

Central Valley Regional Water Quality Control Board

11 July 2016

Greg Kelley
Northern Recycling Compost - Zamora
Post Office Box 177
Napa, CA 94559

NOTICE OF APPLICABILITY

**WATER QUALITY ORDER 2015-0121-DWQ
GENERAL WASTE DISCHARGE REQUIREMENTS FOR COMPOSTING OPERATIONS
NORTHERN RECYCLING
NORTHERN RECYCLING COMPOST - ZAMORA
YOLO COUNTY**

On 10 May 2016, Northern Recycling (hereafter Discharger) submitted a Notice of Intent (NOI) Technical Report, and filing fee for the Northern Recycling Compost - Zamora composting facility (Facility), to obtain coverage under Water Quality Order 2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations (hereafter General Order), for composting operations at the above-referenced site. The complete General Order can be accessed at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2015/wqo2015_0121_dwq.pdf

This Notice of Applicability (NOA) was developed after the review of your NOI and Technical Report as described in the attached Staff Memorandum which is a part of this NOA. Based on staff's review, the Facility meets the conditions of the General Order, and is hereby covered under General Order **2015-0121-DWQ-R5S002** as a **Tier II** composting operation. The Discharger must comply with all Tier II requirements of the General Order.

The filing fee for the Northern Recycling Compost - Zamora Facility is based on Threat to Water Quality and Complexity rating of 3B. The submitted \$4,699 filing fee covers the first year permitted by this NOA. The Discharger shall submit the required annual fee (as specified in the annual billing issued by the State Water Resources Control Board) until the NOA is officially terminated.

To fully comply with this NOA, please familiarize yourself with the contents of the enclosed Staff Memorandum and all of the requirements of the General Order. The Discharger is responsible for implementing all operations in a manner that complies with the General Order. Any noncompliance with this General Order constitutes a violation of the Water Code, and is grounds for enforcement action, and/or termination of enrollment under this General Order.

Conditions of this Composting General Order include but are not limited to:

- The Water and Wastewater Management Plan as submitted in the Technical Report and approved by staff must be implemented. Construction of retention ponds and perimeter ditches must be completed by **31 December 2017**.
- The Facility must be brought to full compliance with the General Order no later than **30 April 2022**, which is within six years from submittal of NOI. The timeline for compliance is proposed in the submitted Technical Report and specified in the attached Staff Memorandum.
- Technical reports must be submitted 90 days prior to each construction activity, while post-construction reports must be submitted 60 days after the completion of each construction activity.
- A revised NOI is required at least 90 days prior to:
 - adding a new feedstock, additive, or amendment;
 - changing material or construction specifications;
 - changing a monitoring program; or
 - changing an operation or activity not described in the approved NOI and technical report.

Attachment B of the General Order includes specific monitoring and reporting requirements that you must comply with, including routine monitoring and reporting to the Central Valley Regional Water Control Board. The first year Annual Monitoring and Maintenance Report as identified in the General Order must be submitted to the Central Valley Water Board no later than **1 April 2017**, and then annually by 1 April each year.

Now that the NOA has been issued, the Board's Compliance and Enforcement Section will provide management of this composting site. Todd DelFrate is your new point of contact for any questions about the General Order and NOA, and you may contact him at (916) 464-4737 or at Todd.DelFrate@waterboards.ca.gov. If you find it necessary to make a change to your permitted operations, Todd DelFrate will direct you to the appropriate Permitting staff.

All monitoring reports are to be submitted to the Compliance and Enforcement Section. All reports and other correspondence must be converted to searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50 MB are to be emailed to: centralvalleysacramento@waterboards.ca.gov. Documents that are 50 MB or larger are to be transferred to a portable data storage device and mailed to this office at the address provided on the cover page, Attention: ECM Mailroom.

To ensure that your submittal is routed to the appropriate staff person, the following information should be included in the body of the email or any documentation submitted to the mailing address for this office:

Attention:	Todd DelFrate, Compliance and Enforcement Unit
Discharger Name:	Northern Recycling
Facility Name:	Northern Recycling Compost - Zamora
County:	Yolo County
CIWQS Place ID:	815001

If you have any questions regarding this letter or the attached Staff Memorandum, please contact Marty Hartzell at (916) 464-4630 or Marty.Hartzell@waterboards.ca.gov.

Sincerely,

 Andrew Altough For

PAMELA C. CREEDON
Executive Officer

Enclosures: Staff Memorandum

cc: Leslie Graves, State Water Resources Control Board, Sacramento
Taro Echiburu, Yolo County Public Works and Environmental Services, Woodland

Central Valley Regional Water Quality Control Board

STAFF MEMORANDUM

TO: Marty Hartzell, PG, CHG
Senior Engineering Geologist

FROM: Benjamin Lehmann
Scientific Aid

DATE: 23 June 2016

**SUBJECT: APPLICABILITY OF COVERAGE UNDER STATE WATER RESOURCES
CONTROL BOARD WATER QUALITY ORDER 2015-0121-DWQ,
NORTHERN RECYCLING COMPOST – ZAMORA COMPOSTING FACILITY,
YOLO COUNTY**

REPORT OF WASTE DISCHARGE

On 10 May 2016, Northern Recycling (the Discharger) submitted a Notice of Intent (NOI) and a Technical Report for the Northern Recycling Compost - Zamora facility (the Site). The Technical Report, NOI, and Filing Fee were submitted to obtain coverage under Water Quality Order 2015-0121-DWQ, General Waste Discharge Requirements for Composting Operations (hereafter General Order) for composting operations at the above-referenced site.

