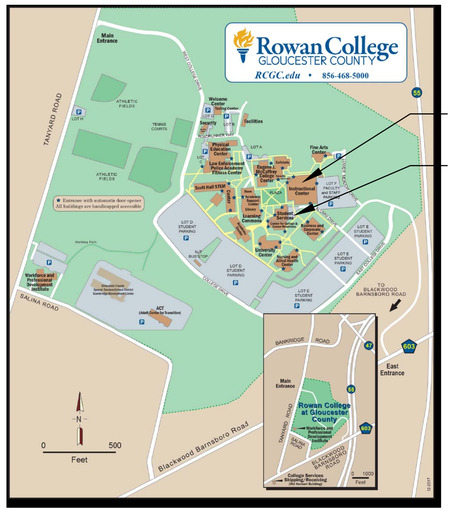
# ROWAN COLLEGE at GLOUCESTER COUNTY

## 1400 TANYARD ROAD, SEWELL, NEW JERSEY 08080

## Instructional Center Building Room 400 Renovations

## Student Services Building Room 1160 Renovations

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**DESIGN CODES:**

INTERNATIONAL BUILDING CODE/2015 / NJ EDITION
INTERNATIONAL MECHANICAL CODE/2015
INTERNATIONAL FUEL GAS CODE/2015
NATIONAL STANDARD PLUMBING CODE/2015
ASHRAE 2013-90.1 ENERGY STANDARD
NATIONAL ELECTRICAL CODE(NFPA 70)/2014
INTERNATIONAL FIRE CODE/2015
ELEVATOR SUBCODE: AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
BARRIER FREE SUBCODE:ICC/ANSI A117.1-2009
N.J. REHAB CODE 5:23-6


AERIAL PLAN

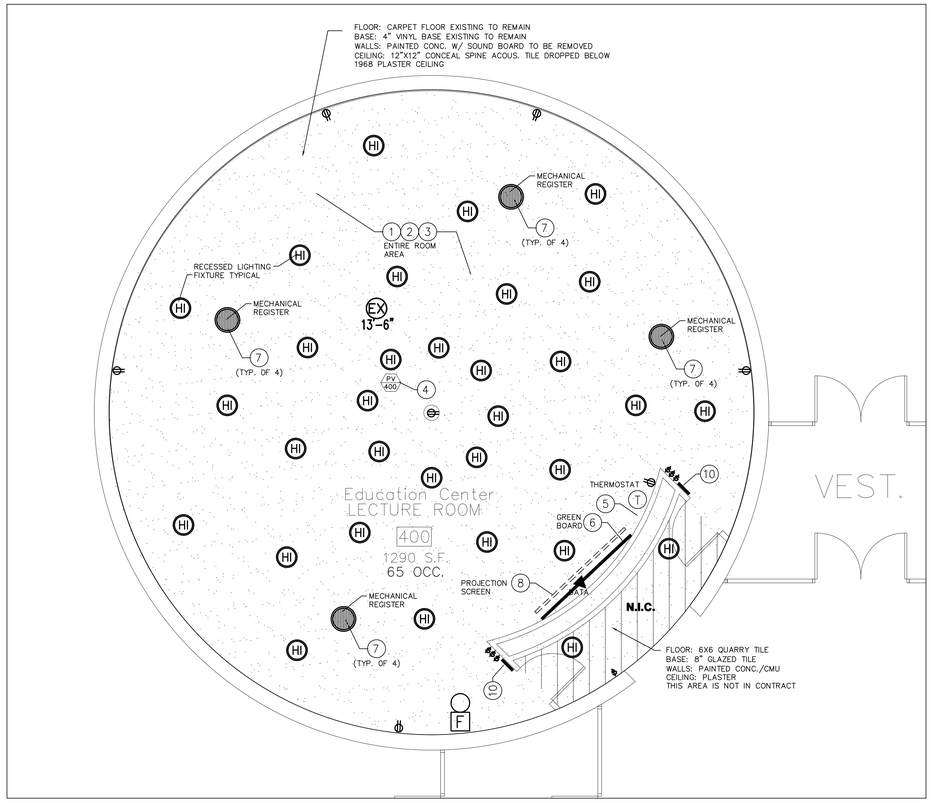
**MECHANICAL, PLUMBING, ELECTRICAL ENGINEER:**

MULHERN CONSULTING ENGINEERS
321 SOUTH YORK ROAD, HATBORO, PA 19040
PHONE: 215-293-9900 FAX: 215-293-9214


Garrison Architects
A Professional Corporation of Architects and Planners
713 CREEK ROAD, BELLMAWR, NJ 08053 (856) 396-6200 F(856) 396-6205

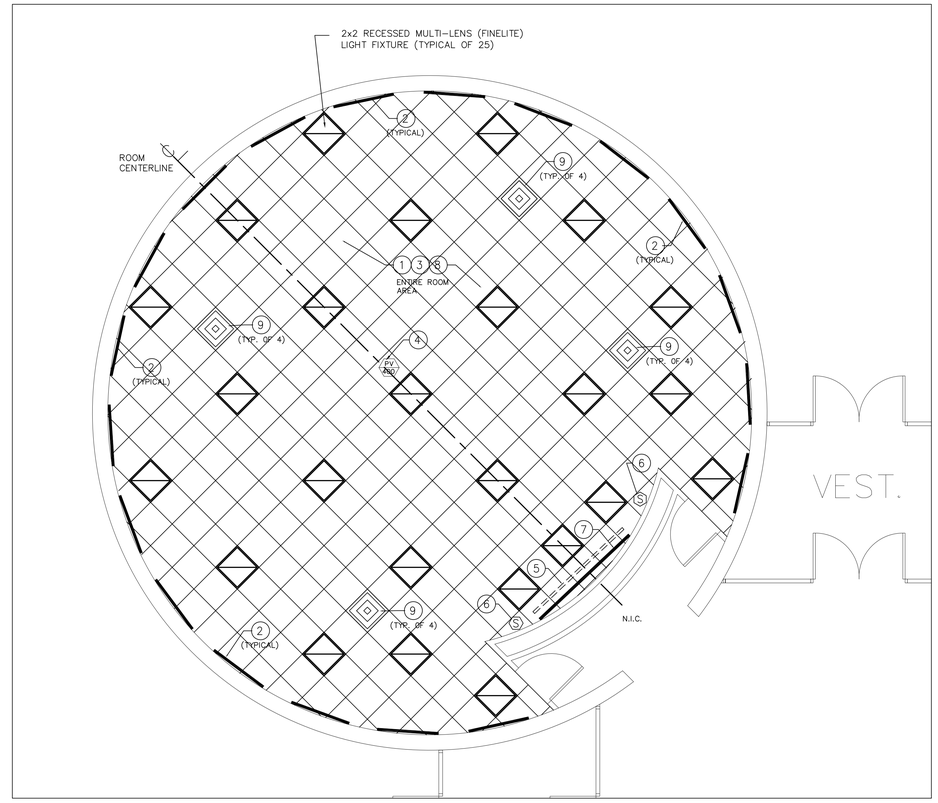

**ISSUED FOR BID 2-11-2019**

**PROJECT NUMBER: 18-43**




2 A-1 EXISTING DEMOLITION FLOOR/REFLECTED CEILING PLAN

SCALE: 1/4"=1'-0"




1 A-1 PROPOSED FLOOR/REFLECTED CEILING GRID PLAN

SCALE: 1/4"=1'-0"

## EXISTING CEILING FINISH TYPES

(EX) EXISTING 12"X12" CONCEAL SPINE ACOUS. TILE WITH 1968 PLASTER CEILING ABOVE

ABATE ASBESTOS CEILING AND SPLINE CEILING. PER PENNONI ENGINEERS SPECIFICATION AS PART OF THIS CONTRACT. BUILDING WILL UNOCCUPIED DURING ABATEMENT.

Demo Notes:

1. Remove spline ceiling and asbestos plaster ceiling completely Existing plaster ceiling above to be abated..
2. Remove carpet wall panels and wood trim.
3. Scrape and paint all wall surfaces. Old roof leaks have been repaired recently.
4. Note: The existing projector and wiring shall remain. The Owner will remove and reinstall. Provide N.E.C. wiring support for the above spline ceiling wiring.
5. Remove pencil sharpener.
6. Remove the existing Green Marker Board. Leave the framing.
7. Remove the existing HVAC Grills/Diffusers.
8. Existing Projection Screen to be removed and reinstalled below new ceiling grid

Proposed Work:

1. Provide a new 2'x2' acoustic tile ceiling and grid at existing spline ceiling elevation.
   ARMSTRONG SCHOOL ZONE FINE FISSURED 1717 Humi Guard PLUS
2. Provide new 2" thick fabric 4'x8' acoustic wall panels (Typical of 19) (Conwed Wall Tech Owens Corning, Respond 'A' Series Guilford MA14FR-701 #2100 fabric.
   Install vertically-center line of room. Top of panel @ existing ceiling height.
3. Scrape and paint walls. (Remove all existing exposed electric conduit, switches, etc.- see electric plans for scope.)
4. Owner will reinstalled Projector (Coordinate with owner)
5. Lower the existing wall mounted projection screen to below ceiling.
6. Lower the existing wall mounted JBL speakers to below ceiling.
7. Provide a new 8'-0" long White Board. Provide or modify existing wood framing support.
8. Provide temporary protection for the newer carpet and vinyl cove base. Replace cove base as needed. Steam clean the carpet upon completion.
9. Provide new 2x2 (4 WAY) mechanical register in the same location as existing. Provide flex duct extension from existing ductwork as required. Nailor Industries Model RNSA1-Louvered Face • Steel • 4 Cone • Sliding Type
10. Provide new 12"x12" Maximum Occupancy Sign "65 MAX. OCCUPANCY"

AREA OF WORK


– A-1 OVERALL FIRST FLOOR KEY PLAN

SCALE: 1/32"=1'-0"

**ISSUED FOR BID 2-11-2019**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713 CREEK ROAD, BELLMAWR, NEW JERSEY 08031 (856) 396-6200


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**Renovations at the instructional Center Building ROOM #400**
**1400 TANYARD ROAD**
**SEWELL, NEW JERSEY 08080**



REVISIONS

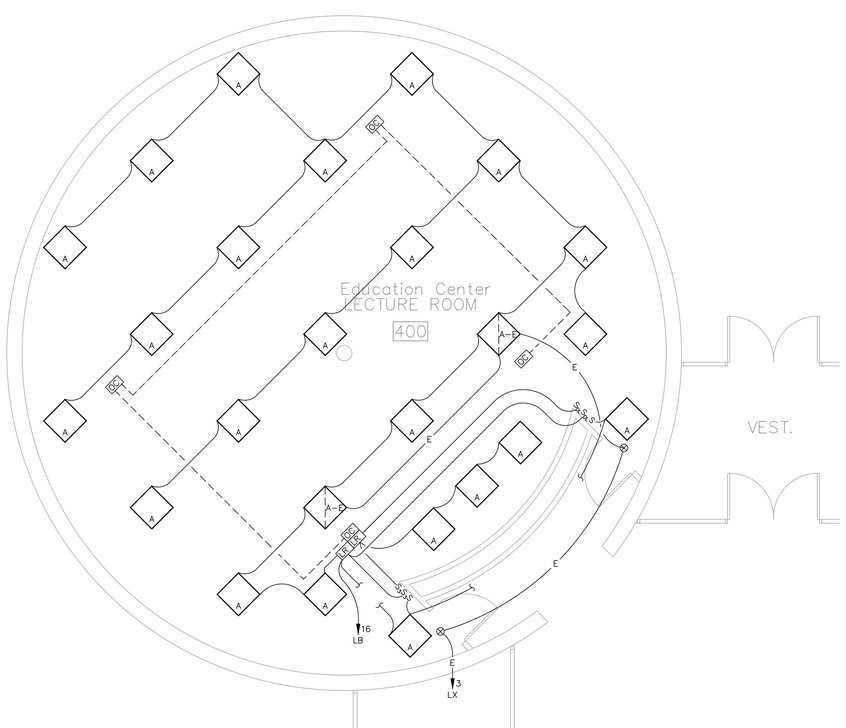
| | |
|---|---|
| a. | e. |
| b. | f. |
| c. | g. |

Project No. 18-43
Date: 2-11-2019
Scale: NOTED

PLANS

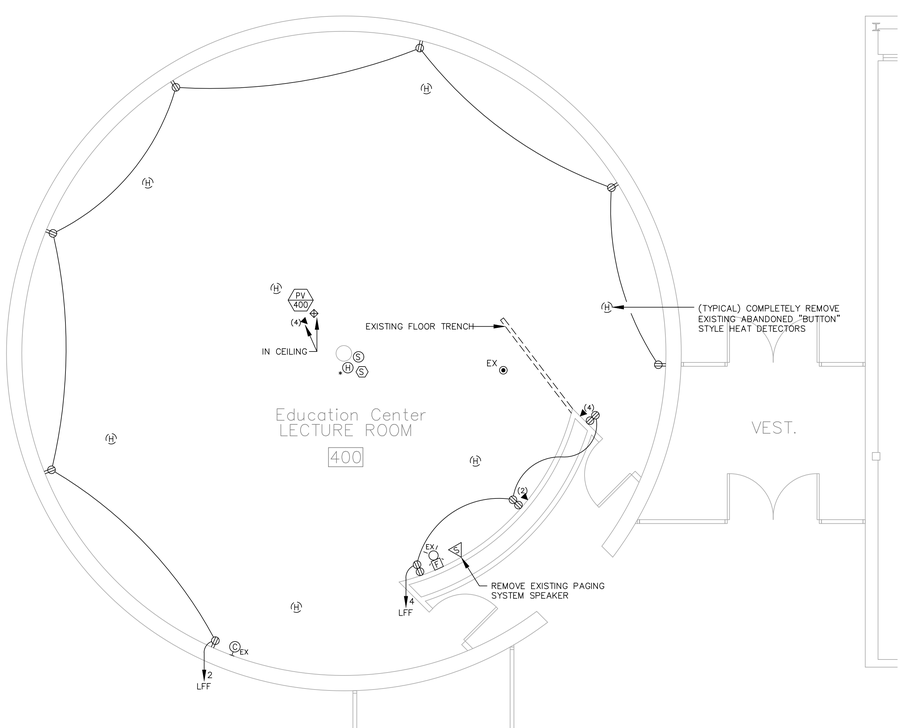
**A-1**

MULHERN Consulting Engineers
and ASSOCIATES, Incorporated
321 South York Road
Hatboro, Pennsylvania 19040
Phone: (215) 293-9900
Fax: (215) 441-5984
www.MulhernEngineers.com
MCE #5940




1 / E1 LIGHTING PLAN

GRAPHIC SCALE (FEET) 0 4 8 12 (4 2)




2 / E1 POWER PLAN

GRAPHIC SCALE (FEET) 0 4 8 12 (4 2)

## LUMINAIRE SCHEDULE

| TYPE | DESCRIPTION | MANUFACTURER | CATALOG NUMBER | ILLUMINATION LAMPS | REMARKS |
|---|---|---|---|---|---|
| A | 2' X 2' RECESSED, MULTI-LENS | FINELITE | HPR-LED-A-2x2-DCO-B-3500K-277V-SC-C* | 37 W, 4,387 LM, 3,500K | 277V OPERATION, 0-10V DIMMABLE (RUN DIMMING WIRING), ANGLED 85+CRI LED LENSES WITH DIFFUSED CENTER OPTIC, EXACT MOUNTING TO MATCH CEILING TYPE, ORBIT LENSES IN DIRECTION AS PER ARCHITECT, DLC LISTING |
| A/E | 2' X 2' RECESSED, MULTI-LENS, EMERGENCY WITH INTEGRAL TRANSFER DEVICE | FINELITE | HPR-LED-A-2x2-DCO-B-3500K-120V-SC-C* | 37 W, 4,387 LM, 3,500K | 120V OPERATION, 0-10V DIMMABLE (RUN DIMMING WIRING), ANGLED 85+CRI LED LENSES WITH DIFFUSED CENTER OPTIC, EXACT MOUNTING TO MATCH CEILING TYPE, ORBIT LENSES IN DIRECTION AS PER ARCHITECT, DLC LISTING, WITH PHILIPS/BODINE (BOTEM) (OR APPROVED EQUAL) BALLAST/DRIVER GENERATOR TRANSFER DEVICE (BGTE), SEE BGTD MANUFACTURER'S INSTRUCTIONS FOR WIRING) |
| EXIT | EXIT SIGN, RED LETTERS ON WHITE FACE AND HOUSING | EMERGI-LITE | WW P * R | INTEGRAL DIFFUSED LED | DIE CAST ALUMINUM HOUSING, CONNECT TO NEARBY EMERGENCY CIRCUIT. UNIVERSAL MOUNTING (COORDINATE MOUNTING WITH ARCHITECT), QUANTITY OF FACES AS REQUIRED, PROVIDE DIRECTIONAL ARROWS WHERE SHOWN ON DRAWINGS |

NOTES:
1) PROVIDE ALL LUMINAIRES AS UNIVERSAL 120 V AND 277 V OPERATION, UNLESS INDICATED OTHERWISE.
2) VERIFY ALL DEPTHS OF RECESSED LUMINAIRES PRIOR TO ORDERING, COORDINATE WITH CEILING DEPTHS.
3) WHERE LUMINAIRES ARE SPECIFIED OR OTHERWISE FURNISHED WITH TAMPER RESISTANT HARDWARE, SEE SPECIFICATIONS.
4) PROVIDE ALL LIGHT EMITTING DIODE (LED) AND FLUORESCENT LUMINAIRES WITH UNIVERSAL VOLTAGE (120-277 V) SOLID STATE ELECTRONIC DRIVERS/BALLASTS, UNLESS INDICATED OTHERWISE. PROVIDE ALL LINEAR FLUORESCENT LUMINAIRES WITH T8 ENERGY SAVING LAMPS, UNLESS INDICATED OTHERWISE.
5) FOR ALL LED AND FLUORESCENT LUMINAIRES SHOWN ON THIS SCHEDULE WITH 0-10 V DIMMABLE DRIVERS/BALLASTS (WHEREVER 0-10 V DIMMING IS INDICATED IN THE DESCRIPTION, LAMPS, OR REMARKS ABOVE OR WHERE A CATALOG NUMBER IS USED ABOVE WHICH DENOTES 0-10 V DIMMABLE DRIVERS/BALLASTS IN MANUFACTURER'S DATA), PROVIDE BOTH POWER WIRING AND 0-10 V CONTROL WIRING TO ALL LUMINAIRES. RUN CONTROL WIRING AS REQUIRED FROM ALL LIGHTS WITH 0-10 V DIMMABLE DRIVERS/BALLASTS TO THE RESPECTIVE DIMMER OR SWITCH CONTROLLING THE LIGHTING. WHERE DIMMERS ARE SHOWN ON THE DRAWINGS (INCLUDING COMBINATION SENSORS/DIMMERS), INTERCONNECT CONTROL WIRING WITH DIMMERS AS PER MANUFACTURER. WHERE DIMMERS ARE NOT SHOWN ON THE DRAWINGS, INSTALL CONTROL WIRING TO THE SWITCH (NON-DIMMED) LOCATION AND SAFELY INSULATE AND CAP OFF CONTROL WIRING AS REQUIRED (TO FACILITATE FUTURE REPLACEMENT OF NON-DIMMED SWITCH WITH DIMMER).
6) FOR ALL LUMINAIRES SHOWN ON THIS SCHEDULE AS DLC LISTED, PROVIDE ONLY LUMINAIRES QUALIFIED AND LISTED IN THE DESIGN LIGHTS CONSORTIUM (DLC) QUALIFIED PRODUCTS LISTING (QPL) AVAILABLE AT THE DLC WEBSITE (SEE BELOW). SUBMIT INFORMATION SHOWING LISTING IN THE DLC QLP AS PART OF SHOP DRAWINGS FOR REVIEW AND APPROVAL. HTTP://WWW.DESIGNLIGHTS.ORG/SEARCH/
7) PROVIDE ALL HIGH INTENSITY DISCHARGE LUMINAIRES WITH MULTIPLE TAP TYPE BALLASTS.
8) MANUFACTURERS SHOWN ABOVE INDICATE THE BASIS OF DESIGN. OTHER MANUFACTURERS (INCLUDING, BUT NOT LIMITED, TO THOSE SHOWN IN THE LIGHTING SPECIFICATIONS) SHALL BE CONSIDERED.

## EQUIPMENT CONNECTION SCHEDULE

| EQUIP NUMBER | DESCRIPTION | RATED VOLTAGE/ PHASE | LOAD (VA) | HORSE POWER/ KW | BREAKER AMPS/ POLES | PANEL | PLUG-IN RECEPTACLE NEMA CONFIG | DISCONNECT SWITCH AMPS/POLES | CIRCUIT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| PV-400 | VIDEO PROJECTOR | 120V-1PH | 500 | N/A | 20/1 | LFF | 5-20R QUAD. | N/A | 3 #12, 3/4" C | #400 LECTURE |

NOTES:
1) PRIOR TO ROUGH-IN OR PURCHASING ANY ELECTRICAL EQUIPMENT ASSOCIATED WITH ANY EQUIPMENT SHOWN ON THE SCHEDULE ABOVE, THE E.C. IS FULLY RESPONSIBLE FOR OBTAINING COPIES OF SHOP DRAWINGS FROM THE CONTRACTOR OR PARTY (INCLUDING OWNER, WHERE APPLICABLE) FURNISHING THE EQUIPMENT AND FOR COORDINATING EQUIPMENT ELECTRICAL CHARACTERISTICS WITH SHOP DRAWINGS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. THE E.C. IS SOLELY RESPONSIBLE FOR THIS COORDINATION AND IS RESPONSIBLE FOR ALL COSTS WHICH MAY RESULT FROM FAILING TO FULLY COORDINATE.

## EQUIPMENT CONNECTION NOTES

1) EXACT DETAILS OF EQUIPMENT CONNECTIONS ARE NOT INDICATED ON THE ELECTRICAL FLOOR PLAN DRAWINGS. EQUIPMENT CONNECTIONS DETAILS ARE INDICATED ON THE EQUIPMENT CONNECTION SCHEDULES ON THE ELECTRICAL DRAWINGS. APPROXIMATE EQUIPMENT LOCATIONS ONLY ARE INDICATED ON THE FLOOR PLAN DRAWINGS.

2) THE EQUIPMENT SCHEDULES INDICATE THE EQUIPMENT NAMEPLATE ELECTRICAL CHARACTERISTICS (VOLTAGE, PHASE, AND LOAD AS WELL AS HORSEPOWER, WHERE APPLICABLE), PANEL CIRCUIT BREAKER AMPERES, LOCAL DISCONNECTING MEANS (CORD-AND-PLUG [INCLUDING NEMA CONFIGURATION] OR SWITCH), AND CIRCUIT WIRE AND CONDUIT.

3) PRIOR TO ROUGH-IN, VERIFY EXACT POINT OF ELECTRICAL CONNECTION TO EACH PIECE OF EQUIPMENT IN THE FIELD TO AVOID PLACING SERVICE AT THE WRONG LOCATION.

4) ELECTRICAL INFORMATION SHOWN IS BASED ON NAMEPLATE AND/OR CATALOG CUT INFORMATION, AND IS ACCURATE TO THE BEST OF THE KNOWLEDGE OF THE ENGINEER AND OWNER. HOWEVER, NO GUARANTEES ARE MADE TO ITS ACCURACY. VERIFY EXACT ELECTRICAL, OPERATING, AND CONNECTION CHARACTERISTICS AND REQUIREMENTS IN THE FIELD PRIOR TO PURCHASING ASSOCIATED ELECTRICAL EQUIPMENT (PANEL BRANCH CIRCUIT BREAKERS, RECEPTACLES, SWITCHES, ETC.) AND PRIOR TO PULLING WIRING IN CONDUITS AND/OR ROUGHING-IN CABLE WIRING METHODS (WHERE PERMITTED).

5) PROVIDE CIRCUIT BREAKERS IN PANELS AS PER THE BREAKER AMPS ON THE EQUIPMENT SCHEDULES. FOR EXACT CIRCUITING AND CONNECTIONS AT PANELS, REFER TO THE APPROPRIATE PANEL SCHEDULES.

