



HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

FORMERLY:  CES INC

December 1, 2021

Town of Kittery
Attn: Bart McDonough, Town Planner
200 Rogers Road
Kittery, Maine 03904

Re: **Kittery Aroma Joes | Site Plan Peer Review Comments**

Dear Mr. McDonough:

Haley Ward, Inc. (Haley Ward) has prepared the following response to the review comments on the 523 US Route 1 Aroma Joes development, provided by Jodie Strickland (CMA Engineers) on November 8, 2021, and by the TRC on November 29, 2021. The comments have been provided in bold italics, followed by our response.

CMA Comments:

- 1. We note that we received an incomplete plan set (no cover sheet, existing conditions plan, etc.). The applicant should provide a full plan set with their application.***

A separate cover sheet and existing conditions plan are not required for this project, all required information can be seen on the Proposed Site Plan. An original survey plan can be provided upon request.

- 2. The project proposes to use Kittery Water District water. The applicant should indicate the size and material of the service. The applicant should indicate the location of the proposed curb stop. Where is the closest existing hydrant located? The plans should show the size and material of the existing water main. The plans should provide details for the water service (size, material, bedding, curb stop, etc.) Is fire suppression required?***





The Proposed Site Plan and Detail Sheet have been updated with the requested information. The closest hydrant is approximately 250' north at the York Colonial Center. The Town does not require the building have a fire suppression system.

- 3. The applicant proposes to use Kittery sewer. The applicant should indicate the size and material of the service. The applicant should indicate the location of the proposed cleanout. The plans should show the size and material of the existing sewer main. The plans should provide details for the sewer service (size, material, bedding, cleanout, etc.) Is a grease trap required for this service? The proposed sewer service should be reviewed and approved by the Superintendent of Sewer Services.**

The Proposed Site Plan and Detail Sheet have been updated with the requested information. The Town does not require a sewer service cleanout. There will be no cooking at this facility, all food is pre-prepared and re-heated in an oven; no grease trap is required. Correspondence with the Superintendent of Sewer Services was provided with the original application, and the service was designed using their provided guidelines.

- 4. Is the proposed work in the MDOT ROW reviewed/approved by DOT?**

Yes, the proposed development has incorporated MaineDOT comments in its design.

- 5. The O&M plan should be reviewed and clarified specifically meet address the compliance requirements of the Post-Construction Stormwater Management section, including submitting a certification of inspection to the Town Code Enforcement Officer by July 31st. Please clarify.**

This development is not required to provide a Post-Construction Stormwater Management plan, per the Kittery Land Use Ordinance Section 16.8.8.2. This project consists of a redevelopment that will disturb less than 1 acre, will not significantly alter existing drainage patterns, and does not propose any stormwater management facilities. There is a net decrease in impervious area because of this project. This development is not required to provide stormwater detention or treatment for quality as stated in the original application's stormwater management narrative.

- 6. The need for an updated Traffic Movement Permit application was identified during the scoping meeting with MDOT. The updated application will address access to the site (via righthand turn lane) and/or traffic calming measures in Route One. Pedestrian access is anticipated to be addressed as well. Sight distances, with respect to MDOT standards, require some vegetative pruning.**

The proposed development has incorporated MaineDOT comments in its design. We are still working with MaineDOT to finalize the Traffic Movement Permit requirements for this project.



- 7. Underground electricity is proposed with installation of a new utility pole. The applicant should coordinate with Central Maine Power on electrical details and approvals.**

Understood.

- 8. A sprinkler system is not proposed. Is a sprinkler system appropriate for this application?**

No. A sprinkler system is not required by the Town. Fire protection will be provided by nearby hydrants.

- 9. An exterior lighting plan has been prepared for the proposed site plan and building. It appears that the maximum footcandles standard of 8 is exceeded in the drive thru (however the applicant lists the maximum footcandles as 2.9). Please clarify, correct or apply for a waiver.**

The maximum illumination levels for roadway/parking areas does not include the drive-thru window area. It is necessary for these areas to have additional lighting in order for the customer to have the ability to collect their purchase and provide payment. The drive-thru lights are full cutoff to prevent any glare on adjacent properties, as demonstrated on the provided renderings. All other roadway/parking areas in the development are within the Kittery Lighting ordinance requirements.

- 10. 16.9.3.1. The plan identifies wetlands. Site development and disturbance appears to avoid the setbacks associated with the wetlands, however, the proper setback should be indicated on the plan.**

Applicable wetland setbacks for this development include roadways (30'), parking areas (100'), and buildings (100'.) These setbacks have been added to the Proposed Site Plan.

- 11. The applicant has contacted the Maine Historic Preservation Commission, the Maine Natural Areas Program, and the Maine Department of Inland Fisheries and Wildlife with respect to protected habitat or species on site. The Maine Natural Areas Program has responded that there are no rare botanical features within the project area. The applicant should forward response from the other parties upon receipt.**

The responses from the Maine Natural Areas Program and the Maine Department of Inland Fisheries and Wildlife have been provided.



TRC Comments:

1. Sidewalks:

The TRC recommends that sidewalks be placed along the frontage of Route 1 outside of the right-of-way within the property, considering there is limited space within the right-of-way. The TRC also agreed this requirement may occur only within the leased portion of the property, with a condition that any development that were to occur on any portion of the remaining vacant land would need to be improved.

A sidewalk has been added along the R.O.W. line, as shown on the revised Proposed Site Plan.

2. Pedestrian crossing:

It is unclear how the applicant plans to provide traffic calming measures to accommodate pedestrian infrastructure across this segment of US Route 1. While ideal that a solution could be developed, the TRC is of the opinion that pedestrian infrastructure should not be provided unless the applicant / DOT can agree on a safe solution.

No traffic calming measures for this location are proposed at this time. It is the opinion of our traffic engineer that it is not safe for pedestrians to be crossing the road in this area. Because the speed limit is 45 mph, crosswalks at this location are prohibited by MaineDOT unless it is a signalized intersection (which it is not). In our professional opinion, pedestrians should not be crossing at this location, it would be unsafe for both pedestrians and the traveling public

3. Landscaping:

The TRC is of the same opinion for the landscaping requirements as that of sidewalks along US Route 1.

Understood.

4. Other Site Infrastructure:

Please provide an updated detail sheet of all relevant proposed site improvements. Also, please add a stop sign at the exit point of the proposed driveway.

The revised Site Plan and Detail sheet have been provided.

5. Paved Apron:

Please explain the purpose the proposed apron and who intends to use it.

This apron is not intended for any use at this time. If there is future development of this property, that is the logical access point, and it would keep the edge of pavement of our access drive from being broken if future development were to occur.



6. **Soil report:**

Please provide a soil report that complies with §16.9.1.4., demonstrating that the existing soils are able to support the proposed development and its improvements.

A waiver is requested for this section. The applicant plans to have a geotechnical report prepared prior to construction. We would be glad to provide that report to the Town as part of the building permit process. We believe this report would be more useful than the results of a soil survey. The existing site is most likely fill soils based on the existing contour information.

7. **Architectural elevations:**

Please provide colored elevations of the proposed building.

Colored elevations of the proposed building have been provided.

8. **Waivers:**

Any proposed modifications/waivers that deviate from the ordinance requirements must be requested / detailed via a waiver request. Please site the relevant code reference and provide a succinct explanation for the modification's need.

A waiver request form has been provided.

9. **Other Comments:**

Please update the site plan and submit a corresponding response letter that addresses all comments made by CMA, MaineDOT and all other pertinent reviewing authorities.

If you have any questions, please do not hesitate to contact the undersigned at (207) 989-4824 or sthies@haleyward.com.

Sincerely,
Haley Ward, Inc.

Sean Thies, PE
Senior Project Manager

SMT/cmg

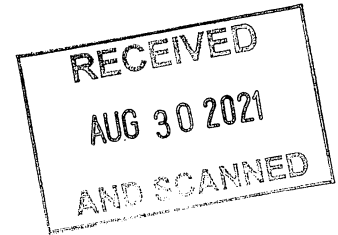


MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

August 23, 2021



Mr. Drew Olehowski
Haley Ward
One Merchants Plaza
Suite 701
Bangor, ME 04401

Project: MHPC#1408-21 GCS Enterprises LLC; Aroma Joe's; West Side of US Route 1
New Restaurant Building and Associated Parking
Town: Kittery, ME

Dear Mr. Olehowski:

In response to your recent request, I have reviewed the information received August 17, 2021 to initiate consultation on the above referenced project.

Based on the information provided, I have concluded that there are no National Register eligible properties on or adjacent to the parcels. In addition, the project area is not considered sensitive for archaeological resources.

Please contact Megan M. Rideout of our staff, at megan.m.rideout@maine.gov or 207-287-2992, if we can be of further assistance in this matter.

Sincerely,

Kirk F. Mohney
State Historic Preservation Officer



STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041



September 7, 2021

Drew Olehowski
Haley Ward
One Merchants Plaza, Suite 701
Bangor, ME 04401

RE: Information Request – Aroma Joes Project, Kittery

Dear Drew:

Per your request received on August 17, 2021, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *Aroma Joes* project in Kittery.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bat Species – Of the eight species of bats that occur in Maine, the three *Myotis* species are protected under Maine’s Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S §12801 - §12810. The three *Myotis* species include little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are listed as Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during migration and/or the breeding season. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Significant Wildlife Habitat

Significant Vernal Pools - A mapped Significant Vernal Pool, a Significant Wildlife Habitat under Maine’s Natural Resources Protection Act, occurs within the project review area; however, it is unclear if formal surveys for vernal pools have been conducted for the entire project area. If not, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are other Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before to the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

We recommend that 100-foot undisturbed vegetated buffers be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams that support coldwater fisheries is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support conditions required by many fish species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide full fish passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis and undersized crossings may inhibit these functions. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e. natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in not only providing habitat connectivity for fish but also for other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fish and fisheries habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,



Becca Settele
Wildlife Biologist



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY

177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

August 17, 2021

Drew Olehowski
Haley Ward
One Merchants Plaza, Suite 701
Bangor, ME 04401

Via email: dolehowski@haleyward.com

Re: Rare and exemplary botanical features in proximity to: #13522.001, GCS Enterprises LLC Aroma Joe's Restaurant, Kittery, Maine

Dear Mr. Olehowski:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received August 17, 2021 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Kittery, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

Letter to Haley Ward
Comments RE: Aroma Joe's, Kittery
August 17, 2021
Page 2 of 2

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

Rare and Exemplary Botanical Features within 4 miles of
 Project: #13522.001, GCS Enterprises LLC, Aroma Joe's Restaurant, Kittery, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Allegheny Vine						
	E	S1	G4	2013-10-08	15	Rocky summits and outcrops (non-forested, upland), Dry barrens (partly forested, upland)
American Sea-blite						
	T	S2	G5	1905-08-18	6	Tidal wetland (non-forested, wetland)
	T	S2	G5	2014-07-30	11	Tidal wetland (non-forested, wetland)
Awned Sedge						
	T	S1	G5	2017-07-30	3	Coastal non-tidal wetland (non-forested, wetland)
Beach Plum						
	E	S1	G4	1941-09-05	16	Rocky coastal (non-forested, upland)
Bitternut Hickory						
	E	S1	G5	1995-02-02	1	Hardwood to mixed forest (forest, upland)
Blunt Mountain-mint						
	PE	SH	G5	1916-08-09	3	Hardwood to mixed forest (forest, upland)
Bottlebrush Grass						
	SC	S3	G5	2018-07-13	28	Hardwood to mixed forest (forest, upland)
Bulbous Bitter-cress						
	SC	S1	G5	2013-05-31	1	Forested Wetland
Central Hardwoods Oak Forest Ecosystem						
	<null>	S3	GNR	2015-08-12	1	<null>
Coast-blite Goosefoot						
	PE	SH	G5	1992-08-10	5	Tidal wetland (non-forested, wetland)
Coastal Dune-marsh Ecosystem						
	<null>	S3	GNR	2014-07-30	2	Tidal wetland (non-forested, wetland), Rocky coastal (non-forested,

Rare and Exemplary Botanical Features within 4 miles of
 Project: #13522.001, GCS Enterprises LLC, Aroma Joe's Restaurant, Kittery, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Dune Grassland	<null>	S2	G4?	1992-08-10	4	upland) Rocky coastal (non-forested, upland)
Dwarf Glasswort	SC	S1	G5	2001-09-12	7	Tidal wetland (non-forested, wetland)
	SC	S1	G5	1905-08-18	1	Tidal wetland (non-forested, wetland)
	SC	S1	G5	2000-08-08	6	Tidal wetland (non-forested, wetland)
Eaton's Bur-marigold	SC	S2	G3	2011-09-06	28	Tidal wetland (non-forested, wetland)
Estuary Bur-marigold	SC	S3	G4	1936-07	10	Tidal wetland (non-forested, wetland)
Featherfoil	T	S1	G4	2016-06-08	10	Open water (non-forested, wetland),Forested wetland
	T	S1	G4	2017-06-21	13	Open water (non-forested, wetland),Forested wetland
	T	S1	G4	2017-05	12	Open water (non-forested, wetland),Forested wetland
Low Sedge Fen	<null>	S3	GNR	2013-06-28	18	Open wetland, not coastal nor rivershore (non-forested, wetland),Coastal non-tidal wetland (non-forested, wetland)
Mountain-laurel	SC	S2	G5	1993	29	Conifer forest (forest, upland),Hardwood to mixed forest (forest, upland)
Mudwort	SC	S3	G5	1984-08-21	6	Tidal wetland (non-forested, wetland)
Northern Blazing Star	T	S1	G5?T3	1922	7	Dry barrens (partly forested, upland)

