

## Planning and Design for future new cells at Layon

Assumption – underlying assumption is that we will need to begin placing waste in new cells by the end of the calendar year 2020 to early 2021 (first two months). This is based on the last work on waste projections which we did for the Layon Permit Renewal in May 2014. More recent tonnages for CY 2014 and part of CY 2015 are in line with those projections.

2016

- Hydrogeologic Investigation – initiate procurement, planning, and permit efforts

2017

- Hydrogeologic Investigation – Field work for installing wells (dry season)
- Initiate procurement and begin planning and design effort
- Geotechnical Investigation – initiate field work investigations
- Hydrogeologic investigation – sampling/monitoring second half (wet season)
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2018

- Hydrogeologic Investigation – continued monitoring (dry season)
- Complete design of new cell by Jun 1
- Jun 1 – submit operations permit modification for new cell construction
- Construction Procurement in second half of year

2019

- Secure landfill operations permit mod by Jan 1
- Initiate construction Jan 1 - first half of year (dry season) construction of one cell, associated stormwater pond and leachate system should take one dry season and one year total.

2020

- Construction wrap up in first half of year (contingency of one dry season)
- Intermediate closure of portions of Cells 1 and 2.
- Commence waste filling as early as December in new cell.

## CELLS 1 AND 2 CLOSURE

2017

- Begin installation of horizontal gas collection lines across the top of the second lift placed in the cells when the second lift begins to be complete. This I estimate to be performed in this operating year.

2018

- Continue with horizontal gas collection lines as needed on second lift.

2020

- Commence with permanent closure of the west slope and south slope of Cells 1 and 2 which entails the placement of the geosynthetic final cover system and associated permanent stormwater structures.
- Install vertical gas wells and associated with the final closure slopes and areas
- Install horizontal collectors on the fourth lift

The west and south slopes of Cells 1 and 2 are outside slopes of the main landfill facility. They are to be constructed to the final grades according to the master plan as waste is placed. The north and east slopes butt up against future cells of the landfill, so they are not final closed slopes. In fact these slopes can be built steeper than the outside slopes to maximize capacity in these cells. That is how they have been planned. See figure below.

Components of the gas system will need to be installed but it will not be necessary to run the gas system but the components get installed as the waste placed.

When the new cell 3 begins to be built in 2019 and 2020, this closure effort of Cells 1 and 2 can be made part of the contract for new cell construction.

The acreage of Cells 1 and 2 that are permanently covered (which are the west and south side slopes) can be taken out of the total acreage for which computations for the purpose of setting aside closure reserve funds. This area, when closed will be approximately  $\frac{1}{2}$  the total acreage of Cells 1 and 2 – 11 acres. See figure below.

Cells 1 and 2 get fully closed when the upper deck and their inside side slopes receive a final cover system after cells are built and filled adjacent to them. Until then there is interim cover in place until filling is resumed in those areas.