6) PROVIDE ALL EQUIPMENT WITH A LOCAL DISCONNECTING MEANS, CONSISTING OF ONE OF THE FOLLOWING, AS INDICATED ON THE EQUIPMENT SCHEDULE (OR AS OTHERWISE VERIFIED IN THE FIELD).

A) CORD-AND-PLUG CONNECTED EQUIPMENT: PROVIDE RECEPTACLE OF NEMA CONFIGURATION OR SPECIFIC TYPE INDICATED ON THE EQUIPMENT SCHEDULE. PROVIDE SINGLE RECEPTACLES UNLESS INDICATED AS DUPLEX (DUP.), QUADRUPLEX (QUAD.), OR OTHERWISE NOTED. PROVIDE RECEPTACLE TYPES COMPATIBLE WITH PLUG TYPES ON EQUIPMENT CORDS. VERIFY IN FIELD. LOCATE RECEPTACLE NEAR EQUIPMENT AS REQUIRED. WHERE EQUIPMENT CORD IS NOT LONG ENOUGH TO REACH RECEPTACLE (OR WHERE EQUIPMENT DOES NOT INCLUDE CORD), PROVIDE A NEW CORD AND PLUG (TO MATCH EXISTING) AS REQUIRED. PROVIDE MAXIMUM CORD LENGTH NOT EXCEEDING 1.8 m (6'0").

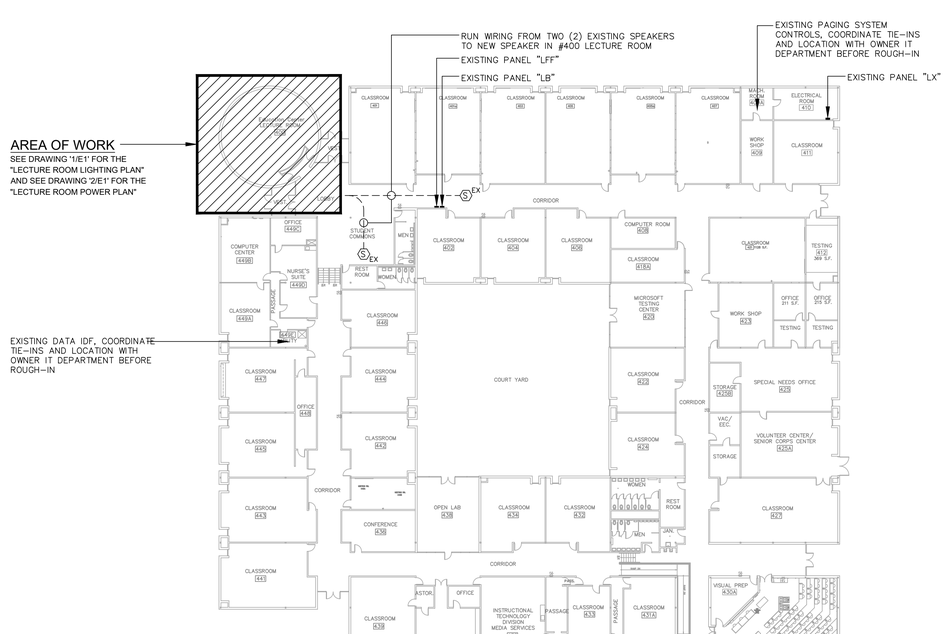
B) THERMAL OVERLOAD SWITCH (O/L SWITCH, MANUAL MOTOR STARTER): FOR ALL DIRECT CONNECTED (WITHOUT CORD AND PLUG) EQUIPMENT RATED 120 V OR 277 V AND 20 A OR LESS, PROVIDE A HORSEPOWER RATED THERMAL OVERLOAD SWITCH LOCATED AT OR ADJACENT TO THE EQUIPMENT. WHERE EQUIPMENT IS NOT POWERED OR IS POWER OPERATED BY SOURCES OTHER THAN ELECTRICITY (I.E. PNEUMATIC OPERATION, GAS FIRED, ETC.) AND WHERE ELECTRICITY IS REQUIRED ONLY FOR LOW VOLTAGE OR SOLID STATE CONTROLS, A SINGLE POLE 120/277 V SWITCH MAY BE UTILIZED.

C) DISCONNECT SWITCH: FOR ALL DIRECT CONNECTED EQUIPMENT OVER 120 V (EXCEPT 277 V SINGLE-PHASE EQUIPMENT) OR OVER 20 A, PROVIDE A SUITABLE HEAVY DUTY SAFETY SWITCH. PROVIDE AMPERE RATING AND POLES AS PER THE EQUIPMENT SCHEDULES. PROVIDE SWITCHES OF THE UN-FUSED TYPE, EXCEPT WHERE FUSE SIZES (AFU) ARE INDICATED ON THE SCHEDULE. PROVIDE FUSED DISCONNECT SWITCHES WITH FUSES WHERE INDICATED ON THE SCHEDULE. WHERE INDICATED AS (ECB), PROVIDE AN ENCLOSED CIRCUIT BREAKER WITH TRIP RATING AS SHOWN.

D) HARD WIRED DIRECT CONNECTION (J-BOX ONLY): FOR ALL DIRECT CONNECTED EQUIPMENT WHERE A DISCONNECTING MEANS IS NOT REQUIRED BY CODE AND NOT DESIRED BY THE OWNER FOR THE EQUIPMENT SERVED, PROVIDE A DIRECT HARD WIRED CONNECTION UTILIZING A SUITABLE JUNCTION OR OUTLET BOX. WHERE EQUIPMENT ENCLOSURE IS SUITABLE FOR USE AS A RACEWAY OR WIRE WAY, THE JUNCTION OR OUTLET BOX MAY BE OMITTED.

7) PROVIDE CIRCUIT WIRING AND CONDUIT FROM THE APPROPRIATE PANEL (REFER TO PANEL SCHEDULES) TO THE EQUIPMENT (PASSING THROUGH ANY APPLICABLE CONTROLS AND LOCAL DISCONNECTING MEANS) AS PER THE EQUIPMENT SCHEDULES. PROVIDE INDIVIDUAL NEUTRAL (WHERE APPLICABLE) AND EQUIPMENT GROUNDING CONDUCTORS WITH EACH CIRCUIT.

8) FEED FREE STANDING EQUIPMENT UNABLE TO BE SERVED BY WIRING RUN ON/ALONG WALLS OR COLUMNS WITH CONDUIT FROM THE CEILING OR UNDER THE FLOOR, SUITABLY SUPPORTED.




OVERALL FIRST FLOOR KEY PLAN
SCALE: 1/32"=1'-0"

**ISSUED FOR BID 2-11-2019**

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**Renovations at the Instructional Center Building ROOM #400**
**1400 TANYARD ROAD**
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REVISIONS
a. e.
b. f.
c. g.

Project No. 18-43
Date: 02-11-19
Scale: AS NOTED

**LECTURE RM. #400 LIGHTING AND POWER PLAN**

**E1**

## ELECTRICAL NOTES

1) PERFORM ALL WORK IN STRICT ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC), OSHA REQUIREMENTS, ALL FEDERAL, STATE, AND LOCAL CODES AND ALL OWNER REQUIREMENTS.

2) INCLUDE ALL TEMPORARY POWER AND LIGHTING, PERMIT, LICENSE, AND INSPECTION COSTS IN BID.

3) VERIFY EXACT LOCATIONS AND MOUNTING OF ALL LUMINAIRES, SWITCHES, RECEPTACLES, OUTLETS, FIRE ALARM, AND OTHER EQUIPMENT WITH ARCHITECTURAL DRAWINGS AND IN THE FIELD PRIOR TO ROUGH IN.

4) VERIFY ELECTRICAL RATINGS, CONNECTION REQUIREMENTS, AND EXACT LOCATIONS OF ALL UTILIZATION EQUIPMENT (WHERE APPLICABLE) IN FIELD PRIOR TO PURCHASING ASSOCIATED ELECTRICAL EQUIPMENT. PROVIDE A COMPLETE AND WORKING INSTALLATION.

5) THE TERM "PROVIDE" MEANS, "FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR", AND THE TERMS "CONTRACTOR" AND "E.C." MEAN "ELECTRICAL CONTRACTOR", UNLESS INDICATED OTHERWISE. ALL WORK INDICATED ON THE ELECTRICAL DRAWINGS AND ELECTRICAL SPECIFICATIONS IS BY THE E.C. (UNLESS INDICATED OTHERWISE) AND IS NEW (UNLESS INDICATED OTHERWISE). WHERE THE PROJECT IS PERFORMED BY MULTIPLE PRIME CONTRACTORS UNDER "MULTIPLE PRIME BIDS" THIS DESIGNATES THE WORK BY THE ELECTRICAL PRIME CONTRACTOR. WHERE THE PROJECT IS PERFORMED BY A SINGLE OVERALL CONTRACTOR UNDER "LUMP SUM BIDS" THIS APPROXIMATELY DESIGNATES THE WORK BY THE ELECTRICAL TRADE SUBCONTRACTOR (EXACT DIVISION OF TRADE SUBCONTRACTOR WORK IS THE SOLE RESPONSIBILITY OF THE SINGLE OVERALL CONTRACTOR; TRADE SUBCONTRACTOR WORK DIVISION SHOWN ON THE DRAWINGS/SPECIFICATIONS IS FOR REFERENCE AND CONVENIENCE ONLY).

6) COORDINATE ALL REQUIRED SHUTDOWNS WITH THE OWNER A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE. INCLUDE OVERTIME COSTS IN BID TO PERFORM ALL SHUTDOWNS (INCLUDING SHUTDOWNS FOR AREAS WHICH MAY BE UNOCCUPIED DURING CONSTRUCTION) AFTER NORMAL WORKING HOURS AS COORDINATED WITH THE OWNER. NO EXTRA CLAIMS OR COMPENSATION WILL BE GRANTED FOR OVERTIME COSTS ASSOCIATED WITH PERFORMING SHUTDOWNS.

7) PROVIDE MOUNTING HEIGHTS OF EQUIPMENT AS REQUIRED BY ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND STANDARDS, INCLUDING ALL APPLICABLE DISABLED (HANDICAPPED) ACCESS CODES AND THE AMERICANS WITH DISABILITIES ACT (ADA). CONTACT ANY AND ALL AUTHORITIES HAVING JURISDICTION TO VERIFY REQUIRED MOUNTING HEIGHTS.

8) VERIFY ALL UTILITY (ELECTRIC, TELEPHONE, DATA, CABLE TELEVISION, ETC. WHERE APPLICABLE) REQUIREMENTS IN WRITING WITH EACH UTILITY COMPANY AND OWNER'S UTILITY DEPARTMENT PRIOR TO INSTALLING ANY SERVICE RELATED EQUIPMENT.

9) PERFORM ALL WORK IN PHASES AND SEQUENCES AS DIRECTED BY THE ARCHITECT. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. FULLY COORDINATE PHASES/SEQUENCES IN DETAIL WITH ALL CONTRACTORS/TRADES, THE ARCHITECT, AND THE OWNER PRIOR TO PERFORMING WORK AND INCLUDE ALL COSTS IN BID.

10) COMPLETELY DISCONNECT AND REMOVE ALL EXISTING WIRING AND ELECTRICAL EQUIPMENT IN AREAS BEING RENOVATED, IN AREAS OF GENERAL DEMOLITION, INTERFERING WITH NEW CONSTRUCTION BY ANY CONTRACTOR OR TRADE (INCLUDING, BUT NOT LIMITED TO, GENERAL CONSTRUCTION, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, ETC.), AND SERVING EQUIPMENT AND APPARATUS REMOVED AS PART OF THIS PROJECT (BY ANY CONTRACTOR OR TRADE), UNLESS INDICATED OTHERWISE. REFER TO ARCHITECTURAL DRAWINGS FOR THE GENERAL SCOPE OF RENOVATIONS AND AREAS OF GENERAL DEMOLITION. REFER TO AND CAREFULLY EXAMINE DRAWINGS AND SPECIFICATIONS OF ALL TRADES TO IDENTIFY AREAS OF INTERFERENCE WITH NEW CONSTRUCTION AND EQUIPMENT/APPARATUS REMOVALS. BASE PRICING ON THE ASSUMPTION THAT ELECTRICAL REMOVALS ARE NECESSARY IN ALL AREAS OF DEMOLITION (GENERAL DEMOLITION AS WELL AS DEMOLITION OF ANY SYSTEMS IN THE BUILDING [SPECIFICALLY INCLUDING DUCTWORK, PIPING, AND WIRING SYSTEMS OF ANY KIND]) AND ALL AREAS OF PROPOSED NEW WORK (BY ANY TRADE), UNLESS ACTUALLY VERIFIED OTHERWISE BY THE ELECTRICAL CONTRACTOR. INCLUDE ALL COSTS IN BID.

11) WHERE EXISTING WIRING TO BE REMOVED (AS INDICATED ABOVE) OR OTHERWISE AFFECTED BY CONSTRUCTION (BY ANY CONTRACTOR OR TRADE, INCLUDING GENERAL CONSTRUCTION, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, ETC.) FEEDS LOADS WHICH REMAIN OR FEEDS LOADS IN ADJACENT OR OTHER AREAS NOT WITHIN THE SCOPE OF WORK, THE WIRING SHALL REMAIN. RELOCATE, EXTEND, AND/OR RE-FEED THE EXISTING WIRING AS REQUIRED TO MAINTAIN SERVICE, UNLESS INDICATED OTHERWISE. BASE PRICING ON THE ASSUMPTION THAT RELOCATING, EXTENDING, AND RE-FEEDING IS NECESSARY IN ALL AREAS OF DEMOLITION AND ALL AREAS OF PROPOSED NEW WORK (BY ANY TRADE), UNLESS ACTUALLY VERIFIED OTHERWISE BY THE ELECTRICAL CONTRACTOR. INCLUDE ALL COSTS IN BID.

12) WHERE RE-FEEDING EXISTING ELECTRICAL CIRCUITS AND LOADS, VERIFY ALL REQUIREMENTS IN THE FIELD AND INCLUDE ALL COSTS IN BID. VERIFY EXACT CONDUCTOR SIZES AND AMPACITY, EXISTING CIRCUIT BREAKER AND/OR FUSE AMPS, LOAD NAMEPLATE RATINGS, CONDUIT SIZES, ETC.. FOR EQUIPMENT TO BE RE-FED, PROVIDE ALL NEW WIRING DIRECTLY TO THE EQUIPMENT. DO NOT REUSE EXISTING WIRING TO RE-FEED EQUIPMENT, UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.

13) INFORMATION REGARDING EXISTING CONDITIONS AND EQUIPMENT AND ALL INFORMATION REGARDING REMOVALS (INCLUDING INFORMATION REGARDING THE SCOPE OF REMOVALS ON ARCHITECTURAL DRAWINGS) INDICATES GENERAL CONDITIONS AND ARE A GUIDE TO PRICING ONLY. PRIOR TO SUBMITTING BID, VISIT THE PROJECT SITE AND VERIFY ALL EXISTING CONDITIONS AND EQUIPMENT, ALL REMOVALS AND REQUIREMENTS, AND ALL TIE-INS TO EXISTING EQUIPMENT AND WIRING IN DETAIL. INCLUDE ALL COSTS IN BID. NO EXTRA CLAIMS OR COMPENSATION WILL BE GRANTED FOR NOT FIRST VERIFYING ALL CONDITIONS.

14) FOR ALL NEW CIRCUIT BREAKERS IN EXISTING BRANCH AND DISTRIBUTION PANELS, PROVIDE CIRCUIT BREAKERS MATCHING AND COMPATIBLE WITH EXISTING CIRCUIT BREAKERS. PROVIDE WITH SHORT CIRCUIT INTERRUPTING RATINGS EQUAL TO OR EXCEEDING THE HIGHEST RATED EXISTING BRANCH CIRCUIT BREAKER IN THE PANEL. CIRCUIT BREAKER TYPES INDICATED ON THE DRAWINGS (WHERE APPLICABLE) ARE GUIDES TO PRICING ONLY. VERIFY EXACT TYPE AND ALL REQUIREMENTS IN FIELD PRIOR TO RELEASING EQUIPMENT.

15) FOR ALL WIRING AND WORK INDICATED, INCLUDING ALL SYSTEMS (POWER, LIGHTING, FIRE ALARM, CONTROL, SIGNAL, SOUND, TELECOMMUNICATIONS, DATA, AND ALL OTHER SYSTEMS, WHERE APPLICABLE), PROVIDE ALL NEW CONDUITS, RACEWAYS, OUTLETS, AND CONDUCTORS, INCLUDE ALL COSTS IN BID. WHERE EXISTING CONDUITS AND RACEWAYS ARE DETERMINED BY THE ENGINEER TO BE IN ADEQUATE CONDITION, AND WHERE SPECIFICALLY APPROVED BY THE OWNER, ARCHITECT, AND ENGINEER, EXISTING CONDUITS AND RACEWAYS MAY BE REUSED. PROVIDE A SEPARATE GROUNDING CONDUCTOR, IN ADDITION TO ALL OTHER GROUNDING CONDUCTORS SPECIFIED, AND BOND TO ALL RACEWAYS, CONDUITS, BOXES, AND OUTLETS WHERE RACEWAYS ARE REUSED. DO NOT DEPEND ON EXISTING CONDUITS/RACEWAYS FOR GROUNDING PATHS. REUSE EXISTING CONDUCTORS ONLY WHERE SPECIFICALLY INDICATED ON THE DRAWINGS.

16) PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATES FOR ALL ELECTRICAL EQUIPMENT (INCLUDING, BUT NOT LIMITED TO, EXISTING BRANCH PANELS (WHERE CONNECTED TO AS PART OF THIS PROJECT), POWER OUTLETS, THERMAL OVERLOAD SWITCHES, SWITCHES AND RECEPTACLES SERVING EQUIPMENT, ETC.), REFER TO SPECIFICATIONS FOR INFORMATION.

17) THE E.C. SHALL FURNISH AND INSTALL ALL ELECTRICAL DEVICES, EQUIPMENT, AND WIRING AT MILLWORK (CABINETS, DESKS, CREDENZAS, AND OTHER SIMILAR FURNITURE) AS REQUIRED. REFER TO ARCHITECTURAL, MILLWORK, AND FURNITURE DRAWINGS FOR ADDITIONAL INFORMATION (INCLUDING INFORMATION ON WIRING AND ELECTRICAL EQUIPMENT). PROVIDE EQUIPMENT AND WIRING AS REQUIRED, REGARDLESS OF WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT.

18) COMPLETELY SEAL AND FIRE STOP ALL PENETRATIONS OF ALL FIRE AND/OR SMOKE RATED WALLS, FLOORS, CEILINGS, AND ANY OTHER CONSTRUCTION (INCLUDING ALL WALLS REQUIRED TO BE RATED BY CODE) TO A RATING MATCHING OR EXCEEDING THE FIRE RATING OF THE CONSTRUCTION. COMPLETELY SEAL AND WEATHERPROOF ALL PENETRATIONS OF EXTERIOR, AT OR BELOW GRADE, AND WET LOCATION WALLS AND FLOORS AND ROOF PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR INFORMATION ON FIRE RATINGS OF BUILDING CONSTRUCTION AND INCLUDE ALL COSTS IN BID. COMPLY WITH AND INSTALL FIRE STOPPING IN ACCORDANCE WITH ALL APPLICABLE FIRE RATING CODES AND STANDARDS (INCLUDING THE NEC, NFPA, IBC, AND THE UL "FIRE RESISTANCE DIRECTORY").

19) PROVIDE 120 V POWER TO ALL SECURITY AND DOOR HARDWARE AS REQUIRED. COORDINATE ALL REQUIREMENTS WITH ARCHITECTURAL DOCUMENTS, THE OWNER, AND SECURITY SUPPLIER. OBTAIN POWER FROM A SUITABLE NEARBY BRANCH CIRCUIT.

20) WHERE EXISTING CEILINGS ARE REMOVED AND REINSTALLED (EITHER PARTLY OR ENTIRELY), THE E.C. SHALL REMOVE ALL EXISTING ELECTRICAL EQUIPMENT (INCLUDING LIGHTING FIXTURES, FIRE ALARM DEVICES [INCLUDING, BUT NOT LIMITED TO, SMOKE AND HEAT DETECTORS, SIGNALING DEVICES, INDICATORS, ETC.], SECURITY/CCTV CAMERAS, MOTION DETECTORS, SPEAKERS, AND ALL OTHER ELECTRICAL DEVICES, EQUIPMENT, AND APPARATUS) FROM THE CEILING GRID AND CEILING TILES. LEAVE IN PLACE AT THE CEILING AND SUPPORT (IN A CODE APPROVED AND LOCAL CODE OFFICIAL APPROVED MANNER) AS REQUIRED TO FACILITATE CEILING REMOVAL. ONCE CEILING IS REINSTALLED, THE E.C. SHALL PERMANENTLY REINSTALL ALL ELECTRICAL EQUIPMENT IN THE CEILING. WHERE NEW EQUIPMENT IS SHOWN ON THE DRAWINGS, THE E.C. SHALL COMPLETELY DISCONNECT AND REMOVE EXISTING EQUIPMENT (BEING REPLACED) AND ALL ASSOCIATED WIRING AND PROVIDE ALL NEW EQUIPMENT AND ASSOCIATED WIRING AS SHOWN ON THE DRAWINGS. CEILINGS MAY BE LEFT OPEN FOR A LONG PERIOD OF TIME (I.E. THERE MAY BE SEVERAL MONTHS OR MORE BETWEEN THE TIME OF REMOVAL AND THE TIME OF REINSTALLING CEILINGS). WHEN CEILINGS ARE NOT IN PLACE, MAINTAIN (AS OPERATIONAL) ALL FIRE ALARM DEVICES AND EQUIPMENT AND NORMAL AND EMERGENCY LIGHTING AS REQUIRED (TEMPORARILY INSTALL FIRE ALARM DEVICES, SUPPORTED FROM STRUCTURE AND PROVIDE TEMPORARY LIGHTING OR TEMPORARILY SUPPORT EXISTING LIGHTING FROM STRUCTURE AS REQUIRED). WHEN CEILINGS ARE NOT IN PLACE, SAFELY SECURE EVERYTHING WHICH IS EXPOSED BY THE ABSENCE OF CEILINGS (NEW AND EXISTING) AND KEEP ALL AREAS CLEAN WHEN OCCUPIED. THIS CEILING WORK IS NOT SHOWN ON ELECTRICAL PLANS (SEE ARCHITECTURAL DRAWINGS AND CEILING PLANS AND OTHER TRADES DRAWINGS FOR INFORMATION). THIS CEILING WORK APPLIES REGARDLESS OF THE PARTY REMOVING THE CEILING AND REGARDLESS OF WHETHER OR NOT CEILING REMOVAL IS SHOWN ON DRAWINGS. COORDINATE WITH ALL CONTRACTORS AND TRADES TO CONFIRM THE EXTENT OF CEILING WORK AND INCLUDE ALL COSTS IN BID. THIS CEILING WORK ALSO APPLIES WHERE ANY CONTRACTOR CHOOSES TO INSTALL NEW CEILING IN LIEU OF REINSTALLING THE EXISTING CEILING.

