

Canted Undulator Magnets

The canted undulator magnets are installed in sectors 21, 23, and 24. The dipole magnets are identified as C:BM1, C:BM2, and C:BM3 and the corrector magnet is identified as C:H1/C:V1. The canted undulator magnets are used to create two insertion device beams per sector, rather than one. This provides the CAT with two beams thus increasing the science capacity for that sector.

The original beam trajectory (Config.#1 from below) for the canted undulator is shown in figure 2 [1] . Several configurations are being considered and are listed below:

Config.#1: BM1 and BM3: +0.5 mrad, BM2: -1 mrad, H1s: -1 mrad

Config.#2: BM1 and BM3: -0.5 mrad, BM2: -1 mrad, H1s: 0 mrad

Config.#3: BM1 and BM3: 0.0 mrad, BM2: -1 mrad, H1s: -0.5mrad

The canted undulator magnets may be wired to operate at any one of these configurations until operations decides the best configuration to use. At the writing of this document sector 21, 23, and 24 were set at config.#3.

[1] P. Dan Hartog, TWG Meeting “Canted Undulator Beamline,” March 21, 2002

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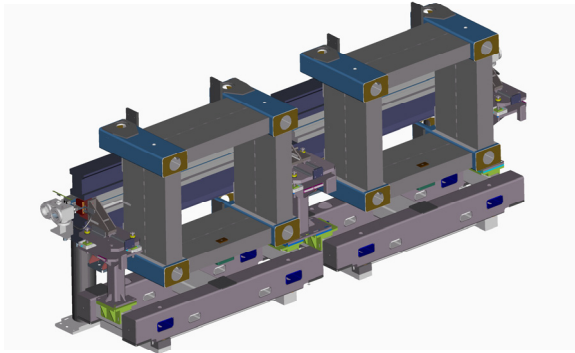


Figure 1: Canted undulator assembly.

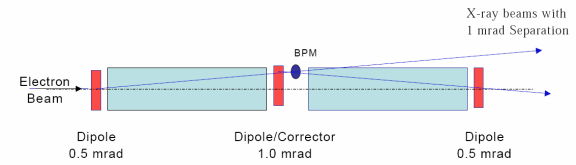


Figure 2: Canted undulator beam trajectory.

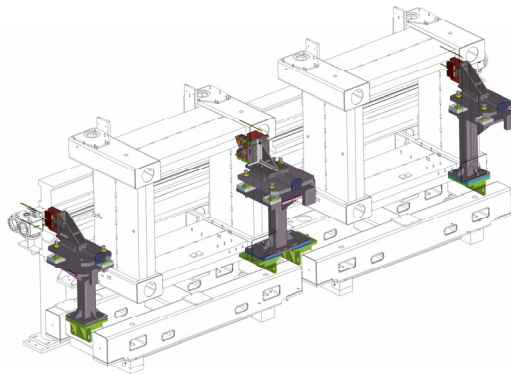


Figure 3: Canted undulator assembly with magnet assemblies shown in solid.

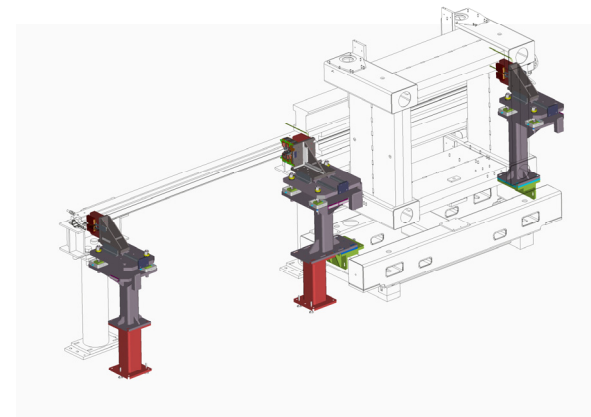


Figure 4: Canted undulator assembly with only one undulator.

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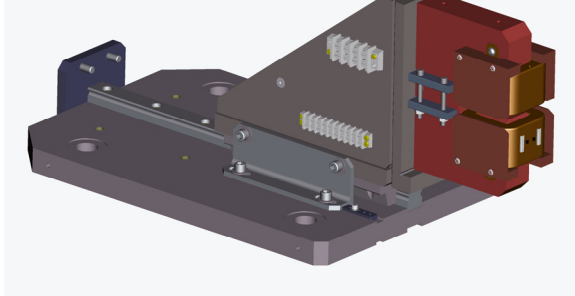


Figure 5: Image of 31010101-503100 right magnet and rail base assembly

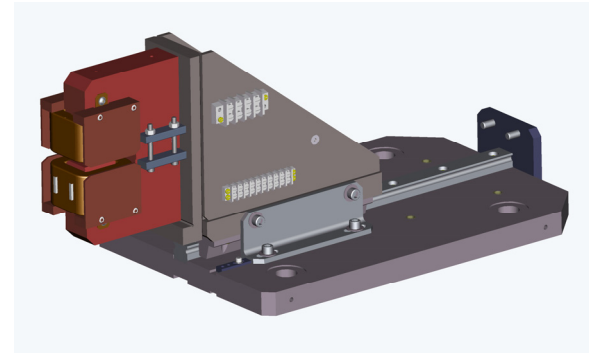


Figure 6: Image of 31010101-504100 left magnet and rail base assembly

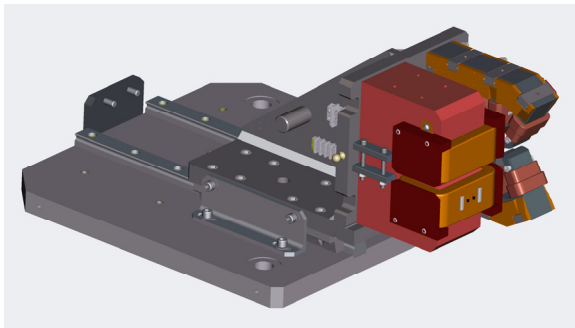


Figure 7: Image of 31010101-505100 center magnet and rail base assembly

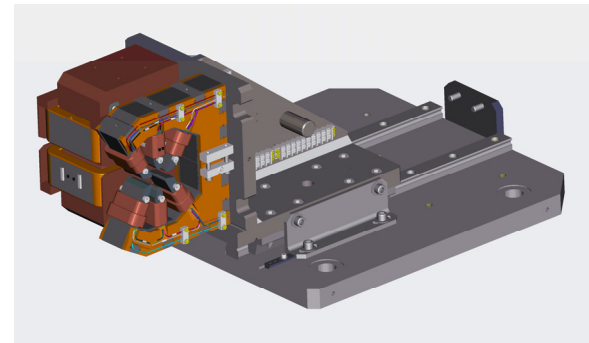


Figure 8: Image of 31010101-505100 center magnet and rail base assembly

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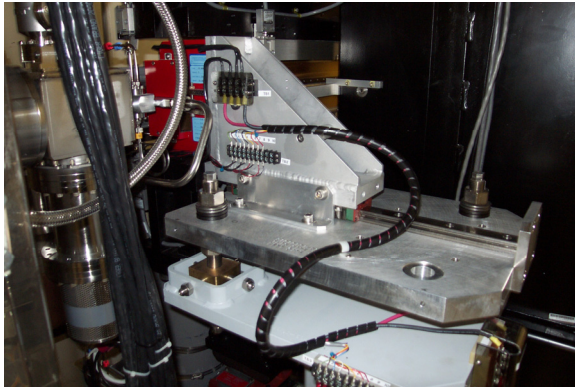