Rare and Exemplary Botanical Features within 4 miles of
 Project: #13522.001, GCS Enterprises LLC, Aroma Joe's Restaurant, Kittery, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Northern Wild Comfrey						
	E	S1	G5T4T5	2011-05-10	12	Forested wetland,Hardwood to mixed forest (forest, upland)
Oak - Hickory Forest						
	<null>	S1	G4G5	2013-06-28	2	Hardwood to mixed forest (forest, upland)
	<null>	S1	G4G5	2013-06-25	1	Hardwood to mixed forest (forest, upland)
Oak - Northern Hardwoods Forest						
	<null>	S5	GNR	2002-10-22	17	Hardwood to mixed forest (forest, upland)
Pale Green Orchis						
	SC	S2	G4?T4Q	1916-08-19	25	Non-tidal rivershore (non-forested, seasonally wet),Open wetland, not coastal nor rivershore (non-forested, wetland)
	SC	S2	G4?T4Q	2003-10-10	44	Non-tidal rivershore (non-forested, seasonally wet),Open wetland, not coastal nor rivershore (non-forested, wetland)
	SC	S2	G4?T4Q	2010-07-07	33	Non-tidal rivershore (non-forested, seasonally wet),Open wetland, not coastal nor rivershore (non-forested, wetland)
	SC	S2	G4?T4Q	2008-06-14	43	Non-tidal rivershore (non-forested, seasonally wet),Open wetland, not coastal nor rivershore (non-forested, wetland)
Pocket Swamp						
	<null>	S2	G5	2013-05-31	22	Forested wetland,Hardwood to mixed forest (forest, upland)
Rue-anemone						
	E	S1	G5	2003-05-23	2	Hardwood to mixed forest (forest, upland)
Salt-hay Saltmarsh						
	<null>	S3	G5	2010-07-07	19	Tidal wetland (non-forested, wetland)
	<null>	S3	G5	2014-07-30	7	Tidal wetland (non-forested, wetland)
Saltmarsh False-foxglove						
	SC	S3	G5	1982	11	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2000-08-08	25	Tidal wetland (non-forested, wetland)

Rare and Exemplary Botanical Features within 4 miles of
 Project: #13522.001, GCS Enterprises LLC, Aroma Joe's Restaurant, Kittery, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
	SC	S3	G5	1960	4	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2011-10-21	38	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2011-10-21	37	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2000-08-08	26	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2010-10-22	19	Tidal wetland (non-forested, wetland)
Sassafras						
	SC	S2	G5	1991-08-01	5	Hardwood to mixed forest (forest, upland), Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5	1916-08-11	12	Hardwood to mixed forest (forest, upland), Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5	1905-08-18	11	Hardwood to mixed forest (forest, upland), Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5	2009-09-10	27	Hardwood to mixed forest (forest, upland), Old field/roadside (non-forested, wetland or upland)
Scarlet Oak						
	E	S1	G5	2006-08-02	7	Hardwood to mixed forest (forest, upland)
Sharp-lobed Hepatica						
	PE	SX	G5T5	1896-08-18	2	Hardwood to mixed forest (forest, upland)
Slender Knotweed						
	PE	SH	G5	1896-08-26	2	Dry barrens (partly forested, upland)
Spicebush						
	SC	S3	G5	2006-08-03	2	Forested wetland
	SC	S3	G5	2002-10-22	25	Forested wetland
	SC	S3	G5	2008-06-14	26	Forested wetland
	SC	S3	G5	2009-07-11	28	Forested wetland

Rare and Exemplary Botanical Features within 4 miles of
 Project: #13522.001, GCS Enterprises LLC, Aroma Joe's Restaurant, Kittery, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
	SC	S3	G5	2009-07-14	20	Forested wetland
	SC	S3	G5	2001-07-20	19	Forested wetland
	SC	S3	G5	2002-04-02	24	Forested wetland
	SC	S3	G5	2020-10-08	38	Forested wetland
Spongy-leaved Arrowhead						
	SC	S3	G5T4	2006-08-21	10	Tidal wetland (non-forested, wetland)
	SC	S3	G5T4	2006-09-20	9	Tidal wetland (non-forested, wetland)
Spotted Wintergreen						
	T	S2	G5	2000	21	Conifer forest (forest, upland),Hardwood to mixed forest (forest, upland)
	T	S2	G5	2013-05-22	35	Conifer forest (forest, upland),Hardwood to mixed forest (forest, upland)
	T	S2	G5	2015-10-17	23	Conifer forest (forest, upland),Hardwood to mixed forest (forest, upland)
	T	S2	G5	2003-11	22	Conifer forest (forest, upland),Hardwood to mixed forest (forest, upland)
Stout Smartweed						
	PE	SH	G4G5	1978-08-29	1	<null>
Swamp White Oak						
	T	S1	G5	1989-04	7	Forested wetland
Sweet Pepper-bush						
	SC	S2	G5	1997-06-24	20	Hardwood to mixed forest (forest, upland),Forested wetland
	SC	S2	G5	2008-08-12	22	Hardwood to mixed forest (forest, upland),Forested wetland
	SC	S2	G5	2006-07-31	3	Hardwood to mixed forest (forest, upland),Forested wetland
Tall Beak-rush						
	E	S1	G4	1938-09-08	1	Open wetland, not coastal nor rivershore (non-forested, wetland)
Tidal Marsh Estuary Ecosystem						

Rare and Exemplary Botanical Features within 4 miles of
 Project: #13522.001, GCS Enterprises LLC, Aroma Joe's Restaurant, Kittery, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
	<null>	S3	GNR	2009	5	Tidal wetland (non-forested, wetland)
Upright Bindweed						
	T	S2	G4G5	2010-07-07	15	Dry barrens (partly forested, upland), Old field/roadside (non-forested, wetland or upland)
Water-plantain Spearwort						
	PE	SH	G4	1907-07-08	4	Open water (non-forested, wetland)
	PE	SH	G4	1887-09-08	6	Open water (non-forested, wetland)
Water Pimpernel						
	SC	S3	G5T5	2006-09-20	30	Tidal wetland (non-forested, wetland)
White-topped Aster						
	E	S1	G5	1891	3	Dry barrens (partly forested, upland)
White Oak - Red Oak Forest						
	<null>	S3	GNR	1995-07-27	3	Hardwood to mixed forest (forest, upland)
	<null>	S3	GNR	2012-06-06	11	Hardwood to mixed forest (forest, upland)
White Vervain						
	SC	S1?	G5	1905-08	1	Hardwood to mixed forest (forest, upland), Open wetland, not coastal nor rivershore (non-forested, wetland)
	SC	S1?	G5	1887-08-25	4	Hardwood to mixed forest (forest, upland), Open wetland, not coastal nor rivershore (non-forested, wetland)
Wild Coffee						
	E	S1	G5	1961-07-25	6	Non-tidal rivershore (non-forested, seasonally wet), Hardwood to mixed forest (forest, upland)
	E	S1	G5	2018-07-13	1	Non-tidal rivershore (non-forested, seasonally wet), Hardwood to mixed forest (forest, upland)
Wild Garlic						
	SC	S2	G5	1983	9	Forested wetland, Hardwood to mixed forest (forest, upland)

Rare and Exemplary Botanical Features within 4 miles of
Project: #13522.001, GCS Enterprises LLC, Aroma Joe's Restaurant, Kittery, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
	SC	S2	G5	1990-07-31	19	Forested wetland,Hardwood to mixed forest (forest, upland)

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of 1 to 5. Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 G1	Critically Imperiled – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 G2	Imperiled – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 G3	Vulnerable – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 G4	Apparently Secure – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 G5	Secure – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX GX	Presumed Extinct – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH GH	Possibly Extinct – Known from only historical occurrences but still some hope of rediscovery.
S#S# G#G#	Range Rank – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU GU	Unrankable – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR SNR	Unranked – Global or subnational conservation status not yet assessed.
SNA GNA	Not Applicable – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems).
Qualifier	Definition
S#? G#?	Inexact Numeric Rank – Denotes inexact numeric rank.
Q	Questionable taxonomy that may reduce conservation priority – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The “Q” modifier is only used at a global level.
T#	Intraspecific Taxon (trinomial) – The status of intraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	Endangered – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	Threatened – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	Special Concern – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	Potentially Extirpated – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	Excellent – Excellent estimated viability/ecological integrity.
B	Good – Good estimated viability/ecological integrity.
C	Fair – Fair estimated viability/ecological integrity.
D	Poor – Poor estimated viability/ecological integrity.
E	Extant – Verified extant, but viability/ecological integrity not assessed.
H	Historical – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	Extirpated – Documented loss of population/destruction of habitat.
U	Unrankable – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	Not Ranked – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
<http://www.maine.gov/dacf/mnap>





Aroma Joe's

Aroma Joe's

All Day Breakfast Items • Pretzels • Snacks

Find Your Fuel





Aroma Joe's

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Coffee • Tea • Espresso • AJ's Rush®

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TOWN OF KITTERY MAINE

TOWN PLANNING DEPARTMENT

200 Rogers Road, Kittery, Maine 03904

PHONE: (207) 475-1323

Fax: (207) 439-6806

www.kittery.org

APPLICATION: WAIVER REQUEST WAIVER

PROPERTY DESCRIPTION	Parcel ID	Map	Lot	Zone(s)	_____	Total Land Area	
	Physical Address						
				Base:	_____		
				Overlay:	_____		
				MS4	_____		
					___ YES ___ NO		

PROPERTY OWNER'S INFORMATION	Name		Mailing Address	
	Phone			
	Fax			
	Email			

APPLICANT'S AGENT INFORMATION	Name		Name of Business	
	Phone			
	Fax		Mailing Address	
	Email			

DESCRIPTION	Ordinance Section	Describe why this request is being made.
	EXAMPLE 16.32.560 (B)- OFFSTREET PARKING.	***EXAMPLE*** Requesting a waiver of this ordinance since the proposed professional offices have a written agreement with the abutting Church owned property to share parking.

I certify, to the best of my knowledge, the information provided in this application is true and correct and will not deviate from the Plan submitted without notifying the Town Planning Department of any changes.

Applicant's Signature:		Owner's Signature:	
Date:		Date:	

TOWN OF KITTEERY MUNICIPAL CODE – TITLE 16 LAND USE AND DEVELOPMENT CODE

Article IV Waivers

16.7.4.1 Objectives Met.

In granting modifications or waivers, the Planning Board must require such conditions as will, in its judgment, substantially meet the objectives of the requirements so waived or modified.

ARTICLE VIII. PLANNING BOARD FINAL PLAN ACTION

16.10.8.1.1 Actions and Decisions

16.10.8.2.5 Conditions and Waivers

Conditions required by the Planning Board at the final plan review phase must have been met before the final plan may be given final approval unless so specified in the condition or specifically waived, upon written request by the applicant, by formal Planning Board action wherein the character and extent of such waivers which may have been requested are such that they may be waived without jeopardy to the public health, safety and general welfare.

LANDSCAPING SCHEDULE

QUANTITY	TYPE	SPECIES	COMMON NAME	SIZE
2	TREE	ACER SACCHARUM	SUGAR MAPLE	12' HEIGHT, 2.5" CALIPER
4	TREE	PINUS STROBUS	EASTERN WHITE PINE	12' HEIGHT, 2.5" CALIPER
2	TREE	BETULA NIGRA	RIVER BIRCH	12' HEIGHT, 2.5" CALIPER
5	SHRUB	ARONIA ARBUTIFOLIA	RED CHOKEBERRY	2'-3' HIGH
5	SHRUB	MYRICA PENNSYLVANICA	BAYBERRY	2'-3' HIGH
11	SHRUB	ILEX VERTICILLATA	WINTERBERRY	2'-3' HIGH
5	SHRUB	FORSYTHIA 'SUNRISE'	SUNRISE FORSYTHIA	2'-3' HIGH
9	PERENNIAL	HEMEROCALLIS SPECIES	DAY LILLY	#2 POT

NOTE: PROPOSED LANDSCAPING SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE DEVELOPMENT.

SITE DEVELOPMENT DATA		ALLOWED	PROPOSED
TAX MAP:	66 LOT: 26		
OWNER:	LYNCH, CHARLES S 13 POCAHONTAS ROAD KITTERY POINT, ME 03905-5300	MINIMUM FRONT YARD 30'	30'
		MINIMUM SIDE / REAR YARD 30'	100'
		MINIMUM LOT SIZE 200,000 SF	13.8 ACRES
		MAXIMUM IMPERVIOUS COVERAGE N/A	N/A
LOT SIZE:	13.8 ACRES	MINIMUM STREET FRONTAGE 250'	500'
ZONE:	MIXED USE (MU)	MAXIMUM BUILDING HEIGHT 40'	18'
		PROJECT AREA: 1.0 acres	
APPLICANT:	GCS ENTERPRISES LLC 352 WARREN AVE PORTLAND, ME 04103	NEW IMPERVIOUS AREA:	NET IMPERVIOUS AREA REDUCED
		SITE DISTANCE	
		SITE DISTANCE LOOKING SOUTH 450'	700'
		SITE DISTANCE LOOKING WEST 450'	1000'+
ENGINEER:	HALEY WARD (FORMERLY CES, INC.) ATTN: SEAN THIES, PE ONE MERCHANTS PLAZA, SUITE 701 BANGOR, MAINE 04401	NOTES:	
		1. THERE ARE NO PROPOSED SOIL DISTURBANCES TO WETLANDS OR VERNAL POOLS.	
		2. PARKING: THIS IS A DRIVE-THROUGH RESTAURANT WITH NO CUSTOMER SEATING. ONLY EMPLOYEE-PARKING HAS BEEN PROPOSED.	

NOTE:
 1. OPEN SPACE AREA REQUIRED: 23,174 SF / OPEN SPACE PROVIDED 24,000 SF (APPROXIMATE)
 2. ANY FUTURE DEVELOPMENT OF THE PROPERTY OUTSIDE THE LEASED AREA WILL BE REQUIRED TO COMPLY WITH THE KITTERY LAND USE ORDINANCE.