21) WHERE EXISTING CEILINGS ARE REMOVED AND NEW CEILINGS ARE INSTALLED (EITHER PARTLY OR ENTIRELY), THE E.C. SHALL REMOVE ALL EXISTING ELECTRICAL EQUIPMENT (INCLUDING LIGHTING FIXTURES, FIRE ALARM DEVICES [INCLUDING, BUT NOT LIMITED TO, SMOKE AND HEAT DETECTORS, SIGNALING DEVICES, INDICATORS, ETC.], SECURITY/CCTV CAMERAS, MOTION DETECTORS, SPEAKERS, AND ALL OTHER ELECTRICAL DEVICES, EQUIPMENT, AND APPARATUS) FROM THE CEILING GRID AND CEILING TILES. LEAVE IN PLACE AT THE CEILING AND SUPPORT (IN A CODE APPROVED AND LOCAL CODE OFFICIAL APPROVED MANNER) AS REQUIRED TO FACILITATE CEILING REMOVAL. ONCE NEW CEILING IS INSTALLED, THE E.C. SHALL PERMANENTLY REINSTALL ALL ELECTRICAL EQUIPMENT IN THE CEILING. WHERE NEW EQUIPMENT IS SHOWN ON THE DRAWINGS, THE E.C. SHALL COMPLETELY DISCONNECT AND REMOVE EXISTING EQUIPMENT (BEING REPLACED) AND ALL ASSOCIATED WIRING AND PROVIDE ALL NEW EQUIPMENT AND ASSOCIATED WIRING AS SHOWN ON THE DRAWINGS. CEILINGS MAY BE LEFT OPEN FOR A LONG PERIOD OF TIME (I.E. THERE MAY BE SEVERAL MONTHS OR MORE BETWEEN THE TIME OF REMOVAL AND THE TIME OF INSTALLING NEW CEILINGS). WHEN CEILINGS ARE NOT IN PLACE, MAINTAIN (AS OPERATIONAL) ALL FIRE ALARM DEVICES AND EQUIPMENT AND NORMAL AND EMERGENCY LIGHTING AS REQUIRED (TEMPORARILY INSTALL FIRE ALARM DEVICES, SUPPORTED FROM STRUCTURE AND PROVIDE TEMPORARY LIGHTING OR TEMPORARILY SUPPORT NEW OR EXISTING LIGHTING FROM STRUCTURE AS REQUIRED). WHEN CEILINGS ARE NOT IN PLACE, SAFELY SECURE EVERYTHING WHICH IS EXPOSED BY THE ABSENCE OF CEILINGS (NEW AND EXISTING) AND KEEP ALL AREAS CLEAN WHEN OCCUPIED. THIS CEILING WORK IS NOT SHOWN ON ELECTRICAL PLANS (SEE ARCHITECTURAL DRAWINGS AND CEILING PLANS FOR INFORMATION).

22) WHERE ELECTRICAL WORK INVOLVES REMOVAL AND REINSTALLATION OF EXISTING CEILINGS, REMOVAL AND RELOCATION IS THE RESPONSIBILITY OF THE E.C.. AS AN ALTERNATIVE (AT THE E.C.'S OPTION) TO REINSTALLING CEILINGS REMOVED TO FACILITATE ELECTRICAL WORK, THE E.C. MAY INSTALL A NEW CEILING OF A TYPE MATCHING THE EXISTING CEILING PROVIDED THERE IS NO COST CHANGE TO THE CONTRACT (WHEREVER NEW CEILING INVOLVES ADDITIONAL COST TO THE CONTRACT, NEW CEILING IS NOT ACCEPTABLE). REPLACE ANY CEILING TILES DAMAGED AS PART OF ELECTRICAL WORK.

## ELECTRICAL SYMBOL LIST

| | |
|---|---|
| S $S_3$ $S_4$ | 20 A, 277/120 V SWITCH, SINGLE POLE (S), THREE-WAY (S-3), AND FOUR-WAY (S-4), RESPECTIVELY, SPECIFICATION GRADE, FLUSH MOUNTED, FINISH AND COVER PLATE AS PER OWNER |
| $S_{DL}$ | 0-10 V, 30 Ma, 8 A, 120/277 V, LIGHT EMITTING DIODE (LED) DRIVER OR FLUORESCENT ELECTRONIC BALLAST DIMMER SWITCH (S-DL), SINGLE POLE, SLIDE TYPE (WITHOUT ON/OFF TOGGLE OR ROCKER SWITCH), FULLY RATED, SPECIFICATION GRADE, FLUSH MOUNTED, LOW PROFILE, FINISH AND COVER PLATE AS PER ARCHITECT, OF A TYPE COMPATIBLE WITH THREE-WAY OPERATION VIA REMOTE STANDARD THREE-WAY SWITCHES; LUTRON #DVSTV-** (OR APPROVED EQUAL), UTILIZE EXACT RESPECTIVE DIMMER SWITCH TYPE COORDINATED WITH DIMMABLE LED DRIVERS OR DIMMABLE FLUORESCENT BALLASTS IN CONTROLLED LUMINAIRE (FULLY COORDINATE IN DETAIL WITH LUMINAIRE AND DIMMER MANUFACTURER AND INCLUDE COSTS IN BID TO USE DIFFERENT TYPES OF DIMMER SWITCHES AS APPLICABLE FOR EACH DIFFERENT LUMINAIRE TYPE CONTROLLED); WHERE CIRCUIT LOAD EXCEEDS 8 A UTILIZE #PP-DV POWER PACK(S) AS REQUIRED TO FACILITATE LOAD |
| OC | OCCUPANCY SENSOR LIGHTING CONTROL [OC], FLUSH MOUNTED IN CEILING, FOR COMMON CONTROL OF LIGHTING (MULTIPLE SENSORS FOR LIGHTING CONTROL IN CONJUNCTION WITH REMOTE LIGHTING CONTROL RELAY MODULE(S)), MULTI-TECHNOLOGY PASSIVE INFRARED (PIR) AND ULTRASONIC TYPE, 360 DEGREE NOMINAL 186 m2 (2,000 SQ FT) COVERAGE, MEETING NEMA WD7 STANDARD, INTEGRAL SELECTABLE AMBIENT LIGHT LEVEL SENSOR, SPECIFICATION GRADE, WHITE FINISH; PROVIDE LOW VOLTAGE CONTROL WIRING AS REQUIRED BETWEEN SENSOR AND CONTROL RELAY |
| LR | LIGHTING CONTROL RELAY MODULE [LR], INTERCONNECT (UTILIZING LOW VOLTAGE CONTROL WIRING AS REQUIRED) WITH OCCUPANCY SENSORS AS SHOWN ON THE DRAWINGS, RATED 1,800 VA FOR 120 V OPERATION AND RATED 4,800 VA FOR 277 V OPERATION, SINGLE POLE, SPECIFICATION GRADE; PROVIDE A MINIMUM OF ONE (1) RELAY PER CIRCUIT CONTROLLED (WHERE MULTIPLE RELAYS ARE SHOWN OR OTHERWISE REQUIRED, PROVIDE EXACT QUANTITY AS REQUIRED [INCLUDING ADDITIONAL RELAYS OR MODULES IF NEEDED] TO SUPPORT THE SWITCHING CONTROL SHOWN ON DRAWINGS IN CONJUNCTION WITH THE QUANTITY OF CONTROLLING SENSORS INVOLVED), INTERCONNECT AUXILIARY CONTACTS AS REQUIRED FOR SIMULTANEOUS CONTROL); WHERE WALL SWITCHES (SINGLE POLE OR THREE-WAY) ARE INDICATED ALONG WITH OCCUPANCY SENSOR ON THE DRAWINGS, ARRANGE SWITCHES TO OPERATE AS MANUAL OVERRIDE TO "OFF" (AS RECOMMENDED BY OCCUPANCY SENSOR MANUFACTURER) |
| ▭ | LINEAR/RECTANGULAR LUMINAIRE, TYPE AS INDICATED ON THE LUMINAIRE SCHEDULE |
| ▨ | INDICATES CONTROLLED EMERGENCY LUMINAIRE (AUTOMATICALLY SWITCHED), TYPE AS INDICATED ON THE LUMINAIRE SCHEDULE, WITH INTEGRAL EMERGENCY TRANSFER DEVICE (SEE LUMINAIRE SCHEDULE) |
| ⊗ | EXIT SIGN, TYPE ("EXIT" UNLESS INDICATED OTHERWISE) AS INDICATED ON THE LUMINAIRE SCHEDULE |
| ⦶ | 20 A, 120 V DUPLEX RECEPTACLE (NEMA 5-20R), SPECIFICATION GRADE, TAMPER RESISTANT, FLUSH MOUNTED, FINISH AND COVER PLATE AS PER OWNER, (+) INDICATES ABOVE COUNTER MOUNTING HEIGHT, (*) INDICATES MOUNTED HIGH ON WALL AT DISPLAY/SCREEN OR ABOVE BOARD |
| ⦶⦶ | QUADRUPLEX ("DOUBLE DUPLEX") RECEPTACLE, WITH RECEPTACLE TYPE AS INDICATED |
| ◉ | 20 A, 120 V DUPLEX RECEPTACLE (NEMA 5-20R), FLUSH MOUNTED IN FLOOR, (EX) INDICATES EXISTING TO REMAIN |
| Ⓒ | WALL CLOCK (C), (EX) INDICATES EXISTING TO REMAIN (REMOVE AND REINSTALL ON WALL AS REQUIRED) |
| ⬡S | PAGING/INTERCOM SYSTEM CEILING SPEAKER, 2' X 4' DROP CEILING STYLE, SPEAKER, BACK BOX, AND WIRING BY E.C. COORDINATE FINAL CONNECTIONS AT EXISTING PAGING SYSTEM IN DETAIL WITH OWNER'S IT DEPARTMENT; BOGEN #CSD2X2U OR APPROVED EQUAL |
| ⊠ | EQUIPMENT CONNECTION, REFER TO THE EQUIPMENT SCHEDULE AND THE EQUIPMENT NOTES FOR INFORMATION |
| ⬡ | EQUIPMENT DESIGNATION, FOR REFERENCE TO THE EQUIPMENT SCHEDULE |
| $S_T$ | THERMAL OVERLOAD SWITCH (I.E. MANUAL MOTOR STARTER, "O/L SWITCH", S-T), 277-120 V AND HORSEPOWER RATED, COORDINATE THERMAL OVERLOAD UNIT RATING WITH LOAD SERVED; IN FINISHED SPACES, PROVIDE FLUSH MOUNTED WITH COVER PLATE AS PER OWNER; IN UNFINISHED SPACES, PROVIDE FLUSH MOUNTED OR SURFACE MOUNTED IN A SUITABLE NEMA-1 ENCLOSURE, (WP) INDICATES MOUNTING IN A SUITABLE NEMA-3R ENCLOSURE |
| ■ | ELECTRICAL PANEL, REFER TO THE SINGLE LINE DIAGRAM AND RESPECTIVE PANEL SCHEDULE |
| Ⓙ | ELECTRICAL JUNCTION BOX (J-BOX), AS INDICATED ON THE DRAWINGS, WHERE JUNCTION BOX SERVES EQUIPMENT, PROVIDE COMPLETE EQUIPMENT CONNECTIONS AS REQUIRED |
| → | INDICATES HOME RUN OF WIRING TO PANEL AND CIRCUIT INDICATED |
| —E— | INDICATES EMERGENCY CIRCUIT (-E-) |
| ▼ | TELEPHONE/DATA OUTLET, FLUSH MOUNTED, PROVIDE SUITABLE OWNER APPROVED 1-GANG OUTLET BOX IN WALL AND ONE (1) 27 mm (1") CONDUITS (WITH WIRING BY E.C. AS PER SPECIFICATIONS) RUN FROM OUTLET STUBBED AND CAPPED INTO NEARBY ACCESSIBLE CEILING SPACE, (+) INDICATES ABOVE COUNTER MOUNTING HEIGHT OR WALL MOUNTED TELEPHONE MOUNTING HEIGHT (COORDINATE WITH ARCHITECT/OWNER DURING CONSTRUCTION), (*) INDICATES MOUNTED HIGH ON WALL AT TELEVISION OR ABOVE BOARD, NUMBER IN PARENTHESIS INDICATES QUANTITY OF ACTIVE JACKS; WITH COVER PLATES AND JACKS BY E.C. AS PER SPECIFICATIONS. ALL WIRING, JACKS, COVER PLATES, PUNCH DOWN BLOCKS, TESTING AND FINAL CERTIFICATIONS BY THE EC. COORDINATE FINAL CONNECTIONS AT EXISTING IDF IN DETAIL WITH ONWER'S IT DEPARTMENT |
| ▽ | AUDIO/VISUAL OUTLET, FLUSH MOUNTED, PROVIDE SUITABLE OWNER APPROVED 2-GANG OUTLET BOX IN WALL AND TWO (2) 35 mm (1.25") CONDUITS (WITH WIRING BY E.C. AS PER SPECIFICATIONS) RUN FROM OUTLET STUBBED AND CAPPED INTO NEARBY ACCESSIBLE CEILING SPACE, (+) INDICATES ABOVE COUNTER MOUNTING HEIGHT OR WALL MOUNTED TELEPHONE MOUNTING HEIGHT (COORDINATE WITH ARCHITECT/OWNER DURING CONSTRUCTION), (*) INDICATES MOUNTED HIGH ON WALL AT TELEVISION OR ABOVE BOARD; WITH COVER PLATES AND JACKS BY E.C. AS PER SPECIFICATIONS. ALL WIRING, JACKS, COVER PLATES, PUNCH DOWN BLOCKS, TESTING AND FINAL CERTIFICATIONS BY THE EC |
| F/A | EXISTING FIRE ALARM CONTROL PANEL (F/A) LOCATION, SURFACE MOUNTED, CONTROL PANEL MODIFIED BY OWNER'S FIRE ALARM SYSTEM CONTRACTOR |
| ○ F | FIRE ALARM AUDIO/VISUAL HORN/STROBE, (EX) INDICATES EXISTING TO REMAIN (REMOVE AND REINSTALL ON WALL AS REQUIRED) |
| Ⓢ | FIRE ALARM SMOKE DETECTOR LOCATION, DETECTOR FURNISHED, INSTALLED, AND WIRED BY OWNER'S FIRE ALARM SYSTEM CONTRACTOR; E.C. SHALL SUPPLY SUITABLE OUTLET BOX AT LOCATION (COORDINATE EXACT OUTLET BOX TYPE/CONFIGURATION WITH FIRE ALARM SYSTEM CONTRACTOR) AND E.C. SHALL PROVIDE CABLE FITTING IN BOX TO ABOVE DROP CEILING |
| Ⓗ | FIRE ALARM HEAT DETECTOR LOCATION, CONFIGURED FOR 135 DEGREES F (57 DEGREES C) FIXED AND RATE-OF-RISE OPERATION (UNLESS DIFFERENT OPERATION IS INDICATED OTHERWISE), DETECTOR FURNISHED, INSTALLED, AND WIRED BY OWNER'S FIRE ALARM SYSTEM CONTRACTOR; (*) INDICATES MOUNT ABOVE DROP CEILING (WHERE AN ABOVE CEILING DETECTOR IS SHOWN IN CONJUNCTION WITH A DETECTOR BELOW THE CEILING, MOUNT THE ABOVE CEILING DETECTOR AS CLOSE AS PRACTICAL TO DIRECTLY ABOVE THE BELOW CEILING DETECTOR [FOR DROP CEILINGS, MOUNT ABOVE THE CEILING TILE CONTAINING THE BELOW CEILING DETECTOR]); UTILIZE 175 DEGREES F (80 DEGREES C) OR GREATER IN ATTICS; E.C. SHALL SUPPLY SUITABLE OUTLET BOX AT LOCATION (COORDINATE EXACT OUTLET BOX TYPE/CONFIGURATION WITH FIRE ALARM SYSTEM CONTRACTOR) AND E.C. SHALL PROVIDE CABLE FITTING IN BOX TO ABOVE DROP CEILING |
| | NATIONAL ELECTRICAL CODE (NEC), LATEST ADOPTED EDITION |
| | ELECTRICAL CONTRACTOR (EC) |
| | MECHANICAL CONTRACTOR (MC), INCLUDING ALL MECHANICAL TRADES IN GENERAL (MECHANICAL, HVAC, ATC, PLUMBING, FIRE PROTECTION, ETC.), REFER TO MECHANICAL DOCUMENTS FOR DISTINCTION BETWEEN CONTRACTORS/TRADES |
| | GENERAL CONTRACTOR (GC), INCLUDING ALL GENERAL CONSTRUCTION TRADES IN GENERAL (CARPENTRY, STEEL, CONCRETE, SITE, ETC.), REFER TO ARCHITECTURAL AND SITE DOCUMENTS FOR DISTINCTION BETWEEN CONTRACTORS/TRADES |

| | | | |
|---|---|---|---|
| PANEL - | LB (EXISTING) | VOLTAGE - | 277/ 480 |
| FOR - | GENERAL LIGHTING | PHASE - | 3 PH-4W |
| LOCATION - | CORRIDOR | MAIN - | 100 A MLO |
| A.I.C. - | 14,000 A | MOUNTING- | FLUSH |

| DESCRIPTION | LTG. VA | EQUIP. VA | HVAC VA | BKR. AMPS | | BUS CONNECTION | | | BKR. AMPS | | HVAC VA | EQUIP. VA | LTG. VA | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BLANK | | | | | | 1 | A | 2 | | | | | | BLANK |
| BLANK | | | | | | 3 | B | 4 | | | | | | BLANK |
| BLANK | | | | | | 5 | C | 6 | | | | | | BLANK |
| BLANK | | | | | | 7 | A | 8 | | | | | | BLANK |
| BLANK | | | | | | 9 | B | 10 | | | | | | BLANK |
| BLANK | | | | | | 11 | C | 12 | | | | | | BLANK |
| (EX) LIGHTS #402-404 | | | | 20 | 1 | 13 | A | 14 | 20 | 1 | | | | (EX) LIGHTS #401 |
| (EX) LIGHTS #401, #401A, #403 | | | | 20 | 1 | 15 | B | 16 | 20 | 1 | | | 1,250 | #400 LECTURE LIGHTS ** |
| (EX) LIGHTS VESTIBULE | | | | 20 | 1 | 17 | C | 18 | 20 | 1 | | | | (EX) LTG. KEY PUNCH, RECORD, OFF. |
| (EX) LIGHTS #449 | | | | 20 | 1 | 19 | A | 20 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 21 | B | 22 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 23 | C | 24 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 25 | A | 26 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 27 | B | 28 | 20 | 1 | | | | SPARE |
| SPACE | | | | | | 29 | C | 30 | | | | | | SPACE |
| SPACE | | | | | | 31 | A | 32 | | | | | | SPACE |
| SPACE | | | | | | 33 | B | 34 | | | | | | SPACE |
| SPACE | | | | | | 35 | C | 36 | | | | | | SPACE |
| TOTALS | 0 | 0 | 0 | | | | | | | | 0 | 0 | 1,250 | TOTALS |

| LOAD DESCRIPTION (CONNECTED/DEMAND) | CONN. VA | DMD. VA |
|---|---|---|
| LIGHTING | 1,250 | 1,250 |
| GENERAL POWER | 0 | 0 |
| HVAC EQUIPMENT | 0 | 0 |
| TOTAL | 1,250 | 1,250 |
| PERCENT LOADED | 2% | 2% |

PANEL SCHEDULE
MULHERN CONSULTING ENGINEERS
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| PHASE BALANCE VA | |
|---|---|
| A | 0 |
| B | 1,250 |
| C | 0 |
| TOTAL | 1,250 |
| SD (σ) | 589 |

NOTES:
1) THIS PANEL IS EXISTING, MODIFY AS SHOWN. EXISTING PANEL IS GENERAL ELECTRIC TYPE "NHB".
(EX) INDICATES EXISTING CIRCUIT TO REMAIN.
* INDICATES NEW CIRCUIT, PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE OR IN SPACE FROM REMOVING AN EXISTING CIRCUIT BREAKER AS REQUIRED.
** INDICATES NEW CIRCUIT, CONNECT TO EXISTING SPARE CIRCUIT BREAKER OR CIRCUIT BREAKER FROM REMOVING AN EXISTING CIRCUIT AS REQUIRED.

| | | | |
|---|---|---|---|
| PANEL - | LFF (EXISTING) | VOLTAGE - | 120 208 |
| FOR - | GENERAL POWER | PHASE - | 3 PH-4W |
| LOCATION - | CORRIDOR | MAIN - | 100 A MLO |
| A.I.C. - | 10,000 A | MOUNTING- | FLUSH |

| DESCRIPTION | LTG. VA | EQUIP. VA | HVAC VA | BKR. AMPS | | BUS CONNECTION | | | BKR. AMPS | | HVAC VA | EQUIP. VA | LTG. VA | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPARE (FMR. 400 LTG.) ** | | | | 20 | 1 | 1 | A | 2 | 20 | 1 | | 1,400 | | #400 LECT. RECEP. (FMR. 400 LTG.) ** |
| SPARE (FMR. 400 LTG.) ** | | | | 20 | 1 | 3 | B | 4 | 20 | 1 | | 1,200 | | #400 LECT. RECEP. (FMR. 400 LTG.) ** |
| SPARE (FMR. 400 LTG.) ** | | | | 20 | 1 | 5 | C | 6 | 20 | 1 | | | | (EX) WIREMOLD VENDING MACHINE |
| (EX) #400 ENTRANCE LIGHTS | | | | 20 | 1 | 7 | A | 8 | 20 | 1 | | | | NEW SPARE (FMR. 400 LTG.) ** |
| (EX) #404 SMART BOARD | | | | 20 | 1 | 9 | B | 10 | 20 | 1 | | 500 | | #PV-400 PROJ. (FMR. 400 RECEP.) ** |
| (EX) TOILETS LIGHTS | | | | 20 | 1 | 11 | C | 12 | 20 | 1 | | | | (EX) EXISTING CIRCUIT |
| (EX) #104 CORR. DRINKING FOUNTAIN | | | | 20 | 1 | 13 | A | 14 | 20 | 1 | | | | (EX) #104 CORR. DRINKING FOUNTAIN |
| (EX) EXISTING CIRCUIT | | | | 20 | 1 | 15 | B | 16 | 20 | 1 | | | | (EX) EXISTING CIRCUIT |
| (EX) STILL CHEMISTRY | | | | 20 | 1 | 17 | C | 18 | 20 | 1 | | | | (EX) COFFEE MACHINE RECEP. |
| (EX) STILL CHEMISTRY | | | | 20 | 1 | 19 | A | 20 | 20 | 1 | | | | (EX) COFFEE MACHINE RECEP. |
| SPARE | | | | 20 | 1 | 21 | B | 22 | 20 | 1 | | | | SPARE (FMR. LECTURE RECEP.) ** |
| (EX) #403 STEAM GENERATOR | | | | 20 | 1 | 23 | C | 24 | 30 | 1 | | | | (EX) RECEP. BY MEN'S ROOM |
| TOTALS | 0 | 0 | 0 | | | | | | | | 0 | 3,100 | 0 | TOTALS |

| LOAD DESCRIPTION (CONNECTED/DEMAND) | CONN. VA | DMD. VA |
|---|---|---|
| LIGHTING | 0 | 0 |
| GENERAL POWER | 3,100 | 1,550 |
| HVAC EQUIPMENT | 0 | 0 |
| TOTAL | 3,100 | 1,550 |
| PERCENT LOADED | 9% | 4% |

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| PHASE BALANCE VA | |
|---|---|
| A | 1,400 |
| B | 1,700 |
| C | 0 |
| TOTAL | 3,100 |
| SD (σ) | 741 |

NOTES:
1) THIS PANEL IS EXISTING, MODIFY AS SHOWN. EXISTING PANEL IS GENERAL ELECTRIC TYPE "NLAB".
(EX) INDICATES EXISTING CIRCUIT TO REMAIN.
* INDICATES NEW CIRCUIT, PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE OR IN SPACE FROM REMOVING AN EXISTING CIRCUIT BREAKER AS REQUIRED.
** INDICATES NEW CIRCUIT, CONNECT TO EXISTING SPARE CIRCUIT BREAKER OR CIRCUIT BREAKER FROM REMOVING AN EXISTING CIRCUIT AS REQUIRED.

| | | | |
|---|---|---|---|
| PANEL - | LX (EXISTING) | VOLTAGE - | 120/ 208 |
| FOR - | EMERGENCY POWER | PHASE - | 3 PH-4W |
| LOCATION - | #410 ELECTRICAL ROOM | MAIN - | 225 A MLO |
| A.I.C. - | 10,000 A | MOUNTING- | SURFACE |

| DESCRIPTION | LTG. VA | EQUIP. VA | HVAC VA | BKR. AMPS | | BUS CONNECTION | | | BKR. AMPS | | HVAC VA | EQUIP. VA | LTG. VA | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (EX) GPS CAMERAS | | | | 20 | 1 | 1 | A | 2 | 20 | 1 | | | | SPARE |
| #400 LECTURE EMERGENCY LTG. ** | 110 | | | 20 | 1 | 3 | B | 4 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 5 | C | 6 | 20 | 1 | | | | (EX) EMERGENCY LIGHTS |
| (EX) CORRIDOR LIGHTS | | | | 20 | 1 | 7 | A | 8 | 20 | 1 | | | | (EX) EXTERIOR LIGHTS |
| (EX) CORRIDOR LIGHTS | | | | 20 | 1 | 9 | B | 10 | 20 | 1 | | | | (EX) EXHAUST FAN |
| (EX) #425 CORRIDOR LIGHTS | | | | 20 | 1 | 11 | C | 12 | 20 | 1 | | | | (EX) EXISTING CIRCUIT |
| (EX) CORRIDOR LIGHTS | | | | 20 | 1 | 13 | A | 14 | 20 | 1 | | | | (EX) ADT SECURITY PANEL |
| (EX) EXISTING CIRCUIT | | | | 20 | 1 | 15 | B | 16 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 17 | C | 18 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 19 | A | 20 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 21 | B | 22 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 23 | C | 24 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 25 | A | 26 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 27 | B | 28 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 29 | C | 30 | 20 | 1 | | | | (EX) UNI PAN RECEP. |
| (EX) 30L, 425 | | | | 30 | 2 | 31 | A | 32 | 30 | 2 | | | | (EX) 30R, 425 |
| | | | | | | 33 | B | 34 | | | | | | |
| SPARE | | | | 30 | 2 | 35 | C | 36 | 30 | 2 | | | | (EX) 20R, 425 |
| | | | | | | 37 | A | 38 | | | | | | |
| (EX) 20L, 449 | | | | 30 | 2 | 39 | B | 40 | 30 | 2 | | | | (EX) 30 |
| | | | | | | 41 | C | 42 | | | | | | |
| TOTALS | 110 | 0 | 0 | | | | | | | | 0 | 0 | 0 | TOTALS |

| LOAD DESCRIPTION (CONNECTED/DEMAND) | CONN. VA | DMD. VA |
|---|---|---|
| LIGHTING | 110 | 110 |
| GENERAL POWER | 0 | 0 |
| HVAC EQUIPMENT | 0 | 0 |
| TOTAL | 110 | 110 |
| PERCENT LOADED | 0% | 0% |

PANEL SCHEDULE
MULHERN CONSULTING ENGINEERS
AND ASSOCIATES, INC.
321 SOUTH YORK ROAD
HATBORO, PENNSYLVANIA 19040-3417
PHONE: 215-293-9900/FX: 215-441-5984
www.MulhernEngineers.com

| PHASE BALANCE VA | |
|---|---|
| A | 0 |
| B | 110 |
| C | 0 |
| TOTAL | 110 |
| SD (σ) | 52 |

NOTES:
1) THIS PANEL IS EXISTING, MODIFY AS SHOWN. EXISTING PANEL IS SIEMENS TYPE "P1".
(EX) INDICATES EXISTING CIRCUIT TO REMAIN.
* INDICATES NEW CIRCUIT, PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE OR IN SPACE FROM REMOVING AN EXISTING CIRCUIT BREAKER AS REQUIRED.
** INDICATES NEW CIRCUIT, CONNECT TO EXISTING SPARE CIRCUIT BREAKER OR CIRCUIT BREAKER FROM REMOVING AN EXISTING CIRCUIT AS REQUIRED.