Figure 9: Picture of left magnet and rail base assembly

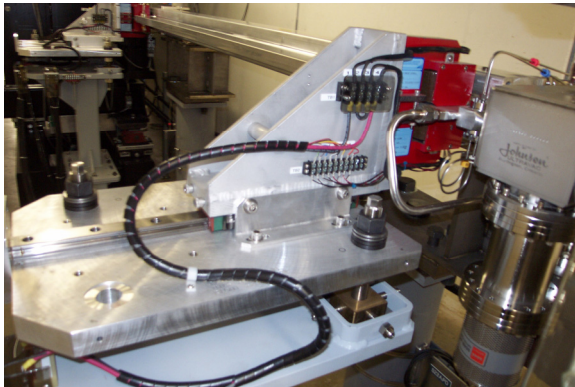


Figure 10: Picture of right magnet and rail base assembly

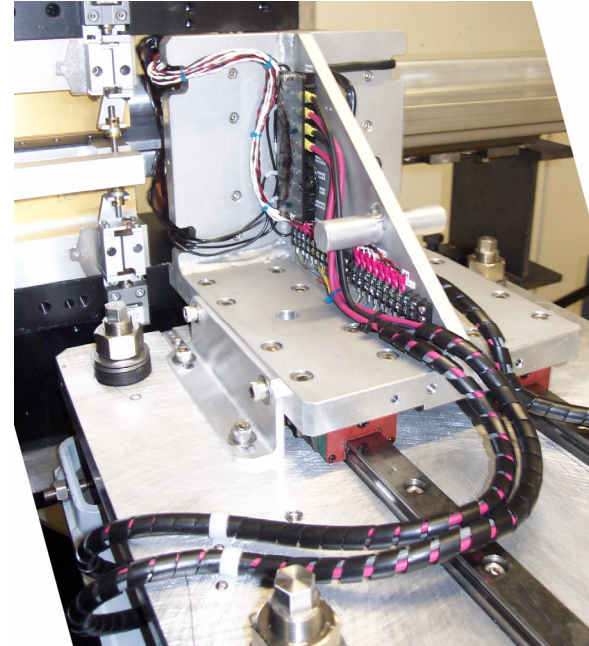
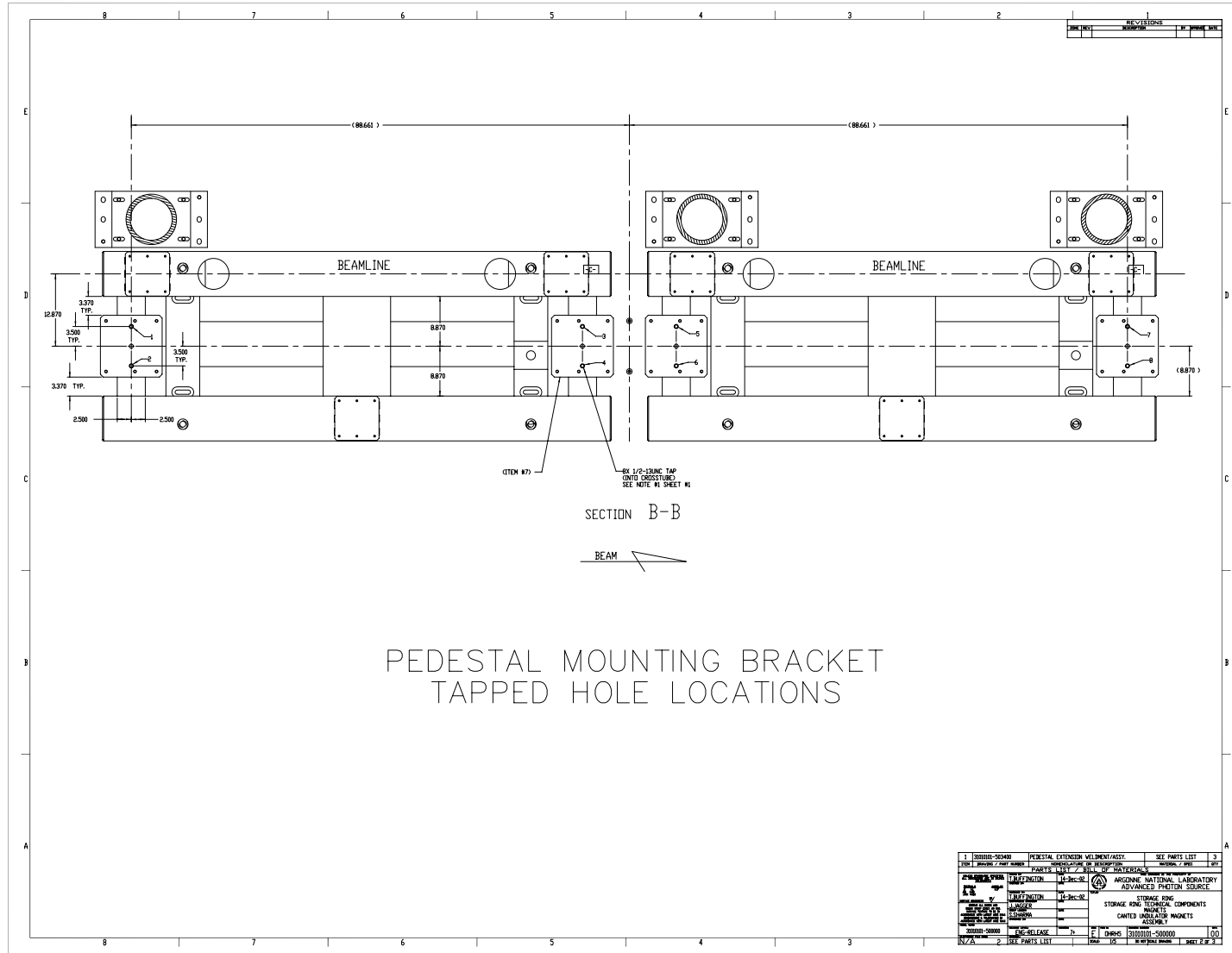


Figure 11: Picture of center magnet and rail base assembly

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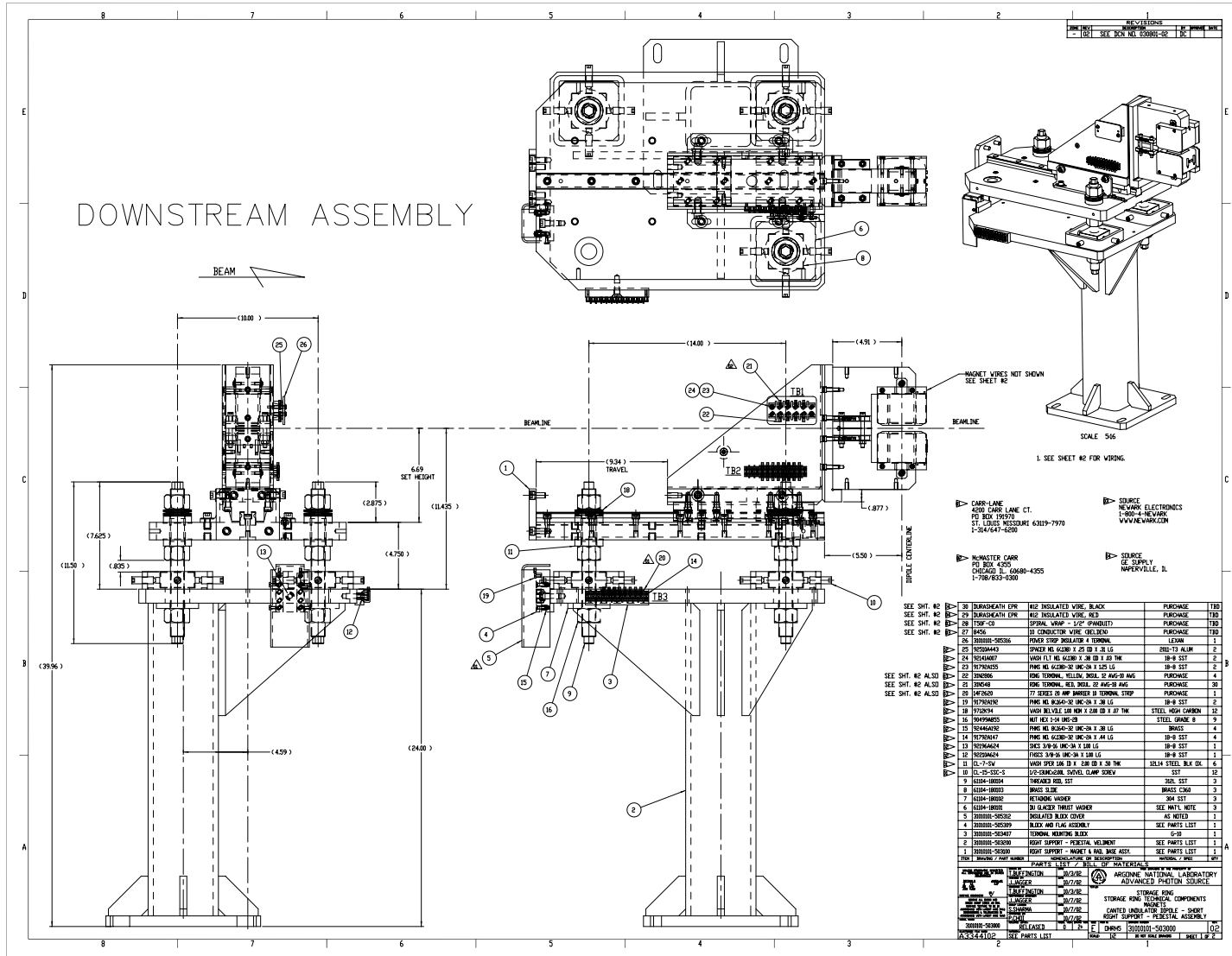


