

May 27, 2016



Peter Weatherbee
Planning Board Chair
Town of Hampden
106 Western Avenue
Hampden, ME 04444

Re: MRC/Fiberight Solid Waste Processing Facility Site Plan Review

Dear Mr. Weatherbee:

We have completed a review of the Site Plan Application submitted for Municipal Review Committee, Inc. & Fiberight, LLC (Applicant) by CES, Inc. (Agent), including the following submissions:

- Initial Site Plan Application dated March 3, 2016
- Response to Review Comments letter dated April 8, 2016
- Supplemental Information submission dated May 2, 2016
- Traffic Impact Study Addendum 1 received May 10, 2016
- Supplemental Submission dated May 19, 2016

Our preliminary review letters, dated March 30, 2016 and April 7, 2016 addressed items applicable to several Town Ordinances due to questions regarding ordinance applicability and the content of the initial submission.

This review is focused on applicability of the Zoning Ordinance requirements and adequacy of the Application with regard to these requirements. This review does not address items applicable to other Town Ordinances.

The issue of Zoning Ordinance versus Subdivision Ordinance applicability was addressed via letter correspondence from Eaton Peabody to the Hampden Planning Board dated April 8, 2016. Review by the Town's counsel confirmed that the Zoning Ordinance was applicable to the proposed MRC/Fiberight Solid Waste Processing Facility. This applicability is contingent on the process by which the road construction and Town acceptance precedes closing on the MRC property.

Zoning Ordinance Review

As identified in previous review letters, the Solid Waste Processing Facility is proposed within the Industrial District and will be subject to conformance with the Industrial District Permitted Use and Conditional Use standards. For the purposes of this portion of the review, we are considering the processing facility site located on the proposed parcel shown on Sheet C101 Overall Site Plan and in further detail on Sheet C103 Enlarged Site Plan.

With regard to Article 4.1.6. Required Information on Plans, the Applicant has met the submission requirements with the following exceptions:

1. As noted, previously, the Applicant has requested a waiver from Article 4.1.6.14 requirement for information on the plans including the location and type of trees 12-inch diameter and over.



2. Additional utility capacity statements from Emera, Bangor Gas Company, and the Town Public Works were submitted to address comments from previous reviews.

Below is a list of comment items with regard to Article 4.1.7 Performance Standards, and, as a Conditional Use, Article 4.2.3 Standards Governing Conditional Use Permits.

1. The Applicant has stated that the proposed facility will be similar to other industrial buildings and separated by a large wooded buffer to meet Article 4.1.7.2 and 4.1.7.6 requirements. A building description has been presented in general description by testimony, but no building elevations or examples have been furnished in the submissions.
2. A number of issues were raised regarding traffic impacts from the proposed facility during review of the initial application regarding meeting Article 4.1.7.3 and 4.1.7.4 standards. The Applicant has submitted supplemental information, including a Traffic Study (with addenda), in response to requests made by the Planning Board based on the Maine Traffic Resources review comments. Several issues have been identified regarding the Level of Service (LOS) of impacted intersections, safety considerations, and haul route selection. The latest Maine Traffic Resources (MTR) review memos, dated May 17th, 2016 and May 24th, 2016 have been attached to this letter for reference.
 - a. In addition to items contained in this letter, reference should be made to the items addressed in the MTR memos.
 - b. The Applicant provided the "MRC/Fiberight Truck Route Policy" in response to concerns regarding specific haul routes expected to be used to reach the facility. The policy states that trucks utilizing the facility will be directed to comply with existing regulations with warnings and/or reporting to the Maine DOT or "other authority." The policy also states that all contracted haulers will receive the Haul Routes Plan with a "written request to require all contractors hauling for such municipalities or entities to follow this Preferred Truck Route Policy and Identified Haul Routes Plan."
 - c. We recommend that the haul route policy be revised to include provisions for the following:
 - i. Identification in the policy of current applicable regulations
 - ii. Identification of appropriate enforcement agencies and reporting procedure
 - iii. Policy addressing consequences of multiple violations and intentional violations that limit hauler access to the facility.
 - iv. Policy should suggest municipality contract provisions for haul route adherence such as conditions of pre-qualification for hauler contracts, etc.
3. The application addresses stormwater requirements in Article 4.1.7.9, although we have deferred review of stormwater modeling and treatment device design to the Maine DEP Solid Waste Processing Facility application. In the previous review letters, we requested the Applicant provide evidence of meeting Maine DEP standards regarding these items, although the DEP approval process is not expected to be complete prior to the Planning Board meeting.
 - a. The Planning Board may apply a condition of approval regarding Maine DEP approval of the Solid Waste Processing Facility permit if DEP approval cannot be demonstrated at the time of Planning Board consideration.
4. Article 4.1.7.13, in addition to Article 4.2.3.4 and Article 4.4.1, applies to air emissions and odor standards. In response to comments made in our previous reviews and by the Planning



