Former Penthouse Drapery Electrical Resistance Heating (ERH) Seattle, Washington

Northwest Environmental Business Council
Business & Environment Conference
December 10, 2019

TRS Group, Inc. *Accelerating Value*

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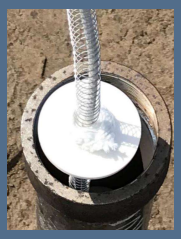
TRS PFAS Solutions – Soil and Water

- Thermal Conduction Heating
  - PFAS in soil
  - FlexHeater® technology
- PerfluorAd system
  - PFAS in water
    - Groundwater
    - Fire water
    - Landfill leachate
    - Industrial wastewater



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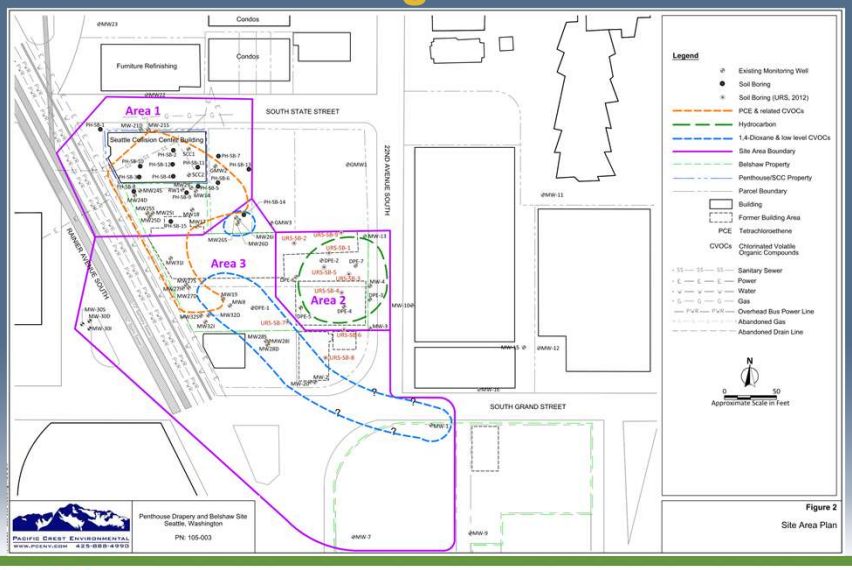
2

Background



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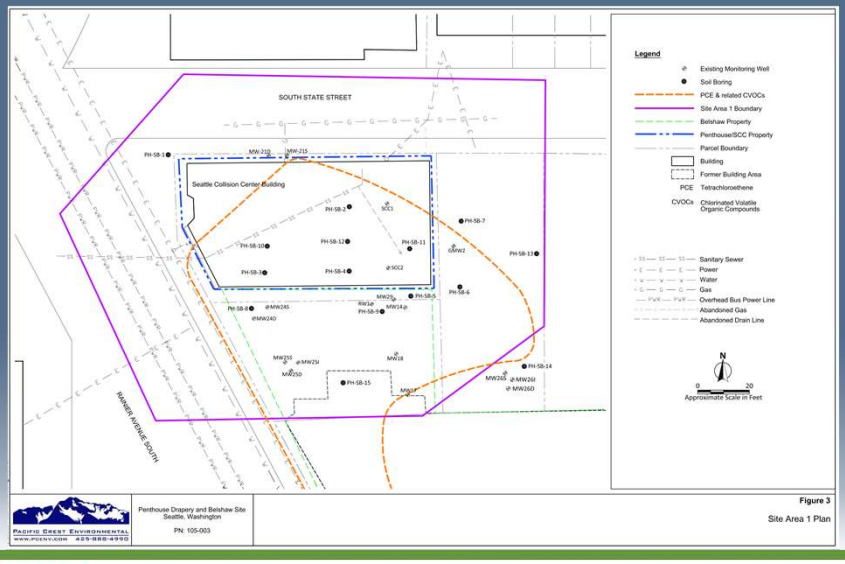
3

