

SYMBOL SCHEDULE - ELECTRICAL AND DIVISION 16 DOCUMENTS

SYMBOL		DESCRIPTION	SYMBOL		DESCRIPTION
CEILING	WALL		CEILING	WALL	
		FLUORESCENT LIGHT FIXTURE. LETTER DENOTES FIXTURE TYPE. SEE FIXTURE SCHEDULE.			TELEPHONE BACKBOARD
		FLUORESCENT LIGHT FIXTURE ON EMERGENCY CIRCUIT			CCTV MONITOR
		HID OR INCANDESCENT LIGHT FIXTURE. SEE FIXTURE SCHEDULE.			CCTV CAMERA
		"EXIT" LIGHT FIXTURE (WITH OR WITHOUT DIRECTIONAL ARROWS) EXIT LIGHTS ON EMERGENCY CIRCUITS ARE NOT SHADED.			TELEVISION ANTENNA OUTLET
		LIGHT TRACK. TRIANGLES DENOTE TRACK FIXTURE. SEE FIXTURE SCHEDULE.			DOOR BELL/BUZZER/CHIME
		CHANDELIER			DOOR HOLDER/RELEASE MECHANISM
		CEILING FAN			SPEAKER
		S SINGLE-POLE TOGGLE SWITCH.			VOLUME CONTROL
		S ₂ TWO-POLE TOGGLE SWITCH.			SECURITY SYSTEM COMPONENT (SUBSCRIPT AS REQUIRED.)
		S ₃ THREE-WAY TOGGLE SWITCH.			SMOKE DETECTOR, MOUNTED ON CEILING
		S ₄ FOUR-WAY TOGGLE SWITCH.			SMOKE DETECTOR WITH SAMPLING TUBE (4H UNITS).
		S _K KEY OPERATED TOGGLE SWITCH.			FIRE ALARM CONTROL PANEL
		S _L SINGLE-POLE DOUBLE-THROW SWITCH FOR LOW VOLTAGE SWITCHING SYSTEM.			FIRE ALARM PULL STATION
		S _{LM} MASTER SWITCH STATION LOW VOLTAGE SWITCHING SYSTEM.			FIRE ALARM COMBINATION AUDIO/VISUAL ANNUNCIATION UNIT
		D SINGLE-POLE DIMMER SWITCH, INCANDESCENT SUBSCRIPT DENOTES WATTAGE - 6-600W.; 10-1000W.; 15-1500W.; 20-2000W.)			FIRE ALARM HORN
		D _F SINGLE-POLE DIMMER SWITCH-FLUORESCENT, LV-LOW VOLT.)			FIRE ALARM SPEAKER
		D ₃ THREE-WAY DIMMER SWITCH.			FIRE ALARM STROBE
		P PUSHBUTTON STATION			FIRE ALARM DOOR HOLDER WITH INTEGRAL SMOKE DETECTOR
		Special OUTLET: SEE PLAN FOR TYPE			CARD READER/ACCESS CONTROL SYSTEM ROUGH-IN.
		AV AUDIO/VISUAL SYSTEM INPUTS (WALL MOUNTED)			BALANCED MAGNETIC SWITCH ROUGH-IN.
		AV AUDIO/VISUAL SYSTEM INPUTS (FURNITURE MOUNTED)			MAGNETIC LOCK ROUGH-IN.
		Simplex CONVENIENCE OUTLET, 20 AMPERE, 125 VOLT, NEMA 5-20R.			CCTV CAMERA ROUGH-IN.
		DUPLX OUTLET, 15 AMP, 125V., NEMA 5-15R.			PAGING SYSTEM SPEAKER
		DUPLX OUTLET, 20A., 120V., NEMA 5-20R			INTERCOM MASTER STATION
		DUPLX OUTLET, SPLIT WIRED FOR DUAL CIRCUITS.			INTERCOM STATION
		DUPLX OUTLET WITH WEATHERPROOF COVER.			HEAT DETECTOR.
		GFI GROUND FAULT CIRCUIT INTERRUPTER DUPLX OUTLET.			EOLR END OF LINE RESISTOR.
