

ELECTRICAL LEGEND

- DRAWING NOTE (APPLIES TO THIS DRAWING ONLY)
- DETAIL, SECTION OR ELEVATION NUMBER
- DRAWING NUMBER
- REVISION NUMBER - CLOUDED AREA ON DRAWING CONTAINS REVISION
- RACEWAY - 2 #12, 1 #12 GW IN 3/4" CONDUIT, U.O.N.
- HOMERUN TO PANELBOARD - ARROWS INDICATE NUMBER OF CIRCUITS. SLASHES INDICATE CIRCUIT CONDUCTORS. NO SLASH INDICATES TWO CIRCUIT CONDUCTORS. PROVIDE GROUNDING CONDUCTOR, NOT SHOWN. NOTE: EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR. NEUTRAL CONDUCTORS SHALL NOT BE SHARED.
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- UNDERGROUND CONDUIT
- LIGHTING FIXTURE: DOWNLIGHT, 2' x 4' & 2' x 2'
- UPPER CASE - FIXTURE TYPE (TYPICAL FOR ALL LIGHTING FIXTURES) - SEE LIGHTING FIXTURE SCHEDULE
- LOWER CASE - INDICATES CONTROLLING SWITCH(ES) (TYPICAL FOR ALL LIGHTING FIXTURES).
- LIGHTING FIXTURE
- LIGHTING FIXTURE, INDUSTRIAL TYPE
- EMERGENCY LIGHTING FIXTURE. CONNECT TO NORMAL CIRCUIT SUPPLYING THE AREA AHEAD OF ANY SWITCHING UNLESS NOTED OTHERWISE. NL INDICATES A NIGHT LIGHT THAT IS ON AT ALL TIMES UNLESS NOTED OTHERWISE.
- LOWER CASE - INDICATES CONTROLLING SWITCH(ES) (TYPICAL FOR ALL LIGHTING FIXTURES).
- LIGHTING FIXTURE, WALL WASHER - SEE LIGHTING FIXTURE SCHEDULE
- LIGHTING FIXTURE, WALL MOUNTED - SEE LIGHTING FIXTURE SCHEDULE
- SITE LIGHTING FIXTURE, POLE MOUNTED. SEE LIGHTING FIXTURE SCHEDULE
- (2) SITE LIGHTING FIXTURES, MOUNTED ON (1) POLE. SEE LIGHTING FIXTURE SCHEDULE AND DRAWINGS FOR FIXTURE TYPES AND ADDITIONAL INFORMATION.
- EXIT LIGHT - DARKENED SECTION INDICATES FACE WITH DIRECTIONAL ARROWS AS INDICATED. SEE LIGHTING FIXTURE SCHEDULE. CONNECT TO NORMAL CIRCUIT SUPPLYING AREA AHEAD OF ANY SWITCHING.
- SELF-CONTAINED, BATTERY POWERED EMERGENCY LIGHT WITH TWIN LAMPHEAD. SEE LIGHTING FIXTURE SCHEDULE. WIRE TO NORMAL LIGHTING CIRCUIT SUPPLYING THE AREA AHEAD OF ANY SWITCHING THAT SERVES THE AREA. TYPICAL U.O.N.
- S₁ SINGLE POLE TOGGLE SWITCH - SUBSCRIPT INDICATES FIXTURES CONTROLLED BY THE SWITCH (TYPICAL FOR ALL LIGHTING SWITCHES), 46" MEASURED TO CENTER, U.O.N.
- S₂ SINGLE POLE DIMMER SWITCH
- S₃ THREE WAY TOGGLE SWITCH, 46" MEASURED TO CENTER, U.O.N.
- S₄ SINGLE POLE KEY-OPERATED TOGGLE SWITCH
- JUNCTION BOX: CEILING, WALL OR FLUSH-FLOOR MOUNTED
- ELECTRICAL MOTOR
- S_M MANUAL MOTOR STARTER/SWITCH WITH THERMAL OVERLOAD
- COMBINATION MAGNETIC MOTOR STARTER WITH MCP OR FUSIBLE DISCONNECT SWITCH
- MAGNETIC MOTOR CONTROLLER/STARTER
- F₁₀₀ FUSED DISCONNECT SWITCH, UPPER NUMERAL INDICATES
- NONFUSED DISCONNECT SWITCH, NUMERAL INDICATES SIZE
- SWITCH SIZE, LOWER NUMERAL INDICATES FUSE SIZE VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT

- NOTE:
- SOME SYMBOLS MAY NOT BE USED ON THIS PROJECT.
 - REFER TO LIGHTING SHEETS FOR ADDITIONAL INFORMATION.