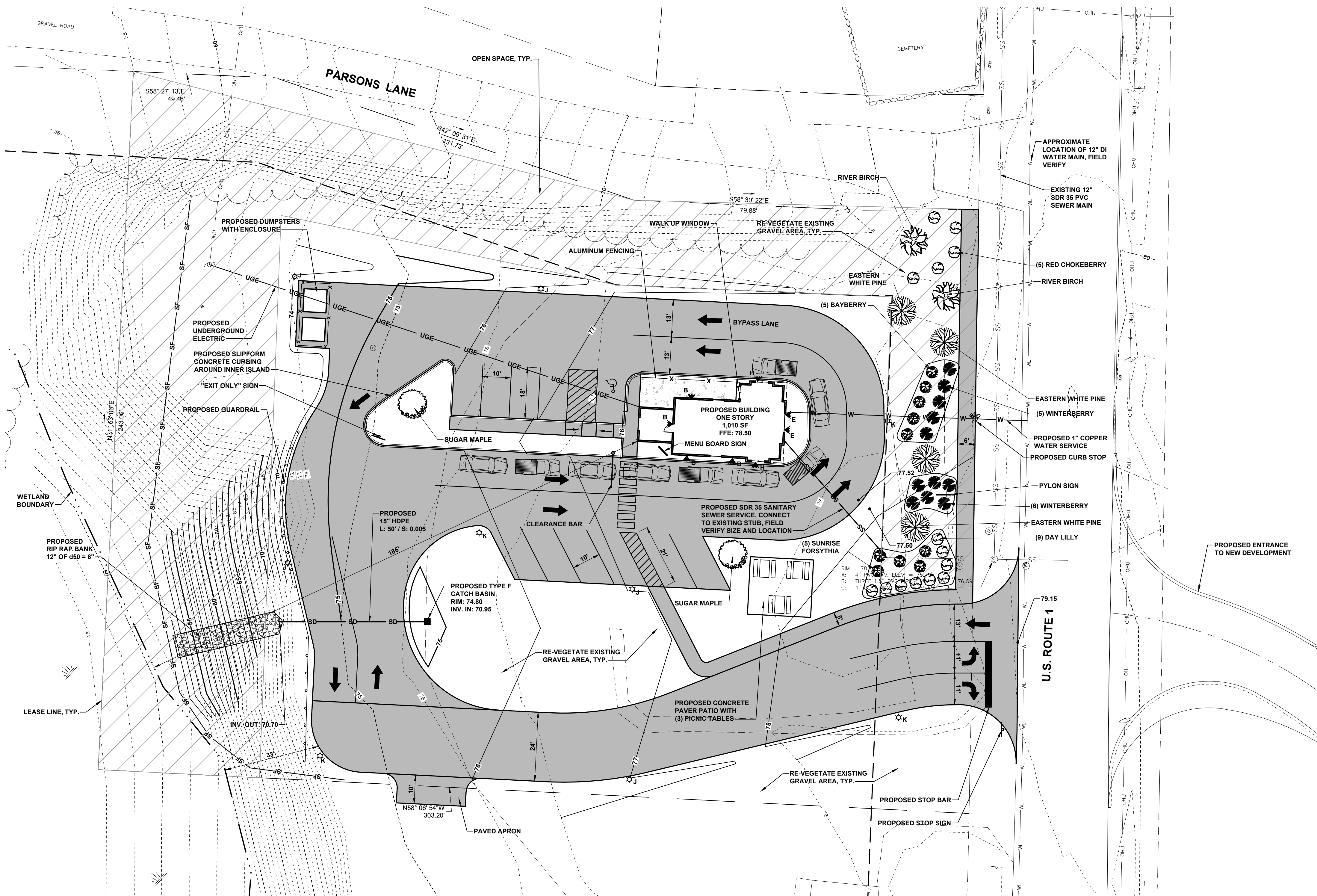
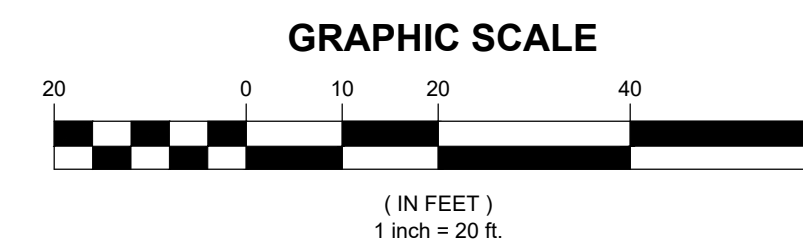
LOCATION MAP: USGS QUADRANGLE: YORK HARBOR
 MAPTECH® USGS TOPOGRAPHIC SERIES™
 ©MAPTECH®, INC. 978-933-3000
 WWW.MAPTECH.COM/TOPO
 SCALE: 1"=2000'

LEGEND:

DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE	---	---
BENCHMARK	⊕	⊕
MANHOLE	⊙	⊙
UTILITY POLE	⊙	⊙
CATCH BASIN	⊙	⊙
HYDRANT	⊙	⊙
EDGE OF GRAVEL	---	---
EDGE OF PAVEMENT	---	---
MAJOR FOOT CONTOUR	---100---	---100---
MINOR FOOT CONTOUR	---98---	---98---
STORM DRAIN	SD	SD
SANITARY SEWER	SS	SS
OVERHEAD UTILITIES	OHU	OHU
UNDERGROUND UTILITIES	UGU	UGU
WETLAND BOUNDARY	---	---
SILT FENCE	SF	SF
PAVED SURFACE	▭	▭
SITE LIGHTING	⊙	⊙

PLAN REFERENCE:

1. INFORMATION BASED ON SITE PLAN BY ANDERSON LIVINGSTON ENGINEERS, INC. DATED APRIL 9, 2018.
2. ON JULY 20 & 21, 2021 HALEY WARD CONDUCTED A HIGHWAY SURVEY AND SOME LIMITED TOPOGRAPHY ON THE SUBJECT PROPERTY AS WELL AS TIE INTO THE BOUNDARY SURVEY BY ANDERSON LIVINGSTON ENGINEERS, INC.



SITE PLAN
 SCALE: 1"=20'

REV.	DATE	DESCRIPTION	BY	CHK.
1	2021.12.01	PER PEER REVIEW COMMENTS	WAB	SMT

NOT FOR CONSTRUCTION

HALEY WARD
 ENGINEERING | ENVIRONMENTAL | SURVEYING
 One Merchants Plaza, Suite 701
 Bangor, Maine 04401
 207.989.4824
 WWW.HALEYWARD.COM

GCS ENTERPRISES LLC
 US ROUTE 1, KITTERY, MAINE

PROPOSED SITE PLAN

	DATE	2021.05.26	SCALE	1"=20'
	DRAWN BY	WAB	DESIGNED BY	WAB
	CHECKED BY	SMT	PROJECT No.	13522.001
	DRAWING No.		REV.	

C101 **1**



October 29, 2021

Bart McDonough, Town Planner
Town of Kittery
200 Rogers Road
Kittery, Maine 03904

**RE: Town of Kittery, Planning Board Services
523 US Route 1, Aroma Joe's Site Plan Review Application
Tax Map 66, Lot 26; Mixed Use (MU) Zone
CMA #591.139**

Dear Bart:

CMA Engineers has received the following information for Assignment #139, review of the Aroma Joe's Site Plan Review application, located at 523 US Route 1, Map 66 Lot 26 in the Mixed-Use Zone.

- 1) Site Plan Review Application for GCS Enterprises, LLC, prepared by Haley Ward, Inc. of Bangor, ME, dated August 2021.

We have reviewed the information submitted for conformance with the Kittery Land Use and Development Code (LUDC) and general engineering practices and offer the comments below that correspond directly to the Town's Ordinances.

The proposed development includes a drive thru coffee shop, associated infrastructure including drainage, and associated driveway and parking. The facility would be served by the Kittery Sewer Department and the Kittery Water District. The application includes drawings, drainage report, and a traffic movement permit application.

We note that we received an incomplete plan set (no cover sheet, existing conditions plan, etc.). The applicant should provide a full plan set with their application.

16.3 Zoning Regulations

16.3.2.13 Mixed Use (MU)

The proposed use is a permitted use as a restaurant.

The project conforms to all zoning standards for MU.

16.8 Design and Performance Standards-Built Environment

Article IV Streets and Pedestrianways/Sidewalks Site Design

The applicant proposes to access the site directly from Route One and has provided a traffic movement permit application to MDOT. A scoping meeting was conducted with MDOT on October 25, 2021. Based on

discussions during the scoping meeting, the applicant is going to modify their proposal to include a righthand turning lane and/or traffic calming measures in Route One and sidewalks and access to the site from the east side of Route One.

16.8.4.5 Access Control and Traffic Impacts

D. The applicant is evaluating turning lanes and/or islands as part of the revised traffic movement permit.

16.8.4.13 Sidewalks

Discussion of sidewalk installation was part of the MDOT scoping meeting. The applicant has not proposed any sidewalk in the right of way or on site.

Article VI Water Supply

The project proposes to use Kittery Water District water.

The applicant should indicate the size and material of the service.

The applicant should indicate the location of the proposed curb stop.

Where is the closest existing hydrant located?

The plans should show the size and material of the existing water main.

The plans should provide details for the water service (size, material, bedding, curb stop, etc.)

Is fire suppression required?

Article VII Sewage Disposal

The applicant proposes to use Kittery sewer.

The applicant should indicate the size and material of the service.

The applicant should indicate the location of the proposed cleanout.

The plans should show the size and material of the existing sewer main.

The plans should provide details for the sewer service (size, material, bedding, cleanout, etc.)

Is a grease trap required for this service?

The proposed sewer service should be reviewed and approved by the Superintendent of Sewer Services.

Article VIII. Surface Drainage

16.8.8.1 Stormwater Drainage

The project requires a Stormwater Permit by Law and adherence to MDEP Chapter 500 Basic Standards. These standards have been met.

The predicted performance meets Kittery's pre and post development standard.

The erosion and sediment control plan for during construction is similarly well conceived and protective.

We offer the following comments/questions:

- Is the proposed work in the MDOT ROW reviewed/approved by DOT?

16.8.8.2 Post-Construction Stormwater Management

The O&M plan should be reviewed and clarified specifically meet address the compliance requirements of the Post-Construction Stormwater Management section, including submitting a certification of inspection to the Town Code Enforcement Officer by July 31st. Please clarify.

Article IX. Parking, Loading and Traffic

16.8.9.1 The proposed parking spaces are for employees only and 12 spaces (including 1 handicap accessible space) are provided. There is no “Drive Thru Coffee Restaurant” listed as a use. The closest use, drive-in restaurants, snack bars and fast food outlets, has a minimum of 15 parking spaces plus additional spaces for seats. The proposed restaurant has no seating. 12 spaces seems adequate for the proposed use. Is this acceptable to the Planning Board?

The need for an updated Traffic Movement Permit application was identified during the scoping meeting with MDOT. The updated application will address access to the site (via righthand turn lane) and/or traffic calming measures in Route One. Pedestrian access is anticipated to be addressed as well. Sight distances, with respect to MDOT standards, require some vegetative pruning

Article XVII. Utilities

The water and sewer utilities were addressed previously in this review.

Underground electricity is proposed with installation of a new utility pole. The applicant should coordinate with Central Maine Power on electrical details and approvals.

Article XVIII. Landscaping

A landscape plan has been prepared for the site development is appropriate for the development.

Article XIX. Sprinkler Systems

A sprinkler system is not proposed. Is a sprinkler system appropriate for this application?

Article XXIV. Exterior Lighting

An exterior lighting plan has been prepared for the proposed site plan and building. It appears that the maximum footcandles standard of 8 is exceeded in the drive thru (however the applicant lists the maximum footcandles as 2.9). Please clarify, correct or apply for a waiver.

16.8 Design and Performance Standards-Built Environment

Article 1 General

16.9.1.3. The applicant prepared an appropriate and effective erosion and sedimentation control plan.

Article III. Conservation of Wetlands Including Vernal Pools

16.9.3.1. The plan identifies wetlands. Site development and disturbance appears to avoid the setbacks associated with the wetlands, however, the proper setback should be indicated on the plan.

Other

The applicant has contacted the Maine Historic Preservation Commission, the Maine Natural Areas Program, and the Maine Department of Inland Fisheries and Wildlife with respect to protected habitat or species on site. The Maine Natural Areas Program has responded that there are no rare botanical features within the project area. The applicant should forward response from the other parties upon receipt.

Should you have any questions, please do not hesitate to call.

Very truly yours,

CMA ENGINEERS, INC.



Jodie Bray Strickland, P.E.

Senior Project Engineer

cc: Sean Thies, P.E., Haley Ward, Inc.

Bart McDonough

From: Randy Dunton <rdunton@gorrillpalmer.com>
Sent: Saturday, November 27, 2021 10:13 PM
To: Illian, Randy; vanLuling, Robert
Cc: Bart McDonough; Sean Thies; Maryna Shuliakouskaya; Allison Goodridge; Loren Goodridge
Subject: RE: Aroma Joes - Kittery - Traffic Follow Up

Importance: High

Good evening Randy & Bob,

Thank you for your quick turnaround and your review and comments.

Please see responses below in **green**.

We look forward to discussing this in more detail this week.

Please provide some available days and times for this week to discuss in more detail so we can keep forward momentum on this project and resolve any outstanding items.

Thank you.

