Sunnyside Storm Lift Station

Flood Resiliency Improvements
Conceptual Design

Agenda

- Purpose of Conceptual Design
- Design Criteria
- Conceptual Designs
- Estimated Time to Design & Construct
- Estimated Costs
- Tentative Plans

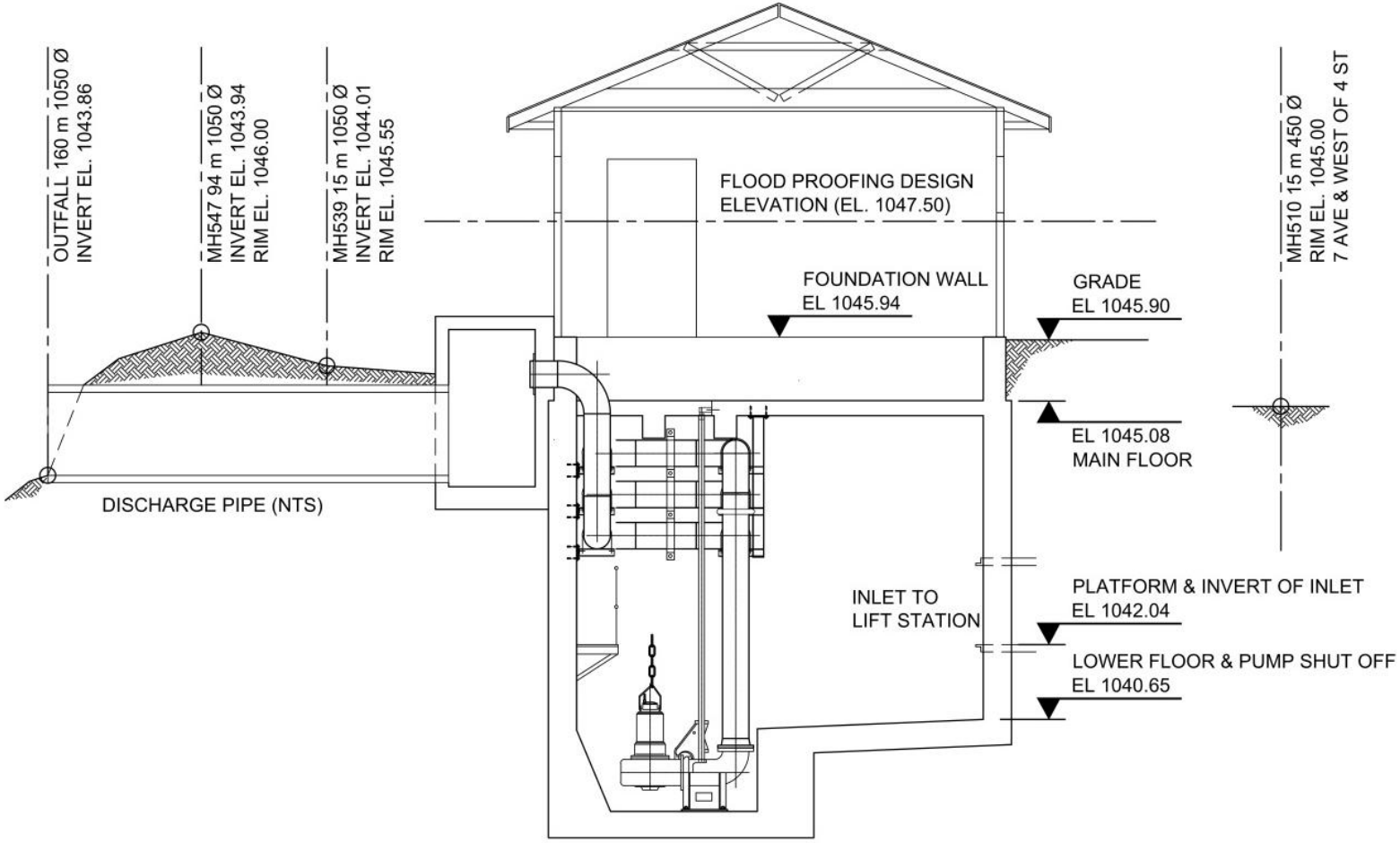
Purpose of Conceptual Design

- Establish the basis of design criteria for improvements
- Allow review and discussion of improvements outside of typical design & construction framework
- Allow for coordination with design of improvements to the stormwater system

Design Criteria

- Design Flood Elevation
- Limitations and Modernization of Existing Lift Station
- Operational Requirements
- Level of Service

