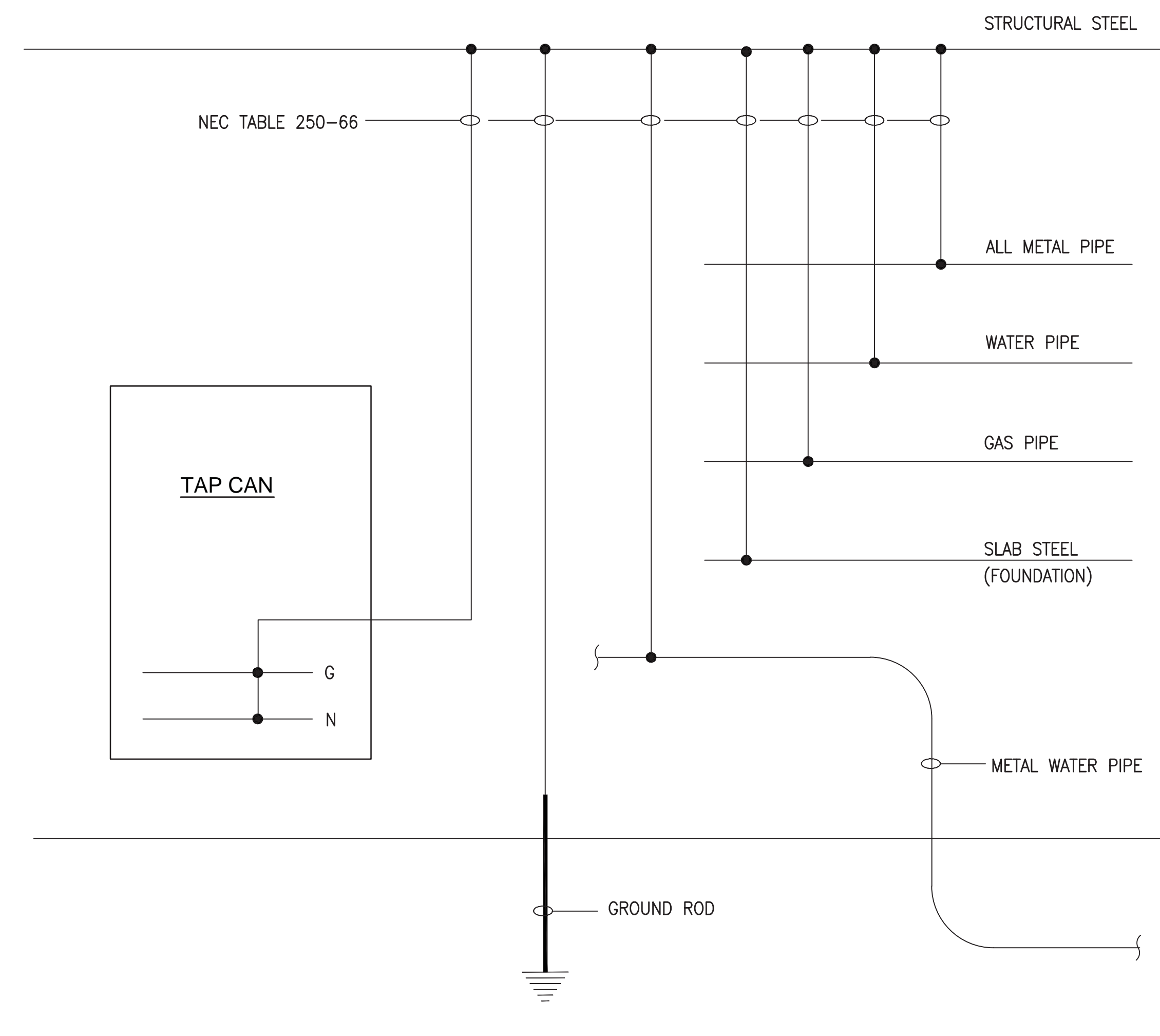


SYMBOL LIST	
<b>LIGHTING</b>	
A	WALL MOUNTED FIXTURE, (SLV) FINISH. REFER TO LUMINAIRE SCHEDULE IN DRAWING "E2.1" FOR DESCRIPTION OF ALL LUMINAIRES.
C	FLUORESCENT FIXTURE PROVIDED WITH EMERGENCY BACK-UP BATTERY
<b>SWITCHES</b>	
§	SINGLE POLE TOGGLE SWITCH 20A-125V, MOUNT 48" AFF
<b>RECEPTACLES &amp; OUTLETS</b>	
⊖	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE, 20A-125V
⊖	SURFACE MOUNTED GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE, 20A-125V
⊖	CONVENIENCE DUPLEX RECEPTACLE, 20A-125V, , FOR USE IN GENERAL AREAS.
⊖ or ⊖	JUNCTION BOX
<b>COMMUNICATIONS AND FIRE ALARM EQUIPMENT</b>	
▶	SINGLE GANG OUTLET BOX AND TWO PORT COVER PLATE WITH BLANKS WITH EMPTY 3/4" TO ACCESSIBLE AREA ABOVE CEILING.
T	TAMPER SWITCH
W	WATER FLOW SWITCH
⊖	SMOKE DETECTOR
F	MANUAL PULL STATION MTD 48" AFF
F	FIRE ALARM AUDIO/VISUAL DEVICE WITH HORN AND STROBE
V	FIRE ALARM VISUAL STROBE DEVICE
◀	RECESSED WATERPROOF FIRE ALARM HORN
<b>MOTOR CONTROLLERS AND EQUIPMENT</b>	
□	SAFETY DISCONNECT, SIZE AS REQUIRED
<b>ELECTRICAL EQUIPMENT</b>	
120/208V, 3φ, 4W, DISTRIBUTION PANELBOARD	
□	LIGHTING CONTROL CABINET
<b>CIRCUITING</b>	
—	CONDUIT RUN EXPOSED
—	CONDUIT CONCEALED BY FINISH
- - -	CONDUIT IN OR BELOW FLOOR, SLAB, OR GRADE
NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT; SYMBOL LIST PROVIDED FOR REFERENCE AND DRAWING CLARITY.	

