AVERAGE MAINTAINED ILLUMINATION LEVELS

TASK	FOOTCANDLES
CLASSROOMS	55
MEDIA CENTER	55
OFFICES	50
BUSINESS	55
STUDIO	60
SCIENCE LAB	70
ELECTRICAL ROOMS	30
MECHANICAL ROOMS	30
COMPUTER LABS	30
GYM	50
LOCKER ROOMS	20
LOBBIES/CORRIDORS	15
TOILETS	20
KITCHEN	70
DINING	40
AUDITORIUM	10-30
STOREROOMS	20
WHITEBOARDS	30

ONE LINE DIAGRAM LEGEND

SYMBOL DESCRIPTION

- CIRCUIT BREAKER
- FUSED SWITCH
- TRANSFORMER
- TRANSFER SWITCH
- XXX FEEDER DESIGNATION
- CT CURRENT TRANSFORMER
- PT POTENTIAL TRANSFORMER

GRAPHICS SYMBOLS LEGEND

A123 — **SPACE IDENTIFICATION TAG**
- SPACE NUMBER
- BUILDING AREA (WHEN USED)

SECTION WHERE CUT
- 1 / E4.1 — SECTION NUMBER; DRAWING WHERE SECTION IS INDICATED

ENLARGED PLAN WHERE CUT
- 1 / E3.1 — ENLARGED PLAN NUMBER; DRAWING WHERE ENLARGED PLAN IS INDICATED

DETAIL TAG
- 1 / E5.1 — DETAIL NUMBER; DRAWING WHERE DETAIL IS INDICATED

1 **DETAIL TITLE** 1/4"=1'-0"
- E2.2 / E5.1
- E2.3
- E2.4
- DETAIL NUMBER
- DRAWING WHERE DETAIL IS INDICATED
- DRAWING WHERE DETAIL IS CUT
- ADDITIONAL DRAWING REFERENCES

1 **SECTION TITLE** 1/4"=1'-0"
- E2.2 / E4.1
- E2.3
- E2.4
- SECTION NUMBER
- DRAWING WHERE SECTION IS INDICATED
- DRAWING WHERE SECTION IS CUT
- ADDITIONAL DRAWING REFERENCES

POWER LEGEND

SYMBOL DESCRIPTION

- APPLIANCE RECEPTACLE, MOUNT AT +1'-6" AFF. PROVIDE NEMA CONFIGURATION TO MATCH PLUG FOR EQUIPMENT SERVED.
- APPLIANCE RECEPTACLE, MOUNT AT +1'-6"AFF. PROVIDE NEMA CONFIGURATION TO MATCH PLUG FOR EQUIPMENT SERVED. CONNECT TO EMERGENCY POWER, PROVIDE RED DEVICE.
- DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +1'-6"AFF.
- DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +3'-10"AFF.
- GFCI DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +1'-6"AFF. PROVIDE NEMA 3R "WHILE IN USE" ENCLOSURE.
- GFCI DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +1'-6"AFF.
- GFCI DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +3'-10"AFF.
- DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +1'-6"AFF.
- DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +3'-10"AFF.
- SINGLE RECEPTACLE, NEMA 5-20R, MOUNT AT +1'-6"AFF.
- SINGLE RECEPTACLE, NEMA 5-20R, MOUNT AT +3'-10"AFF.
- SPD DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +1'-6"AFF.
- PUSHBUTTON CONTROLLER.
- CORD REEL OUTLET, CEILING MOUNT.
- J JUNCTION BOX, CONCEALED ABOVE CEILING, UNO.
- MANUAL MOTOR STARTER, OVERLOAD PROTECTION AS REQUIRED PER NAME PLATE RATINGS, WITH 'ON' INDICATOR PILOT LIGHT. FLUSH MOUNT W/HANDLE AT +3'-10"AFF, UNO.
- 1 DISCONNECT SWITCH, FUSIBLE OR NON-FUSIBLE AS INDICATED. MOUNT W/HANDLE AT +4'-6"AFF, UNO.
- MAGNETIC MOTOR STARTER, WITH OVERLOAD RELAYS AS REQUIRED TO SERVE MANUFACTURER REQUIREMENTS OF EQUIPMENT SERVED. PROVIDE WITH HAND-OFF-AUTOMATIC SELECTOR SWITCH AND INDICATOR LIGHTS. MOUNT W/HANDLE AT +4'-6"AFF, UNO.
- 1 COMBINATION MAGNETIC STARTER AND DISCONNECT SWITCH. WITH OVERLOAD ELEMENTS AND FUSING AS REQUIRED TO SERVE MANUFACTURER REQUIREMENTS OF EQUIPMENT SERVED. PROVIDE WITH HAND-OFF-AUTOMATIC SELECTOR SWITCH AND INDICATOR LIGHTS.. MOUNT W/HANDLE AT +4'-6"AFF, UNO.
- E EQUIPMENT POWER CONNECTION.
- MOTOR CONNECTION.
- M CONNECTION TO DIV 23 MOTORIZED DAMPER. VERIFY LOCATION.
- EL POWER FOR ELECTRIC DOOR LOCK CONNECTION.
- ES POWER FOR ELECTRIC DOOR STRIKE CONNECTION.
- G EMERGENCY GENERATOR.
- BRANCH CIRCUIT RUN CONCEALED, UNO. DASHED INDICATES CIRCUITRY REQUIRED TO BE RUN BELOW SLAB.
- STRAIGHT LINEWORK FOR CIRCUITRY INDICATES ON EMERGENCY POWER CIRCUIT. INDICATED FOR CLARITY ONLY, ACTUAL HOMERUN DESIGNATION OVERRIDES THIS SYMBOLOGY.
- BRANCH CIRCUIT HOME RUN TO PANELBOARD AND CIRCUIT INDICATED.
- PANELBOARD.
- T TRANSFORMER. PROVIDE CONCRETE HOUSEKEEPING PAD UNLESS NOTED OTHERWISE.
- XXX FEEDER TAG. REFER TO FEEDER SCHEDULE ON DWG E5.1.