Randy Dunton P.E., PTOE | Project Manager



707 Sable Oaks Drive, Suite 30 | South Portland, ME 04106

207.772.2515 x 246 (office) | 207.239.7430 (mobile)

www.gorrillpalmer.com

From: Illian, Randy <Randy.Illian@maine.gov>
Sent: Wednesday, November 24, 2021 12:04 PM
To: Randy Dunton <rdunton@gorrillpalmer.com>; vanLuling, Robert <Robert.vanLuling@maine.gov>
Cc: Bart McDonough <BMcDonough@kitteryme.org>; Sean Thies <sthies@haleyward.com>; Maryna Shuliakouskaya <Maryna@aromajoes.com>; Allison Goodridge <allison@aromajoes.com>; Loren Goodridge <loren@aromajoes.com>
Subject: RE: Aroma Joes - Kittery - Traffic Follow Up

Randy,

I have reviewed the Study submitted and I have found the following issues and omissions:

1. The 2018 counts and growth rate have obvious conflicts with the counts taken in 2021 (Good-To-Go Study). These conflicts should be addressed. Please also supply a left and right turn lane warrant analysis using

the 2021 counts (plus an appropriate growth rate). The appropriate growth rate for this area should be a minimum of 2%. Our original TMP submittal for this project was based on the Good to Go 2021 traffic volumes. At the scoping meeting, we were requested to change to the Hotel Volumes, which is what was done and recently submitted per request. With MaineDOT concurrence, we recommend continuing with the Good to Go traffic volumes as was originally submitted. It should not be the applicant's responsibility to determine why the previous two projects do not agree, but to use the information that all agree is representative, which in our opinion are the Good to Go volumes. We have already submitted left and right turn lane warrant analysis on the Hotel volumes that were requested at the Scoping Meeting. If the decision is now to return to the volumes that were originally submitted in the TMP application we can do that, but need clear guidance from MaineDOT how they would like to proceed so we can resolve this issue and move forward. The ½ % growth that was applied to the traffic volumes used in the original application is consistent with the Good to Go traffic study (included in the original application) and supported with documentation. If MaineDOT would now like us to use a 2% growth, please provide the documentation to support the change to using a 2% growth rate such that we can consider that in our submittal. Please provide clear guidance as to what volumes are being requested to use.

2. As discussed in the Scoping Meeting, submit a revised site plan with pedestrian access to the building. I will let the site engineer (Sean Thies – copied) respond to this item.
3. As discussed in the Scoping Meeting, unless otherwise approved by the Town of Kittery, supply a site plan with pedestrian accommodations along the frontage. I will let the site engineer (Sean Thies – copied) respond to this item.
4. As discussed in the Scoping Meeting, please supply proposed solutions to allow a safe pedestrian connection to the facility via the sidewalk on the easterly side of Route 1. As discussed in the recent submittal under "Traffic Calming Evaluation", Route 1 at this location has a speed limit of 45 mph. Because the speed limit is 45 mph, crosswalks at this location are prohibited by MaineDOT unless it is a signalized intersection (which it is not). In our professional opinion, pedestrians should not be crossing at this location, it would be unsafe for both pedestrians and the traveling public. If it is identified after the facility is operational that pedestrians are crossing regardless of the dangers, we recommend that the MaineDOT erect pedestrian "Ahead" signs (not pedestrian crossing signs).

Please feel free to write or call if you have any questions.

Sincerely,

Randy Illian, P.E.
Southern Region Traffic Engineer
Maine Department of Transportation
Scarborough, ME
tel: (207)885-7000
fax: (207)883-3806
he / him

From: Randy Dunton <rdunton@gorrillpalmer.com>
Sent: Monday, November 15, 2021 2:22 PM
To: Illian, Randy <Randy.Illian@maine.gov>; vanLuling, Robert <Robert.vanLuling@maine.gov>
Cc: Bart McDonough <BMcDonough@kittery.me.org>; Sean Thies <sthies@haleyward.com>; Maryna Shuliakouskaya <Maryna@aromajoes.com>; Allison Goodridge <allison@aromajoes.com>; Loren Goodridge <loren@aromajoes.com>
Subject: Aroma Joes - Kittery - Traffic Follow Up
Importance: High

EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon all,

Per request at the MaineDOT Scoping Meeting for the Kittery Aroma Joes on October 25, 2021, please find attached the requested follow up traffic information.

It is our understanding that with the submittal of this information, a Draft TMP can now be distributed for review and comment.

Please do not hesitate to contact me if you have any questions or want to discuss in more detail.

Thank you.

Randy Dunton P.E., PTOE | Project Manager



707 Sable Oaks Drive, Suite 30 | South Portland, ME 04106
207.772.2515 x 246 (office) | 207.239.7430 (mobile)
www.gorrillpalmer.com

MEMORANDUM

To: Randy Illian, PE, MaineDOT
Copied: Bart McDonough, Kittery Town Planner
 Sean Thies, Haley Ward
From: Randy E. Dunton, PE, PTOE
Date: November 12, 2021
Project: Kittery Aroma Joes Proposed Development

INTRODUCTION

Per MaineDOT's request at the October 25, 2021 Scoping Meeting for the Aroma Joes project located off Route 1 in Kittery, Maine, we are submitting the following supplemental information for review pursuant to obtaining a MaineDOT Traffic Movement Permit:

- Revised traffic volumes
- Left / Right Turn Lane Warrant Analysis
- Expanded Study Area for Safety Review
- Traffic Calming Evaluation
- Sight Distance Analysis

The following describes each of the requested items in more detail.

REVISED TRAFFIC VOLUMES

As discussed at the Scoping Meeting, the existing traffic volumes on Route 1 in front of the site have been revised based on the "Projected 2021 Build Volumes" presented in Figure 5 of the "Traffic Impact Study, Proposed Hotel & Residential Apartments" prepared by Sewall, dated September 7, 2018. That project used count data collected by Sewall on August 21, 2018 which was then adjusted at a rate of 1/2% per year for three years – from 2018 to 2021. The volumes in the Sewall figure also include the trips associated with the then proposed hotel and apartments to project traffic volumes at the site upon completion of the project in 2021. The relevant figure in the traffic impact study from Sewall is included as Attachment A.

To adjust the 2021 postdevelopment volumes from the Hotel / Apartment project to the 2022 predevelopment volumes (design year for Aroma Joes) for this project, the 2021 volumes were adjusted by 1/2% for one year (2021-2022). As the proposed Aroma Joes experiences peak traffic in the morning hours, this evaluation as agreed upon during the scoping meeting, focused on the AM peak hour of adjacent street traffic. The following table presents the AM peak hour traffic on Route 1 at the site based on the previous studies volumes.

Table 1: Existing Traffic Volumes at the Site

Time	Northbound	Southbound	Total
AM	278 (45%)	341 (55%)	619



As shown in the table, the majority of morning traffic is traveling southbound – toward Lewis Road. The use of these traffic volumes required that we adjust the trip distribution and assignment that was originally presented in the TMP submission for this proposed Aroma Joes. The trip generation associated with the Aroma Joes remained unchanged, but the trips are now assigned to Route 1 in accordance with the proportions established in the table above. Once the trips were assigned to Route 1, the AADT values presented on the MaineDOT online map-viewer application were used to distribute them among adjacent roads. A complete set of updated figures is included as Attachment B.

LEFT / RIGHT TURN LANE WARRANT ANALYSES

Per request at the scoping meeting, a left and right turn lane warrant analysis were completed using the National Cooperative Highway Research Program (NCHRP) Report 457 and the design hourly volumes shown on Figure 5 in Attachment B. The purpose of the lane warrant analysis is to identify if some form of left or right turn treatment should be considered on Route 1 to accommodate the forecast traffic. Based on the updated analysis, neither a left nor right turn lane is warranted as a result of the proposed development. The results of the NCHRP 457 analysis are included in Attachment C.

SAFETY REVIEW

Safety information presented on the Maine Public Crash Query Tool and the MaineDOT Public Map Viewer was reviewed for the three-year period of 2018-2020. To evaluate whether a location has a crash problem, MaineDOT uses two criteria to define a High Crash Location (HCL). Both criteria must be met to be classified as an HCL. The criteria are as follows:

1. A critical rate factor (CRF) of 1.00 or more for a three-year period. A CRF compares the actual crash rate to the rate for similar intersections in the state, A CRF of less than 1.00 indicates a rate of less than average **and**:
2. A minimum of eight crashes over the same three-year period.

Based on a review of the crash data information provided on the MaineDOT Crash Query Tool website and the MaineDOT Map Viewer, there are no HCLs in the immediate vicinity of the site. This vicinity was expanded for this analysis to include segments and intersections along Route 1 from the intersection with the Visitor Center Access Road in Kittery on the south end of the study area and the intersection with Southside Drive in York on the north end of the study area. While no HCLs were identified in the vicinity, further analysis of the area is presented below.

The requested study area for Route 1 encompasses four road segments and five intersections as shown on the MaineDOT online map-viewer application. These segments start with node 56536 in Kittery to the south, and end with node 56972 in York to the north. This section of Route 1 included a total of 42 crashes during the 3-year period from 2018 to 2020. Of these, 23 crashes were at intersections, while the remaining 19 were on roadway segments. The crashes are relatively well distributed along this strip with three locations that met one of the two criteria for classification as a high crash location but not both. The locations are as follows:

- Intersection of Route 1 and Southside Road / Beech Ridge Road (Node 56972, 12 crashes & CRF 0.75) – The proposed project is forecast to increase the AM peak hour traffic to this intersection by approximately 20 vehicles, or one every three minutes. Therefore, the impact to this intersection should be minimal.



- Route 1 from Idlewood Lane to the Kittery/York town line (Node 56971 to Node 56567, 8 crashes & CRF 0.91) – This section of Route 1 is posted for a 45-mph speed limit and includes a single travel lane in either direction. This is also the segment of Route 1 that the project will directly access. Since the number of crashes (8) is the minimal number to meet criteria for HCL and the CRF is less than 1, this roadway segment should not be significantly impacted by the proposed Aroma Joes.
- Route 1 from Creation Lane to Southside Road / Beech Ridge Road (Node 57370 to Node 56972, 10 crashes & CRF 0.69) – This section of Route 1 is posted for a 45-mph speed limit and includes a single travel lane in either direction. Since the CRF is well below the criteria for HCL and the project is only forecast to increase the AM peak hour by approximately 20 vehicles in the AM peak hour, this roadway segment should not be significantly impacted by the proposed Aroma Joes.

While there are three locations in the area that meet one of the two criteria for qualifying as a HCL, none meet the criteria for HCL, or have a significant number of crashes with a CRF that is close to 1 (such as a 0.95 or higher). The complete crash summary report for the area studied is included as Attachment D.

TRAFFIC CALMING EVALUATION

At the MaineDOT scoping meeting, there was a request from the MaineDOT that the applicant evaluate the potential for traffic calming on Route 1 along the site frontage. Route 1 along the site frontage has a Federal Functional Classification as a Minor Arterial, with a posted speed limit of 45 mph. With this classification and a speed limit of 45 mph, the alternatives for traffic calming are extremely limited, with no vertical changes allowed by MaineDOT. This leaves alternatives such as stamped pavement and raised islands. In our professional opinion, we would not recommend traffic calming at this location. There is none already in the area and it would not be expected by drivers, especially given the high volume of non-commuter traffic that does not travel this area on a regular basis. We do recommend that locations of poor access management, such as the business located to the north, be addressed as opportunity arises; however, improving access management is outside the responsibility of this applicant. By Aroma Joes placing the proposed driveway opposite another driveway, limiting their access to only one, and locating the driveway away from other areas of poor access management, this applicant has practiced good access management techniques, thus limiting their impacts to safety or mobility along Route 1. See Attachment E for “MaineDOT Guidelines for the Use of Traffic Calming Devices”.

SIGHT DISTANCE ANALYSIS

As was identified in the original TMP submission, the site driveway as proposed would have adequate sight distance in its current form. The following table presents both the measured sight distances at the site driveway and the Town of Kittery required distances based on the 45-mph speed limit at the site on Route 1.



Table 2 – Sight Distance Summary

Approach	Sight Distance (ft)		
	Required (ft)*	Looking Left	Looking Right
Exiting onto Route 1 - 45 mph (@10' from edge of traveled way)	450 / (710)	1030	565
Exiting onto Route 1 - 45 mph (@15' from edge of traveled way)	450 / (710)	1030	525

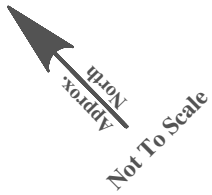
*xx / (xx) = Town criteria / (retrograde)

As shown in the table above, the sight distance looking both left and right at the proposed site driveway exceed both the Town of Kittery and MaineDOT standard requirements. However, the sight distance is less than the waivable retrograde criteria exiting the site drive looking right. In this direction, the sight line was eventually restricted by vegetation on the near side of the road approximately 240' south of the proposed driveway. See the aerial image figure included in Attachment F for a visual.

