

ELECTRICAL PHASING

THIS FOLLOWING PHASING PROCEDURE IS INTENDED AS A HIGH LEVEL GUIDELINE ONLY. IT SHALL BE USED AND READ IN CONJUNCTION WITH THE CONTACT DOCUMENTS AND DOESN'T NECESSARILY STATE ALL REQUIRED STAGES. THE CONTRACTOR SHALL SORT AND SUBMIT A DETAILED PROCEDURE FOR REVIEW BY THE DEPARTMENTAL REPRESENTATIVE PRIOR TO ANY WORK PROCEEDING.

- PHASE 1:**
- INSTALL TEMPORARY PORTABLE GENERATOR, TEMPORARY DISTRIBUTION PANEL AND TEMPORARY RACEWAY.
 - ISOLATE EXISTING GENERATORS AND LOCK OFF. MOVE FEEDERS FROM EXISTING PARALLELING SWITCHGEAR TO TEMPORARY GENERATOR DISTRIBUTION PANEL. TERMINATE FEEDER AND RE-INSTATE TEMPORARY EMERGENCY SYSTEM.
 - IN THE PRESENCE OF THE DEPARTMENTAL REPRESENTATIVE, COMMISSION AND TEST TEMPORARY EMERGENCY SYSTEM.
 - BEGIN DEMOLITION IN GENERATOR ROOM, INCLUDING REMOVAL OF EXISTING GENERATORS, SWITCHGEARS, ETC.
 - INSTALL NEW GENERATORS SETS, SWITCHGEAR AND ALL NECESSARY RELATED RACEWAY. PHASE 1 INCLUDE WORK OUTSIDE THE GENERATOR ROOM AND THE BOILER ROOM FOR EXAMPLE AND NOT LIMITED TO: PROVIDE ALL REQUIRED COMMUNICATION AND CONTROL RACEWAY FOR THE NEW SYNCHRONIZING SWITCHGEAR.
 - COMMISSION NEW GENERATORS AND SWITCHGEAR USING REMOTE LOAD BANK.
 - ISOLATE AND LOCK OUT TEMPORARY AND NEW GENERATORS.
 - MOVE FEEDERS FROM TEMPORARY DISTRIBUTION PANEL TO NEW SWITCHGEAR.
 - RE-INSTATE NEW GENERATORS AND SWITCHGEAR, COMPLETE FUNCTIONAL PERFORMANCE COMMISSIONING FOR THE GENERATOR AND SYNCHRONIZING SWITCHGEAR.
 - REMOVE TEMPORARY GENERATOR, TEMPORARY DISTRIBUTION AND TEMPORARY FEEDS.
- PHASE 2:**
- BEGIN WORK IN AREA OUTSIDE THE FISH LAB BUILDING GENERATOR SERVICE ROOM.
 - REMOVE EXISTING AND INSTALL NEW EQUIPMENT AND RACEWAY.
 - ISOLATE AND LOCK OUT NEW GENERATORS.
 - INSTALL NEW FEEDERS AND RACEWAYS INTO THE NEW SWITCHGEAR.
 - RE-INSTATE NEW GENERATORS AND SWITCHGEAR.
 - RE-COMMISSION NEW GENERATORS AND SYNCHRONIZING SWITCHGEAR WITH PHASE 2 ADDED EQUIPMENT AND EXISTING HEATING LOADS C/W THEIR ASSOCIATED CONTROL.

ELECTRICAL LEGEND

- LINE VOLTAGE WIRING AS PER SPECIFICATIONS, RUN 2#12-#12BOND-16mmC MINIMUM.
- INDICATES NEW
- INDICATES EXISTING
- INDICATES DEMOLITION
- LIGHT SWITCH, SINGLE POLE
- 120/208V AND 347/600V PANELS RESPECTIVELY, SURFACE MOUNTED.
- PULL BOX, JUNCTION BOX, DIRECT CONNECTION, OR EQUIPMENT AS INDICATED ON THE DRAWINGS.
- DUPLEX U-GROUND RECEPTACLE
- EMERGENCY BATTERY UNIT COMPLETE WITH TWO 6-WATT LED HEADS, MOUNTED AT 2286mm A.F.F..
- REMOTE HEADS FOR BATTERY UNIT ABOVE, COMPLETE WITH TWO 6 WATT LED HEADS, MOUNTED AT 2286mm A.F.F..
- EXIT LIGHT CEILING MOUNTED OR WALL MOUNTED 2230mm A.F.F., SINGLE OR DOUBLE FACED, WITH ARROWS AS INDICATED.
- FIRE ALARM HORN, WALL MOUNTED 2290mm A.F.F. UNLESS OTHERWISE NOTED
- STROBE LIGHT, WALL MOUNTED 2290mm A.F.F. UNLESS INDICATED OTHERWISE.
- ADDRESSABLE FIRE ALARM PULL STATION MOUNTED 1220mm A.F.F.
- DISCONNECT SWITCH
- EMERGENCY STOP PUSH BUTTON FOR GENERATOR, WALL MOUNTED 1220mm A.F.F.
- ELECTRIC UNIT HEATER

