M E M O R A N D U M

To: Nathan Poore, Town Manager

From: Theo Holtwijk, Director of Long-Range Planning

Date: October 8, 2013

Re: **Railroad Crossing Upgrades - Quiet Zone**

The Council received its last formal update on the Quiet Zone project on October 22, 2012, at which time the Council re-affirmed its desire to create/maintain a Quiet Zone and install channelization improvements at all four crossings. The Town Manager has since been providing regular e-mail updates to the Council.

Summary: The Town wishes to pursue a "Public Authority Designation" for:

a. the **establishment of a new quiet zone at the Field and Woodville crossings**, and
b. **maintain the existing pre-rule quiet zone at Blackstrap and Falmouth crossings** as is.

Note: Annual risk recalculations will still be required for the existing pre-rule quiet zone. Detailed FRA rules are posted at http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&tpl=/ecfrbrowse/Title49/49cfr222_main_02.tpl

Over the fall-winter 2012-13 staff delayed action on this as construction could not occur during winter and its attention was drawn to other assignments. Staff picked up the Quiet Zone topic again in April 2013 and in June contacted the Town of Freeport as it was reported that that municipality was in process of pursuing a Quiet Zone with the Federal Railroad Administration (FRA). It was learned from Freeport that paperwork had been filed but that Pan Am had expressed objections to Freeport's use of outdated traffic counts (it was more than 12 months old) and incorrect train data. Rail crossing inventory sheets also were required to be updated by the Town.

Steps completed by Town staff:

1. Staff obtained assistance from a local engineering office to conduct current traffic counts at the Woodville and Field Road crossings. (As Blackstrap Road was being repaved, that crossing was closed to traffic and no counts could be conducted. Town staff requested assistance from the Falmouth Police Department with current counts, however such equipment is not owned by the Town),
2. Staff requested train data from Pan Am. After many attempts that data was ultimately received by the Town in August,

3. Staff requested assistance from Wayne Duffett of TEC Associates with the preparation and submission of all required documentation to the FRA, however Mr. Duffett was only available for a final review of the submission package,
4. Staff filed a "Notice of Intent" to create a Quiet Zone at the Woodville and Field Road crossings with the Federal Railroad Administration (FRA) and other parties on September 24, 2103 (see attached notification package). This submission starts a 60-day comment period for all parties, and
5. Staff obtained construction bids for the Woodville and Field Road crossings. Bids ranged from $100K to $156K for the two crossings. Note: A total of $130K was allocated for all four crossings.

Current status and staff recommendations:

1. Schedule:
   Based on Councilor feedback, the Town Manager decided not to commence before the 60-day comment period was completed, putting possible construction no sooner than December 2013, so as not to put the Town's investment at any risk. However, based on the construction bid prices received, staff recommends delaying construction until Spring 2014.

2. Cost:
   Regarding the construction bid prices, the Town has the following options:
   a. Modifying the scope of work for Woodville and Field in order to potentially obtain lower construction costs. Note: Any modification of the scope of work should be resubmitted to the FRA and other parties and may result in additional comment. The following option exists: elimination of the granite-curbed median and placement of the plastic Quik Curb directly on the road pavement. As this modification will result in increased maintenance costs, staff is recommending against it.
   b. Constructing the Woodville and Field Road improvements as planned and scaling back the scope of work for the Blackstrap and Falmouth Road improvements that are planned for 2014 (see option above). As Blackstrap and Falmouth are in an existing Quiet Zone, there may be less potential concern by FRA and other parties with scaling back the scope of work. As this modification will result in increased maintenance costs, staff is recommending against it.
   c. Constructing the Woodville and Field Road improvements as planned (in spring of 2014) and allocating additional funding to the Blackstrap and Falmouth Road improvements that are planned for 2014, as required. Construction at all four crossings will be completed in 2014 in this scenario. If the Council wishes to proceed with a quite zone designation, staff recommends that the Council proceed with the project as originally designed and allocate a total of $200,000 for its construction. This will be a $70,000 increase in the original budget.

Feedback is requested from the Council regarding these staff recommendations.

BACKGROUND

- On **December 12, 2011**, the Council voted 7-0 to approve an order to authorize a supplemental appropriation of $130,000 from the undesignated fund balance for railroad crossing upgrades.

    - These funds would pay for improvements to four railroad crossings along the Pan Am Railways line to be made in order to maintain (and expand) a so-called "Quiet Zone" (QZ) in Falmouth in anticipation of increased frequency and speed of trains when the Amtrak Downeaster train service starts.

    - The improvements consist of "channelization" devices as shown below. These are reboundable vertical panels mounted on a 2.5 feet wide traversable median with 45 degree granite curb intended to prevent drivers from circumventing the crossing gates by switching into oncoming traffic lane and driving around the lowered gates to cross the tracks. This work mandates slight road widenings.

    Staff stated at that time that it would bring this topic back to the Council for a check-in if the Amtrak expansion does not happen.

- On **June 7, 2012**, the Town was informed by the Northern New England Passenger Rail Authority that the Amtrak Downeaster train service is scheduled to commence on or around November 1, 2012. The November 1, 2012 date required immediate action by the Town to make the necessary notifications to the Federal Railroad Administration and other parties and install the proposed crossing upgrades in time.

- **June 2012**: Staff did an additional check-in with the Council and the Council reaffirmed the direction.

- Work over the **summer 2012** revealed some changes in the QZ parameters.[1] This brought the calculations for Falmouth much closer much closer to the QZ threshold, potentially limiting the future status of the QZ. Staff also sought confirmation of the application process from FRA.

- **October 22, 2012** Council Update: With the impending start of the Downeaster train on November 1st, staff updated the Quiet Zone (QZ) parameters and sought confirmation from the Federal Railroad Administration (FRA) regarding its application requirements. Staff found that:
    - several of the QZ parameters changed in a significant manner, and
    - FRA recommended a different QZ approach than previously developed.

  Based on this new information, staff presented three options available to the Town. These have been detailed on the following page. In summary, these options are:
    A. making no channelization improvements at any of the crossings,
    B. making channelization improvements at two of the four crossings, and
    C. making channelization improvements at all four crossings.

  The Council re-affirmed its preference for Option C.

Additional notes:

- The private Muirfield-Birkdale crossing (located in Cumberland) is not part of any upgrade or Quiet Zone.
- The Town of Cumberland has opted not to make crossing upgrades at this time.

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[1] The updated Quiet Zone parameters are:

1. The Downeaster/NNEPRA's train schedule will still consist of 3 round trips (6 "moves"), but due to a delay in building its layover facility, there likely will be 2 additional "dead head" train moves each day for the foreseeable future. Also, in the future there may be additional roundtrips, but eight (8) train moves per day is a reasonable assumption to make.
2. The National Significant Risk Threshold (NSRT) was revised last January by FRA from 14,007 to 13,722. The Risk Index With Horns (RIWH) remains at 16,451.
3. Train speed information was obtained from NNEPRA and ranges from 60 to 70 mph.
4. Most significantly, staff was directed by FRA to obtain "up to date" traffic counts. The new traffic figures (in blue) are rather different from the data currently in the US DOT Crossing Inventory (green) and previously relied upon by the Town.