## ELECTRICAL ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS INDICATED MAY APPEAR ON THESE CONTRACT DRAWINGS

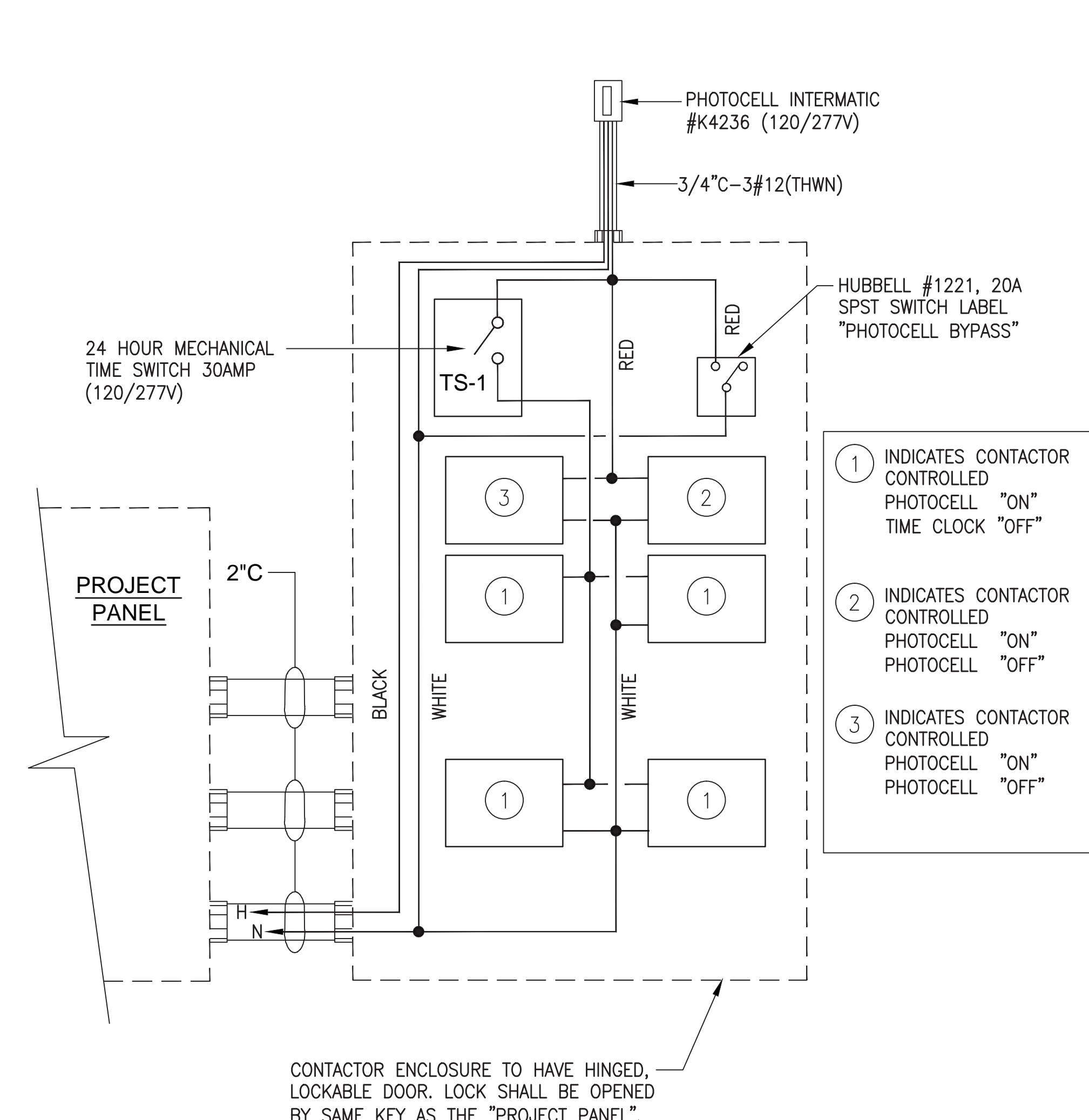
above finished floor	AFF	fire alarm	FA	Manufacturers Association	NEMA
above finished grade	AFG	fire alarm annunciator panel	FAAP	National Electric Code	NEC
accent	ACC	fire alarm control panel	FACP	normally closed	NO
adjustable	ADJ	fire alarm graphic panel	FAGP		
alternating current	AC	fire annunciator panel	ANNUN		
aluminum	AL	fixture	FXT	night light	NL
American wire gauge	AWG	floor	FL	normally opened	NO
ammeter	AM	fluorescent	FLUOR	Not Available/Not Applicable	N/A
ampere	A/AMP	footcandles	FC	not in contract	NIC
approximate(y)	APPROX	full load amperes	FLA	not to scale	NTS
asymetric	ASY	full voltage non-reversing	FWNR		
automatic transfer switch	ATS	generator	GC	on center	OC
		generator	GEN	overhead	OH
battery	BATT	ground	GND/G	overload heater element	OL
black	BLK	ground fault interrupter	GFCI		
bracket	BRKT	hand dryer	HD	panel	PNL
breaker	BKR	hand hole	HH	sewer	PEW
		heating ventilating and air conditioning	HVAC	plywood	PLY
cabinet	CAB	hertz	HZ	pole	P
cable television	CATV	high intensity discharge	HID	polyvinyl choride	PVC
ceiling	CLG	horsepower	HPF	potential transformer	PT
circuit	CKT	high voltage	HV	power panel	PP
circuit breaker	CKT BKR	incondescent	INCAN	pull box	PB
clear	CLR	isolated ground	IG		
closed circuit television	CCTV	junction box	JB or Jct Box	rapid start	RS
column	COL			receptacle	REC/RECPT
communication	COMM	kilovar (reactance)	KVAR	reflector	REFL