Background



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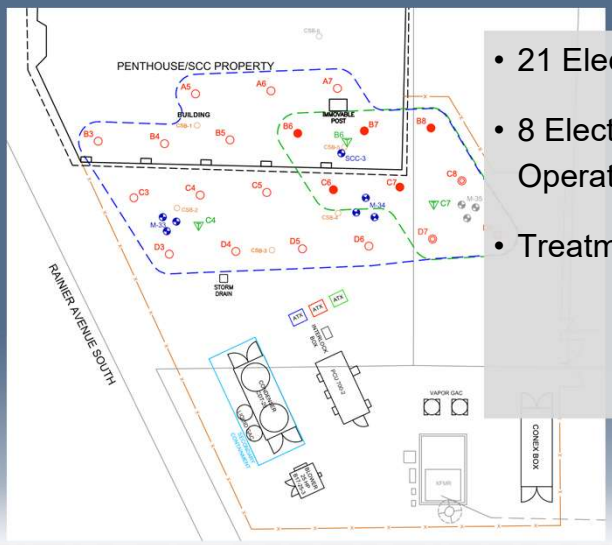
Design



- 21 Electrodes / 3 TMPs
- 8 Electrodes Beneath Operating Building
- Treatment 5’ to 85’ Depth

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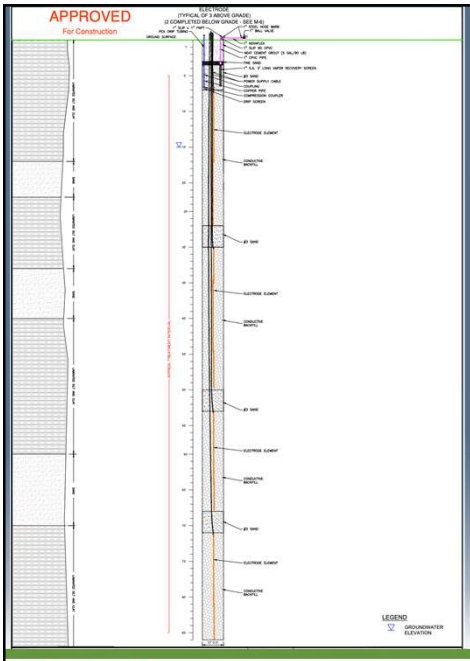

Design

- Treatment 5’ to 85’ Depth
- Two to Four Element Electrode Design

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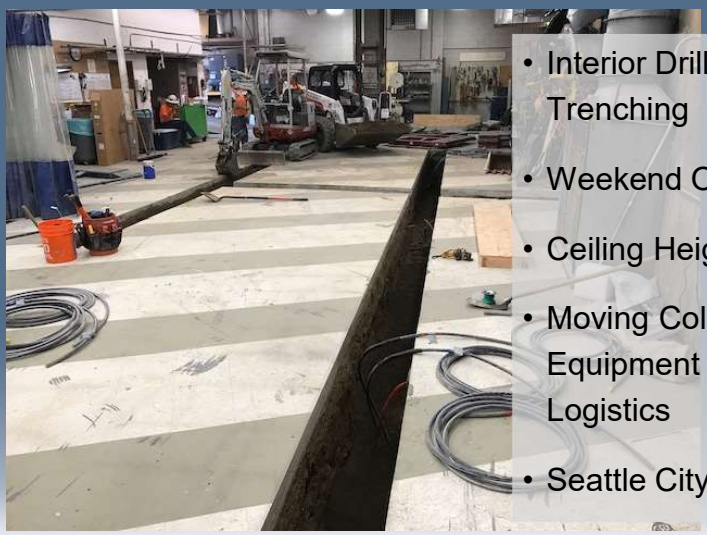
Construction Challenges



- Interior Drilling and Trenching
- Weekend Only
- Ceiling Height
- Moving Collision Center Equipment and Other Logistics
- Seattle City Light!!!

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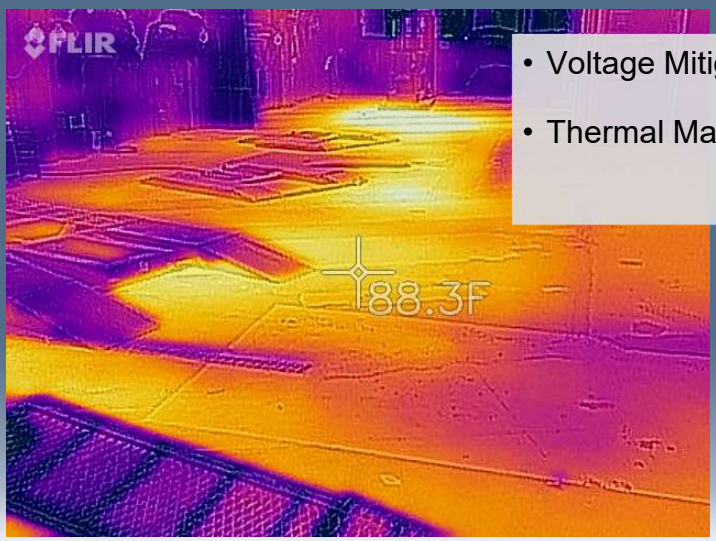
Operational Challenges



