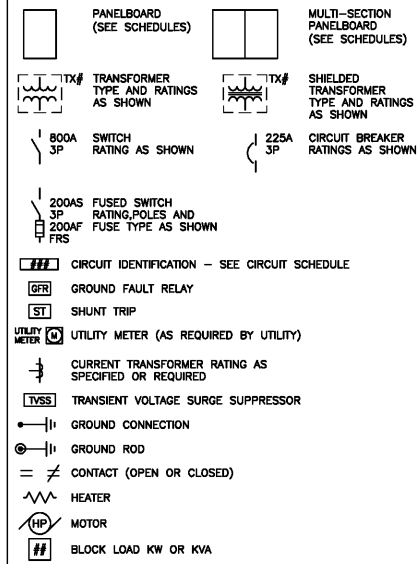
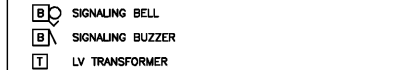


# ELECTRICAL SYMBOLS

## ELECTRICAL ONE-LINE & RISER



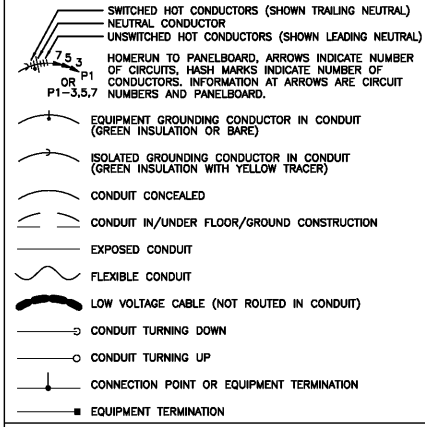
## SIGNALING



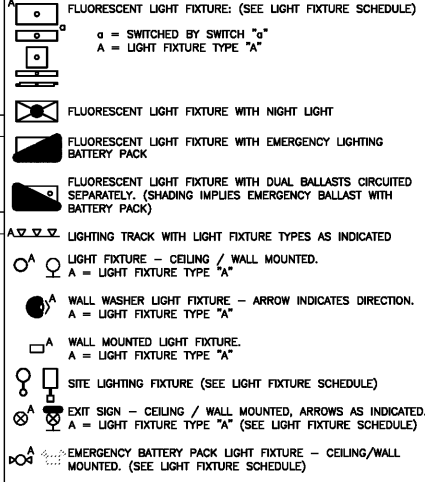
## ABBREVIATIONS

A AMPERES, AIR (COMPRESSED)	MAX MAXIMUM
A/C AIR CONDITIONING	MCA MINIMUM CIRCUIT AMPACITY
AF AMPERE FUSE	MCB MAIN CIRCUIT BREAKER
AFCE ABOVE FINISHED CEILING	MCC MOTOR CONTROL CENTER
AFCI ARC FAULT CIRCUIT INTERRUPTER	MD MOTORIZED DAMPER
AFA AREA FOR EVACUATION ASSISTANCE	MDF MAIN DISTRIBUTION PANEL
AFF ABOVE FINISHED FLOOR	MFR MANUFACTURER
AFG ABOVE FINISHED GRADE	MG MOTOR GENERATOR
AI ANALOG INPUT	MH MINIMUM
AI AMPERE INTERRUPTING CURRENT	MLO MAIN LUGS ONLY
AL ALUMINUM	MOCF MAXIMUM OVERCURRENT PROTECTION
AO ANALOG OUTPUT	MSB MAIN SWITCHBOARD
AP ACCESS PANEL	MSWB MASTER SLAVE/TOKEN PASSING
ATS AUTOMATIC TRANSFER SWITCH	MTD MOUNTED
AWG AMERICAN WIRE GAUGE	N/A NOT APPLICABLE
BAS BUILDING AUTOMATION SYSTEM	NC NORMALLY CLOSED
BFF BELOW FINISHED FLOOR	NI NOT IN CONTRACT
BFG BELOW FINISHED GRADE	NL NIGHT LIGHT
BI BINARY INPUT	NO NORMALLY OPEN
BKR BREAKER	ON ON CENTER
BO BINARY OUTPUT	OS OCCUPANCY SENSOR
C CANDELA	POU POWER DISTRIBUTION UNIT
CT CURRENT TRANSFORMER	PH, $\phi$ PHASE
CATV CABLE TELEVISION SYSTEM	PIV POST INDICATOR VALVE
CCTV CLOSED CIRCUIT TELEVISION	PNL PANEL
CKT CIRCUIT	PNLBD PANELBOARD
CPT CONTROL POWER TRANSFORMER	PROVIDE FURNISH AND INSTALL
CU COPPER, CONDENSING UNIT	PT POTENTIAL TRANSFORMER
CVD CUMULATIVE VOLTAGE DROP	PTZ PAN, TILT, ZOOM