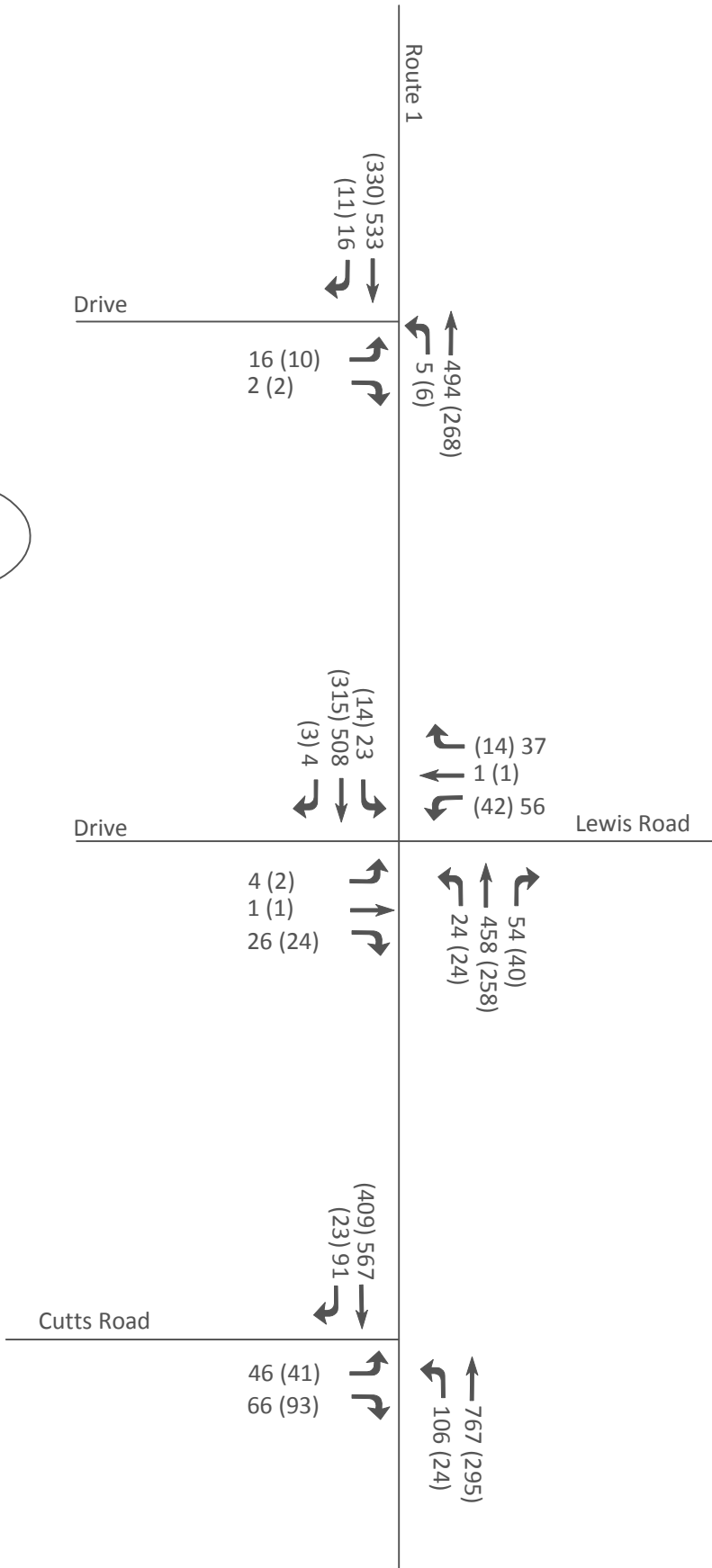
Based on our site review, it appears that this vegetation may be within the right of way (would need to be verified), and with clearing, the retrograde sight distance may be achieved. Since the current available sight distance exceeds both MaineDOT standard criteria and the Town's criteria, and retrograde criteria can be waived, we recommend that a mitigation item for the project be that vegetation within the right of way be removed to maximize available sight distance. If the full 710 feet is achieved, or even exceeded once the vegetation is cleared, then the criteria is met or exceeded. If the full 710 feet cannot be achieved, by issuance of the TMP, the project receives a waiver, but both MaineDOT and Town standards are exceeded.

Attachment A

Figure 5, “Projected 2021 Build Volumes” from “Traffic Impact Study Proposed Hotel & Residential Apartments” by Sewall, dated September 7, 2018



SITE



() AM Peak Hour
 _ PM Peak Hour

Figure 5
Projected 2021 Build Volumes
Homestead Subdivision
Kittery, Maine

Attachment B

Updated Figure Set

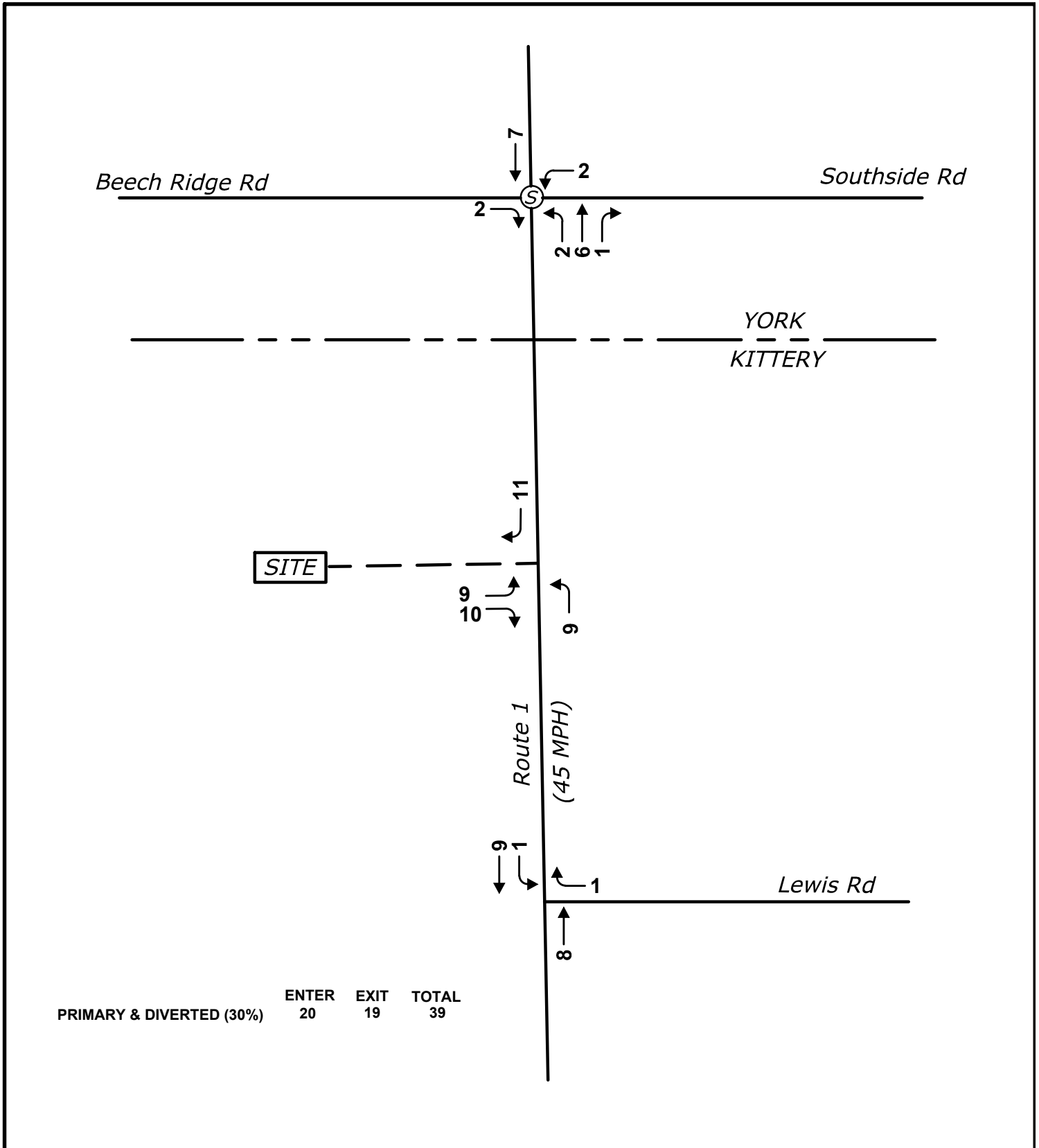
Site Location

Figure No. **1**



Aroma Joe's KITTERY, MAINE

Design: BP Scale: NTS
Draft: BP Date: MAY 2021
Checked: RED File Name: LOC.dwg

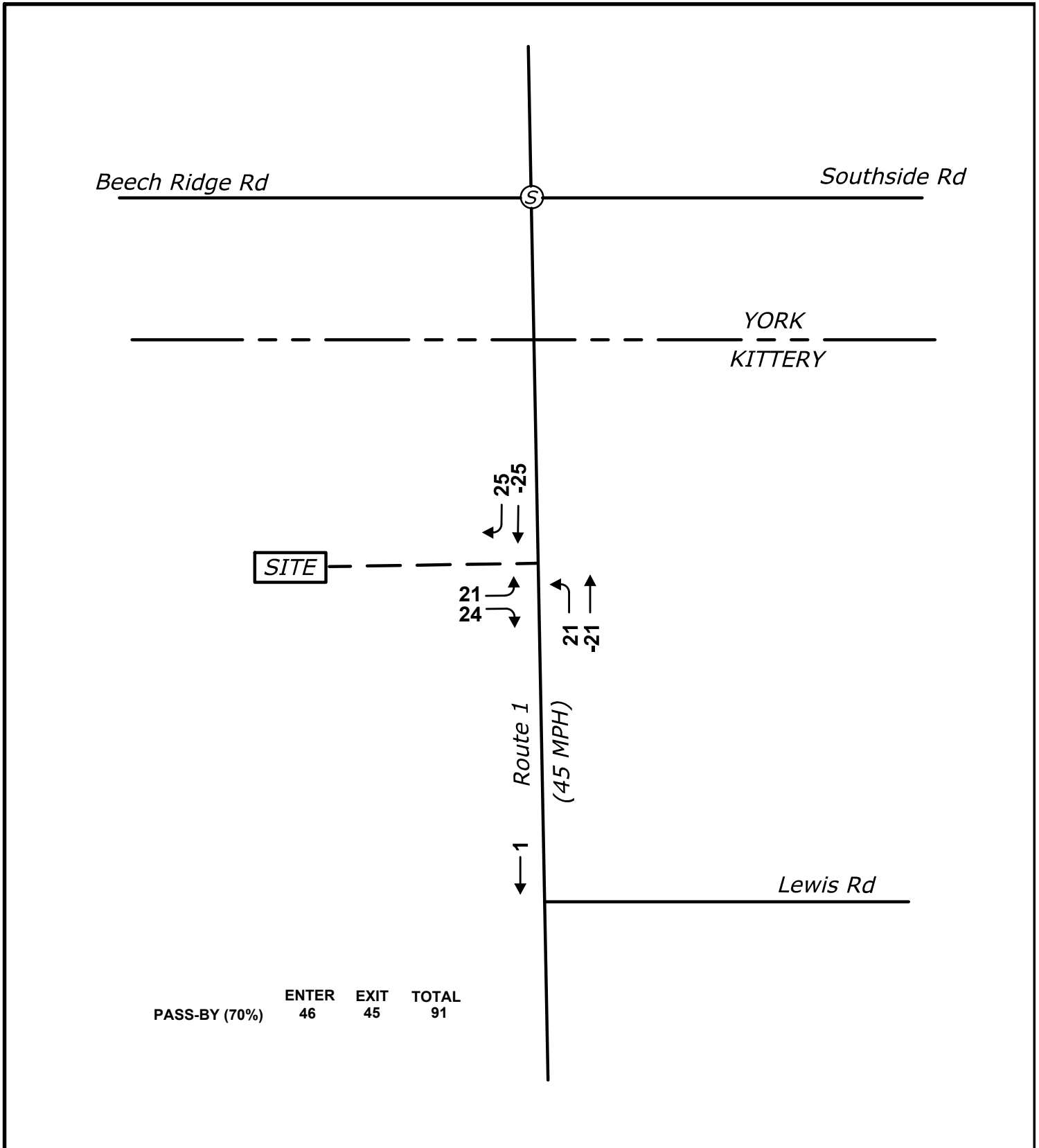


Aroma Joe's KITTERY, MAINE

AM Pass-By Trip Distribution and Assignment

Figure No.