conduit	C	kilovolt ampere	KVA	required	REQ'D
cool white	CW	kilowatt	KW	rigid galvanized steel conduit	RGS
copper	CU	kilowatt hour meter	KWH	room	RM
current limiting fuse	CLF	inverter power supply	IPS	schedule	SCHED
current transformer	CT			single pole double throw	SPDT
		light	LT	single pole single throw	SPST
decibel	DB	lighting	LTG	solid state ballast	SSB
dedicated	DED	lightning arrester	LA	surge protection device	SPD
diameter	DIA	low voltage	LV	switch	SW
direct current	DC			switchboard	SWBD
disconnect	DISC	main circuit breaker	MCB	switchgear	SWG
distribution panel	DP	main distribution panel	MDP	telephone	TEL
double pole double-throw	DPDT	main lugs only	MLO	transformer	XFMR
downtlight	DNLT	manhole	MH	transient voltage surge suppressor	TVSS
drawing	DWG	manual transfer switch	MTS	twin tube	TT
dual element	DE	manufacturer	MFR	typical	TYP
		master antenna television	MATV	underground	UG
each	EA	mechanical contractor	MC	Underwriter's Laboratories	UL
electric water cooler	EWC	medium voltage	MV	uninterruptible power supply	UPS
electrical	ELEC	metal halide	MH	unless otherwise noted	UNON
electrical contractor	EC	metal-clad cable	MC	vapor proof	VP
electrically operated	EO	miscellaneous	MISC	volt	V
elevation	EL	motor circuit protector	MCP	voltmeter	VM
elevator	ELEV	motor control center	MCC	warm white	WW
emergency	E/EMERG	motor operated damper	MOD	watt	W
energy saving ballast	ESB	mounted	MTD	weatherproof	WP
equipment	EQUIP	mounting height	MTG HT	with	W/
exhaust fan	EF			within	W/
explosion proof	XP			without	W/O