COMMUNICATIONS LEGEND

NOTE: REFER TO 'TYPICAL COMMUNICATION OUTLET DETAIL' FOR BOX & CONDUIT REQUIREMENTS. REFER TO TELECOMMUNICATION DEVICE DETAILS FOR CABLING AND TERMINAL JACK REQUIREMENTS.

SYMBOL DESCRIPTION

- X TELECOMMUNICATIONS OUTLET, SUBSCRIPT NUMBER INDICATES OUTLET TYPE. MOUNT AT +3'-10"AFF.
- X TELECOMMUNICATIONS OUTLET, SUBSCRIPT NUMBER INDICATES OUTLET TYPE. MOUNT AT +1'-6"AFF.
- [MISC COMMUNICATIONS OUTLET] , MOUNT AT +1'-6"AFF.
- INTERCOM STATION WITH PUSHBUTTON. MOUNT AT +4'-6"AFF.
- [MISC COMMUNICATIONS OUTLET] , MOUNT AT +4'-6"AFF.
- E PUSHBUTTON SWITCH, MOUNT AT +4'-6"AFF. SUBSCRIPT "E" INDICATES EMERGENCY FUNCTIONS.
- CATV OUTLET, MOUNT AT +[1'-6"] [7'-6"]AFF.
- W# W# MICROPHONE OUTLET, WALL MOUNT AT +1'-6"AFF, FLUSH FLOOR MOUNT. SUBSCRIPT NUMBER INDICATES NUMBER OF JACKS TO PROVIDE IN OUTLET.
- S SOUND SYSTEM SPEAKER, RECESS WALL MOUNT AT +7'-6"AFF. 'WG' WHERE PRESENT INDICATES PROVIDE PROTECTIVE WIRE GUARD.
- S SOUND SYSTEM SPEAKER, RECESS CEILING MOUNT. 'WG' WHERE PRESENT INDICATES PROVIDE PROTECTIVE WIRE GUARD.
- WA WIRELESS ACCESS POINT
- TELECOMMUNICATIONS EQUIPMENT RACK.
- 2" EMT CONDUIT SLEEVE WITH NYLON BUSHING EACH END UNO, THRU WALL AT +6" ABOVE FINISHED CEILING.
- TGB TELECOMMUNICATIONS GROUND BUS BAR, MOUNT AT +1'-6"AFF.
- TMGB TELECOMMUNICATIONS MAIN GROUND BUS BAR, MOUNT AT +1'-6"AFF.
- CABLE TRAY, MOUNT AT +6" ABOVE FINISHED CEILING.

LIGHTING LEGEND

SYMBOL DESCRIPTION

S LIGHT SWITCH, RATED 120/277 VOLTS, 20-AMPS, MOUNT AT +3'-10"AFF. SUBSCRIPT/SUPERSCRIPT LETTERS, NUMBERS, AND SYMBOLS INDICATES SWITCH TYPE AS FOLLOWS:

3	INDICATES 3-WAY LIGHT SWITCH
4	INDICATES 4-WAY LIGHT SWITCH
D	INDICATES DIMMER SWITCH.
P	INDICATES PILOT LIGHT, ON WHEN SWITCH IS ON
K	INDICATES KEY OPERATED LIGHT SWITCH
OS_1	INDICATES SWITCH WITH INTEGRAL OCCUPANCY SENSOR
OS^2	INDICATES DUAL RELAY INTEGRAL OCCUPANCY SENSOR, WIRED FOR MULTI-LEVEL SWITCHING