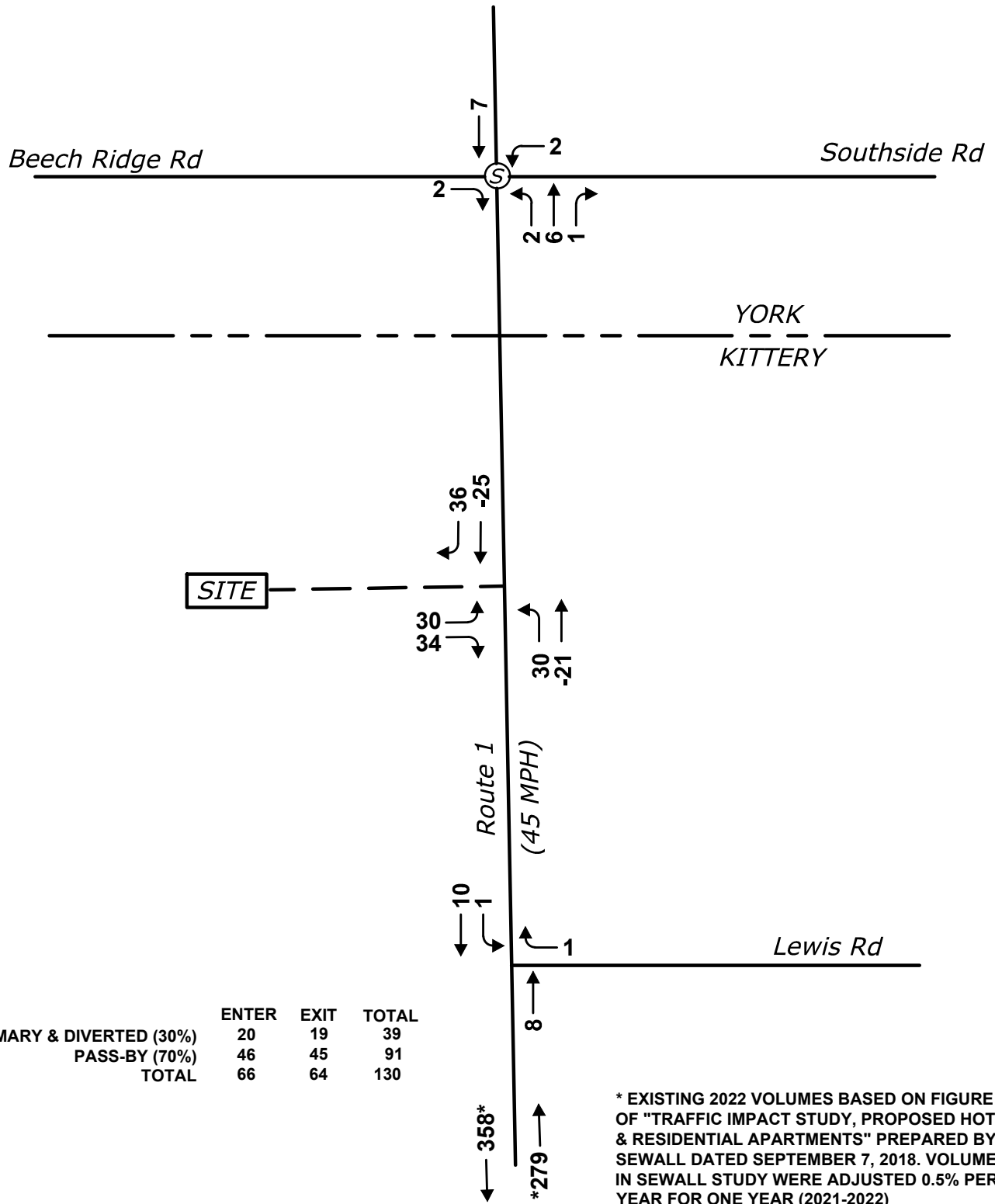
3



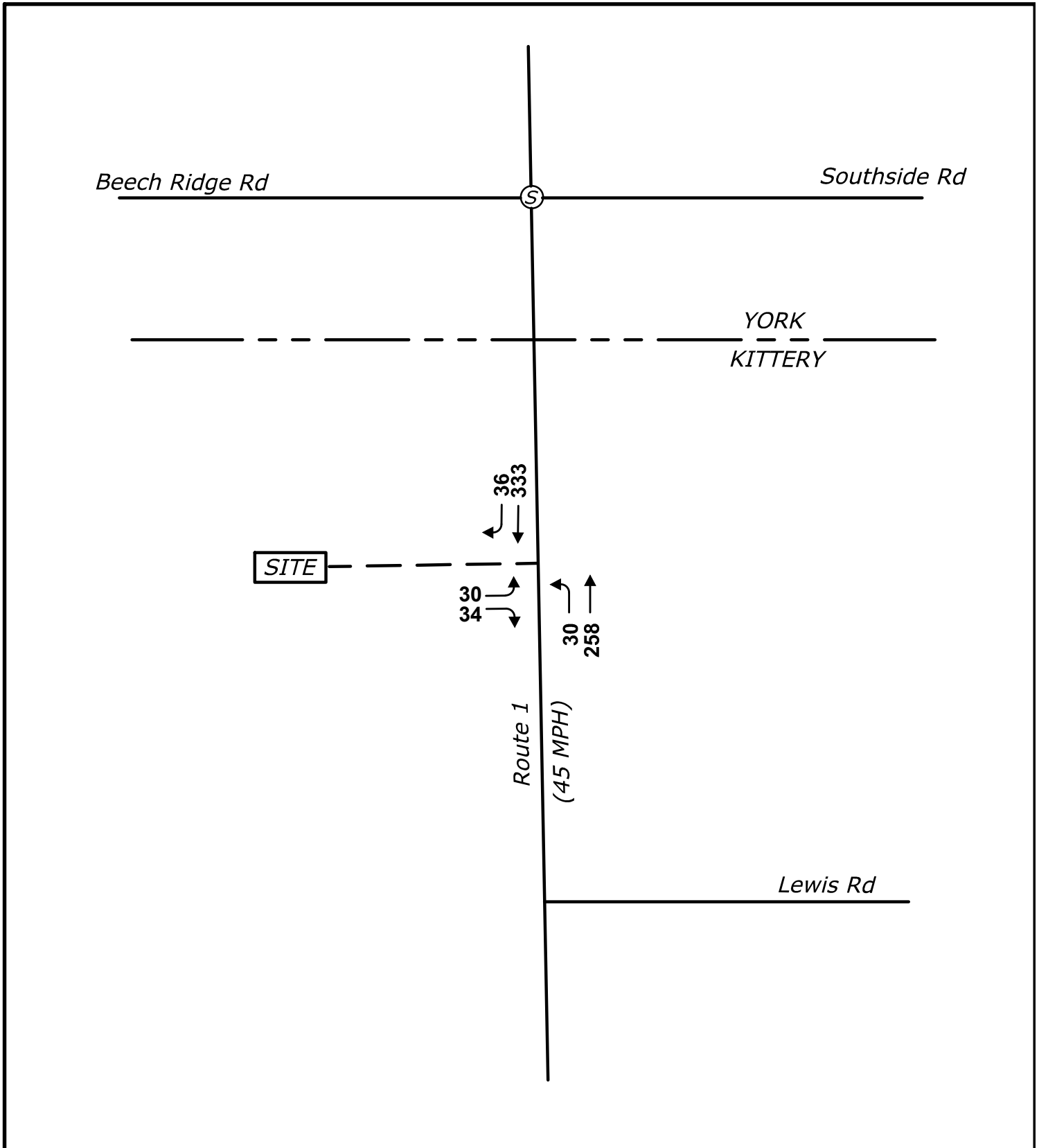
Aroma Joe's KITTERY, MAINE

Design: BP Scale: NTS
 Draft: BP Date: NOV 2021
 Checked: RED File Name: figure set.dwg

Total AM Trip Distribution and Assignment



Aroma Joe's KITTERY, MAINE



Aroma Joe's KITTERY, MAINE

Design: BP Scale: NTS
Draft: BP Date: NOV 2021
Checked: RED File Name: figure set.dwg

Attachment c

Left / Right Turn Lane Warrant Spreadsheets

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

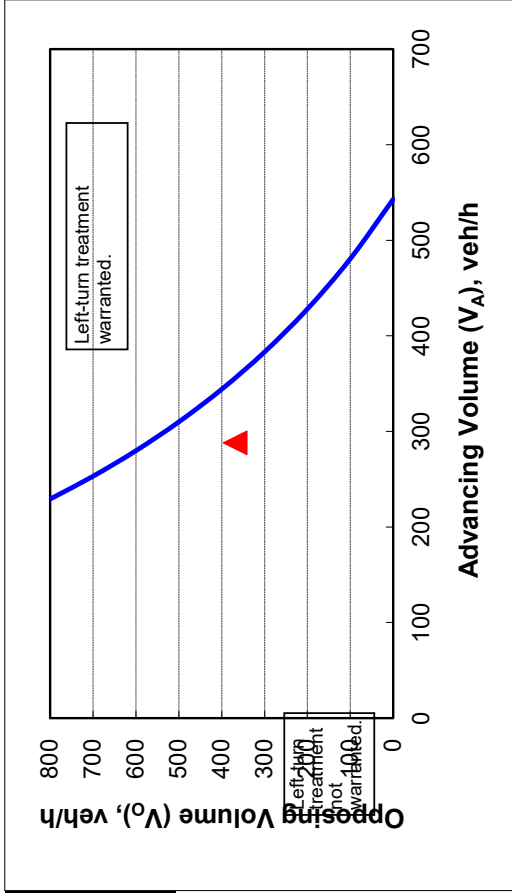
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	45
Percent of left-turns in advancing volume (V_A), %:	10%
Advancing volume (V_A), veh/h:	288
Opposing volume (V_O), veh/h:	369

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	356
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

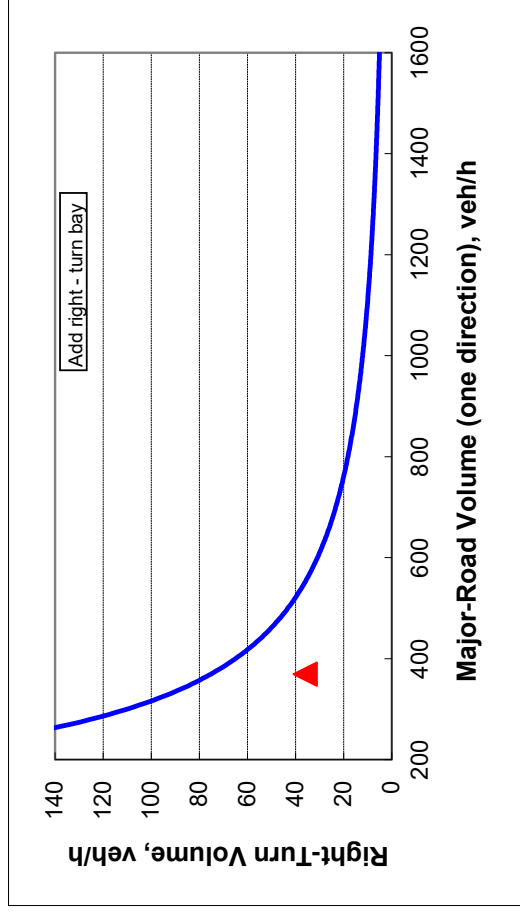
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	369
Right-turn volume, veh/h:	36

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	75
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Attachment D

Crash Summary Report

Requested Safety Information

Kittery / York, Maine



Route 1 from node 56536 in Kittery to node 56972 in York

Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

Crash Summary I Section Detail Crash Summary II 1320 Public 1320 Private 1320 Summary

REPORT DESCRIPTION

Kittery/York
Rte. 1 from Access Rd. to Beech Ridge/Southside Rd.

REPORT PARAMETERS

Year 2018, Start Month 1 through Year 2020 End Month: 12

Route: 0001X Start Node: 56536 End Node: 56972 Start Offset: 0 End Offset: 0 Exclude First Node Exclude Last Node

Crash Summary I

Nodes

Node	Route - MP	Node Description	U/R	Total Crashes	K	A	B	C	PD	Injury	Percent Annual M Ent-Veh	Crash Rate	Critical Rate	CRF	
56536	0001X - 4.08	Int of ACCESS RD US 1	1	4	0	0	0	0	4	0.0	3.443	0.39	0.39	0.00	
56971	0001X - 4.33	Int of IDLEWOOD LN US 1	1	2	0	2	0	0	0	100.0	3.126	0.21	0.40	0.00	
56537	0001X - 4.67	TL - Kittery, York	2	0	0	0	0	0	0	0.0	3.086	0.00	0.44	0.00	
57370	0001X - 4.86	Int of CREATION LN US 1	2	1	0	0	0	0	1	0.0	3.092	0.11	0.44	0.00	
56972	0001X - 5.23	Int of BEECH RIDGE RD SOUTHSIDE RD US 1	9	12	0	0	0	4	8	33.3	3.809	1.05	1.39	0.75	
Study Years: 3.00			NODE TOTALS:		19	0	2	0	4	13	31.6	16.556	0.38	0.48	0.80

Crash Summary I

Sections

Start Node	End Node	Element	Offset Begin - End	Route - MP	Section U/R Length	Total Crashes	K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF	
56536	56971	3129581	0 - 0.25	0001X - 4.08	0.25	1	0	0	0	0	1	0.0	0.00778	42.83	360.14	0.00	
		Int of ACCESS RD US 1		US 1										Statewide Crash Rate: 165.00			
56537	56971	3114221	0 - 0.34	0001X - 4.33	0.34	4	0	0	0	1	3	25.0	0.01037	128.59	336.54	0.00	
		TL - Kittery, York		US 1										Statewide Crash Rate: 165.00			
56537	57370	3114222	0 - 0.19	0001X - 4.67	0.19	8	0	0	0	3	5	37.5	0.00593	449.58	495.19	0.91	
		TL - Kittery, York		US 1										Statewide Crash Rate: 230.26			
56972	57370	3938272	0 - 0.37	0001X - 4.86	0.37	2	0	0	1	2	7	30.0	0.01123	296.73	428.35	0.69	
		Int of BEECH RIDGE RD SOUTH SIDE RD US 1		US 1										Statewide Crash Rate: 230.26			
Study Years: 3.00					Section Totals:	1.15	23	0	0	1	6	16	30.4	0.03532	217.09	303.00	0.72
Grand Totals:					1.15	42	0	2	1	10	29	31.0	0.03532	396.42	396.67	1.00	

Crash Summary

Section Details

Start Node	End Node	Element	Offset Begin - End	Route - MP	Total Crashes	Injury Crashes			Crash Report	Crash Date	Crash Mile Point	Injury Degree		
						K	A	B					C	PD
56536	56971	3129581	0 - 0.25	0001X - 4.08	1	0	0	0	0	1	2019-45775	03/10/2019	4.22	PD
56537	56971	3114221	0 - 0.34	0001X - 4.33	4	0	0	0	1	3	2020-17734	07/27/2020	4.49	PD
											2019-60848	08/06/2019	4.59	C
											2018-28987	10/12/2018	4.65	PD
											2020-28918	11/21/2020	4.65	PD
56537	57370	3114222	0 - 0.19	0001X - 4.67	8	0	0	0	3	5	2018-19636	07/19/2018	4.69	C
											2019-57094	07/05/2019	4.69	C
											2018-15933	06/06/2018	4.70	PD
											2019-77417	12/18/2019	4.70	PD
											2019-69971	10/29/2019	4.73	PD
											2018-28984	10/05/2018	4.75	PD
											2020-21004	09/03/2020	4.78	PD
											2020-23370	09/29/2020	4.83	C
56972	57370	3938272	0 - 0.37	0001X - 4.86	10	0	0	1	2	7	2020-23012	09/22/2020	4.88	PD
											2018-6930	02/26/2018	4.96	PD
											2020-14459	06/19/2020	5	C
											2018-12976	05/05/2018	5.03	PD
											2020-1340	01/12/2020	5.05	PD
											2019-74087	12/01/2019	5.06	PD
											2019-70418	11/02/2019	5.07	PD
											2020-30119	12/04/2020	5.08	PD
											2020-10744	04/28/2020	5.09	B
											2019-4206	02/03/2019	5.15	C

Totals: 23 0 0 0 1 6 16

Maine Department Of Transportation - Office of Safety, Crash Records Section
Crash Summary II - Characteristics

Crashes by Day and Hour

Day Of Week	Hour of Day												Un	Tot													
	AM						PM																				
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
SUNDAY	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	1	0	1	1	0	0	6
MONDAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
TUESDAY	0	0	0	0	0	1	0	0	0	1	0	1	0	1	0	1	3	0	1	0	0	0	1	1	0	0	10
WEDNESDAY	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	5
THURSDAY	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	5
FRIDAY	0	0	0	0	0	0	0	0	0	1	0	2	0	1	1	1	1	1	0	0	0	0	0	0	0	0	7
SATURDAY	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	1	1	1	0	0	0	0	0	0	0	0	7
Totals	0	0	0	0	2	1	1	1	2	3	1	4	2	3	4	6	2	4	0	1	0	2	2	2	0	0	42