	US DOT		**ME DOT**	**ME DOT**
	1990-1997	*year*	**1997**	**2010**
Blackstrap	4522	*1990*		3430
Falmouth	3739	*1997*		7380
Field	225	*1997*	600	932 *
Woodville	620	*1997*	470	730

* Note: 2010 Field Road crossing is based on the trend of the Woodville 1997-2010 increase

- The Falmouth Police Department has conducted educational outreach for the public that is associated with railroad crossing safety on October 30, 2012.
- The Council's December 12, 2011 agenda materials provide further background information on this topic (including a Quiet Zone presentation). Please see: http://www.town.falmouth.me.us/Pages/FalmouthME_CouncilAgendas/2011/12122011/TM_RRCrossing_O

Option 1	Crossing	Description	Safety	Quality of life	Cost	Future status
Maintain existing QZ at Blackstrap and Falmouth	Blackstrap and Falmouth	Existing QZ at Blackstrap and Falmouth.	Meets FRA standard with ½ gates and bells at crossing.	No train horns.	None	QZ at Blackstrap and Falmouth depends on what traffic volume figures are used and on accident history and future. QZRI is re-calculated annually. QZ could be in jeopardy in near future. Partial channelization at that time may be an option.
	Woodville and Field	No QZ for Woodville and Field.	Meets FRA standard with ½ gates, bells at crossing and train horn.	There will be additional train horns.	None	n/a
Option 2	**Crossing**	**Description**	**Safety**	**Quality of life**	**Cost**	**Future status**
Establish new QZ for Woodville and Field	Blackstrap and Falmouth	Existing QZ at Blackstrap and Falmouth.	Meets FRA standard with ½ gates and bells at crossing. Less safe than Woodville and Field as there is more traffic here and no channelization.	No train horns.	None	QZ at Blackstrap and Falmouth depends on what traffic volume figures are used and on accident history and future. QZRI is re-calculated annually. QZ could be in jeopardy in near future. Partial channelization at that time may be an option.
	Woodville and Field	Make channelization improvements. This may likely be done through "designation" (need to confirm this). Keep separate from Blackstrap and Falmouth.	Meets FRA standard with ½ gates and bells at crossing, and additional channelization safety improvements.	No train horns.	$70K	No annual calculation of QZRI.
Option 3	**Crossing**	**Description**	**Safety**	**Quality of life**	**Cost**	**Future status**
Make channelization improvements at all crossings	Blackstrap and Falmouth	Make partial channelization improvements. These can only be done through "application" (need to confirm this).	Likely to meet FRA standard with ½ gates and bells at crossing, and additional channelization safety improvements. Note: FRA, Pan Am and MDOT get to comment.	No train horns.	$57K	QZRI calculation is close to threshold. QZ may not have long lifespan.
	Woodville and Field	Make channelization improvements. This may likely be done through designation (need to confirm this).	Meets FRA standard with ½ gates and bells at crossing, and additional channelization safety improvements.	No train horns.	$70K	No annual calculation of QZRI.

Minutes Town Council October 22, 2012

Item 6 Update on proposed railroad crossing upgrades along the Pan Am Railways line to maintain and/or expand a so-called "Quiet Zone."

Mr. Poore gave an update on the quiet zone upgrades. They may need more public input if the Council makes changes tonight. Over the summer, there have been some changes. They have updated the traffic count numbers; the Federal Rail Authority (FRA) was using traffic count numbers generated in the 1990's. Traffic counts are used in the formulas, and added traffic impacts the thresholds they need to meet for safety.

Theo Holtwijk, Long-range Planning Director, gave a brief history of the issue and the Council's work on it. In order to keep the Town's "quiet zone", which prevents the trains from blowing their horns, the Council voted to install channelization on those roads impacted. In doing their work, staff discovered that the traffic counts the FRA was using were from either 1990 or 1997; staff located updated traffic numbers from 2010. They also discovered that the thresholds used by the FRA was lower that previously thought. In order to qualify for a quiet zone, you have to do a calculation called a quiet zone risk index. This index is compared to a threshold number; the local index needs to be lower than the threshold in order to qualify for a quiet zone. A whole host of items are rolled into this index. Installing channelization, for example, would make the crossing safer and thereby lower than index. Other parameters have changed since the Council approved the channelization: the trains will be going faster (60-70 MPH), and the number of trains increased by one trip/day. These changes impacted the index number. They also discovered that they would have to submit an application rather than receive designation, and there might be an annual review. The proposed channelization improvements did not get them the score they were looking for; when they redesigned the proposal the index came to just slightly below the national threshold. This led them to question whether the FRA agreed with their approach of taking partial credit, and whether they would review it annually. If an annual review bumped them out of compliance, the town would lose the quiet zone that they spent so much money to maintain. The council has three options: Option #3 is to pursue the plan originally proposed which would install channelization at all four crossings; Option #2 is to leave the quiet zone at Blackstrap and Falmouth roads as it currently exists, and make channelization improvements at Field and Woodville roads to establish a new quiet zone; and Option #1 is to not make any channelization improvements, which would maintain the quiet zone at Blackstrap and Falmouth, but not Field and Woodville. #1 would lead to train whistles being blown at those intersections.

Mr. Poore mentioned that the police department has been working with Operation Lifesaver to provide information to various local groups and the schools. A public meeting will be held on October 30 at Town Hall for those who are interested. In regards to the crossings, he thought it should be an all-or-nothing approach; he did not support Option #2. He wanted them to be aware that spending the money on Option #3 didn't necessarily mean that the quiet zone would be maintained for Blackstrap and Falmouth. Option #1 would save the Town money; Option #3, regardless of whether they had the quiet zone or not, would make the crossings safer. Councilor Mahoney thought the safest was having the horns. A quiet zone would allow a crossing without the horns.

Mr. Poore said the safest crossing is a quad gate system which is very expensive. Once you figure the safety index, channelization with the normal gates and no horns can be safer than using the horns.

Councilor Mahoney asked if the driver behind this project is noise or safety.

Chair Varney said it is both. She felt channelization is safer.

Councilor Pierce asked if accidents are more likely on roads that are more travelled or less travelled. Mr. Holtwijk said the more traffic, the more likely an accident would be.

Councilor Varney asked if the current quiet zone will continue, even with the increased speed of the trains. Mr. Poore said yes, for now, but he thought the Town could hear from the FRA anytime.

Councilor Pierce asked for clarification that if they went with Option #3, they could spend all this money and go through the application and still lose the quiet zone.

Mr. Holtwijk said there is a chance of that. If they apply, they need to apply with updated traffic figures. If they do nothing, it is unclear when the FRA will update their crossing safety numbers at those roads.

