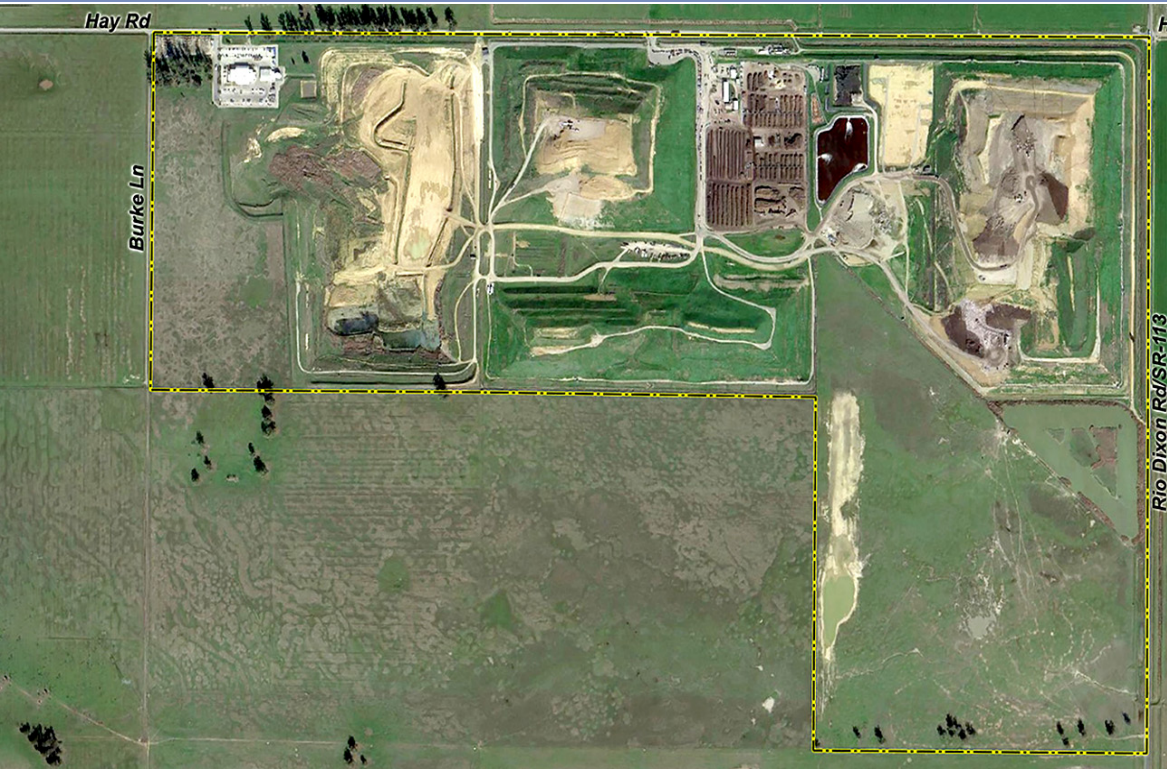


DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT FOR THE

# Recology Hay Road Landfill Land Use Permit Amendment No. 2

State Clearinghouse No. 2018032031



December 2019



**PREPARED FOR:**  
Solano County  
Department of Resource Management  
675 Texas Street, Suite 5500  
Fairfield, CA 94533  
(707) 784-6765



**Draft Subsequent Environmental Impact Report for the  
Recology Hay Road Landfill Land Use Permit  
Amendment No. 2**

**State Clearinghouse No. 2018032031**

**Prepared for:**

Solano County  
Department of Resource Management  
675 Texas Street, Suite 5500  
Fairfield, CA 94533  
(707) 784-6765

**Prepared by:**

Ascent Environmental  
455 Capitol Mall, Suite 300  
Sacramento, CA 95814  
(916) 444-7301

