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Puget Sound Clean Air Agency

Puget Sound Clean Air Agency

Notice of Construction No. **11753**

HEREBY ISSUES AN ORDER OF APPROVAL TO CONSTRUCT, INSTALL, OR ESTABLISH

Registration No. **28983**

Date **JAN 13 2022**

Expansion and substantial alteration of control equipment of an existing aerated static pile (ASP) and windrow/mass bed composting facility from an incoming feedstock limit of 75,000 wet tons per year to an incoming feedstock limit of 150,000 wet tons per year of organic material as defined in the Order of Approval conditions. All material put into each ASP is counted toward the incoming feedstock limits, including feedstock received from offsite, bulking agents, and any and all other materials placed into the ASPs. Total amount of feedstock is limited to 100,000 wet tons per year in the new ASPs and the facility overall is limited to 150,000 wet tons per year.

The facility includes one existing tipping and feedstock preparation building (5,000 cfm exhaust), eight existing ASP cells (17,000 ft2 floor area total), five new ASP cells (22,000 ft2 floor area total), windrow composting area, and final product storage and curing area. Emissions from the tipping building and the existing eight ASPs will be controlled by two existing biofilters (4,256 ft2 area total) and the five new ASP cells will be controlled by two new biofilters (9,800 ft2 area total). All ASPs are negatively aerated and covered with at least 12" of finished compost.

OWNER	INSTALLATION ADDRESS
Jason Lenz **Lenz Enterprises Inc** **PO Box 868** **Stanwood, WA 98292**	**Lenz Enterprises Inc** **5210 SR 532** **Stanwood, WA 98292**

THIS ORDER IS ISSUED SUBJECT TO THE FOLLOWING RESTRICTIONS AND CONDITIONS

1. Approval is hereby granted as provided in Article 6 of Regulation I of the Puget Sound Clean Air Agency to the applicant to install or establish the equipment, device or process described hereon at the INSTALLATION ADDRESS in accordance with the plans and specifications on file in the Engineering Division of the Puget Sound Clean Air Agency.
2. This approval does not relieve the applicant or owner of any requirement of any other governmental agency.

EMISSION LIMITS

3. The aeration systems for the both the new and existing aerated static piles shall always be operated in the negative aeration mode except as allowed by this Condition for new and existing piles and as allowed by Condition 45 for the existing piles. During active pile construction and deconstruction the aeration systems can be run in positive mode. Except as allowed by Condition 45 for the existing piles, each aeration system must:

   a) Capture at least 98% of the volatile organic compound emissions generated by the aerated static piles. The owner or operator shall demonstrate compliance with this specification as required by Condition 31 and by using the methods approved by the Agency per Condition 32.
   b) Capture at least 98% of the ammonia emissions generated by the aerated static piles. The owner or operator shall demonstrate compliance with this specification as required by Condition 31 and by using the methods approved by the Agency per Condition 32.

4. All emissions captured by the aeration systems while operating in the negative mode must be routed to a

biofilter. Each new and existing biofilter shall meet the requirements below:

a) Provide a minimum removal efficiency of 95.0% for volatile organic compounds
b) Provide a minimum removal efficiency of 80% for ammonia
c) During periods when the biofilter outlet concentration or mass emissions of volatile organic compounds is too low to be detected by the Agency-approved testing method, the biofilter being tested will be presumed to meet the removal efficiencies required in item a) of this condition. The minimum detection limit (MDL) must be used in calculations of emissions for purposes of emission reporting and in all other instances where a biofilter emission rate is needed.
d) During periods when the biofilter outlet concentration or mass emissions of ammonia is too low to be detected by the Agency-approved testing method, the biofilter being tested will be presumed to meet the removal efficiencies required in item b) of this condition. The minimum detection limit (MDL) must be used in calculations of emissions for purposes of emission reporting and in all other instances where a biofilter emission rate is needed.

5. No detectable odor associated with the Lenz composting facility is allowed at or beyond the facility's boundary.

6. Visible emissions from grinding and screening shall not exceed 5% opacity for any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour as measured by WDOE Method 9A.