LOWER CASE LETTER INDICATES LIGHT FIXTURE CONTROL DESIGNATION

- SS INDICATES SWITCHES WIRED FOR INBOARD/OUTBOARD SWITCHING.
- OMNI-DIRECTIONAL LIGHTING CONTROL OCCUPANCY DETECTOR, CEILING MOUNT.
- DIRECTIONAL LIGHTING CONTROL OCCUPANCY DETECTOR, WALL MOUNT AT 6" BELOW FINISHED CEILING.
- PE PHOTOELECTRIC CELL FOR LIGHTING CONTROL. WALL MOUNT AT +10-0"AFF. AIM NORTH.
- FLUORESCENT LIGHT FIXTURE, CEILING MOUNT.
- FLUORESCENT LIGHT FIXTURE ON LIFE-SAFETY POWER, CEILING MOUNT.
- LIGHTING FIXTURE.
- LIGHTING FIXTURE ON EMERGENCY POWER.
- WALL WASHER LIGHTING FIXTURE.
- LIGHT FIXTURE, WALL MOUNT, HEIGHT AS INDICATED.
- EMERGENCY EGRESS LIGHTING FIXTURE, WITH BATTERY PACK, WALL MOUNT AT +8'-0"AFF.
- EXIT SIGN, CEILING MOUNT. DIRECTIONAL ARROWS AS INDICATED. SHADING INDICATES FACE(S) OF SIGN.
- EXIT SIGN, WALL MOUNT. DIRECTIONAL ARROWS AS INDICATED. SHADING INDICATES FACE(S) OF SIGN.
- TRACK LIGHTS.
- LIGHT FIXTURE, POLE MOUNT.
- SPORTS LIGHTING POLE.

GENERAL NOTES

A. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE GREATER QUANTITY OF WORK.

B. SUBSCRIPT LETTER BESIDE DEVICE INDICATES THE TYPE AS FOLLOWS:

3R	WEATHERPROOF (NEMA 3R)
W	WALL MOUNT AT +4'-6"AFF
IG	ISOLATED GROUND
P	PILOT LIGHT AT THE SWITCH HANDLE
WG	WIRE GUARD
C	MOUNT +6" ABOVE COUNTER TOP BACK SPLASH
WP	WEATHERPROOF

C. FOLLOW MOUNTING HEIGHTS INDICATED IN THE ELECTRICAL LEGEND UNLESS OTHERWISE INDICATED. MEASURE ALL MOUNTING HEIGHTS FROM THE DEVICE CENTER LINE UNLESS OTHERWISE INDICATED.

D. VERIFY EXACT FEEDER LOCATIONS FOR MECHANICAL EQUIPMENT.

E. EQUIPMENT CONNECTIONS ARE INDICATED IN THEIR APPROXIMATE LOCATIONS. VERIFY EXACT LOCATIONS (ALL CONNECTIONS WITH OTHER TRADES SUPPLYING EQUIPMENT TO AVOID CONFLICTS AT INSTALLATION.

F. LOCATED ALL SWITCHES FOR LOCAL CONTROL OF LIGHTING ON STRIKE SIDE OF SINGLE DOORS UNLEOTHERWISE INDICATED.

G. PROVIDE SPECIFIC BREAKER ARRANGEMENT FOR THE PANEL BOARDS WHEREVER PHYSICALLY POSSIBLE. PROVIDE AS-BUILT DRAWINGS INDICATING ACTUAL BRANCH CIRCUIT ARRANGEMENT. PROVIDE TYPE WRITTEN PANELBOARD DIRECTORIES INDICATING ACTUAL BRANCH CIRCUIT ARRANGEMENT.

H. ALL CONDUIT RUNS INDICATED ARE DIAGRAMMATIC, COORDINATE ROUTING IN ALL SPACES WITH OTHER TRADES.

I. CONDUCTOR CROSS HATCHING IS INDICATED TO CLARIFY BRANCH CIRCUIT AND/OR SWITCHING ARRANGEMENTS.

J. ALL PANELBOARDS INDICATED ARE HOUSED IN A SINGLE WIDTH ENCLOSURE, UNO. THE CONTRACTOR SHALL FIELD VERIFY ROOM LAYOUT AND ADJUST ACCORDINGLY, AT NO COST TO THE OWNER, IF PROVIDING ANY PANELBOARD ENCLOSURES.

K. WHERE POWER AND COMMUNICATION OUTLETS ARE INDICATED IN CLOSE PROXIMITY ON THE DRAWINGS, FIELD COORDINATE THE LOCATIONS TO PLACE THE OUTLETS ADJACENT TO EACH OTHER.

