

**GENERAL NOTES**

1. THESE GENERAL NOTES ARE INTENDED TO ASSIST THE CONTRACTOR DURING EXECUTION OF THE WORK. HOWEVER, THEY DO NOT COVER ALL OF THE SPECIFICATION REQUIREMENTS.
2. INSTALL ALL EQUIPMENT, CONDUITS, OUTLETS, AND FIXTURES IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES(NEC).
3. DO NOT SCALE ELECTRICAL PLANS FOR FIXTURES, DEVICE, OR APPLIANCE LOCATIONS. USE FIGURED DIMENSIONS IF GIVEN OR CHECK ARCHITECTURAL PLANS.
4. ALL MATERIAL AND EQUIPMENT IS TO BE LISTED AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND NEC 110-3.
5. MOUNT ALL RECEPTABLES OUTLETS AT +15" MIN. UNLESS OTHERWISE INDICATED. COORDINATE WITH ARCHITECTURAL DRAWINGS.
6. MOUNT ALL TOGGLE SWITCHES AT +48" UNLESS OTHERWISE INDICATED. COORDINATE WITH ARCHITECTURAL DRAWINGS.
7. TOTAL IMPEDANCE, CIRCUIT BREAKERS, PANELS, CONDUCTORS, AND ALL OTHER CIRCUIT COMPONENTS AND SHORT CIRCUIT CURRENT RATINGS SHALL BE COORDINATED SO THAT FAULTS CAN BE CLEARED WITHOUT EXTENSIVE DAMAGE TO CIRCUIT COMPONENTS PER CEC 110.10.
8. ALL ELECTRICAL PANEL BOARDS SWITCHBOARDS, INDUSTRIAL CONTROL PANELS AND MOTOR CONTROLS CENTERS REQUIRING EXAMINATION OR SERVICING WHILE ENERGIZED SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING OR MAINTENANCE PER CEC 110.16.
9. PER 2007 CEC 404.8 ALL SPECIFIED SWITCHES, CONTROLS, THERMOSTATS ETC., SHALL BE INSTALLED AT A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE FLOOR.

**SYMBOL LIST**

LIGHTING	
○	LIGHTING FIXTURE, SURFACE OR PENDANT MOUNTED
●	(NL) LIGHTING FIXTURE, SURFACE OR PENDANT MOUNTED
□	FLUORESCENT LIGHTING FIXTURE, RECESSED MOUNTED
▭	(NL) FLUORESCENT LIGHTING FIXTURE, RECESSED MOUNTED
○	LIGHTING FIXTURE, WALL MOUNTED
○	FLUORESCENT LIGHTING FIXTURE, SURFACE MOUNTED
□	LIGHTING FIXTURE, RECESSED MOUNTED
▭	FLUORESCENT STRIP FIXTURE, SURFACE MOUNTED
⊕	EXIT LIGHT FIXTURE WITH BATTERY BACK-UP, WALL MOUNTED
⊕	EXIT LIGHT FIXTURE, CEILING MOUNTED
⊕	POLE MOUNTED FIXTURE
⊕	EMERGENCY LIGHT WITH BATTERY BACK-UP
⇌	SINGLE POLE TOGGLE SWITCH, 15A 120-277V @ +48" ABOVE FINISHED FLOOR @ CENTER OF DEVICE.
⇌	THREE WAY TOGGLE SWITCH, 15A 120-277V @ +48" ABOVE FINISHED FLOOR @ CENTER OF DEVICE.
⇌ a,b,c	SUBSCRIPT DENOTES OUTLET/FIXTURE CONTROLLED @ +48" ABOVE FINISHED FLOOR @ CENTER OF DEVICE.

OUTLETS	
⊕	FOURPLEX RECEPTACLE OUTLET 15A, 125V, +15" MIN. ABOVE FINISHED FLOOR @ BOTTOM OF DEVICE.
⊕	DUPLEX RECEPTACLE OUTLET 15A, 125V, +15" MIN. ABOVE FINISHED FLOOR @ BOTTOM OF DEVICE.
⊕	208V, 3PH, 1PH RECEPTACLE OUTLET SIZE AS NOTED
⊕	DUPLEX RECEPTACLE FLOOR OUTLET 15A, 125V FLUSH IN FINISH FLOOR COLOR AS NOTED.
⊕ IG	DUPLEX RECEPTACLE OUTLET WITH AN ISOLATED GROUND, 15A 125V, +15" ABOVE FINISHED FLOOR @ BOTTOM OF DEVICE.
⊕ IG	FOURPLEX RECEPTACLE OUTLET WITH AN ISOLATED GROUND, 15A 125V, +15" ABOVE FINISHED FLOOR @ BOTTOM OF DEVICE.
▽	TELEPHONE OUTLET : FLOOR MOUNTED, 3/4" C. MOUNT TO ABOVE CEILING, WITH PULL ROPE, PROVIDE MUD RING.
▽	DATA OUTLET : FLOOR MOUNTED, 3/4" C. MOUNT TO ABOVE CEILING, WITH PULL ROPE, PROVIDE MUD RING.
▽ P	PUBLIC TELEPHONE OUTLET
▽	COMBINATION TELE/DATE OUTLET
⊕	JUNCTION BOX, SIZE AND TYPE AS INDICATED OR REQUIRED