Design Flood Elevation



Limitations & Modernization

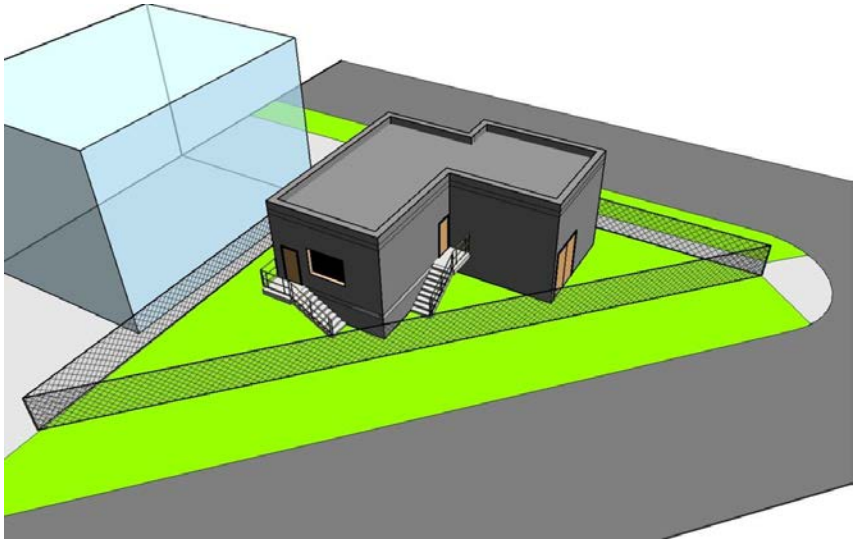
- Limitations:
  - Existing at-grade building
  - Existing pumps & associated systems
  - Gravity drainage
- Modernization:
  - Alberta Building Code
  - Electrical Systems
  - Mechanical Systems

Operational Requirements

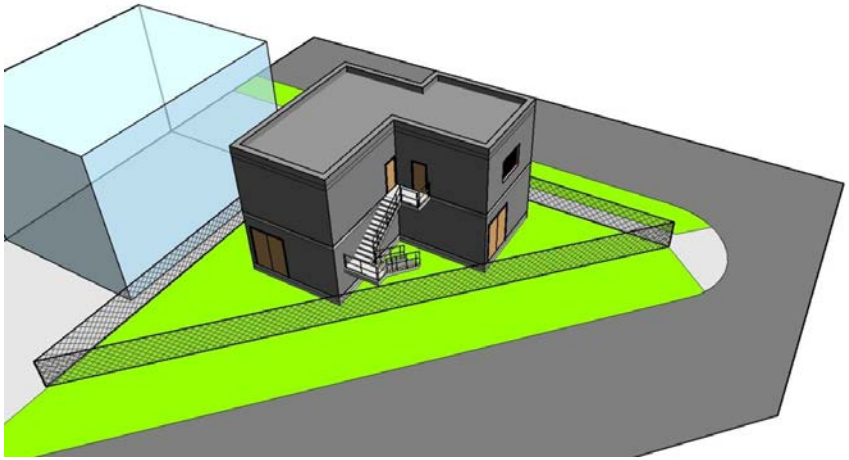
- Maintain or Increase Existing Service Levels during 1 in 100 year Flooding Conditions
  - Improve pumping capacity
  - Replace gravity drainage with forcemain
- Operational During 1 in 100 year Flooding Conditions
  - Lift Station will continue to pump stormwater to the Bow River
  - Contribute to post-flood dewatering
  - Maintain functionality of catchment area while outfall gates closed