MCE #5940
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Hatboro, Pennsylvania 19040
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**ROWAN COLLEGE AT GLOUCESTER COUNTY**
**Renovations at the Instructional Center Building ROOM #400**
**1400 TANYARD ROAD**
**SEWELL, NEW JERSEY 08080**

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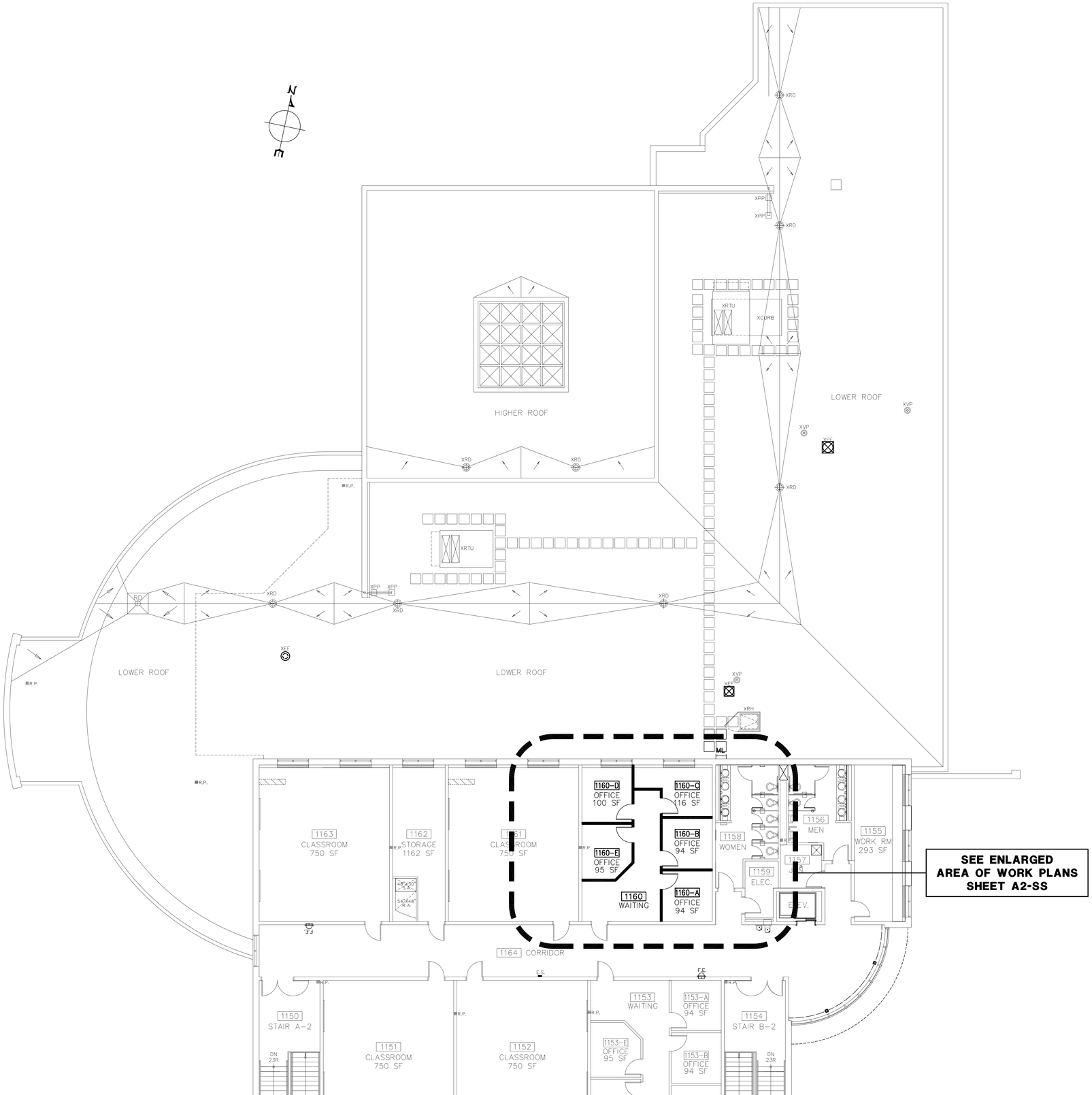
a. e.
b. f.
c. g.

Project No. 18-43
Date: 02-11-19
Scale: AS NOTED

**ELECTRICAL NOTES AND DETAILS**

**E2**

**ISSUED FOR BID 2-11-2019**




1 A1-SS STUDENT SERVICES SECOND FLOOR PLAN

SCALE: 1/8"=1'-0"

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**ROWAN COLLEGE at GLOUCESTER COUNTY**
**STUDENT SERVICES CLASSROOM 1160 INTERIOR RENOVATIONS**
1400 TANYARD ROAD
SEWELL, NEW JERSEY 08080

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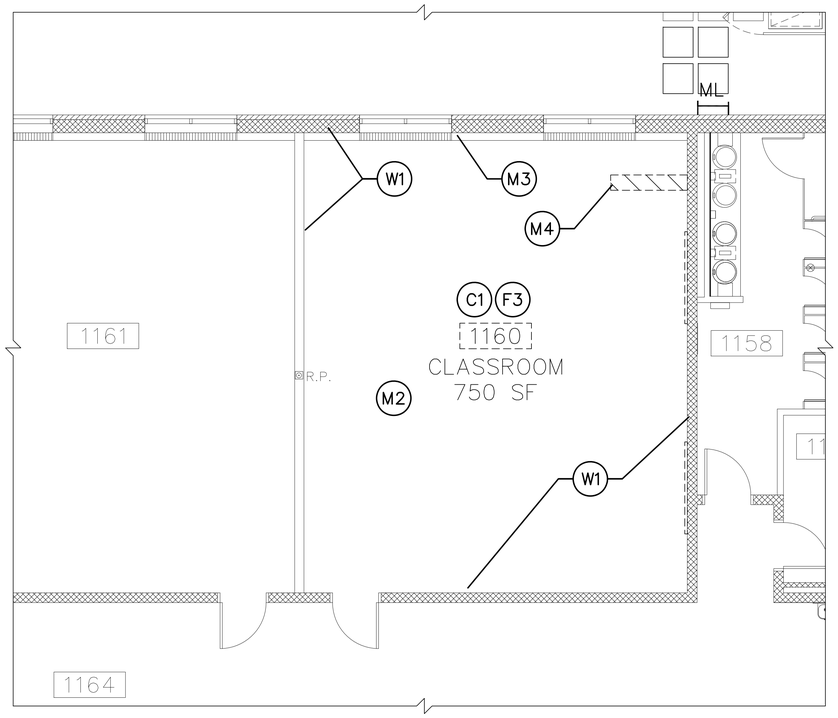
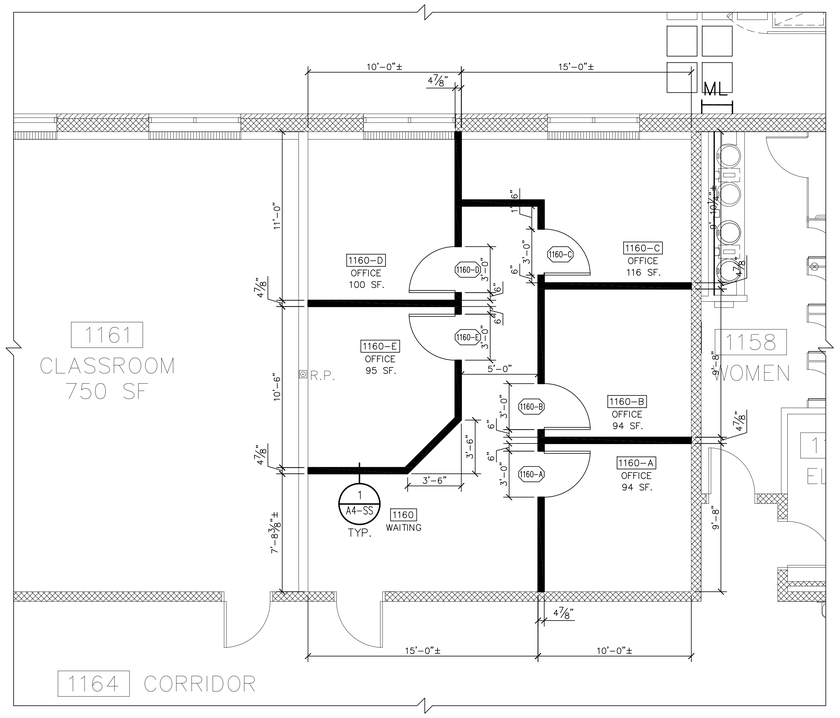
2ND FLOOR
OVERALL PLAN

**A1-SS**
STUDENT SERVICES




2A A2-SS DEMOLITION PLAN – SECOND FLOOR PARTIAL PLAN
SCALE: 1/4"=1'-0"




2B A2-SS FLOOR PLAN – SECOND FLOOR PARTIAL PLAN
SCALE: 1/4"=1'-0"

## DEMOLITION/RENOVATION NOTES:

(W1) EXISTING WALLS: UNLESS NOTED OTHERWISE, CONTRACTOR SHALL FIELD VERIFY AND REMOVE ALL EXISTING WALL MOUNTED EQUIPMENT, DEVICES, FURNISHINGS, ETC. REMOVE ALL ABANDONED EQUIPMENT, PIPING, CONDUIT, WIRE MOULD, ETC. REMOVE, PROTECT AND/OR MODIFY ALL ACTIVE M.E.P. EQUIPMENT, PIPING, CONDUIT, WIRE MOULD, ETC. AS AS REQUIRED BY THE NEW LAYOUT AND/OR INDICATED ON M.E.P. DRAWINGS & SPECIFICATIONS. REMOVE CHALK BOARDS, TACK BOARDS, WHITE BOARDS, ACOUSTICAL WALL PANELS, SIGNS, SHELVING, BRACKETS, HOOKS, ETC. SALVAGEABLE ITEMS SHALL BE TURNED OVER TO THE OWNER UPON REQUEST. CONTRACTOR SHALL INCLUDE ALL WORK NECESSARY TO PATCH AND REFURBISH EXISTING FINISHES TO COVER SIGNS OF RENOVATION AND TO CORRECT EXISTING DAMAGED SURFACES. SOME EXISTING WALL LOCATIONS MAY BE SCHEDULED TO RECEIVE NEW DRYWALL AND METAL STUD FURRING, SEE ASSOCIATED FLOOR PLAN FOR LOCATIONS AND WALL PARTITION DETAILS FOR MORE INFORMATION. ANY EXISTING WALL MOUNTED DEVICES TO REMAIN, MUST BE RELOCATED TO THE NEW FURRED OUT WALL FINISH SURFACE. ADDITIONALLY, THE CONTRACTOR SHALL FIELD VERIFY AND ENCLOSE ANY REMAINING EXPOSED PIPE/CONDUIT WITH METAL STUD FURRING AND DRYWALL INSTALLED TO MINIMIZE THE OVERALL DIMENSIONS.

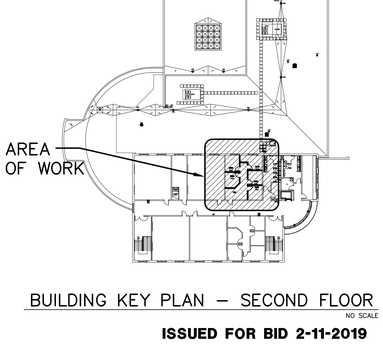
(C1) EXISTING CEILING TO REMAIN: EXISTING SUSPENDED ACOUSTICAL CEILING SYSTEM TO REMAIN. RELOCATE EXISTING LIGHTING AS SHOWN. SEE ELEC. DWGS. FOR REVISED SWITCHING, ETC. RELOCATE EXISTING AND/OR ADD HVAC AIR DEVICES AS SHOWN. SEE MECH. DWGS. FOR ANY HVAC RELATED SCOPE OF WORK. FIRE ALARM DEVICE LOCATIONS AND QUANTITIES SHALL BE MODIFIED AS REQUIRED BY NEW ROOM LAYOUT (SEE ELEC. DWGS.) EXISTING FIRE SPRINKLER LAYOUT AND QUANTITIES SHALL BE MODIFIED AS REQUIRED BY NEW ROOM LAYOUT (SEE MECH. DWGS.). REPLACE CEILING TILES TO MATCH ADJACENT EXISTING AS REQUIRED TO COVER SIGNS OF RENOVATION.

(F1) EXISTING VCT TO REMAIN: PROTECT EXISTING VCT FLOORING TO REMAIN DURING CONSTRUCTION AND THOROUGHLY CLEAN INSTALL NEW CARPET TILE TO MATCH ADJACENT OFFICE SPACE ACROSS HALL.

(M2) SALVAGEABLE ITEMS: EXISTING CEILING MOUNTED PROJECTORS, WALL/CEILING MOUNTED PROJECTION SCREENS, WALL/CEILING MOUNTED SPEAKERS, WALL/CEILING MOUNTED WIRELESS ACCESS POINTS AND WALL MOUNTED SMART BOARDS SHALL BE SALVAGED AND TURNED OVER TO THE OWNER. UNLESS NOTED OTHERWISE, REMOVE ASSOCIATED CONNECTIONS AND PROPERLY TERMINATE BEYOND ADJACENT FINISHED SURFACES. PATCH AND REFURBISH EXISTING SURFACES TO REMAIN AS REQUIRED TO COVER SIGNS OF RENOVATION.

(M3) FIN TUBE RADIATION MODIFICATION: REMOVE PORTION OF FIN TUBE COVER AS NEED TO CONSTRUCT NEW PARTITION WALL. INSTALL NEW END CAPS OR TRIM TO MATCH ADJACENT EXISTING AS REQUIRED TO COVER SIGNS OF RENOVATION.

(M4) EXISTING FLOOR TRENCH ACCESS COVER: NEW CARPET TILE FLOORING SHALL COVER SAME.




BUILDING KEY PLAN – SECOND FLOOR
NO SCALE

**ISSUED FOR BID 2-11-2019**

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A Professional Corporation of Architects and Planners
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**ROWAN COLLEGE at GLOUCESTER COUNTY**
**STUDENT SERVICES CLASSROOM 1160 INTERIOR RENOVATIONS**
**1400 TANYARD ROAD**
**SEWELL, NEW JERSEY 08080**

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**2ND FLOOR PARTIAL PLANS**

**A2-SS**
**STUDENT SERVICES**

## CEILING/RENOVATION NOTES:

1. EXISTING CEILING TO REMAIN: EXISTING SUSPENDED ACOUSTICAL CEILING SYSTEM TO REMAIN. RELOCATE EXISTING LIGHTING AS SHOWN. SEE ELEC. DWGS. FOR REVISED SWITCHING, ETC. RELOCATE EXISTING AND/OR ADD HVAC AIR DEVICES AS SHOWN. SEE MECH. DWGS. FOR ANY HVAC RELATED SCOPE OF WORK. FIRE ALARM DEVICE LOCATIONS AND QUANTITIES SHALL BE MODIFIED AS REQUIRED BY NEW ROOM LAYOUT (SEE ELEC. DWGS.) EXISTING FIRE SPRINKLER LAYOUT AND QUANTITIES SHALL BE MODIFIED AS REQUIRED BY NEW ROOM LAYOUT NEW SPRINKLER HEADS & HEAT DECTORS SHALL BE PROVIDED PER THIS PLAN. REPLACE CEILING TILES TO MATCH ADJACENT EXISTING AS REQUIRED TO COVER SIGNS OF RENOVATION.

2. RELOCATE EXISTING SPEAKER. FIELD VERIFY AND CONFIRM LOCATION WITH OWNER DURING CONSTRUCTION.

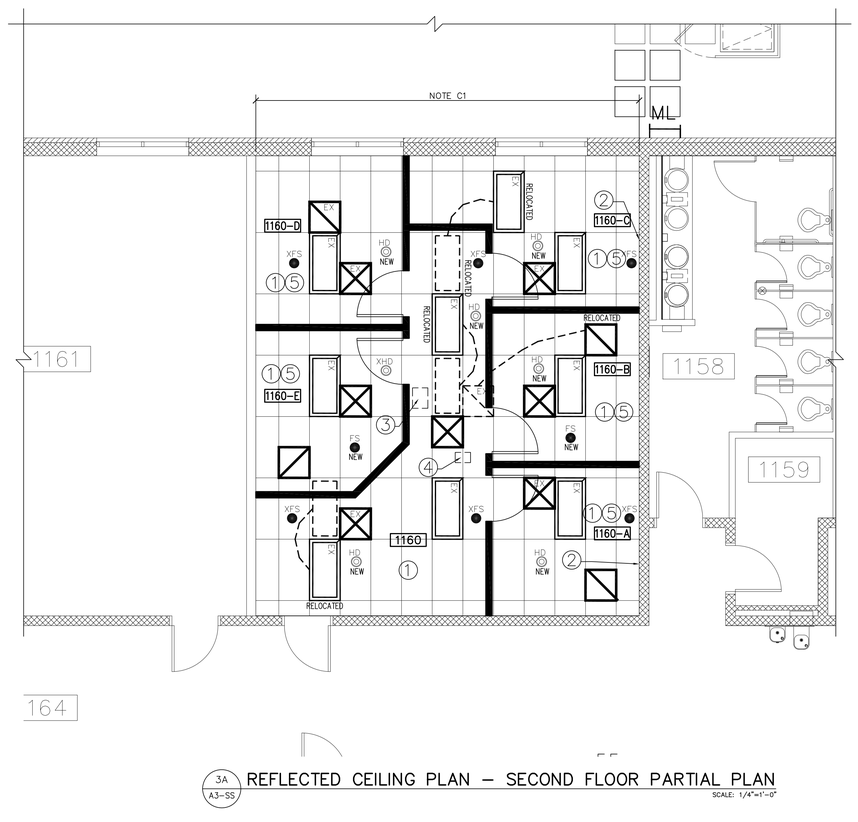
3. REMOVE EXISTING PROJECTOR COMPLETELY, INCLUDING REMOVAL OF ALL RELATED, ABANDONED CONDUIT AND CONNECTIONS AS REQUIRED BY CODE.

4. EXISTING WIFI UNIT TO REMAIN.

5. PROVIDE NEW 6" BATT UNFACED ACOUSTICAL INSULATION OVER CEILING IN EACH OFFICE AREA.

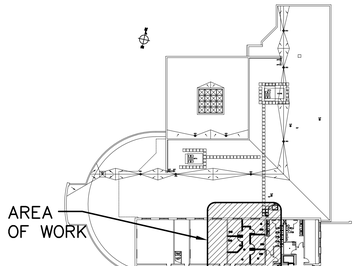
REFER TO MECHANICAL & ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR MORE INFORMATION. THE MAJORITY OF CEILING MOUNTED LIGHT FIXTURES AND AIR DEVICES ARE SHOWN HERE FOR BASIC INTENT. THE CONTRACTOR IS RESPONSIBLE FOR PREPARING COMPREHENSIVE COORDINATION DRAWINGS, VERIFYING AVAILABLE AREA AND ABOVE CEILING CLEARANCE. DRAWINGS SHALL INCORPORATE THE WORK OF ALL APPLICABLE TRADES AND ALL CEILING MOUNTED EQUIPMENT, INCLUDING ALL EXISTING POTENTIAL CONFLICTS (EXISTING PIPE, DUCT, ETC.).

