

December 17, 2020

VIE EMAIL
New Hampshire Department of Transportation

Mr. Bill Watson, Administrator
Bureau of Planning and Community Assistance
Bill.Watson@dot.nh.gov

Mr. Phillip Beaulieu, District Engineer
Lancaster District Office
Philip.Beaulieu@dot.nh.gov

Re: Proposed Granite State Landfill Traffic Study Comments & Request

Mr. Watson and Mr. Beaulieu,

I write on behalf of my client, North Country Alliance for Balanced Change, a New Hampshire non-profit corporation comprised of residents and property owners in the greater Dalton area who are passionate about balancing the area's development with protection of natural and economic interests. Please make this letter a part of your record in this Application.

As you know, my client wrote directly to you on November 17, 2020 to begin to express its concerns with traffic. Since that time, we have retained TEPP LLC to review and advise us about the September 2020 Traffic Study prepared by T.Y. Lin International for the proposed Granite State Landfill. I enclose the review of TEPP LLC.

We conclude from the review of TEPP LLC that Casella's review of the possible traffic impacts of its proposed landfill is inadequate. The traffic study contains only the most basic aspects of traffic impact analysis. This proposed project is large enough to merit more than the run-of-the-mill traffic analysis. We respectfully request that the DOT instruct Casella to supplement its traffic impact analysis to address the many deficiencies noted by TEPP LLC in the enclosed.

Additionally, not having received any response yet, my client writes again to focus on their specific questions. That letter is also enclosed.

Thank you for your time and attention to this submission. I look forward to your response.

Very truly yours,



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Cc:

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MEMORANDUM

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Ref: 1528
Subject: Transportation-Engineering Review
Granite State Landfill Development
Dalton, New Hampshire
From: Kim Eric Hazarvartian, Ph.D., P.E., P.T.O.E.
Principal
Date: December 16, 2020



INTRODUCTION

BCM Environmental & Land Law, PLLC, has retained TEPP LLC to prepare this transportation-engineering review of the proposed Granite State Landfill development in the Town of Dalton, New Hampshire. The review considered T.Y. Lin International, *Granite State Landfill Development, Dalton, New Hampshire, Traffic Study* (Falmouth, Maine, September 2020, hereinafter Traffic Study).

PROPOSED LANDFILL OPERATION

The landfill is proposed to be:

- within the 1,900 acres, or about 3 square miles, that the landfill has the option to purchase
- accessed by Douglas Drive north of NH 116

Traffic Study page 3 states that landfill is expected to operate on:

- weekdays from about 6:00 AM to 5:00 PM
- some occasional Saturdays

Proposed inbound and outbound truck routes are:

- for origins from the south, Interstate Route 93 (I-93) northbound to interchange 35 to US 3 northbound to NH 116 southbound to Douglas Drive northbound
- for destinations to the south, Douglas Drive southbound to NH 116 northbound to US 3 southbound to interchange 35 to I-93 southbound
- for origins from I-91 and from the north, I-93 southbound to interchange 40 to US 302 eastbound to US 3 northbound to NH 116 southbound to Douglas Drive northbound

- for destinations to I-91 and to the north, Douglas Drive southbound to NH 116 southbound to US 3 northbound to US 302 westbound to interchange 40 to I-93 northbound

Local vehicle routes, not to include WB-67 semitrailers, are to and from the greater Littleton, New Hampshire area via NH 116 to and from the south.

STUDY AREA

The study area included:

- NH 116/Douglas Drive intersection in the Town of Bethlehem, New Hampshire
- US 3/NH 116 intersection in the Town of Whitefield, New Hampshire

The study area does not include the following along the above routes:

- US 3/US 302 intersection in the community of Twin Mountain within the Town of Carroll, New Hampshire
- US 302/I-93 ramps intersections in the town of Bethlehem, New Hampshire
- NH 116/NH 142 in Bethlehem
- Twin Mountain center, Bethlehem center and Whitefield center, locations that could be sensitive to added trucks, with pedestrians and occupied structures relatively near to vehicular travelways

The site is about 7 miles travel distance from or to I-93, via interchange 41, NH 116 and Littleton center. However, the proposed truck routes involve on the order of 25 miles travel distance from or to I-93. The Traffic Study does not consider other, more direct, truck routes from and to I-93.