Conceptual Designs

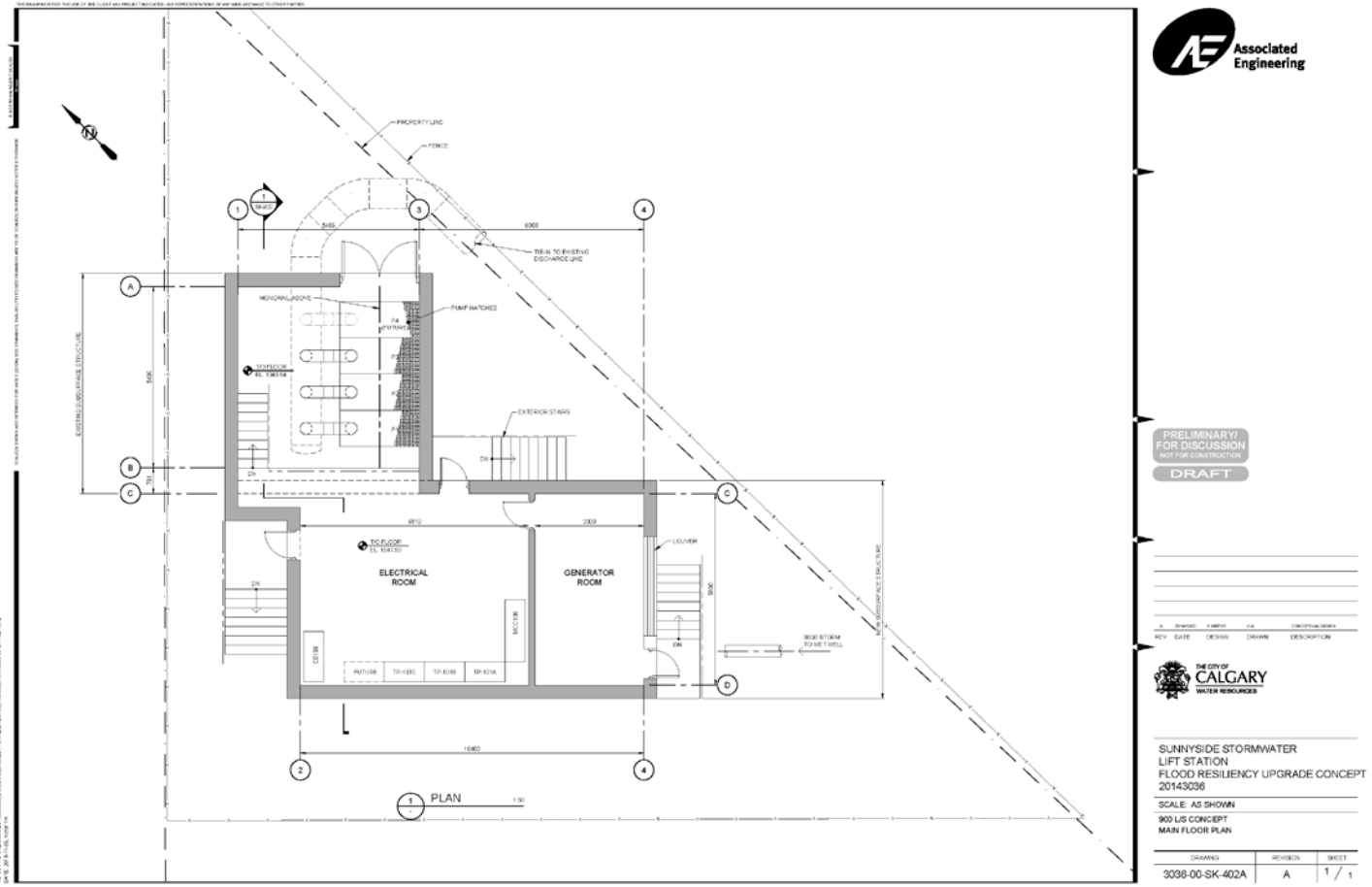
900 L/s Capacity



1800 L/s Capacity



900 L/s Conceptual Design



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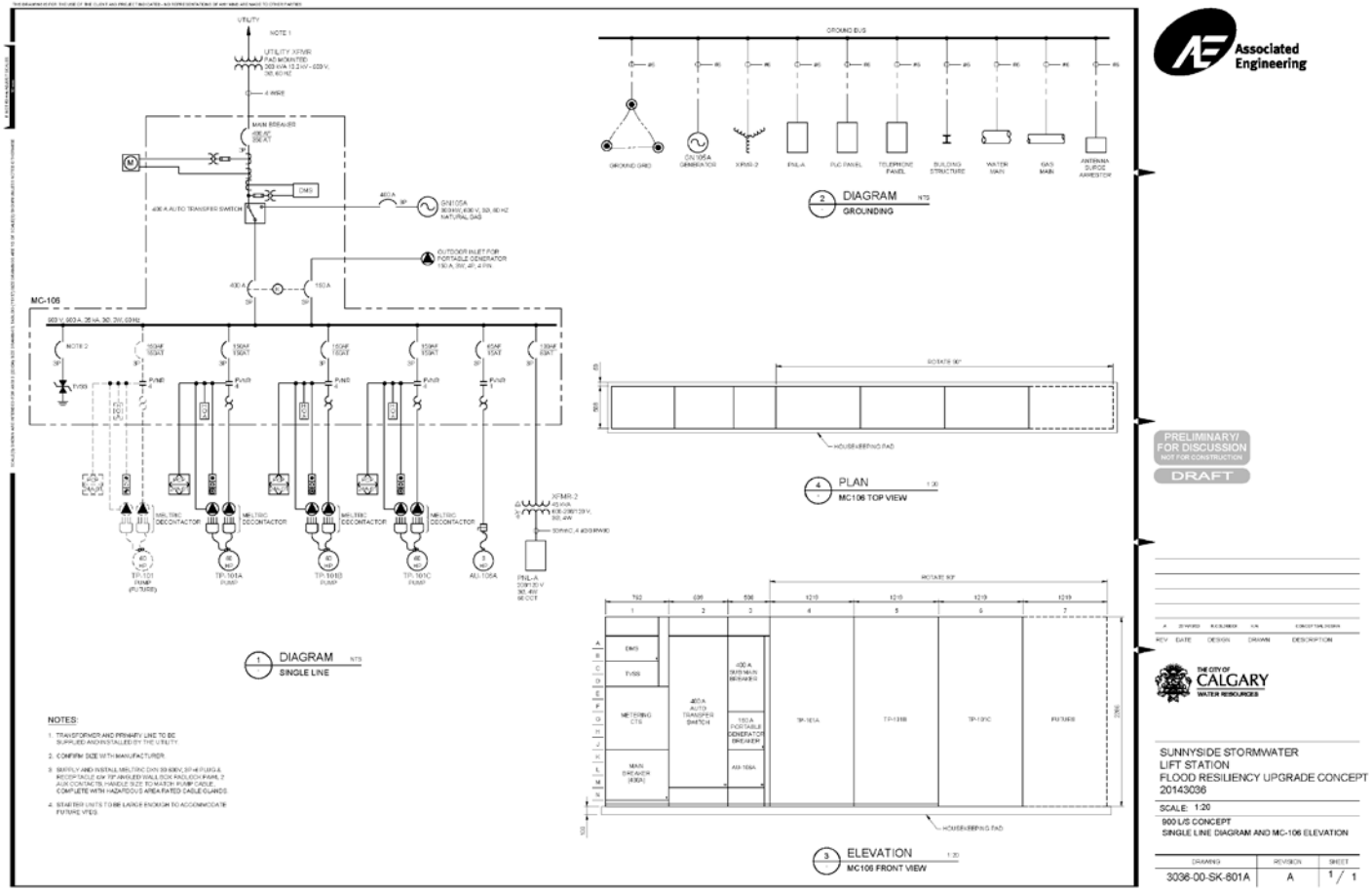