1

## SYSTEM GROUNDING DETAIL

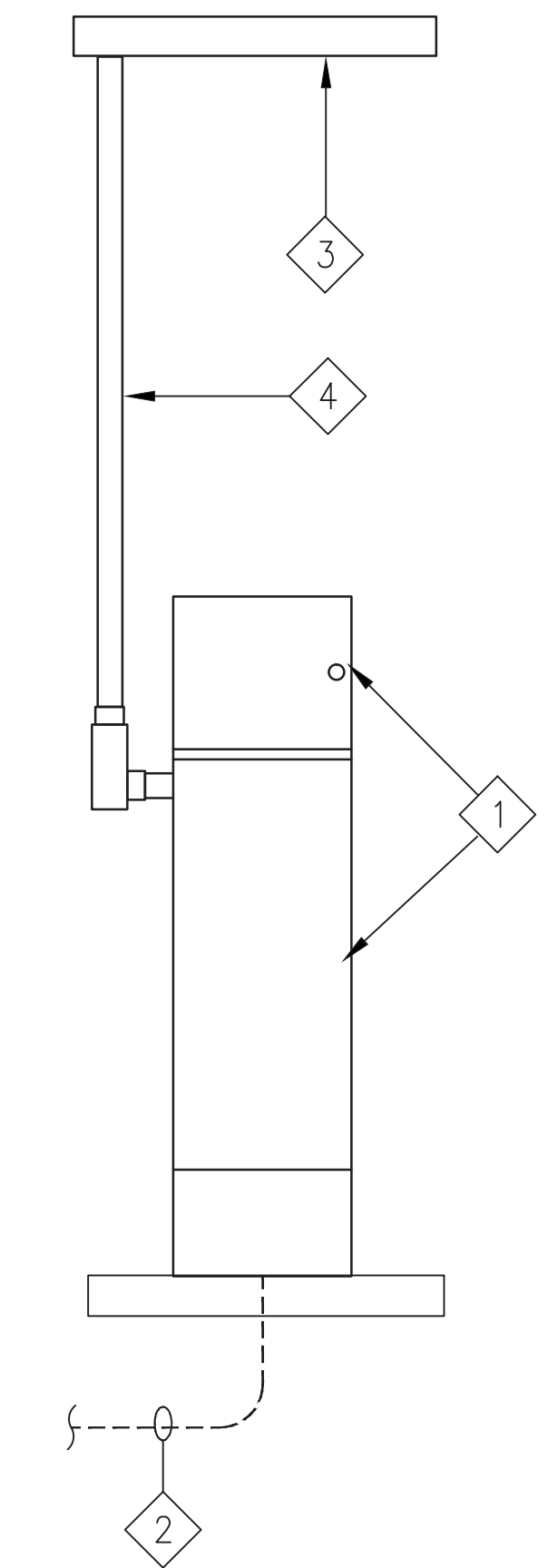
NOT TO SCALE



3

## LIGHTING CONTROL DIAGRAM

NOT TO SCALE



4

## TELEPHONE CABINET DETAIL

NOT TO SCALE

### KEYED PHONE CABINET NOTES.

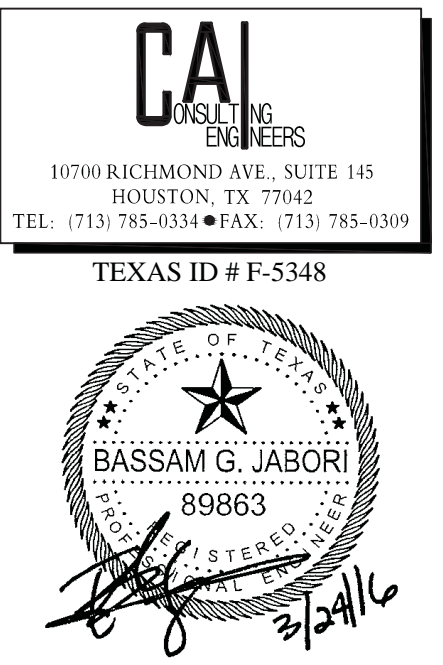
- 1 TELEPHONE AND SPLICE ENCLOSURE FURNISHED AND INSTALLED BY TELEPHONE CO. COORDINATE INSTALLATION. PROVIDE GROUND AS REQUIRED BY TELEPHONE CO.
- 2 CONNECT TO AND EXTEND (1) ONE SCHED 40PVC CONDUIT WITH PULLCORD. STUB-UP 4" ABOVE FINAL PAVING INSIDE SPLICE ENCLOSURE AS REQUIRED BY TELEPHONE COMPANY.
- 3 PROVIDE 8"x8"x36" NEMA 3R SCREW COVER WIREWAY AT JOIST SPACE ABOVE. STUB THROUGH BACK OF WIREWAY 4" INTO JOIST SPACE. (1)ONE 1"(EMT) FOR EVERY COLUMN BAY FOR FUTURE TENANTS TELEPHONE CABLES. LOCATIONS SERVING FIRE SPRINKLER MONITORING PANELS CONNECT (1)ONE 1"(EMT) INTO BACK OF WIREWAY. COORDINATE REQUIREMENTS WITH TELEPHONE CO., SEAL ALL WALL PENETRATIONS, PAINT COLOR SELECTED BY ARCHITECT.
- 4 PROVIDE (1)ONE 2"(EMT) WITH PULLCORD FROM AN "LB" FITTING AT TELEPHONE CABINET UP WALL TO BOTTOM OF WIREWAY WITH WP HUB. SECURE WITH 2-HOLE STRAPS, BOLTS AND EXPANSION ANCHORS. COORDINATE REQUIREMENTS WITH TELEPHONE COMPANY. PAINT COLOR SELECTED BY ARCHITECT.

### TELEPHONE CABINET EXTERNAL TERMINATION NOTES.

FOLLOWING ARE STANDARD TELEPHONE COMPANY SPECIFICATIONS FOR ENTRANCE CONDUIT AND GROUNDING REQUIREMENTS FOR TEL. CO. PROVIDED EXTERNAL (WALL MOUNTED) TERMINATION CABINETS.

