

# MOA Annual Presentation

April 2020 – March 2021



# Table of Contents

|                              |    |
|------------------------------|----|
| Summary of Landfill Airspace | 5  |
| Diversion Analysis           | 7  |
| Green House Gas Update       | 9  |
| Food Waste Update            | 10 |
| New Developments             | 11 |
| Visual Updates               | 12 |

# Site Map 2020

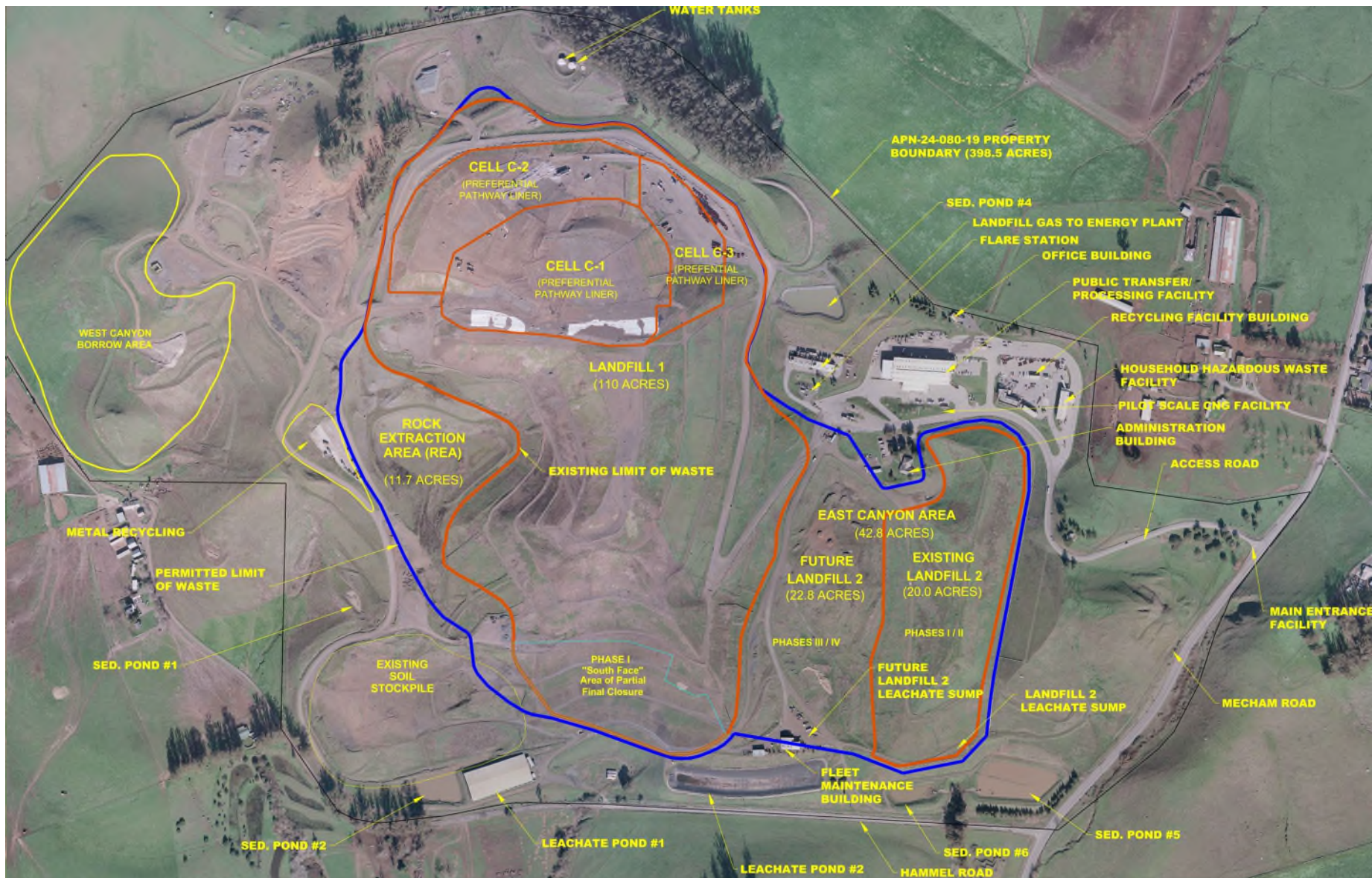


Photo 01/2020



# Site Map 2021



Photo 01/2021

# Landfill Airspace

As of 12/31/2020

|                                    |                        |
|------------------------------------|------------------------|
| Projected Airspace Volume Consumed | 24,285,327 Cubic Yards |
|------------------------------------|------------------------|

|                                    |                       |
|------------------------------------|-----------------------|
| Remaining Airspace of the Landfill | 8,364,672 Cubic Yards |
|------------------------------------|-----------------------|

Change in Airspace

|                                            |                     |
|--------------------------------------------|---------------------|
| Solid Waste Placed in (1/1/20 to 12/31/20) | 521,179 Cubic Yards |
|--------------------------------------------|---------------------|

|                                  |                        |
|----------------------------------|------------------------|
| Volume Consumed as of 12/31/2019 | 23,764,148 Cubic Yards |
|----------------------------------|------------------------|