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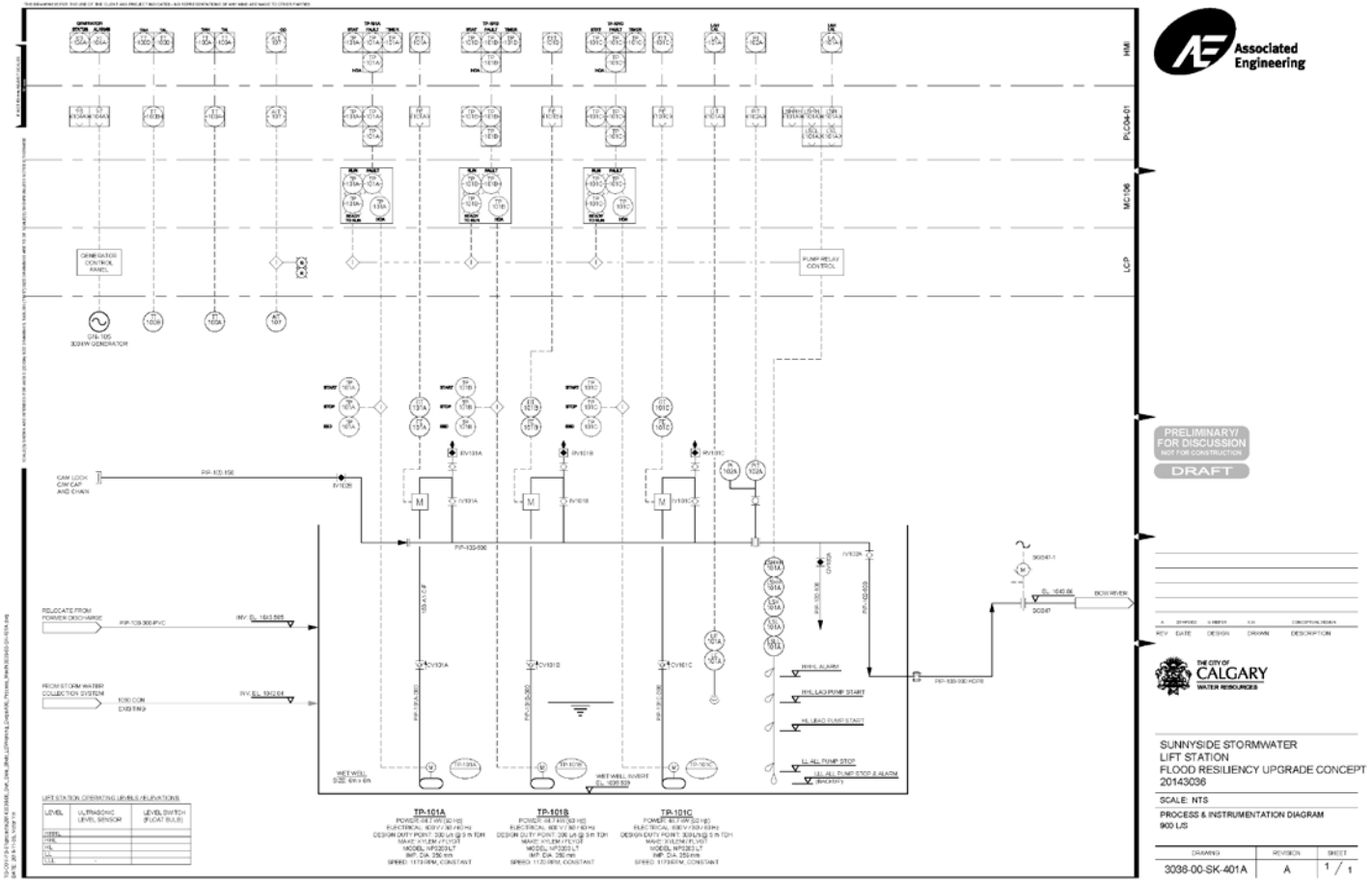

