



GOLDER
MEMBER OF WSP



SRWRA Western Side Liner, Adelaide

DON RICHARDSON – GOLDER

PETA WINGROVE - SRWRA

10 June 2021

AGENDA

Site conditions

Design

Construction

before



before

to

piggy back liner

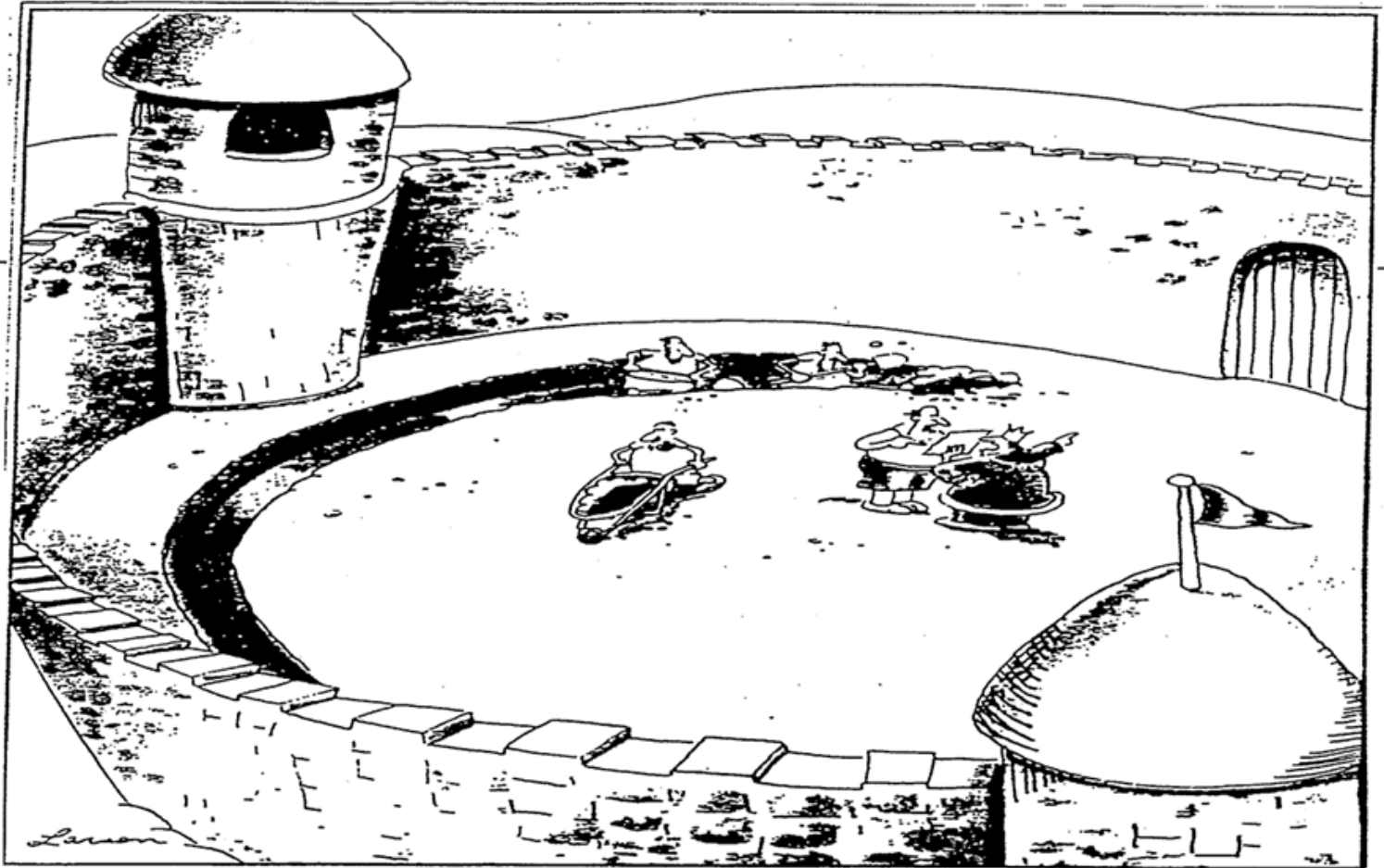


Project Team



What is the basis (goal) of the design ?

