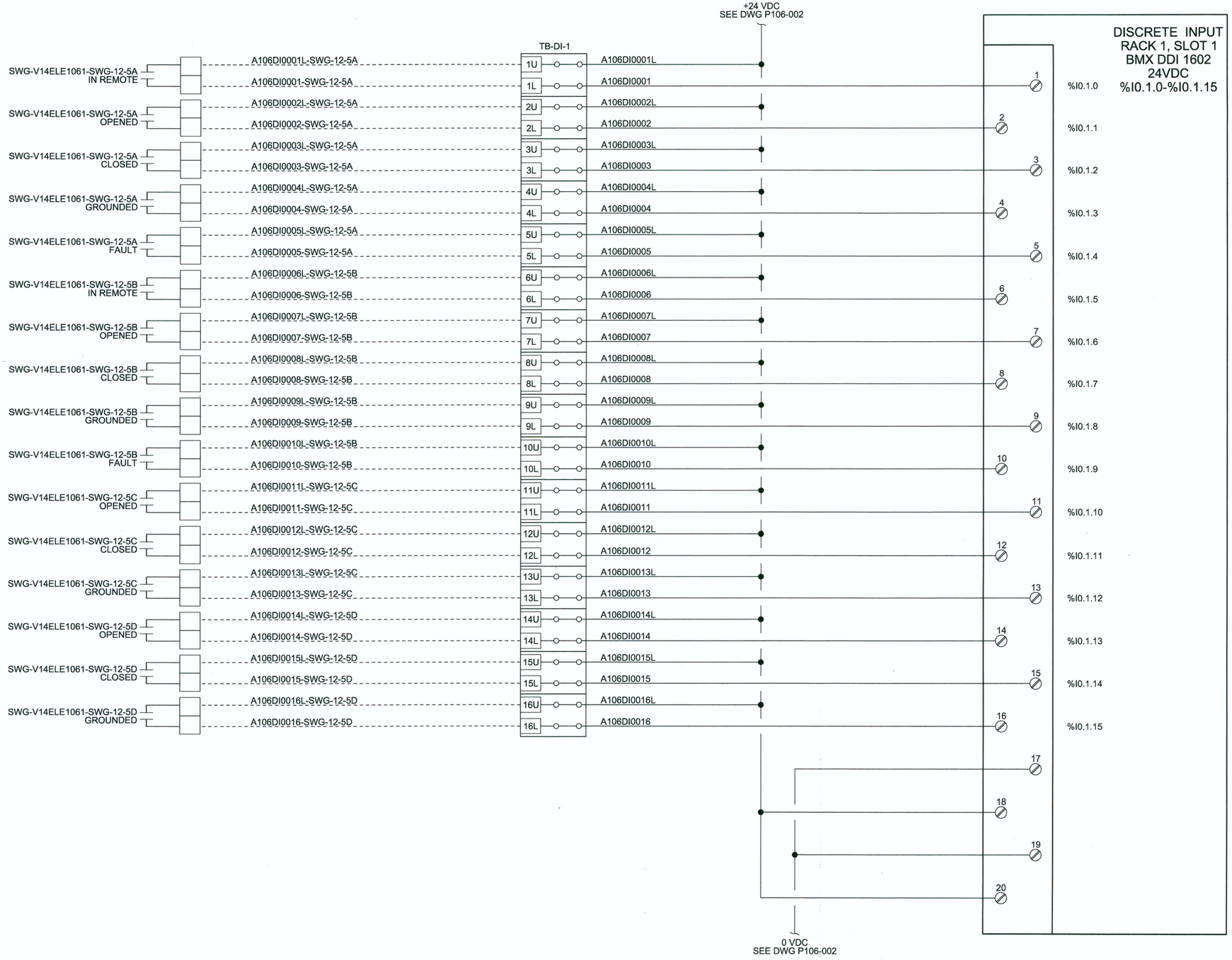
INSTRUMENTATION AND CONTROL
PLC 106
POWER DISTRIBUTION

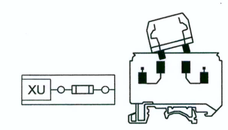
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P106-002
SHEET	177

AS-BUILT
CLV PLAN# 311.57

FILENAME: P106-002_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:41:56 PM







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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 106
I/O ARRANGEMENT
DISCRETE INPUT PLC-106-DI-1