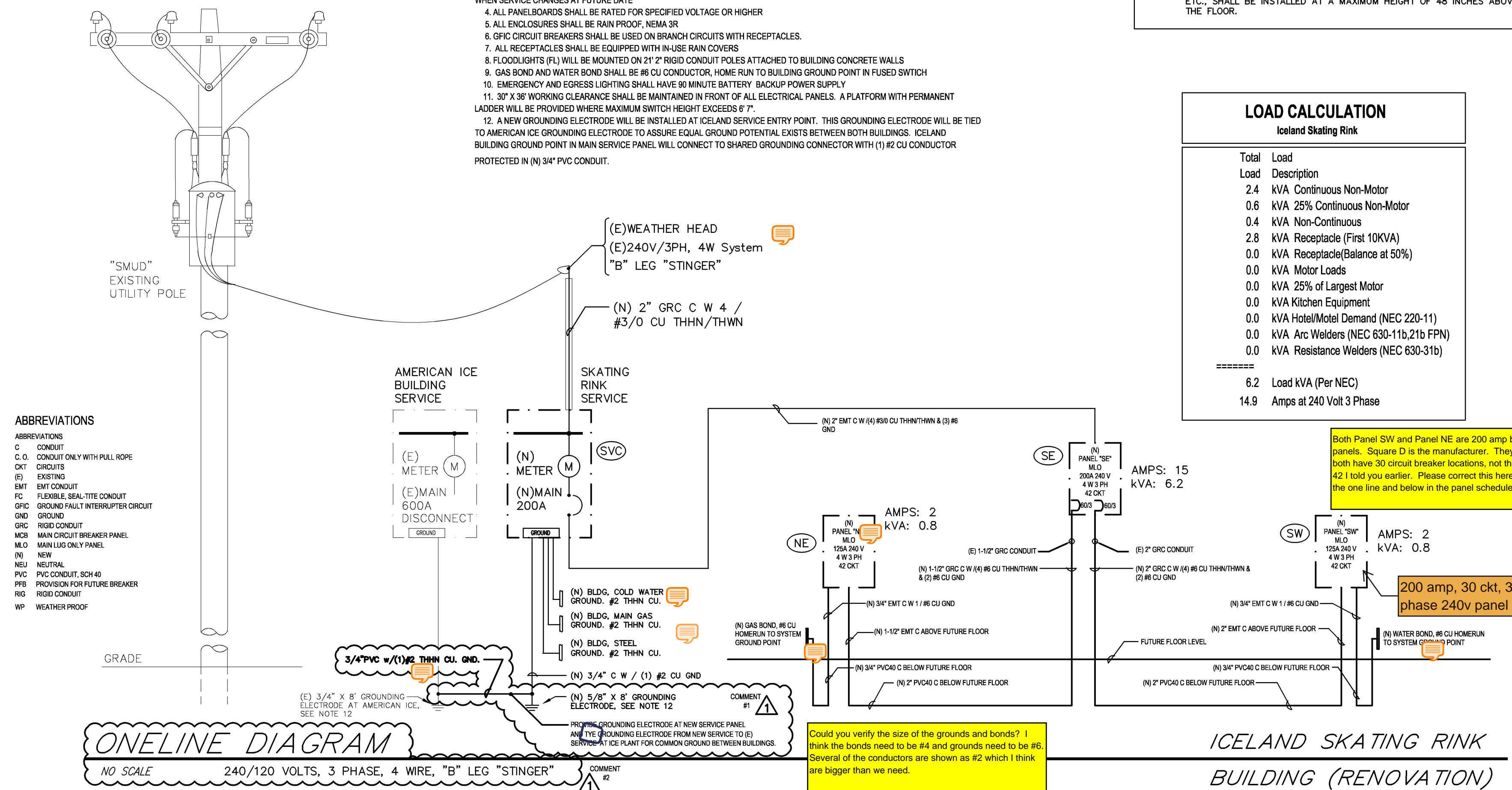
EQUIPMENT	
☰	MAIN SWITCH BOARD "MSB" SEE ONE LINE DIAGRAM
☰	BRANCH PANEL SURFACE MOUNTED
☰	BRANCH PANEL FLUSH MOUNTED
☰	TERMINAL CABINET
☰	DISTRIBUTION TRANSFORMER, SIZE & MOUNTING AS NOTED
☰	MOTOR STARTER, SEE MP&S CONNECT AS REQUIRED
☰	DISCONNECT SWITCH SIZE AND TYPE AS REQUIRED F -> FUSED
☰	MOTOR MP&S
☰	EXHAUST FAN - MP&S
☰	MECHANICAL EQUIPMENT I.D. TAG - MP&S
1	NUMBERED NOTE SHOWN ON SAME SHEET
1	DETAIL DESIGNATION, TOP LETTER INDICATES DETAIL, BOTTOM LETTER INDICATES SHEET NUMBER
⊕	FIXTURE DESIGNATION, DENOTES FIXTURE TYPE
⊕	TELEPHONE TERMINAL BOARD "TTB" 4"X8"X3/4" PLYWOOD BACKBOARD W/ FOURPLEX RECEPTACLE AND (1) #6 GND.
⊕	WALL MOUNTED SENSOR SWITCH, DUAL TECHNOLOGY
⊕	CEILING MOUNTED SENSOR SWITCH, ULTRASONIC
⊕	WALL MOUNTED SENSOR SWITCH, PASSIVE INFRARED
⊕	POWER PACK, 120V