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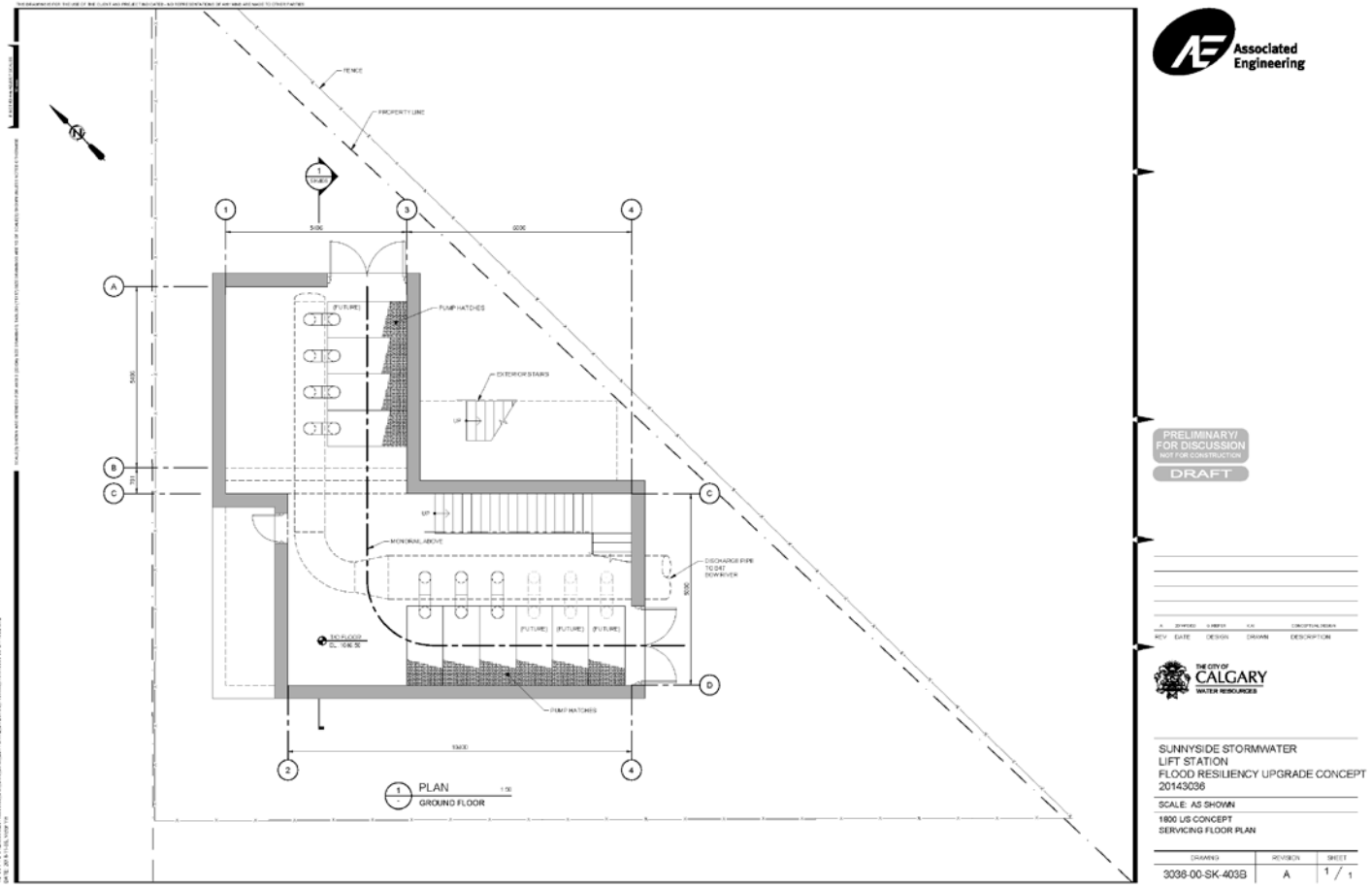