Board, the Applicant has submitted additional materials regarding the ability to meet the air emissions and odor performance standards as part of the most recent May 19, 2016 submission.

- a. The Applicant included the draft form of the Operations and Maintenance (O&M) Manual that is required as part of the Maine DEP Solid Waste Processing Facility License application. This document includes a section on Odor Control which specifies the measures that will be taken to mitigate nuisance odors, which we briefly describe below.
 - i. The tipping floor and processing area are designed to maintain a negative pressure of 0.1 inches of water column through the use of two (2) 50,000 SCFM ventilation systems that each exhaust through two odor control scrubbers. The scrubber systems are designed to remove 95% ammonia, 99% hydrogen sulfide, and 99% of other volatile organics. The waste delivery doors are designed to open and close quickly. One 50,000 SCFM ventilation system will be in operation at all times. The second system will come online when a delivery door is open. Visual indicators of building pressure will be located near the delivery doors. An odor neutralizing spray system will be installed above the doors for use as a back-up odor control measure when necessary. The O&M Manual also includes a tipping floor management that describes the process used to ensure that waste is processed "first-in/first out". The tipping floor is capable of storing waste for up to two days prior to processing. If the facility is down and cannot process the waste within this time frame, the O&M Manual references "an arrangement" with the Waste Management Crossroads Landfill in Norridgewock to accept waste material not processed within 72 hours.
 - ii. Waste hauling vehicles will be inspected for odors upon arrival and trucks that exhibit a higher degree of odor will be given priority entrance to the processing area. Fiberight will work with the hauler to mitigate the odor in the future or potentially schedule such trucks for delivery to ensure they do not sit in queue outside the facility. A supply of odor neutralizing agents (powders and sprays) will be maintained on-site to respond to individual trucks.
 - iii. The Applicant proposes to conduct regular inspections of the facility for odor and potential odor causing issues such as signs of damage or abnormal conditions. The Applicant proposes daily visual/odor inspections for the first 6 months of operation (must include summer months) reduced to weekly if after 6 months no issues are identified. The inspection will be performed by a staff member that has not become desensitized to waste odors. The inspection areas include the waste receiving areas, truck queuing area and truck maneuvering areas.
 1. We recommend the Applicant include the entire access road as well as an exterior perimeter survey. We also recommend incorporating a requirement that the staff member completing the survey receive odor identification and intensity training.
 - iv. The tipping floor, processing area, and truck queue were the only areas the Applicant identified in the O&M Manual as potentially contributing to odor. In the April 8, 2016 letter response, the Applicant stated that there were no



anticipated odor issues associated with the operation of the flare or the boiler. Additional flare information was provided and is discussed later in this review. The Applicant did not discuss potential odor from the anaerobic digestion system. The General Arrangement Process Diagram included in the BACT Analysis details anaerobic reactors, sludge, and associated process tanks. It is not clear if these tanks are provided with emissions controls systems or otherwise identified as potential sources of nuisance odors through venting mechanisms, sludge transfer, or other potential routes.

