

# CIRCLE C LANDFILL TERMINATION OF POST-CLOSURE



## Clark County Public Health

Chuck Harman, Program Manager

[Chuck.Harman@clark.wa.gov](mailto:Chuck.Harman@clark.wa.gov) (360)397-8019

Melissa Sutton, Environmental Health Specialist II

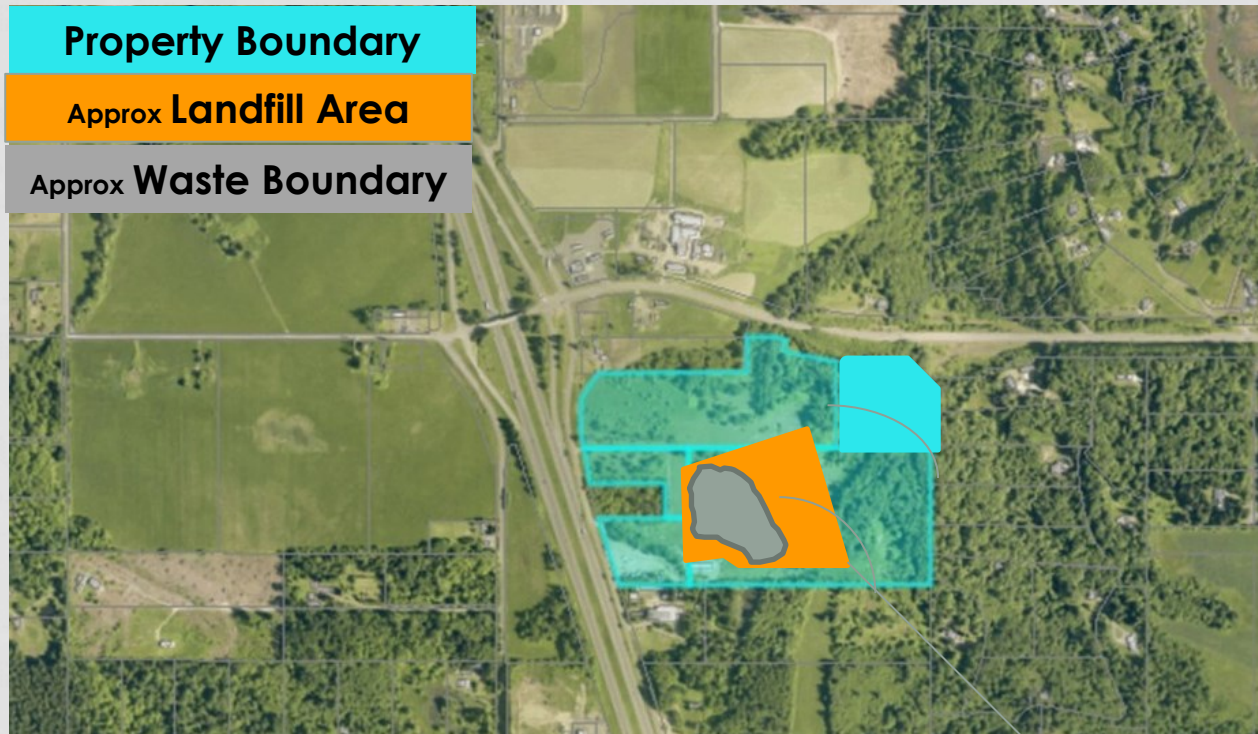
[Melissa.Sutton@clark.wa.gov](mailto:Melissa.Sutton@clark.wa.gov) (360)397-8167

# CIRCLE C LANDFILL – OBJECTIVES

- Summarize landfill history and post-closure permit
- Summarize proposed evaluation criteria that will be used to determine if permit can be terminated
- Describe future steps once criteria is finalized
- Allow for Public Comment on proposed criteria
- Request BOH support for our approach

# ABOUT CIRCLE C LANDFILL

- The site property is approximately 35 acres
  - Landfill footprint is approximately 8 acres
  - The landfill does not have clay liner.
- Operations occurred from 1977 - 1990



# CIRCLE C LANDFILL BACKGROUND

From 1977 to 1990 landfill accepted dirt, rock, wood wastes, non-putrescible inert industrial waste, asbestos (*designated area*), construction & demo waste, and shredded tires

## Landfill Capped & Closed in 1990

- Since 1990, CCPH Post-Closure Permit
- Permit requires ongoing Monitoring & Reporting – groundwater; leachate; landfill gas; cap maintenance.