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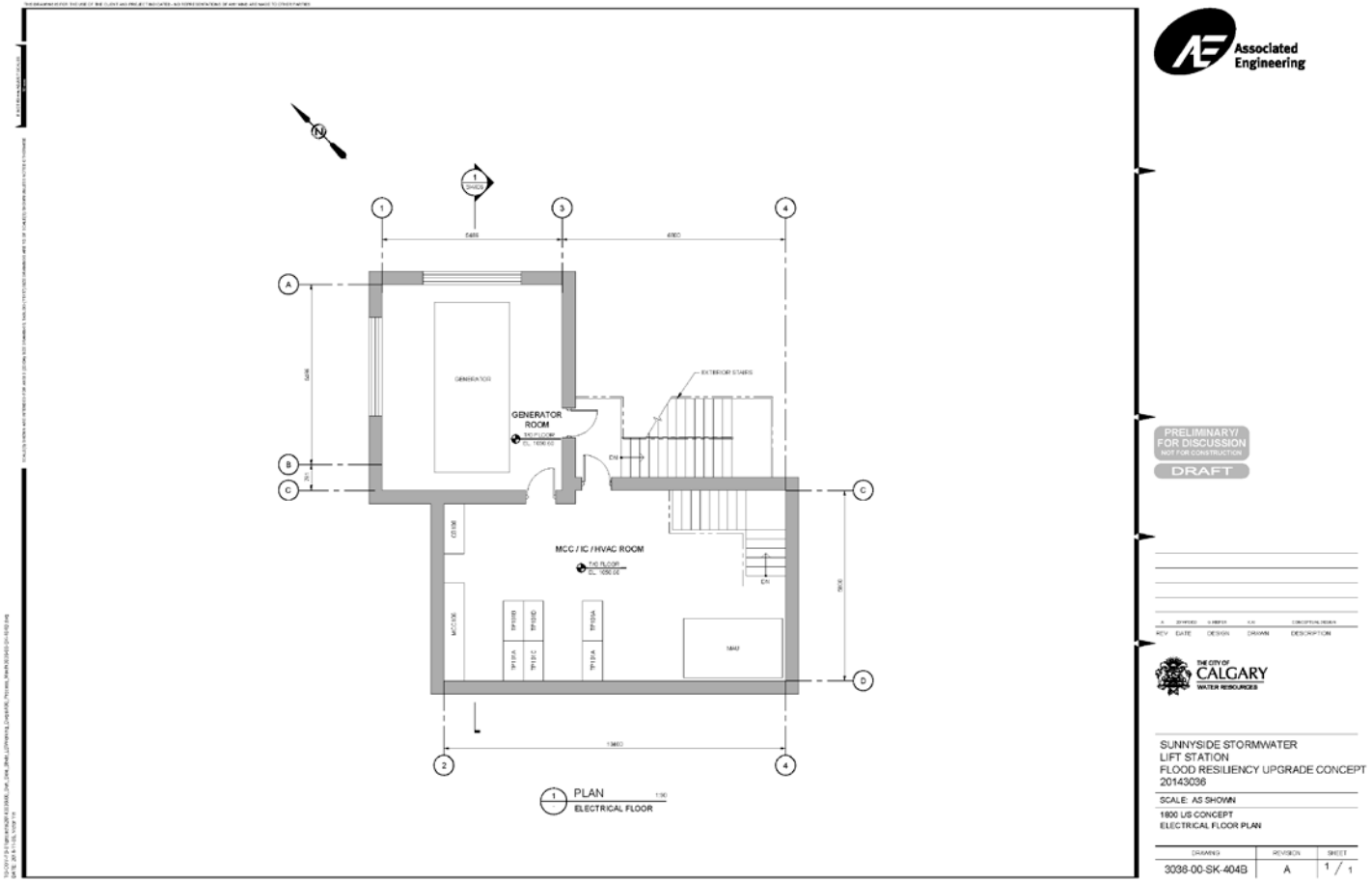

