STAR Note # 191

Clean AC Power Distribution for STAR

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The one line electrical diagram for STAR is presented. This document shows the schematic for clean power distribution from the RHIC 480 V substation feed to various STAR systems. A plan for routing the 480 V cables is also presented.

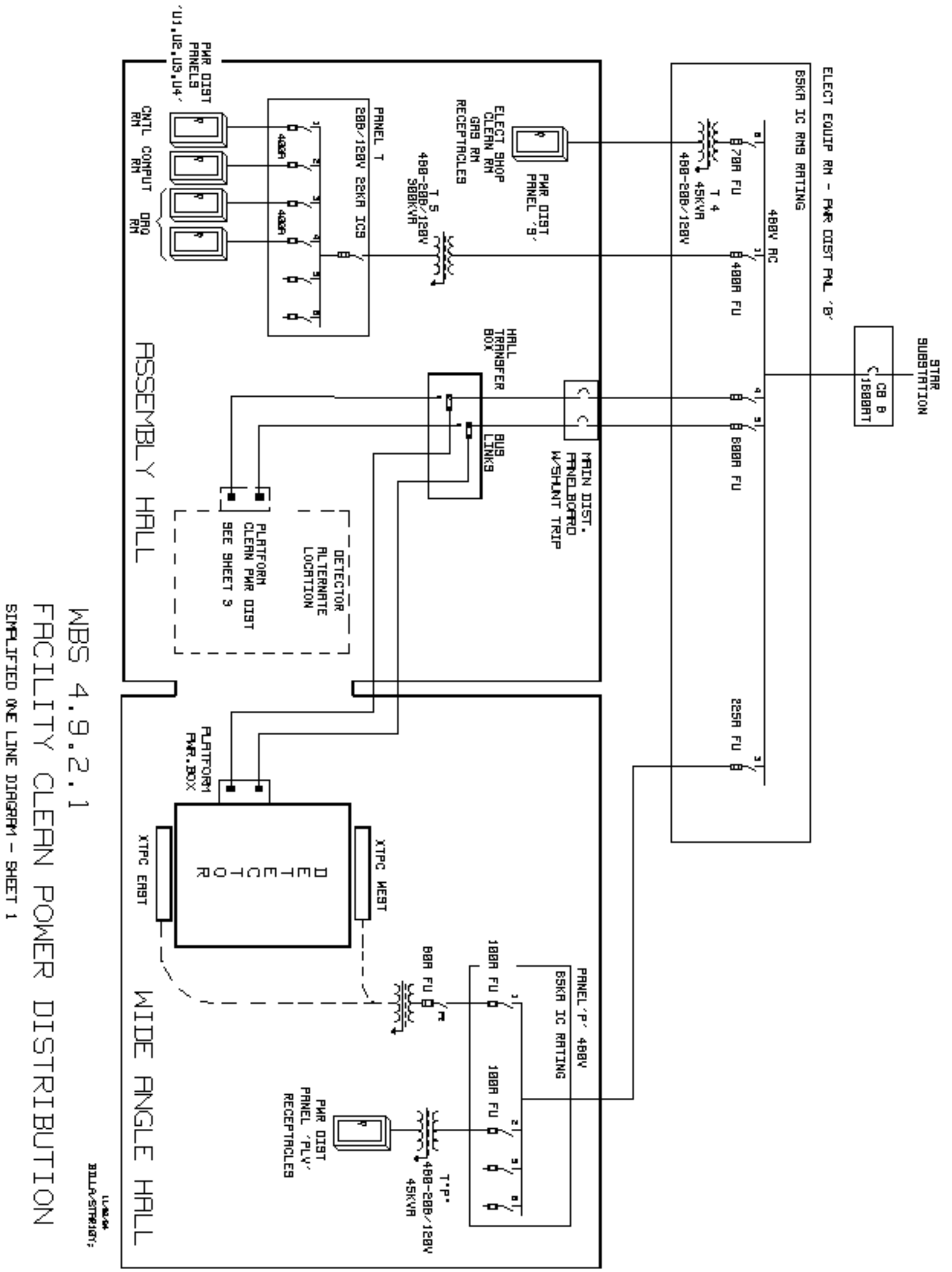
Enclosed are the revised drawings for AC clean power distribution. The four drawings are:

- Sheet 1 - Facility Clean Power Distribution. This is a simplified one line diagram for clean power for all facilities.
- Sheet 2 - Facility Clean Power Distribution. This shows how power is distributed from the BNL substation to the Computer, Control and DAQ rooms and other parts of the building.
- Sheet 3 - Detector Clean Power Distribution. This shows how power is distributed from the BNL substation to the STAR detector.
- Sheet 4 - Facility/Detector Clean Power Distribution Electrical Equipment Layout. This shows the location of electrical items such as transformers and panel boards.