- 2' x 4' LED RECESSED LAY-IN LIGHT FIXTURE
- 2' x 2' LED RECESSED LAY-IN LIGHT FIXTURE
- EXISTING TO REMAIN RECESSED LAY-IN LIGHT FIXTURE
- EXISTING TO BE RELOCATED RECESSED LAY-IN LIGHT FIXTURE
- EXISTING RELOCATED RECESSED LAY-IN LIGHT FIXTURE
- AIR SUPPLY DIFFUSER
- RETURN AIR GRILLE
- EXISTING RETURN AIR GRILLE TO REMAIN
- EXHAUST REGISTER
- EXISTING AIR DEVICE TO REMAIN
- EXISTING AIR RETURN TO BE RELOCATED
- EXISTING AIR SUPPLY RELOCATED
- EXISTING FIRE SPRINKLER APPROXIMATE LOCATION FOR REFERENCE ONLY. ALL FIRE SPRINKLER HEADS & PIPING MUST BE FIELD VERIFIED, RELOCATED, EXPANDED AND ADDED AS REQUIRED BY NEW ROOM LAYOUTS.
- NEW FIRE SPRINKLER
- EXISTING HEAT DETECTOR
- NEW HEAT DETECTOR




3A / A3-SS REFLECTED CEILING PLAN – SECOND FLOOR PARTIAL PLAN

SCALE: 1/4"=1'-0"




BUILDING KEY PLAN – SECOND FLOOR

NO SCALE

**ISSUED FOR BID 2-11-2019**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**ROWAN COLLEGE at GLOUCESTER COUNTY**
**STUDENT SERVICES CLASSROOM 1160 INTERIOR RENOVATIONS**
**1400 TANYARD ROAD**
**SEWELL, NEW JERSEY 08080**

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| c. | g. |

Project No. 18-43
Date:
Scale: AS NOTED

**REFLECTED CEILING PLANS**

**A3-SS**
**STUDENT SERVICES**

# ROOM FINISH SCHEDULE

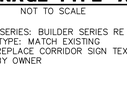
| ROOM NUMBER | ROOM NAMES | REQUIRED FIRE RATING | FLOORS: RESILIENT TILE VCT-1 | FLOORS: RESILIENT TILE VCT-2 | FLOORS: CARPET (CP-1) | FLOORS: TRAFFIC TILE (CP-2) | FLOORS: CERAMIC TILE | FLOORS: QUARRY TILE | FLOORS: RUBBER TREAD/RISER | FLOORS: SEALED CONCRETE | FLOORS: EXISTING TO REMAIN | BASE: 4" VINYL COVE | BASE: 6" VINYL COVE | BASE: CERAMIC TILE COVE | BASE: QUARRY TILE COVE | BASE: RUBBER BASE/STRINGER | BASE: EXISTING TO REMAIN | WALLS: PAINTED GWB | WALLS: CERAMIC TILE | WALLS: CERAMIC TILE (ABOVE COUNTER) | WALLS: CERAMIC TILE WAINSCOT 4' A.F.F. | WALLS: FRP PANELS/TRIM WAINSCOT 5' A.F.F. | WALLS: | WALLS: EXISTING TO REMAIN (PREP & PAINT ALL PAINTABLE SURFACES) | CEILINGS: CEILING TILE (C-1) | CEILINGS: CEILING TILE (C-2) | CEILINGS: CEILING TILE (C-3) | CEILINGS: EXPOSED | CEILINGS: EXIST'G GRID/NEW TILE | CEILINGS: EXISTING TO REMAIN | CEILINGS: HEIGHT A.F.F. | CLASSIFICATION: INTERIOR FINISH CLASS (A / B / C) | CLASSIFICATION: FLAME SPREAD RATING (0-25 / 26-75 / 76-200) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1160 | WAITING AREA/PASSAGE | | | | ● | | | | | | | ● | | | | | | ● | | | | | | ● | | | | | | ● | 9'-6"± | C | | SEE NOTE R-3 BELOW |
| 1160-A | OFFICE | | | | ● | | | | | | | ● | | | | | | ● | | | | | | ● | | | | | | ● | 9'-6"± | C | | SEE NOTE R-3 BELOW |
| 1160-B | OFFICE | | | | ● | | | | | | | ● | | | | | | ● | | | | | | ● | | | | | | ● | 9'-6"± | C | | SEE NOTE R-3 BELOW |
| 1160-C | OFFICE | | | | ● | | | | | | | ● | | | | | | ● | | | | | | ● | | | | | | ● | 9'-6"± | C | | SEE NOTE R-3 BELOW |
| 1160-D | OFFICE | | | | ● | | | | | | | ● | | | | | | ● | | | | | | ● | | | | | | ● | 9'-6"± | C | | SEE NOTE R-3 BELOW |
| 1160-E | OFFICE | | | | ● | | | | | | | ● | | | | | | ● | | | | | | ● | | | | | | ● | 9'-6"± | C | | SEE NOTE R-3 BELOW |

TYPICAL ROOM FINISH NOTES:

1) INSTALL EXTRUDED ALUMINUM TRANSITION THREASHOLD AT ALL FLOOR MATERIAL TRANSITIONS (UNLESS NOTED OTHERWISE). FINISH SHALL BE CLEAR ANODIZED. PROFILE AND DIMENSIONS TO BE COORDINATED VIA SHOP DRAWING SUBMITTALS.

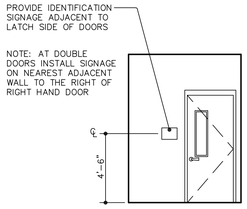
2) REMOVE EXISTING FINISHES AS REQUIRED. PREP AND/OR REPAIR EXISTING SURFACES AS REQUIRED FOR INSTALLATION OF NEW FINISH MATERIALS. PROTECT ADJACENT EXISTING FINISHES TO REMAIN REPAIR, REFURBISH AND/OR INSTALL NEW TRIM OR COVERS AS REQUIRED TO MINIMIZE SIGNS OF RENOVATION.

SIZE: 9" x 12"




A SIGNAGE TYPE "A"
NOT TO SCALE

ISIGN SERIES: BUILDER SERIES RE
SIGN TYPE: MATCH EXISTING
* REPLACE CORRIDOR SIGN TEXT BY OWNER




TYP. SIGNAGE MOUNTING
SCALE: 1/4"=1'-0"

## IDENTIFICATION SIGNAGE:

SIGNAGE MUST COMPLY WITH ICC/ANSI A117.1-2003: ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES.

PROVIDE IDENTIFICATION SIGNAGE FOR ALL INTERIOR DOORS SCHEDULED FOR SIGNAGE (SEE DOOR SCHEDULE)

INSTALL SIGNAGE AS SHOWN ON TYPICAL MOUNTING DETAIL, THIS SHEET.

MATERIAL: ⅛" THICK OPAQUE CAST ACRYLIC SHEET WITH SQUARE CORNERS.

FRAMES: JRS MOLDED PLASTIC FRAMES

LETTERSTYLE: HELVETICA

INSTALLATION: HIGH BOND VINYL TAPE AND SILICON

MOUNTING HEIGHT AND LOCATION: MEASURED AT THE CHARACTER BASELINE, CHARACTERS ARE TO BE 48" MINIMUM TO 60" MAXIMUM ABOVE THE GROUND SURFACE. SIGNS PROVIDED AT A DOOR SHALL BE ALONGSIDE THE DOOR ON THE LATCH SIDE. AT DOUBLE DOORS, THE SIGN IS TO THE RIGHT OF THE RIGHT-HAND DOOR.

CHARACTER AND LINE SPACING: MEASURED BETWEEN THE TWO CLOSEST POINTS OF ADJACENT CHARACTERS, EXCLUDING WORD SPACES. SPACING BETWEEN INDIVIDUAL CHARACTERS SHALL BE ⅛" MINIMUM. SPACING BETWEEN BASELINE OF SEPARATE LINES OF CHARACTERS SHALL BE 135% MINIMUM OF CHARACTER HEIGHT.

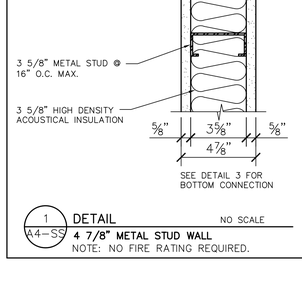
CHARACTER HEIGHT: SHALL BE A MINIMUM OF ⅝"
CHARACTER WIDTH: SHALL BE A MINIMUM 55% OF THE CHARACTER HEIGHT

FINISH & CONTRAST: THE CHARACTERS, SYMBOLS AND BACKGROUND SHALL BE EGGSHELL, MATTE OR OTHER NON-GLARE FINISH. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND.

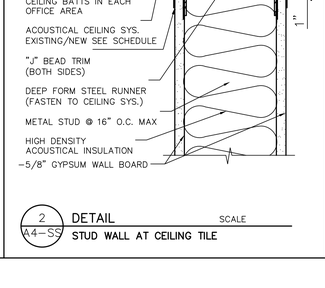
TACTILE CHARACTERS OR SYMBOLS: SHALL BE UPPERCASE SAN SERIF CHARACTERS AND SYMBOLS RAISED 1/32" MINIMUM.

BRAILLE: SHALL BE GRADE II BRAILLE RAISED 1/32"MINIMUM AND ⅜" MINIMUM FROM THE CORRESPONDING RAISED CHARACTERS OR SYMBOLS. CHARACTER HEIGHT IS ½" MINIMUM. COMPLIANT WITH CODES 703.5.1 THROUGH 703.5.4 AND TABLE 703.5.

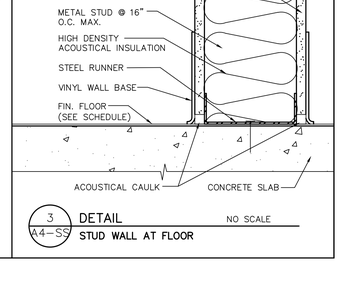
INTERNATIONAL SYMBOL OF ACCESSIBILITY AND OTHER PICTOGRAMS: SHALL BE RAISED 1/32" MINIMUM AND HAVE A MINIMUM CLEAR FIELD WITH A HEIGHT OF 6".
* ACCESSIBILITY SYMBOL IS REQUIRED AT ACCESSIBLE TOILET FACILITIES WHEN ALL ARE NOT ACCESSIBLE.




1 A4-SS DETAIL NO SCALE
4 7/8" METAL STUD WALL
NOTE: NO FIRE RATING REQUIRED.




2 A4-SS DETAIL SCALE
STUD WALL AT CEILING TILE




3 A4-SS DETAIL NO SCALE
STUD WALL AT FLOOR

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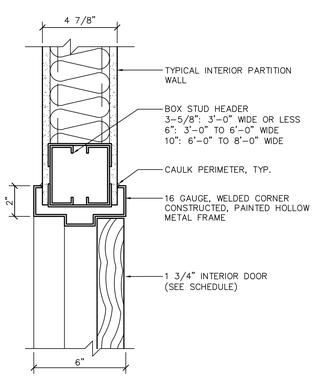
ROOM FINISH SCHEDULE & WALL DETAILS
A4-SS
STUDENT SERVICES



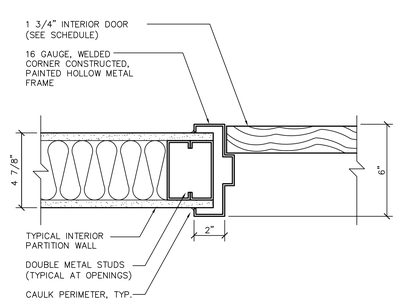
DRAWINGS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB, AND THIS OFFICE MUST BE ADVISED OF ANY VARIATIONS FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS PRIOR TO PROCEEDING WITH ANY WORK AFFECTED THEREBY.

# DOOR & FRAME SCHEDULE

| NO. | LOCATION | DOOR WIDTH | DOOR HEIGHT | DOOR TYPE | DOOR MATERIAL | DOOR FINISH | FRAME TYPE | FRAME MATERIAL | FRAME FINISH | FIRE RATING (MIN.) | HARDWARE SET | HEAD | JAMB | SILL | IDENTIFICATION SIGNAGE TYPE | IDENTIFICATION SIGNAGE TEXT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1160–A | WAITING (1160) TO OFFICE (1160–A) | 3'–0" | 7'–0" | D2 | SC. WD. | BIRCH | F2 | HM | PTD. | – | SEE HARDWARE SCHEDULE | 1 | 2 | – | A | NAME & NUMBER TBD | – |
| 1160–B | WAITING (1160) TO OFFICE (1160–B) | 3'–0" | 7'–0" | D2 | SC. WD. | BIRCH | F2 | HM | PTD. | – | | 1 | 2 | – | A | NAME & NUMBER TBD | – |
| 1160–C | WAITING (1160) TO OFFICE (1160–C) | 3'–0" | 7'–0" | D2 | SC. WD. | BIRCH | F2 | HM | PTD. | – | | 1 | 2 | – | A | NAME & NUMBER TBD | – |
| 1160–D | WAITING (1160) TO OFFICE (1160–D) | 3'–0" | 7'–0" | D2 | SC. WD. | BIRCH | F2 | HM | PTD. | – | | 1 | 2 | – | A | NAME & NUMBER TBD | – |
| 1160–E | WAITING (1160) TO OFFICE (1160–E) | 3'–0" | 7'–0" | D2 | SC. WD. | BIRCH | F2 | HM | PTD. | – | | 1 | 2 | – | A | NAME & NUMBER TBD | – |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

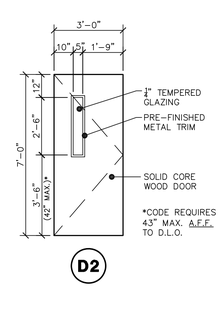



1 **DOOR HEAD DETAIL**
SCALE: 3"=1'–0"



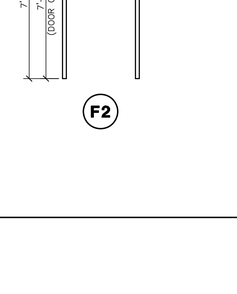

2 **DOOR JAMB DETAIL**
SCALE: 3"=1'–0"

## DOOR TYPES




D2

## FRAME TYPES




F2

**ISSUED FOR BID 2-11-2019**


GARRISON ARCHITECTS
A Professional Corporation of Architects and Planners
713 CREEK ROAD, BELLMAWR, NEW JERSEY 08031 (856) 396–6200


**ROWAN COLLEGE at GLOUCESTER COUNTY**
**STUDENT SERVICES CLASSROOM 1160 INTERIOR RENOVATIONS**
1400 TANYARD ROAD
SEWELL, NEW JERSEY 08080

REVISIONS
a. e.
b. f.
c. g.

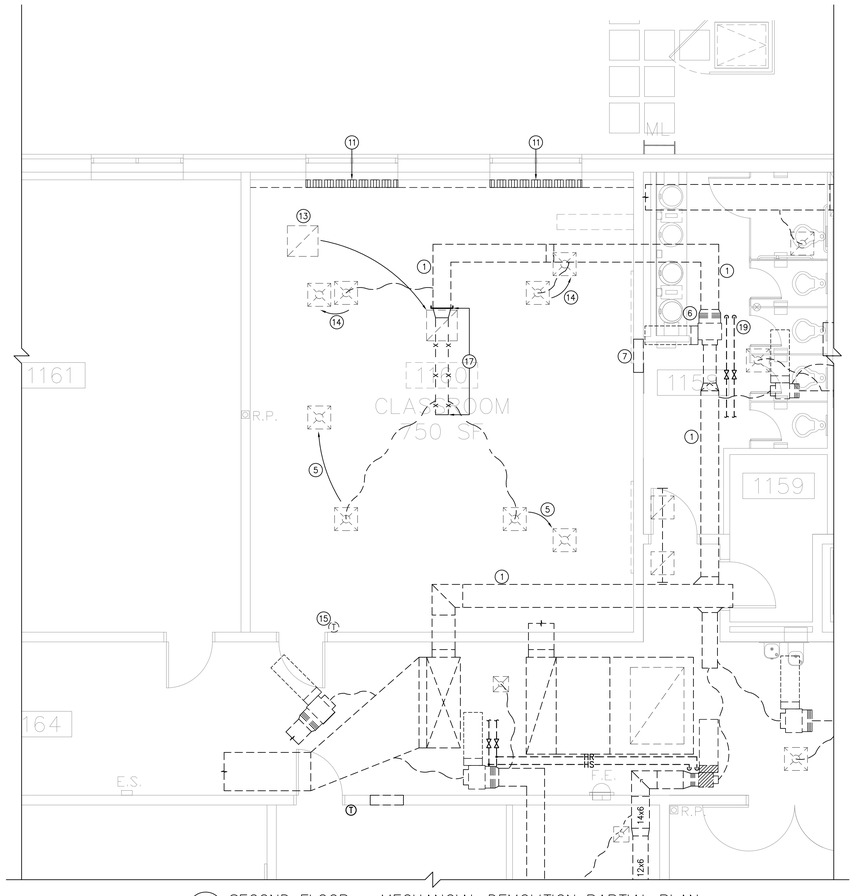
Project No. 18–43
Date:
Scale: AS NOTED

DOOR SCHEDULE & DETAILS
**A5-SS**
STUDENT SERVICES

*MULHERN*
and ASSOCIATES, Incorporated
321 South York Road
Hatboro, Pennsylvania 19040
Phone: (215) 293-9900
Fax: (215) 293-9214

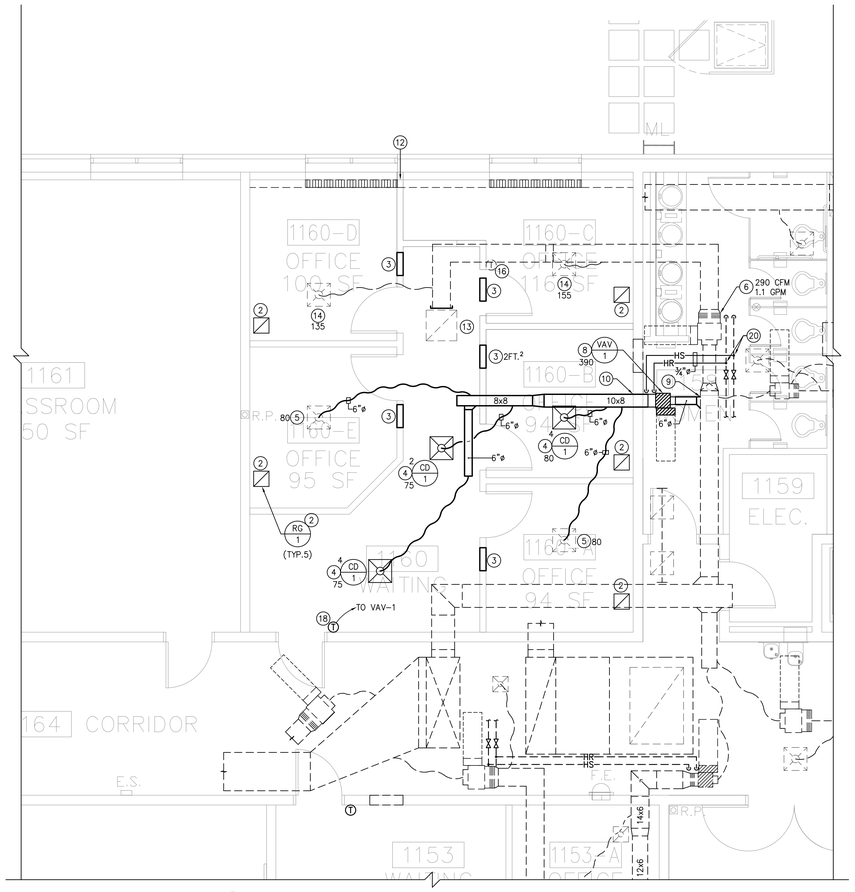
ALL NOTES ON PLANS MAY NOT BE ON THIS SHEET
FOR ALL NOTES REFER TO NOTES ON M-1

PRIOR TO BIDDING, MECHANICAL CONTRACTOR
TO VISIT SITE PER SPECIFICATION 15010
ALL WORK NEW U.N.O.
ALL WORK BASE BID U.N.O.

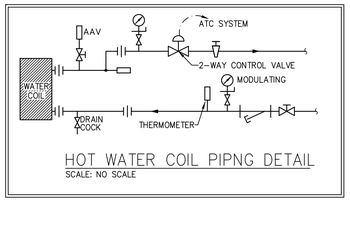



1 SECOND FLOOR – MECHANICAL DEMOLITION PARTIAL PLAN
SCALE: 1/4" = 1'-0"

NOTE:
UNLESS OTHERWISE NOTED, ALL
EXISTING WORK IS EXISTING TO REMAIN.




2 SECOND FLOOR – MECHANICAL NEW WORK PARTIAL PLAN
SCALE: 1/4" = 1'-0"




HOT WATER COIL PIPNG DETAIL
SCALE: NO SCALE

FURNISHED BY OWNER

HOT WATER HEAT VARIABLE VOLUME AIR DEVICE SCHEDULE — SYMBOL VAV

| NO. | CFM@ MAX S.P. | MAX INLET S.P. | MAX N.C. LEVEL | MIN CFM HGT. | MIN CFM COOL'G | HTG CAPY MBH | GPM | TRANE MODEL NUMBER | INLET SIZE | LOCATION |
|---|---|---|---|---|---|---|---|---|---|---|
| VAV 1 | 390 | 2.0 | 20 | | | 5.0 | 0.5 | VCWF | 6"ø | STUDENT SERVICES 1153 OFFICES |

NOTES:
1. HEATING CAPACITY BASED ON 180°F EWT–150°F LWT, 5' MAX COIL PD
2. ALL UNITS WITH SOUND ABSORBER

AIR DEVICE SCHEDULE

| NO. | CD | LID | SR / SG | RR / RG | ER / EG | LAD / LBD | WMS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 1 | 6"ø | | | 12x12 | | | | CD1 METAL AIRE 5750 |

CD X – INDICATES NUMBER OF BLOWS
XXX – INDICATES AMOUNT OF CFM

FLEXIBLE DUCT SIZING SCHEDULE

| SIZE | MAXIMUM CFM HIGH PRESSURE | MAXIMUM CFM LOW PRESSURE | REMARKS |
|---|---|---|---|
| 6"ø | 160 | 110 | XX |
| 8"ø | 320 | 240 | XX |
| 10"ø | 610 | 420 | XX |
| 12"ø | 1000 | 700 | XX |
| 14"ø | 1500 | N/A | XX |

FLEX DUCT TO BE PULLED TIGHT AND BANDED, WITH A MAXIMUM OF ONE 90°ELBOW, AND A MAXIMUM OF 10'–0" IN LENGTH

MECHANICAL LEGEND

| | |
|---|---|
| A/L | ACOUSTICALLY LINED |
| AP | ACCESS PANEL |
| ACD | ACCESS DOOR |
| ADR | AUTOMATIC DAMPER |
| BDD | BACK DRAFT DAMPER |
| BTJ | BETWEEN THE JOISTS |
| CS | CHILLED WATER SUPPLY |
| CR | CHILLED WATER RETURN |
| CD | CEILING DIFFUSER |
| CU | CONDENSING UNIT |
| DBR | DOWN BLOW REGISTER |
| DL | DOOR LOUVER |
| DN | DOWN |
| DX | DIRECT EXPANSION COIL |
| (E) | EXISTING |
| EF | EXHAUST FAN |
| EG | EXHAUST GRILLE |
| ER | EXHAUST REGISTER |
| FDR | FIRE DAMPER |
| FVAV | FAN POWERED VAV UNIT |
| GV | GATE VALVE |
| HR | HOT WATER HEATING RETURN |
| HS | HOT WATER HEATING SUPPLY |
| LAD | LOUVER/AUTO DAMPER |
| LBD | LOUVER/BACKDRAFT DAMPER |
| LID | LINEAR DIFFUSER |
| LMD | LOUVER/MANUAL DAMPER |
| LVR | LOUVER |
| MUA | MAKEUP AIR UNIT |
| MVD | MANUAL VOLUME DAMPER |
| OAI | OUTSIDE AIR INTAKE |
| RG | RETURN GRILLE |
| RR | RETURN REGISTER |
| SG | SUPPLY GRILLE |
| SF | SUPPLY FAN |
| SR | SUPPLY REGISTER |
| SDR/FDR | SMOKE/FIRE DAMPER |
| TF | TRANSFER FAN |
| TWJ | THROUGH WEB OF JOIST |
| TYP | TYPICAL (OF QUANTITY) |
| UNO | UNLESS NOTED OTHERWISE |
| VAV | VARIABLE AIR VOLUME TERMINAL UNIT |
| VVT | VARIABLE AIR VOLUME TEMPERATURE UNIT |
| WMS | WIRE MESH SCREEN |

| | |
|---|---|
| —C— | CONDENSATE PIPE |
| —HS— | HOT WATER HEATING SUPPLY (SYSTEM) |
| —HR— | HOT WATER HEATING RETURN (SYSTEM) |
| —CHWR— | CHILLED WATER RETURN (SYSTEM) |
| —CHWS— | CHILLED WATER SUPPLY (SYSTEM) |
| —CR— | CONDENSER WATER RETURN |
| —CS— | CONDENSER WATER SUPPLY |
| —R— | REFRIGERANT PIPE |
| | GATE VALVE |
| | CHECK VALVE |
| | RELIEF VALVE |
| | CONTROL VALVE |
| | AUTOMATIC THREE-WAY VALVE |
| | GLOBE VALVE |
| | PRESSURE REDUCING VALVE |
| | AUTOMATIC TWO-WAY VALVE |
| | PLUG OR BALL VALVE |
| | BALANCING VALVE |
| | STRAINER |
| | UNION |
| T H | HEATING THERMOSTAT |
| T HC | HEATING & COOLING THERMOSTAT |
| T C | COOLING THERMOSTAT |
| | THERMOMETER |
| | PRESSURE GAUGE W/GAUGE COCK |
| AAV | AUTOMATIC AIR VENT |
| | FLEXIBLE CONNECTION |
| | NEW CONNECTION TO EXISTING |
| | DUCT REDUCER |

MECHANICAL

1 EXISTING SUPPLY AIR DUCT TO REMAIN, VERIFY IN FIELD.

2 NEW RETURN AIR GRILLE OPEN TO CEILING PLENUM WITH ACOUSTICALLY LINED PLENUM BOX SAME SIZE AS GRILLE, 12" HIGH OPEN ON ONE SIDE FACING WALL. ON WALL, PROVIDE 1" THICK 6# DENSITY ACOUSTICAL INSULATION, 12" GREATER THAN OPENING (12"X12") SIZE, (24"X18"H)

3 OPENING IN NEW WALL ABOVE CEILING 1 SQ.FT UNLESS INDICATED OTHERWISE.

4 NEW CEILING DIFFUSER.

5 EXISTING DIFFUSER TO BE RELOCATED. DISCONNECT FROM EXISTING DUCT AND CONNECT TO NEW DUCT. REBALANCE FOR CFM AS INDICATED.