		QUADRAPLEX (2-15A., 125-VOLT, NEMA 5-15R			FIRE ALARM TELEPHONE JACK
		MOUNTED IN ONE BOX.)			FIRE ALARM RELAY
		SURFACE MOUNTED RACEWAY			AREA OF RESCUE ASSISTANCE INTERCOM STATION
		SURFACE MOUNTED RACEWAY W/ RECEPTACLES			SPECIAL CIRCUIT (E= EMERGENCY, T= TELEPHONE, TV.= TELEVISION, EX= EXISTING, ETC.
		TELEPHONE OUTLET, FLUSH WALL MOUNTED.			WIRING (IN CONDUIT) CONCEALED IN OR UNDER SLAB
		DATA OUTLET, FLUSH WALL MOUNTED.			WIRING (IN CONDUIT) CONCEALED IN CEILING OR WALL
		COMBINATION TELEPHONE/DATA OUTLET			WIRING (IN CONDUIT) RUN EXPOSED
		GROUND CONNECTION.			EXISTING
		BRANCH CIRCUIT PANELBOARD.			EXISTING TO BE REMOVED
		DISTRIBUTION PANELBOARD.			WIRING (IN CONDUIT) RUN UNDER GROUND
		MANUAL MOTOR STARTING SWITCH.			EXTEND EXISTING CONDUIT WITH NEW CONDUIT
		DISCONNECT SWITCH, FUSED UNLESS OTHERWISE NOTED.			CIRCUIT TURNED UP
		MAGNETIC MOTOR STARTER. (SUPPLIED UNDER DIVISION 15000)			CIRCUIT TURNED DOWN
		VARIABLE FREQUENCY DRIVE. (SUPPLIED UNDER DIVISION 15000)			A OUTDOOR AERIAL CONDUCTORS
		COMBINATION STARTER/DISCONNECT SWITCH, FUSED UNLESS OTHERWISE NOTED.			ANN ANNUNCIATOR PANEL
		LINEATOR/ISOLATOR FOR VFD.			A AMP
		ELECTRIC WATER HEATER.			V VOLT
		PULLBOX OR TROUGH			W WIRE
		MOTOR, SINGLE-PHASE, NUMERAL DENOTES HORSEPOWER.			P POLE
		MOTOR, THREE PHASE, NUMERAL DENOTES HORSEPOWER.			C CONDUIT
		AUTOMATIC TRANSFER SWITCH.			GD GROUND
		TERMINAL CABINET.			C/B CIRCUIT BREAKER
		LADDER CABLE TRAY.			AC AIR CONDITION
		CIRCUIT BREAKER DEVICE			AFF ABOVE FINISHED FLOOR
		SWITCH DEVICE.			WH WATER HEATER
		FUSE.			GFI GROUND FAULT INTERRUPTER
		NORMALLY OPEN CONTACT.			NOTE REFERENCE
		NORMALLY CLOSED CONTACT			HOMERUN TO PANELBOARD WITH NOMENCLATURE (LETTERS), CIRCUIT NUMBERS (NUMBERS), NUMBER OF PHASE AND NEUTRAL CONDUCTORS WHEN MORE THAN TWO (HASH MARKS), OPPOSITE SLANT DENOTES GROUND NUMBER OF CIRCUITS (NUMBER OF ARROWS).
		MANHOLE.			DETAIL REFERENCE: "X" DENOTES DETAIL NUMBER "Y" DENOTES SHEET DETAIL IS REFERENCED FROM "Z" DENOTES SHEET DETAIL IS DRAWN ON
		JUNCTION BOX WITH FIXTURE WHIP			DETAIL: NUMBER DENOTES DETAIL NUMBER LETTER "E" DENOTES SHEET ON WHICH DETAIL IS DRAWN
		JUNCTION BOX			FLOOR PLAN OR DRAWING OTHER THAN DETAIL.