**December 2019**



# TABLE OF CONTENTS

Section		Page
	<b>LIST OF ABBREVIATIONS .....</b>	<b>v</b>
<b>1</b>	<b>INTRODUCTION .....</b>	<b>1-1</b>
	1.1 Type and Purpose of the EIR.....	1-1
	1.2 Intended Use of the Environmental Impact Report.....	1-2
	1.3 Agency Roles and Responsibilities .....	1-2
	1.4 EIR Review Process.....	1-3
	1.5 Scope of Environmental Analysis.....	1-4
	1.6 Organization of the EIR.....	1-5
<b>2</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>2-1</b>
	2.1 Introduction.....	2-1
	2.2 Summary Description of the Proposed Project .....	2-1
	2.3 Summary of Environmental Impacts and Mitigation Measures .....	2-3
	2.4 Summary of Alternatives.....	2-3
	2.5 Environmentally Superior Alternative.....	2-4
	2.6 Areas of Controversy.....	2-5
<b>3</b>	<b>PROJECT DESCRIPTION.....</b>	<b>3-1</b>
	3.1 Project Location .....	3-1
	3.2 Project Background .....	3-1
	3.3 Previous CEQA Documentation .....	3-4
	3.4 Project Objectives.....	3-6
	3.5 Existing Permits .....	3-6
	3.6 Existing RHR Landfill Operations.....	3-11
	3.7 Proposed Project .....	3-14
	3.8 Operation and Maintenance .....	3-24
<b>4</b>	<b>ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES .....</b>	<b>4-1</b>
	4.1 Aesthetics .....	4.1-1
	4.2 Air Quality .....	4.2-1
	4.3 Archaeological, Historic, and Tribal Cultural Resources.....	4.3-1
	4.4 Biological Resources .....	4.4-1
	4.5 Energy.....	4.5-1
	4.6 Geology, Soils, Mineral, and Paleontological Resources .....	4.6-1
	4.7 Greenhouse Gas Emissions .....	4.7-1
	4.8 Hazards and Hazardous Materials .....	4.8-1
	4.9 Hydrology and Water Quality.....	4.9-1
	4.10 Noise.....	4.10-1
	4.11 Transportation .....	4.11-1
<b>5</b>	<b>CUMULATIVE IMPACTS .....</b>	<b>5-1</b>
	5.1 Introduction to the Cumulative Analysis .....	5-1
	5.2 Related Projects .....	5-1
	5.3 Geographic Scope of the Cumulative Analysis.....	5-5
	5.4 Analysis of Cumulative Impacts.....	5-5

<b>6</b>	<b>ALTERNATIVES.....</b>	<b>6-1</b>
6.1	Alternatives to the Proposed Project.....	6-1
<b>7</b>	<b>OTHER CEQA-REQUIRED SECTIONS .....</b>	<b>7-1</b>
7.1	Significant Environmental Impacts of the Proposed Project that Cannot be Avoided .....	7-1
7.2	Significant Irreversible Environmental Effects.....	7-1
7.3	Growth-Inducing Impacts.....	7-2
<b>8</b>	<b>LIST OF PREPARERS.....</b>	<b>8-1</b>
<b>9</b>	<b>REFERENCES.....</b>	<b>9-1</b>

### Appendices (included on CD)

Appendix A	Notice of Preparation documents (released March 2018; Re-released August 2018) and Comments on the NOP
Appendix B	RHR Recyclable Material Bale Management Operations Plan (April 11, 2018)
Appendix C	Road Damage and Maintenance Agreement Between the County of Solano and Recology Hay Road (July 25, 2016)
Appendix D	Air Quality Impact Assessment-Recology Hay Road Landfill (June 2019)
Appendix E	Supplemental Emissions Calculations for the Hay Road Landfill Project (November 2019)
Appendix F	Health Risk Calculations for the Hay Road Landfill Project (August 2019)
Appendix G	Traffic Impact Analysis (Kd Anderson)
Appendix H	Fuel Consumption Calculations
Appendix I	Wildlife Hazards Analysis (April 2018)
Appendix J	Noise Modeling Data

### Figures

Figure 3-1	Regional Location.....	3-2
Figure 3-2	Recology Hay Road Landfill Site Plan.....	3-3
Figure 3-3	Existing Onsite Leachate Collection and Monitoring Facilities .....	3-7
Figure 3-4	Existing Leachate Tank and LFG Management System.....	3-9
Figure 3-5	Landfill Haul Roads .....	3-12
Figure 3-6	Permitted Final Grading Plan .....	3-17
Figure 3-7	Proposed Final Grade .....	3-19
Figure 4.1-1	Photograph Viewpoints.....	4.1-3
Figure 4.1-2	Photo Viewpoints A and B .....	4.1-4
Figure 4.1-3	Photo Viewpoints C and D.....	4.1-5
Figure 4.1-4	Photo Viewpoint E.....	4.1-7
Figure 4.4-1	Land Cover.....	4.4-5
Figure 4.4-2	Essential Connectivity Areas .....	4.4-16
Figure 4.4-3	Critical Habitat.....	4.4-17