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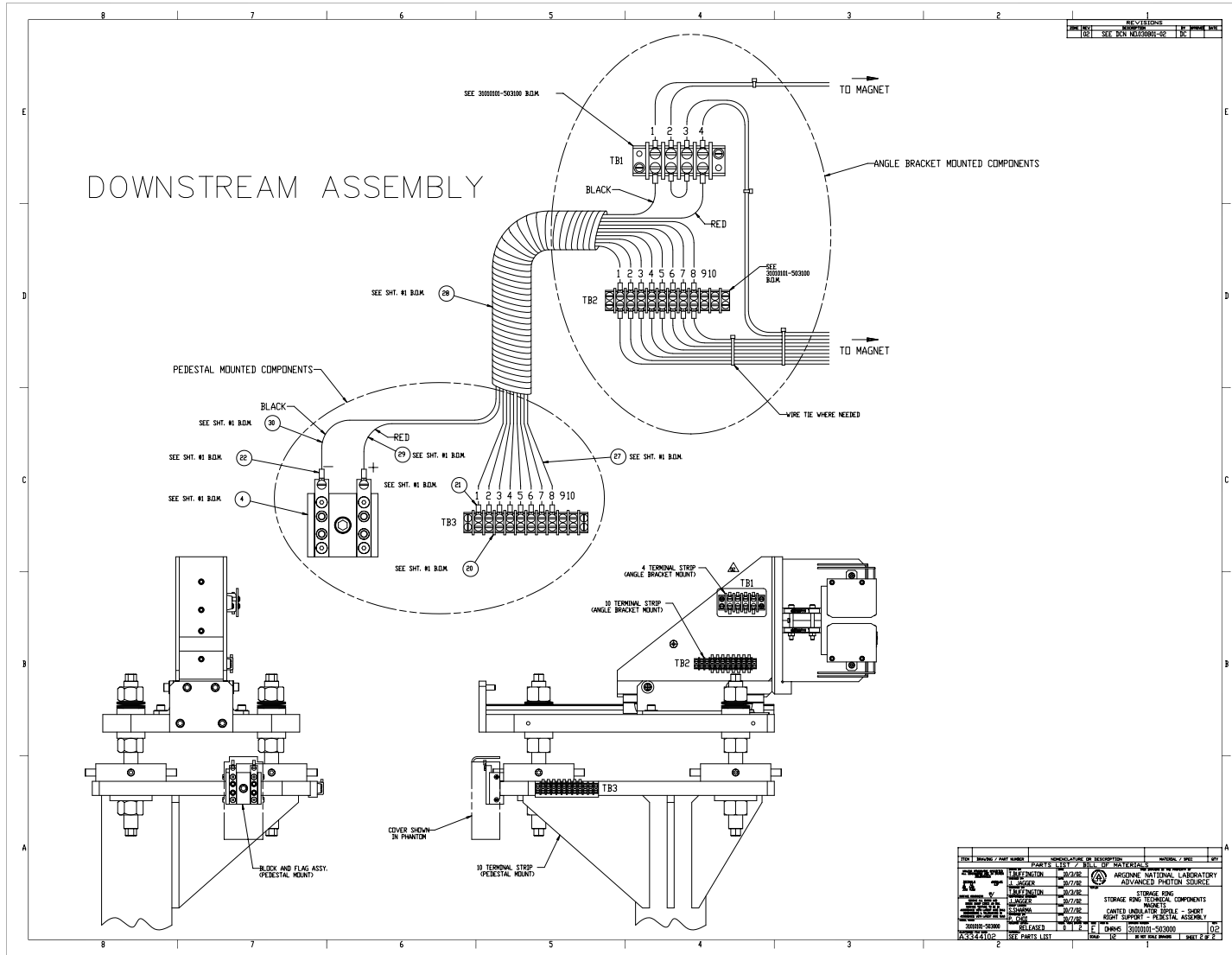


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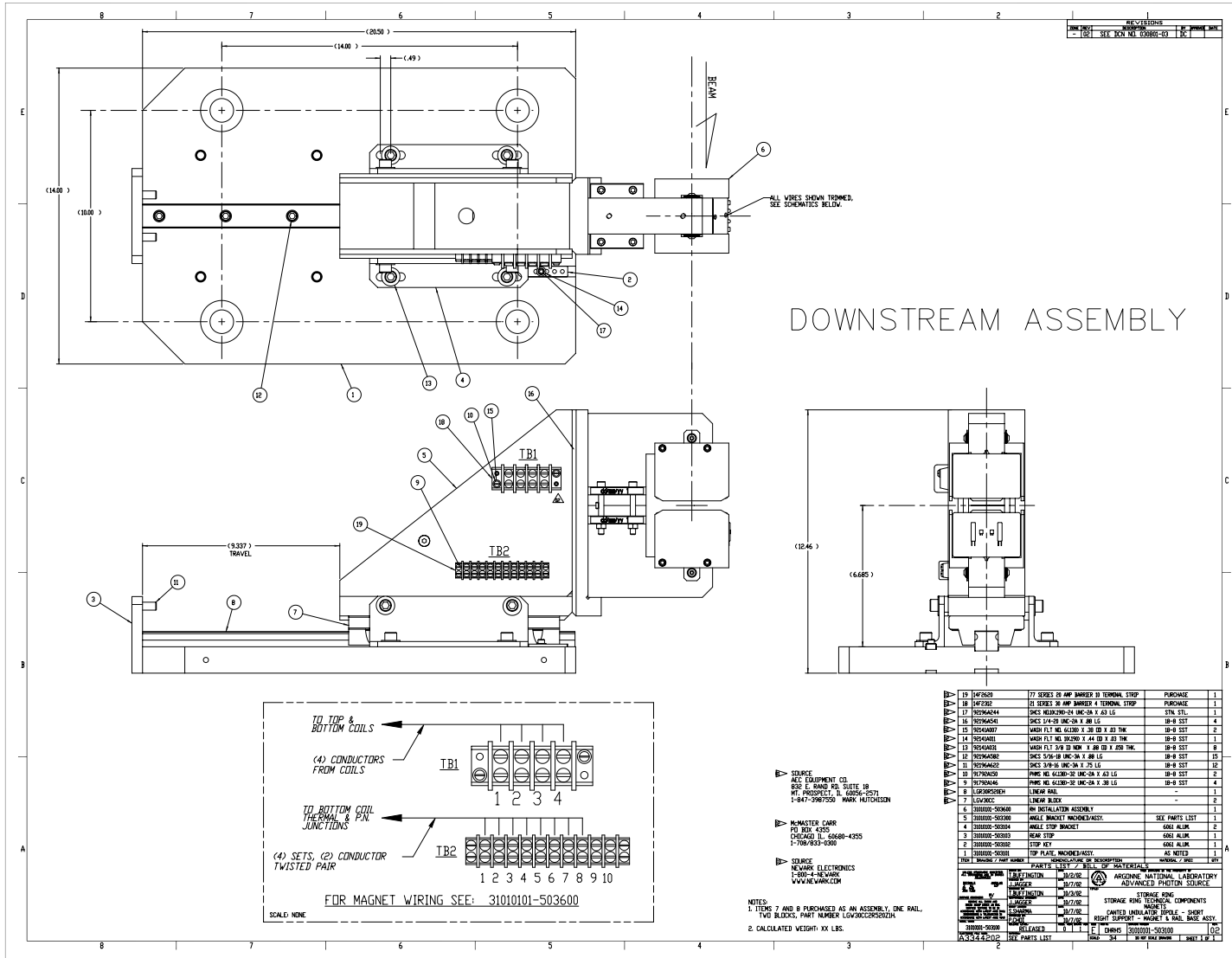
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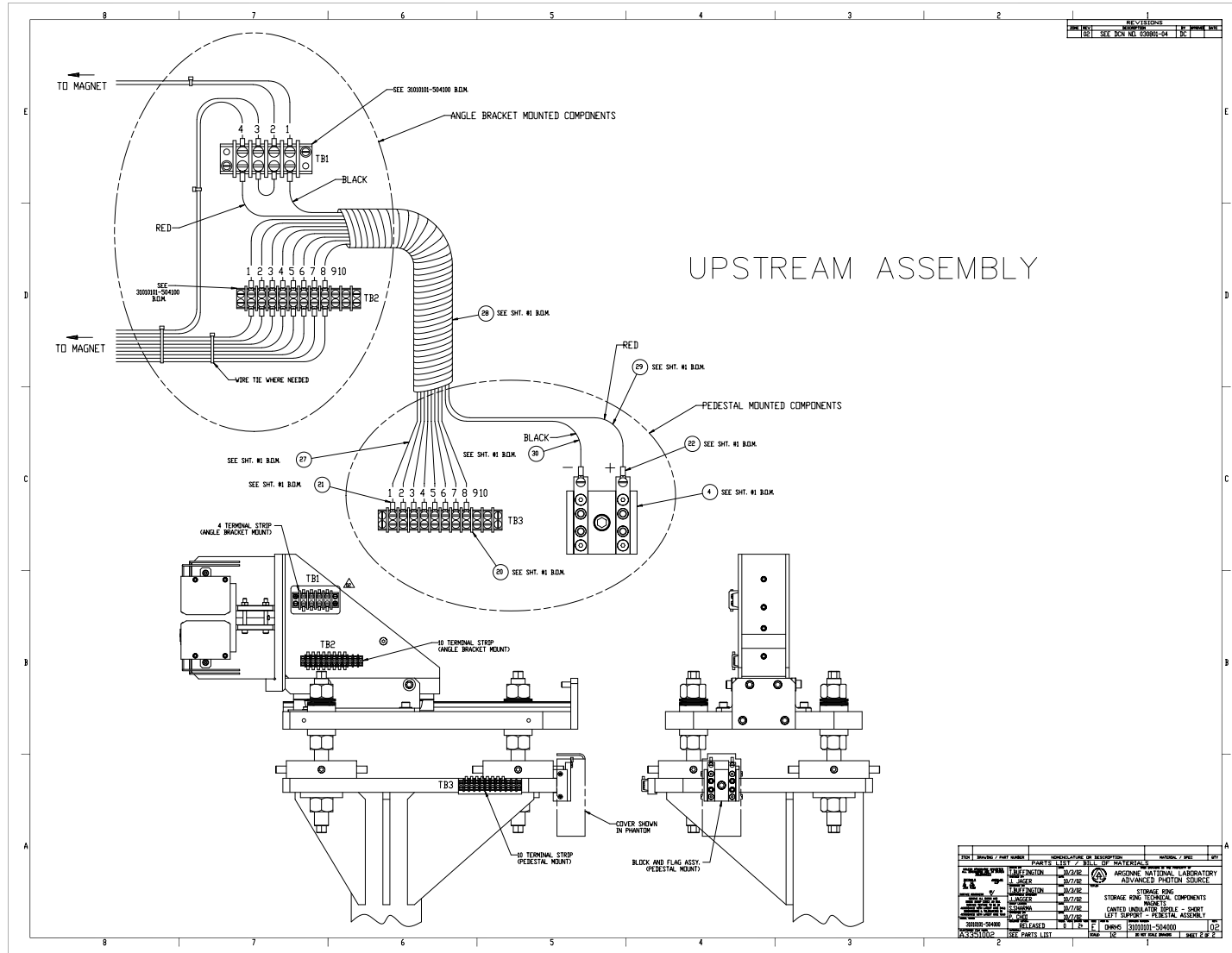