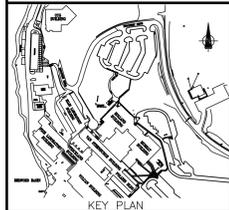
DEFINITIONS:

A.F.F. - ABOVE THE FINISHED FLOOR.
 RM - REMOVE EXISTING DEVICE OR EQUIPMENT. REMOVE EXISTING SERVICES BACK TO SOURCE. TURN OVER DEVICE OR EQUIPMENT TO OWNER.
 RL - RELOCATE EXISTING DEVICE OR EQUIPMENT. EXTEND EXISTING SERVICES FROM SOURCE TO NEW LOCATION.
 TVSS - DEVICE COMPLETE WITH BUILT IN TVSS PROTECTION.

NOTE: DEVICES SHOWN AS "DOTTED" ARE EXISTING TO REMAIN UNLESS INDICATED OTHERWISE.

GENERAL NOTES:

- NOTE 1: IT IS THE CLIENTS INTENTION TO KEEP BIO CAMPUS OPERATIONAL DURING THE CONSTRUCTION PHASE AND TO MAINTAIN NORMAL WORKING HOURS. THEREFORE ANY WORK WHICH WOULD ADVERSELY AFFECT THE CLIENTS ONGOING OPERATION IS TO BE SCHEDULED DURING OFF-HOURS. ANY PLANNED SHUT DOWNS ARE TO BE COORDINATED WITH THE DEPARTMENTAL REPRESENTATIVE WITHOUT EXCEPTION. THE CLIENTS BUSINESS OPERATIONS SHALL PREVAIL AND TAKE PRIORITY OVER ANY PLANNED SHUTDOWNS. SHORT DURATION SHUTDOWNS (LESS THAN 4 HOURS) SHALL REQUIRE A MINIMUM OF 4 DAYS NOTICE. LONG DURATION SHUTDOWNS (MORE THAN 4 HOURS) SHALL REQUIRE A MINIMUM OF 7 DAYS NOTICE. THIS CONTRACTOR SHALL ALLOW FOR AND CARRY ON HIS TENDER SUBMISSION, ALL COSTS, CHARGES, AND PROVISIONS NECESSARY FOR THE INSTALLATION OF HIS WORK DURING NON-REGULAR OPERATING.
- NOTE 2: AFTER AWARD OF TENDER, THIS SUCCESSFUL CONTRACTOR SHALL SUBMIT COPIES OF ALL DRAWINGS TO THE VARIOUS INSPECTION AUTHORITIES, ALL FOR THEIR INFORMATION AND/OR APPROVAL. THIS SHALL BE DONE PRIOR TO COMMENCEMENT OF THE WORK. THE DRAWINGS WILL BE PROVIDED BY THE ENGINEER AT NO COST TO THE CONTRACTOR.
- NOTE 3: NOT ALL EXISTING INFORMATION IS SHOWN. VERIFY EXISTING INSTALLATION PRIOR TO ANY DEMOLITION, RELOCATION, OR NEW INSTALLATION.
- NOTE 4: COORDINATE THE ELECTRICAL INSTALLATION WITH DEPARTMENTAL REPRESENTATIVE PRIOR TO STARTING THE PROJECT.
- NOTE 5: PROVIDE ALL REQUIRED CUTTING, PATCHING, AND PAINTING.
- NOTE 6: REMOVE ALL DEMOLISHED MATERIALS AND ELECTRICAL EQUIPMENT THAT IS MADE REDUNDANT FROM THE SITE.
- NOTE 7: REMOVE AND REINSTATE EXISTING CEILING AS REQUIRED TO ALLOW FOR THE NEW ADDITION.
- NOTE 8: PROVIDE ALL REQUIRED CORE DRILLS.
- NOTE 9: THE INTENT IS TO PERFORM THE ELECTRICAL WORK WITHOUT THE NEED TO TEMPORARILY DISCONNECT ANY EXISTING FIRE ALARM DEVICE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO RECONNECT THE FIRE ALARM SYSTEM IF ANY TEMPORARY DISCONNECTION IS REQUIRED.
- NOTE 10: CONTRACTOR TO CONFIRM PANEL NAMING WITH DEPARTMENTAL REPRESENTATIVE BEFORE INSTALLING NAMEPLATES.
- NOTE 11: A NON-MANDATORY SITE VISIT DURING BIDDING PROCESS WILL BE ORGANIZED. TIME AND DATE WILL BE PROVIDED BY DEPARTMENTAL REPRESENTATIVE.



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ALL DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS ARE FOR REFERENCE PURPOSES ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS.