Councilor Rodden pointed out that if they do the work, even if they lose the quiet zone the crossings will still be safer. She supported Option #3.

Councilor Farber asked if there had been any objections to channelization, other than cost.

Councilor Pierce thought the general public hadn't paid much attention to this issue so far. She felt that once the channelization was installed, they would hear about it. The crossings would look much different. She said they haven't heard anything except from those who live within the quiet zone.

Councilor Farber asked about plowing with channelization.

Mr. Poore said they would have a small median with 3 foot posts. It would not be plowed. Any snow buildup would likely be minor; if there was some buildup there would have to be some hand removal.

Mr. Holtwijk said the snow plows would push snow toward the edge of the road, and not toward the center.

Councilor Mahoney pointed out that the goal of the channelization is to prevent people from doing something they aren't supposed to do anyway.

Councilor Payne clarified that these improvements are the responsibility of the Town and not the railroad. Mr. Poore said that was correct.

At Councilor Payne's question, Mr. Holtwijk clarified that, if they want to move forward they anticipated that the improvements would be installed next spring. There is no date certain of any review of the crossings.

Councilor Payne thought there was no reason to postpone a decision and wait for further information. Mr. Holtwijk said the only benefit to waiting would be to live with the horns for 6 months and see how it goes.

Councilor Payne was less concerned with channelization as aesthetic; he was more concerned with safety. If channelization improves safety and creates the quiet zone, that is a win. They may be compelled at a later date into a quad system if the safety numbers require it, but this seems the more reasonable course at this time.

Councilor Pierce asked about the cost of the quad system. Mr. Holtwijk thought it was about $500,000 for one crossing. The difficulty is that the work is in the railroad right of way; they have to contract for that work and it involves annual maintenance costs. Channelization is in the Town's right of way.

Councilor Pierce asked what kind of crossings they have in Portland; Mr. Poore didn't know.

Councilor Pierce was torn; safety was important, but it was hard to spend that kind of money to prevent people from doing what they shouldn't do anyway, and then they might not even keep the quiet zone.

Councilor Orestis wondered if they would remove the channelization and install the quad gates, if they lost the quiet zone. Mr. Poore outlined several options if that happened.

Councilor Orestis asked when the calculation gets updated. Mr. Holtwijk said if they go the route of the application, they would trigger the update. They don't know when the FRA would look at the crossing without the application.

Mr. Poore wondered if they have the obligation to discuss the updated numbers with the FRA, since they have discovered it.

Councilor Mahoney asked about the timing of doing the work.

Mr. Holtwijk said if they go with notification, it is a process of filing out paperwork and scheduling the construction. If it is an application process, it would involve several months for approval turnaround.

Councilor Mahoney thought that, even if they have the notification process, they will have a couple months with the Downeaster running, if it starts on November 1. He wondered whether they should wait 6 months, and evaluate how it is going after that. That is what Cumberland is doing.

Chair Varney pointed out that if they wait, they would still have the quiet zones on Blackstrap and Falmouth.

Councilor Rodden thought the most important thing is safety, and this is a reasonable improvement.

Councilor Farber felt they had to do it for the safety of both motorists and people on the train.

Councilor Pierce echoed Councilor Mahoney's comment about timing. There will be a few months before they can do anything anyway.

Mr. Poore said if the Council said go ahead and apply, it would be 4-6 months anyway. They could put off any decision on actually going through with the proposal until then.

Councilor Rodden thought there was a death on the tracks years ago.

Dave Gagnon of Field Road said there have been three deaths at Field Road in his lifetime, and one on Blackstrap. He said sometimes people aren't even aware of the tracks and the channelization might get their attention. Also, the horn wakes people up. He supported channelization.

Chair Varney polled the Council on Option #3.

The consensus of the Council was to support Option #3. They agreed that it would not need to be brought back to the Council unless something substantial changed.

Required FRA steps:

1. Provide **Notice of Intent** to create and/or maintain Quiet Zone to:
    a. all railroads operating over the public highway-rail grade crossings within the quiet zone;
    b. the highway or traffic control or law enforcement authority having jurisdiction over vehicular traffic at grade crossings within the quiet zone;
    c. the landowner having control over any private highway-rail grade crossings within the quiet zone;
    d. the State agency responsible for highway and road safety;
    e. the State agency responsible for grade crossing safety; and
    f. the Associate Administrator.
2. **Provide 60-day comment period**: A party that receives a copy of the public authority's Notice of Intent may submit information or comments about the proposed quiet zone to the public authority during the 60-day period after the date on which the Notice of Intent was mailed.
3. **Provide Notice of Quiet Zone Establishment**: This notice shall provide the date upon which the quiet zone will be established, but in no event shall the date be earlier than **21 days** after the date of mailing.

M E M O R A N D U M

To: To Whom It May Concern (see attached distribution list)

From: Theo Holtwijk, Director of Long-Range Planning

Date: September 24, 2013

Re: **Falmouth Maine – Notice of Intent of Quiet Zone Establishment**

This is a Notice of Intent that the Town of Falmouth, Maine intends to establish a Quiet Zone for the following public crossings:

- 364 766 M Field Road
- 364 767 U Woodville Road

The regulatory provision that provides the basis for quiet zone establishment is § 222.39 (a) (1).

The time period within which the restrictions will be imposed on the routine sounding of horns is 24 hours.

The public authority plans to implement channelization improvements at every public crossing within the proposed quiet zone in Fall 2013. The SSM improvements are detailed in the attached plans.

To our knowledge, there are no pedestrian crossings and/or private crossings eith public access and industrial or commercial use in the Quiet Zone.

The point of contact during the quiet zone development process is Theo Holtwijk, Directopr of Long Range Planning, Town of Falmouth, 207-699-5340 or tholtwijk@town.falmouth.me.us.

The Town is hereby requesting written comments or a written statement that you do not have any comments on this Notice of Intent.

Comments or statements may be sent to:

Theo Holtwijk
Town of Falmouth
271 Falmouth Road
Falmouth, ME 04105

Thank you.