Figure 4.6-1	Major Quaternary Faults and Historical Earthquake Events .....	4.6-7
Figure 4.9-1	Watershed.....	4.9-7
Figure 4.9-2	Flood Hazards.....	4.9-9
Figure 4.11-1	Existing Traffic Volumes and Lane Configurations .....	4.11-4
Figure 4.11-2	Project Volumes and Lane Configurations.....	4.11-13
Figure 4.11-3	Existing Plus Project Volumes and Lane Configurations .....	4.11-14
Figure 5-1	Cumulative Projects.....	5-4
Figure 5-2	2030 Traffic Volumes and Lane Configurations.....	5-14
Figure 5-3	Cumulative Plus Project Traffic Volumes and Lane Configurations.....	5-16
Figure 6-1	Alternative 2 Final Grading Plan.....	6-7
<b>Tables</b>		
Table 2-1	Summary of Impacts and Mitigation Measures.....	2-6
Table 4.2-1	Ambient Air Quality Standards.....	4.2-2
Table 4.2-2	Sources and Health Effects of Criteria Air Pollutants.....	4.2-9
Table 4.2-3	Summary of Construction-Related Emissions of Criteria Air Pollutants and Precursors .....	4.2-15
Table 4.2-4	Operational Mobile-Source Emissions of Criteria Air Pollutants and Precursors in 2020.....	4.2-16
Table 4.2-5	Operational Mobile-Source Emissions of Criteria Air Pollutants and Precursors in 2023.....	4.2-17
Table 4.4-1	Habitat Types within the Project Site.....	4.4-6
Table 4.4-2	Special-Status Plant Species Known to Occur in the Project Region and their Potential for Occurrence in the Project Site .....	4.4-7
Table 4.4-3	Special-Status Wildlife Species Known to Occur in the Project Region and their Potential for Occurrence in the Project Site .....	4.4-12
Table 4.4-4	Normal Blooming Period for Special-Status Plants with Potential to Occur Within the Triangle .....	4.4-19
Table 4.5-1	Construction Energy Consumption.....	4.5-6
Table 4.5-2	Net Change in Gasoline and Diesel Consumption .....	4.5-7
Table 4.6-1	Recorded Earthquakes Within 100 km (62 mi) of the RHR Landfill, Solano County, California.....	4.6-5
Table 4.7-1	Statewide GHG Emissions by Economic Sector .....	4.7-7
Table 4.7-2	Operational Greenhouse Gas Emissions .....	4.7-11

Table 4.10-1	Typical Noise Levels.....	4.10-2
Table 4.10-2	Human Response to Different Levels of Ground Noise and Vibration.....	4.10-4
Table 4.10-3	Ground-Borne Vibration (GBV) Impact Criteria for General Assessment .....	4.10-5
Table 4.10-4	Solano County Transportation Noise Standards.....	4.10-6
Table 4.10-5	Solano County Non-Transportation Noise Standards.....	4.10-6
Table 4.10-6	Summary of Modeled Traffic Noise Levels under Existing No Project and Existing Plus Project Conditions.....	4.10-11
Table 4.11-1	Level of Service Definitions .....	4.11-5
Table 4.11-2	Roadway Segments LOS Definitions.....	4.11-6
Table 4.11-3	Existing Peak Hour Levels of Service at Intersections.....	4.11-7
Table 4.11-4	Existing Roadway Segment Levels of Service .....	4.11-8
Table 4.11-5	Historical Annual Tonnage 2016 – 2018.....	4.11-8
Table 4.11-6	Projected Daily Trips*.....	4.11-10
Table 4.11-7	Projected Peak Hour Trips.....	4.11-10
Table 4.11-8	Projected Saturday Daily Trips.....	4.11-11
Table 4.11-9	Trip Distribution .....	4.11-11
Table 4.11-10	Existing PLUS Peak Hour Levels of Service at Intersections.....	4.11-16
Table 4.11-11	Existing Plus Project Roadway Segment Levels of Service.....	4.11-17
Table 5-1	List of Projects in the Vicinity of the Proposed RHR Landfill Project.....	5-2
Table 5-2	Geographic Scope of Cumulative Impacts.....	5-5
Table 5-3	Summary of Modeled Traffic Noise Levels under Cumulative-No-Project and Cumulative Plus-Project Conditions.....	5-11
Table 5-4	Cumulative No Project Peak Hour Levels of Service at Intersections .....	5-12
Table 5-5	Cumulative No Project Roadway Segment Levels of Service .....	5-15
Table 5-6	Cumulative Plus Project Peak Hour Levels of Service at Intersections .....	5-17
Table 5-7	Cumulative Plus Project Roadway Segment Levels of Service.....	5-19
Table 6-1	Alternative 2 Compared to Proposed Project .....	6-5
Table 6-2	Comparison of the Environmental Impacts of the Alternatives in Relation to the Proposed Project .....	6-16



# LIST OF ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
µin/sec	micro inch per second
AB	Assembly Bill
ACW	Asbestos Containing Waste
AERMOD	Agency Regulatory Model Improvement Committee modeling system
AFB	Air Force Base
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
ALUC	Airport Land Use Commission
AOC	Area of Concern
APN	Assessor's parcel number
ASP	Aerated Static Piles
ATC	Authority to Construct
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technologies
bgs	below ground surface
BSP	Bird Sanctuary Pond
BTU	British thermal unit
CAAQS	California ambient air quality standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
CalARP	California Accidental Release Program
CalEEMod	California Emissions Estimator Model
CalRecycle	California's Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Standards Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH <sub>4</sub>	methane
CIWMB	California Integrated Waste Management Board
CMHP	Compostable Materials Handling Permit
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide