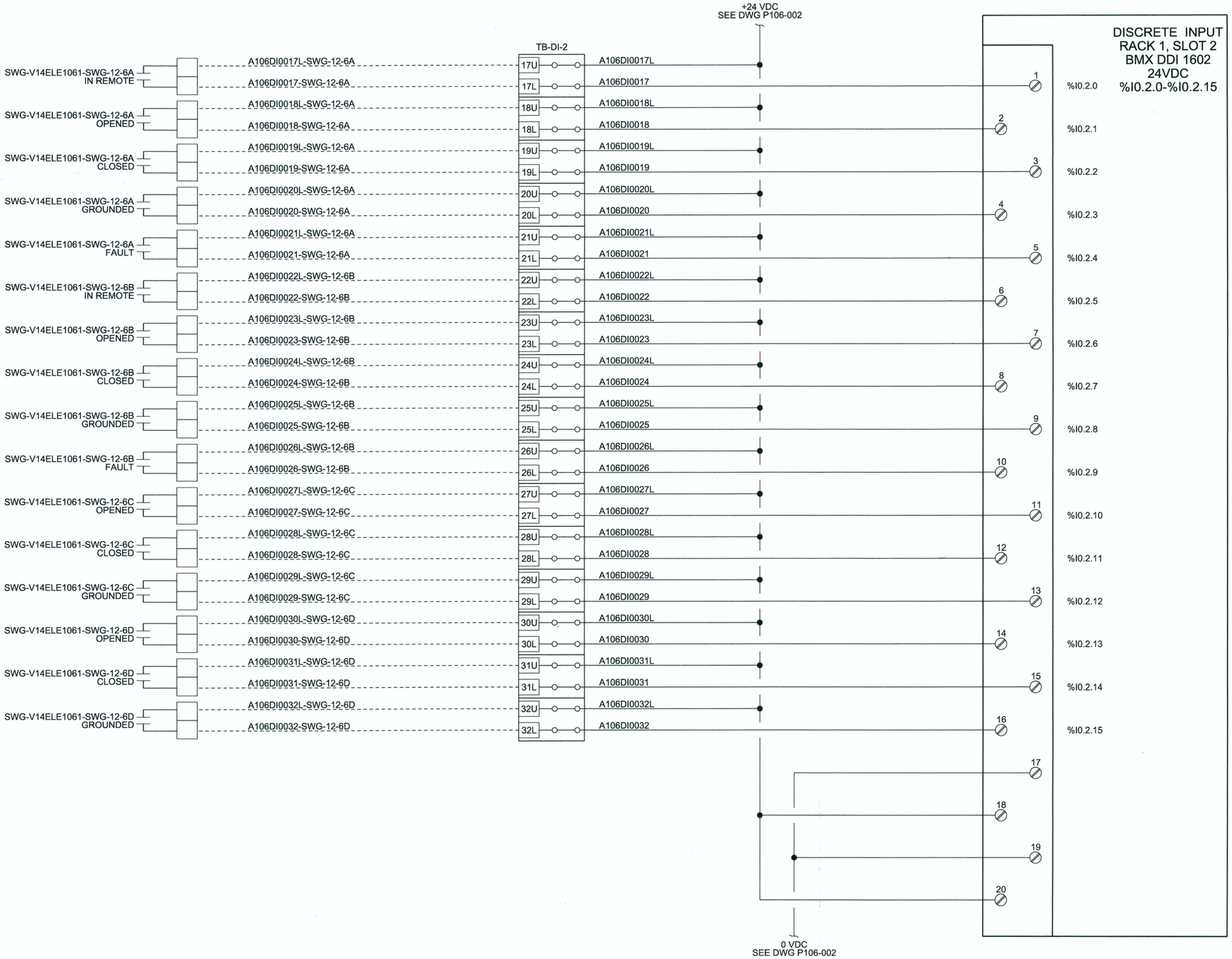
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P106-003
SHEET	178

AS-BUILT
CLV PLAN# 311.57

NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

FILENAME: P106-003_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:42:43 PM



XU — FUSE HOLDER TERMINAL BLOCK

XU / XL — DOUBLE LEVEL TERMINAL BLOCK

NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT
CLV PLAN# 311.57

STATE OF NEVADA — PROFESSIONAL ENGINEER — MARINA D GONZALEZ — Exp.: 4-30-13 — ELECTRICAL — No. 17816

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NO.	DATE	DSGN	DR	CHK	REVISION	APVD	BY
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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