FEEDSTOCK AND TIPPING BUILDING REQUIREMENTS

7. Acceptable feedstock for both the new and existing piles shall be limited to "organic material", meaning any solid waste that is a biological substance of plant or animal origin capable of microbial degradation. Acceptable organic materials include but are not limited to the following:

a) Agricultural wastes, including herbivorous animal manure, paunch waste, shells, marijuana waste which complies with WAC 314-55-097;
b) ASTM compostable films and containers;
c) Yard debris;
d) Food waste – defined for the purposes of this permit as any organic material that was intended for human consumption;
e) Food processing wastes; and
f) Wood waste as defined by WAC 173-350-100, which does not contain paint or stain, laminates, bonding agents, or chemically treated wood.

8. Incoming feedstock shall be visually inspected for contaminants prior to being accepted into the facility. The following types of feedstock are unacceptable and shall be turned away as soon as possible:

a) Feedstock types that are not an acceptable feedstock as defined in Condition 7;
b) Acceptable feedstock as defined in Condition 7 contaminated with material that is not acceptable for composting. Visible non-acceptable material as defined in Condition 7 observed during the inspection may render a load as contaminated unless it can be removed from the feedstock during pre-processing or can be screened from the finished compost at the end of the process;
c) Approved feedstock decomposed or putrefied to a degree that could cause an immediate odor problem in the receiving area that cannot be mitigated by mixing and/or bulking with other materials; and
d) Any load that is determined to have the potential to cause an immediate, unreasonable nuisance that cannot be mitigated by mixing and/or bulking with other materials.

9. For each load of feedstock received, the owner or operator shall record the following information:

a) Feedstock type;

b) Weight of load;
c) Results from inspection of the load;
d) Date and time of receipt of the load; and
e) Name(s) of employee(s) who performed the inspection.

10. The owner or operator shall calculate and record the total weight of material placed into each of the aerated static piles on a monthly and 12-month rolling basis. The total weight of material placed into all aerated static piles combined, including feedstock for the composting process plus all other material (including bulking agent), shall not exceed 150,000 tons during any consecutive 12-month period. In addition, the total weight of material placed into the new aerated static piles, including feedstock for the composting process plus all other material (including bulking agent), shall not exceed 100,000 tons during any consecutive 12-month period. Both limits must be met for each consecutive 12-month period. All material put into each ASP is counted toward the incoming feedstock limits, including feedstock received from offsite, bulking agents, any and all material added to the ASPs that has previously been through the composting process (including "overs"), and any and all other materials placed into an ASP. For the purposes of compliance with this condition, any finished compost that is added to the surface of the aerated static piles to act as a biofilter for emission control is not counted toward the limit.

11. With the exception of stumps, brush, and clean wood, all feedstock brought on site shall be deposited completely into the tipping building, where it shall be stored under negative ventilation until processed and removed from the building to be placed in an aerated static pile. The tipping building ventilation system must be routed to a biofilter. All feedstock, with the exception of bulking agents (which consists of stumps, brush, and clean wood), shall be premixed for composting prior to removal from the tipping building.

12. With the exception of stumps, brush, and clean wood, all feedstock shall be processed and placed in an aerated static pile within 12 hours of receipt, and no material may be stored in the tipping building overnight, except in the event of primary and back-up equipment failure. If feedstock cannot be processed within 12 hours of receipt or by the end of the workday due to primary and back-up equipment failure, the owner or operator shall perform the following actions:

    a) All remaining material shall be stored in the southeast corner of the tipping building and covered with at least 12 inches of biofilter media;
    b) The owner or operator shall notify the Agency in writing prior to the end of the workday, including the amount of material that is being stored in the tipping building and the reason(s) why the material could not be processed within the required timeframe; and
    c) The owner or operator shall maintain records of the days that feedstock could not be processed within the required timeframe, including the amount of material stored, the reason(s) why the material could not be processed within the required timeframe, and the date and time that the material was able to be processed and placed in an aerated static pile.

OPERATIONAL LIMITS and REQUIREMENTS

13. The owner or operator shall install and properly operate a fine water mist system on all wood grinders to control fugitive dust. With the exception of stumps, brush, and clean wood, all grinding of feedstock must occur within the tipping building.

14. The owner or operator shall route standing water and water runoff from the tipping building and the compost pads to the leachate collection and treatment system. Leachate (treated or untreated) from the compost facility shall not be used for dust suppression but may be used for moisture addition during feedstock preparation or moisture addition during the composting process.

