



December 16, 2024

**Town of Ledyard
Planning & Zoning Commission**
741 Colonel Ledyard Highway
Ledyard, CT 06339-1511

Attn: Marcelle Wood, Chairman Planning and Zoning Commission

**RE: Response to December 4, 2024 Correspondence from CLA Engineers, Inc. to Town of Ledyard Planning & Zoning Commission
1761 and 1737 Route 12, Gales Ferry, Connecticut
Commission Number: 45JC2.06**

Dear Mr. Wood:

On behalf of our client, Gales Ferry Intermodal, LLC, Loureiro Engineering Associates Inc. (LEA) has prepared this letter in response to the additional project grading and project review comments prepared by CLA Engineers, Inc. (CLA), dated December 4, 2024. This document maintains the same numeric assignment as the CLA correspondence and presents the comments in italics followed by LEA's response in plain text. Comments that were previously sufficiently addressed are not included. Revised plans and Stormwater Management Report Addendum are attached to this response letter.

- 6. The Applicants response letter noted that a geotechnical engineer will perform a soil evaluation prior to building construction, which is suitable.*

The response letter also outlined that excavated overburden (Hinckley soil/HSG A) will be stockpiled and reused as backfill. This soil after excavation, mixing, reinstallation, and compaction may not necessarily remain a permeable HSG A type soil. We recommend a gradation or other specification for the permeable soil (HSG A) backfill be provided and be included on the plans. Additionally, will enough volume of this native material be available for reinstallation over the entire area designated as permeable HSG A soil? If backfill is needed and manufactured at the site a gradation or material specification to ensure permeability would be critical.

It is noted in the response letter and included in the Stormwater Management Report that a portion of the excavated area is considered HSG A vs. HSG D. Approximately 16.2 acres, about 82% of subcatchments (watersheds) 3, 8, and 9 are attributed HSG A. How will the Contractor/Operator know where placement of the HSG A soils should be? The limits of the differing backfill soil types should be depicted on the plans.

Response: To achieve a Hydrologic Soil Group rating of A, the backfill in the over excavated area will have a target gradation of the Connecticut DOT Specification M.02.05 Pervious Structure Backfill using the M.02.06 Grading "B" and approved by a geotechnical engineer for



structural fill. This fill will be a mix of excavated materials from on-site. This requirement has been added to Drawing C-12, Industrial Site Preparation Plan.

The limits of the HSG A and HSG D soils have been added to Drawing C-4. The limits are called out to be demarcated in the field prior to excavation as determined by auger or test pit verification, and for soil types to be segregated in stockpiles if required before being used as backfill in the same soil type location.

The lower slope overburden soils are mapped as HSG A. Please note that the cause of the HSG D rating for the upper slope soils is that the depth to bedrock is shallow and even to the point of being considered 15% rock outcroppings. The surficial soil material is considered 35% 'Hollis' which is considered somewhat excessively drained and 30% Chatfield which is a gravelly fine sandy loam considered to be HSG B.

8. *A detail for construction fence was included on the plans. Details for 6' high chain link perimeter fence should be provided.*

Response: A detail for a chain link fence has been added to Drawing C-9.

17. *The response letter noted that there will be an increase in runoff volume under the new conditions. This volume was not quantified or summarized. The response outlined the water quality measures proposed and the reduction in peak flow rates but does not mention if there will be any impacts downstream from the increase in runoff volume. The runoff volume and potential impacts should be addressed.*

Response: An addendum to the Stormwater Management Report has been created to quantify volumetric runoff increase and address potential downstream impacts. The addendum is included as Attachment 1.

19. *A Cascade CS-5 is specified on the plans, but sizing info is for a CS-4 Unit. Weighted "c" value in the calculation page appears low for the finished site. We recommend addressing the "c" value and coordinating the proposed unit models.*

Response: The hydrodynamic separator callout on Drawing C-5 has been edited to be a CS-4 unit.

While the c value for this Site should equal a higher value, such as 0.25, the CS-4 unit was sized based on the water quality flow (WQF) of 1.82 cfs provided to Contech, calculated from the Water Quality Volume and Water Quality Flow Worksheet (Appendix E of the Stormwater Management Report). These calculations utilize the percentage of impervious area as opposed to c values. Therefore, the increased c value did not change the unit type recommended by Contech. Correspondence with Contech is included as Attachment 2.

We appreciate the time and effort expended in reviewing this application and trust our responses meet your satisfaction. Please contact me if you have any addition questions or need additional information in support of the comments above.



Sincerely,

LOUREIRO ENGINEERING ASSOCIATES, INC.

A handwritten signature in blue ink, appearing to read "G. F. Andrews".

George F. Andrews, P.E.
Principal Engineer, Civil Engineering

cc: Alan Perrault, Gales Ferry Intermodal, LLC
Harry Heller, Heller, Heller & McCoy
Kyle Haubert, P.E, CLA Engineers, Inc.

