CONTRACT DOCUMENTS
FOR
WAYNE STATE UNIVERSITY
089 - BIOLOGICAL SCIENCE BUILDING
WSU PROJECT NO: 089-248858
ELECTRICAL RELIABILITY UPGRADES - BID PACKAGE No. 5
FOR BID 1-21-2015

OWNER
WAYNE STATE UNIVERSITY
Facilities Planning & Management
Design & Construction Services
5454 Cass Avenue
Detroit Mi 48202

CONSULTANT
Commonwealth Inc.
2700 W. Argyle Street
Jackson, Michigan 49202
Office: (517) 788-3000
Fax: (517) 788-3003

INDEX OF SHEETS

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E-102 UPS DISTRIBUTION RISER DIAGRAM

REFERENCE DRAWINGS

FILE NAME: C:\pw_work\pw_proj\dlmaier\d0447958\C-0.dwg
PLOTTED DATE: 1/15/2015 8:12 AM
PLOTTED BY: Daniel L. Maier

LOCATION: BIOLOGICAL SCIENCE BUILDING

WAYNE STATE UNIVERSITY
Facilities Planning & Management
Design & Construction Services
5454 Cass Avenue
Detroit Mi 48202

FOR BID 1-21-2015

REFERENCES:
G-1 GENERAL NOTES AND DESIGN CRITERIA
E-101 ELECTRICAL ONE LINE DIAGRAM
E-102 UPS DISTRIBUTION RISER DIAGRAM

OWNER:
CONSULTANT:

FOR BID:
1-21-2015
**NOTES:**

1. SEE DRAWING D-1 FOR GENERAL NOTES AND LEGEND.

2. COOLING REQUIREMENTS FOR ROOM 0163 ARE TO BE HANDLED BY THE EXISTING HVAC SYSTEM. ADJUSTMENTS TO THE EXISTING HVAC SYSTEM IS NOT PART OF THE SCOPE OF THIS PROJECT. WSU TO PROVIDE THE ADDITIONAL 1 TON OF COOLING REQUIRED FOR THIS ROOM.

3. NOT USED.

4. NEW CIRCUITS AS INDICATED IN THE CABLE/CONDUIT/PANEL SCHEDULES EXTEND FROM LISTS PANELS TO THE DESIGNATED LOADS THROUGHOUT THE BIOLOGICAL SCIENCE BUILDING.

5. NOT USED.

6. NOT USED.

7. NOT USED.

8. CORE DRILLING SHALL BE COORDINATED WITH WSU AND ADJACENT CORE HOLES TO BE NO CLOSER THAN 2 TIMES DIAMETER SPACING.

9. SEE CONDUIT RISER DIAGRAM ON Dwg. E-102 FOR DIAGRAMMATIC VIEW OF CONDUIT ENTERING THIS ROOM.

10. NOT USED.

11. UPS RECEPTACLES TO BE YELLOW IN COLOR AND TO HAVE A YELLOW WITH BLACK LETTERING NAMEPLATE.

12. UPS PANEL BOARDS AND EQUIPMENT SHALL BE LABELED WITH A YELLOW WITH BLACK LETTERING NAMEPLATE.

13. INSTALL DRIP SHIELD MIN. 24" ABOVE UPS & TRANSFORMER. DRIP SHIELD TO BE 18GA. GALVANIZED MOUNTED WITH 1/2" THREADED ROD TO EXISTING STRUCTURE. DRIP SHIELD DRAIN TO BE LOCATED IN A CORNER WITH PVC PIPING FIELD ROUTED TO FLOOR WITH SUPPORTS EVERY THREE FEET.

14. PROVIDE FIRE STOPPING AROUND ALL CONDUITS, AND IN ALL SLEEVES PASSING THROUGH FIRE-RATED WALLS AND FLOORS.

15. ROUTE HORIZONTAL CONDUIT RUNS ABOVE FINISHED CEILING AND VERTICAL RISERS APPROXIMATELY 18" DIAMETER OR LARGER IN A NEAT ORGANIZED MANNER, AND SUCH AS TO CAUSE NO INTERFERENCE WITH HEADROOM OR EXISTING EQUIPMENT, DEVICES, ETC. COORDINATE WITH WSU SEF FOR EXACT INSTALLATION.

**SECTION**

**HOUSEKEEPING PAD PLAN**

SCALE: 1/2" = 1'-0"

**GROUND FLOOR LEVEL - 85'-0"**

SCALE: 3/32" = 1'-0"
1. See Drawing G-1 for general notes and legend.
2. Furnish and install new 100A Trip 3 Pole Breaker Space Compartment of existing Unit Sub-Station. New breaker shall match existing Unit Sub-Station breakers for brand and model. See drawing E-101.1.
3. New wire way and boxes are required, match existing installation for type, style, and flush or surface mounting. New installation to be immediately above the existing. Coordinate with WSU.
4. New circuits as indicated in the cable/conduit/panel schedules extend from listed panels to the designated loads throughout the Biological Science Building.
5. Not used.
6. Not used.
7. Not used.
8. Core drilling shall be coordinated with WSU and adjacent cored holes to be no closer than 2 times diameter spacing.
9. See conduit riser diagram on drawing E-102 for diagramatic view of conduit entering this room.
10. UPS panel boards and equipment shall be labeled with a yellow with black lettering nameplate.
11. Provide fire stopping around all conduits, and in around all services passing through fire rated walls and floors.
12. Route horizontal conduits above finished ceilings and vertical risers approximately as shown in a neat orderly manner, and such as to cause no interference with headroom or existing equipment, devices, etc. coordinate with WSU rep for exact installation.