15. The new and existing aerated static piles shall be constructed within the following parameter ranges:
    a) Each pile shall contain no more than 14.0% food waste by weight.
    b) Carbon to nitrogen ratio shall be between 20:1 and 40:1.
    c) Bulk density shall be no greater than 950 lbs/yd^3.

16. Each new and existing aerated static pile shall be operated within the following operational limits at all times, except as described in a) through g):
    a) After the first 48 hours of initial construction of the pile, the moisture content throughout the entire pile shall be maintained between 35% and 65%.
    b) For the new aerated static piles, after the first 48 hours of initial construction of each pile, the average temperature throughout each pile shall be maintained between 45°C (113°F) and 80°C (176°F), based on a 24-hour average (midnight to midnight) except as allowed by Condition 19.
    c) For the existing aerated static piles, after the first 48 hours of initial construction of each pile, the average temperature of each pile shall be maintained between 45°C (113°F) and 100°C (212°F), based on a 24-hour average (midnight to midnight). In addition, the average temperature of each pile shall be maintained between 45°C (113°F) and 80°C (176°F), based on a 14-day average (midnight to midnight). Lenz must meet both the 24-hour average and the 14-day average for each pile at all times. If the average 24-hour average pile temperature or the 14-day average pile temperature is outside the range(s) established in this condition for any existing pile, Lenz shall bring the temperature back within the range(s) as expeditiously as possible. Lenz shall report all 24-hour and 14-day periods when the temperature for any existing pile is outside the range(s) to the Agency within 14 days of the end of each averaging period. The report shall include the dates and times of the 24-hour and 14-day periods (midnight to midnight) that were outside of the target range, actions taken to bring the pile(s) back into the target range(s), and the result of the actions taken.
    d) After the first 72 hours of operation, the average pH of the pile shall be maintained between 6 and 8.5.
    e) At all times, the average oxygen content throughout the entire pile shall be maintained at or above 10% except as allowed by Condition 19.
    f) At all times, each aerated static pile shall be covered with at least 12 inches of biofilter media.
    g) At all times, each aerated static pile shall be negatively aerated, such that the ventilation system continuously vents emissions to a biofilter in accordance with Conditions 3 and 4, except as allowed by Condition 45 for the existing piles Condition 3 for new and existing piles.

17. Each new and existing biofilter shall be operated within the following operational limits at all times:
    a) The oxygen content throughout each biofilter shall be maintained at or above 10%.
    b) Each biofilter shall have a depth of at least 4 feet throughout the entire biofilter.
    c) Residence time in each biofilter shall be no less than 40 seconds.
    d) Static pressure in each duct between the fan and each biofilter shall be within the manufacturer's specified range. Documentation of the range from the manufacturer shall be kept on site.
    e) There shall be no vegetation growing on the surface of any biofilter.

18. The average moisture content of each windrow and curing bed shall be maintained between 40% and 65% at all times.

19. The new aerated static piles are required to comply with all conditions of this Order of Approval at all times upon issuance except as allowed in this condition. Lenz may process compost in up to two of the new ASPs for up to two months starting on the date of issuance of this Order of Approval without complying with Conditions 16.b) and 16.e).

AERATED STATIC PILE and FEEDSTOCK MONITORING

20. Within the same calendar day that each new and existing aerated static pile is constructed, the owner or

operator shall record the bulk density of the pile and the estimated carbon to nitrogen ratio based on the feedstock used to construct the pile. The bulk density and the estimated carbon to nitrogen ratio values are only required to be determined and recorded once for each new and existing aerated static pile on the calendar day it is built.

21. To demonstrate compliance with Condition 15.a, during each of the first 12 calendar months of operation of the new aerated static piles approved in this Order, the owner or operator shall determine the percentage of food waste by weight by verifying the food waste content is 14 percent or less of overall weight of each new and existing pile based on the initial compost mix composition. The owner or operator shall submit to the Agency for approval a proposed method for making this determination within 14 days of the issuance date of this Order of Approval.