GENERAL NOTES:

- ALL ELECTRICAL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE - NFPA 70:2002.
- ALL EQUIPMENT INDICATED SHALL BE FOR USE INDOORS (NEMA 1), UNLESS NOTED OTHERWISE.
- ALL FUSED DISCONNECT SWITCHES SERVING EQUIPMENT SUPPLIED UNDER OTHER DIVISIONS OF THE WORK SHALL BE PROVIDED WITH FUSES AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER; UNLESS NOTED OTHERWISE.
- SEPARATE GREEN GROUND CONDUCTORS ARE REQUIRED FOR ALL RECEPTACLE AND FEEDER CIRCUITS; SEE SPECIFICATIONS.
- CONTRACTOR SHALL UTILIZE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF LIGHTING FIXTURES AND MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT.
- SEE ARCHITECTURAL DRAWINGS FOR AREAS BEING DEMOLISHED AND SPECIFICATIONS FOR REQUIREMENTS OF DIVISION 16000.
- FIRESTOP MATERIALS (ALL LISTED) ARE SPECIFIED IN SECTION 16010 AND ARE REQUIRED AT ALL PENETRATIONS THROUGH RATED FLOORS, WALLS, CEILING AND PARTITIONS.
- CONDUCTORS SHALL BE COLOR CODED PER N.E.C. AS DESCRIBED IN SECTION 16120. UTILIZE ONLY THE COLORS SPECIFIED AND IDENTIFY ALL CONDUCTORS AND BOXES AS NOTED IN SECTION 16055.
- WRITTEN SPECIFICATIONS DESCRIBING MATERIALS AND METHODS ARE PART OF DIVISION 16000 AND SHALL BE UTILIZED THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
- THE REQUIREMENTS SET FORTH IN THESE DOCUMENTS ARE MINIMUM REQUIREMENTS AND ARE BASED ON THE INFORMATION AVAILABLE AT THE TIME OF THE 35 % SUBMITTAL.
- THESE DRAWINGS ARE INTENDED TO BE USED IN CONJUNCTION WITH THE PRELIMINARY OUTLINE SPECIFICATIONS AND NARRATIVE TO COMMUNICATE A SCOPE OF WORK TO THE FINAL DESIGN PROFESSIONAL.
- PROVIDE A LIGHTNING PROTECTION SYSTEM FOR ALL BUILDINGS AS SPECIFIED. EMPLOY THE SERVICES OF A LICENSED LIGHTNING PROTECTION COMPANY TO DESIGN AND INSTALL THE SYSTEM.
- THESE AND THE FOLLOWING NOTES APPLY TO ALL BUILDINGS (141 READINESS CENTER, CENTRAL PLANT BUILDING, OMS 12)

GENERAL NOTES (LIGHTING):

- ELECTRONIC FLUORESCENT BALLASTS SHALL PRODUCE LESS THAN 10% THD.
- PROVIDE BALLASTS WITH THE HIGHEST POWER FACTOR AVAILABLE FOR THE FIXTURES PROVIDED.
- BALLAST FACTORS SHALL BE 0.95 OR GREATER FOR ALL FLUORESCENT BALLASTS, UNLESS NOT AVAILABLE FOR A SPECIFIC FIXTURE, IN WHICH CASE THE HIGHEST AVAILABLE BALLAST FACTOR SHALL BE UTILIZED. EQUIVALENT FIXTURES WITH HIGHER BALLAST FACTORS SHOULD BE CONSIDERED BEFORE LOWER FACTOR BALLASTS ARE UTILIZED.
- ALL LIGHT FIXTURES, BALLASTS AND LAMPS SHALL BE SELECTED TO MEET THE REQUIREMENTS SET FORTH BY THE USACE SPIRIT PROGRAM FOR SUSTAINABLE, GREEN FACILITIES.
- ALL BALLASTS SHALL BE NON-PCB.
- ALL LAMPS SHALL BE TCLP COMPLIANT WITH LOW MERCURY CONTENT.
- ALL LIGHTING IN THE FOLLOWING AREAS SHALL BE ON EMERGENCY POWER:
 - ASSEMBLY HALL
 - ALL ELECTRICAL ROOMS
 - ALL COMMUNICATION ROOMS
 - ALL MECHANICAL AND MACHINE ROOMS
 - ALL RESTROOMS
 - ALL STAIRWELLS
 - ALL AUDIO/VISUAL ROOMS
 - ALL LIFE SAFETY LIGHTING IN CORRIDORS AND MEANS OF EGRESS.
 - FIRST FLOOR BREAK ROOM
 - ENTIRE FOURTH FLOOR
 - VAULT

GENERAL NOTES (POWER AND COMMUNICATIONS):