- Voltage Mitigation
- Thermal Management

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Highlights

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Sampling

- Hot soil and groundwater sampling following TRS SOPs
- Engineering oversight to eliminate steam biased samples

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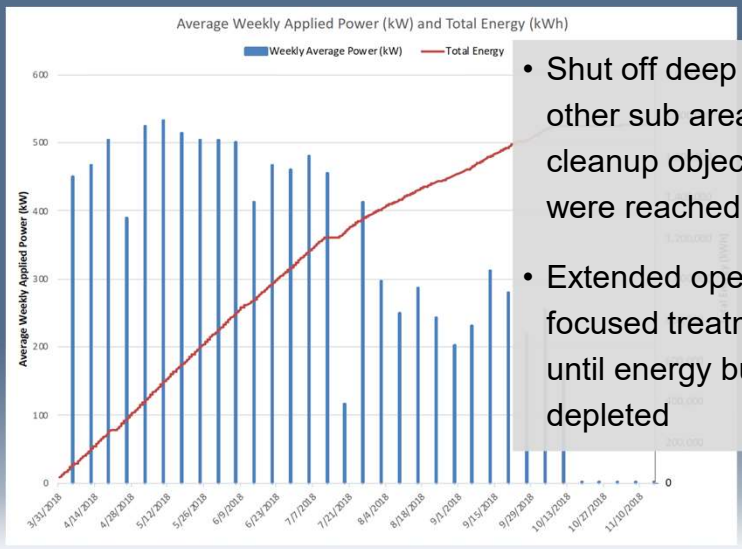
Adaptive Management



- Shut off deep zone and other sub area once cleanup objectives were reached
- Extended operation in focused treatment area until energy budget was depleted

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Results

- All confirmation soil samples were below 50 ug/kg PCE objective.
- Ten of eleven groundwater samples were below 50 ug/L PCE objective.
- Concentrations continued to decline.

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Grand Street Commons Project

Seattle Daily Journal of Commerce 12/9/19, 7:36 PM

DAILY JOURNAL OF COMMERCE

Helping Business do Business Since 1893

September 25, 2019

Runberg starts filing plans for 769-unit Grand Street Commons complex

By BRIAN MILLER
Real Estate Editor

About 3.2 acres of partly polluted land in Seattle's Rainier Valley sold for almost $20 million last year to the three owners of Grand Street Commons. That's a mixed-use venture among Lake Union Partners, HAL Real Estate and the nonprofit Mt. Baker Housing Association.

The site has three components at the intersection of South Grand Street and Rainier Avenue South. Let's call them East Block, South Block and West Block.

Runberg Architecture Group has filed early plans for all three. Those three plans haven't yet entered design review, and may be considered separately.

The entire project could break ground late next year or in 2021. One scheduling factor is the opening of Judkins Park Station, about two blocks north, where light-rail service will begin in 2023. And some environmental remediation is ongoing.

The team also includes CPL, structural engineer; KPFF, civil engineer; Hewitt, landscape architect; Emerald City Engineers, MEP engineer; Aspect Consulting, environmental mediation; and Perkins Coie, legal.

Here's what's planned for each of the blocks:

Images provided by Lake Union Partners [enlarge]

In addition to housing, the complex would have 58,000 square feet of office and retail/commercial space. Groundbreaking could take place late next year or in 2021.

[enlarge]

Early designs for the South Block include a large public plaza on Rainier, which would connect to roughly 6,000 square feet of commercial space on the corner of Grand.

https://www.djc.com/news/re/12125541.html?action=gatl&id=12125541&report=full&printmode=true Page 1 of 3

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QUESTIONS?

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