Below is a list of people who, and offices which, received this Notice of Intent of Quiet Zone Public Authority Designation, September 24, 2013

First name	Last name	Title/Office	Organization	Street	City	State/Zipcode
Steve	Corcoran	Road Foreman	Amtrak	100 Thompson's Point Road	Portland	ME 04102
		Office of Public Affairs, ROA-30	Federal Railroad Administration	1200 New Jersey Avenue, SE, Third Floor West	Washington	DC 20590
		Office of Safety, RRS-23	Federal Railroad Administration	1200 New Jersey Avenue, SE, Third Floor West	Washington	DC 20590
Les	Fiorenzo	Regional Administrator-I	Federal Railroad Administration	55 Broadway Street, Room 1077	Cambridge	MA 02142
Randall	Dickinson	Regional Crossing Adminstrator	Federal Railroad Administration	P.O. Box 2144	Ballton Spa	NY 12020
		Associate Administrator for Safety, MS-25	Federal Railroad Administration	1200 New Jersey Avenue, SE, Third Floor West	Washington	DC 20590
Nathan	Moulton	Director, Rail Program	Maine DOT	16 State House Station	Augusta	ME 04333-0016
Kevin	Rousseau	Transportation Planning Specialist	Maine DOT, Office of Freight	16 State House Station	Augusta	ME 04333-0016
Frederic	Hirsch	State Coordinator	Maine Operation Lifesaver	23 Park Street	Old Town	ME 04468
Patricia	Quinn	Executive Director	Northern New England Passenger Rail Authority	75 West Commercial Street, Suite 104	Portland	ME 04101
James	Russell	Special Projects Manager	Northern New England Passenger Rail Authority	75 West Commercial Street, Suite 104	Portland	ME 04101
Timothy	Kunzler	Chief Engineer/Signal Engineer	Pan Am	1700 Iron Horse Park	North Billerica	MA 01862
Roger	Bergeron	VP, Industrial Development and Special Projects	Pan Am	1700 Iron Horse Park	North Billerica	MA 01862
Ted	Kruge	Chief Engineer of Design	Pan Am	1700 Iron Horse Park	North Billerica	MA 01862
Luke	McCall	Director of Operations	Pan Am	1700 Iron Horse Park	North Billerica	MA 01862

Federal Railroad Administration

Quiet Zone Designation Information

Name	Job Title	Organization	
Theo Holtwijk	**Director of Long Range Planning**	**Town of Falmouth**	
Address	City	State	Zip Code
271 Falmouth Road	**Falmouth**	**ME**	**04105**
Phone	Fax	Email	
207-699-5340	**207-781-8677**	**tholtwijk@town.falmouth.me.us**	

364766M	Proposed Warning Device	Estimated Cost	Wayside Horn	Risk Index
FIELDS ROAD	**Gates**	**13,000.00**	**No**	**3,532.65**
Crossing Type	SSM	Pre-Existing SSM		
Public	**Mountable medians with Reflective Traffic Channelization Devices**	**None**		

364767U	Proposed Warning Device	Estimated Cost	Wayside Horn	Risk Index
WOODVILLE RD	**Gates**	**13,000.00**	**No**	**4,181.81**
Crossing Type	SSM	Pre-Existing SSM		
Public	**Mountable medians with Reflective Traffic Channelization Devices**	**None**		

Note: If zone is a partial new quiet zone, gates are not required if the crossing is to be closed during partial quiet zone period, permanently closed, or grade separated.

Zone ID : **31261**			Scenario ID : **40235**	
Date : **7/23/2013 5:18:34 PM**				
Railroad **ST**	Pre Rule? **NO**	Partial? **NO**	Time of Partial Quiet Zone	Total Traffic **1,081**
Estimated Total Cost **$26,000.00**	Nationwide Significant Risk Threshold **13722**		Risk Index with Horns **9,249.95**	Quiet Zone Risk Index **3,857.23**

Basis for Establishment or Continuation of Quiet Zone

This quiet zone is being established in compliance with the following (check one)

☑ § 222.39(a)(1), implementation of SSMs at every public crossing in the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(i), the QZRI is at or below the NSRT without installation of any SSMs at the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(ii), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the NSRT;

☐ §222.39(a)(3), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the RIWH; or

☐ §222.39(b), public authority application to the FRA for a New Quiet Zone or New Partial Quiet Zone.

☐ § 222.41(a)(1)(i) Pre-Rule Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(a)(1)(ii) Pre-Rule Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(a)(1)(iii) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005

☐ § 222.41(a)(1)(iv) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(b)(1)(i) Pre-Rule Partial Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(b)(1)(ii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(b)(1)(iii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005.

☐ § 222.41(b)(1)(iv) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(c) Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones that do not qualify for automatic approval

☐ § 222.41(d) Pre-Rule Partial Quiet Zones that will be converted to 24-hour New Quiet Zones

☐ § 222.42(a) Intermediate Quiet Zones or Intermediate Partial Quiet Zones

☐ § 222.42(b) Intermediate Partial Quiet Zones that will be converted to 24-hour New Quiet Zones.

Applicant Signature _____ Date 9/24/2013

Chief Executive Officer Statement.

I hereby certify that the information submitted in this notification is accurate and complete to the best of my knowledge and belief.

Signature _____ Date 9/24/2013

Note: A copy of this report along with other required contents (see § 222.43(e)(2)) must be sent to all of the parties required in § 222.43(a)(4). FRA's notification should be mailed to:

Associate Administrator for Safety
Federal Railroad Administration
1200 New Jersey Avenue, SE, MS-25
Washington, DC 20590

Federal Railroad Administration

Quiet Zone Designation Information

Public At-grade Open Crossing Information

Crossing:	364766M	Urban(U)/Rural(R):	R.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	431	Maximum Timetable Speed :	70
Total Trains:	~~14~~ 16	Highway Lanes:	2
Day Through Trains:	8	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	

Crossing:	364767U	Urban(U)/Rural(R):	R.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	650	Maximum Timetable Speed :	70
Total Trains:	~~14~~ 16	Highway Lanes:	2
Day Through Trains:	8	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	

Print This Page

Home | Help | Contact | logoff tholtwijk@town.falmouth.me.us

Cancel | Change Scenario: Falmouth M_40242 | **Continue**

Create New Zone
Manage Existing Zones
Log Off

Crossing	Street	Traffic	Warning Device	Pre-SSM	SSM	Risk	
364761D	**BLACKSTRAP RD**	**3430**	**Gates**	0	0	18,750.42	MODIFY
364765F	**FALMOUTH ROAD**	**7380**	**Gates**	0	0	24,172.24	MODIFY

* Only Public At Grade Crossings are listed.

Click for Supplementary Safety Measures [SSM]

Click for ASM spreadsheet: **ASM** * Note:The use of ASMs requires an application to and approval from the FRA.

Summary	
Proposed Quiet Zone:	Falmouth Maine South
Type:	Pre-Rule 24-hour QZ
Scenario:	Falmouth M_40242
Estimated Total Cost:	$0.00
Nationwide Significant Risk Threshold:	13722 .00
Risk Index with Horns:	12866.51
Quiet Zone Risk Index:	21461.33

Step by Step Instructions:

Step 1: To specify New Warning Device (For Pre-Rule Quiet Zone Only) and/or SSM, click the MODIFY Button

Step 2: Select proposed warning device or SSM. Then click the UPDATE button.To generate a spreadsheet of the values on this page, click on ASM button—This spreadsheet can then be used for ASM calculations.

Step 3: Repeat Step (2) until the SELECT button is shown at the bottom right side of this page. Note that the SELECT button is shown ONLY when the Quiet Zone Risk Index falls below the NSRT or the Risk Index with Horn.