- b. The Applicant provided the Best Available Control Technology (BACT) Analysis that is required as part of the Maine DEP Air Emission License Application. This submission describes the facility's air emission sources and their respective control technologies.
 - i. When submissions were presented to the Planning Board on May 25, 2016, the Applicant indicated that a revised BACT Analysis was completed and submitted to the MDEP within days of the Planning Board application. Significant changes to emissions controls were described that incorporated additional controls that were not described or proposed in the current record. We were not able to review these systems or their impact on the Site Plan Application.
 - ii. This submission identifies a thermal oxidizer system for tail gas treatment, which operates continuously to process the Pressure Swing Adsorption system tailings generated during treatment of the anaerobic digester gas for commercial sale. The thermal oxidizer was not identified on the Site Plan. It appears, based on the BACT Analysis that one of the flares shown on C103 is the thermal oxidizer. We recommend that the site plan include revised equipment descriptions. Also an Attachment B is referenced in the BACT Analysis, but not included, which details emissions estimates for this system. We were not able to review the Applicant's statement regarding emissions impacts.
 - iii. The BACT Analysis identifies the Bio-gas Flare as an "enclosed flare," which is a type of flare that shields the open flame. There were no equipment specifications for further review.
 - iv. The submitted BACT Analysis does not detail the onsite wastewater storage tanks and any associated odor or emissions controls.
- c. The Applicant compared the proposed Solid Waste Processing Facility to the existing EcoMaine Waste-to-Energy (WTE) facility in Portland, Maine, which is similar in terms of processing capacity and tipping floor size based on statements from the Applicant. The Applicant referenced contact with the MDEP regarding odor complaints directed at the EcoMaine WTE facility and stated that there have been no odor complaints received regarding the EcoMaine WTE facility. The Applicant did not describe the odor control technologies or management practices in-place at EcoMaine that effectively mitigate odor. A comparison between odor control technologies and management practices employed at EcoMaine and the proposed Solid Waste Processing Facility is necessary to effectively compare the potential for nuisance odors from the proposed Solid Waste Processing Facility.



- d. The Applicant has presented a process for handling odor complaints as the "Fiberight Complaint Response Protocol." The proposed protocol appears to include the Town in Fiberight's reporting protocol as well as making complaint information available as it progresses through the process. Our review of the Complaint Response Protocol is focused on the written procedures and does not address the "Odor Complaint" diagram attached to the protocol. The Town will need to consider the following aspects and approve or revise the protocol:
 - i. Does the Town plan to field complaints, collect information and send details to the Fiberight hotline, or does the Town plan to direct all odor complaints to the Fiberight hotline? We suggest the latter to ease the burden on the Town. The Town could also consider a "call forwarding" feature in its telephone system menu of options to direct complaints to the Fiberight hotline, particularly during off-hours.
 - ii. Town, MRC, and Fiberight contacts will need to be specified. For example, is the Code Enforcement Officer identified as the primary Town of Hampden contact? Would there be a secondary contact at the Town? Is there a preferred method of communication?
 - iii. In what format does the Town want to be informed of an odor complaint/investigation? Does the Town want to be involved or have the opportunity to participate in all odor investigations? We suggest that a prerequisite for Town involvement in investigations be completion of odor identification and intensity training. If a site visit is requested, how soon will a Fiberight staff member get to the location of the complaint to investigate? Does the Town want to be part of the site visit investigation? Assuming Fiberight wants to conduct the site visit as soon as possible to verify the complaint, how will the Town be contacted in order to facilitate a coordinated site visit? The impacts on staffing for response on short notice should be evaluated in determining appropriate requirements and designating responsibility.
 - iv. The Fiberight Complaint Response Protocol did not include a feedback loop to the initial complainant. The individual making the complaint should receive a copy of the results of odor complaint investigation or a letter summarizing the results. Communication and transparency are critical to gaining community support and a feedback loop ensures individuals that their complaint has been heard and addressed. The responsibility for complainant feedback needs to be designated. Various methods of communication may be used and should be specified as well.

Zoning Ordinance Standards for Industrial District (Article 3.2)

1. The submittal appears to meet the standards of this section for minimum lot area, setback requirements, and ground coverage. The site plan indicates a building height of 60 feet where the maximum allowable building height is specified to be 35, except where additional setback distances are provided. Special District Regulations for additional setback distances have been shown. All buildings, tanks, and structures affected by this Special District Regulation appears to have adequate setback distance from lot lines.