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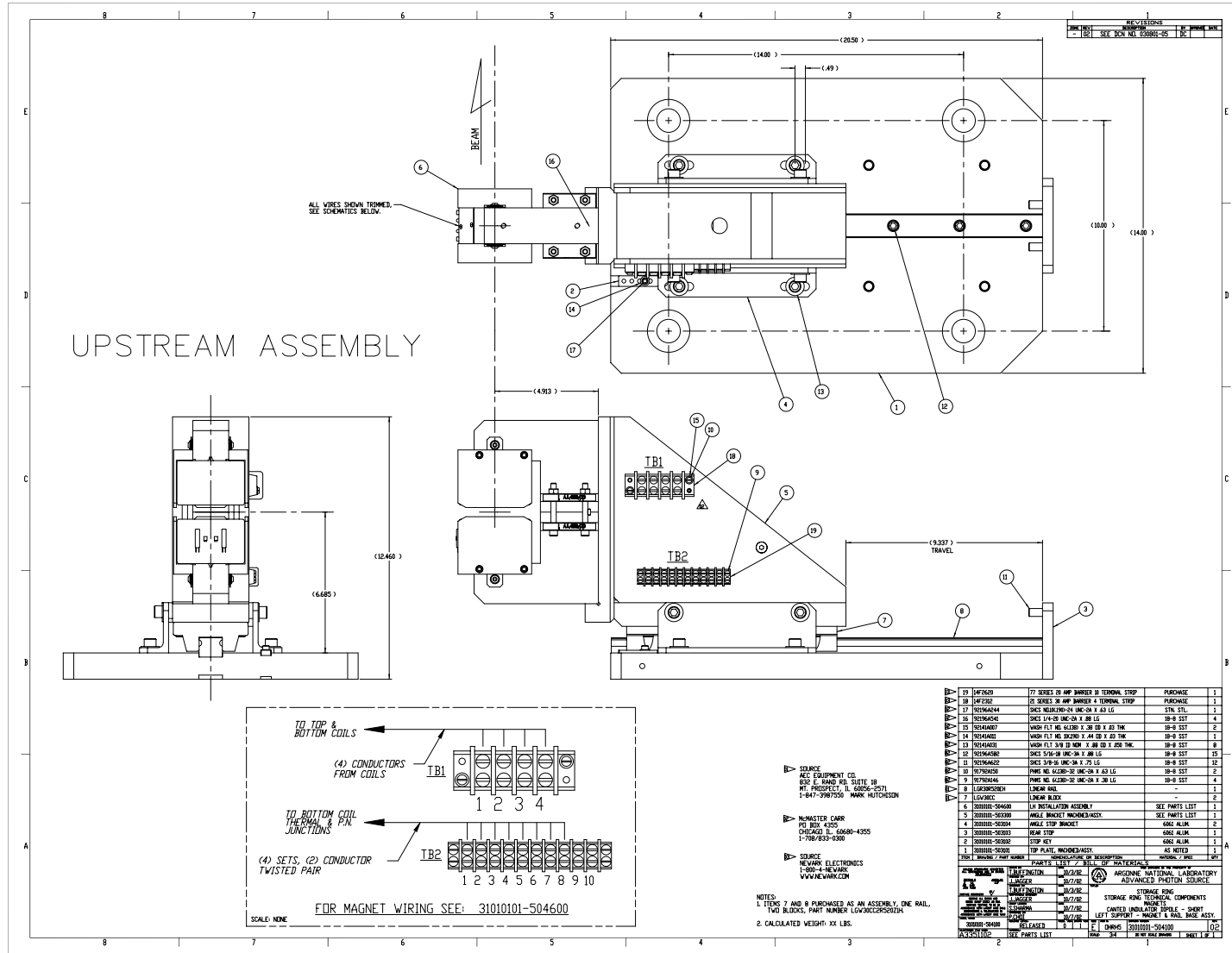


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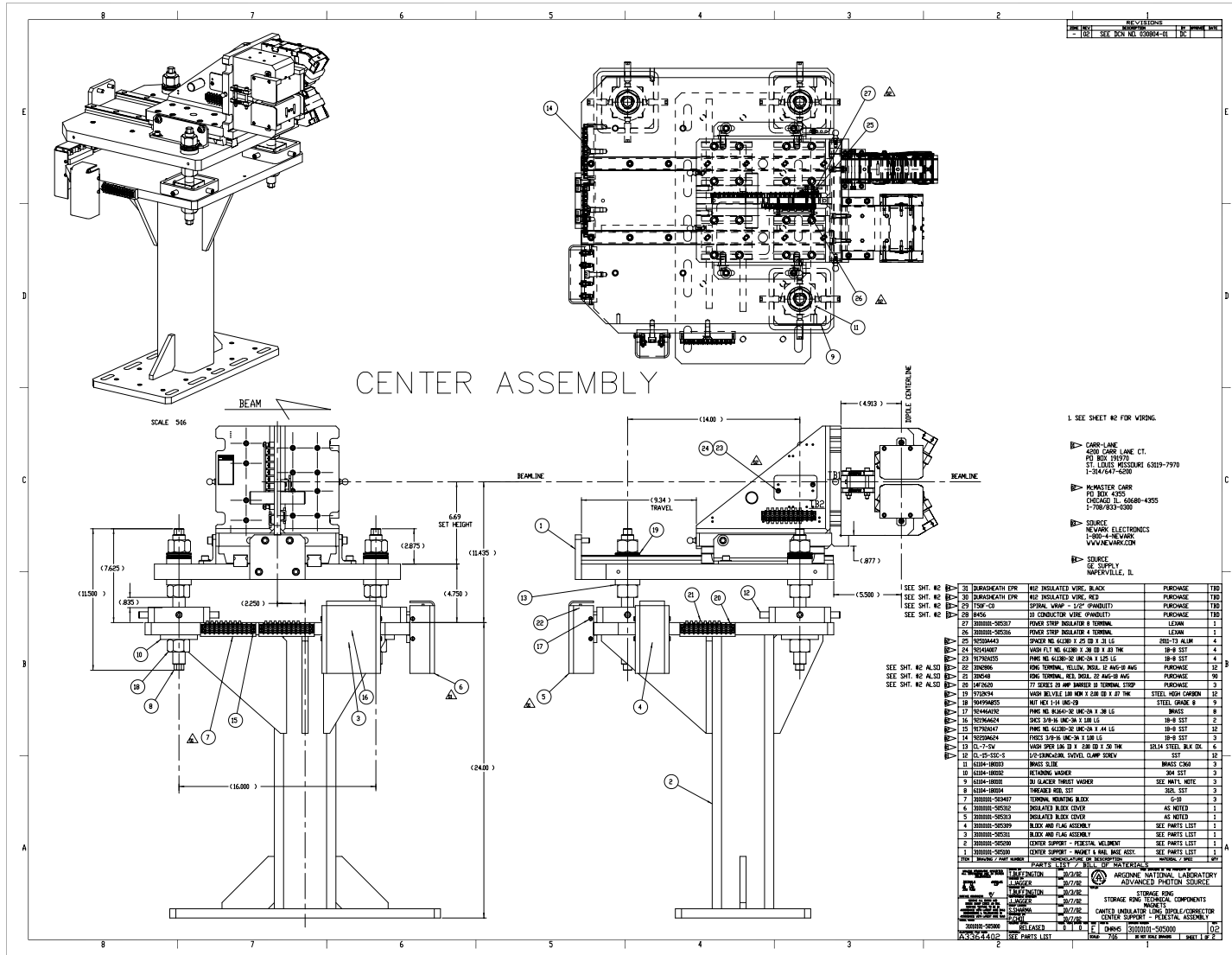