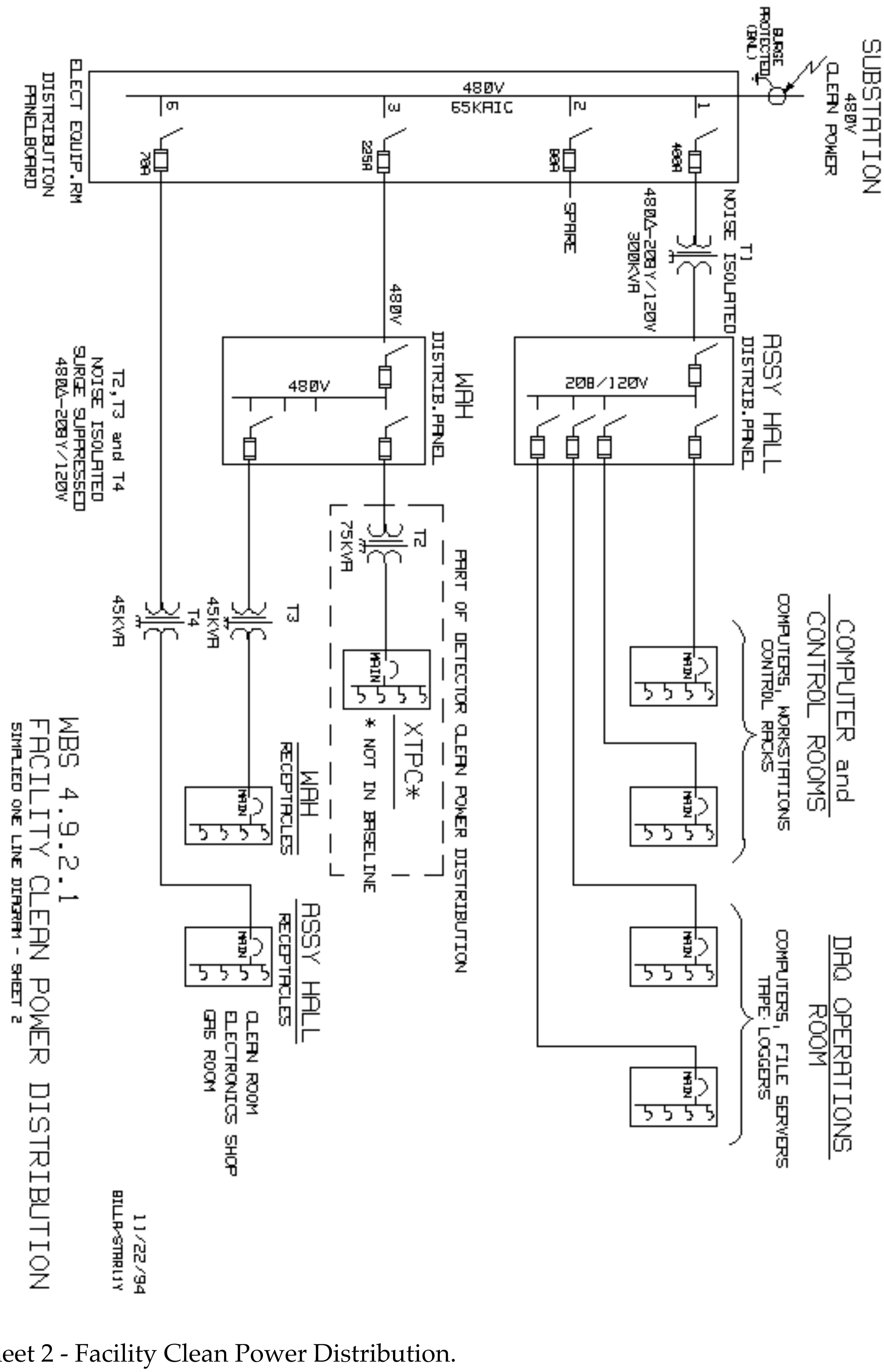
These diagrams are based on previous information sent to BNL. BNL used the information to produce drawings for the new construction in the WAH and the Assembly building. We have been refining our requirements and realized that several modifications need to be made. This document is a summary of our plans for the clean AC power distribution.