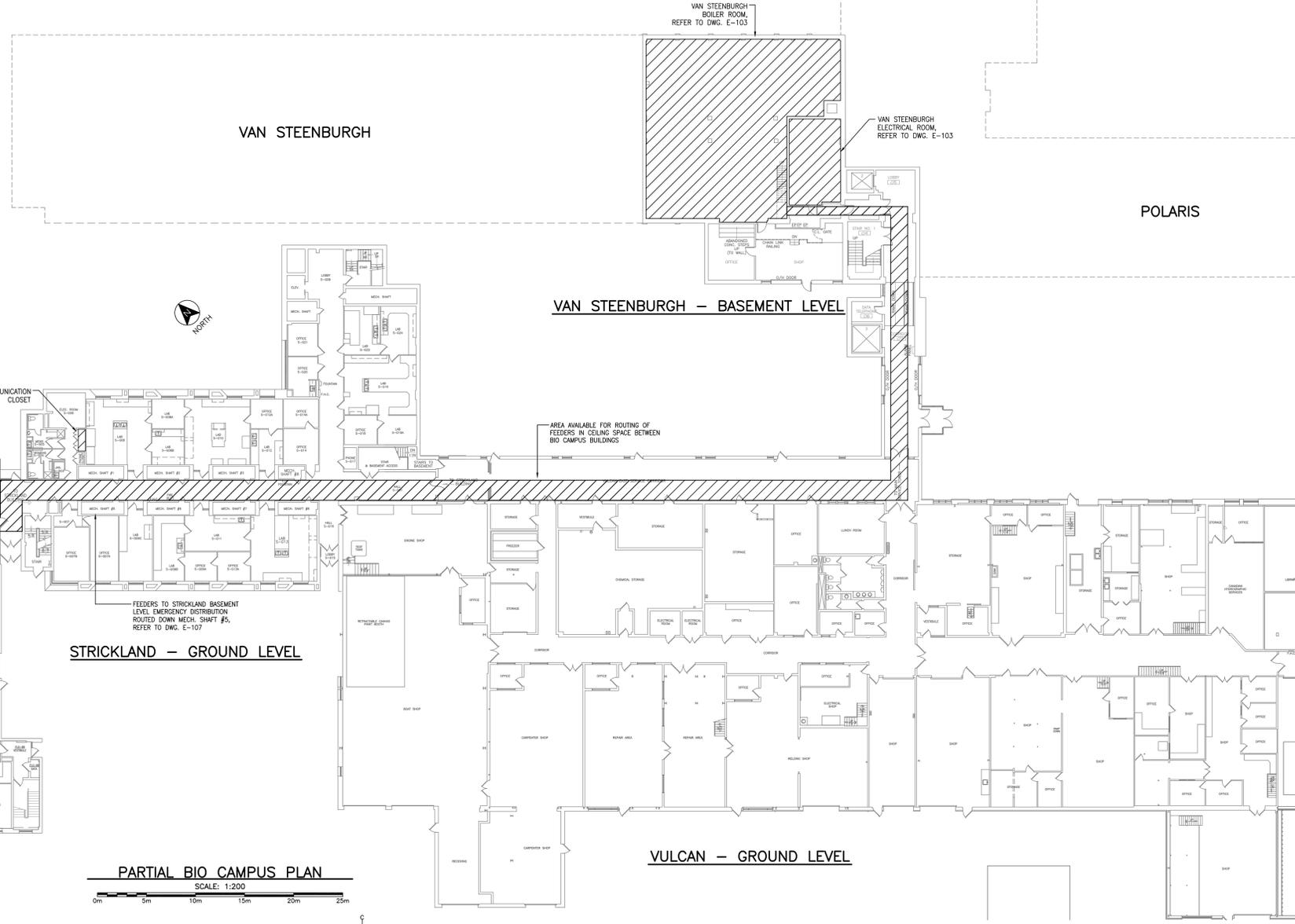


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|---|---------------------------|------------|
| 4 | ISSUED FOR TENDER | 08/23/2016 |
| 3 | RE-ISSUED FOR 100% REVIEW | 07/18/2016 |
| 2 | ISSUED FOR 100% REVIEW | 06/15/2016 |
| 1 | ISSUED FOR 70% REVIEW | 04/08/2016 |

project: **BIO GENERATOR UPGRADES FOR CAMPUS HEATING SYSTEM**
 BEDFORD INSTITUTE OCEANOGRAPHY
 DARTMOUTH - NS

descript: **ELECTRICAL NOTES, LEGEND & BIO ROUTE PLAN**

| | | |
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| designed | PM | concep |
| date | JULY 2016 | |
| drawn | AL | dessiné |
| date | JULY 2016 | |
| approved | HB | approuvé |
| date | JULY 2016 | |
| tender | | Submission |
| PWSC Project Manager | Administrateur de projets TPSSC | |
| project number | | no. du projet |
| | R.080319.001 | |
| drawing no. | | no. du dessin |
| | E-100 | |



PARTIAL BIO CAMPUS PLAN
 SCALE: 1:200