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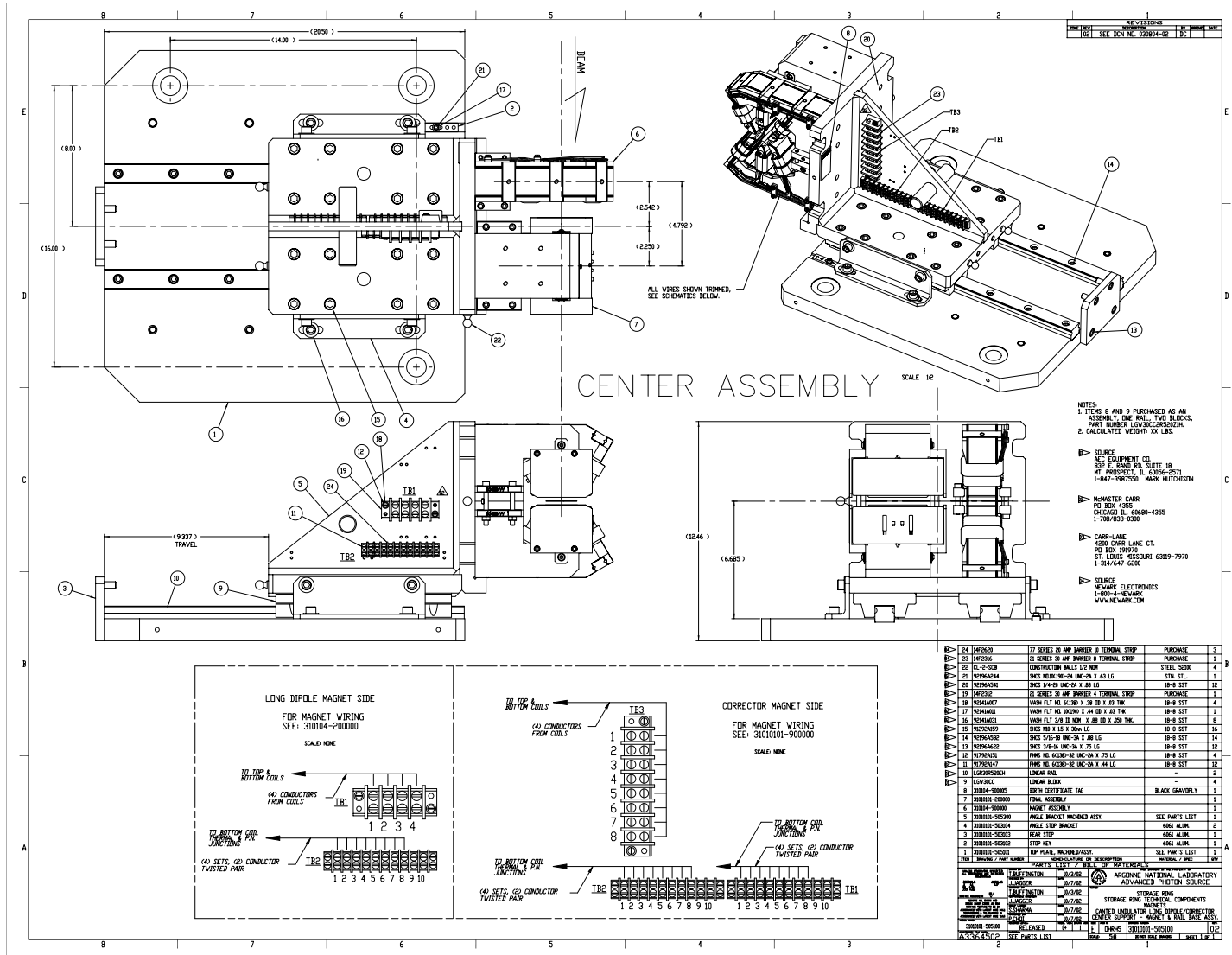
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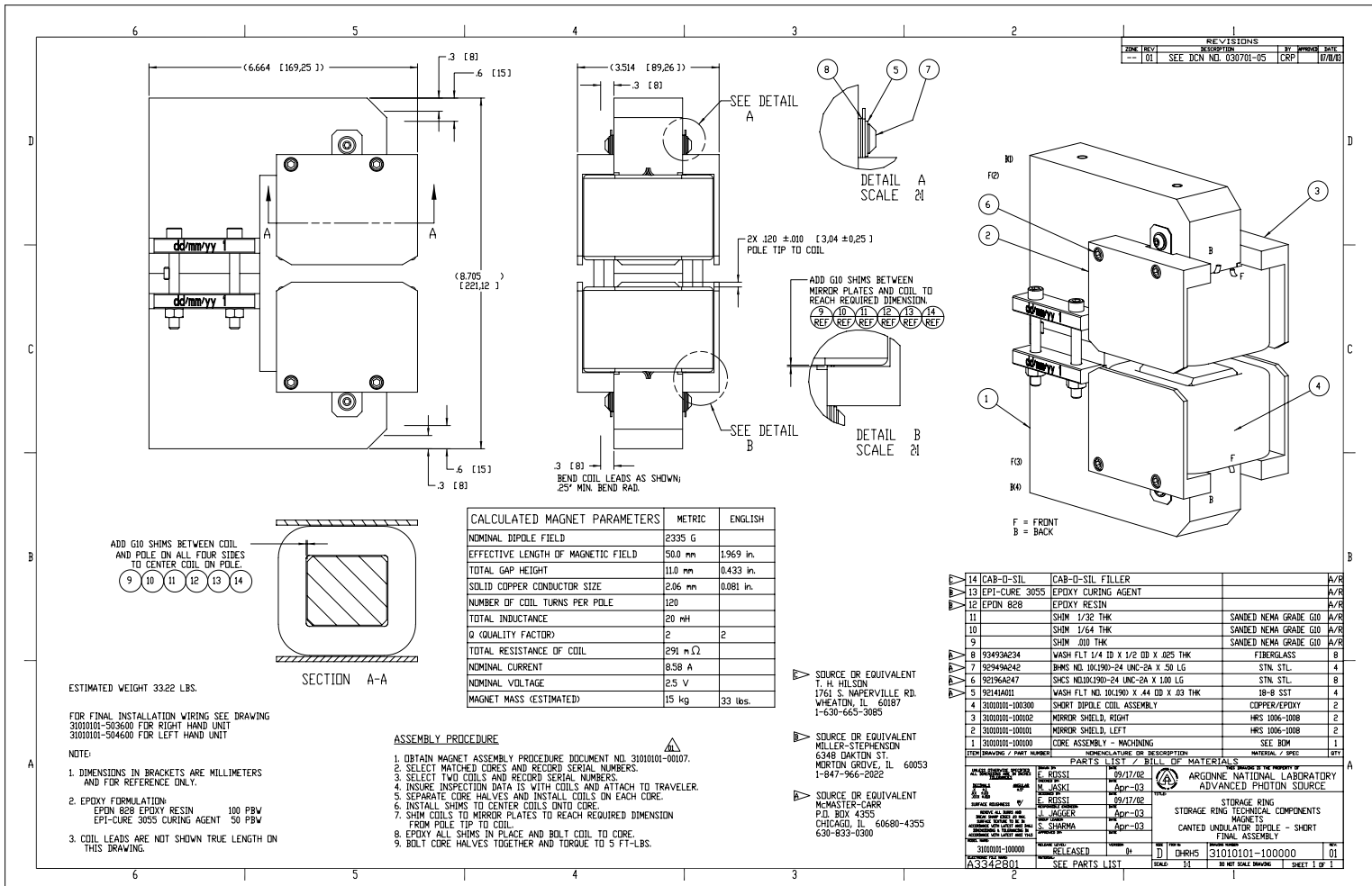


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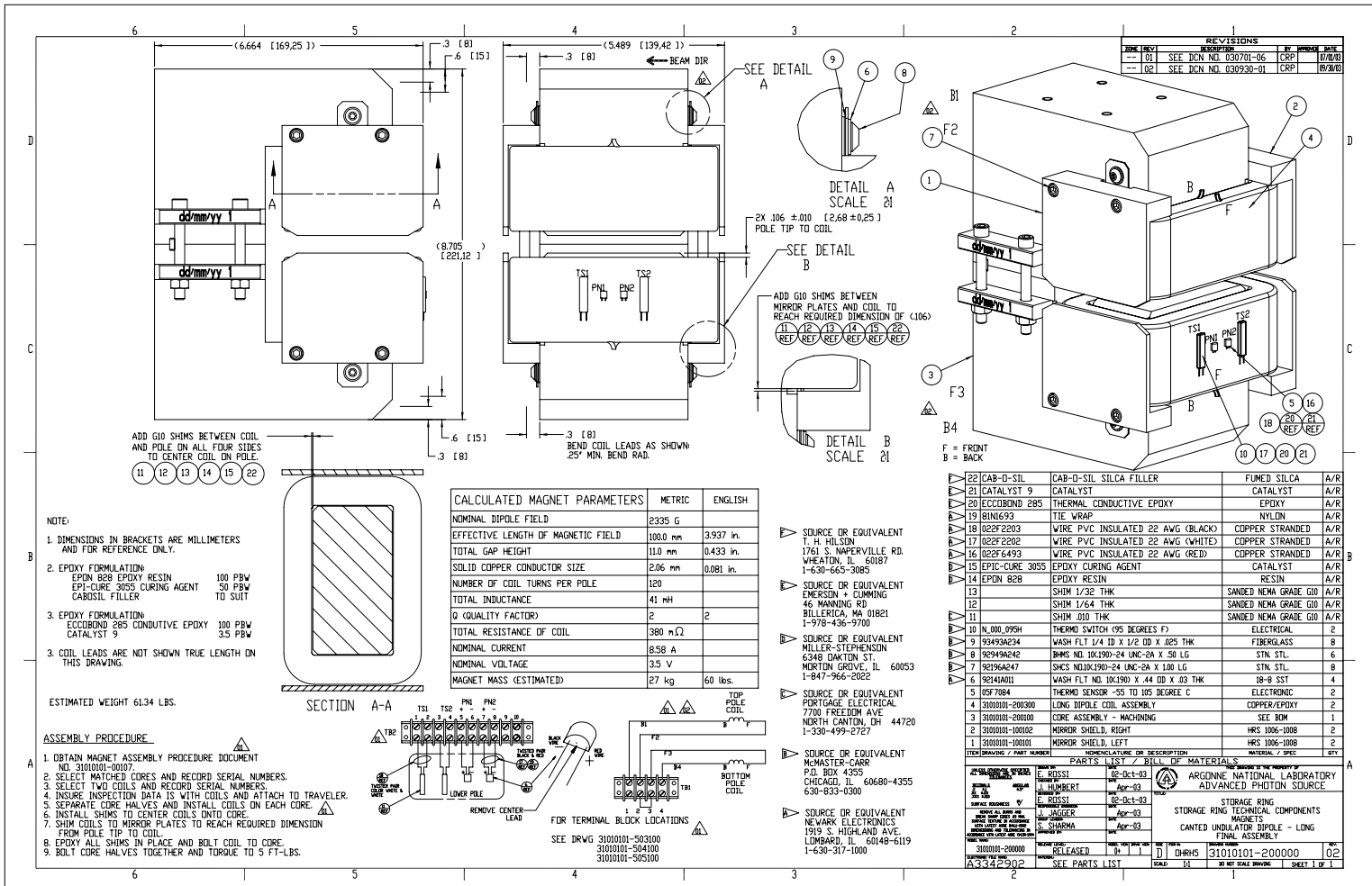