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Suddenly, a heated exchange took place between the king and the moat contractor

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- Piggy back side liner over old waste - *to contain and collect leachate during future landfill operations*
- Achieve goals for airspace capacity, site life and facility operations – *the bigger landfill footprint enables the design cap height to be achieved and improves airspace volumes and stormwater management*
- **Safe** and robust solution in the site conditions – *steep slopes, site access, ground movement*
- Utilise site-won materials if possible

What are the basis (goals) of the design ?

- Improve the subgrade conditions and geometry
- Manage the risk of ground movement – *hence inclusion of a reinforced subgrade and bituminous geomembrane*
- Consider constructability and staging
- Interface and overlap with existing side liner

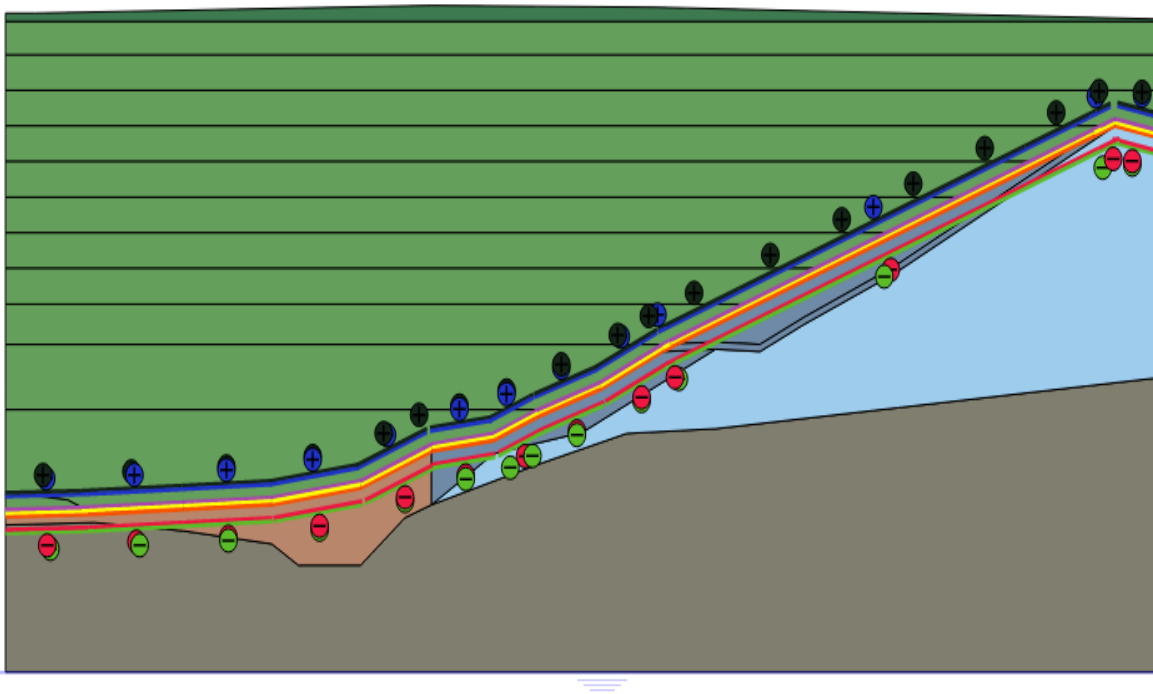


Design Considerations

SOME OF THE FACTORS INFLUENCING THE CHOICE TO INCLUDE A BITUMINOUS GEOMEMBRANE IN THE CONTAINMENT LINER SYSTEM

- Site access and geometry
- Slope panel lengths up to approx. 50 m
- Subgrade preparation and use of site won materials
- Robustness
- Less sensitive to wrinkles and disturbance by wind
- Can be exposed without need for immediate confinement
- Can place overlying materials without need for cushion material
- Fewer layers in the containment system, saves \$ and time