Waste Placement by Quarter in 2020 by Material Type (in tons)

| 2020      | MSW     | Fire Waste |
|-----------|---------|------------|
| Jan – Mar | 77,899  | 293        |
| Apr – Jun | 77080   | 94         |
| Jul – Sep | 82,415  | 10         |
| Oct – Dec | 78,730  | 166        |
| TOTAL     | 316,215 | 563        |

# Landfill Site Life

| Density                                                                                                                                          | Remaining Tons | Annual Tons | Remaining Life |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|----------------|
| 1,287                                                                                                                                            | 5,382,666      | 316,215     | 17.1 years     |
| 1,350                                                                                                                                            | 5,646,154      | 316,215     | 17.9 years     |
| 1,450                                                                                                                                            | 6,064,387      | 316,215     | 19.2 years     |
| 1,550                                                                                                                                            | 6,482,621      | 316,215     | 20.5 years     |
| Remaining site life estimates are based upon density levels omitting fire debris. Projected annual tons based upon 3-year average of MSW volume. |                |             |                |

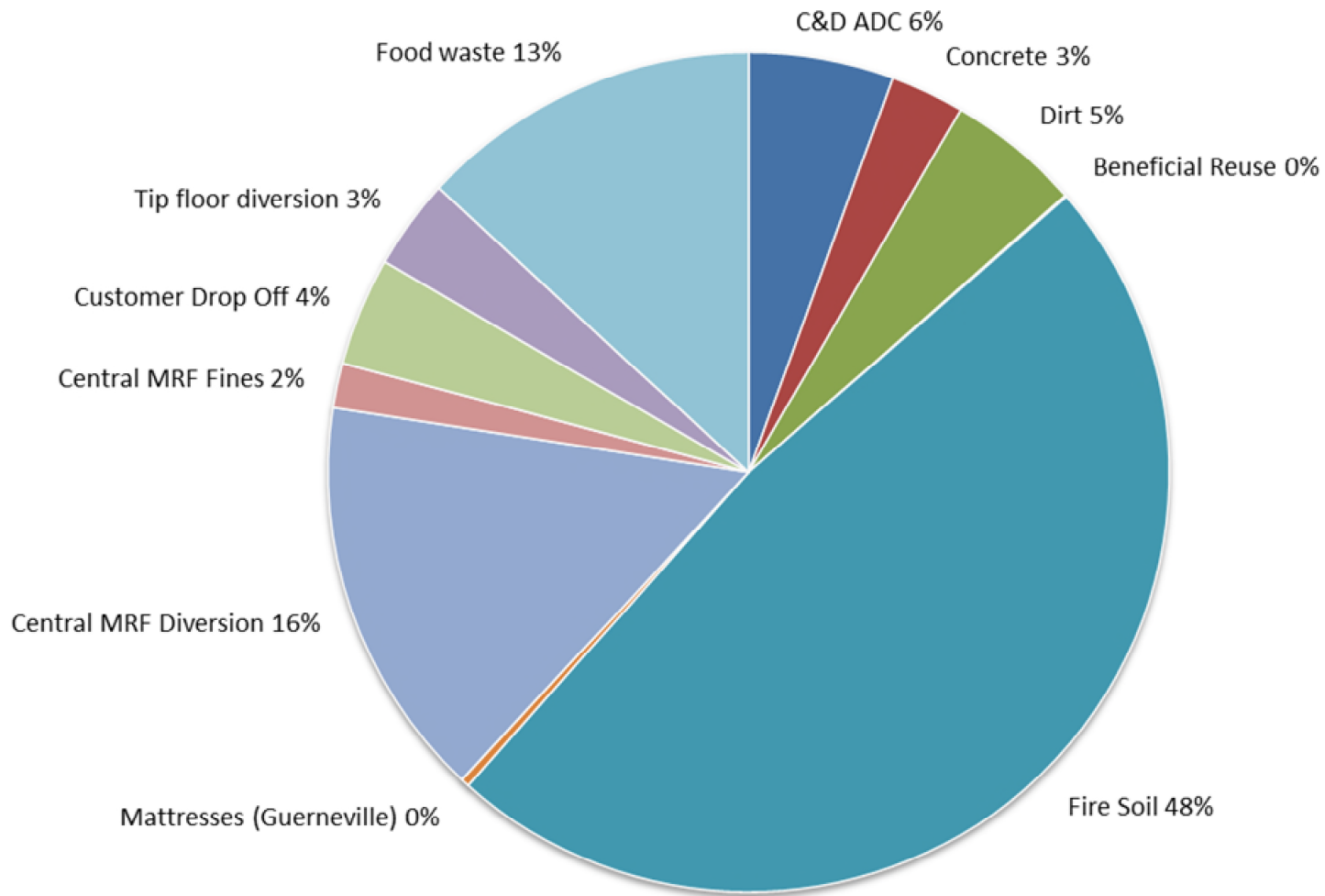
|                                                                                                                                                                                                                                                                                         |           |         |            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------|------------|
| 2,056                                                                                                                                                                                                                                                                                   | 8,598,837 | 316,215 | 27.2 years |
| Remaining site life based on Republic's Life of Site Model for all tonnage disposed based upon prior 3-year density average including fire debris. Projected remaining tons based solely on MSW, with no anticipated fire events. Accepted site life calculation method for CalRecycle. |           |         |            |