ELECTRICAL LEGEND

- SIMPLEX RECEPTACLE AS NOTED
- CL - INDICATES SINGLE RECESSED 5-20R RECEPTACLE FOR USE WITH WALL CLOCK. COORDINATE WITH CLOCK PROVIDER/INSTALLER.
- DUPEX RECEPTACLE - 2P, 3W, 20A, 125V, NEMA 5-20R IN RECESSED OUTLET BOX, 18" A.F.F., U.O.N.:
- AV - AUDIO VISUAL
- CM - COFFEE MAKER
- CP - COPY MACHINE
- CLG - CEILING
- CS - CHARGING STATION
- DC - DUST COLLECTION SYSTEM
- DR - DRYER
- DS - DEMONSTRATION TABLE
- DW - DISHWASHER
- EPO - EMERGENCY POWER OFF
- EWC - ELECTRIC WATER COOLER
- FSC - FLAT SCREEN MONITOR ON CART
- FLR - FLOOR
- GC - GOGGLE CABINET
- GEN - RECEPTACLES SUPPLIED FROM GENERATOR
- GFCI - GFCI - ALL RECEPTACLES LABELED GFCI ARE SUPPLIED BY A GFCI CIRCUIT BREAKER
- GP - GENERAL PURPOSE
- IT - TELECOMMUNICATIONS RACK
- IM - ICE MAKER
- MC - MICROSCOPE CABINET
- MW - MICROWAVE
- PA - PA CONSOLE
- PC - PERSONAL COMPUTER
- PR - PRINTER
- SB - SMARTBOARD
- SC - SOUND CABINET
- SM - SECURITY MONITOR
- SP - SUMP PUMP
- SW - SWITCHED RECEPTACLES (OCCUPANCY SENSOR CONTROLLED)
- SW5 - SCIENCE WORKSTATION
- RE - REFRIGERATOR
- TS - TEACHING STATION
- TV - TELEVISION
- VE - VENDING MACHINE (GFCI CIRCUIT BREAKER)
- WB - WHITEBOARD
- WD - WATER DISPENSER
- WM - WASH MACHINE
- WP - WEATHERPROOF
- DUPEX RECEPTACLE - 2P, 3W, 20A, 125V, NEMA 5-20R IN RECESSED OUTLET BOX, MOUNTED 6" ABOVE COUNTERTOP BACK SPLASH, U.O.N.
- GFCI - ALL RECEPTACLES LABELED GFCI ARE SUPPLIED BY A GFCI CIRCUIT BREAKER
- CEILING MOUNTED DEVICE
- SURFACE OUTLET BOX, SURFACE MOUNTED, 18" A.F.F., U.O.N.
- DUPEX RECEPTACLE - 2P, 3W, 20A, 125V, NEMA 5-20R IN TWO DUPEX RECEPTACLES WITH COMMON FACEPLATE 2P, 3W, 20A, 125V, NEMA 5-20R IN RECESSED TWO-GANG OUTLET BOX, 18" A.F.F., U.O.N.
- TWO DUPEX RECEPTACLES WITH COMMON FACEPLATE IN SURFACE OUTLET BOX, SURFACE MOUNTED, 18" A.F.F., U.O.N.
- RECESSED FLOOR OR CEILING BOX AS NOTED
- RECESSED FLOOR OR CEILING BOX AS NOTED
- COMBINATION POWER/DATA RECESSED FLOOR OR CEILING BOX AS NOTED
- DUPEX RECEPTACLE - 2P, 3W, 20A, 125V, NEMA 5-20R IN RECESSED OUTLET BOX
- VIDEO OUTLET, MOUNT OUTLET BEHIND WALL MOUNTED TV 84" AFF. COORDINATE HEIGHT/LOCATION WITH VOICE/DATA CONTRACTOR.
- DUPEX RECEPTACLE - 2P, 3W, 20A, 125V, NEMA 5-20R IN RECESSED TV BOX
- MOUNT OUTLET IN RECESSED TV BOX BEHIND WALL MOUNTED TV 70" AFF. COORDINATE HEIGHT/LOCATION WITH VOICE/DATA CONTRACTOR.
- DUPEX RECEPTACLE - 2P, 3W, 20A, 125V, NEMA 5-20R IN RECESSED OUTLET BOX
- SECURITY MONITOR, COORDINATE HEIGHT/LOCATION WITH SECURITY MONITOR INSTALLER
- COMBINATION VOICE/DATA OUTLET AT 18" AFF U.O.N. PROVIDE EMPTY 4-11/16" SQUARE BOX WITH SINGLE GANG EXTENSION WITH 1-1/4" CONDUIT FROM BOX TO ACCESSIBLE CEILING SPACE WITH PULL STRING. CABLE JACKS AND FACEPLATES PROVIDED BY OTHERS. COORDINATE MOUNTING HEIGHTS OF VOICE/DATA OUTLETS SHOWN AT COUNTERTOPS WITH ARCHITECT'S DRAWINGS. CLG INDICATES CEILING MOUNTED DEVICE.
- TV - TELEVISION. COORDINATE MOUNTING HEIGHT OF VOICE/DATA OUTLETS WITH TELEVISION PROVIDER/INSTALLER.
- SB - SMARTBOARD. COORDINATE MOUNTING HEIGHT OF VOICE/DATA OUTLETS WITH SMARTBOARD PROVIDER/INSTALLER.
- DUPEX RECEPTACLE LOCATED IN SURFACE METAL RACEWAY. PROVIDE RECEPTACLE AND ASSOCIATED FACEPLATE MANUFACTURED BY THE RACEWAY MANUFACTURER. REFER TO NEW WORK PLAN DRAWINGS FOR ADDITIONAL INFORMATION.
- INDICATES DUPEX RECEPTACLE LOCATED IN SURFACE METAL RACEWAY FOR GENERAL PURPOSE.
- PANELBOARD, RECESSED OR SURFACE MOUNTED