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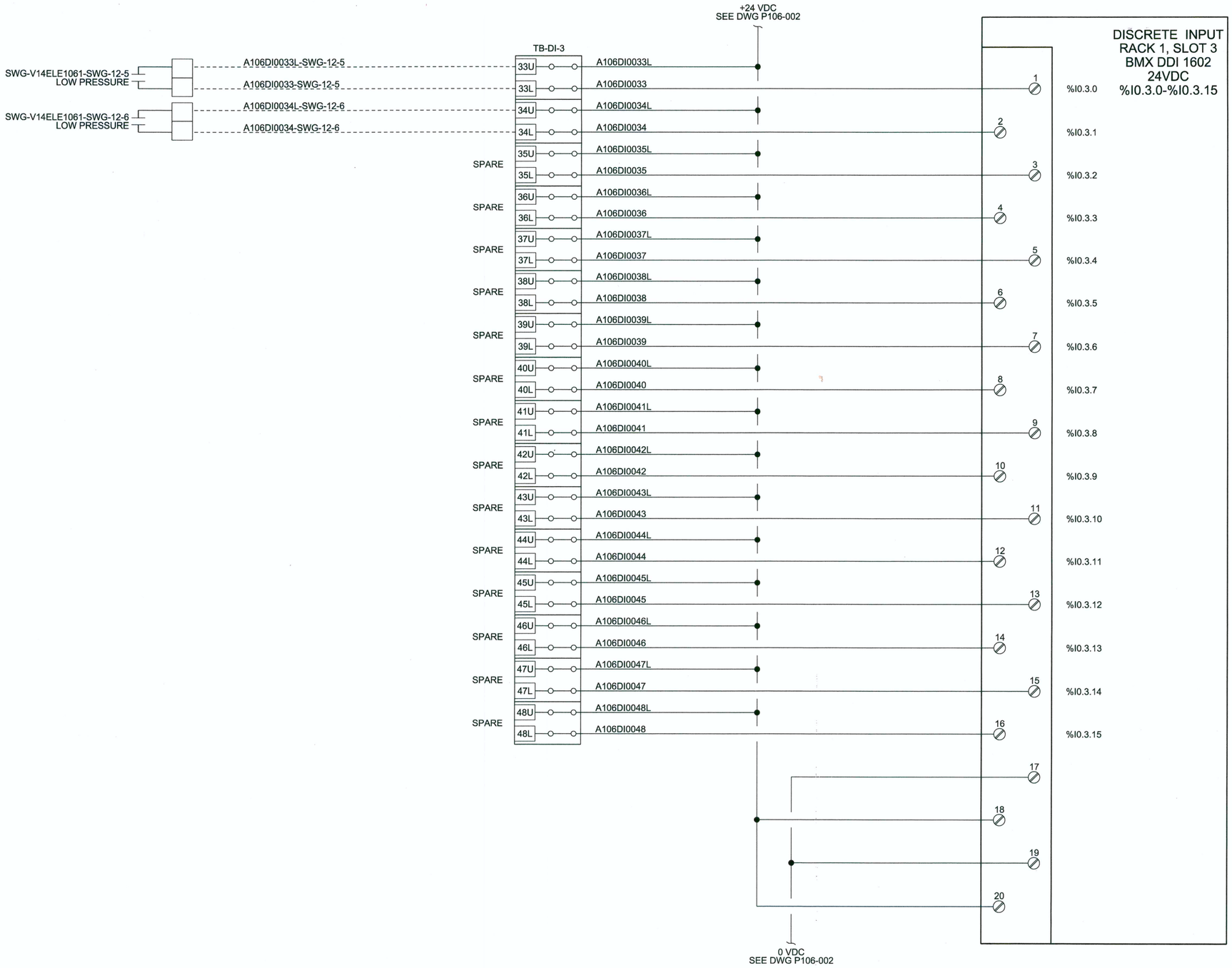
INSTRUMENTATION AND CONTROL
PLC 106
I/O ARRANGEMENT
DISCRETE INPUT PLC-106-DI-2

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P106-004
SHEET	179

FILENAME: P106-004_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:43:20 PM



AS-BUILT

CLV PLAN# 311.57

NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

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McCarthy Building Companies, Inc.