## In 2015 owners requested to terminate post-closure permit

- CCPH evaluated public health protection criteria that could allow permit termination. Consulted with Dept. of Ecology
- CCPH is now proposing specific protection criteria and long term land controls

# CRITERIA FOR TERMINATION OF POST-CLOSURE

- 1) Settlement & Cover Integrity
- 2) Gas Production Monitoring
- 3) Leachate Monitoring
- 4) Groundwater Monitoring
- 5) Covenants to Establish Engineering & Institutional Controls

See table

	Regulatory Guidance & Considerations	Criteria
<b>Settlement &amp; Cover Integrity</b>	<p><a href="#">[Ecology, Publication no. 11-07-006, February 2001]</a>  <a href="#">[Ecology, Addendum to Publication no. 11-07-006, January 2013]</a></p>	<p><input type="checkbox"/> CCPH will review data from two benchmark surveys (at a density of one survey point per 20,000 square feet) at least 12-months apart evaluated during similar seasonal timeframes to minimize seasonal differences in soil moisture content and to demonstrate that a settlement mean of less than 1/2-inch is present at the site. If the mean exceeds 1/2 inch, the settlement parameter should be reassessed and evaluated the following year and subsequent years until the criteria is met.</p> <p><input type="checkbox"/> Institutional control(s) established for periodic observation if further settling occurs. Record with County Auditor.</p>
<b>Gas Production</b>	<p><a href="#">[Ecology, Publication no. 11-07-006, February 2001]</a>  <a href="#">[Ecology, Addendum to Publication no. 11-07-006, January 2013]</a></p>	<p><input type="checkbox"/> Gas concentrations at all monitoring points are below regulatory limits for the last eight consecutive sampling events, including:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> On-site structures: 25% LEL (for methane, 25% LEL is 1.25% by volume)</li> <li><input type="checkbox"/> Property boundary: 100% LEL (for methane, 100% LEL is 5% by volume)</li> <li><input type="checkbox"/> Gas concentrations in vent pipes during periods of steady or falling barometric pressure are below 25% LEL for methane for the last eight consecutive sampling events.</li> </ul> <p><input type="checkbox"/> Institutional control(s) established to minimize potential for public exposure from future gas concentrations. Record with County Auditor.</p>
<b>Leachate Production</b>	<p><a href="#">[Ecology, Publication no. 11-07-006, February 2001]</a>  <a href="#">[Ecology, Addendum to Publication no. 11-07-006, January 2013]</a>  <a href="#">Guidance for Groundwater Monitoring of Landfills and Other Facilities Regulated Under Chapters 173-304, 173-506, 173-350 and 173-351 WAC*</a></p>	<p><input type="checkbox"/> CCPH will require flowmeters be installed to quantify leachate volume and monitor seasonal fluctuations quarterly throughout a consecutive 12 month period.</p> <p><input type="checkbox"/> CCPH will require leachate be analyzed quarterly throughout a consecutive 12 month period for Primary &amp; Secondary Contaminants, Radionuclides, and Carcinogens.</p>
<b>Groundwater Monitoring</b>	<p><a href="#">[Ecology, Publication no. 11-07-006, February 2001]</a>  <a href="#">[Ecology, Publication no. 12-07-072, December 2012]</a>  <a href="#">Chapter 173-200 WAC, Water Quality Standards for Ground Waters of the State of Washington</a></p>	<p><input type="checkbox"/> CCPH will require quarterly sampling events throughout a consecutive 12 month period from 1 upgradient monitoring well and 3 downgradient wells for groundwater impact assessment.</p> <p><input type="checkbox"/> CCPH will require groundwater be analyzed quarterly throughout a consecutive 12 month period for Primary &amp; Secondary Contaminants, Radionuclides, and Carcinogens.</p>
<b>Covenant</b>	<p><a href="#">WAC 173-304-407(a)</a></p>	<p><input type="checkbox"/> Including but not limited to: Institutional controls, maps, and a statement of fact concerning the location of the disposal site shall be recorded as part of the deed with the county auditor not later than three months after closure. Records and plans specifying solid waste amounts, location and periods of operation shall be submitted to the local zoning authority or the authority with jurisdiction over land use and be made available for inspection. (CCPH has no record of this completion)</p> <p><input type="checkbox"/> Record Covenant with County Auditor.</p>

# CRITERIA DEVELOPMENT & REVIEW

- 2015-16 worked with Department of Ecology on criteria, based on their guidance
- Discussed and reviewed with Solid Waste Advisory Commission (SWAC) in July and Sept 2016
- SWAC approved proposed criteria in Sept 2016
- Presented to Circle C owners in late Sept 2016
- BOCC January 25, 2017 Work Session

# PUBLIC COMMENT PERIOD

- Printed Public Notice in Reflector & Columbian (03/28 & 30)
  - Written comments due April 20<sup>th</sup>, 2017.
  - April 26<sup>th</sup> Public meeting with BOH (today)
- Announced on Public Health web site, along with packet of information.  
(<https://www.clark.wa.gov/circlec>)
- On April 20, 2017 CCPH received comments from Circle C representatives
- No other written comments received by CCPH



# NEXT STEPS

- Within 60 days CCPH consider comments and finalize criteria
- Provide final criteria to Circle C and establish sampling & analysis plan. Work on Institutional Controls.
- Data collection and evaluation – est. 2017 to 2018. Could be extended based on results.
- Once criteria met, and prior to releasing Circle C from permit CCPH will produce final notice.
- Assuming no objections, CCPH will terminate post-closure permit.