- ALL RECEPTACLES IN COMMUNICATION ROOMS SHALL HAVE INTEGRAL SURGE SUPPRESSION.
- RECEPTACLE AND COMMUNICATION OUTLET LOCATIONS SHOWN ARE FOR ILLUSTRATING SCOPE OF WORK. GIVEN THE INFORMATION AVAILABLE AT THE 35% DESIGN LEVEL, FINAL RECEPTACLE AND OUTLET QUANTITIES AND LOCATIONS, INCLUDING MOUNTING HEIGHTS, SHALL BE MODIFIED TO ACCOMMODATE FINAL FURNITURE LAYOUTS, MILLWORK, AND EQUIPMENT REQUIREMENTS.
- PROVIDE LIGHTNING PROTECTION SYSTEM FOR EACH BUILDING.
- CONTRACTOR SHALL REFERENCE ARCHITECTURAL DRAWINGS TO DETERMINE WHICH RECEPTACLES MUST BE SURFACE MOUNTED.
- ALL RECEPTACLES ON THE FIRST FLOOR SHALL BE MOUNTED 48-INCHES AFF, MEASURED FROM THE BOTTOM OF THE DEVICE, UNLESS NOTED OTHERWISE.
- ALL RECEPTACLES IN THE FOLLOWING AREAS SHALL BE ON EMERGENCY POWER:
 - ALL MECHANICAL AND MACHINE ROOMS
 - ALL ELECTRICAL ROOMS
 - ALL COMMUNICATION ROOMS
 - ALL RECEPTACLES ON THE FOURTH FLOOR
 - AUDIO VISUAL ROOMS
 - ASSEMBLY HALL
- ALL RECEPTACLES IN THE FOLLOWING AREAS SHALL BE GFI-TYPE:
 - FIRST FLOOR
 - LOCKER ROOMS
 - RESTROOMS
 - MECHANICAL AND MACHINE ROOMS
 - ELEVATOR PIT
 - ELECTRICAL ROOMS
 - CENTRAL PLANT
- THE FOLLOWING EQUIPMENT SHALL BE ON EMERGENCY POWER:
 - FOURTH FLOOR HVAC EQUIPMENT (BLOWERS, CURS, VAV WAYS)
 - FOURTH FLOOR COMMUNICATION ROOM #415, CURS, VAVS
 - ATRIUM EXHAUST FANS
 - ASSEMBLY HALL ROLL-DOWN SHUTTERS
 - DOMESTIC WATER PUMP
 - MAIN ENTRANCE AND VESTIBULE AUTOMATIC DOOR OPENERS
 - ELEVATORS AND ELEVATOR CABS
 - TELECOMMUNICATIONS EQUIPMENT
 - AUDIO/VISUAL EQUIPMENT
 - ALL SPECIAL SYSTEM EQUIPMENT (PAGING, SECURITY, FIRE ALARM, ETC.)
 - ALL LIFE SAFETY EQUIPMENT

GENERAL NOTES (SPECIAL SYSTEMS):

- FINAL SECURITY SYSTEM DESIGNS SHALL CONFORM TO THE REQUIREMENTS AND GUIDELINES SET FORTH IN UFC 4-020-0AA.
- ALL PERIMETER DOORS, INCLUDING ROLL-UP DOORS, AND OPERABLE WINDOWS SHALL BE PROVIDED WITH ROUGH-INS FOR INSTALLATION OF BALANCED MAGNETIC SWITCHES.
- THE FINAL DESIGN PROFESSIONAL SHALL COORDINATE VAULT SECURITY SYSTEM ROUGH-IN REQUIREMENTS WITH THE LAARNG.



2/2/06	PROG. REVIEW #1
3/1/06	PROG. REVIEW #2
3/27/06	PROG. REVIEW #3
4/10/06	PROG. REVIEW #4
5/3/06	PRELIM. DESIGN

MARK	DATE	DESCRIPTION

DRAWING ISSUED: 05/03/2006

NOB PROJECT NO.: 220027

PRELIMINARY DESIGN

DRAWING TITLE:
ELECTRICAL
LEGEND AND NOTES

DRAWING NUMBER:

These drawings are conceptual in nature and are not suitable for construction. It is the intent of these documents to clearly delineate the baseline minimum scale, scope and quality of the project. It is the responsibility of the design-builder that his proposal provides for a complete and functional facility responding to relative Army National Guard criteria, recognized industry standards and applicable building codes regardless of the content of these conceptual drawings. Further, it will be the responsibility of the successful design-builder and his architect of record to prepare complete construction documents responding to the fullest intent of the conceptual drawings and specifications.