



**Case Study in Brownfield Redevelopment:  
From Legacy Landfill to New Home  
Stadium of the Fighting Fishermen**

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History



1965 - Opened



1978 - Uncontrolled leachate discharge, DEQ requires closure



Landfill Background



Transfer Station  
Landfill


Transfer Station built in 1985




Closure Permit issued in 1986



Landfill Background



Existing Football Field  
CMH  
The Astoria Column  
Project Site  
Young's Bay



Project Background

Community Partnership




- Close and Cap Landfill
- New Sports complex for school district
- Possible new revenue source for school district
- Existing football field can be redeveloped as hospital campus expansion



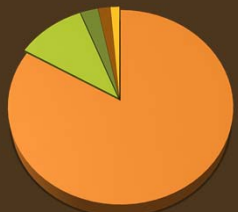
## 4-Party Agreement

- Each party is a signer to the agreement
- Defined relationships between parties and expected outcomes (36 pages)
  - Costs
  - Property transfers/leases
  - Warranties
  - Deed restrictions


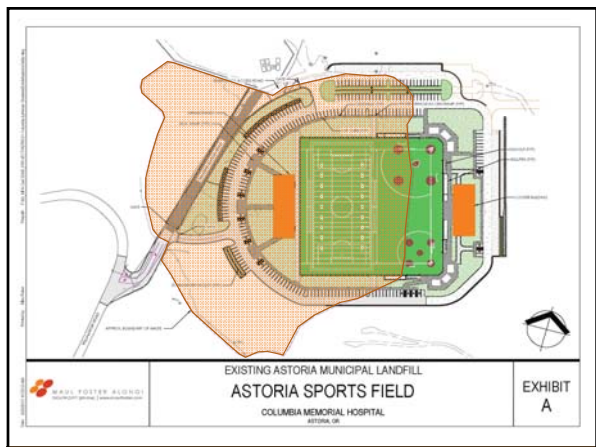


## Project Funding

- \$1,445,000 Remediation
- \$6,041,000 Athletic Complex Dev.




Columbia Memorial Hospital	\$6,250,000
City of Astoria	\$795,000
Astoria School District	\$200,000
Recology Western Oregon	\$141,000
Oregon Dept. of Env. Quality	\$100,000

## Design Considerations

1. Settlement of the landfill;
2. Capping of the landfill;
3. Landfill gas collection;
4. Subsurface water flow;
5. Stormwater runoff collection/conveyance;
6. Minimize disruption in the operation of the Transfer Station.




## Settlement of the Landfill

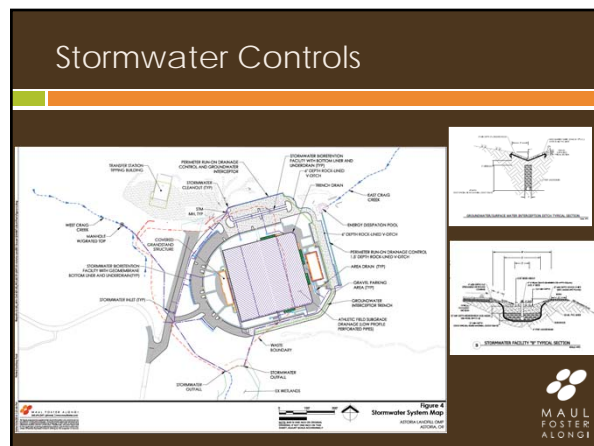
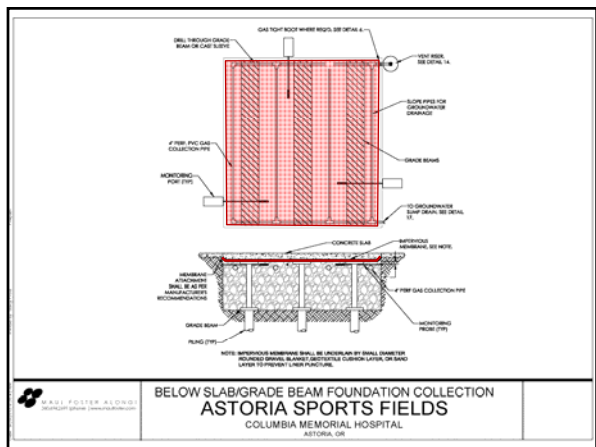
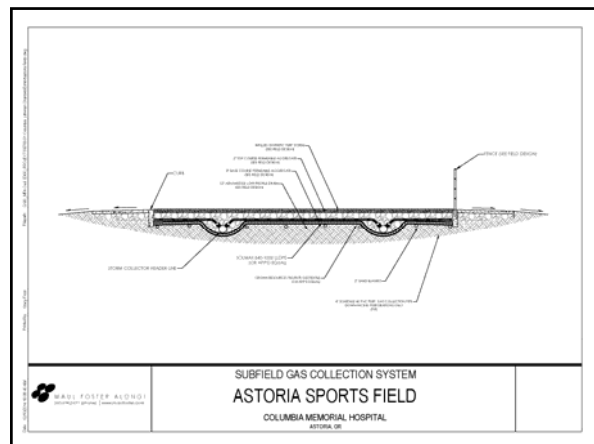
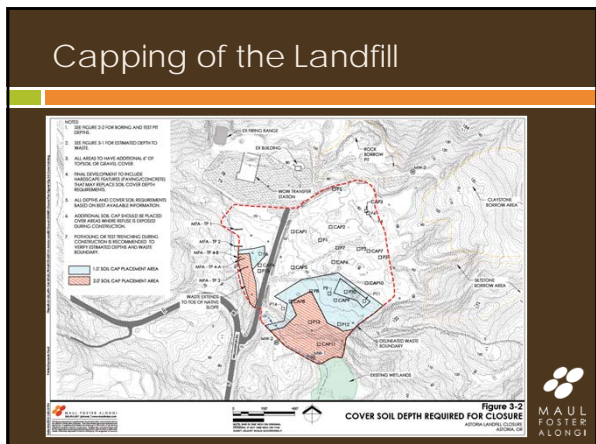
- Rock Surcharge
  - 20,000 cy
  - Placed in three stages
  - Two months min
  - [VIDEO LINK](#)




## Capping of the Landfill

- Closure required by DEQ:
  - 30" minimum compacted clay soil cap
  - 2% minimum overland slopes
- Cover systems for development
  - Asphalt pavement & gravel
  - LLDPE under field
  - HDPE under buildings
  - PVC liner in ditches







### Stormwater Controls

### Stormwater Controls

### Groundwater Controls

ESI 3B GROUNDWATER INTERCEPTION TRENCH ASTORIA ATHLETIC FIELDS COMPLEX

### Before (March 2014)

### After (August 2014)

### Lessons Learned

- Communicate with reviewing agencies early and often.
- Public /Private Partnerships
- Learned from other landfill redevelopments.
- Need to educate our clients about the reality of obstacles during brownfield redevelopment.