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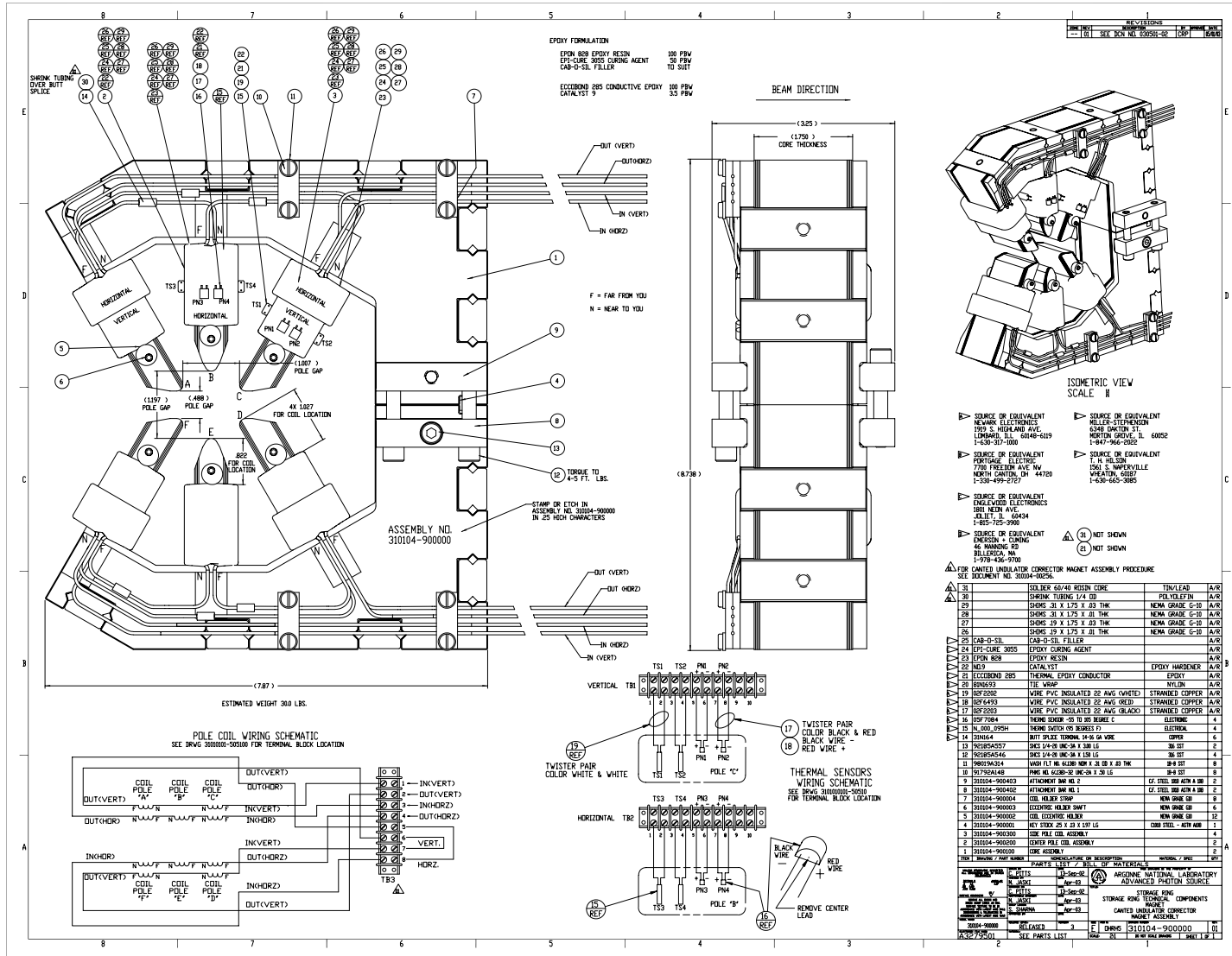


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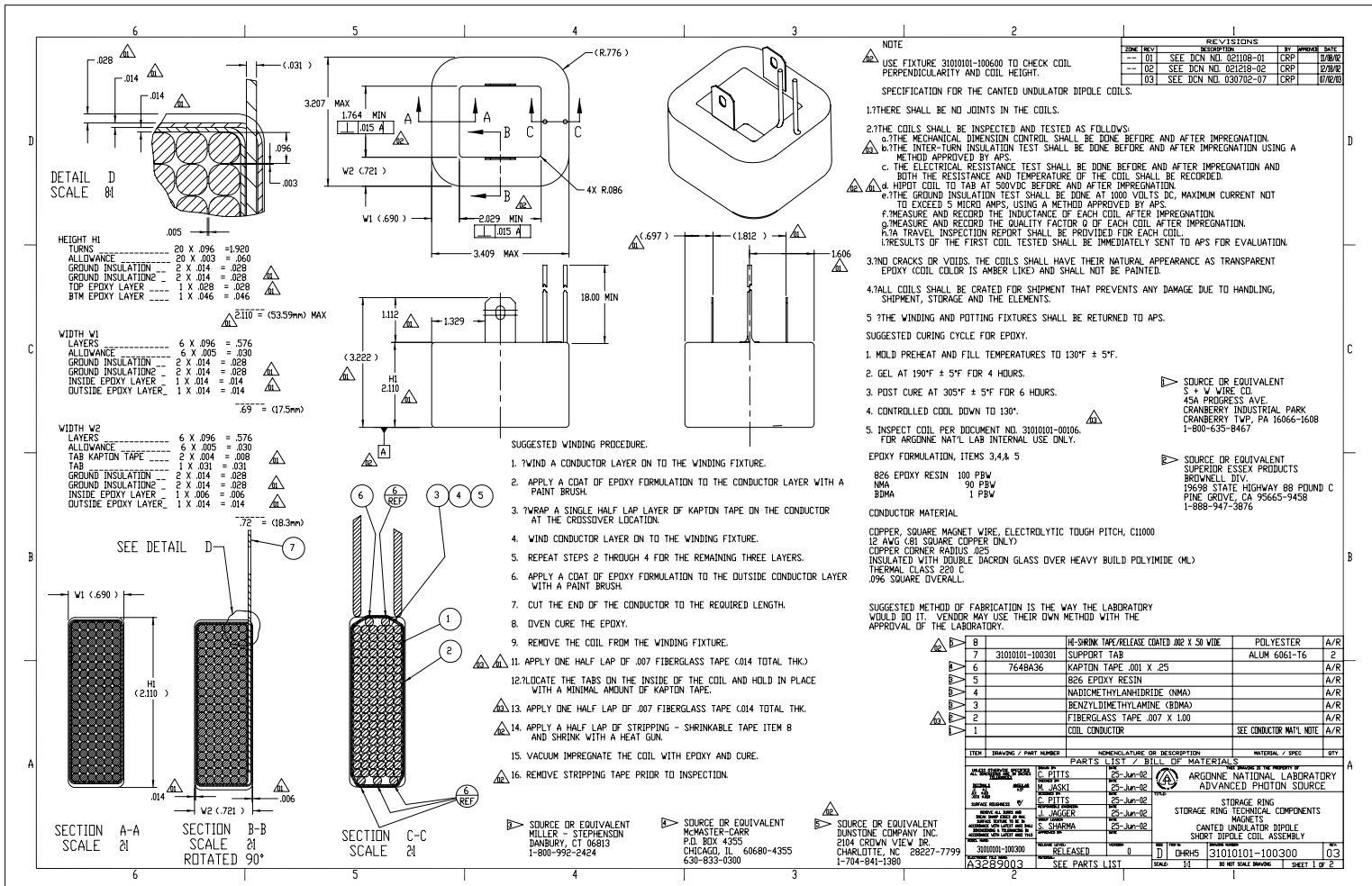