*\*Density units represented in pounds per cubic yard*

# Diversion Analysis

|                                            |               | 6/2020 - 5/2021     |
|--------------------------------------------|---------------|---------------------|
| Beneficial Reuse                           |               | 57                  |
| C&D ADC                                    |               | 5,390               |
| Concrete                                   |               | 2,748               |
| Dirt                                       |               | 4,972               |
| Fire Soil (ADC)                            |               | 46,382              |
| Mattresses (Guerneville)                   |               | 310                 |
| Central MRF Diversion                      |               | 14,986              |
| Central MRF Fines                          |               | 1,686               |
| Customer Drop Off                          |               | 4,024               |
| Tip floor diversion (Excludes Central MRF) |               | 3,347               |
| Food waste                                 |               | 12,736              |
| <b>Annual Goal</b>                         | <b>67,000</b> | <b>Total 96,639</b> |

# Diversion Analysis





# Green House Gas Update

This GHG inventory represents a snapshot of GHG emissions at Central Landfill from 2017 to 2020. LFG-derived GHG emissions would have occurred because of placement of the waste at any landfill facility in the region.

The Site has implemented several programs and projects that directly or indirectly lead to lowered GHG emissions. Waste diverted from disposal at the MRF results in GHG reductions. Though those reductions will be indirect and offsite, the reductions are attributable to development of the MRF. Improved LFG capture could also achieve GHG emission reductions, which could result from improvements to the GCCS and/or cover management practices.

| Source                   | 2017   | 2018   | 2019   | 2020   |
|--------------------------|--------|--------|--------|--------|
| Landfill Methane         | 79,600 | 64,000 | 76,010 | 72,343 |
| Landfill Equipment       | 1,534  | 3,485  | 1,267  | 1,513  |
| Total GHG Emissions      | 81,134 | 67,485 | 77,277 | 73,856 |
| Biogenic CO <sub>2</sub> | 28,904 | 22,485 | 16,846 | 16,761 |

All emissions in MTCO<sub>2</sub>e

# Food Waste Program Update

- Recology Sonoma Marin (RSM) Waste Zero staff worked with 1,728 commercial and MFD (multi-family dwelling) accounts in Sonoma County MOA jurisdictions May 2020 – April 2021. Commercial compost programs were implemented at 352 accounts. Covid-19 pandemic guidelines were in place during this whole time period, sometimes making education/outreach and follow-up particularly challenging. Nonetheless, the team was able to make necessary adjustments and stay safe while executing at close to pre-pandemic efficiencies.
- In September of 2020, CalRecycle announced that it was enacting Tier 4 of state law AB1826. Tier 3 of AB1826 meant that all commercial accounts with 4+ cubic yards of solid waste service per week needed to have compost programs in place, and Tier 4 of AB1826 changed the threshold to all commercial accounts with 2+ cubic yards of solid waste per week. This policy change significantly widened the affected customer base, and is basically a stepping stone to SB1383. Sonoma County MOA jurisdictions compliance with Tier 4 of AB1826 is currently at 73%.
- - Preparations for SB1383 are a major focus, and RSM is in close communication with CalRecycle, Zero Waste Sonoma, jurisdiction staff, as well as Republic to make sure that all Sonoma County MOA jurisdictions are prepared for the upcoming regs.
- Tonnage numbers by calendar year:

|        |                                              |
|--------|----------------------------------------------|
| - 2015 | 3,406                                        |
| - 2016 | 4,877                                        |
| - 2017 | 4,332                                        |
| - 2018 | 5,879                                        |
| - 2019 | 7,148                                        |
| - 2020 | 6,510 <sup>(a)</sup> ; 13,581 <sup>(b)</sup> |

(a) Tons include food waste delivered to GBTS (Golden Bear Transfer Station)

(b) Includes self-haul estimates to other processors provided by Recology

# New Developments

## **Central Landfill Improvements 2020**

- Completed cell construction on Rock Extraction Area cell (R-1)
- Installed 16 vertical gas wells, 7 being dual extraction, and 2 horizontal wells
- Sediment Pond #6 maintenance
- Landfill stormwater swale refurbished

## **Transfer Station Improvements**

- Two frac tanks installed at Guerneville Transfer Station
- Site paving at Guerneville Transfer Station
- Grate repairs at Healdsburg Transfer Station
- Misting system expansion at Central Transfer Station

## **Current Year Developments**

- Sediment Pond #5 maintenance
- Lighting upgrades at Central Transfer Station
- Tipper engine replacement
- Misting system installation at Guerneville Transfer Station
- Site paving at Central and Healdsburg Transfer Stations

# R-1 Cell Construction





# R-1 Cell Construction





# R-1 Cell Construction





# Landfill Cell 2 Operations





# Landfill Cell 2 Operations





# Landfill Cell 2 Operations