Zoning Ordinance Parking Standard (Article 4.7)

1. As indicated on Sheet C103 (Revised 5/2/2016), parking spaces are provided based on the maximum number of shift employees rather than total employees. The Ordinance does not appear to differentiate between shift-based and total employee counts. This approach may require a variance to avoid conflicting with Article 4.7.1.1.10.

If you should have any questions or require any additional information, please do not hesitate to contact us.

Sincerely,

WOODARD & CURRAN INC.

A handwritten signature in black ink, appearing to read "Kyle Corbeil", written over the company name.

Kyle Corbeil, P.E.
Project Engineer

KMC/vmf

Enclosures

cc: James Wilson, Woodard & Curran
Angus Jennings, Hampden Town Manager

PN: 213351.00 040

SUMMARY MEMORANDUM

Mr. Kyle Corbeil, P.E.
Project Engineer
Woodard & Curran
One Merchants Plaza
Bangor, ME 04401

May 17, 2016

RE: Traffic Impact Study Review for Hampden Solid Waste Processing Facility

The purpose of this memorandum is to summarize review of the proposed Solid Waste Processing Facility in regard to traffic, as requested by Woodard and Curran and the Town of Hampden. Previously, I reviewed the "Hampden Site Plan Review Application for Solid Waste Processing Facility, Appendix 1, Traffic Narrative," prepared by Victor J. Smith, P.E. and dated June 24, 2015. That review was summarized in my March 25th memorandum to you. In that memorandum I specifically requested additional information which would constitute a typical Traffic Impact Study for this level of trip generation including:

- Peak hour trip generation and assignments for determination of study area
- Traffic volume data for intersections determined to be in the impact area
- Capacity analysis for the study area intersections
- Auxiliary turn lane warrants
- Information on how the trucks would be restricted to the stated haul routes and away from Hampden's intersections of concern
- Site signage and pavement markings
- Sight distance review at the intersection of Main Road North and Coldbrook Road since it was flagged as a concern of the Town.

A Traffic Impact Study was then performed in response to the above requests, also prepared by Victor Smith, P.E. This traffic study was not stamped and signed. It is recommended that a stamped/signed copy of this traffic study be submitted to the Town of Hampden for the record.

Maine Traffic Resources (MTR) began a review of that study and found some deficiencies and errors. Victor Smith called MTR to check on the status of the Traffic Impact Study review and the following was conveyed to Victor Smith:

- There was an error in the seasonal factors utilized which overinflated the traffic volumes.
- Traffic counts and analysis were not provided for the intersection of the I-95 northbound ramps and Coldbrook Road but they were provided for the southbound ramp intersection.
- No information was provided on how trucks would be required to stay to the identified haul routes. In discussion of this item Victor Smith stated that since Route 202 was a

faster and better road, haulers coming from the northeast would take that road and not Main Road North (Route 1A). MTR suggested travel time runs to document/demonstrate that Route 202 would be the preferred route since it was faster.

- Sight distance for the intersection of Main Road and Coldbrook Road was not provided.

An addendum, Traffic Impact Study Addendum 1, prepared by Victor Smith was submitted to MTR on May 9th for review. This Traffic Impact Study Addendum was also not stamped and signed by Victor Smith. Again, a stamped and signed copy should be submitted to the Town of Hampden for the record. My review comments on the Traffic Impact Study and Traffic Impact Study Addendum 1 follow:

1. **Peak Hour Trip Generation.** I concur with the peak hour trip generation estimates obtained and utilized in the study. These were obtained by converting daily trips to peak hour trips based upon the hourly distributions recorded at the existing PERC facility in Orrington and projected employee shift times.
2. **Peak Hour Trip Assignments.** I generally concur with the trip assignments, which are based upon the expected haul routes. Based upon the trip assignments the study area extends from the site along Coldbrook to the I-95 southbound ramps. The trip assignments to and from the east along Coldbrook Road, through the Route 202 intersection, are borderline for inclusion in the study area for capacity purposes. Given that this intersection has been designed to a high standard with auxiliary turn lanes, MTR did not feel it necessary to include traffic counts or analysis for this intersection.
3. **Traffic Volumes.** Based upon the trip assignments and determined study area, traffic counts were conducted at the Coldbrook Road intersections of the site drive, the I-95 north bound ramps and the I-95 southbound ramps. MTR found an error in the original Traffic Impact Study. The counts had been factored by a 1.20 factor to peak summer conditions. The actual factor is only 1.08 and this was subsequently corrected in Addendum 1.
4. **Annual Traffic Growth.** MTR concurs with the 2 % annual traffic growth used to bring the 2016 volumes to base 2018 conditions.
5. **Other Development Volumes.** The study never discusses whether the Town of Hampden was contacted to determine if there are any other development projects, either approved and not yet built, or pending approval, that should be considered in the traffic analysis. The Town of Hampden and/or Victor Smith should confirm that there are no other development projects in the area which will impact future study area volumes. If any significant other development projects are identified then the no-build and build analyses should be updated to include traffic from these developments.
6. **Traffic Analysis.** Level of service (LOS) analysis was performed for existing conditions, 2018 no-build (assuming no other development projects) and build conditions for the study area intersections for the AM and PM peak hours of the facility. The results indicate that

there are no capacity concerns at either the Coldbrook Road northbound ramp intersection or the site drive intersection during these AM and PM peak hours of the facility. The build condition for the site drive was run with a right-turn lane on Coldbrook Road to serve the facility. Since no right-turn lane is being provided the analysis should be re-run and resubmitted without the right-turn lane.

The analysis determined that the intersection of the southbound I-95 off-ramps and Coldbrook Road operates at capacity, LOS "E", under existing conditions. Under projected no-build and build volumes the LOS will be "F". Mr. Smith notes that this LOS "F" condition only occurs for 15 minutes of the peak hour. Typically, over time, the LOS "F" condition will worsen and given daily and seasonal traffic fluctuations it may impact a greater portion of the peak hour. He also suggests that the intersection is not of concern since it is not a high crash location. While Mr. Smith is correct that poor levels of service can ultimately lead to accident problems, this would not be expected to occur yet at an intersection that is currently operating at LOS "E". Generally, accident problems don't occur until an intersection has been operating at LOS "F" for some time.

Since the peak hour of the adjacent street system occurs later than the peak hour for the facility it is recommended that the analysis for the southbound ramp intersection also be performed for the peak hours of the adjacent street system to determine operations during that period. While the facility will generate fewer trips during this period other volumes will be higher. Generally, both AM and PM peaks occur in close proximity and there is not much difference in results. Typically, when MTR performs traffic analysis we are conservative in our assumptions. For example, MTR would have laid the AM trip generation for the site (6:30 – 7:30 AM) over the AM peak hour of the adjacent street (7:00 – 8:00 AM). This allows for the facility to shift their hours and allows for the analysis to consider daily and seasonal variations in hour traffic volumes. Similarly, the PM peak hour of the adjacent street is 4:15 to 5:15 PM while the peak hour of the facility is 2:30 – 3:30 PM.

Typically, when a deficiency is identified in a study, potential mitigation actions are evaluated. Mr. Smith has recommended that MaineDOT restripe the off-ramp to clearly define 300 feet of separate left and right-turn lanes. Maine Traffic Resources recommends that traffic signal warrants also be evaluated for the southbound off ramp intersection. If traffic signal warrants are not met a possible condition of approval would be to monitor the off ramp intersection after the solid waste facility is fully occupied.

To summarize, MTR requests that analysis also be performed for the AM and PM peak hours of the adjacent street system for the intersection of Coldbrook Road and the I-95 southbound ramps since capacity concerns were identified. Traffic signal warrant analysis should also be provided for this intersection under projected build conditions. The analysis for the site drive under build conditions should be repeated with corrected lane inputs on Coldbrook Road.