Step 4: To save the scenario and continue, click the SELECT button

9-13-13

U.S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

OMB Control No. 2130-0017
Expires: 3/31/2003

A. Initiating Agency	B. Crossing Number (max. 7 char.)	C. Reason for Update	D. Effective Date (MM/DD/YYYY)
☐ Railroad ☑ State	364766M	☑ Changes in Existing Data ☐ New Crossing ☐ Closed Crossing or Abandoned	11-1-12

Part I: Location and Classification Information

1. Railroad Oper. Co. (code (max. 4 char.) or name)	2. State (2 char.)	3. County (max. 20 char.)
PAN AM RAILWAY	ME	Cumberland

4. Railroad Division or Region (max. 14 char.)	5. Railroad Subdivision or District (max. 14 char.)	6. Branch or Line Name (max. 15 char.)	7. RR Milepost (max. 7 char) (nnnnn.nn)
		FML	189.00

8. RR I.D. No. (max. 10 char.)	9. Nearest RR Timetable Station (max. 15 char.) (optional)	10. Parent RR (max. 4 char.) (if applicable)	11. Crossing Owner (RR or Company name) (if applicable)
	PORTLAND		

12. City (max. 16 char.) (check one)	13. Street or Road Name (max. 17 char.)	STATE SUPPLIED INFORMATION
☑ In ☐ Near FALMOUTH	FIELD RD.	21. HSR Corridor ID (2 char.)

14. Highway Type & No. (max. 7 char.)	15. ENS Sign Installed (1-800)	16. Quiet Zone	22. County Map Ref. No. (max. 10 char.)
TOWN RD	☑ Yes ☐ No	☐ No ☑ 24 hr ☐ Partial ☐ Unknown	23. Latitude (max. 10 char., nn.nnnnnn)

17. Crossing Type (choose one only)	18. Crossing Position	19. Type of Passenger Service	20. Average Passenger Train Count Per Day	24. Longitude (max. 11 char., nnn.nnnnnn)
☑ Public ☐ Private ☐ Pedestrian	☑ At Grade ☐ RR Under ☐ RR Over	☑ AMTRAK ☐ AMTRAK & Other ☐ Other ☐ None	6	25. Lat/Long Source ☐ Actual ☐ Estimated

26. Is There an Adjacent Crossing With a Separate Number?
☐ Yes ☑ No If Yes, Provide Number _____ (7 characters)

27. PRIVATE CROSSING INFORMATION

27.A. Category (check one)	27.B. Public Access	27.C. Signs/Signals
☐ Farm ☐ Recreational ☐ Residential ☐ Industrial ☐ Commercial	☐ Yes ☐ No ☐ Unknown	☐ None ☐ Signs Specify (max. 15 char.) _____ ☐ Signals Specify (max. 15 char.) _____

28.A. Railroad Use (max. 20 char.)	29.A. State Use (max. 20 char.)
28.B. Railroad Use (max. 20 char.)	29.B. State Use (max. 20 char.)
28.C. Railroad Use (max. 20 char.)	29.C. State Use (max. 20 char.)
28.D. Railroad Use (max. 20 char.)	29.D. State Use (max. 20 char.)

30. Narrative (max. 100 char.) CHANNELIZATION, LENGTH = 100 FT ON ALL APPROACHES

31. Emergency Contact (Telephone No.)	32. Railroad Contact (Telephone No.)	33. State Contact (Telephone No.)
1-800-955-9208	978-663-1108	ME 207-624-3563

MUST COMPLETE REMAINDER OF FORM FOR PUBLIC VEHICLE CROSSINGS AT GRADE

Part II: Railroad Information

1. Number of Daily Train Movements

1.A. Total Trains	1.B. Total Switching Trains	1.C Total Daylight Thru Trains (6 AM to 6 PM)	1.D. Check if Less Than One Movement Per Day
16	0	8	☐

2. Speed of Train at Crossing
2.A. Maximum Time Table Speed (mph) 70
2.B. Typical Speed Range Over Crossing (mph) from 35 to 70

3. Type and Number of Tracks Main 1 Other 0 If Other, Specify (max. 10 char.) _____

4. Does Another RR Operate a Separate Track at Crossing?	5. Does Another RR Operate Over Your Track at Crossing?
☐ Yes If Yes, Specify RR (max. 16 char.) _____	☐ Yes If Yes, Specify RR (max. 16 char.) _____
☑ No	☑ No

U.S. DOT CROSSING INVENTORY FORM

B. Crossing Number *(max. 7 char.)*: 364766M

PAGE 2

D. Effective Date (MM/DD/YYYY): 9-13-13

Part III: Traffic Control Device Information

1. No Signs or Signals: ☐ Check if Correct

2. Type of Warning Device at Crossing - Signs (specify number of each)

2.A. Crossbucks:	2.B. Highway Stop Signs (R1-1)	2.C. RR Advance Warning Signs (W10-1)	2.D. Hump Crossing Sign (W10-5)
2	0	☑ Yes ☐ No	☑ Yes ☐ No ☐ Unknown

2.E. Pavement Markings: ☑ Stoplines ☑ RR Xing Symbols ☐ None

2.F. Other Signs: (specify MUTCD type)
Number 2 Specify Type *(max. 10 char.)* W10-9
Number ____ Specify Type *(max. 10 char.)* ____

3. Type of Warning Device at Crossing - Train Activated Devices (specify number of each)

3.A. Gates	3.B. Four-quadrant (or full barrier) Gates	3.C. Cantilevered (or Bridged) Flashing Lights:	3.D. Mast Mounted Flashing Lights *(number)*	3.E. Number of Flashing Light Pairs
2	☐ Yes ☑ No	Over Traffic Lane *(number)* 0 Not Over Traffic Lane *(number)* 0	12	6

3.F. Other Flashing Lights:	3.G. Highway Traffic Signals *(number)*	3.H. Wigwags *(number)*	3.I. Bells *(number)*
Number 4 Specify Type *(max. 9 char.)* ON GATE	0	0	2

3.K. Other Train Activated Warning Devices: (specify) *(max. 9 char.)* 0

4. Specify Special Warning Device NOT Train Activated *(max. 20 char.)*

5. Channelization Devices With Gates: ☐ All Approaches ☐ One Approach ☑ None

6. Train Detection: ☑ Constant Warning Time ☐ Motion Detectors ☐ DC/AFO ☐ Other ☐ None

7. Signalling for Train Operation: Is Track Equipped with Train Signals? ☑ Yes ☐ No

8. Traffic Light Interconnection/Preemption: ☐ Not Interconnected ☑ N/A ☐ Simultaneous Preemption ☐ Advance Preemption

9. Reserved For Future Use	10. Reserved For Future Use	11. Reserved For Future Use	12. Reserved For Future Use

Part IV: Physical Characteristics

1. Type of Development: ☑ Open Space ☐ Residential ☐ Commercial ☐ Industrial ☐ Institutional

2. Smallest Crossing Angle: ☐ 0° - 29° ☐ 30° - 59° ☑ 60° - 90°

3. Number of Traffic Lanes Crossing Railroad: 2

4. Are Truck Pullout Lanes Present? ☐ Yes ☑ No

5. Is Highway Paved? ☑ Yes ☐ No

6. Crossing Surface (on main line): ☐ 1. Timber ☑ 2. Asphalt ☑ 3. Asphalt and Flange ☐ 4. Concrete ☐ 5. Concrete and Rubber ☐ 6. Rubber ☐ 7. Metal ☐ 8. Unconsolidated ☐ 9. Other (Specify) ____