Piggy back liner over old waste (1980 – 1990). Ground movement modelling to inform the design



Staged waste placement to 40 m depth (green)

Bituminous geomembrane

Reinforced subgrade

Old waste (pale blue)

Engineered fill (pink)

Natural ground (grey)

50 year time based assessment of waste placement, deformation, tension loads in geosynthetic materials

Reinforced subgrade with woven geotextile



Crest anchor trench and bund for woven geotextile



Subgrade granular layer over woven geotextile



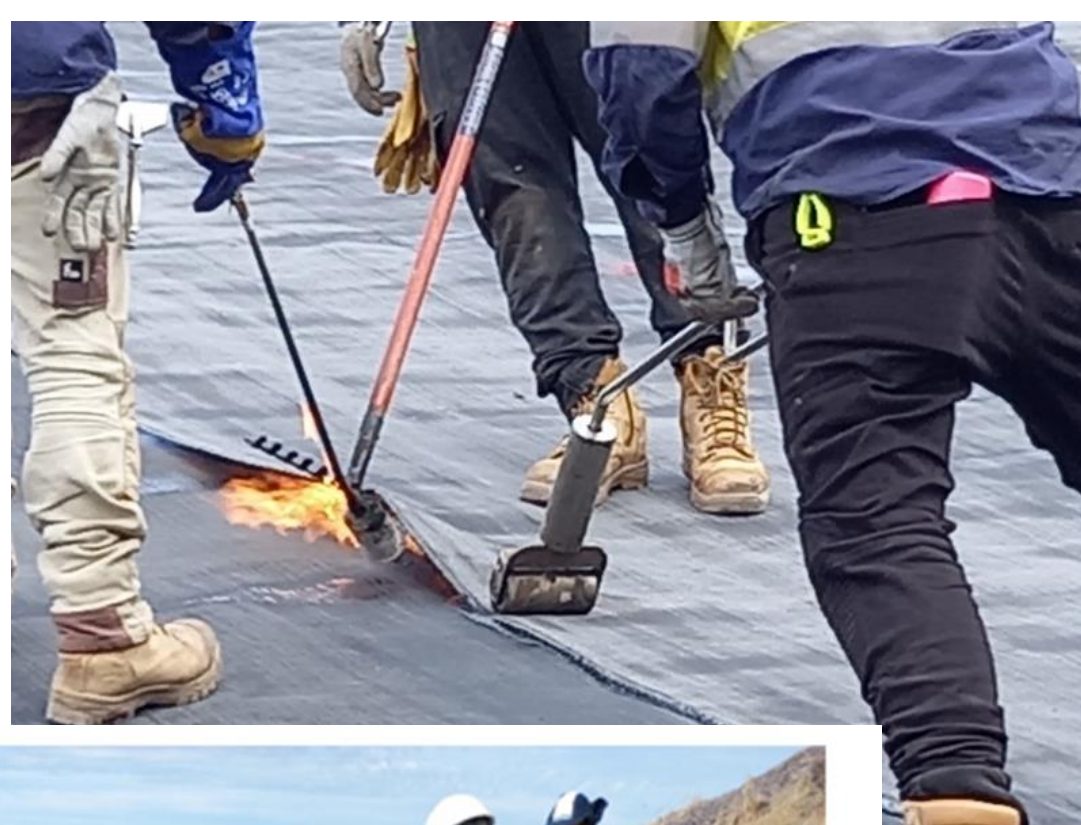
Bottom up
construction to
manage stability.
Tracked bobcat.



Coletanche bituminous geomembrane









Patch repairs and air lance testing



Completed Coletanche and crest bund





Thank you

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