Vehicle Counts by Type

Unit Type	Total	Unit Type	Total
1-Passenger Car	40	23-Bicyclist	0
2-(Sport) Utility Vehicle	17	24-Witness	5
3-Passenger Van	1	25-Other	0
4-Cargo Van (10K lbs or Less)	1	26-Construction	0
5-Pickup	11	27-Farm Vehicle	0
6-Motor Home	0	Total	79
7-School Bus	0		
8-Transit Bus	0		
9-Motor Coach	0		
10-Other Bus	0		
11-Motorcycle	3		
12-Moped	1		
13-Low Speed Vehicle	0		
14-Autocycle	0		
15-Experimental	0		
16-Other Light Trucks (10,000 lbs or Less)	0		
17-Medium/Heavy Trucks (More than 10,000 lbs)	0		
18-ATV - (4 wheel)	0		
20-ATV - (2 wheel)	0		
21-Snowmobile	0		
22-Pedestrian	0		

Crashes by Driver Action at Time of Crash

Driver Action at Time of Crash	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
No Contributing Action	21	15	2	0	0	0	38
Ran Off Roadway	4	0	0	0	0	0	4
Failed to Yield Right-of-Way	3	2	0	0	0	0	5
Ran Red Light	0	0	0	0	0	0	0
Ran Stop Sign	0	0	0	0	0	0	0
Disregarded Other Traffic Sign	0	0	0	0	0	0	0
Disregarded Other Road Markings	0	0	0	0	0	0	0
Exceeded Posted Speed Limit	0	0	0	0	0	0	0
Drove Too Fast For Conditions	1	0	0	0	0	0	1
Improper Turn	0	0	0	0	0	0	0
Improper Backing	0	0	0	0	0	0	0
Improper Passing	0	0	0	0	0	0	0
Wrong Way	0	0	0	0	0	0	0
Followed Too Closely	7	7	0	0	0	0	14
Failed to Keep in Proper Lane	1	0	0	0	0	0	1
Operated Motor Vehicle in Erratic, Reckless, Careless, Negligent or Aggressive Manner	2	0	0	0	0	0	2
Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, Non-Motorist in Roadway	1	0	0	0	0	0	1
Over-Correcting/Over-Steering	0	0	0	0	0	0	0
Other Contributing Action	2	3	0	0	0	0	5
Unknown	0	0	0	0	0	0	0
Total	42	27	2	0	0	0	71

Crashes by Apparent Physical Condition And Driver

Apparent Physical Condition	Dr 1	Dr 2	Dr 3	Dr 4	Dr 5	Other	Total
Apparently Normal	38	27	2	0	0	0	67
Physically Impaired or Handicapped	0	0	0	0	0	0	0
Emotional(Depressed, Angry, Disturbed, etc.)	0	0	0	0	0	0	0
Ill (Sick)	0	0	0	0	0	0	0
Asleep or Fatigued	0	0	0	0	0	0	0
Under the Influence of Medications/Drugs/Alcohol	3	0	0	0	0	0	3
Other	1	0	0	0	0	0	1
Total	42	27	2	0	0	0	71

Driver Age by Unit Type

Age	Driver	Bicycle	SnowMobile	Pedestrian	ATV	Total
09-Under	0	0	0	0	0	0
10-14	0	0	0	0	0	0
15-19	8	0	0	0	0	8
20-24	4	0	0	0	0	4
25-29	12	0	0	0	0	12
30-39	10	0	0	0	0	10
40-49	12	0	0	0	0	12
50-59	6	0	0	0	0	6
60-69	10	0	0	0	0	10
70-79	10	0	0	0	0	10
80-Over	2	0	0	0	0	2
Unknown	0	0	0	0	0	0
Total	74	0	0	0	0	74

Crash Summary II - Characteristics

Most Harmful Event		
Most Harmful Event	Total	Total
1-Overturn / Rollover	2	0
2-Fire / Explosion	0	6
3-Immersion	0	0
4-Jackknife	0	0
5-Cargo / Equipment Loss Or Shift	0	74
6-Fell / Jumped from Motor Vehicle	0	
7-Thrown or Falling Object	0	
8-Other Non-Collision	0	
9-Pedestrian	0	
10-Pedalcycle	0	
11-Railway Vehicle - Train, Engine	0	
12-Animal	5	
13-Motor Vehicle in Transport	55	
14-Parked Motor Vehicle	3	
15-Struck by Falling, Shifting Cargo or Anything Set in Motion by Motor Vehicle	0	
Traffic Control Devices		
Traffic Control Device	Total	Total
1-Traffic Signals (Stop & Go)	0	12
2-Traffic Signals (Flashing)	0	0
3-Advisory/Warning Sign	0	0
4-Stop Signs - All Approaches	0	1
5-Stop Signs - Other	0	2
6-Yield Sign	0	0
7-Curve Warning Sign	0	0
8-Officer, Flagman, School Patrol	0	0
9-School Bus Stop Arm	1	0
10-School Zone Sign	0	0
11-R.R. Crossing Device	0	0
12-No Passing Zone	0	0
13-None	0	27
14-Other	0	0
Total	2	42

Injury Data		
Severity Code	Injury Crashes	Number Of Injuries
K	0	0
A	2	2
B	1	2
C	10	19
PD	29	0
Total	42	23

Road Character	
Road Grade	Total
1-Level	22
2-On Grade	19
3-Top of Hill	0
4-Bottom of Hill	1
5-Other	0
Total	42

Light	
Light Condition	Total
1-Daylight	31
2-Dawn	2
3-Dusk	0
4-Dark - Lighted	4
5-Dark - Not Lighted	5
6-Dark - Unknown Lighting	0
7-Unknown	0
Total	42

Crash Summary II - Characteristics

Crashes by Year and Month

Month	2018	2019	2020	Total
JANUARY	0	0	1	1
FEBRUARY	1	2	0	3
MARCH	0	2	0	2
APRIL	0	0	2	2
MAY	2	0	0	2
JUNE	2	2	1	5
JULY	2	2	2	6
AUGUST	2	1	2	5
SEPTEMBER	0	0	4	4
OCTOBER	3	1	0	4
NOVEMBER	0	1	1	2
DECEMBER	0	4	2	6
Total	12	15	15	42

Report is limited to the last 10 years of data.

Crash Summary II - Characteristics

Crashes by Crash Type and Type of Location

Crash Type	Straight Road	Curved Road	Three Leg Intersection	Four Leg Intersection	Five or More Leg Intersection	Driveways	Bridges	Interchanges	Other	Parking Lot	Private Way	Cross Over	Railroad Crossing	Traffic Circle-Roundabout	Total
Object in Road	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Rear End - Sideswipe	5	0	3	10	0	3	0	0	0	0	0	0	0	0	21
Head-on - Sideswipe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intersection Movement	0	0	2	0	0	3	0	0	0	0	0	0	0	0	5
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Went Off Road	5	0	1	1	0	0	0	0	0	0	0	0	0	0	7
All Other Animal	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Jackknife	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rollover	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submersion	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thrown or Falling Object	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deer	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
Moose	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	17	1	6	12	0	6	0	0	0	0	0	0	0	0	42

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Blowing Sand, Soil, Dirt												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Blowing Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Clear												
Dark - Lighted	3	0	0	0	0	0	0	0	0	0	0	3
Dark - Not Lighted	3	0	0	0	0	0	0	0	0	0	1	4
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	21	0	0	0	0	0	0	0	0	0	2	23
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Cloudy												
Dark - Lighted	1	0	0	0	0	0	0	0	0	0	0	1
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	1	0	0	0	0	0	0	0	0	0	0	1
Daylight	3	0	0	0	0	0	0	0	0	0	0	3
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Fog, Smog, Smoke												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Other												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Rain												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	2	2
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Severe Crosswinds												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0

Crash Summary II - Characteristics

Crashes by Weather, Light Condition and Road Surface

Weather Light	Dry	Ice/Frost	Mud, Dirt, Gravel	Oil	Other	Sand	Slush	Snow	Unknown	Water (Standing, Moving)	Wet	Total
Sleet, Hail (Freezing Rain or Drizzle)												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	1	1
Daylight	0	0	0	0	0	0	0	0	0	0	0	0
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
Snow												
Dark - Lighted	0	0	0	0	0	0	0	0	0	0	0	0
Dark - Not Lighted	0	0	0	0	0	0	0	1	0	0	0	1
Dark - Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
Dawn	0	0	0	0	0	0	0	0	0	0	0	0
Daylight	0	0	0	0	0	0	0	3	0	0	0	3
Dusk	0	0	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	32	0	0	0	0	0	0	4	0	0	6	42

Attachment E

MaineDOT Guidelines for the Use of Traffic Calming Devices

MaineDOT Guidelines for the Use of Traffic Calming Devices

Overview

Policy Purpose

The purpose of this policy is to provide guidance to local, regional and State jurisdictions for the application of traffic calming techniques on streets and highway.

Need for Policy

MaineDOT believes that traffic calming, as defined by the Institute of Transportation Engineers, is a valid and useful approach to traffic management.

Since Context Sensitive Solutions and Practical Design are important tools in the designer's toolbox, guidelines are necessary to indicate options available and the limits of acceptance/use of certain traffic calming features on Maine roadways.

Maine's arterial and major collector systems provide a network for the safe and efficient inter-regional movement of people, goods and services between and through major urban centers and municipalities. This sometimes causes conflicts with local needs, such as the compatibility of traffic calming objectives with the prime mobility function of arterial highways. The primary goal of traffic calming is to reduce vehicular speed to a more consistent and acceptable level with secondary gains of reduced crashes and a safer roadway for all users

What is Traffic Calming

For policy purposes, MaineDOT will use the following definition of traffic calming established by the Institute of Transportation Engineers:

“Traffic calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non motorized street users.”

Federal Classifications

This policy is designed to the road system in Maine with Federal functional classifications of principle arterial, minor arterial, major/urban collector, minor collector and local.

Applicability

Prohibition: 40 MPH or Greater

The objectives of certain traffic calming techniques may be incompatible with the mobility function of high speed roadways.

MaineDOT will prohibit certain measures on highways and streets that have Federal functional classifications as minor collectors, major/urban collectors, minor arterials and principal arterials with a posted speed or a design speed limit of 40 miles-per-hour or greater.

These measures include vertical changes involving speed humps, speed bumps, speed tables, or raised intersections, and lateral changes involving chicanes or offset intersections.

Note: This does not preclude the designer from using roadway narrowing using stamped, flush concrete and raised islands are all still allowed on these types of roadway.

Local streets, Minor Collectors, Urban Roadways classified as local streets and collectors with a posted speed of 35 mph and below.

The full range of traffic calming techniques may be considered appropriate for implementation on highways bearing these Federal functional classifications.

Arterial Highways and Streets posted 35 mph and below

Arterial Highways and Streets

The prime function of the higher classifications roadways such as arterial highways and streets is to provide mobility for transportation system users.

Traffic calming on minor arterials and principle arterials with posted speeds or designed to be posted with a speed limit of 35 miles-per-hour and below shall not be considered unless:

- It can be shown that the 85th percentile speed is greater than 10 miles per hour over the posted speed; or
- there are high crash locations on the route that can be mitigated with speed reduction; or
- there are documented issues regarding the safety of pedestrians along the roadway.

Traffic calming should not be the first step undertaken for remediation of the above issues. Standard enforcement should be undertaken first. Next, additional regulatory, warning and or guide signs may be installed to try to obtain compliance. If the municipality can document that one of the above criteria is met, and the municipality has also shown that increased enforcement and signage have not produced satisfactory results, then the matter shall be brought before the engineering council on a case by case basis.

Note: This does not preclude the designer from using roadway narrowing using stamped, flush concrete and raised islands are all still allowed on these types of roadway.

Minor Collectors and Major/Urban Collectors 35 MPH and Below

Vertical changes involving speed tables, raised intersections, and lateral changes involving chicanes, offset intersections, or lateral shifts in the geometric alignment shall be allowed on highways and streets that have Federal functional classifications as Minor Collectors and major/urban collectors with posted speeds or designed to be posted with a speed limit of 35 miles-per-hour and below.

Local Government Official Approval

The Department shall further require that any local or regional jurisdiction that is considering traffic calming within their community must officially approve the change at the local government level before MaineDOT will consider official approval.

Community Traffic Calming Plan

It is also recommended that a community considering traffic calming measures develop a municipality-wide or regionally- based traffic calming plan that documents the needs and specifies the areas where traffic calming may be appropriate to address the needs of the community.

This municipal/regional plan should be reviewed and approved by the responsible municipal/regional authority (council/select board) and MaineDOT (this only applies for municipalities with plans to use traffic calming on a state or state-aid roadway). Possible exceptions to the policy on arterial traffic calming should be identified in these plans and reviewed on a case-by-case basis for the purposes of identifying the most appropriate treatment to solve the problem. Any proposed treatments must minimize potential conflicts between the objectives of traffic calming and the overall mobility function of roadways.

Please note that traffic calming may cause diversion of traffic into unwanted/unintended areas. These ramifications should be identified and weighed before indiscriminately using a traffic calming technique.

Table: Federal Functional Class and Speed Limits

ALLOWABLE VERTICAL & LATERAL CHANGES

Federal Functional Class

Principal Arterial		Minor Arterial		Major Collector		Minor Collector	
≤ 35 mph	40+	≤ 35 mph	40+	≤ 35 mph	40+	≤ 35 mph	40+
N*	N	N*	N	Y	N	Y	N

* Narrowly defined exceptions listed in policy

RESOURCES:

Some good references for traffic calming can be located at the following sites:

<http://www.ite.org/traffic/index.asp>.