SITE DESCRIPTION

The Site is located on a portion of a 104.5-acre property at 11220 County Road 94 in Zamora, Yolo County, Assessor's Parcel Number 55-200-04. Currently 56 acres of the property are permitted for composting.

The site operates on a former livestock feedlot, which closed in 1998. An area of approximately 19 acres contains five ponds that were used for manure storage. One of the ponds, about four acres in area, lies within the area currently permitted for composting. In order to comply with the General Order, the discharger will install lined ponds and the former manure pond will no longer be used. Samples taken from the on-site water supply well shows that groundwater has been impacted with nitrates from the former livestock feedlot and manure storage ponds on the site.

The topography of the site is relatively flat with the surrounding area sloping from west to east. Subsurface lithology reported by the well driller during the on-site supply well construction consists predominantly of clays with intermittent layers of gravel 2-4 feet thick. Land uses within one mile of the facility include agricultural orchards and vineyards to the north and east, and livestock grazing to the west and south. As shown on Attachment A, a residence is located immediately adjacent to the facility on agricultural land to the west, and another residence is located approximately 1,200 feet south of the compost facility boundary.

Data from the Woodland 1 WNW Station (Station 049781) were used to estimate the average annual precipitation at 18.5 inches, and to calculate the magnitude of the design storm (24-hour

25-year wet season event) at 3.98 inches (based on National Oceanic and Atmospheric Research Administration value). Based on the Federal Emergency Management Agency's (FEMA) Floodplain Map No. 06113C0275G issued 18 June 2010, the facility is not located within a 100-year flood plain.

Based on Department of Water Resources (DWR) models, depth to groundwater typically ranges between 35-90 feet, and the groundwater flow gradient is generally to the northeast or east, following the surface gradient. Currently there are no monitoring wells at this facility, but the discharger is proposing to install a network of three monitoring wells to obtain groundwater flow direction and gradient as well as water samples for analysis. Samples taken on-site show that groundwater has been impacted with nitrates from the former livestock feedlot which previously operated on the site.

The closest surface water is Smith Creek; an intermittent stream located about 70 feet away from the perimeter of the property line at its closest point, but more than 100 feet away from the perimeter of composting operations, which is required by the General Order. There is one water supply well located on the property approximately 170 feet from the edge of the nearest proposed composting operations. One domestic well is located off-site approximately 136 feet west from the nearest working pad. Another domestic well is located about 2,000 feet south of the facility. As presented above, the groundwater flow gradient is to the northeast, and these two wells are believed to be upgradient of the composting area. The community of Zamora is located one mile north of the facility where approximately 60 residents are served by individual wells. All wells are located at a distance greater than the 100 feet setback requirement by the General Order.

Test pits and borings, conducted in July 2009 and July 2012, show that hydraulic conductivity of on-site soils with a 92% relative compaction and 4% above optimum moisture content is between 1×10^{-7} and 4.7×10^{-8} centimeters per second (cm/s). On-site soils are able to meet the General Order requirements of lower than 1×10^{-5} cm/s for compost pad permeability provided proper compaction and moisture content is maintained.

COMPOSTING OPERATIONS

According to the Technical Report, Northern Recycling complies with allowable feedstock and setback requirements identified in the General Order. The facility currently utilizes two different composting techniques. Most of the material is composted by conventional open windrow composting, with a daily receiving limit of 300 tons per day of green waste and food waste feedstock from residential and commercial sources. Most incoming feedstock arrives to the facility in a processed condition which consists of size-reduced, screened, and sorted to remove undesirable material. Material that has undergone processing prior to arrival at the facility is placed directly into compost windrows. Unprocessed delivered material is size reduced by a portable grinder prior to being placed in windrows. Windrows are monitored, watered, and turned at least five times during the 15 day or longer pathogen reduction period. Once the desired level of decomposition is reached, the material is moved to the curing areas for six weeks, or may be left in place until shipment. Amendments used at the facility include gypsum, lime, and agricultural minerals, which are mixed into the compost if requested and provided by the client.

The facility also employs aerated static pile (ASP) composting technology. This system can accept up to 30 tons per day of feedstock, in which green waste is blended with up to 12 tons per day of food waste. Incoming food waste and green waste are mixed in a 40/60 ratio and placed over perforated pipes placed on grade. The ASP windrow is covered with compost

overs to control emissions and is kept moist as needed. The material is aerated for a total of 51 days during decomposition, before being moved to the curing areas. During aeration, the material is turned three times in 15 to 21 day intervals.