22. To demonstrate compliance Conditions 16.b) and 16.c), the temperature of each new and existing aerated static pile shall be monitored and recorded hourly. At least two temperature averaging probes shall be used per ASP, and each probe shall be capable of measuring temperatures in both the core and outer layer of the compost pile. The first probe shall be placed at approximately one-third of the pile length, and the second probe shall be placed at approximately two-thirds of the pile length. The components of the temperature monitoring system shall be calibrated and maintained in accordance with manufacturer instructions and operating manuals. If the 24-hour average and/or 14-day average temperature reading is outside the range(s) identified in Condition 16.b) or c), the system must provide both an audible and visual alarm to alert the operators.

23. To show compliance with Condition 16.e, percent oxygen of each new and existing aerated static pile shall be measured and recorded each calendar day. Multiple measurements shall be made each calendar day to obtain a value representative of the overall pile.

24. All material put into the composting process shall remain within an aerated static pile until the organic material has a Solvita Maturity Index of 3.5 or greater as measured using the TMECC Method 05-08-E – Solvita® Maturity Test. This requirement applies to all new and existing aerated static piles.

25. Once an aerated static pile has met the criterion in Condition 24, the material may remain in the aerated static pile or be moved to a windrow. For each batch of material moved from an aerated static pile to a windrow, the owner or operator shall record the results of the Solvita® Maturity Test performed to meet Condition 24., which pile was moved, and the date it was moved. This requirement applies to all new and existing aerated static piles.

BIOFILTER MONITORING

26. Starting after the first full month of operation of at least one of the new aerated static piles approved under this Order, each calendar month and for each new and existing biofilter, the owner or operator shall measure the static pressure in the duct between the fan the biofilter while operating in negative aeration mode. Each measurement for each biofilter and each test must be conducted while operating each system at manufacturer's recommended set points, including constant fan speed and all dampers in fixed and predetermined positions. The fan speed and damper positions for each test must be the same as all previous tests. The pressure monitoring equipment shall be calibrated and maintained in accordance with manufacturer instructions and operating manuals. The biofilters shall always be operated within the manufacturer's specified pressure range. After 12 consecutive months of testing if the static pressure is within the manufacturer's recommended pressure range for all measurements, the owner or operator may reduce the test frequency to quarterly. If any quarterly reading is outside the manufacturer's pressure range, the test frequency immediately reverts to monthly.

27. Starting after the first full month of operation of at least one of the new aerated static piles approved under this Order, oxygen content of each new and existing biofilter shall be measured and recorded each calendar month, no less than 21 days apart and no more than 31 days apart, using a properly calibrated

oxygen probe.

28. Starting after the first full month of operation of at least one of the new aerated static piles approved under this Order, the depth of each new and existing biofilter shall be measured and recorded each calendar month, with no less than 21 days apart and no more than 31 days apart.

29. Starting after the first full month of operation of at least one of the new aerated static piles approved under this Order, the residence time for each new and existing biofilter shall be determined and recorded once each calendar quarter concurrently with the testing required in Condition 30.

30. The owner or operator shall submit for Agency approval a biofilter monitoring plan providing the details of how the facility will perform the required static pressure, oxygen content, biofilter depth and residence time monitoring for each biofilter, including but not limited to, locations of the monitoring equipment, procedures for determining when the biofilter media needs to be replaced, and the number of samples, sampling locations, and procedures for measuring all required parameters. The plan must be submitted no more than 60 calendar days after issuance of this Order of Approval. The owner or operator must comply with the plan at all times after receipt of the plan by the Agency. All changes to the plan required by the Agency shall be made by the owner or operator within 7 calendars days of receipt of the changes by the owner or operator.

PERFORMANCE TESTING

31. The owner or operator shall have emissions tested for compliance with the capture efficiency requirements established in Condition 3 and removal efficiency requirements in Condition 4 of this Order within 180 days of the completion of construction of the new composting process areas, except as allowed by Condition 45 for the existing piles. The emission tests described in this requirement shall be repeated at least once every calendar quarter for both the new and existing aerated static piles and associated biofilters. The testing shall be performed in accordance with the following:

    a) The owner or operator shall demonstrate that at least 98% of all volatile organic compound emissions generated by the ASPs are captured and delivered to the biofilters and that at least 98% of all ammonia emissions generated by the ASPs are captured and delivered to the biofilters using the methods approved by the Agency as required by Condition 32.