ANALYSIS CONDITIONS

The Traffic Study appendix includes notes of the New Hampshire Department of Transportation (NHDOT) scoping meeting of February 20, 2020. The scope assumes 2023 as the opening year and 2033 as future year. The Traffic Study does not show these years.

TRAFFIC-VOLUME NETWORKS

The Traffic Study does not include typical traffic-volume networks for the weekday AM and PM peak hours under the following conditions:

- existing
- opening-year no build, with background traffic growth and without the project

- opening-plus-10-years no build, with background traffic growth and without the project
- site trips
- opening-year no build, with background traffic growth and with the project
- opening-plus-10-years build, with background traffic growth and with the project

The Traffic Study instead includes the following traffic-volume networks:

- site trips, limited to the NH 116/Douglas Drive intersection, Figure 2
- 2036 build, limited to the NH 116/Douglas Drive intersection, Figure 3

TRAFFIC COUNTS

The Traffic Study includes turning-movement counts (TMCs) at the US 3/NH 116 intersection. The Traffic Study does not include TMCs at the NH 116/Douglas Drive intersection.

BACKGROUND-TRAFFIC GROWTH

Traffic Study page 4 shows a 1.0-percent annual simple growth rate. A rate compounded annually would be slightly more conservative.

TRIP GENERATION

Traffic Study pages 2 and 3 present existing traffic information that was obtained from the North Country Landfill site in Bethlehem. The information covers 6:00 AM to 3:00 PM. However, anticipated operation of the proposed facility is from about 6:00 AM to 5:00 PM.

Traffic Study page 3 presents estimated vehicle-trip generation from the site. The Traffic Study should, but does not:

- explain in clear detail the derivation of trip-generation estimates for the Dalton site and their relationship to the Bethlehem-site information
- include a typical table that shows estimated daily and peak-hour trip generation
- clearly differentiate between vehicles and vehicle-trips (one vehicle typically results in two vehicle-trips, one for site entry and one for site exit)

The Traffic Study should also address whether the proposed landfill itself, given the above-noted area of about 3 square miles, could have increased traffic in the future.

TRIP DISTRIBUTION AND ASSIGNMENT

Traffic Study Figure 2 shows trip assignment, with the most site trips to/from the north via NH 116, through Whitefield. The Traffic Study should include backup for trip distribution and assignment, including data, calculations, and assumptions as appropriate.

CRASH HISTORY AND ANALYSIS

The Traffic Study does not include crash history or analysis. Such analysis would help identify locations with safety concerns that could be exacerbated by added vehicles, particularly heavy vehicles. Crash analysis would apply to intersections and highway links for proposed and potential other routes to and from the site. Crash analysis would be particularly applicable if the NHDOT is aware of notable crash history, especially fatalities, along anticipated routes, including NH 116, US 3 and US 302, or potential routes.

TURN LANES

Traffic Study pages 4 and 5 and Figures 4 and 5 include turn-lane assessments for the NH 116/Douglas Drive intersection. The assessments considered a right-turn lane on the NH 116 southbound approach and a left-turn lane on the NH 116 northbound approach. However, the assessments are based on 2036 build conditions to which the comments under Traffic-Volume Networks, Traffic Counts, Background-Traffic Growth, Trip Generation, and Trip Distribution and Assignment apply.

CAPACITY ANALYSIS

The Traffic Study does not, but should, include capacity analysis with levels of service, delays, volume/capacity ratios, and queues. Such analysis:

- provides an indication of quality of traffic operations
- considers geometry, traffic control, traffic volumes and heavy vehicles
- helps in assessing geometry, including turn lanes and their lengths
- helps in assessing traffic-control efficiency and effectiveness

DOUGLAS DRIVE

Traffic Study should verify that the geometry of Douglas Drive is appropriate for the anticipated mix of vehicles, including large trucks, under all-season weather conditions. Geometry includes the combination of vertical alignment, horizontal alignment, cross section, and roadside.

In particular, the American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*, 7th edition (Washington DC, 2018), page 6-4, suggests minimum grades of 6 to 10 percent. The Traffic Study appendix includes the existing site NHDOT driveway permit, which shows a 10 percent grade. The Traffic Study should verify whether the grades are appropriate for the mix of vehicles, including heavy trucks, during anticipated weather conditions. Also, the Traffic Study should verify that pavement widths on curves are appropriate for large trucks passing in opposite directions.