The changes described in this diagram include:

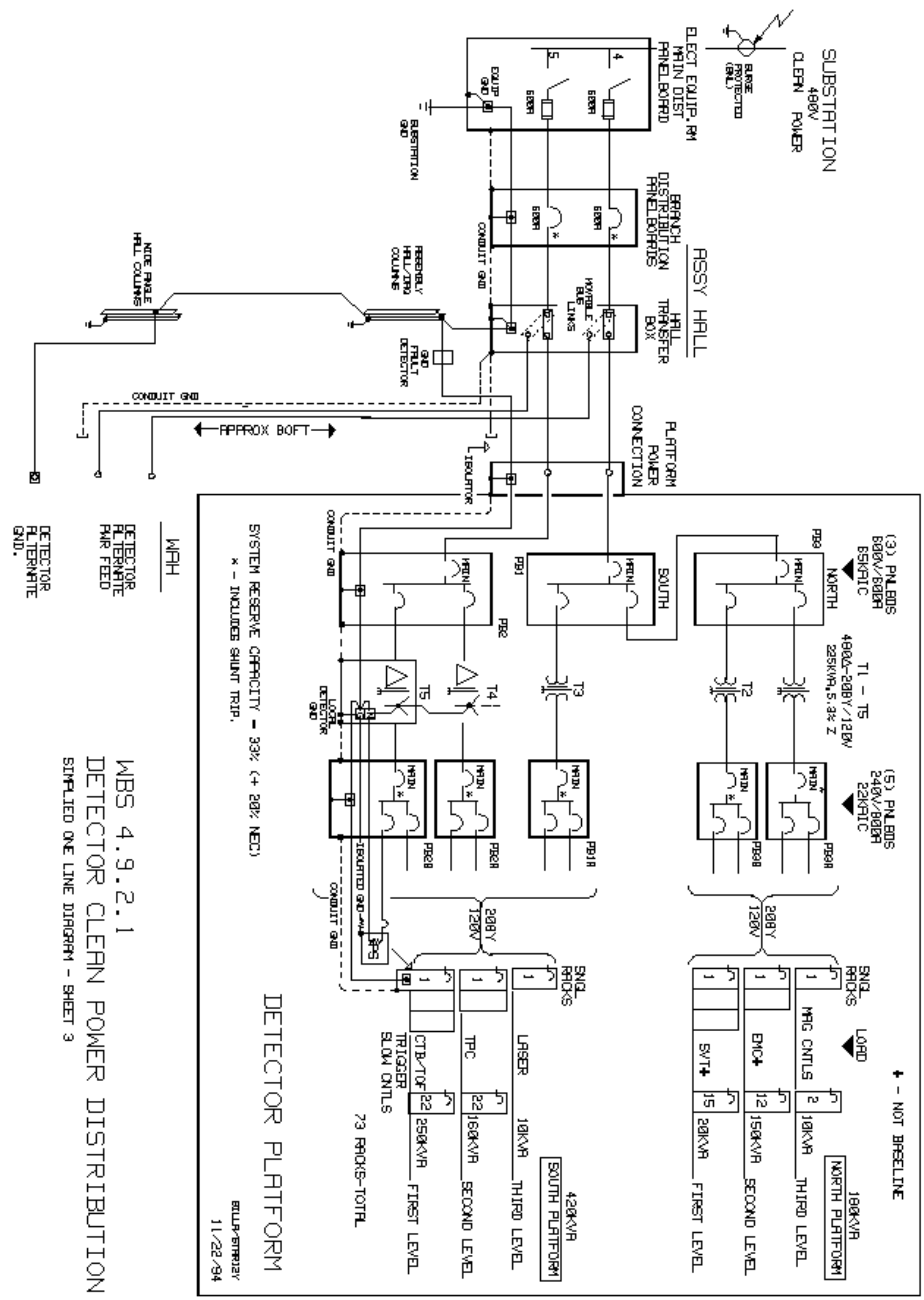
- Several electrical panels and transformers have been moved so that the pole tip can be retracted closer to the wall.
- A plan for grounding the clean power is shown.
- More detailed information is shown for clean power distribution.
- 480 VACPower lines travel along the same path to their distribution boxes.
- Shunt trips added to the detector panel board.
- The power distribution to the platform has been added.