DDC DIRECT DIGITAL CONTROL	QTY QUANTITY
DI DIGITAL INPUT, DUCTILE IRON	RFT RECEPTACLE
DN DOWN	RLA RUNNING LOAD AMPS
DPDT DOUBLE-POLE, DOUBLE-THROW	RTU ROOFTOP UNIT
DPST DOUBLE-POLE, SINGLE-THROW	SD SMOKE DETECTOR, SUPPLY DUCT
EM EMERGENCY	SF SQUARE FEET, SUPPLY FAN
EPO EMERGENCY POWER OFF	SPDT SINGLE-POLE, DOUBLE-THROW
ETR EXISTING TO REMAIN	SPST SINGLE-POLE, SINGLE-THROW
FACP FIRE ALARM CONTROL PANEL	SS STAINLESS STEEL, SANITARY
FBO FURNISHED BY OTHERS/OWNER	ST SEWER, SOIL STACK
FCA FAULT CURRENT AMPS	ST SHUNT TRIP, STEAM TRAP
FF FINISHED FLOOR	SWBD SWITCHBOARD
FLA FULL LOAD AMPS	TL TIE
FLR FLOOR FULL-VOLTAGE, NON-REVERSING	TR TAMPER RESISTANT
GC GENERAL CONTRACTOR	TX TRANSFORMER
GFCI GROUND FAULT CIRCUIT INTERRUPTER	TYP TYPICAL
GFR GROUND FAULT RELAY	U/F UNDERFLOOR
GRD GROUND	U/G UNDERGROUND
GND GROUND	UH UNIT HEATER
GRS GALVANIZED RIGID STEEL	U/S UNDER SLAB
HOA HAND-OFF-AUTOMATIC	UL/S UNDERWRITERS LABORATORIES
IG ISOLATED GROUND	UNO UNLESS NOTED OTHERWISE
ISC SHORT CIRCUIT CURRENT	UPS UNINTERRUPTIBLE POWER SUPPLY
J BOX JUNCTION BOX	V VOLTS
J-BOX 1000 CIRCULAR MILS	VAC VOLTS, ALTERNATING CURRENT
KK KIRK KEY	VO VOLTAGE DROP
KV KILOVOLT	VDC VOLTS DIRECT CURRENT
KVA KILOVOLT-AMPS	VFD VARIABLE FREQUENCY DRIVE
KVAR KILOVOLT-AMPS REACTANCE	W WATT
KW KILOWATT	WE WEATHERPROOF
KWH KILOWATT-HOUR	X EXPLOSION-PROOF
LF LINEAR FEET	XT XTENNA TELEPHONE SYSTEM

## CIRCUITING & WIRING



## LIGHTING

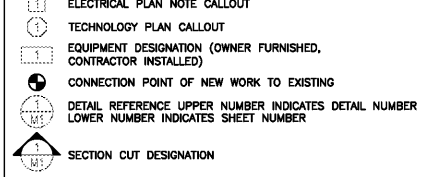


## STANDARD MOUNTING HEIGHTS

(AFT, AFG, UNLESS NOTED OTHERWISE)

