

BART Agreement Number: 6M8145

Approval Date: 05/21/21

Work Plan No. B19-01- Incident Energy Analysis

2. SCOPE OF SERVICES

The following power systems analysis will be provided by the Consultant:

- 2.1 Provide methodology and assumptions that will be used for the study.
 - 2.1.1 Site surveys
 - 2.1.2 Review safety procedures and facility conditions to determine steps needed to perform the power system studies.
- 2.2 Collection and/or verification of all data as required by the power system studies.
- 2.3 Construct a model of the District's power distribution system using ETAP software version 19 and meeting IEEE 1584 2018 requirements. A base model is recommended prior to the site visit for efficiency. BART's approval for the model of the first station is required.
- 2.4 Equipment names used in the model shall be identical to the District's equipment and naming convention. Any equipment names that are duplicate or unavailable should be resolved with BART prior to completion of the model.
- 2.5 Verify the ETAP model and provide red-line markups necessary to bring drawings up to date. The quality assurance process used to verify the model shall be documented in the report.
- 2.6 Inspection of the switchboards, panel boards, disconnect switches and transformers for interrupt ratings and withstand rating (Switchboard, fuses, breakers, relays and disconnect switches, ATS, motors and, motor starters and MCC's). Breaker as found settings.
- 2.7 Perform studies to determine: fault current levels at all required locations and size of equipment and conductors including the length of the conductors, panels with main breakers inside the enclosure or outside in the power system. The study shall identify worst case available short circuit current values.
- 2.8 Verify the existing protective relay settings and perform coordination study.

Prime: Jacobs

Subconsultant	Amount	DBE (Y/N)	SBE (Y/N)
ATI Architects	\$ 14,786	N	N
Auriga Corporation	\$ 568,881	Y	Y

Total Work Plan Value: \$ 1,406,513