L. ALL EXTERIOR RECEPTACLES SHALL BE LABELED "WR" - WEATHER RESISTANT.

M. WHERE MULTI-WIRE BRANCH CIRCUITS ARE PROVIDED (TWO OR MORETHREE LINE-TO-NEUTRAL CIRCLSHARING A NEUTRAL) PROVIDE A MULTI-POLE BREAKER OR LISTED BREAKER TIE TO SIMULTANEOUSDISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT OF ORIGINATION. CONTRACTOR'S OPTION TOPROVIDE DEDICATED LABELED COLOR CODED NEUTRAL CONDUCTORS FOR EACH LINE-TO-NEUTRAL CIRCURATHER THAN BREAKER TIES. REFER TO 2011 NEC 210.4.

ABBREVIATIONS

1P	SINGLE PHASE
3P	THREE PHASE
A	AMPS
AFF	ABOVE FINISHED FLOOR
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
BKR	BREAKER
C	CONDUIT
CATV	COMMUNITY ANTENNA TELEVISION (CABLE)
CB	CIRCUIT BREAKER
CBL	CABLE
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CLR	CLEAR
CO.	COMPANY
COMB	COMBINATION
COMM	COMMUNICATIONS
CU	COPPER
DIA	DIAMETER
DISC	DISCONNECT
DIV	DIVISION
DWG	DRAWING
EBH	ELECTRIC BASEBOARD HEATER
EC	EMPTY CONDUIT
ECS	EMERGENCY COMMUNICATIONS STATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EQ	EQUIPMENT
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EX	EXISTING
EXT	EXTERIOR
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FAGP	FIRE ALARM GRAPHIC PANEL
FAXP	FIRE ALARM EXTENDER PANEL
FFSCP	FIRE FIGHTER'S SMOKE CONTROL PANEL
FLA	FULL LOAD AMPS
FPMR	FUSE PER MANUFACTURERS REQUIREMENTS/RECOMMENDATIONS
FPND	FUSE PER NAMEPLATE DATA
G	GROUND
GE	GROUND FAULT PROTECTION FOR EQUIPMENT, 6-50mA PER NEC 427.22 (PROVIDE ACCESSORY FOR INDICATED BREAKER)
GFCI	GROUND FAULT CIRCUIT INTERRUPT
GFP	GROUND FAULT PROTECTION FOR PERSONNEL, 4-6mA (PROVIDE ACCESSORY FOR INDICATED BREAKER)
HC	HORIZONTAL CROSS CONNECT
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
Hz	HERTZ
IAW	IN ACCORDANCE WITH
IC	INTERMEDIATE CROSS-CONNECT
IG	ISOLATED GROUND
J-BOX	JUNCTION BOX
KHFSS	KITCHEN HOOD FIRE SUPPRESSION SYSTEM
KHz	KILOHERTZ
KVA	KILOVOLT AMPS
KW	KILOWATTS
KWH	KILOWATT HOURS
L	LOCKOUT TO PREVENT UNAUTHORIZED SWITCHING (PROVIDE ACCESSORY FOR INDICATED BREAKER)
LC	ROUTE CIRCUIT TO LOAD VIA LIGHTING CONTACTOR, REFER TO LC SCHEDULE
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
LTS	LIGHTS
MAX	MAXIMUM
MC	MAIN CROSS CONNECT
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MH	METAL HALIDE
MHz	MEGAHERTZ
MIN	MINIMUM
ML	MAINTENANCE LOCK (PROVIDE ACCESSORY FOR INDICATED BREAKER)
MLO	MAIN LUG ONLY
MNS	MASS NOTIFICATION SYSTEM
MOCP	MAXIMUM OVER CURRENT PROTECTION.
MTD	MOUNTED
N	NEUTRAL
N/C	NORMALLY CLOSED
N/O	NORMALLY OPEN
NO.	NUMBER
PBD	PANELBOARD
PD	PROTECTIVE DEVICE
RCPT	RECEPTACLE
REC	RECEPTACLE
SEC	SECURITY
SPD	SURGE PROTECTIVE DEVICE
SPEC.	SPECIFICATION(S)
ST	SHUNT TRIP, 120V COIL (PROVIDE ACCESSORY FOR INDICATED BREAKER)
SW	SWITCH
SWBD	SWITCHBOARD
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TC	TELECOMMUNICATIONS CLOSET
TELECOM	TELECOMMUNICATIONS
TGB	TELECOMMUNICATIONS GROUNDING BUS BAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUS BAR
TYP	TYPICAL
UNO	UNLESS NOTED (INDICATED) OTHERWISE
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
W/	WITH
XFER	TRANSFER
XFMR	TRANSFORMER

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EVIDENCE STORAGE BUILDING

SMITHFIELD, VIRGINIA

PROJECT NO: 550322	DATE: OCTOBER 15, 2015
REVISIONS	
DATE	DESCRIPTION

LEGENDS, ABBREVIATIONS AND GENERAL NOTES

E0.1

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