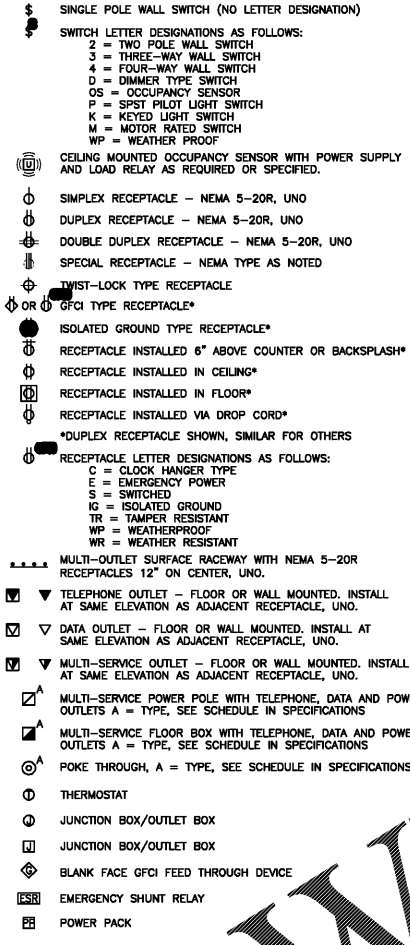
ELECTRICAL	48"
ALARMS	48"
ANNUNCIATOR PANELS	48"
CLOCK OUTLETS (CENTERLINE)	84"
CONTROLS (CENTERLINE)	48"
EXIT SIGNS (WALL MOUNTED, BOTTOM)	80"
INTERCOM (AFA ONLY)	36"
INTERCOMS	48"
PANELS/PANELBOARDS (TOP)	72"
PHOTOCELLS	144"
RECEPTACLES (CENTERLINE)	48"/54"/60"/66"/72"
RECEPTACLES (EXTERIOR)	24"
RECEPTACLES (GARAGES)	28"
RECEPTACLES IN EQUIPMENT ROOMS	30"/36"/42"
REMOTE INDICATING LIGHT (EQUIPMENT ROOMS)	48"
REMOTE INDICATING LIGHT (FINISHED AREAS)	CEILING
SAFETY SWITCHES	48"
SWITCHES (CENTERLINE)	48"
TELEPHONE (PUBLIC)	1 • 48", 1 • 36"
TELEPHONE (DATA OUTLETS) (CENTERLINE)	18"
TELEPHONE TERMINAL BOARD (BOTTOM)	6"
TELEVISION OUTLETS	18"

## ANNOTATION

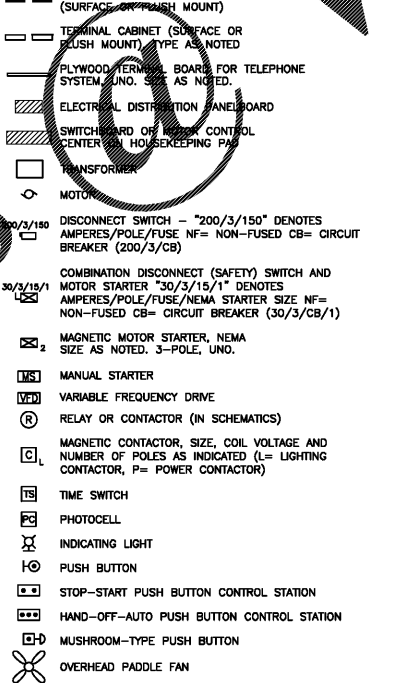


NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ABBREVIATIONS, ETC. ARE NECESSARILY USED ON THE DRAWINGS.