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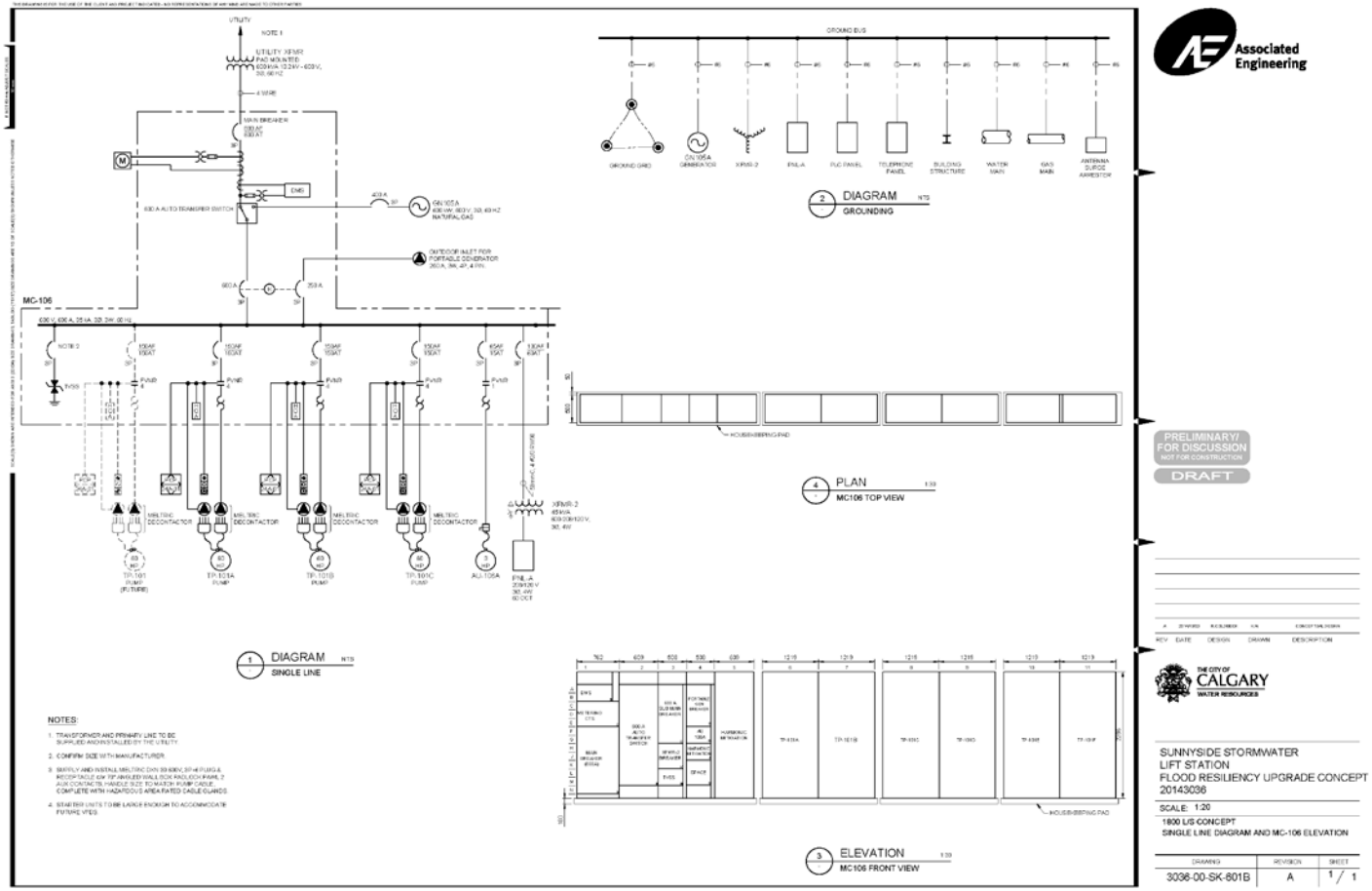
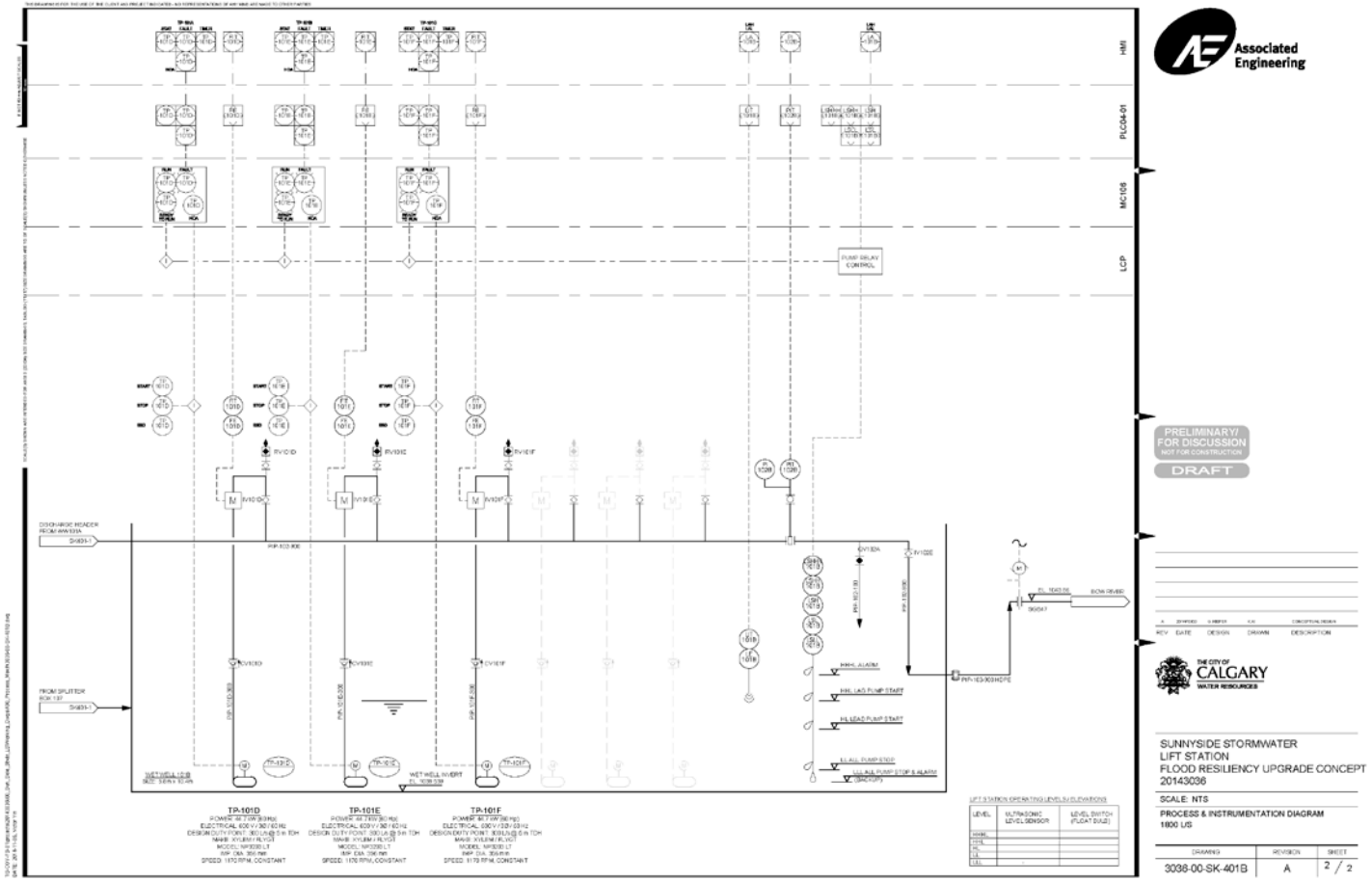
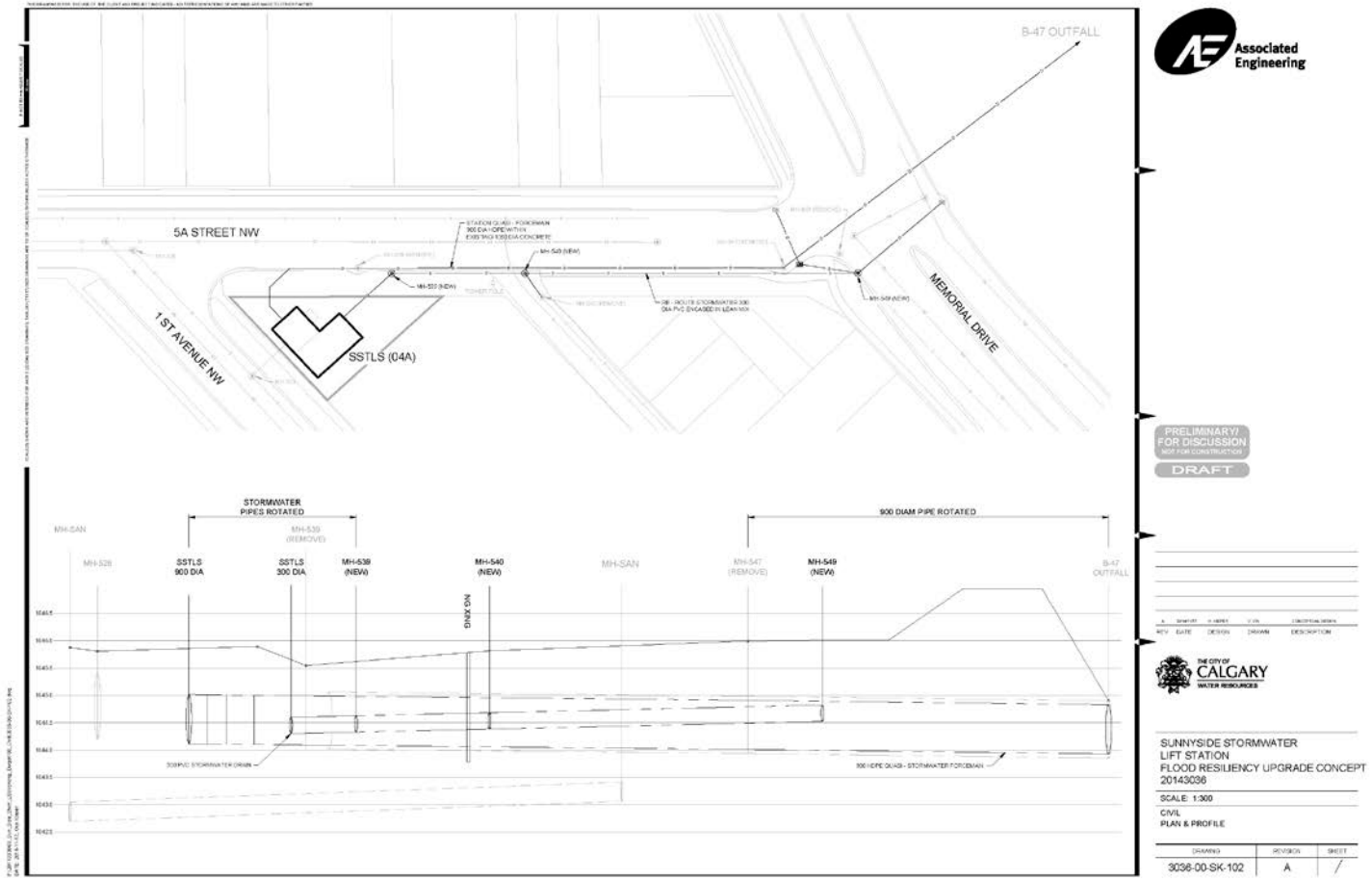


1800 L/s Conceptual Design



Forcemain Conceptual Design



Estimated Time & Cost
Design & Construction

- 12 to 18 Months for Detailed Design work and Public Consultations
- 900 L/s Conceptual Design:
  - 12 Months for Construction work
  - $X.X M (± 30%) for Detailed Design & Construction
- 1800 L/s Conceptual Design:
  - 18 Months for Construction work
  - $X.X M (± 30%) for Detailed Design & Construction

Estimated Time & Cost
Design & Construction

- Forcemain Only:
  - 8 to 12 Months for Detailed Design work
  - 8 to 12 Months for Construction work
  - $X.X M (± 30%) for Detailed Design & Construction

Tentative Plans

- Detailed Design of Forcemain to begin in 2015 once budget is confirmed in February
- Construction of Forcemain to begin in 2016, pending completion of Detailed Design
- Budgetary request to be made for 900 L/s or 1800 L/s improvements once related improvements to stormwater system are decided