    b) The concentrations of total VOC and ammonia entering the biofilter shall be measured as close to the inlet of the aeration systems as possible of each biofilter while maintaining good sampling technique to obtain a representative sample. Testing shall be performed during periods when the inlet loading of VOC and ammonia are expected to be at or near their highest. If these higher emitting time periods are different for VOC than for ammonia, testing shall be performed for each of the two pollutants at their respective higher emitting periods.

    c) Total VOC and ammonia concentrations shall be measured at the surface or at the subsurface of each biofilter. Sampling can be performed using colorimetric tubes, hand-held organic vapor analyzer, other hand-held methods, evacuated canisters, or other method approved by the Agency. The resulting measurements must be representative of the concentrations being emitted by the biofilter. Sample locations shall be distributed to provide measurements that are representative of the exit concentration of both VOC and ammonia for the entirety of each biofilter. The location and method of the sampling must be in the test plan required by Condition 32.

    d) Sampling at the inlet and sampling at the surface/subsurface of each biofilter shall be conducted within four hours of each other.

    e) The average concentrations of VOC and ammonia in the inlet and surface/subsurface shall be used to determine removal efficiency of each biofilter for VOC and ammonia.

    f) The total weight of material in each of the aerated static piles and the initial construction date of each aerated static pile shall be recorded each sampling day.

32. For testing conducted pursuant to Condition 31, the owner or operator shall submit a compliance test plan

to the Agency with the test notification submitted under Regulation I, Section 3.07(b) at least 60 days prior to the compliance test. The test plan must include a detailed description of the methods proposed for determining capture and removal efficiency as required by Condition 31. The test plan must be approved by the Agency before conducting the source test, and the owner or operator must follow the approved test plan. Changes to the approved test plan are acceptable as long as the owner or operator has obtained approval from the Agency prior to the start of the test. The Agency may require different test methods if needed to accurately determine the capture and removal efficiencies of the biofilters, including changes to the VOC and/or ammonia biofilter removal efficiency testing method at low inlet loading.

FACILITY-WIDE REQUIREMENTS

33. The owner or operator shall inspect the entire facility for visible emissions of fugitive dust at least once per calendar day, including an evaluation of whether dust control equipment (e.g., water spray bars, water truck) is being operated and in good working order. If visible emissions are observed, the owner or operator shall investigate the cause and take immediate corrective action to minimize emissions. The owner or operator shall record the date, time, and results of each inspection. If visible fugitive dust emissions were observed during any inspection, the owner or operator shall record the cause and what precautions were taken to minimize emissions.

34. The owner or operator shall conduct an inspection of its entire facility at least once per calendar day to monitor along and outside the property line for detectable odors from the facility. If odors from the facility are detected at or outside the property line during the monitoring or at any other time, the owner or operator shall take immediate corrective action to eliminate the odors. The daily inspection shall also include a visual inspection of the tipping building, each aerated static pile, and each biofilter to evaluate whether these activities are being maintained and operated in good working order. The owner or operator shall record the date, time, and results of each inspection, including any corrective actions taken to eliminate odors or maintenance performed on the biofilters.

35. Pursuant to the State Environmental Policy Act, RCW 43.21C.060, WAC 197-11-660, and Puget Sound Clean Air Agency Regulation I, Section 2.12:

    a) There shall be no stormwater discharges or discharges to ground water or surface water from the areas of the facility related to compost activities, including but not limited to the tipping building, aerated static piles, composting pads, leachate treatment system, and leachate pond.

    b) Starting on the first day on which feedstock for the new aerated static piles is brought by truck to the facility, the total number of truck trips for incoming feedstock delivery and outgoing compost delivery for the compost facility shall not exceed 77 truck trips per day and 7,118 truck trips during any consecutive 12-month period. The owner or operator shall calculate and record the total number of truck trips on a daily, monthly, and 12-month rolling basis to demonstrate compliance with these limits.