7. **Auxiliary Turn-Lane Warrants.** Auxiliary turn-lane warrants were provided for Coldbrook Road at the site drive to determine the need for either a right-turn lane or a left-turn lane to serve traffic entering the site. The results show that neither a right-turn lane nor left-turn lane are warranted on Coldbrook Road at the site drive during the peak hours of the facility.
8. **Accident Data:** Additional accident data was obtained for an expanded study area for safety purposes, from the I-95 southbound ramps to the intersection of Route 202 and then along Route 202. There are no high crash locations, meeting both MaineDOT crash criteria. There was one location which is approaching the high crash criteria, the intersection of Route 202 and Western Avenue. This intersection has a CRF of 0.93 with 18 reported crashes. Mr. Smith indicates that the vast majority of accidents are rear-end collisions and simply due to inattention. In fact, rear-end collisions at signalized intersections can often be attributed to improper traffic signal timing. Further evaluation of safety and signal timings is recommended for this intersection.
9. **Haul Routes:** In my initial review, MTR asked how haul routes to the facility will be mandated. In further discussion with Victor Smith travel-time runs were suggested to demonstrate that trucks would utilize Route 202 and not North Main Street to travel to the facility. No data regarding haul route adherence or travel time runs to support the assumptions were provided in either the Traffic Impact Study or the Addendum 1. Additional information is needed to address these concerns of the Town.

As noted in my initial review, the Town of Hampden is concerned with trucks at three particular intersections in the vicinity of the facility, which could indeed be impacted by trucks using the shortest, most direct route. These intersections are:

Main Road North (Route 1A) and Western Avenue
Western Avenue and Route 202
Coldbrook Road and Main Road North (Route 1A)

Additional information indicating how haul routes are to be mandated or travel time runs to demonstrate no significant truck impact to these intersections should be provided.

In addition, sight distance was specifically requested for the intersection of Main Road North and Coldbrook Road, which was not provided in either the study or addendum.

10. **Interior Road Network:** The updated site plan (C102 and C103) were reviewed regarding previous comments. A stop sign has been added exiting the facility at the cul-de-sac. Some radii revisions were made to the site plan to better accommodate WB-67 trucks entering the facility. WB-67 trucks exiting the facility will still need to encroach onto the incoming travel lane. Is a stop sign and stop bar proposed at Coldbrook Road? None is shown on the plan. Will centerline markings be provided on the access drive to better travel paths?

To summarize, Maine Traffic Resources requests the following additional information:

- It should be confirmed that there is no other development pending that needs to be considered in the future traffic analysis.
- LOS for the site drive intersection for build conditions without a right-turn lane on Coldbrook Road since none is being proposed.
- LOS for the AM and PM peak hours of the adjacent street system for the intersection of the I-95 southbound ramps and Coldbrook Roads.
- Given the poor level of service for the southbound I-95 off-ramp and the high left turning volumes MTR requests traffic signal warrant analysis, including peak hours and four hours, at a minimum, for this intersection.
- The intersection of Route 202 and Western Avenue is approaching the high crash criteria with a CRF of 0.93 and 18 crashes over the three-year study period. Mr. Smith indicates that the vast majority of accidents is rear-end collisions and is simply due to inattention. Rear-end collisions at signalized intersections can often be attributed to improper traffic signal timing. Further evaluation of safety and signal timings is recommended for this intersection.
- Additional signage and pavement markings should be shown on the plan.
- Additional information on how haul routes are to be mandated or travel time data to demonstrate that the intersections of concern won't be significantly impacted by trucks.
- Stamped and signed copies of the traffic study and addendums should be submitted to the Town for the record.

As always, if you or the Town of Hampden have any questions regarding these review comments or requests for additional information please do not hesitate to contact me.



Sincerely,

A handwritten signature in black ink that reads "Diane W. Morabito".