6 EXISTING VAV BOX TO REMAIN. REBALANCE FOR NEW AIR QUANTITY. AND NEW GPM.

7 EXISTING OPENING IN WALL TO REMAIN, VERIFY EXACT LOCATION.

8 NEW VAV CONTROL DEVICE. CONNECT NEW DUCT TO EXISTING DUCT.

9 CONNECT NEW DUCT TO EXISTING DUCT.

10 NEW DUCT THRU EXISTING WALL. DO NOT LOCATE BELOW STEEL BEARING.

11 EXISTING PERIMETER RADIATION TO REMAIN.

12 CUT RADIATION ENCLOSURE AT NEW WALL AND PROVIDE NEW END CAPS. FINS AND PIPE TO REMAIN. PROVIDE INSULATION (HIGH TEMPERATURE) AT WALL IN ENTIRE RADIATION ENCLOSURE.

13 EXISTING RETURN AIR GRILLE TO BE RELOCATED. FINAL LOCATION PER ARCHITECTURAL CEILING PLAN.

14 EXISTING DIFFUSER TO REMAIN. RELOCATE PER NEW REELECTED CEILING PLAN AND REBALANCE TO CFM INDICATED.

15 RELOCATE EXISTING THERMOSTAT.

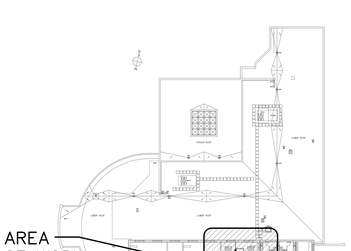
16 NEW LOCATION FOR EXISTING THERMOSTAT.

17 REMOVE EXISTING DUCT, CAPPED DUCT TO REMAIN.

18 NEW DDC SENSOR.

19 EXISTING HOT WATER SUPPLY AND RETURN ABOVE CEILING TO REMAIN.

20 CONNECT NEW HOT WATER HEATING PIPE TO EXISTING HOT WATER HEATING PIPE. NOTE – PIPE CONNECTIONS SHOWN AT EXISTING VAV PAST SHUTOFF TO ELIMINATE DRAINING OF WATER SYSTEM.




BUILDING KEY PLAN – SECOND FLOOR
SCALE: NTS

**ISSUED FOR BID 2-11-2019**

Garrison Architects
A Professional Corporation of Architects and Planners
713 CREEK ROAD, BELLMAWR, NEW JERSEY 08031 (856) 396-6200

**ROWAN COLLEGE at GLOUCESTER COUNTY**
**STUDENT SERVICES CLASSROOM 1160 INTERIOR RENOVATIONS**
1400 TANYARD ROAD
SEWELL, NEW JERSEY 08080

REVISIONS
a. e.
b. f.
c. g.

Project No. 18-43
Date: 01/23/19
Scale: AS NOTED

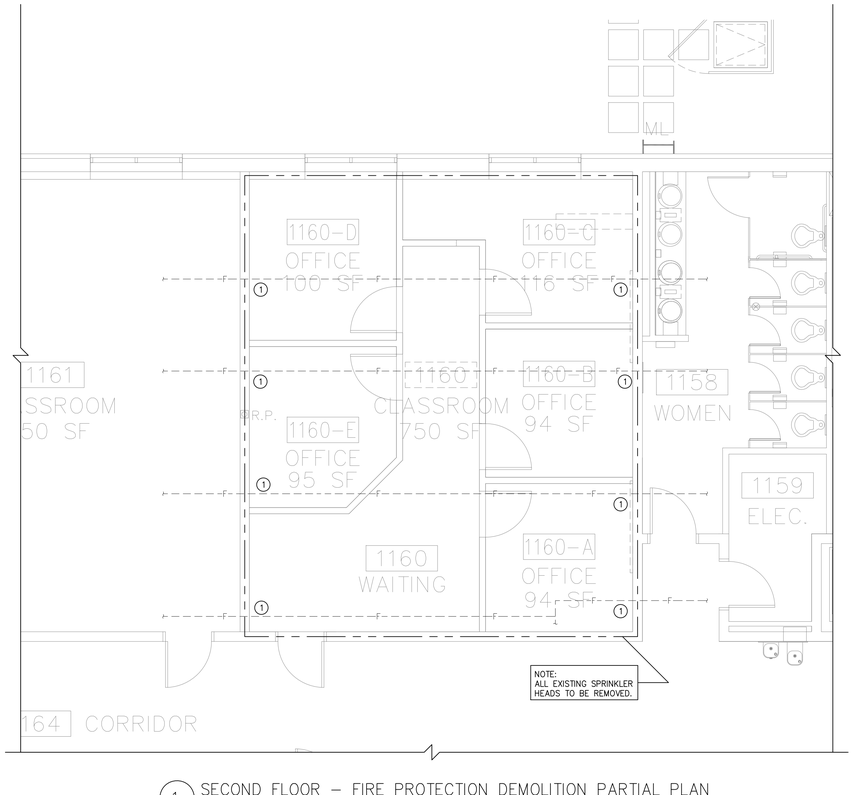
**2ND FLOOR MECHANICAL PLAN**

**M1-SS**

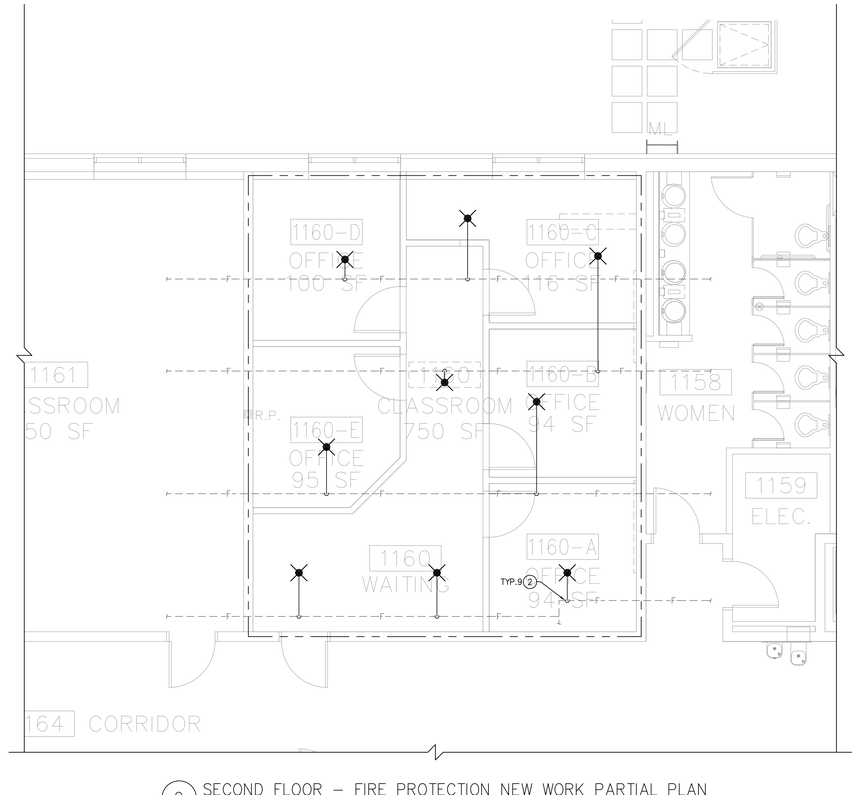
MULHERN
and ASSOCIATES, Incorporated
321 South York Road
Hatboro, Pennsylvania 19040
Phone: (215) 293-9900
Fax: (215) 293-9214

ALL NOTES ON PLANS MAY NOT BE ON THIS SHEET
FOR ALL NOTES REFER TO NOTES ON FP-1

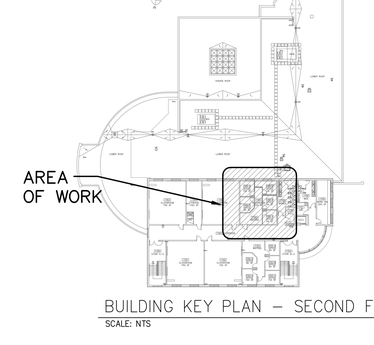
ALL WORK BY FIRE PROTECTION CONTRACTOR U.N.O.
ALL WORK NEW U.N.O.
ALL WORK BASE BID U.N.O.




1 SECOND FLOOR – FIRE PROTECTION DEMOLITION PARTIAL PLAN
SCALE: 1/4" = 1'-0"




2 SECOND FLOOR – FIRE PROTECTION NEW WORK PARTIAL PLAN
SCALE: 1/4" = 1'-0"




BUILDING KEY PLAN – SECOND FLOOR
SCALE: NTS

FIRE PROTECTION SHEET NOTES

1 EXISTING SPRINKLER PIPE TO REMAIN.

2 CONNECT NEW SPRINKLER HEAD TO EXISTING SPRINKLER PIPE.

PIPE & HEAD LAYOUT SHOWN FOR CODE COMPLIANCE ONLY.
PROVIDE A COMPLETE AUTOMATIC SPRINKLER SYSTEM WITH ALL HEADS & APPURTENANCES. REMOVE, RELOCATE & ADD NEW SPRINKLER HEADS &/OR PIPE BASED ON NEW ARCHITECTURAL LAYOUT TO PROVIDE COVERAGE PER NFPA, LOCAL CODE, INSURER &/OR FIRE MARSHALL.

FINAL SPRINKLER PIPE & HEAD LAYOUT PER SPRINKLER CONTRACTOR SHOP DRAWINGS. SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER TO ALL APPLICABLE AUTHORITIES HAVING JURISDICTION FOR REVIEW.

**ISSUED FOR BID 2-11-2019**

Garrison Architects, A Professional Corporation of Architects and Planners
713 CREEK ROAD, BELLMAWR, NEW JERSEY 08031 (856) 396-6200

**ROWAN COLLEGE at GLOUCESTER COUNTY**
**STUDENT SERVICES CLASSROOM 1160 INTERIOR RENOVATIONS**
**1400 TANYARD ROAD**
**SEWELL, NEW JERSEY 08080**



REVISIONS

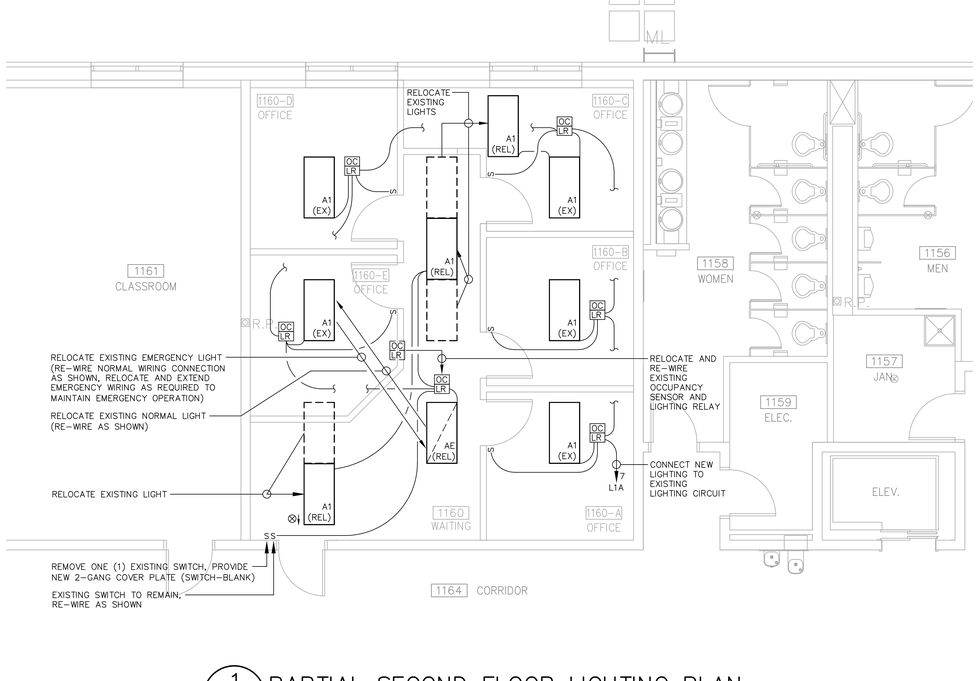
| | |
|---|---|
| a. | e. |
| b. | f. |
| c. | g. |

**Project No.** 18-43
**Date:** 01/23/19
**Scale:** AS NOTED

**2ND FLOOR FIRE PROTECTION PLAN**

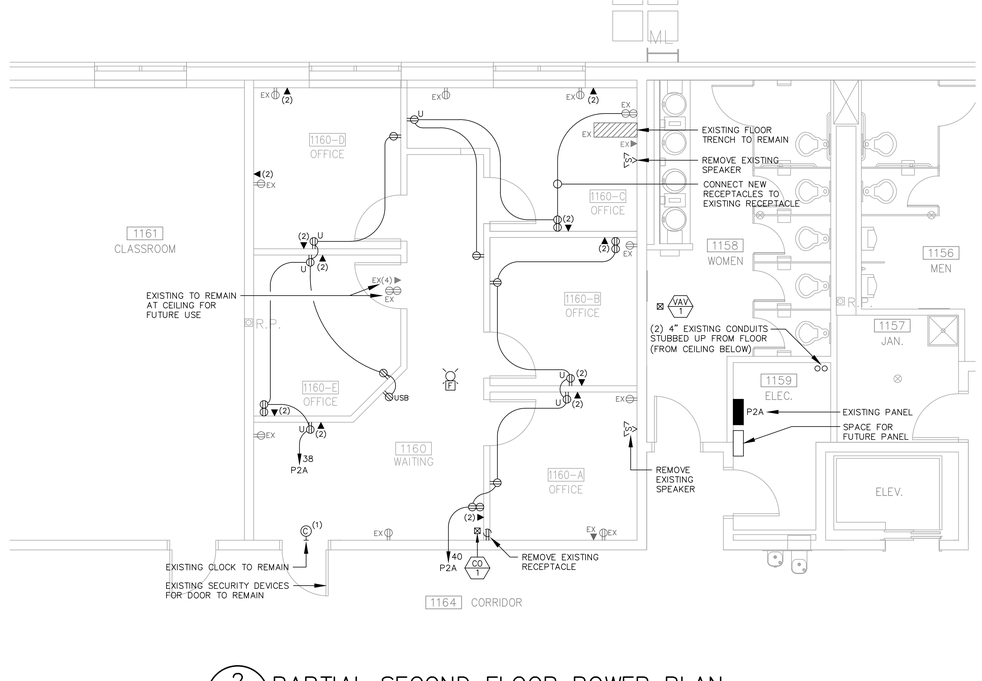
**FP1-SS**

MULHERN Consulting Engineers
and ASSOCIATES, Incorporated
321 South York Road
Hatboro, Pennsylvania 19040
Phone: (215) 293-9900
Fax: (215) 441-5984
www.MulhernEngineers.com
MCE #5940SS



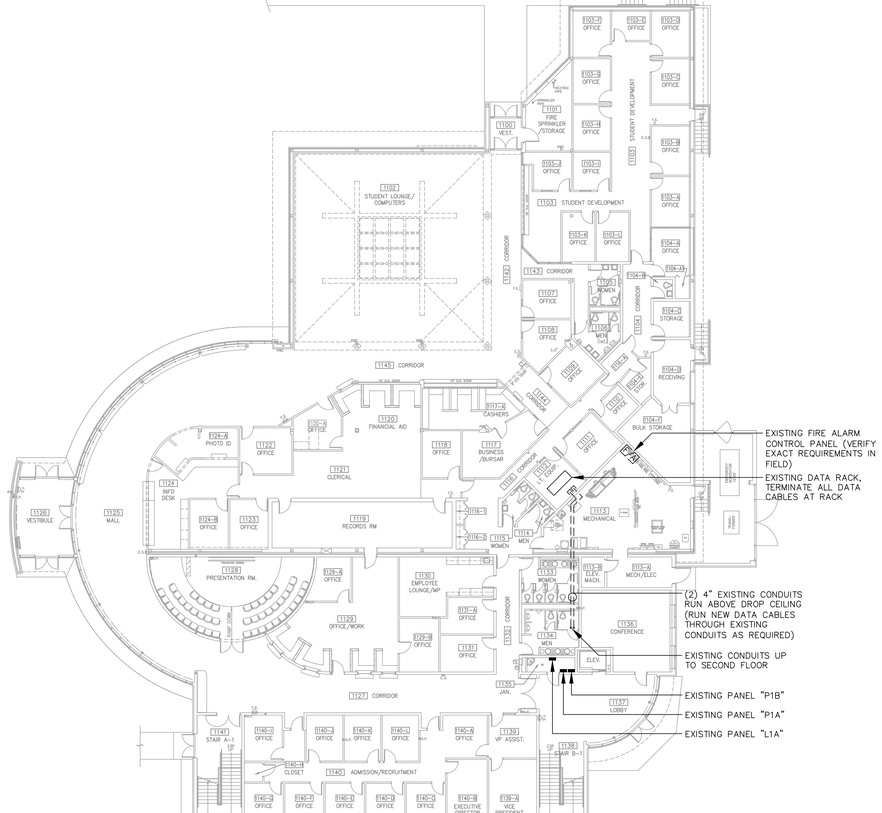

1 E1-SS PARTIAL SECOND FLOOR LIGHTING PLAN

GRAPHIC SCALE (FEET)



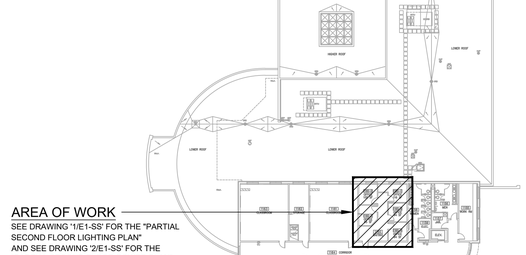

2 E1-SS PARTIAL SECOND FLOOR POWER PLAN

GRAPHIC SCALE (FEET)




3 E1-SS OVERALL FIRST FLOOR ELECTRICAL PLAN

GRAPHIC SCALE (FEET)




OVERALL SECOND FLOOR KEY PLAN
SCALE: 1/32"=1'-0"

**ISSUED FOR BID 2-11-2019**

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A Professional Corporation of Architects and Planners
712 CREEK ROAD, BELLMAWR, NEW JERSEY 08031 (856) 396-6200

# ROWAN COLLEGE at GLOUCESTER COUNTY
## STUDENT SERVICES CLASSROOM 1160 INTERIOR RENOVATIONS
1400 TANYARD ROAD
SEWELL, NEW JERSEY 08080

REVISIONS

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| b. | f. |
| c. | g. |

Project No. 18-43
Date: 02-11-19
Scale: AS NOTED

**PARTIAL SECOND FLOOR LIGHTING AND POWER PLANS**

**E1-SS**

## ELECTRICAL NOTES

1) PERFORM ALL WORK IN STRICT ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC), OSHA REQUIREMENTS, ALL FEDERAL, STATE, AND LOCAL CODES AND ALL OWNER REQUIREMENTS.

2) INCLUDE ALL TEMPORARY POWER AND LIGHTING, PERMIT, LICENSE, AND INSPECTION COSTS IN BID.

3) VERIFY EXACT LOCATIONS AND MOUNTING OF ALL LUMINAIRES, SWITCHES, RECEPTACLES, OUTLETS, FIRE ALARM, AND OTHER EQUIPMENT WITH ARCHITECTURAL DRAWINGS AND IN THE FIELD PRIOR TO ROUGH IN.

4) VERIFY ELECTRICAL RATINGS, CONNECTION REQUIREMENTS, AND EXACT LOCATIONS OF ALL UTILIZATION EQUIPMENT (WHERE APPLICABLE) IN FIELD PRIOR TO PURCHASING ASSOCIATED ELECTRICAL EQUIPMENT. PROVIDE A COMPLETE AND WORKING INSTALLATION.

5) THE TERM "PROVIDE" MEANS, "FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR", AND THE TERMS "CONTRACTOR" AND "E.C." MEAN "ELECTRICAL CONTRACTOR", UNLESS INDICATED OTHERWISE. ALL WORK INDICATED ON THE ELECTRICAL DRAWINGS AND ELECTRICAL SPECIFICATIONS IS BY THE E.C. (UNLESS INDICATED OTHERWISE) AND IS NEW (UNLESS INDICATED OTHERWISE). WHERE THE PROJECT IS PERFORMED BY MULTIPLE PRIME CONTRACTORS UNDER "MULTIPLE PRIME BIDS" THIS DESIGNATES THE WORK BY THE ELECTRICAL PRIME CONTRACTOR. WHERE THE PROJECT IS PERFORMED BY A SINGLE OVERALL CONTRACTOR UNDER "LUMP SUM BIDS" THIS APPROXIMATELY DESIGNATES THE WORK BY THE ELECTRICAL TRADE SUBCONTRACTOR (EXACT DIVISION OF TRADE SUBCONTRACTOR WORK IS THE SOLE RESPONSIBILITY OF THE SINGLE OVERALL CONTRACTOR; TRADE SUBCONTRACTOR WORK DIVISION SHOWN ON THE DRAWINGS/SPECIFICATIONS IS FOR REFERENCE AND CONVENIENCE ONLY).

6) COORDINATE ALL REQUIRED SHUTDOWNS WITH THE OWNER A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE. INCLUDE OVERTIME COSTS IN BID TO PERFORM ALL SHUTDOWNS (INCLUDING SHUTDOWNS FOR AREAS WHICH MAY BE UNOCCUPIED DURING CONSTRUCTION) AFTER NORMAL WORKING HOURS AS COORDINATED WITH THE OWNER. NO EXTRA CLAIMS OR COMPENSATION WILL BE GRANTED FOR OVERTIME COSTS ASSOCIATED WITH PERFORMING SHUTDOWNS.

7) PROVIDE MOUNTING HEIGHTS OF EQUIPMENT AS REQUIRED BY ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND STANDARDS, INCLUDING ALL APPLICABLE DISABLED (HANDICAPPED) ACCESS CODES AND THE AMERICANS WITH DISABILITIES ACT (ADA). CONTACT ANY AND ALL AUTHORITIES HAVING JURISDICTION TO VERIFY REQUIRED MOUNTING HEIGHTS.

8) VERIFY ALL UTILITY (TELEPHONE, DATA, CABLE TELEVISION, ETC. WHERE APPLICABLE) REQUIREMENTS IN WRITING WITH EACH OWNER'S UTILITY DEPARTMENT PRIOR TO INSTALLING ANY SERVICE RELATED EQUIPMENT.

9) PERFORM ALL WORK IN PHASES AND SEQUENCES AS DIRECTED BY THE ARCHITECT. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. FULLY COORDINATE PHASES/SEQUENCES IN DETAIL WITH ALL CONTRACTORS/TRADES, THE ARCHITECT, AND THE OWNER PRIOR TO PERFORMING WORK AND INCLUDE ALL COSTS IN BID.