7. Does Track Run Down a Street? ☐ Yes ☑ No

8. Nearby Intersecting Highway? ☐ Less than 75 feet ☐ 75 to 200 feet ☐ 200 to 500 feet ☑ N/A
Is it Signalized? ☐ Yes ☐ No

9. Is Crossing Illuminated? (street lights within approx. 50 feet from nearest rail) ☑ Yes ☐ No

10. Is Commercial Power Available? ☑ Yes ☐ No

11. Space Reserved For Future Use

Part V: Highway Information

1. Highway System: ☐ Interstate ☐ Federal Aid, Not NHS ☐ Nat. Hwy System (NHS) ☑ Non Federal Aid

2. Is Crossing on State Highway System? ☐ Yes ☑ No

3. Functional Classification of Road at Crossing: 09

4. Posted Highway Speed: 35

5. Annual Average Daily Traffic (AADT) Year 2013 AADT 431

6. Estimate Percent Trucks: 6

7. Average Number of School Buses Over Crossing per School Day: 8

9-13-13

U.S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

OMB Control No. 2130-0017
Expires: 3/31/2003

A. Initiating Agency	B. Crossing Number (max. 7 char.)	C. Reason for Update	D. Effective Date (MM/DD/YYYY)
☐ Railroad ☑ State	364767U	☑ Changes in Existing Data ☐ New Crossing ☐ Closed Crossing or Abandoned	11-1-12

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		FML	188.09

8. RR I.D. No. (max. 10 char.)	9. Nearest RR Timetable Station (max. 15 char.) (optional)	10. Parent RR (max. 4 char.) (if applicable)	11. Crossing Owner (RR or Company name) (if applicable)
	PORTLAND		

12. City (max. 16 char.) (check one)	13. Street or Road Name (max. 17 char.)	STATE SUPPLIED INFORMATION
☑ In ☐ Near FALMOUTH	WOODVILLE RD.	21. HSR Corridor ID (2 char.)

14. Highway Type & No. (max. 7 char.)	15. ENS Sign Installed (1-800)	16. Quiet Zone	22. County Map Ref. No. (max. 10 char.)
TOWN RD.	☑ Yes ☐ No	☐ No ☐ Partial ☐ 24 hr ☐ Unknown	23. Latitude (max. 10 char., nn.nnnnnn)

17. Crossing Type (choose one only)	18. Crossing Position	19. Type of Passenger Service	20. Average Passenger Train Count Per Day	24. Longitude (max. 11 char., nnn.nnnnnn)
☑ Public ☐ Private ☐ Pedestrian	☑ At Grade ☐ RR Under ☐ RR Over	☑ AMTRAK ☐ AMTRAK & Other ☐ Other ☐ None	6	25. Lat/Long Source ☐ Actual ☐ Estimated

26. Is There an Adjacent Crossing With a Separate Number?
☐ Yes ☑ No If Yes, Provide Number _____ (7 characters)

27. PRIVATE CROSSING INFORMATION

27.A. Category (check one)	27.B. Public Access	27.C. Signs/Signals
☐ Farm ☐ Recreational ☐ Residential ☐ Industrial ☐ Commercial	☐ Yes ☐ No ☐ Unknown	☐ None ☐ Signs Specify (max. 15 char.) _____ ☐ Signals Specify (max. 15 char.) _____

28.A. Railroad Use (max. 20 char.)	29.A. State Use (max. 20 char.)
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16	0	8	☐

2. Speed of Train at Crossing
2.A. Maximum Time Table Speed (mph) 70
2.B. Typical Speed Range Over Crossing (mph) from 35 to 70

3. Type and Number of Tracks Main 1 Other 0 If Other, Specify (max. 10 char.) _____

4. Does Another RR Operate a Separate Track at Crossing?	5. Does Another RR Operate Over Your Track at Crossing?
☐ Yes If Yes, Specify RR (max. 16 char.) _____	☐ Yes If Yes, Specify RR (max. 16 char.) _____
☑ No	☑ No

U.S. DOT CROSSING INVENTORY FORM

9-13-13

B. Crossing Number *(max. 7 char.)*: 364767U

PAGE 2

D. Effective Date (MM/DD/YYYY): ~~11-1-12~~

Part III: Traffic Control Device Information

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2.A. Crossbucks:	2.B. Highway Stop Signs (R1-1)	2.C. RR Advance Warning Signs (W10-1)	2.D. Hump Crossing Sign (W10-5)
2	0	☑ Yes ☐ No	☐ Yes ☑ No ☐ Unknown

2.E. Pavement Markings: ☑ Stoplines ☑ RR Xing Symbols ☐ None

2.F. Other Signs: (specify MUTCD type)
Number 2 Specify Type *(max. 10 char.)* W10-9
Number ____ Specify Type *(max. 10 char.)* ____

3. Type of Warning Device at Crossing - Train Activated Devices (specify number of each)

3.A. Gates	3.B. Four-quadrant (or full barrier) Gates	3.C. Cantilevered (or Bridged) Flashing Lights	3.D. Mast Mounted Flashing Lights *(number)*	3.E. Number of Flashing Light Pairs
2	☐ Yes ☑ No	Over Traffic Lane *(number)*: 0 Not Over Traffic Lane *(number)*: 0	8	4

3.F. Other Flashing Lights	3.G. Highway Traffic Signals *(number)*	3.H. Wigwags *(number)*	3.I. Bells *(number)*
Number 4 Specify Type *(max. 9 char.)* GATE LIGHTS	0	0	2

3.K. Other Train Activated Warning Devices: (specify) *(max. 9 char.)* 0

4. Specify Special Warning Device NOT Train Activated *(max. 20 char.)*: 0

5. Channelization Devices With Gates: ☐ All Approaches ☐ One Approach ☑ None

6. Train Detection: ☑ Constant Warning Time ☐ Motion Detectors ☐ DC/AFO ☐ Other ☐ None

7. Signalling for Train Operation: Is Track Equipped with Train Signals? ☑ Yes ☐ No

8. Traffic Light Interconnection/Preemption: ☐ Not Interconnected ☑ N/A ☐ Simultaneous Preemption ☐ Advance Preemption

9. Reserved For Future Use

10. Reserved For Future Use

11. Reserved For Future Use

12. Reserved For Future Use

Part IV: Physical Characteristics

1. Type of Development: ☑ Open Space ☐ Residential ☐ Commercial ☐ Industrial ☐ Institutional

2. Smallest Crossing Angle: ☐ 0° - 29° ☐ 30° - 59° ☑ 60° - 90°

3. Number of Traffic Lanes Crossing Railroad: 2

4. Are Truck Pullout Lanes Present? ☐ Yes ☑ No

5. Is Highway Paved? ☑ Yes ☐ No

6. Crossing Surface (on main line): ☐ 1. Timber ☐ 2. Asphalt ☑ 3. Asphalt and Flange ☐ 4. Concrete ☐ 5. Concrete and Rubber ☐ 6. Rubber ☐ 7. Metal ☐ 8. Unconsolidated ☐ 9. Other (Specify) ____