Composting Pads

The Discharger will improve working pads to achieve permeability of 1×10^{-5} cm/sec or less and a thickness of at least a foot as required by the General Order. Northern Recycling will follow recommendations from the geotechnical report prepared by RGH Consultants when constructing the working pads in areas 1 and 3. Weak surface soils and those containing organic matter will be removed prior to construction of the low permeable liners. On-site soil will be used as fill and compacted to achieve appropriate thickness and permeability. A compacted layer of soil a minimum of one foot thick will be placed as engineered fill to protect the low permeable liner.

Area 2 was constructed over an area of nearly 10 acres that was previously used as large cattle barns. The concrete slats used to drain manure were broken and then compacted along with on-site soil into the drainage chambers. On-site soil compacted into the drainage chambers were treated with a cementitious liquid to make it harder and more durable. During the design phase, additional permeability tests will be performed on the compacted fill and the thickness of the concrete slabs and compacted fill will be determined. If testing proves that the existing pad is suitable and meets the requirements of the General Order then all cracks appearing in the at-grade slab will be repaired. If permeability and thickness requirements are not met then an alternative method of lining Area 2 will be proposed. Working pads will be graded so that surface runoff will flow to one of the retention ponds.

Leachate Detention Ponds

The Discharger proposes to construct two new lined retention ponds to collect contact water from the composting and storage areas. Prior to construction, the Discharger will submit a wastewater retention pond design report to the Central Valley Water Board for approval.

The Discharger must submit a technical report with design information at least 90 days prior to new construction of working surfaces, detention ponds, berms, ditches, or any other water quality protection containment structure for approval by the Central Valley Water Board. The design information must include water balance calculations for detention ponds, design of wastewater conveyance features, liner materials and thicknesses, and rationale for liner system design. The technical report must ensure testing and quality assurance of liner materials and compacted soils in accordance with commonly accepted engineering practices, American Society for Testing and Materials test methods, and/or other appropriate material standards. The Discharger must submit a post-construction report to the Central Valley Water Board within 60 days of completing all construction activities associated with all applicable containment and monitoring structures, as required for compliance with this General Order and the MRP.

TIMELINE FOR COMPLIANCE

Full compliance with Order 2015-0121-DWQ must be completed by **30 April 2022**, which is within six years from submittal of the NOI.

The table below shows the proposed improvement plan schedule which incorporates on-going operations of the facility, seasonal weather, fluctuations in the market demand of finished product, and company resources. As shown on Attachment A, the proposed improvement plan includes installation of a groundwater monitoring network and construction of retention ponds

and a perimeter ditch to better manage storm water. Northern Recycling must comply with the following timeline.

Improvement	Completion Date
Groundwater monitoring well installation	30 September 2016
Retention ponds and perimeter ditch	31 December 2017
Area 1 – Northern working pad and conveyance system	31 December 2019
Area 3 – Southern working pad and conveyance system	31 December 2020

MONITORING AND REPORTING

Northern Recycling will regularly inspect and maintain all containment, control, monitoring structures, and monitoring systems pursuant to the submitted Technical Report and Attachment B of the General Order Monitoring and Reporting requirements. The frequency of inspections will be sufficient to prevent discharges of feedstocks, additives, amendments, compost (active, curing, or final product), or wastewater from creating, threatening to create, or contributing to conditions of contamination, pollution, or nuisance.

Northern Recycling will conduct a monitoring program as prescribed in the Attachment B of General Order Monitoring and Reporting requirements. Sections that apply are A.1., A.2., A.4., A.5., and B. Site specific sampling points for groundwater monitoring include: MW-1, MW-2, MW-3a and/or MW-3b. Results of monitoring will be reported annually in the Annual Monitoring and Maintenance Report, which will be submitted by **1 April** of each year as long as the Notice of Applicability is in effect.

SITE CLOSURE

At least 90 days prior to ceasing composting operations, Northern Recycling shall submit a Site Closure Plan to the RWQCB for approval. The site restoration shall include work necessary to protect public health, safety, and the environment.

DISCUSSION

Northern Recycling's Technical Report reveals that composting operations on native surfaces do not currently meet the requirements of the General Order and need improvements. Retention ponds on site need to be constructed following pond designs identified in the General Order and must achieve a hydraulic conductivity of 1×10^{-6} cm/s or less. Composting operations on unimproved surfaces and discharges to unlined ponds without an appropriate waste water management system may have impacted and can continue to impact water quality at or near the site. The Discharger has proposed to install monitoring wells in the near future which will allow groundwater monitoring and detect impacts to groundwater quality.

RECOMMENDATION

Based on staff review of the Technical Report and supporting documents, Northern Recycling meets the minimum requirements of the General Order. The Notice of Applicability can be issued and stay in effect as long as the Discharger implements all operations in a manner that complies with the requirements of the General Order.

ATTACHMENT A