Diane W. Morabito, P.E. PTOE
President

SUMMARY MEMORANDUM

Mr. Kyle Corbeil, P.E.
Project Engineer
Woodard & Curran
One Merchants Plaza
Bangor, ME 04401

May 24, 2016

RE: Traffic Impact Review for Hampden Solid Waste Processing Facility

The purpose of this memorandum is to summarize additional traffic review of the proposed Solid Waste Processing Facility in regard to traffic. Maine Traffic Resources (MTR) has reviewed the most recent traffic submittal, "Traffic Impact Study Addendum 2", prepared by Victor Smith in response to our May 17th review memorandum. That memorandum specifically requested the following items in italics:

1. *It should be confirmed that there is no other development pending that needs to be considered in the future traffic analysis.* This was confirmed and satisfactorily addressed.
2. *LOS for the site drive intersection for build conditions without a right-turn lane on Coldbrook Road since none is being proposed.* This was provided and there are no capacity concerns at the site drive without the right-turn lane.
3. *LOS for the AM and PM peak hours of the adjacent street system for the intersection of the I-95 southbound ramps and Coldbrook Road.* Analysis for the peak hours of the adjacent street system were not provided as requested. Mr. Smith indicates that the greatest impact will be during the peak hour of the facility. MTR requested this information since the traffic study was reporting that the LOS "F" constraint was only for 15 minutes a day. However, under build conditions the off ramp will also be at LOS "E" (capacity) during the AM peak hour of the facility also indicating capacity concerns.

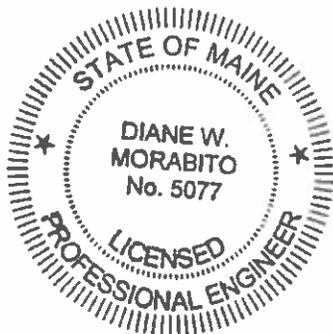
Since CES did not provide the requested peak hour analyses MTR ran Synchro analysis for the AM and PM peak hours of the SB off-ramp intersection. Similar but slightly better delays and LOS were obtained, primarily due to greater peak hour factors (more steady volumes during this period). Hence, no further analysis is required.

4. *Given the poor level of service for the southbound I-95 off-ramp and the high left turning volumes MTR requests traffic signal warrant analysis, including peak hours and four hours, at a minimum, for this intersection.* It is customary in a traffic study to evaluate options to improve conditions when LOS "F" conditions are determined. The signal warrant analysis requested was not provided. Mr. Smith indicates he did not

have sufficient traffic counts to do the analysis. However, he could have evaluated two of the three volume warrants (peak hour and four hour) with the information he had available. The addendum states that they are looking at striping solutions to the intersection and also suggest that since the intersection is in Hermon that the Hampden Planning Board should not be concerned. The Board should determine if they want additional analysis of this intersection or expect some form of mitigation.

5. *The intersection of Route 202 and Western Avenue is approaching the high crash criteria with a CRF of 0.93 and 18 crashes over the three-year study period. Mr. Smith indicates that the vast majority of accidents are rear-end collisions and it is simply due to inattention. Rear-end collisions at signalized intersections can often be attributed to improper traffic signal timing. Further evaluation of safety and signal timings is recommended for this intersection. While Mr. Smith did not evaluate the signal timings, as requested, he did provide additional data indicating that the accident problem is primarily due to inattention and distraction, generally fulfilling the purpose of the request and satisfying this request.*
6. *Additional signage and pavement markings should be shown on the plan. It is understood that the access road will be reviewed in regard to the Town Ways Ordinance by the Town Council and that this information will be provided for that process.*
7. *Additional information on how haul routes are to be mandated or travel time data to demonstrate that the intersections of concern won't be significantly impacted by trucks. Some Google Maps travel time data was provided indicating that trucks will use Route 202 to access the site and not Route 1A. In addition, it was stated that the applicants will be given haul route maps excluding the intersection of Route 1A and Coldbrook Road. Based upon this information, Route 1A will probably not be a primary haul route. The Board should determine if any additional actions should be required.*
8. *Stamped and signed copies of the traffic study and addendums should be submitted to the Town for the record. It is understood that a stamped and signed copy will be provided to the Town.*

As always, if you or the Town of Hampden have any questions or concerns regarding these comments please do not hesitate to contact me.



Sincerely,

A handwritten signature in black ink that reads "Diane W. Morabito" followed by a stylized flourish.

Diane W. Morabito, P.E. PTOE
President