7. Does Track Run Down a Street? ☐ Yes ☑ No

8. Nearby Intersecting Highway? ☐ Less than 75 feet ☑ 75 to 200 feet ☐ 200 to 500 feet ☐ N/A
Is it Signalized? ☐ Yes ☑ No

9. Is Crossing Illuminated? (street lights within approx. 50 feet from nearest rail) ☐ Yes ☑ No

10. Is Commercial Power Available? ☑ Yes ☐ No

11. Space Reserved For Future Use

Part V: Highway Information

1. Highway System: ☐ Interstate ☐ Federal Aid, Not NHS ☐ Nat. Hwy System (NHS) ☑ Non Federal Aid

2. Is Crossing on State Highway System? ☐ Yes ☑ No

3. Functional Classification of Road at Crossing: 09

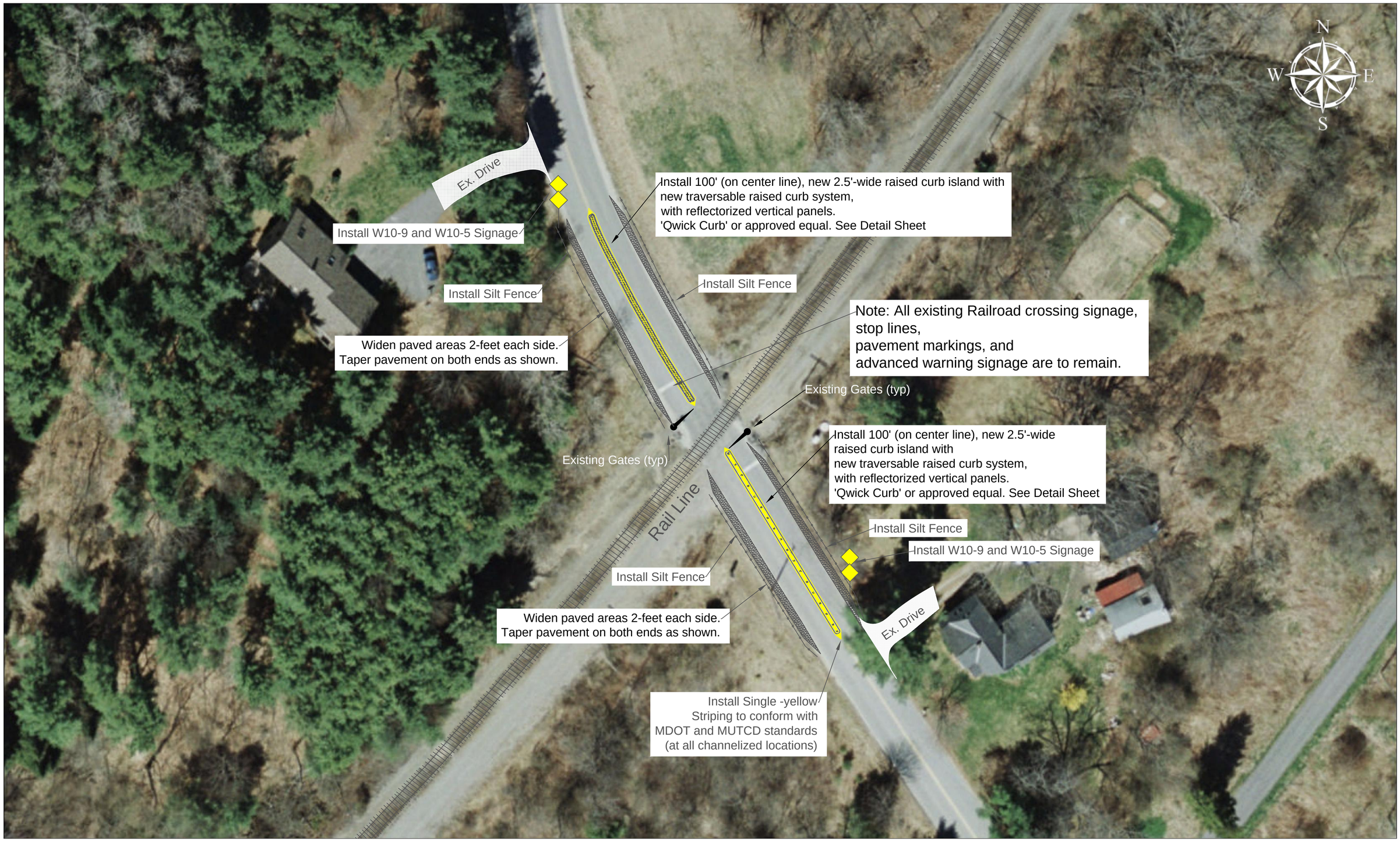
4. Posted Highway Speed: 40

5. Annual Average Daily Traffic (AADT) Year 2013 AADT 650

6. Estimate Percent Trucks: 6

7. Average Number of School Buses Over Crossing per School Day: 6

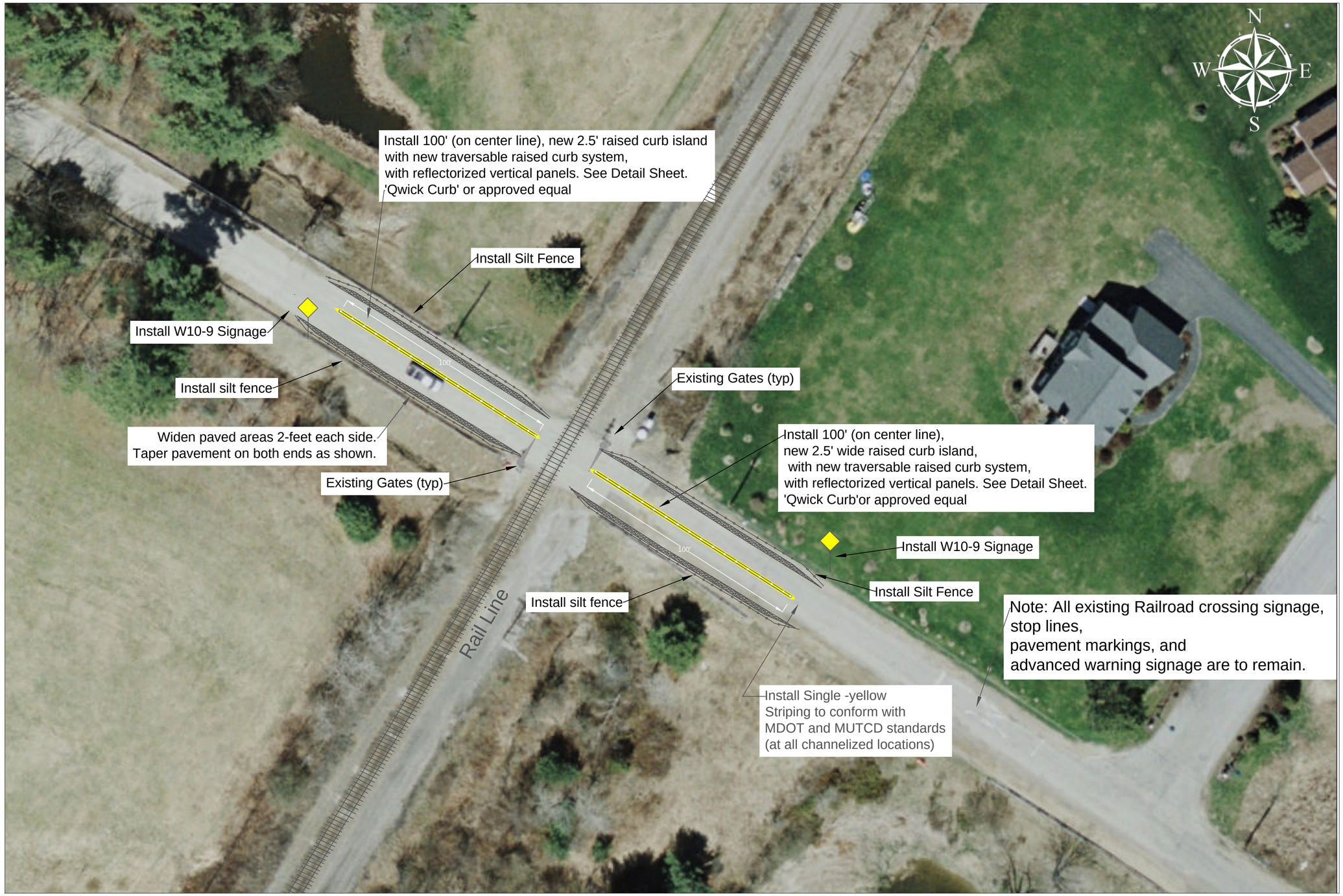
Town of Falmouth - Field Road
Railroad Crossing Upgrades



Scale: 1"=30'

Town of Falmouth
Public Works Department

Town of Falmouth - Woodville Road
Railroad Crossing Upgrades



Scale: 1"=30'

Town of Falmouth
Public Works Department

Railroad Crossing Upgrades: Falmouth, Maine

EROSION AND SEDIMENTATION CONTROL PLAN
PRE-CONSTRUCTION PHASE

A. PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, FILTER FABRIC FENCING WILL BE STAKED ACROSS THE SLOPE(S), ON THE CONTOUR, AT OR JUST BELOW THE LIMITS OF CLEARING OR GRUBBING, AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE OR WATERCOURSE TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. THE PLACEMENT OF SILT FENCES SHALL BE COMPLETED IN ACCORDANCE WITH GUIDELINES ESTABLISED IN BEST MANAGEMENT PRACTICES AND IN ACCORDANCE WITH THE EROSION CONTROL PLAN & DETAILS IN THE PLAN SET. THIS NETWORK IS TO BE MAINTAINED BY THE CONTRACTOR UNTIL ALL EXPOSED SLOPES HAVE AT LEAST 85%-90% VIGOROUS PERENNIAL VEGETATIVE COVER TO PREVENT EROSION.

1. PRIOR TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE.