# CIRCLE C LANDFILL – PUBLIC COMMENTS

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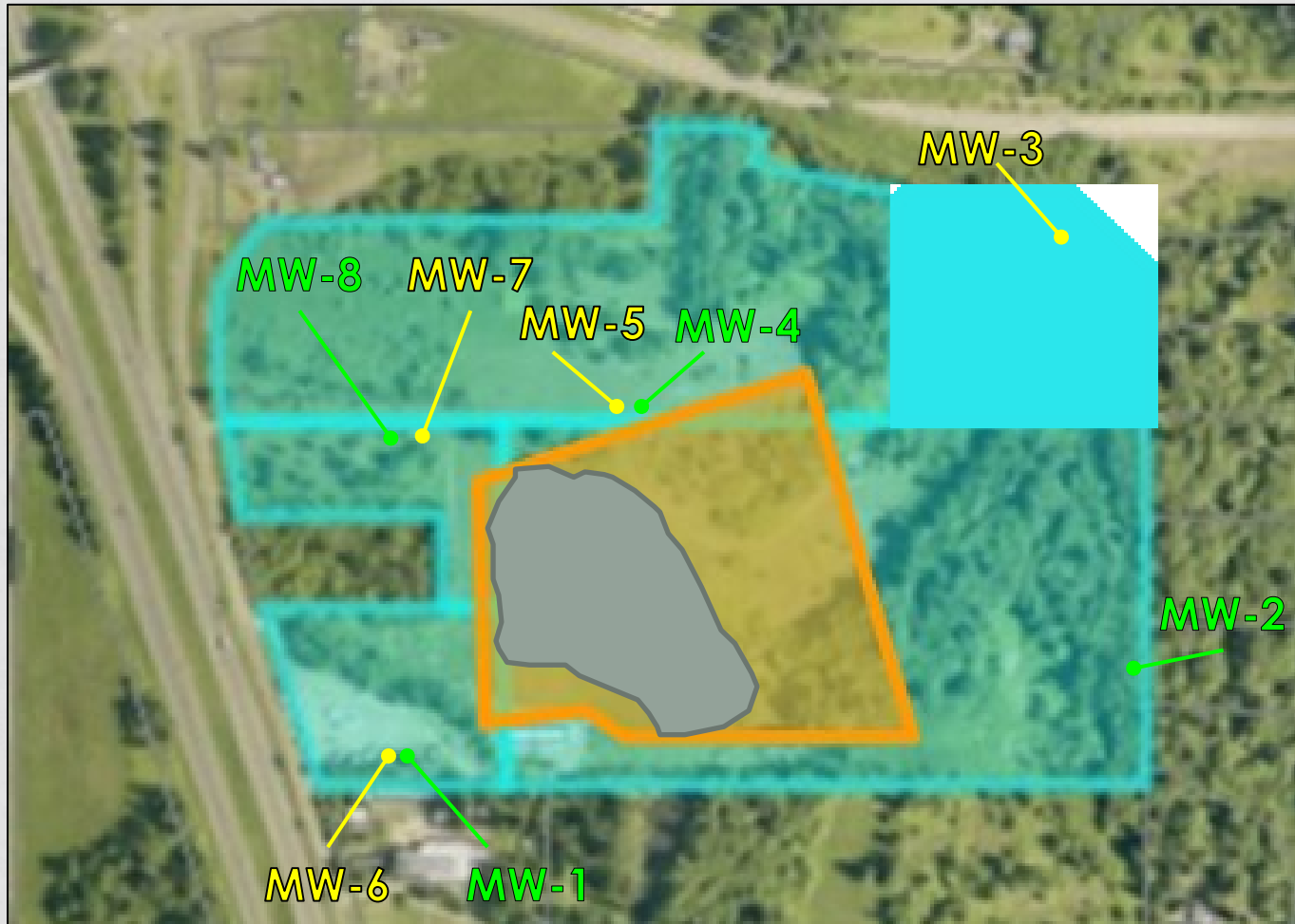
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# MONITORING WELL LOCATIONS

(APPROXIMATE)



Groundwater samples- MW-1, 2, 4, 8

Deep Aquifer Wells- MW-3, 5, 6, 7