ELECTRICAL LEGEND

- ENGINE-DRIVEN GENERATOR
- FUSE - NUMERAL INDICATES FUSE AMPERE RATING
- LOW VOLTAGE MOLDED CASE CIRCUIT BREAKER, RATING AS INDICATED, SEE SCHEDULE FOR TYPE AND ACCESSORIES
- LOW VOLTAGE DRAW-OUT CIRCUIT BREAKER, RATING AS INDICATED, SEE SCHEDULE FOR TYPE AND ACCESSORIES
- TRANSFORMER, TYPE AS NOTED ON DRAWING
- AUTOMATIC TRANSFER SWITCH
- CURRENT TRANSFORMER
- POTENTIAL TRANSFORMER
- 3 PHASE DELTA CONNECTION
- 3 PHASE WYE CONNECTION WITH GROUNDED NEUTRAL
- GROUNDING
- KEY INTERLOCK
- HANDHOLE
- SURGE PROTECTION DEVICE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- FIRE ALARM VISUAL DEVICE, SUBSCRIPT DENOTES CANDELA RATING, 80" A.F.F. OR 6" BELOW CEILING, WHICHEVER IS LOWER. DEVICES INSTALLED AT CEILING AS NOTED ON DRAWINGS.
- FIRE ALARM VISUAL DEVICE, SUBSCRIPT DENOTES CANDELA RATING, CEILING MOUNTED DEVICE AS INDICATED.
- FIRE ALARM SPEAKER WITH VISUAL DEVICE, SUBSCRIPT DENOTES CANDELA RATING, 80" A.F.F. OR 6" BELOW CEILING, WHICHEVER IS LOWER. DEVICES INSTALLED AT CEILING AS NOTED ON DRAWINGS.
- FIRE ALARM SYSTEM SPEAKER, 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER.
- FIRE ALARM SYSTEM LOW FREQUENCY AUDIBLE ALARM DEVICE FOR USE IN SLEEPING ROOM. (THIS DEVICE IS CONNECTED TO THE BUILDING MAIN FIRE ALARM SYSTEM)
- FIRE ALARM MANUAL STATION, TOP OF DEVICE AT 48" A.F.F., U.O.N.
- FIRE ALARM MANUAL STATION WITH PROTECTIVE TAMPER COVER WITH LOCAL BUILT-IN LOCAL AUDIBLE SIGNAL, TOP OF DEVICE AT 48" A.F.F., U.O.N.
- FIRE ALARM HEAT DETECTOR
- DIGITAL ALARM COMMUNICATION TRANSMITTER
- FIRE ALARM CONTROL PANEL
- FIRE ALARM ANNUNCIATOR PANEL
- FIRE ALARM NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL
- FIRE ALARM SYSTEM MONITOR MODULE
- FIRE ALARM SYSTEM CONTROL MODULE
- FIRE ALARM SYSTEM REMOTE ALARM INDICATOR WITH TEST SWITCH FOR DUCT SMOKE DETECTORS.
- FIRE ALARM SYSTEM POWER SUPERVISORY RELAY
- ELEVATOR STATUS / RECALL
- FIRE ALARM BELL / GONG
- FIRE ALARM SYSTEM MAGNETIC DOOR HOLDER
- SPRINKLER VALVE POSITION (TAMPER) SWITCH
- SPRINKLER FLOW SWITCH
- SPRINKLER PRESSURE SWITCH
- FIRE ALARM SYSTEM SMOKE DETECTOR: E-ELEVATOR
- FIRE ALARM SYSTEM SMOKE DETECTOR
- FIRE ALARM SYSTEM CO DETECTOR
- FIRE ALARM SYSTEM SMOKE DETECTOR, DUCT TYPE