NH 116/DOUGLAS DRIVE INTERSECTION

Traffic Study page 5 mentions tree/brush clearing along NH 116 for intersection sight distance. The traffic study should verify that this work is within the public right of way.

TRUCK-CLIMBING LANES

The Traffic Study should consider whether truck-climbing lanes should be added or improved on anticipated and potential routes.

DOUGLAS DRIVE/PROPOSED DRIVEWAY INTERSECTION

The Traffic Study appendix includes an infrastructure site plan. The Douglas Drive/proposed driveway intersection shown is a fork, not a T. The intersection angle is far from the 90 degrees that is generally much preferred for traffic operations and safety. The American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*, 7th edition (Washington DC, 2018), page 9-15, suggests intersection angles between about 75 and 105 degrees.

US 3/NH 116 INTERSECTION

The Traffic Study appendix includes truck-turning analysis for the US 3/NH 116 intersection. Right turns from NH 116 northbound to US 3 southbound appear to cross the outside the right-edge line into a paved area on the US 3 southbound departure.

SCOPING MEETING ATTENDANCE

The Traffic Study appendix includes the attendance sheet for the NHDOT scoping meeting. The Town of Bethlehem Planning Board was represented. The Towns of Carroll, Littleton, and Whitefield were not indicated in attendance. It is not clear whether they were invited.

North Country Council Regional Planning Council Economic Development District (NCC) was not in attendance. The scoping meeting notes indicate that a letter from NCC to NHDOT is at-

tached, but this letter is not included with the Traffic Study. TEPP LLC obtained the undated letter directly from NCC. The letter states that the NCC was not able to send a representative to the meeting.

NCC LETTER

The scoping meeting notes state “NHDOT noted that the development team should follow-up with the town of Whitefield and NCC regarding their concerns on roadway conditions and safety.” It is not clear whether this has been done.

The NCC letter suggests:

- discussion may include primary truck routes that provide convenient access from I-93
- discussion may include potential truck routes through downtown Whitefield and Littleton
- these downtowns experience significant traffic volumes
- the communities have expressed concerns related to vehicular and pedestrian safety
- roadway maintenance and condition are important
- including potential truck routes in Whitefield, Littleton, and adjacent towns
- being informed on roadway surfaces, bases, and subbases along potential truck routes
- being informed on planned maintenance efforts or roadway improvement projects

PAVEMENT CONDITION

The scoping meeting notes indicate that the development team plans to consult with NHDOT Materials and Research regarding pavement condition along the proposed truck route, to address concerns expressed by the NCC. The Traffic Study did not include information on existing pavement condition or the potential effects of added vehicles, particularly including heavy trucks.

HIGHWAY AND STREET CROSS SECTIONS

American Association of State Highway and Transportation Officials, *A Policy on Geometric Design of Highways and Streets*, 7th edition (Washington DC, 2018), page 7-7, suggests minimum width of traveled way and usable shoulder for arterials in rural areas.

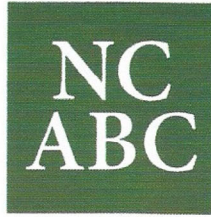
For over 2,000 vehicles/day:

- the suggested width of traveled way is 24 feet (ft)
- the suggest width of shoulders is 8-ft wide
- shoulders should be paved

Shoulders are particularly applicable with truck and bicycle traffic. NH 116, US 3, and US 302 have segments that do not provide the suggested cross section.

TRUCK NOISE

The Traffic Study does not indicate if truck noise has been considered at locations such as Twin Mountain center, Bethlehem center and Whitefield center. These locations could be sensitive to added trucks, with pedestrians and occupied structures relatively near to vehicular travelways.



NORTH COUNTRY
ALLIANCE *for* BALANCED CHANGE

Via email to Mr. Phillip Beaulieu: philipbeaulieu@dot.nh.gov
cc: Richard.P.Arcand@dot.nh.gov
Nicholas.Sanders@dot.nh.gov

Dear Mr. Beaulieu,

NCABC is a grassroots civic organization that is opposed to Casella's plans for a massive new greenfield landfill (GSL) in Dalton. Although we have repeatedly requested information from DOT about the traffic aspects of this project, we only recently received a copy of the traffic study, i.e., Granite State Landfill Development Dalton, dated September 2020.