10) COMPLETELY DISCONNECT AND REMOVE ALL EXISTING WIRING AND ELECTRICAL EQUIPMENT IN AREAS BEING RENOVATED, IN AREAS OF GENERAL DEMOLITION, INTERFERING WITH NEW CONSTRUCTION BY ANY CONTRACTOR OR TRADE (INCLUDING, BUT NOT LIMITED TO, GENERAL CONSTRUCTION, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, ETC.), AND SERVING EQUIPMENT AND APPARATUS REMOVED AS PART OF THIS PROJECT (BY ANY CONTRACTOR OR TRADE), UNLESS INDICATED OTHERWISE. REFER TO ARCHITECTURAL DRAWINGS FOR THE GENERAL SCOPE OF RENOVATIONS AND AREAS OF GENERAL DEMOLITION. REFER TO AND CAREFULLY EXAMINE DRAWINGS AND SPECIFICATIONS OF ALL TRADES TO IDENTIFY AREAS OF INTERFERENCE WITH NEW CONSTRUCTION AND EQUIPMENT/APPARATUS REMOVALS. BASE PRICING ON THE ASSUMPTION THAT ELECTRICAL REMOVALS ARE NECESSARY IN ALL AREAS OF DEMOLITION (GENERAL DEMOLITION AS WELL AS DEMOLITION OF ANY SYSTEMS IN THE BUILDING [SPECIFICALLY INCLUDING DUCTWORK, PIPING, AND WIRING SYSTEMS OF ANY KIND]) AND ALL AREAS OF PROPOSED NEW WORK (BY ANY TRADE), UNLESS ACTUALLY VERIFIED OTHERWISE BY THE ELECTRICAL CONTRACTOR. INCLUDE ALL COSTS IN BID.

11) WHERE EXISTING WIRING TO BE REMOVED (AS INDICATED ABOVE) OR OTHERWISE AFFECTED BY CONSTRUCTION (BY ANY CONTRACTOR OR TRADE, INCLUDING GENERAL CONSTRUCTION, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL, ETC.) FEEDS LOADS WHICH REMAIN OR FEEDS LOADS IN ADJACENT OR OTHER AREAS NOT WITHIN THE SCOPE OF WORK, THE WIRING SHALL REMAIN. RELOCATE, EXTEND, AND/OR RE–FEED THE EXISTING WIRING AS REQUIRED TO MAINTAIN SERVICE, UNLESS INDICATED OTHERWISE. BASE PRICING ON THE ASSUMPTION THAT RELOCATING, EXTENDING, AND RE–FEEDING IS NECESSARY IN ALL AREAS OF DEMOLITION AND ALL AREAS OF PROPOSED NEW WORK (BY ANY TRADE), UNLESS ACTUALLY VERIFIED OTHERWISE BY THE ELECTRICAL CONTRACTOR. INCLUDE ALL COSTS IN BID.

12) WHERE RE–FEEDING EXISTING ELECTRICAL CIRCUITS AND LOADS, VERIFY ALL REQUIREMENTS IN THE FIELD AND INCLUDE ALL COSTS IN BID. VERIFY EXACT CONDUCTOR SIZES AND AMPACITY, EXISTING CIRCUIT BREAKER AND/OR FUSE AMPS, LOAD NAMEPLATE RATINGS, CONDUIT SIZES, ETC.. FOR EQUIPMENT TO BE RE–FED, PROVIDE ALL NEW WIRING DIRECTLY TO THE EQUIPMENT. DO NOT REUSE EXISTING WIRING TO RE–FEED EQUIPMENT, UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.

13) INFORMATION REGARDING EXISTING CONDITIONS AND EQUIPMENT AND ALL INFORMATION REGARDING REMOVALS (INCLUDING INFORMATION REGARDING THE SCOPE OF REMOVALS ON ARCHITECTURAL DRAWINGS) INDICATES GENERAL CONDITIONS AND ARE A GUIDE TO PRICING ONLY. PRIOR TO SUBMITTING BID, VISIT THE PROJECT SITE AND VERIFY ALL EXISTING CONDITIONS AND EQUIPMENT, ALL REMOVALS AND REQUIREMENTS, AND ALL TIE–INS TO EXISTING EQUIPMENT AND WIRING IN DETAIL. INCLUDE ALL COSTS IN BID. NO EXTRA CLAIMS OR COMPENSATION WILL BE GRANTED FOR NOT FIRST VERIFYING ALL CONDITIONS.

14) FOR ALL NEW CIRCUIT BREAKERS IN EXISTING BRANCH PANELS, PROVIDE CIRCUIT BREAKERS MATCHING AND COMPATIBLE WITH EXISTING CIRCUIT BREAKERS. PROVIDE WITH SHORT CIRCUIT INTERRUPTING RATINGS EQUAL TO OR EXCEEDING THE HIGHEST RATED EXISTING BRANCH CIRCUIT BREAKER IN THE PANEL. CIRCUIT BREAKER TYPES INDICATED ON THE DRAWINGS (WHERE APPLICABLE) ARE GUIDES TO PRICING ONLY. VERIFY EXACT TYPE AND ALL REQUIREMENTS IN FIELD PRIOR TO RELEASING EQUIPMENT.

15) FOR ALL WIRING AND WORK INDICATED, INCLUDING ALL SYSTEMS (POWER, LIGHTING, FIRE ALARM, CONTROL, SIGNAL, SOUND, TELECOMMUNICATIONS, DATA, AND ALL OTHER SYSTEMS, WHERE APPLICABLE), PROVIDE ALL NEW CONDUITS, RACEWAYS, OUTLETS, AND CONDUCTORS, INCLUDE ALL COSTS IN BID. WHERE EXISTING CONDUITS AND RACEWAYS ARE DETERMINED BY THE ENGINEER TO BE IN ADEQUATE CONDITION, AND WHERE SPECIFICALLY APPROVED BY THE OWNER, ARCHITECT, AND ENGINEER, EXISTING CONDUITS AND RACEWAYS MAY BE REUSED. PROVIDE A SEPARATE GROUNDING CONDUCTOR, IN ADDITION TO ALL OTHER GROUNDING CONDUCTORS SPECIFIED, AND BOND TO ALL RACEWAYS, CONDUITS, BOXES, AND OUTLETS WHERE RACEWAYS ARE REUSED. DO NOT DEPEND ON EXISTING CONDUITS/RACEWAYS FOR GROUNDING PATHS. REUSE EXISTING CONDUCTORS ONLY WHERE SPECIFICALLY INDICATED ON THE DRAWINGS.

16) PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATES FOR ALL ELECTRICAL EQUIPMENT (INCLUDING, BUT NOT LIMITED TO, EXISTING BRANCH PANELS (WHERE CONNECTED TO AS PART OF THIS PROJECT), POWER OUTLETS, THERMAL OVERLOAD SWITCHES, SWITCHES AND RECEPTACLES SERVING EQUIPMENT, ETC.), REFER TO SPECIFICATIONS FOR INFORMATION.

17) THE E.C. SHALL FURNISH AND INSTALL ALL ELECTRICAL DEVICES, EQUIPMENT, AND WIRING AT MILLWORK (CABINETS, DESKS, CREDENZAS, AND OTHER SIMILAR FURNITURE) AS REQUIRED. REFER TO ARCHITECTURAL, MILLWORK, AND FURNITURE DRAWINGS FOR ADDITIONAL INFORMATION (INCLUDING INFORMATION ON WIRING AND ELECTRICAL EQUIPMENT). PROVIDE EQUIPMENT AND WIRING AS REQUIRED, REGARDLESS OF WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT.

18) COMPLETELY SEAL AND FIRE STOP ALL PENETRATIONS OF ALL FIRE AND/OR SMOKE RATED WALLS, FLOORS, CEILINGS, AND ANY OTHER CONSTRUCTION (INCLUDING ALL WALLS REQUIRED TO BE RATED BY CODE) TO A RATING MATCHING OR EXCEEDING THE FIRE RATING OF THE CONSTRUCTION. COMPLETELY SEAL AND WEATHERPROOF ALL PENETRATIONS OF EXTERIOR, AT OR BELOW GRADE, AND WET LOCATION WALLS AND FLOORS AND ROOF PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR INFORMATION ON FIRE RATINGS OF BUILDING CONSTRUCTION AND INCLUDE ALL COSTS IN BID. COMPLY WITH AND INSTALL FIRE STOPPING IN ACCORDANCE WITH ALL APPLICABLE FIRE RATING CODES AND STANDARDS (INCLUDING THE NEC, NFPA, IBC, AND THE UL "FIRE RESISTANCE DIRECTORY").

19) ALL FIRE ALARM DEVICES, WIRING, FINAL CONNECTIONS AND TESTING SHALL BE BY THE OWNER AND ARE NOT IN THE CONTRACT. THE CONTRACTOR IS RESPONSIBLE FOR ALL FIRE ALARM OUTLET BOXES, CONDUITS AND PULL STRINGS

20) WHERE EXISTING CEILINGS ARE REMOVED AND REINSTALLED (EITHER PARTLY OR ENTIRELY), THE E.C. SHALL REMOVE ALL EXISTING ELECTRICAL EQUIPMENT (INCLUDING LIGHTING FIXTURES, FIRE ALARM DEVICES [INCLUDING, BUT NOT LIMITED TO, SMOKE AND HEAT DETECTORS, SIGNALING DEVICES, INDICATORS, ETC.], SECURITY/CCTV CAMERAS, MOTION DETECTORS, SPEAKERS, AND ALL OTHER ELECTRICAL DEVICES, EQUIPMENT, AND APPARATUS) FROM THE CEILING GRID AND CEILING TILES. LEAVE IN PLACE AT THE CEILING AND SUPPORT (IN A CODE APPROVED AND LOCAL CODE OFFICIAL APPROVED MANNER) AS REQUIRED TO FACILITATE CEILING REMOVAL. ONCE CEILING IS REINSTALLED, THE E.C. SHALL PERMANENTLY REINSTALL ALL ELECTRICAL EQUIPMENT IN THE CEILING. WHERE NEW EQUIPMENT IS SHOWN ON THE DRAWINGS, THE E.C. SHALL COMPLETELY DISCONNECT AND REMOVE EXISTING EQUIPMENT (BEING REPLACED) AND ALL ASSOCIATED WIRING AND PROVIDE ALL NEW EQUIPMENT AND ASSOCIATED WIRING AS SHOWN ON THE DRAWINGS. CEILINGS MAY BE LEFT OPEN FOR A LONG PERIOD OF TIME (I.E. THERE MAY BE SEVERAL MONTHS OR MORE BETWEEN THE TIME OF REMOVAL AND THE TIME OF REINSTALLING CEILINGS). WHEN CEILINGS ARE NOT IN PLACE, MAINTAIN (AS OPERATIONAL) ALL FIRE ALARM DEVICES AND EQUIPMENT AND NORMAL AND EMERGENCY LIGHTING AS REQUIRED (TEMPORARILY INSTALL FIRE ALARM DEVICES, SUPPORTED FROM STRUCTURE AND PROVIDE TEMPORARY LIGHTING OR TEMPORARILY SUPPORT EXISTING LIGHTING FROM STRUCTURE AS REQUIRED). WHEN CEILINGS ARE NOT IN PLACE, SAFELY SECURE EVERYTHING WHICH IS EXPOSED BY THE ABSENCE OF CEILINGS (NEW AND EXISTING) AND KEEP ALL AREAS CLEAN WHEN OCCUPIED. THIS CEILING WORK IS NOT SHOWN ON ELECTRICAL PLANS (SEE ARCHITECTURAL DRAWINGS AND CEILING PLANS AND OTHER TRADES DRAWINGS FOR INFORMATION). THIS CEILING WORK APPLIES REGARDLESS OF THE PARTY REMOVING THE CEILING AND REGARDLESS OF WHETHER OR NOT CEILING REMOVAL IS SHOWN ON DRAWINGS. COORDINATE WITH ALL CONTRACTORS AND TRADES TO CONFIRM THE EXTENT OF CEILING WORK AND INCLUDE ALL COSTS IN BID. THIS CEILING WORK ALSO APPLIES WHERE ANY CONTRACTOR CHOOSES TO INSTALL NEW CEILING IN LIEU OF REINSTALLING THE EXISTING CEILING.

21) WHERE EXISTING CEILINGS ARE REMOVED AND NEW CEILINGS ARE INSTALLED (EITHER PARTLY OR ENTIRELY), THE E.C. SHALL REMOVE ALL EXISTING ELECTRICAL EQUIPMENT (INCLUDING LIGHTING FIXTURES, FIRE ALARM DEVICES [INCLUDING, BUT NOT LIMITED TO, SMOKE AND HEAT DETECTORS, SIGNALING DEVICES, INDICATORS, ETC.], SECURITY/CCTV CAMERAS, MOTION DETECTORS, SPEAKERS, AND ALL OTHER ELECTRICAL DEVICES, EQUIPMENT, AND APPARATUS) FROM THE CEILING GRID AND CEILING TILES. LEAVE IN PLACE AT THE CEILING AND SUPPORT (IN A CODE APPROVED AND LOCAL CODE OFFICIAL APPROVED MANNER) AS REQUIRED TO FACILITATE CEILING REMOVAL. ONCE NEW CEILING IS INSTALLED, THE E.C. SHALL PERMANENTLY REINSTALL ALL ELECTRICAL EQUIPMENT IN THE CEILING. WHERE NEW EQUIPMENT IS SHOWN ON THE DRAWINGS, THE E.C. SHALL COMPLETELY DISCONNECT AND REMOVE EXISTING EQUIPMENT (BEING REPLACED) AND ALL ASSOCIATED WIRING AND PROVIDE ALL NEW EQUIPMENT AND ASSOCIATED WIRING AS SHOWN ON THE DRAWINGS. CEILINGS MAY BE LEFT OPEN FOR A LONG PERIOD OF TIME (I.E. THERE MAY BE SEVERAL MONTHS OR MORE BETWEEN THE TIME OF REMOVAL AND THE TIME OF INSTALLING NEW CEILINGS). WHEN CEILINGS ARE NOT IN PLACE, MAINTAIN (AS OPERATIONAL) ALL FIRE ALARM DEVICES AND EQUIPMENT AND NORMAL AND EMERGENCY LIGHTING AS REQUIRED (TEMPORARILY INSTALL FIRE ALARM DEVICES, SUPPORTED FROM STRUCTURE AND PROVIDE TEMPORARY LIGHTING OR TEMPORARILY SUPPORT NEW OR EXISTING LIGHTING FROM STRUCTURE AS REQUIRED). WHEN CEILINGS ARE NOT IN PLACE, SAFELY SECURE EVERYTHING WHICH IS EXPOSED BY THE ABSENCE OF CEILINGS (NEW AND EXISTING) AND KEEP ALL AREAS CLEAN WHEN OCCUPIED. THIS CEILING WORK IS NOT SHOWN ON ELECTRICAL PLANS (SEE ARCHITECTURAL DRAWINGS AND CEILING PLANS FOR INFORMATION).

22) WHERE ELECTRICAL WORK INVOLVES REMOVAL AND REINSTALLATION OF EXISTING CEILINGS, REMOVAL AND RELOCATION IS THE RESPONSIBILITY OF THE E.C.. AS AN ALTERNATIVE (AT THE E.C.'S OPTION) TO REINSTALLING CEILINGS REMOVED TO FACILITATE ELECTRICAL WORK, THE E.C. MAY INSTALL A NEW CEILING OF A TYPE MATCHING THE EXISTING CEILING PROVIDED THERE IS NO COST CHANGE TO THE CONTRACT (WHEREVER NEW CEILING INVOLVES ADDITIONAL COST TO THE CONTRACT, NEW CEILING IS NOT ACCEPTABLE). REPLACE ANY CEILING TILES DAMAGED AS PART OF ELECTRICAL WORK.

23) ALL DATA WIRING, CABLING, JACKS, COVER PLATES, TESTING AND PATCH PANELS SHALL BE BY THE CONTRACTOR. TEST THE FINISHED SYSTEM INSTALLATION AND PROVIDE A CERTIFIED TESTING REPORT.

## ELECTRICAL SYMBOL LIST

| | |
|---|---|
| S $S_3$ $S_4$ | 20 A, 277/120 V SWITCH, SINGLE POLE, THREE–WAY, AND FOUR–WAY, RESPECTIVELY, SPECIFICATION GRADE, FLUSH MOUNTED, FINISH AND COVER PLATE AS PER ARCHITECT |
| OC | OCCUPANCY SENSOR LIGHTING CONTROL (OC), FLUSH MOUNTED IN CEILING, FOR COMMON CONTROL OF LIGHTING (MULTIPLE SENSORS FOR LIGHTING CONTROL IN CONJUNCTION WITH REMOTE LIGHTING CONTROL RELAY MODULE(S)), MULTI–TECHNOLOGY PASSIVE INFRARED (PIR) AND ULTRASONIC TYPE, 360 DEGREE NOMINAL 186 m2 (2,000 SQ FT) COVERAGE, MEETING NEMA WD7 STANDARD, INTEGRAL SELECTABLE AMBIENT LIGHT LEVEL SENSOR, SPECIFICATION GRADE, WHITE FINISH; PROVIDE LOW VOLTAGE CONTROL WIRING AS REQUIRED BETWEEN SENSOR AND CONTROL RELAY |
| LR | LIGHTING CONTROL RELAY MODULE (LR), INTERCONNECT (UTILIZING LOW VOLTAGE CONTROL WIRING AS REQUIRED) WITH OCCUPANCY SENSORS AS SHOWN ON THE DRAWINGS, RATED 1,800 VA FOR 120 V OPERATION AND RATED 4,800 VA FOR 277 V OPERATION, SINGLE POLE, SPECIFICATION GRADE; PROVIDE A MINIMUM OF ONE (1) RELAY PER CIRCUIT CONTROLLED (WHERE MULTIPLE RELAYS ARE SHOWN OR OTHERWISE REQUIRED, PROVIDE EXACT QUANTITY AS REQUIRED [INCLUDING ADDITIONAL RELAYS OR MODULES IF NEEDED] TO SUPPORT THE SWITCHING CONTROL SHOWN ON DRAWINGS IN CONJUNCTION WITH THE QUANTITY OF CONTROLLING SENSORS INVOLVED), INTERCONNECT AUXILIARY CONTACTS AS REQUIRED FOR SIMULTANEOUS CONTROL); WHERE WALL SWITCHES (SINGLE POLE OR THREE–WAY) ARE INDICATED ALONG WITH OCCUPANCY SENSOR ON THE DRAWINGS, ARRANGE SWITCHES TO OPERATE AS MANUAL OVERRIDE TO "OFF" (AS RECOMMENDED BY OCCUPANCY SENSOR MANUFACTURER) |
| ▭ | LUMINAIRE, TYPE AS INDICATED ON THE LUMINAIRE SCHEDULE |
| ▨ | INDICATES COMBINATION NORMAL (SWITCHED) AND EMERGENCY AND NIGHT–LIGHTING (UN–SWITCHED, ON 24–HOURS) LUMINAIRE, TYPE AS INDICATED ON THE LUMINAIRE SCHEDULE, PROVIDE ALL CONTROLLED LUMINAIRES WITH TWO (2) SEPARATE BALLASTS TO FACILITATE WIRING; FOR THREE (3) AND FOUR (4) LAMP LUMINAIRES, THE SWITCH CONTROLS INBOARD LAMP(S) AND THE OUTBOARD LAMPS ARE ON 24–HOURS; FOR TWO (2) LAMP LUMINAIRES, THE SWITCH CONTROLS THE "LEFT SIDE" LAMP AND THE "RIGHT SIDE" LAMP IS ON 24–HOURS; CONFIRM EXACT LUMINAIRE WIRING CONFIGURATION WITH ENGINEER PRIOR TO ROUGH–IN OR RELEASING LUMINAIRES |
| ⊗ | EXIT SIGN, TYPE ("EXIT" UNLESS INDICATED OTHERWISE) AS INDICATED ON THE LUMINAIRE SCHEDULE |
| ⏀ | 20 A, 120 V DUPLEX RECEPTACLE, SPECIFICATION GRADE, TAMPER RESISTANT, FLUSH MOUNTED, FINISH AND COVER PLATE AS PER ARCHITECT, (+) INDICATES ABOVE COUNTER MOUNTING HEIGHT, (*) INDICATES MOUNTED HIGH ON WALL AT TELEVISION OR ABOVE BOARD, (EX) INDICATES EXISTING TO REMAIN |
| U⏀ | 20 A, 120 V COMBINATION DUPLEX RECEPTACLE (NEMA 5–20R) AND DUPLEX UNIVERSAL SERIAL BUS (USB) CHARGER (U), WITH TWO (2) INTEGRAL 3.6 A, 5 VDC USB 2.0 PORTS (WITHOUT DATA CAPABILITY) POWERED FROM INTERNAL DIGITAL DC POWER SUPPLY DESIGNED TO OPTIMIZE PERIPHERAL DEVICE CHARGING, SPECIFICATION GRADE, TAMPER RESISTANT, FLUSH MOUNTED, FINISH AND COVER PLATE AS PER OWNER, (+) INDICATES ABOVE COUNTER MOUNTING HEIGHT, (*) INDICATES MOUNTED HIGH ON WALL AT DISPLAY/SCREEN |
| ⏀⏀ | QUADRUPLEX ("DOUBLE DUPLEX") RECEPTACLE, WITH RECEPTACLE TYPE AS INDICATED |
| ⊠ | EQUIPMENT CONNECTION, REFER TO THE EQUIPMENT SCHEDULE AND THE EQUIPMENT NOTES FOR INFORMATION |
| ⬡ | EQUIPMENT DESIGNATION, FOR REFERENCE TO THE EQUIPMENT SCHEDULE |
| Ⓒ | WALL CLOCK, INTERNET PROTOCOL (IP) TYPE (NETWORK POWERED), (EX) INDICATES EXISTING TO REMAIN |
| ■ | ELECTRICAL PANEL, REFER TO THE RESPECTIVE PANEL SCHEDULE |
| Ⓙ | ELECTRICAL JUNCTION BOX (J–BOX), AS INDICATED ON THE DRAWINGS, WHERE JUNCTION BOX SERVES EQUIPMENT, PROVIDE COMPLETE EQUIPMENT CONNECTIONS AS REQUIRED; (P) INDICATES CONNECTIONS TO RECEPTACLES INTEGRAL TO DESK FURNITURE (OUTLET BOX FURNISHED AND INSTALLED IN FURNITURE BY G.C.'S FURNITURE SUPPLIER, WIRING THROUGH FURNITURE TO AND BETWEEN OUTLET BOXES BY E.C., RECEPTACLE FURNISHED BY G.C.'S FURNITURE SUPPLIER AND INSTALLED AND CONNECTED BY E.C.) |
| → | INDICATES HOME RUN OF WIRING TO PANEL AND CIRCUIT INDICATED |
| ▼ | TELEPHONE/DATA OUTLET, FLUSH MOUNTED, PROVIDE SUITABLE OWNER APPROVED 1–GANG OUTLET BOX IN WALL AND ONE (1) 27 mm (1") CONDUITS (WITH WIRING BY E.C.) RUN FROM OUTLET STUBBED AND CAPPED INTO NEARBY ACCESSIBLE CEILING SPACE, (+) INDICATES ABOVE COUNTER MOUNTING HEIGHT OR WALL MOUNTED TELEPHONE MOUNTING HEIGHT (COORDINATE WITH ARCHITECT/OWNER DURING CONSTRUCTION), " * " INDICATES MOUNTED HIGH ON WALL AT TELEVISION OR ABOVE BOARD; WITH COVER PLATES AND JACKS BY E.C. AS PER SPECIFICATIONS. ALL WIRING, JACKS, COVER PLATES, PUNCH DOWN BLOCKS, TESTING AND FINAL CERTIFICATIONS BY THE EC. NUMBER IN PARENTHESIS INDICATES THE QUANTITY OF CABLES AND JACKS THAT ARE REQUIRED AT EACH OUTLET |
| F | FIRE ALARM AUDIO/VISUAL HORN/STROBE LOCATION, STROBE FURNISHED, INSTALLED, AND WIRED BY OWNER'S FIRE ALARM SYSTEM CONTRACTOR; E.C. SHALL SUPPLY SUITABLE OUTLET BOX AT LOCATION (COORDINATE EXACT OUTLET BOX TYPE/CONFIGURATION WITH FIRE ALARM SYSTEM CONTRACTOR) AND E.C. SHALL PROVIDE 3/4" CONDUIT RUN FROM OUTLET STUBBED ABOVE DROP CEILING |
| | NATIONAL ELECTRICAL CODE (NEC), LATEST VERSION |
| | ELECTRICAL CONTRACTOR (EC) |
| | MECHANICAL CONTRACTOR (MC), INCLUDING ALL MECHANICAL TRADES IN GENERAL (MECHANICAL, HVAC, ATC, PLUMBING, FIRE PROTECTION, ETC.), REFER TO MECHANICAL DOCUMENTS FOR DISTINCTION BETWEEN CONTRACTORS/TRADES |
| | GENERAL CONTRACTOR (GC), INCLUDING ALL GENERAL CONSTRUCTION TRADES IN GENERAL (CARPENTRY, STEEL, CONCRETE, SITE, ETC.), REFER TO ARCHITECTURAL AND SITE DOCUMENTS FOR DISTINCTION BETWEEN CONTRACTORS/TRADES |

## EQUIPMENT CONNECTION NOTES

1) EXACT DETAILS OF EQUIPMENT CONNECTIONS ARE NOT INDICATED ON THE ELECTRICAL FLOOR PLAN DRAWINGS. EQUIPMENT CONNECTIONS DETAILS ARE INDICATED ON THE EQUIPMENT CONNECTION SCHEDULES ON THE ELECTRICAL DRAWINGS. APPROXIMATE EQUIPMENT LOCATIONS ONLY ARE INDICATED ON THE FLOOR PLAN DRAWINGS.