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CITY OF LAS VEGAS
WATER POLLUTION CONTROL FACILITY
ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 106
I/O ARRANGEMENT
DISCRETE INPUT PLC-106-DI-3

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	JANUARY 2013
PROJ	413455
DWG	P106-005
SHEET	180

FILENAME: P106-005_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:44:00 PM

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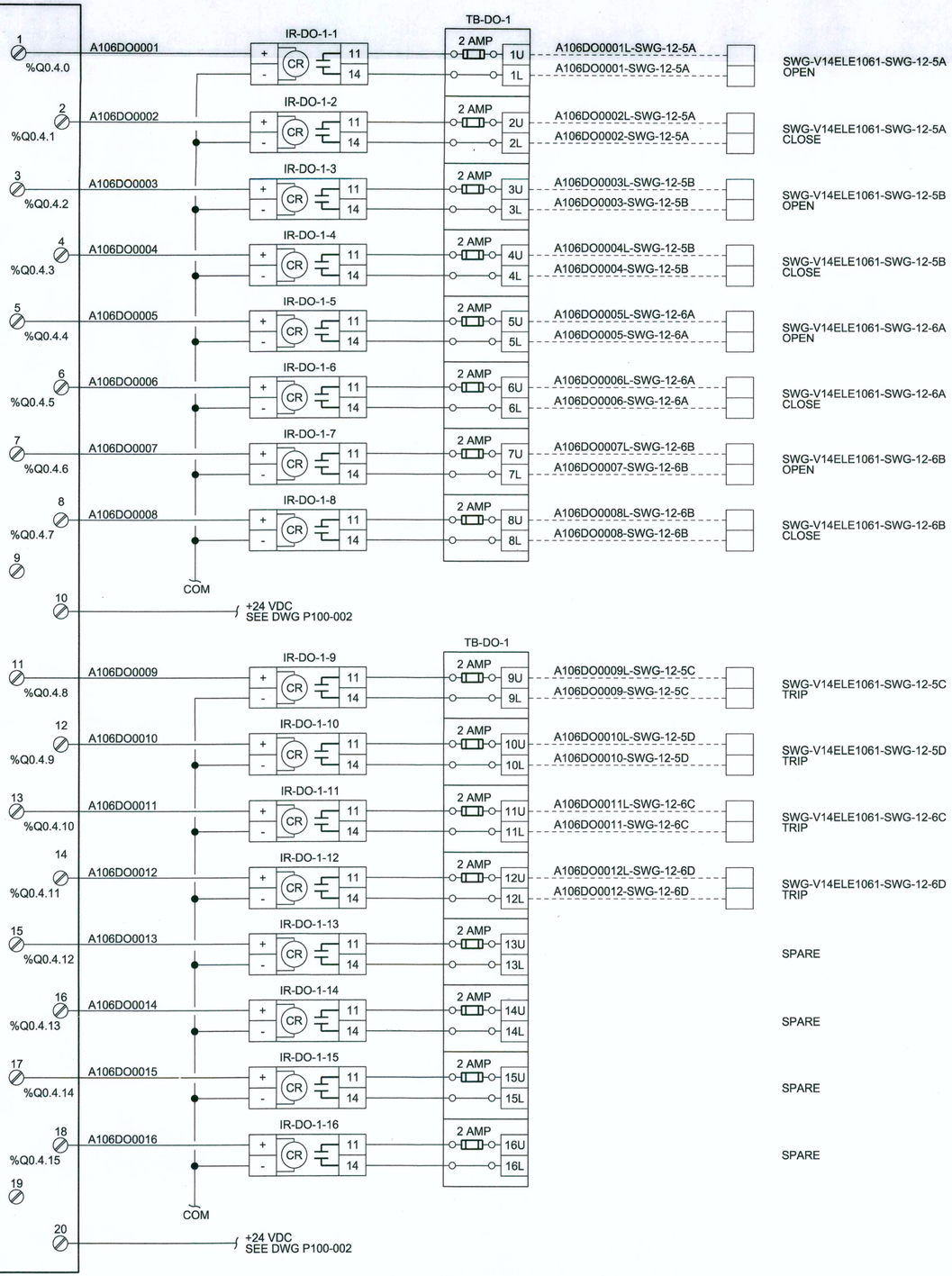

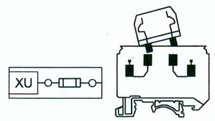

NOTES:
1. DASHED LINES INDICATE FIELD CONNECTIONS.

AS-BUILT

CLV PLAN# 311.57

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CITY OF LAS VEGAS
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ELECTRICAL AND HEADWORKS BYPASS IMPROVEMENTS PROJECT
LAS VEGAS, NEVADA

CH2MHILL

INSTRUMENTATION AND CONTROL
PLC 106
I/O ARRANGEMENT
DISCRETE OUTPUT PLC-106-DO-1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DATE	JANUARY 2013
PROJ	413455
DWG	P106-006
SHEET	181

FILENAME: P106-006_413455.dgn PLOT DATE: 2012\12\28 PLOT TIME: 4:44:38 PM