A separate submission to DOT from NCABC's attorney is forthcoming, including a detailed critique of technical elements of the Traffic Study. Here we critique the base assumptions used in the study, focusing on the narrative in the study on page 4/137. We hope and expect you will have your staff address the following questions:

Question 1: Will DOT acknowledge in any and all public information materials that 102 truck trips means 102 trucks traveling to the site and the same 102 trucks traveling from the site? The study says: "The proposed landfill operation is expected to average about 102 truck trips per day..." This means that the dangerous intersection (US 3 and NH 116) identified in the proposed route will see on an average day as many as 204 trucks, 102 going in each direction, and the people in Whitefield and other communities deserve to be provided an accurate picture of traffic impacts in their communities.

Question 2: Why does the study leave undefined the size of 52 trucks on average that will not be WB-67 vehicles? The study says: "...50 trucks would be larger vehicles such as 18 wheeler semi- tractor trailers (FHWA WB-67 type..." This leaves 52 (102 - 50) trucks undefined with respect to size, therefore with an indeterminate impact on traffic.

Related questions—the traffic study implies that **exactly** 50 trucks would be larger vehicles— why does DOT think that the study specifies exactly 50 such trucks? Why does the study not provide detail about leachate tankers, especially given the location of roads alongside major rivers especially vulnerable to releases?

Question 3: Will any trucks larger than 18-wheelers enter or exit the site? Observers who have been to the NCS facility recently have identified 22-wheel vehicles entering and/or exiting that facility. If the answer is that larger vehicles may be used we would note that some of the assumptions that were used in the study are inaccurate and the study should therefore be updated.

Question 4: Why does the study not consider the inefficiencies that result from having the proposed route from I-91 go significantly out of the way, i.e., through Bethlehem, Twin Mt., and Whitefield, instead of through downtown Littleton? The study says: “The routing of trucks to and from the site was based upon origins and destinations to and from I-93...” Casella has indicated elsewhere that up to half of the solid waste trucked to the site will come from origins other than NH. And the proposed route for trucks accessing the site from I-91 will travel what appears to be an extra 30 miles compared to a more efficient route over US 302 through downtown Littleton. No justification in the study for choosing such an inefficient route has been provided.

Question 5: Why was the route through Whitefield accepted by DOT as the proposed route for the traffic study even though that route is inconsistent with the routing criteria identified in the traffic study? The study says the criteria used to identify the proposed route is the: “... most appropriate non-interstate routing considering community impacts and roadway infrastructure constraints.” These criteria were not followed. The route that is by far most consistent with the criteria would go through downtown Littleton, thereby: a) increasing travel distance on I-93, b) decreasing travel distance on non-interstate roadways, and c) impacting only one community (i.e., Littleton) instead of the two communities impacted by the proposed route (i.e., Whitefield and Twin Mountain). We would note that reason the criteria were not followed is perfectly obvious—so that Casella can avoid entanglements with powerful political forces in Littleton. This is crystal clear to anyone attending the January 29, 2020 DOT meeting in Lancaster or anyone who has read the minutes from that meeting, where John Gay, Engineer for Casella is quoted as saying “Casella wants to avoid conflict with residents and businesses in downtown Littleton that may be caused by trash trucks driving through central Littleton.” Moreover, the February 22, 2020 Scoping Meeting minutes say: “The general consensus was that the proposed trucking route along US 3 through Whitefield was preferable to other alternatives (such as through downtown Littleton).” Those minutes suggest that avoiding Littleton was taken as a given, without any discussion or any analysis.

Question 6: Are the criteria that are used to identify the proposed route in the traffic study the only criteria that a traffic study should use? We think the answer is no, and

therefore the proposed route should be rejected by DOT. For example, a route through Bethlehem from I-93 northbound significantly shortens the route compared to the proposed route through Twin Mt. and Whitefield. In addition, fairness has not been considered. A fairer truck route would spread the burden of truck traffic rather than concentrate it on Bethlehem, Twin Mt. and Whitefield. In fact, the most fair route would have trucks go through Dalton, since Dalton is the only town that is not impacted by the proposed route and is the only town that is likely to be financially compensated by Casella.

Thank you in advance for considering our concerns re the assumptions in the traffic study. We hope to hear from you soon on this matter. And please note we may have additional comments on the traffic study, which we will get to you as soon as we have had enough time to review the study.

Sincerely,

/s/ Eliot Wessler

Eliot Wessler, President of the NCABC Board of Directors