Attachments

Attachment 1 – Stormwater Management Report Addendum
Attachment 2 – Contech Correspondence



December 16, 2024

**Town of Ledyard
Planning & Zoning Commission**
741 Colonel Ledyard Highway
Ledyard, CT 06339-1511

Attn: Marcelle Wood, Chairman Planning and Zoning Commission

**RE: Stormwater Management Report Addendum
Town of Ledyard Planning & Zoning Commission
1761 and 1737 Route 12, Gales Ferry, Connecticut
Commission Number: 45JC2.06**

Dear Mr. Wood:

This document serves as an addendum to the Stormwater Management Report for the Industrial Site Preparation at 1737 & 1761 Route 12, Gales Ferry CT, prepared by Loureiro Engineering Associates (LEA) on 9/28/23, and revised 9/24/24 and 11/7/24. This addendum supplies additional information addressing review comments prepared by CLA Engineers, Inc. (CLA), dated December 4, 2024.

Runoff Volume

Total runoff from the Site was analyzed volumetrically to compare runoff volumes under new conditions to volumes under existing conditions. The results for the 2-year and 100-year storm events for the total Site are below:

Table 1 – Total Runoff Volume Comparison to West Wetland, Cubic Feet

	Existing (cf)	New (cf)	Volume Infiltrated (cf)	Surface Runoff Volume (cf)
2-Year	19,471	133,014	91,701	41,313
100-year	300,535	588,816	180,785	408,031

The table shows that while the new infiltration basins reduce the amount of post-construction runoff, there is an increase in the total volume of water discharging from the Site.

Receiving Waters

The Stormwater Management Report states that the wetland system that serves as Point of Compliance 1 has no ultimate discharge point. This assumption was based upon existing survey data and raised railroad tracks separating the wetland and the Thames River.

Loureiro Engineering Associates, Inc.

100 Northwest Drive • Plainville, CT 06062 • 860.747.6181 • Fax 860.747.8822 • www.Loureiro.com

AN EMPLOYEE-OWNED COMPANY

Affirmative Action / Equal Opportunity Employer



However, a field investigation that was conducted 11/25/24 located a 30-36" pipe and headwall structure within the wetland area to the north of the Site. This pipe crosses beneath the railroad tracks to an open discharge along the Thames River. It is now known that this pipe serves as the outlet for the wetland and connects the wetland area to the Thames River. This pipe has been identified on Drawing C-5 of "Industrial Site Preparation Plans", by LEA.

As the outlet for the wetland is now known, the increase in volume under post-construction conditions will not result in overloading of the wetland area, and runoff that is not infiltrated will be discharged to the Thames River.

Tables and appendices in the Stormwater Management Report will remain unchanged with this information, as it has no effect on modeling results or the new drainage system.

Overall, in addition to the reduction in peak flow rates and new water quality measures already outlined in the Stormwater Management Report, the Thames River functionally serving as Point of Compliance 1 for the Site mitigates potential impacts of post-construction runoff from the Site and the circuitous pathway that the discharge follows will clearly provide enhanced water quality at the point of discharge to the river.

Sincerely,

LOUREIRO ENGINEERING ASSOCIATES, INC.

A handwritten signature in blue ink, appearing to read "G. F. Andrews".

George F. Andrews, P.E.
Principal Engineer, Civil Engineering

From: Kate Glode <Kate.Glode@ContechES.com>
Sent: Thursday, December 12, 2024 3:48 PM
To: Alexander P. Healy
Cc: Jalen Triplett; Zoe Maldonado
Subject: Re: [EXTERNAL] Cashman Industrial Site Preparation (CES#826609)

Alex,

Given that there is practically 0% impervious area, even the slight increase in the c value did not denote an increase in flow - perhaps because it is over such a large drainage area.

The sizing would not change with the CS-4. It will treat up to 2cfs!

Thanks,

Kate Glode, P.E.
NY & CT Stormwater Consultant

Contech Engineered Solutions LLC
Albany, NY 12077
Mobile: 518-410-1287
Kate.Glode@conteches.com
www.ContechES.com

From: Alexander P. Healy <aphealy@loureiro.com>
Sent: Thursday, December 12, 2024 10:23 AM
To: Kate Glode <Kate.Glode@ContechES.com>
Cc: Jalen Triplett <Jalen.Triplett@ContechES.com>; Zoe Maldonado <Sabrina.Maldonado@ContechES.com>
Subject: RE: [EXTERNAL] Cashman Industrial Site Preparation (CES#826609)

Hi Kate, hope you have been doing well.

We got a comment back on this hydrodynamic separator sizing, specifically on the weighted “c” value (0.05) being low. It looks like 0.25 might be better for our uses (2-6% pasture). Do you think you could revise the calc sheet with this change, and let me know if this affects the unit type? We are looking to get this back ASAP.

Thanks in advance,
Alex

Alex Healy, E.I.T.
Senior Engineer
Loureiro Engineering Associates, Inc.