COMPLAINTS

36. The owner or operator shall establish a complaint response program for complaints received regarding air quality, including but not limited to odors and/or fugitive dust, as part of an Operation and Maintenance (O&M) Plan. The program shall include a complaint phone line, criteria and methods for establishing whether the Lenz facility may be the source of the air emissions related to the complaint, and a format for communicating results of investigation and advising complainants of Lenz's corrective actions.

    a) The owner or operator shall record and investigate complaints received regarding air quality as soon as possible, but no later than one working day after receipt.

    b) The owner or operator shall correct any problems identified by these complaint investigations within 24 hours of identification or cease operation of the equipment until the problem is resolved;

c) Records of all complaints received regarding air quality issues shall include information regarding date and time of complaint; name and address of complainant (if known); nature of the complaint; investigation efforts completed and basis for conclusion reached; and date, time, and nature of any corrective action taken.

d) The owner or operator shall operate and maintain a meteorology station capable of measuring and recording temperature, wind speed, and wind direction that are representative of the meteorological conditions near the aerated static piles.

OPERATION & MAINTENANCE

37. The owner or operator shall develop an O&M Plan consistent with the requirements of Regulation I, Section 5.05(c). The plan must address procedures for determining when the composting systems, tipping building, and biofilters are operating properly and the corrective actions that will be taken when they are not.

38. The owner or operator shall have the operations and performance of the tipping building overall, including the air handling system and the performance of the biofilter to which the tipping building is vented, reviewed and evaluated by an independent third party at least once every 12 months. The first review required by this condition shall be conducted within 150 days of the completion of construction of the new composting process areas. The independent third party in conjunction with Lenz shall develop a proposed evaluation plan and proposed report format and submit these to the Agency for approval at least 75 days prior to the first evaluation. A copy of each written evaluation report shall be submitted to the Agency no later than 45 days after the evaluation date. The evaluation shall include, but is not limited to:

a) Operational condition and integrity of the tipping building exhaust/capture system extending from the entrance to the tipping building to the point at which the exhaust enters the biofilter, including an evaluation of whether additional fan capacity is needed to adequately capture emissions.

b) Operational condition and integrity of the biofilter to which the tipping building is vented.

c) Adequacy and effectiveness of the system maintenance program and practices, including repair history and troubleshooting efforts.

d) An assessment showing that the existing biofilters are adequately draining to ensure that the beds are not becoming waterlogged.

e) Actions taken to address any issues or concerns found

f) Recommendations for continuous improvement of the integrated system operation.

RECORDS AND OTHER REQUIREMENTS

39. All records of observations and supporting documentation required by this Order of Approval shall be completed contemporaneously and no later than the end of each day. Each inspection and observation required on a daily basis by this Order shall be completed for each operational day for the site. An operational day is defined as any day that feedstock, actively composting material, or finished compost is located onsite.

40. The owner or operator shall maintain records required by this Order of Approval for five years and make them available to Puget Sound Clean Air Agency personnel upon request.

41. For the purposes of this Order of Approval, "new" refers to the operations and equipment covered by this Order of Approval and added to the facility after February 2021 and "existing" refers to the operations and equipment temporarily approved by OA 10494 and permanently approved with this Order of

Approval.

42. Upon issuance of this Order of Approval, this Order supersedes and cancels Order of Approval No. 10494, dated April 1, 2014, and cancels NOC application 11053 submitted November 12, 2015.

43. All requirements in this Order of Approval for new operations and equipment, as defined in Condition 41, apply immediately upon installation and first use of any new operations or equipment covered by the Order of Approval unless a specific condition in this Order of Approval allows for a later applicability date.

44. All requirements in this Order of Approval for existing operations and equipment, as defined in Condition 41, apply immediately upon issuance of this Order of Approval unless a specific condition in this Order of Approval allows for a later applicability date.

45. All modifications required by this Order of Approval to modify the existing operations and equipment to meet the requirements of Condition 3 must be completed and operational within one year of issuance of this Order of Approval.

46. The owner or operator shall submit a written monthly report to the Agency that documents the amount of material placed into the existing aerated static piles and into the new aerated static piles for the calendar month and the total amount for the previous 12 months. The report must clearly delineate how much material was put into existing piles, and separately how much was put into the new piles. The report must be received by the Agency no later than 30 days after the end of the calendar month covered by the report. The first report shall be submitted no later than February 28, 2022, for the month of January 2022.

APPEAL RIGHTS

Pursuant to Puget Sound Clean Air Agency's Regulation I, Section 3.17 and RCW 43.21B.310, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon Puget Sound Clean Air Agency within 30 days of the date the applicant receives this Order.

Carole Cenci, PE

Carole Cenci
Reviewing Engineer

John Dawson PE

John Dawson
Engineering Manager