County	Solano County
CRPR	California Rare Plant Rank
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
dB	decibels
dba	A-weighted sound levels
diesel PM	exhaust from diesel engines
DM	disposal module
DTSC	California Department of Toxic Substances Control
ECS	Engineered Compost System
EDCAQMD	El Dorado County Air Quality Management District
EG	Emissions Guidelines
EGU	electric generating unit
EOP	Emergency Operation Plan
EPA	U.S. Environmental Protection Agency
ERC	Emission Reduction Credits
ERP/HMBP	Emergency Response Plan /Hazardous Materials Business Plan
ESA	federal Endangered Species Act
FHWA	Federal Highway Administration
GHG	greenhouse gas
HAP	hazardous air pollutant
HARP2	Hotspots Analysis Reporting Program, Version 2
HCM	Highway Capacity Manual, 2010 Edition
HCP	Habitat Conservation Plan
HDPE	high-density polyethylene
Hot Spots Act	Air Toxics Hot Spots Information and Assessment Act of 1987
HRA	health risk assessment
HRI	heat rate improvement
HTRW	Hazardous, Toxic, and Radioactive Waste
Hz	hertz
I-80	Interstate 80
in/sec	inches per second
IS/MND	Initial Study/Mitigated Negative Declaration
JPO	Jepson Prairie Organic
KDA	KD Anderson and Associates, Inc.
LandGEM	Landfill Generation Emissions Model
lb./day	pounds per day
LCFS	Low Carbon Fuel Standard
LCRS	Leachate collection and removal systems
L <sub>dn</sub>	Day-Night Level

LEA	local enforcement agency
$L_{eq}$	Equivalent Continuous Sound Level
LF	landfill
LFG	landfill gas
$L_{max}$	Maximum Sound Level
LOS	level of service
LTU	land treatment unit
LUCP	Land Use Compatibility Plan
MACT	Maximum Achievable Control Technology
MBTA	Migratory Bird Treaty Act
MCE	maximum credible earthquake
MEI	Maximally Exposed Individual
million	MM
MMT $CO_2e$	million metric tons of $CO_2$ equivalents
mPa	micro-Pascals
MPO	metropolitan planning organization
MRP	Monitoring and Reporting Program
MSHCP	Multispecies Habitat Conservation Plan
msl	mean sea level
MSL	mean sea level
MSW	municipal solid waste
M $TCO_2e/year$	metric tons of $CO_2$ equivalent per year
MTP/SCS	<i>Metropolitan Transportation Plan/Sustainable Communities Strategy 2035</i>
$N_2O$	nitrous oxide
NAAQS	national ambient air quality standards
NCHRP	National Cooperative Highway Research Program
NEHRP	National Earthquake Hazards Reduction Program
NMOC	non-methane organic compounds
$NO_2$	nitrogen dioxide
NOP	Notice of Preparation
NOV	Notice of Violation
NRCS	Natural Resources Conservation Service
NSPS	New Source Performance Standards
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PCE	perchloroethylene
PGA	peak ground acceleration
$PM_{10}$	respirable particulate matter with aerodynamic diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter with aerodynamic diameter of 2.5 micrometers or less
PPV	peak particle velocity
PRC	Public Resources Code
project site	RHR Landfill
PTO	Permits to Operate
RCP	Representative Concentration Pathway

RCRA	Resource Conservation and Recovery Act
RHR	Recology Hay Road
RMS	root-mean-square
ROG	reactive organic gases
ROR	Recology Ostrom Road
RWQCB	regional water quality control board
SACOG	Sacramento Area Council of Governments
SB	Senate Bill
SCS	sustainable communities strategy
SEIR	Subsequent Environmental Impact Report
SFBAAB	San Francisco Bay Area Air Basin
SIP	State Implementation plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act
SO <sub>2</sub>	sulfur dioxide
SPL	sound pressure level
SR	State Route
SVAB	Sacramento Valley Air Basin
SWFP	Solid Waste Facilities Permit
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminants
TCE	trichloroethylene
TCR	transportation concept report
TIA	Traffic Impact Analysis for Recology Hay Road Landfill Expansion Project
tons/year	tons per year
tpd	tons per day
TWW	treated wood waste
UATS	Urban Air Toxics Strategy
USACE	U.S. Army Corp of Engineers
USFWS	U.S. Fish and Wildlife Service
VC	vinyl chloride
VdB	vibration decibels
VMT	vehicle miles traveled
VOC	volatile organic compound
WDR	Waste Discharge Requirement
YSAQMD	Yolo Solano Air Quality Management District