2) THE EQUIPMENT SCHEDULES INDICATE THE EQUIPMENT NAMEPLATE ELECTRICAL CHARACTERISTICS (VOLTAGE, PHASE, AND LOAD AS WELL AS HORSEPOWER, WHERE APPLICABLE), PANEL CIRCUIT BREAKER AMPERES, LOCAL DISCONNECTING MEANS (CORD–AND–PLUG [INCLUDING NEMA CONFIGURATION] OR SWITCH), AND CIRCUIT WIRE AND CONDUIT.

3) PRIOR TO ROUGH–IN, VERIFY EXACT POINT OF ELECTRICAL CONNECTION TO EACH PIECE OF EQUIPMENT IN THE FIELD TO AVOID PLACING SERVICE AT THE WRONG LOCATION.

4) ELECTRICAL INFORMATION SHOWN IS BASED ON NAMEPLATE AND/OR CATALOG CUT INFORMATION, AND IS ACCURATE TO THE BEST OF THE KNOWLEDGE OF THE ENGINEER AND OWNER. HOWEVER, NO GUARANTEES ARE MADE TO ITS ACCURACY. VERIFY EXACT ELECTRICAL, OPERATING, AND CONNECTION CHARACTERISTICS AND REQUIREMENTS IN THE FIELD PRIOR TO PURCHASING ASSOCIATED ELECTRICAL EQUIPMENT (PANEL BRANCH CIRCUIT BREAKERS, RECEPTACLES, SWITCHES, ETC.) AND PRIOR TO PULLING WIRING IN CONDUITS AND/OR ROUGHING–IN CABLE WIRING METHODS (WHERE PERMITTED).

5) PROVIDE CIRCUIT BREAKERS IN PANELS AS PER THE BREAKER AMPS ON THE EQUIPMENT SCHEDULES. FOR EXACT CIRCUITING AND CONNECTIONS AT PANELS, REFER TO THE APPROPRIATE PANEL SCHEDULES.

6) PROVIDE ALL EQUIPMENT WITH A LOCAL DISCONNECTING MEANS, CONSISTING OF ONE OF THE FOLLOWING, AS INDICATED ON THE EQUIPMENT SCHEDULE (OR AS OTHERWISE VERIFIED IN THE FIELD).

   A) CORD–AND–PLUG CONNECTED EQUIPMENT: PROVIDE RECEPTACLE OF NEMA CONFIGURATION OR SPECIFIC TYPE INDICATED ON THE EQUIPMENT SCHEDULE. PROVIDE SINGLE RECEPTACLES UNLESS INDICATED AS DUPLEX (DUP.), QUADRUPLEX (QUAD.), OR OTHERWISE NOTED. PROVIDE RECEPTACLE TYPES COMPATIBLE WITH PLUG TYPES ON EQUIPMENT CORDS, VERIFY IN FIELD. LOCATE RECEPTACLE NEAR EQUIPMENT AS REQUIRED. WHERE EQUIPMENT CORD IS NOT LONG ENOUGH TO REACH RECEPTACLE (OR WHERE EQUIPMENT DOES NOT INCLUDE CORD), PROVIDE A NEW CORD AND PLUG (TO MATCH EXISTING) AS REQUIRED. PROVIDE MAXIMUM CORD LENGTH NOT EXCEEDING 1.8 m (6'0").

   B) THERMAL OVERLOAD SWITCH (O/L SWITCH, MANUAL MOTOR STARTER): FOR ALL DIRECT CONNECTED (WITHOUT CORD AND PLUG) EQUIPMENT RATED 120 V OR 277 V AND 20 A OR LESS, PROVIDE A HORSEPOWER RATED THERMAL OVERLOAD SWITCH LOCATED AT OR ADJACENT TO THE EQUIPMENT. WHERE EQUIPMENT IS NOT POWERED OR IS POWER OPERATED BY SOURCES OTHER THAN ELECTRICITY (I.E. PNEUMATIC OPERATION, GAS FIRED, ETC.) AND WHERE ELECTRICITY IS REQUIRED ONLY FOR LOW VOLTAGE OR SOLID STATE CONTROLS, A SINGLE POLE 120/277 V SWITCH MAY BE UTILIZED.

   C) DISCONNECT SWITCH: FOR ALL DIRECT CONNECTED EQUIPMENT OVER 120 V (EXCEPT 277 V SINGLE–PHASE EQUIPMENT) OR OVER 20 A, PROVIDE A SUITABLE HEAVY DUTY SAFETY SWITCH. PROVIDE AMPERE RATING AND POLES AS PER THE EQUIPMENT SCHEDULES. PROVIDE SWITCHES OF THE UN–FUSED TYPE, EXCEPT WHERE FUSE SIZES (AFU) ARE INDICATED ON THE SCHEDULE. PROVIDE FUSED DISCONNECT SWITCHES WITH FUSES WHERE INDICATED ON THE SCHEDULE. WHERE INDICATED AS (ECB), PROVIDE AN ENCLOSED CIRCUIT BREAKER WITH TRIP RATING AS SHOWN.

   D) HARD WIRED DIRECT CONNECTION (J–BOX ONLY): FOR ALL DIRECT CONNECTED EQUIPMENT WHERE A DISCONNECTING MEANS IS NOT REQUIRED BY CODE AND NOT DESIRED BY THE OWNER FOR THE EQUIPMENT SERVED, PROVIDE A DIRECT HARD WIRED CONNECTION UTILIZING A SUITABLE JUNCTION OR OUTLET BOX. WHERE EQUIPMENT ENCLOSURE IS SUITABLE FOR USE AS A RACEWAY OR WIRE WAY, THE JUNCTION OR OUTLET BOX MAY BE OMITTED.

7) PROVIDE CIRCUIT WIRING AND CONDUIT FROM THE APPROPRIATE PANEL (REFER TO PANEL SCHEDULES) TO THE EQUIPMENT (PASSING THROUGH ANY APPLICABLE CONTROLS AND LOCAL DISCONNECTING MEANS) AS PER THE EQUIPMENT SCHEDULES. PROVIDE INDIVIDUAL NEUTRAL (WHERE APPLICABLE) AND EQUIPMENT GROUNDING CONDUCTORS WITH EACH CIRCUIT.

8) FEED FREE STANDING EQUIPMENT UNABLE TO BE SERVED BY WIRING RUN ON/ALONG WALLS OR COLUMNS WITH CONDUIT FROM THE CEILING OR UNDER THE FLOOR, SUITABLY SUPPORTED.

### EQUIPMENT CONNECTION SCHEDULE

| EQUIP. NUMBER | DESCRIPTION | RATED VOLTAGE/ PHASE | LOAD (VA) | HORSE POWER/ KW | BREAKER AMPS/ POLES | PANEL | PLUG-IN RECEPTACLE NEMA CONFIG | DISCONNECT SWITCH AMPS/POLES | CIRCUIT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| CO-3 | COPIER | 120V-1PH | 1,600 | N/A | 20/1 | P2A | 5-20R DUP. | N/A | 4 #10, 3/4" C | |
| VAV-1 | VAV UNIT | 120V-1PH | 100 | N/A | 20/1 | P2A | N/A | J-BOX ONLY | 3 #12, 3/4" C | CONNECT TO EXIST. VAV CCT. #P2A-36 |

NOTES:

1) PRIOR TO ROUGH-IN OR PURCHASING ANY ELECTRICAL EQUIPMENT ASSOCIATED WITH ANY EQUIPMENT SHOWN ON THE SCHEDULE ABOVE, THE E.C. IS FULLY RESPONSIBLE FOR OBTAINING COPIES OF SHOP DRAWINGS FROM THE CONTRACTOR OR PARTY (INCLUDING OWNER, WHERE APPLICABLE) FURNISHING THE EQUIPMENT AND FOR COORDINATING EQUIPMENT ELECTRICAL CHARACTERISTICS WITH SHOP DRAWINGS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. THE E.C. IS SOLELY RESPONSIBLE FOR THIS COORDINATION AND IS RESPONSIBLE FOR ALL COSTS WHICH MAY RESULT FROM FAILING TO FULLY COORDINATE.

### LUMINAIRE SCHEDULE

| TYPE | DESCRIPTION | MANUFACTURER | CATALOG NUMBER | ILLUMINATION/ LAMPS | REMARKS |
|---|---|---|---|---|---|
| A1(EX) | 2' X 4' RECESSED INDIRECT FLUORESCENT | H.E. WILLIAMS | DI G-S24-3 32-WPR-EB3-UNV | (3) 32W T-8, 3,500K | WHITE FINISH, METAL DIFFUSER, ROUND HOLE PATTERN, EXISTING LIGHT |
| | EXISTING TO REMAIN | (EXISTING) | (EXISTING) | (EXISTING) | TO REMAIN, RE-WIRE AS SHOWN ON DRAWINGS |
| A1(REL) | 2' X 4' RECESSED INDIRECT FLUORESCENT | H.E. WILLIAMS | DI G-S24-3 32-WPR-EB3-UNV | (3) 32W T-8, 3,500K | WHITE FINISH, METAL DIFFUSER, ROUND HOLE PATTERN, RELOCATE |
| | RELOCATE EXISTING | (EXISTING) | (EXISTING) | (EXISTING) | EXISTING LIGHT AND RE-WIRE AS SHOWN ON DRAWINGS |
| AE(REL) | 2' X 4' RECESSED INDIRECT FLUORESCENT | H.E. WILLIAMS | DI G-S24-3 32-WPR-EB2/1-UNV | (3) 32W T-8, 3,500K | WHITE FINISH, METAL DIFFUSER, ROUND HOLE PATTERN, TWO (2) |
| | FOR EMERGENCY USE, RELOCATE EXISTI | (EXISTING) | (EXISTING) | (EXISTING) | BALLASTS TO FACILITATE DUAL SWITCHING, CONNECT 2 OUTSIDE LAMPS |
| | | | | | TO EMERGENCY/NIGHT LIGHTING CIRCUIT AND 1 INSIDE LAMP TO |
| | | | | | SWITCHED NORMAL CIRCUIT, RELOCATE EXISTING LIGHT AND RE-WIRE AS |
| | | | | | SHOWN ON DRAWINGS |
| EXIT | EXIT SIGN, RED LETTERS ON WHITE FACE | EMERGI-LITE | WW PDN * R | INTEGRAL DIFFUSED | INTEGRAL NiCd BATTERY BACKUP, CONNECT TO STANDBY LIGHTING |
| | AND HOUSING | | | LED | CIRCUIT AS SHOWN, UNIVERSAL MOUNTING (COORDINATE MOUNTING |
| | | | | | WITH ARCHITECT), QUANTITY OF FACES AS REQUIRED, PROVIDE |
| | | | | | DIRECTIONAL ARROWS WHERE SHOWN ON DRAWINGS |

NOTES:

1) PROVIDE ALL NEW LUMINAIRES AS UNIVERSAL 120 V AND 277 V OPERATION, UNLESS INDICATED OTHERWISE.
2) VERIFY ALL DEPTHS OF RECESSED LUMINAIRES PRIOR TO ORDERING, COORDINATE WITH CEILING DEPTHS.
3) MANUFACTURERS SHOWN ABOVE INDICATE THE BASIS OF DESIGN. OTHER MANUFACTURERS (INCLUDING, BUT NOT LIMITED, TO THOSE SHOWN IN THE LIGHTING SPECIFICATIONS) SHALL BE CONSIDERED.

### PANEL L1A

| | | | |
|---|---|---|---|
| PANEL - | L1A (EXISTING) | VOLTAGE - | 277/ 480 |
| FOR - | LIGHTING | PHASE - | 3 PH-4W |
| LOCATION - | #1135 JANITOR | MAIN - | 225 A MLO |
| A.I.C. - | 65,000 A (SERIES RATED) | MOUNTING- | SURFACE |

| DESCRIPTION | LTG. VA | EQUIP. VA | HVAC VA | BKR. AMPS | | BUS CONNECTION | | | BKR. AMPS | | HVAC VA | EQUIP. VA | LTG. VA | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (EX) 2ND FLOOR CORR./ROOMS LTG. | 3,100 | | | 20 | 1 | 1 | A | 2 | 20 | 1 | | | 3,300 | (EX) 1ST FLOOR CORRIDOR LTG. |
| (EX) #1151, #1163 CLASSROOM LTG. | 2,500 | | | 20 | 1 | 3 | B | 4 | 20 | 1 | | | 3,000 | (EX) 1ST FLOOR CORRIDOR LTG. |
| (EX) #1152, #1161 CLASSROOM LTG. | 2,500 | | | 20 | 1 | 5 | C | 6 | 20 | 1 | | | 3,000 | (EX) 1ST FLOOR CORRIDOR LTG. |
| (EX) #1153, #1160 CLASSROOM LTG. | 2,500 | | | 20 | 1 | 7 | A | 8 | 20 | 1 | | | 3,600 | (EX) 1ST FLOOR SOUTH OFFICE LTG. |
| (EX) OUTDOOR LIGHTING | 1,040 | | | 20 | 1 | 9 | B | 10 | 20 | 1 | | | 3,600 | (EX) 1ST FLOOR SOUTH OFFICE LTG. |
| (EX) ELEVATOR ROOM/PIT LTG. | 200 | | | 20 | 1 | 11 | C | 12 | 20 | 1 | | | 1,750 | (EX) 1ST FLOOR SOUTH OFFICE LTG. |
| SPARE | | | | 20 | 1 | 13 | A | 14 | 20 | 1 | | | 3,800 | (EX) 1ST FLOOR SOUTH OFFICE LTG. |
| SPARE | | | | 20 | 1 | 15 | B | 16 | 20 | 1 | | | 1,260 | (EX) #1028 PRESENTATION LTG. |
| SPARE | | | | 20 | 1 | 17 | C | 18 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 19 | A | 20 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 21 | B | 22 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 23 | C | 24 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 25 | A | 26 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 27 | B | 28 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 29 | C | 30 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 31 | A | 32 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 33 | B | 34 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 35 | C | 36 | 20 | 1 | | | | SPARE |
| SPARE | | | | 20 | 1 | 37 | A | 38 | 20 | 3 | 10,290 | | | (EX) #ERV-1 ENERGY RECOV. UNIT |
| SPARE | | | | 20 | 1 | 39 | B | 40 | | | | | | |
| SPARE | | | | 20 | 1 | 41 | C | 42 | | | | | | |
| TOTALS | 11,840 | 0 | 0 | | | | | | | | 10,290 | 0 | 23,310 | TOTALS |

| LOAD DESCRIPTION (CONNECTED/DEMAND) | CONN. VA | DMD. VA |
|---|---|---|
| LIGHTING | 35,150 | 35,150 |
| GENERAL POWER | 0 | 0 |
| HVAC EQUIPMENT | 10,290 | 10,290 |
| TOTAL | 45,440 | 45,440 |
| PERCENT LOADED | 24% | 24% |

PANEL SCHEDULE
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| PHASE BALANCE VA | |
|---|---|
| A | 19,730 |
| B | 14,830 |
| C | 10,880 |
| TOTAL | 45,440 |
| SD (σ) | 3,620 |

NOTES:
1) THIS PANEL IS EXISTING, MODIFY AS SHOWN. EXISTING PANEL IS EATON TYPE "PRL2A".
2) EXISTING PANEL INCLUDES INTEGRAL SURGE SUPPRESISON.
(EX) INDICATES EXISTING CIRCUIT TO REMAIN.
* INDICATES NEW CIRCUIT, PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE OR IN SPACE FROM REMOVING AN EXISTING CIRCUIT BREAKER AS REQUIRED.
** INDICATES NEW CIRCUIT, CONNECT TO EXISTING SPARE CIRCUIT BREAKER OR CIRCUIT BREAKER FROM REMOVING AN EXISTING CIRCUIT AS REQUIRED.

### PANEL P2A

| | | | |
|---|---|---|---|
| PANEL - | P2A (EXISTING) | VOLTAGE - | 120/ 208 |
| FOR - | GENERAL POWER | PHASE - | 3 PH-4W |
| LOCATION - | #1159 ELECTRICAL ROOM | MAIN - | 225 A MCB |
| A.I.C. - | 22,000 A | MOUNTING- | SURFACE |

| DESCRIPTION | LTG. VA | EQUIP. VA | HVAC VA | BKR. AMPS | | BUS CONNECTION | | | BKR. AMPS | | HVAC VA | EQUIP. VA | LTG. VA | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (EX) #1151 CLRM. PODIUM/PROJ. | | 900 | | 20 | 1 | 1 | A | 2 | 20 | 1 | | 900 | | (EX) #1163 CLRM. PODIUM/PROJ. |
| (EX) #1151 CLRM. SMART BOARD | | 400 | | 20 | 1 | 3 | B | 4 | 20 | 1 | | 400 | | (EX) #1163 CLRM. SMART BOARD |
| (EX) #1151 CLRM. CONVEN. RECEP. | | 800 | | 20 | 1 | 5 | C | 6 | 20 | 1 | | 800 | | (EX) #1163 CLRM. CONVEN. RECEP. |
| (EX) #1151 CLRM. CONVEN. RECEP. | | 800 | | 20 | 1 | 7 | A | 8 | 20 | 1 | | 800 | | (EX) #1163 CLRM. CONVEN. RECEP. |
| (EX) #1152 CLRM. PODIUM/PROJ. | | 900 | | 20 | 1 | 9 | B | 10 | 20 | 1 | | 1,600 | | (EX) #1164 CORRIDOR RECEP. |
| (EX) #1152 CLRM. SMART BOARD | | 400 | | 20 | 1 | 11 | C | 12 | 20 | 1 | | 1,600 | | (EX) #1164 CORRIDOR RECEP. |
| (EX) #1152 CLRM. CONVEN. RECEP. | | 800 | | 20 | 1 | 13 | A | 14 | 20 | 1 | | 600 | | (EX) #1156 MEN'S RECEP. |
| (EX) #1152 CLRM. CONVEN. RECEP. | | 800 | | 20 | 1 | 15 | B | 16 | 20 | 1 | | 600 | | (EX) #1158 WOMEN'S RECEP. |
| (EX) #1153 CLRM. PODIUM/PROJ. | | 900 | | 20 | 1 | 17 | C | 18 | 20 | 1 | | 400 | | (EX) ROOF RECEP. |
| (EX) #1153 CLRM. SMART BOARD | | 400 | | 20 | 1 | 19 | A | 20 | 20 | 1 | | 1,600 | | (EX) RADON PIPE RECEP. |
| (EX) #1153 CLRM. CONVEN. RECEP. | | 800 | | 20 | 1 | 21 | B | 22 | 20 | 1 | 900 | | | (EX) VV BOXES |
| (EX) #1153 CLRM. CONVEN. RECEP. | | 800 | | 20 | 1 | 23 | C | 24 | 20 | 1 | | 1,600 | | (EX) #CO-2 COPIER |
| (EX) #1160 OFFICES PODIUM/PROJ. | | 900 | | 20 | 1 | 25 | A | 26 | 20 | 1 | | 900 | | (EX) #EWC-2 WATER COOLER |
| (EX) #1160 OFFICES SMART BOARD | | 400 | | 20 | 1 | 27 | B | 28 | 20 | 1 | | 800 | | (EX) #1153 RECEP. |
| (EX) #1160 OFFICES CONVEN. RECEP. | | 800 | | 20 | 1 | 29 | C | 30 | 20 | 1 | | 800 | | (EX) #1153 RECEP. |
| (EX) #1160 OFFICES CONVEN. RECEP. | | 800 | | 20 | 1 | 31 | A | 32 | 20 | 1 | | 800 | | (EX) #1153 RECEP. |
| (EX) #1161 CLRM. PODIUM/PROJ. | | 900 | | 20 | 1 | 33 | B | 34 | 20 | 1 | | 800 | | (EX) #1153 RECEP. |
| (EX) #1161 CLRM. SMART BOARD | | 400 | | 20 | 1 | 35 | C | 36 | 20 | 1 | 200 | | | (EX) #1153 VAV UNIT & NEW #VAV-1 |
| (EX) #1161 CLRM. CONVEN. RECEP. | | 800 | | 20 | 1 | 37 | A | 38 | 20 | 1 | | 1,600 | | #1160 OFFICES RECEP. (FMR. SPR.) ** |
| (EX) #1161 CLRM. CONVEN. RECEP. | | 800 | | 20 | 1 | 39 | B | 40 | 20 | 1 | | 1,600 | | #1160 OFFICES RECEP. (FMR. SPR.) ** |
| (EX) #1155 WORK ROOMRECEP. | | 1,200 | | 20 | 1 | 41 | C | 42 | 20 | 1 | | 1,600 | | #CO-3 COPIER (FMR. SPARE) ** |
| TOTALS | 0 | 15,700 | 0 | | | | | | | | 1,100 | 19,800 | 0 | TOTALS |

| LOAD DESCRIPTION (CONNECTED/DEMAND) | CONN. VA | DMD. VA |
|---|---|---|
| LIGHTING | 0 | 0 |
| GENERAL POWER | 35,500 | 17,750 |
| HVAC EQUIPMENT | 1,100 | 1,100 |
| TOTAL | 36,600 | 18,850 |
| PERCENT LOADED | 45% | 23% |

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| PHASE BALANCE VA | |
|---|---|
| A | 12,600 |
| B | 11,700 |
| C | 12,300 |
| TOTAL | 36,600 |
| SD (σ) | 374 |

NOTES:
1) THIS PANEL IS EXISTING, MODIFY AS SHOWN. EXISTING PANEL IS EATON TYPE "PRL1A" (WITH "EDB" MAIN BREAKER).
2) EXISTING PANEL INCLUDES INTEGRAL SURGE SUPPRESISON AND DOUBLE SUB-FEED LUGS (ON LOAD SIDE OF MAIN BREAKER) TO FACILITATE ADDING FUTURE ADDITIONAL PANEL SECTION.
(EX) INDICATES EXISTING CIRCUIT TO REMAIN.
* INDICATES NEW CIRCUIT, PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE OR IN SPACE FROM REMOVING AN EXISTING CIRCUIT BREAKER AS REQUIRED.
** INDICATES NEW CIRCUIT, CONNECT TO EXISTING SPARE CIRCUIT BREAKER OR CIRCUIT BREAKER FROM REMOVING AN EXISTING CIRCUIT AS REQUIRED.

MCE #5940SS

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**ROWAN COLLEGE at GLOUCESTER COUNTY**
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**1400 TANYARD ROAD**
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REVISIONS
a. e.
b. f.
c. g.

Project No. 18–43
Date: 02–11–19
Scale: AS NOTED

**ELECTRICAL NOTES AND DETAILS**

**E2-SS**

**ISSUED FOR BID 2-11-2019**