This website includes "Traffic Calming: State of the Practice, ITE/FHWA, August 1999".

http://safety.fhwa.dot.gov/speedmgt/traffic_calm.cfm

Also, see MUTCD Sections 2C.29 Speed Hump Sign (W17-1) and Sections 3B.22 thru 26 and Figures 3B.28 thru 31 for additional guidance on signing and striping.

Traffic Calming Measures

Traffic calming measures often have trade-offs to get the desired result. Below is a list of measures with items to be taken under consideration, other measures will be considered on a case by case basis.

*Pictures of the different measures can be found on the P Drive under **P:\traffic engineering\traffic calming measures.***

Driver feedback signs – These types of dynamic signs can be used on the roadway to provide information to the driver that may or may not be readily apparent, such as: dynamic speed display, pedestrian activated rectangular rapid flashing beacons, blank out signs that convey messages that are only in effect at certain times such as “No Turn On Red”, “Yield to Pedestrians”. These types of devices sometimes have little effect in and of themselves, but may be combined with features shown below to provide a more complete solution. *Items to consider: these devices often have power and future maintenance costs associated with them, municipalities that are asking for traffic calming are be required to pay electrical and on-going maintenance costs for these devices.*

Vertical changes in the street – Speed tables and raised intersections/crosswalks can be effective tools in slowing traffic along a route. A speed study should be performed prior to considering the use of these devices to determine if there is truly an issue to resolve. Speed Table tops are normally four inches high with a minimum table top of ten feet with six foot ramps (both measured longitudinally to the roadway). See Tables 1, 2 and 3. *Items to consider: drainage issues, volumes of trucks in relation to noise made by shifting loads, fire and safety response times, who has winter maintenance responsibilities and ability to plow, location of trucking firms (ie. Heavy-haul route, bike routes may require a larger gutter so as not to impede bike traffic, need to have proper lighting/delineation/signage.*

Lateral changes in the street – Chicanes are used to slow traffic down in mid-block areas or in advance of an intersection. They are usually constructed using raised island to force traffic to perform an S shape maneuver. The deflections should be at least 45 degrees and provide a path large enough for the largest design vehicle to pass. *Items to consider: Is there ample ROW, would the chicanes remove parking in an area, drainage issues, impacts on access and turning vehicles, width for plowing, needs to have the proper lighting/delineation/signage.*

Roadway narrowing – Spot narrowing of the roadway can help in reducing speeds along certain stretches of roadway. The narrowing can occur using a center island/median or the use of edge islands in the form of a bump out. The islands can be either raised, flushed concrete, stamped pavement or a combination. Raised island are the most effective as shy distance enters the equation. Flushed islands may allow more flexibility as the roadway can be narrowed more than with raised islands and still allow needed traffic movements. Curb bump-outs and center medians can also provide safe havens for pedestrians. Road narrowing can also be used at intersections using a passenger car template as the basic design and using a raised apron to accommodate the largest design vehicle. While less likely to decrease speed in and of themselves, optical speed bars have been shown to help in combination with other treatments. On some roadways, the addition of striping or wider striping may also lead to a calming effect over what was originally present. *Items to consider: width for plowing, check with entity that provides winter maintenance, loss of parking, drainage issues, bike routes, need for proper lighting/delineation/signage. Note, while on-street-parking may act as a traffic calming*

feature, it is not a technique that should be artificially introduced to a roadway as traffic calming. On-street parking should only be installed where there is a documented need.

Roundabouts/mini-roundabouts – Roundabouts have been shown to handle substantial traffic, reduce crash rates over a standard four-way signalized and un-signalized intersection and should be looked at as an alternative during enhanced project scoping. Roundabouts lessen the number of potential vehicle-to-vehicle conflict points, lessening the chances for crashes. Roundabouts have been shown to reduce overall speed and cause only a minimum diversion in traffic. Mini-roundabouts are used at smaller type intersections usually on local roads. Mini-roundabouts have a totally mountable inner circle. They provide the same benefits as a roundabout. One major difference is that left turning traffic, for the most part, travels over the inner circle. From a cost/benefit standpoint, a roundabout may not be a practical solution solely to reduce speed if there are no other safety issues present. *Items to consider: ROW, overall costs, drainage issues, roadway entrance grades, separator islands, design speed, education, two lane roundabouts are difficult to navigate for bicyclists and pedestrians,*

Table 1 Speed Table Plan View



MaineDOT

Speed Table Details

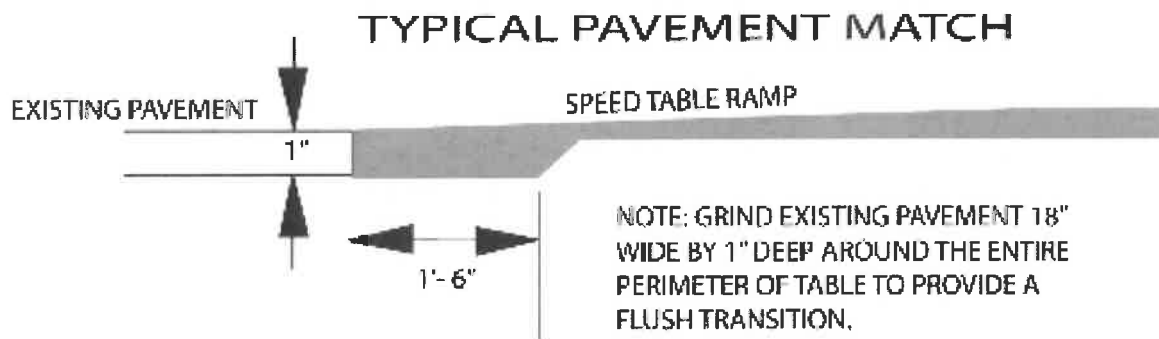
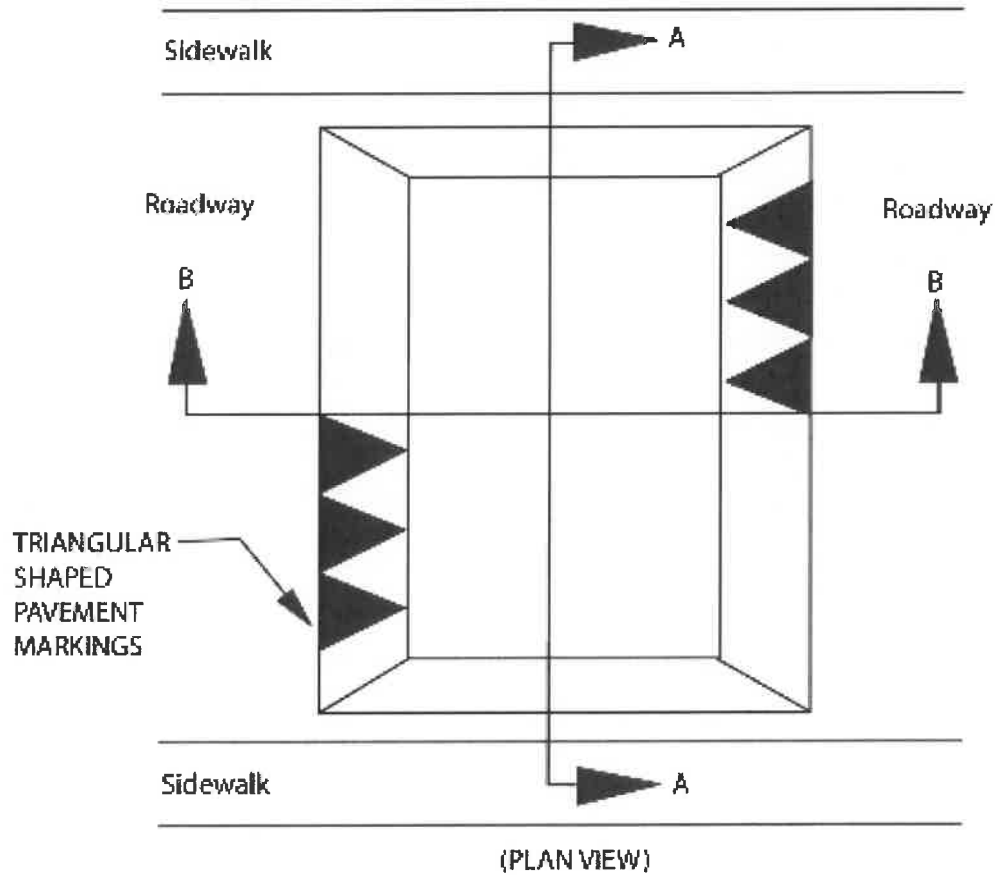


Table 2 – Speed Table Cross-Sections



Speed Table Details Continued

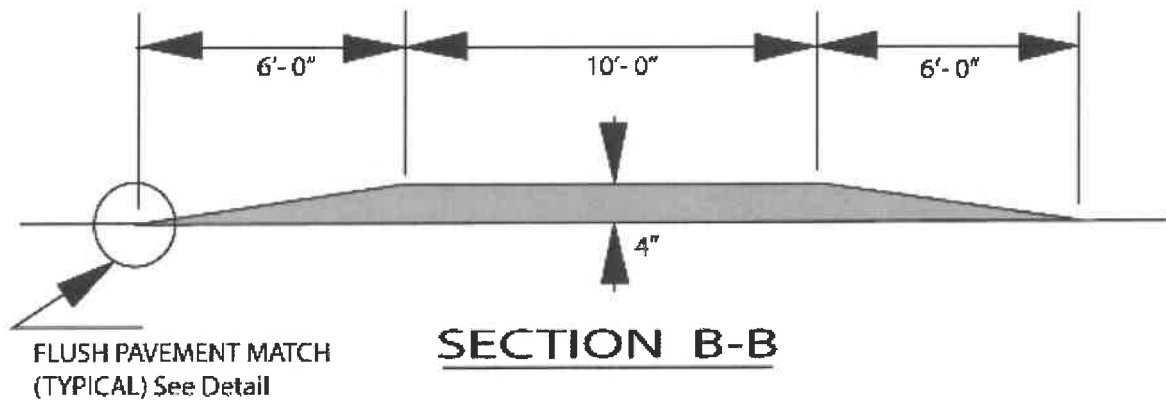
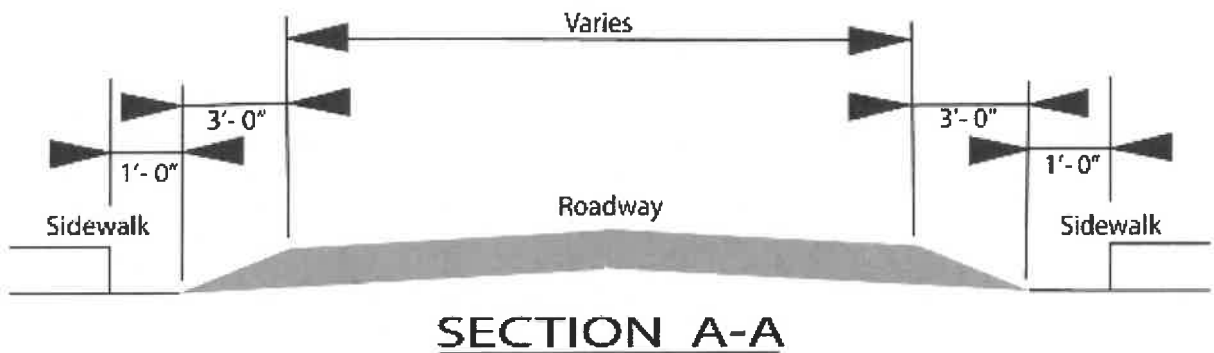
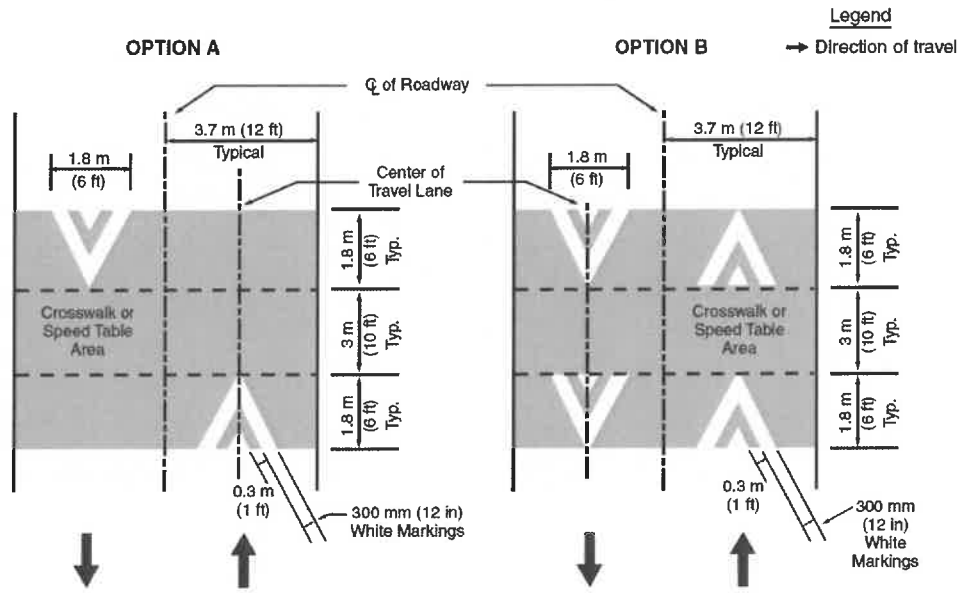


Table 3 – Speed Table Markings



Option:

Advance speed hump markings may be used in advance of an engineered vertical roadway deflection where added visibility is desired or where such deflection is not expected (see Figure 3B-31).

Advance pavement wording such as BUMP or HUMP (see Section 3B.19) may be used on the approach to a speed hump either alone or in conjunction with advance speed hump markings. Appropriate advance warning signs may be used in conformance with Section 2C.24.

Guidance:

If used, advance speed hump markings should be installed in each approach lane.

Attachment F

Sight Distance Clearing



vegetation that
needs to be
removed in order to
improve sight
distance looking
right exiting the site.

SITE