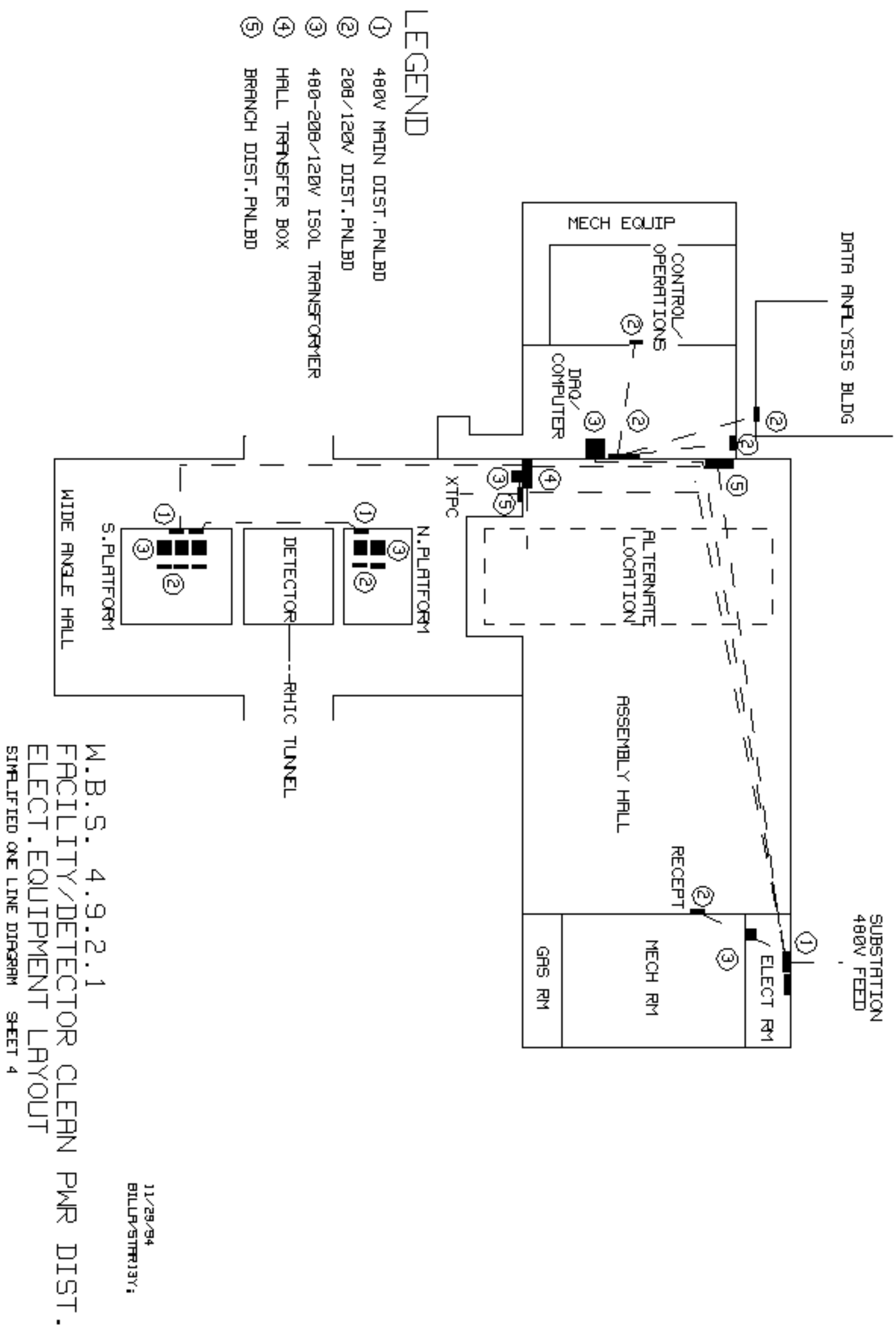
Sheet 1. Facility Clean Power Distribution



Sheet 2 - Facility Clean Power Distribution.



Sheet 3 - Detector Clean Power Distribution.



Sheet 4 - Facility/Detector Clean Power Distribution Electrical Equipment Layout.