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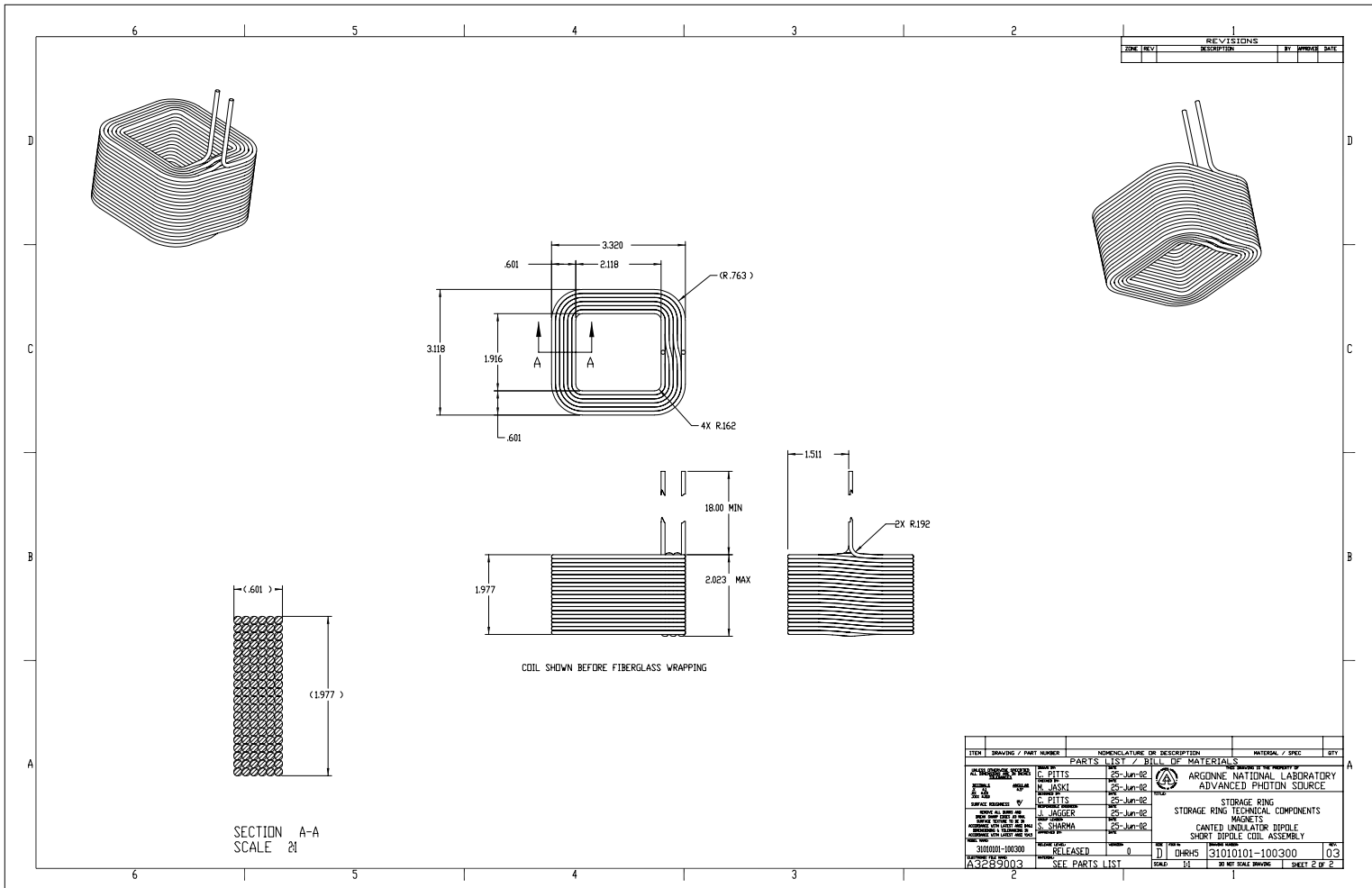


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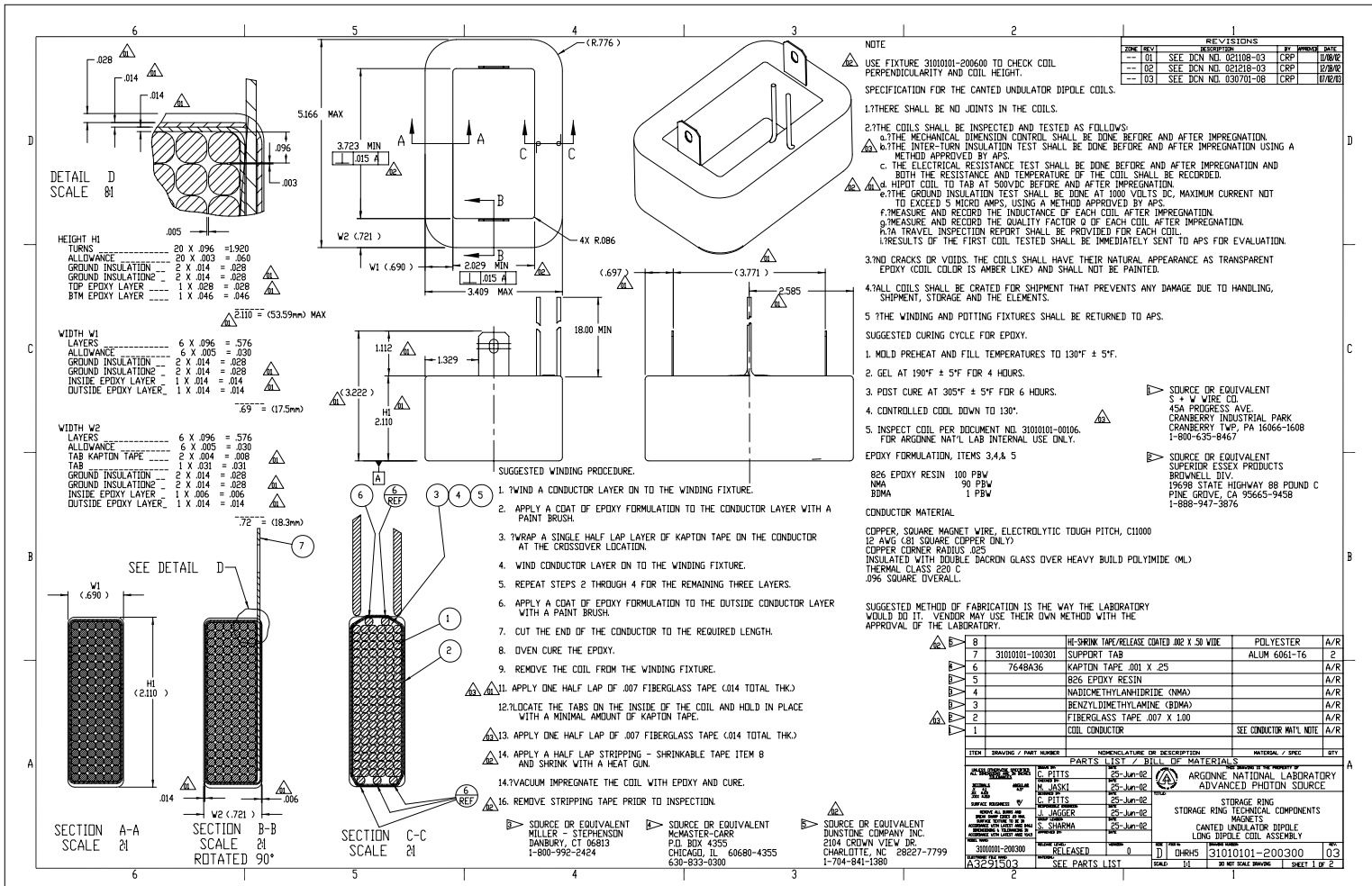