1. ALL UNDERGROUND ENTRANCE CONDUITS SHOULD BE 3" OR 4" SCHEDULE 40 PVC. (2" WILL WORK FOR SHORT RUNS TO SMALL BUILDINGS). \*ONE SPARE (VACANT) CONDUIT IS RECOMMENDED FOR ALL LARGE DEVELOPMENTS
  2. EQUIP ALL CONDUIT RUNS WITH PULL CORD; CAP CONDUIT ENDS.
  3. CONDUIT RUNS GREATER THAN 500' REQUIRE INTERMEDIATE PULL BOXES.
  4. EACH RUN SHOULD HAVE NO MORE THAN TWO SWEEPING (LARGE RADIUS) 90° BENDS; ONE AT EACH END.
  5. IF MORE THAN TWO LARGE RADIUS 90°BENDS ARE REQUIRED, INTERMEDIATE PULL BOXES SHOULD BE PROVIDED (DEPENDS ON LENGTH).
  6. ALL UNDERGROUND ENTRANCE CONDUIT SHOULD BE PLACED A MINIMUM OF 24" TO 30" BELOW FINAL PAVING OR GRADE.
  7. TELEPHONE CONDUIT SHOULD BE STUBBED UP OUTSIDE THE PROPERTY LINE, OR IF A UTILITY POLE IS NEAR, STUB UP FLUSH WITH THE POLE (ON OPPOSITE SIDE OF ANY POWER COMPANY RISERS).
  8. \*NOTE: WHERE TELEPHONE CONDUIT STUBS UP AT THE BUILDING, THE CONDUIT MUST BE FLUSH AT GROUND LEVEL WITH THE EXTERIOR WALL TO ACCOMMODATE CABINET PLACEMENT.
  9. TELEPHONE COMPANY WILL PROVIDE AND INSTALL ALL TERMINATION CABINETS.
  10. TELEPHONE CABINETS WILL BE INSTALLED AT NORMAL WORKING HEIGHT. (SEE ATTACHED DRAWING)
  11. TELEPHONE COMPANY TERMINAL CABINETS WILL NOT BE PLACED IN AREAS WHERE TELEPHONE EQUIPMENT WILL BE SUBJECTED TO PHYSICAL DAMAGE.
  12. BUILDING OWNER OR DEVELOPER SHOULD PROVIDE AND INSTALL ALL RISER EQUIPMENT AND HARDWARE. (SEE ATTACHED DRAWING FOR DETAIL)
  13. AN INSULATED #6 SOLID COPPER GROUND WIRE MUST BE RUN FROM THE TELEPHONE CABINET TO THE MAIN BUILDING GROUND OR THE POWER GROUND; MAXIMUM LENGTH IS 20' (OWNER PROVIDED)
  14. ALL INTERIOR TELEPHONE OUTLET LOCATIONS SHOULD BE PRE-WIRED BACK TO THE EXTERIOR TELEPHONE CABINET. 3/4"-1" ELECTRICAL CONDUIT MAY BE REQUIRED FOR SOME ATTIC INSTALLATIONS. LEAVE 8' TO 10' PRE-WIRE SLACK.
  15. ALL TELEPHONE INSTALLATION WORK NEEDS TO BE COMPLETED WELL IN ADVANCE OF THE FIRST SERVICE REQUEST (MINIMUM 15 DAYS) TO ALLOW FOR TURN-UP AND TESTING OF TELEPHONE FACILITIES.
  16. TELEPHONE NETWORK SERVICE DEMARCATION POINT IS AT THE EXTERNAL TELEPHONE CO. TELEPHONE CABINET.
- \*ORDER OR HIS/HER DESIGNATED TELEPHONE VENDOR IS RESPONSIBLE FOR ALL WIRING AND INSTALLATIONS BEYOND THE NETWORK INSTALLATION

**WINDLE + VOLPE**  
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HOUSTON, TEXAS 77063  
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**PAD BUILDING AT THE CROSSROADS MALL**  
GREENVILLE, TEXAS  
**GREENVILLE PROPERTIES LTD.**  
GREENVILLE, TEXAS

DATE	4/20/16
PROJECT NO.	06-14-05
DRAWN BY	

ELECTRICAL DETAILS AND SYMBOLS

E3.1