Scale: 1/8" = 1'-0"
9. SEE CONDUIT RISER DIAGRAM ON DWG. E-102 FOR DIAGRAMMATIC VIEW OF CONDUIT ENTERING THIS ROOM.

10. INSTALL SINGLE CHANNEL WIRE WAY DIRECTLY ABOVE THE EXISTING WIRE WAY COMPLETE WITH 208VOLT RECEPTACLES AND 120VOLT DUPLEX RECEPTACLES AS NOTED COORDINATE INSTALLATION WITH WSU REP.

11. UPS RECEPTACLES TO BE YELLOW IN COLOR, AND TO HAVE A YELLOW WITH BLACK LETTERING NAMEPLATE.

12. UPS PANEL, BOXES AND EQUIPMENT SHALL BE LABELED WITH A YELLOW WITH BLACK LETTERING NAMEPLATE.

13. PROVIDE FIRE STOPPING AROUND ALL CONDUITS, AND IN AROUND ALL SLEEVES PASSING THROUGH FIRE RATED WALLS AND FLOORS.

14. ROUTE HORIZONTAL CONDUIT RUNS ABOVE FINISHED CEILING AND VERTICAL RISERS APPROXIMATELY AS SHOWN IN A NEAT ORDERLY MANNER, AND SUCH AS TO CAUSE NO INTERFERENCE WITH HEADROOM OR EXISTING EQUIPMENT, DEVICES, ETC. COORDINATE WITH WSU REP FOR EXACT INSTALLATION.
1. SEE DRAWING G-1 FOR GENERAL NOTES AND LEGEND
2. NOT USED
3. NOT USED
4. NEW CIRCUITS AS INDICATED IN THE CABLE/CONDUIT/PANEL SCHEDULES EXTEND FROM LISTED PANELS TO THE DESIGNATED LOADS THROUGHOUT THE BIOLOGICAL SCIENCE BUILDING.
5. NOT USED
6. NOT USED
7. NOT USED
8. CORE DRILLING SHALL BE COORDINATED WITH WSU AND ADJACENT CORDED HOLES TO BE NO CLOSER THAN 2 TIMES DIAMETER SPACING.
9. SEE CONDUIT OVER VIEW Dwg. E-102 FOR DIAGRAMMATIC VIEW OF CONDUIT ENTERING THIS ROOM.
10. NEW WIRE WAY AND BOXES ARE REQUIRED. MATCH EXISTING INSTALLATION FOR TYPE, STYLE, AND MOUNTING. NEW INSTALLATION TO BE IMMEDIATELY ABOVE THE EXISTING. COORDINATE WITH WSU.
11. UPS RECEPTACLES TO BE YELLOW IN COLOR, AND TO HAVE A YELLOW WITH BLACK LETTERING NAMEPLATE.
12. UPS PANEL BOARD AND EQUIPMENT SHALL BE LABELED WITH A YELLOW WITH BLACK LETTERING NAMEPLATE.
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14. ROUTE HORIZONTAL CONDUIT RUNS ABOVE FINISHED CEILING AND VERTICAL RISERS APPROXIMATELY AS SHOWN IN A NEAT ORDERLY MANNER, AND SUCH AS TO CAUSE NO INTERFERENCE WITH HEADROOM OR EXISTING EQUIPMENT, DEVICES, ETC. COORDINATE WITH WSU FOR EXACT INSTALLATION.

NOTES:
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2. NOT USED
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4. NEW CIRCUITS AS INDICATED IN THE CABLE/CONDUIT/PANEL SCHEDULES EXTEND FROM LISTED PANELS TO THE DESIGNATED LOADS THROUGHOUT THE BIOLOGICAL SCIENCE BUILDING.
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6. NOT USED
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NOTES:

1. SEE DRAWING G-1 FOR GENERAL NOTES AND LEGEND

2. SULLY TOSHIBA UPS, COMPLETE WITH INVERTER, BY-PASS AND BATTERY CABINET, CONTRACTOR TO PURCHASE UPS SYSTEM FROM WSU PREFERRED VENDOR ANCONA CONTROLS, 28021 GRAND OAKS CT, WIXOM, MI, 48393 PHONE: 248-880-6351.

3. NOT USED

4. NEW CIRCUITS AS INDICATED IN THE CABLE/CONDUIT/PANEL SCHEDULES EXTEND FROM LISTED PANELS TO THE DESIGNATED LOADS THROUGHOUT THE BIOLOGICAL SCIENCE BUILDING.

5. NOT USED

6. NOT USED

7. NOT USED

8. Core drilling shall be coordinated with WSU and adjacent cored holes to be no closer than 2 times diameter spacing.

9. NOT USED

10. THE UPS SHALL BE GROUNDED PER LATEST VERSION OF NEC. THE GROUNDED CONDUCTOR SHALL BE #2 AWG, INSULATED, 90 DEGREE C, COPPER. PROVIDE THE GROUNDING CONDUCTOR FROM THE UPS TO NEAREST BUILDING GROUND BUS. ROUTE GROUNDING CONDUCTOR THROUGH RIGID NON-METALLIC CONDUIT WHERE EXPOSED. USE BUSHINGS AT ENDS OF CONDUIT PROVIDE ENOUGH SLACK AT UPS END TO ALLOW THE UPS TO MOVE 4'-0" FOR MAINTENANCE.

11. UPS PANEL BOARDS AND EQUIPMENT SHALL BE LABELED WITH A YELLOW WITH BLACK LETTERING NAMEPLATE.