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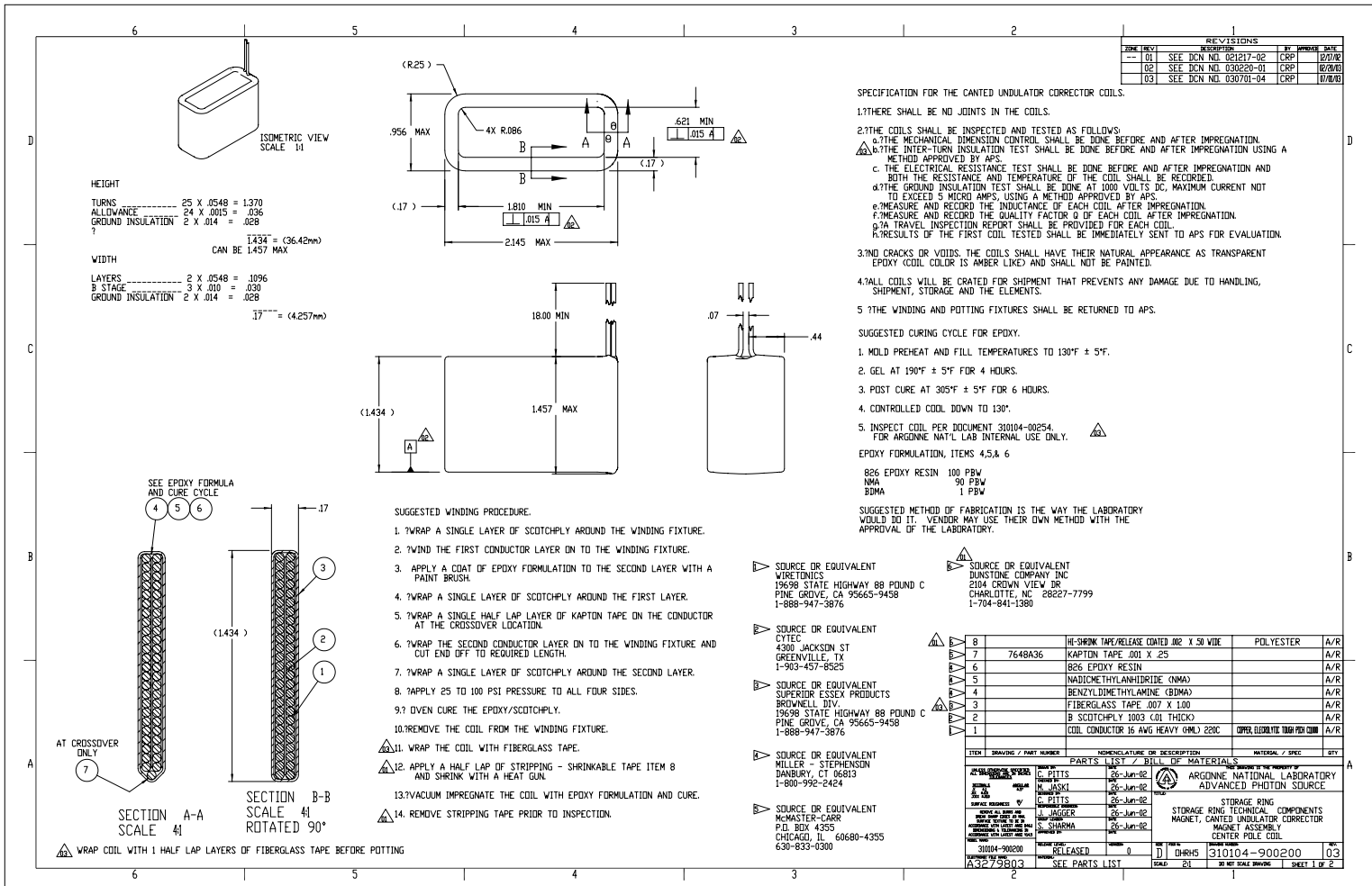
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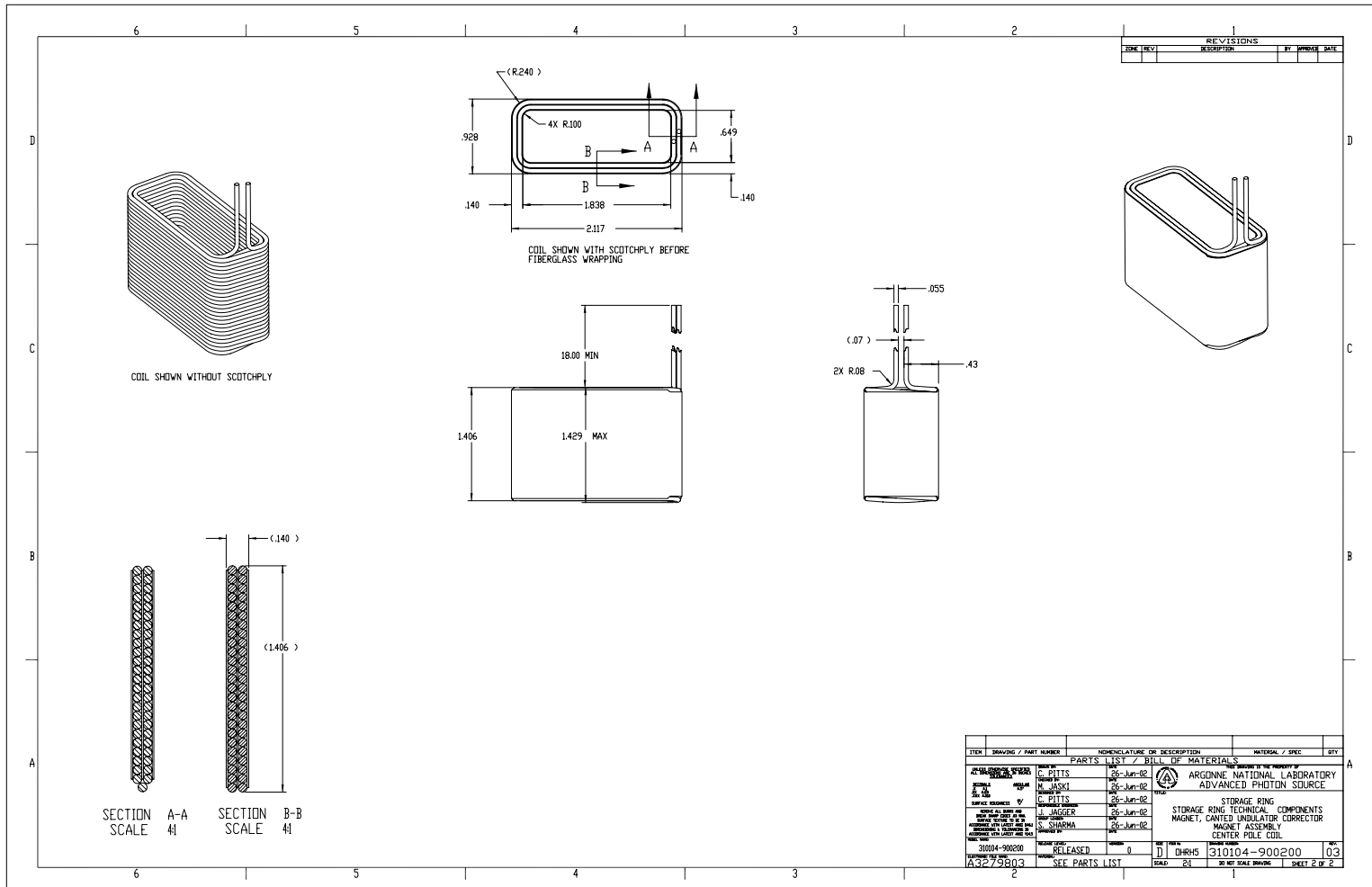
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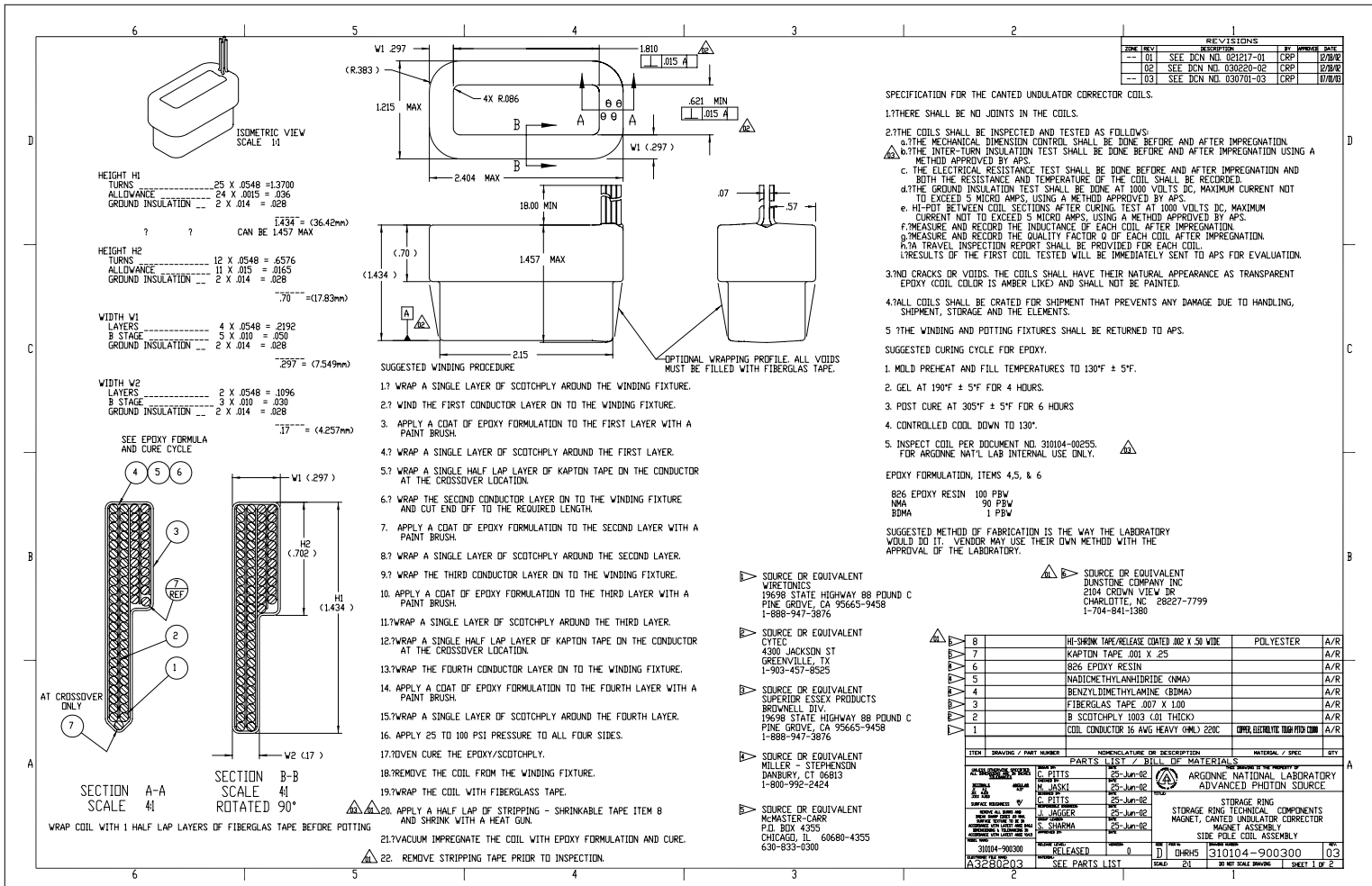


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