ABBREVIATIONS	
C	CONDUIT
C.O.	CONDUIT ONLY WITH PULL ROPE
(E)	EXISTING
EM	EMERGENCY BATTERY PACK
EL	EVENING LIGHT
GFI	GROUND FAULT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
IG	ISOLATED GROUND
MP&S	SEE MECHANICAL PLANS AND SPECIFICATIONS
MT	EMPTY CONDUIT WITH NYLON PULL ROPE
(N)	NEW
NIC	NOT IN CONTRACT
NIES	NOT IN ELECTRICAL SECTION OF THESE PLANS AND SPECIFICATIONS
NL	NIGHT LIGHT
PFB	PROVISION FOR FUTURE BREAKER
PNL	PANLEBOARD
(R)	EXISTING TO BE REMOVED OR RELOCATED
RE:	REFERENCE, REFER TO AND COORDINATE WITH
TTB	TELEPHONE TERMINAL BOARD
UN	UNLESS OTHERWISE NOTED
WP	WEATHER PROOF

NOTE	
○	CONDUIT RISER
○	CONDUIT RISER DOWN
○	STUBBED CONDUIT
○	FLEX CONDUIT

**NOTES**

1. NEW SMUD SERVICE WILL INITIALLY BE 240V, 200A, 4 WIRE DELTA CONNECTED. SERVICE WILL CHANGE TO 208V, 200A, 4 WIRE WYE CONNECTION AT FUTURE DATE.
2. PER NOTE 1, "B" PHASE CONDUCTOR, -200V, SHALL BE MARKED WITH ORANGE TAPE AND SHALL NOT BE USED FOR 120V CIRCUITS.
3. PER NOTE 1, ALL PANELBOARDS SHALL HAVE NAME PLATES NOTING SERVICE TYPE AND VOLTAGE. NAME PLATES SHALL BE UPDATED WHEN SERVICE CHANGES AT FUTURE DATE.
4. ALL PANELBOARDS SHALL BE RATED FOR SPECIFIED VOLTAGE OR HIGHER
5. ALL ENCLOSURES SHALL BE RAIN PROOF, NEMA 3R
6. GFCI CIRCUIT BREAKERS SHALL BE USED ON BRANCH CIRCUITS WITH RECEPTABLES.
7. ALL RECEPTABLES SHALL BE EQUIPPED WITH IN-USE RAIN COVERS
8. FLOODLIGHTS (FL) WILL BE MOUNTED ON 2" RIGID CONDUIT POLES ATTACHED TO BUILDING CONCRETE WALLS
9. GAS BOND AND WATER BOND SHALL BE #6 CU CONDUCTOR, HOME RUN TO BUILDING GROUND POINT IN FUSED SWITCH
10. EMERGENCY AND EGRESS LIGHTING SHALL HAVE 90 MINUTE BATTERY BACKUP POWER SUPPLY
11. 30" X 36" WORKING CLEARANCE SHALL BE MAINTAINED IN FRONT OF ALL ELECTRICAL PANELS. A PLATFORM WITH PERMANENT LADDERS WILL BE PROVIDED WHERE MAXIMUM SWITCH HEIGHT EXCEEDS 8' 7".
12. A NEW GROUNDING ELECTRODE WILL BE INSTALLED AT ISLAND SERVICE ENTRY POINT. THIS GROUNDING ELECTRODE WILL BE TIED TO AMERICAN ICE GROUNDING ELECTRODE TO ASSURE EQUAL GROUND POTENTIAL EXISTS BETWEEN BOTH BUILDINGS. ICELAND BUILDING GROUND POINT IN MAIN SERVICE PANEL WILL CONNECT TO SHARED GROUNDING CONNECTOR WITH (1) #2 CU CONDUCTOR PROTECTED IN (N) 3/4" PVC CONDUIT.