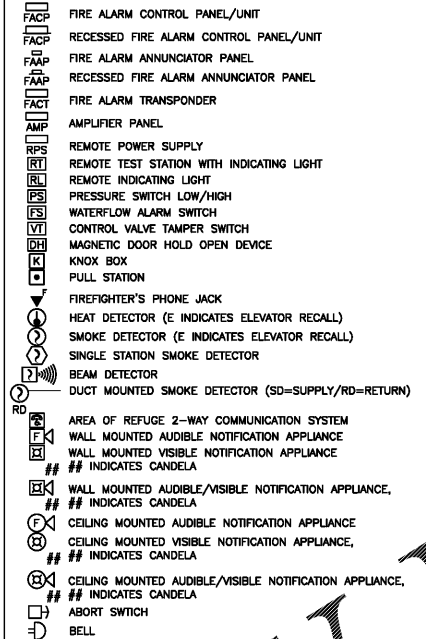
## WIRING DEVICES & OUTLETS



## POWER EQUIPMENT & DEVICES

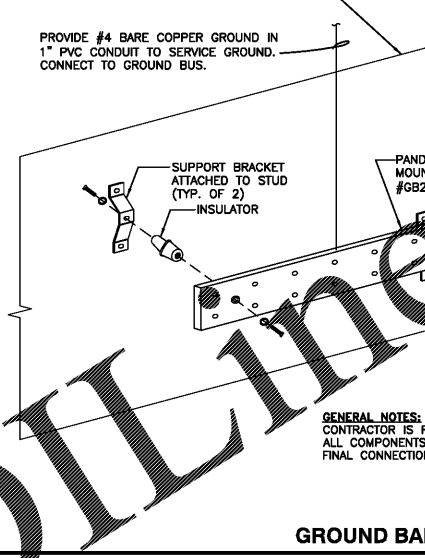


## FIRE ALARM

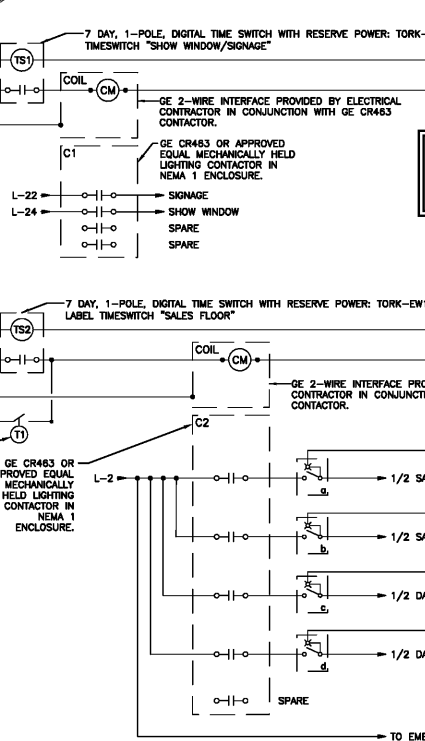


NOT TO SCALE  
**ELECTRICAL SYMBOLS LEGEND A13**

GROUND BAR MOUNTED A MINIMUM OF 7'-0" A.F.F. VERIFY EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.



NOT TO SCALE  
**GROUND BAR DETAIL S01**



NOT TO SCALE  
**SALES FLOOR LIGHTING CONTROL DETAILS A01**

**design-form engineering**  
 Cert. License #200205012  
 700 W. Pete Rose Way, Suite 460 Cincinnati, OH 45203 Telephone: (513) 421-2210  
 Timothy L. Raberding, PE

**Sprint**

#1408 DURHAM  
 2707 GUESS RD, SUITE 110  
 DURHAM, NC 27705

DATE	DESCRIPTION

## ELECTRICAL LEGEND AND DETAILS

PROJECT NUMBER: SPR1337  
 SHEET: 02/10/08  
 CHAD GLEASON  
 CHECKED BY: DON RETHMAN  
 DATE: SEPTEMBER 26, 2017  
 SHEET: **E5**