- CARD READER. PROVIDE EMPTY BOXES AND INTERCONNECTION RACEWAYS AT THIS LOCATION AS REQUIRED FOR DOOR SYSTEM(S). COORDINATE WITH DOOR SYSTEM(S) PROVIDER/INSTALLER.

ELECTRICAL ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
ANSI	AMERICAN NAT'L STANDARDS INSTITUTE
ASYM	ASYMMETRICAL
ATC	AUTOMATIC TEMPERATURE CONTROL (SYSTEM)
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BLDG	BUILDING
BAS	BUILDING AUTOMATION SYSTEM
BFF	FROM FINISHED FLOOR TO TOP OF DUCTBANK
BFG	FROM BELOW FINISHED GRADE TO TOP OF DUCTBANK
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
CT	CURRENT TRANSFORMER
CTR	CENTER
CU	COPPER
CX	CONNECT TO EXISTING
DB	DIRECT BURIAL
DA	DIAMETER
DN	DOWN
DWG	DRAWING
ECB	ENCLOSED CIRCUIT BREAKER
EF	EXHAUST FAN
ELEC	ELECTRIC / ELECTRICAL
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EW	ELECTRIC WATER COOLER
EX	EXISTING
EGB	EXTERNAL GROUND BUS BAR
FA	FIRE ALARM
FAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FC	FOOT - CANDELA
FCU	FAN COIL UNIT
FDR	FEEDER
F	FUSED OR FUSIBLE
FLA	FULL LOAD AMPERES
FSS	FUSED SAFETY SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GW	GROUND WIRE
GND	GROUND
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HZ	HERTZ
IPGB	INTERNAL PERIMETER GROUND BUS (CONDUCTOR)
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KEC	KITCHEN EQUIPMENT CONTRACTOR
KVA	KILOVOLT-AMPERE
KW	KILOWATT
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MOB	MASTER GROUND BUS BAR
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MEMA	MARYLAND EMERGENCY MANAGEMENT AGENCY
MH	MAN-HOLE
MLO	MAIN LUGS ONLY
MOUNTED	MOUNTED
NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL	
NAC	NATIONAL ELECTRICAL CODE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUF. ASSOC.
NF	NON-FUSED
NFSS	NON-FUSED SAFETY SWITCH
NOT IN CONTRACT	
NIH	NATIONAL INSTITUTE OF HEALTH
NTS	NOT TO SCALE
PH or Ø	PHASE
P	POLE
PB	PUSH BUTTON
PNL	PANEL
PVC	POLYVINYL CHLORIDE
REL	RELOCATE EXISTING
RM	ROOM
RX	REMOVE EXISTING
SW	SWITCH
SCHED	SCHEDULE
SD	SMOKE DAMPER
SEC	SECONDARY
SFA	SPRINKLER FLOW ALARM
SS	SAFETY SWITCH
SYM	SYMMETRICAL
SSGB	SYSTEM GROUND BUS BAR
TEL	TELEPHONE
TTB	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UNON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SYSTEM
V	VOLT
VPS	VALVE POSITION (TAMPER) SWITCH
W	WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER

GENERAL NOTES

- PROVIDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, COORDINATION, ADDITIONAL DESIGN AND ALL INCIDENTALS NECESSARY TO PROVIDE COMPLETE AND OPERABLE SYSTEMS AS DETAILED ON PLANS AND SPECIFICATIONS TO THE SATISFACTION OF THE ENGINEER AND THE OWNER. COORDINATE ALL WORK WITH THE OWNER BEFORE THE START OF WORK. ALL WORK SHALL BE PERFORMED BY A QUALIFIED ELECTRICAL CONTRACTOR LICENSED IN THE STATE OF MARYLAND THAT HAS PREVIOUSLY PERFORMED WORK OF THIS SIZE AND TYPE.
- INFORMATION SHOWN ON THE DRAWINGS PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITION IN DETAIL OR DIMENSION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL EXISTING CONDITIONS PRIOR TO FABRICATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING AND AWAIT DIRECTION BEFORE PROCEEDING WITH THE WORK.
- PRIOR TO SUBMITTING BID, THE CONTRACTOR SHALL VISIT THE SITE AND BE THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS AND PROPOSED CONSTRUCTION.
- ALL EQUIPMENT AND CONDUIT ROUTING SHOWN IS DIAGRAMMATIC AND IS NOT INTENDED TO SHOW ALL REQUIRED JUNCTION BOXES, OFFSETS AND BENDS. COORDINATE CONDUIT ROUTING WITH OTHER TRADES AND EXISTING FIELD CONDITIONS.
- UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS, ALL RACEWAYS SHALL BE INSTALLED CONCEALED IN CEILINGS AND WALLS OR PARTITIONS OF THE BUILDING, AND IN SUCH A MANNER AS NOT TO IMPAIR THE INTEGRITY OF THE STRUCTURE.
- REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- ALL CURRENT CARRYING CONDUCTORS FOR EQUIPMENT SHALL BE COPPER UNLESS OTHERWISE NOTED.
- ALL DEVICE HEIGHT/ELEVATION DIMENSIONS ARE TO THE CENTER OF THE DEVICE UNLESS NOTED OTHERWISE.

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SEAL:

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUM. EXP. DATE.

PROJECT:

**INNOVATIVE
LEARNING
CENTER**
NEW MIDDLE SCHOOL

PREPARED FOR:

LOYOLA BLAKEFIELD

500 CHESTNUT AVE
TOWSON, MD 21204

1 12-06-2019 CONFORMED SET

PROJECT NO: 18-00386-001
DATE: AUGUST 30, 2019
SCALE: As indicated
DESIGNED BY: RMK/DCW
DRAWN BY: RMK/DCW
CHECKED BY: DMW

DRAWING TITLE:
**LEGEND,
ABBREVIATIONS &
GENERAL NOTES**

SHEET NUMBER:

E001