**LOAD CALCULATION**

Iceland Skating Rink

Total Load	Description
2.4	kVA Continuous Non-Motor
0.6	kVA 25% Continuous Non-Motor
0.4	kVA Non-Continuous
2.8	kVA Receptacle (First 10kVA)
0.0	kVA Receptacle(Balance at 50%)
0.0	kVA Motor Loads
0.0	kVA 25% of Largest Motor
0.0	kVA Hotel/Motel Demand (NEC 220-11)
0.0	kVA Arc Welders (NEC 630-11b,21b FPN)
0.0	kVA Resistance Welders (NEC 630-31b)
6.2	Load kVA (Per NEC)
14.9	Amps at 240 Volt 3 Phase

WARNING	
(SW) STINGER LEA PH B	ALLOWED LOAD: 200 amps

Panel	CB	NO	A	B	C	NO	CB	KVA	LOAD	% Phase Unbalance
PFB 1	A	2	20	0.4 R	(N)Recept-(GFCI)Quad G-use	2	20	0.4 R	(N)Recept-(GFCI)Quad G-use	<30% Loaded
PFB 3	B	4	20	0.4 R	(N)Recept-(GFCI)Quad G-use	3	20	0.4 R	(N)Recept-(GFCI)Quad G-use	<30% Loaded

WARNING	
(NE) STINGER LEA PH B	ALLOWED LOAD: 200 amps

Panel	CB	NO	A	B	C	NO	CB	KVA	LOAD	% Phase Unbalance
PFB 5	A	2	20	0.4 R	(N)Recept-(GFCI)Quad G-use	5	20	0.4 R	(N)Recept-(GFCI)Quad G-use	<30% Loaded
PFB 7	A	2	20	0.4 R	(N)Recept-(GFCI)Quad G-use	7	20	0.4 R	(N)Recept-(GFCI)Quad G-use	<30% Loaded

WARNING	
(SE) STINGER LEA PH B	ALLOWED LOAD: 200 amps

Panel	CB	NO	A	B	C	NO	CB	KVA	LOAD	% Phase Unbalance
PFB 11	A	2	20	0.4 R	(N)Recept-(GFCI)Quad G-use	11	20	0.4 R	(N)Lighting-LED Controllers	<30% Loaded
PFB 13	A	2	20	0.4 R	(N)Recept-(GFCI)Quad G-use	13	20	0.4 R	(N)Lighting-Rink Floods	<30% Loaded

This is a 200 amp, 30 ckt 3 phase panel

This is a 200 amp, 30 ckt panel

ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL ALL ELECTRICAL EQUIPMENT TO THE 2010 CALIFORNIA ELECTRICAL CODE AND THE 2008 CALIFORNIA ENERGY CODE PER TITLE 24 STANDARDS.

**COOPER CONSULTING**  
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DESIGN & DRAFTING SERVICES

STAMP

RESTORATION

ICELAND SKATING RINK

1430 DEL PAGO ROAD  
SACRAMENTO, CA 95818

PROJECT NAME/ADDRESS

February 11, 2011

PROJECT DATE

DRAWN/DIGNER

CHECKED

PLAN CHECK COMMENTS  
JANUARY 11, 2011

REVISIONS/DATES

ELECTRICAL  
ONELINE  
SYMBOLS, NOTES  
& SCHEDULES

SHEET TITLE

NEW SHEET  
**EO.1**

SHEET 1 OF 5