2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PREPARE A DETAILED SCHEDULE AND MARKED UP PLAN INDICATING AREAS AND COMPONENTS OF THE WORK AND KEY DATES SHOWING DATE OF DISTURBANCE AND COMPLETION OF THE WORK. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE MUNICIPAL STAFF. THREE COPIES OF THE SCHEDULE AND MARKED UP PLAN SHALL BE PROVIDED TO THE MUNICIPALITY THREE (3) DAYS PRIOR TO THE SCHEDULED PRE-CONSTRUCTION MEETING. SPECIAL ATTENTION SHALL BE GIVEN TO THE 14 DAY LIMIT OF DISTURBANCE IN THE SCHEDLE ADDRESSING TEMPORARY AND PERMANENT VEGETATION MEASURES.

THE FOLLOWING EROSION CONTROL MEASURES SHALL BE FOLLOWED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION OF THIS PROJECT.

B. CONSTRUCTION AND POST-CONSTRUCTION PHASE 1:
1A.) AREAS UNDERGOING ACTUAL CONSTRUCTION SHALL ONLY EXPOSE THAT AMOUNT OF MINERAL SOIL NECESSARY FOR PROGRESSIVE AND EFFICIENT CONSTRUCTION AND SHALL NOT EXCEED 14 DAYS. AREAS THAT WILL NOT BE COMPLETED (COVERED AND/OR FINISH GRADED)WITHIN FOURTEEN(14) DAYS OF DISTURBANCE SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL MEASURES. TEMPORARY EROSION CONTROL MEASURES SHALL INCLUDE EROSION CONTROL MESH, NETTING, OR MULCH AS DIRECTED BY THE INSPECTING ENGINEER AND AS SHOWN ON THE DESIGN PLANS. IF MULCH IS USED, HAY OR STRAW MULCH SHALL BE APPLIED AT THE RATE OF 2 BALES PER 1,000 SQUARE FEET. APPLICATION AREA SHALL BE SUFFICIENTLY COVERED WITH MULCH TO AVOID ANY VISIBLE SOIL EXPOSURE. MULCH SHALL BE KEPT MOIST TO AVOID LOSS DUE TO WIND. MULCH AND NETTING SHALL BE APPLIED IN THE BASE OF ALL GRASSED WATERWAYS (I.E. ROADWAY DITCHES) AND IN SLOPES WHICH EXCEED 15% AND ANY DISTURBED AREAS WITHIN 100 FEET OF WETLANDS OR STREAMS.

1B.) IF DISTURBED AREAS DO NOT RECEIVE FINAL SEEDING BY SEPTEMBER 15TH OF THE YEAR OF CONSTRUCTION, THEN ALL DISTURBED AREAS SHALL BE SEEDED WITH A WINTER COVER CROP OF RYE AT THE RATE OF 3 LBS/1,000 S.F. TO PROVIDE WINTER PROTECTION. WINTER SEEDINGS SHALL BE COVERED WITH EROSION CONTROL MESH(MULCH AND NETTING). HEAVY GRADE MATS SHALL BE USED IN THE BASE OF ALL GRASSED WATERWAYS, ON SLOPES EQUAL TO OR GREATER THAN 15%, AND ANY DISTURBED AREAS WITHIN 100 FEET OF WETLANDS OR STREAMS. MULCH AND NETTING SHALL ALSO BE APPLIED FOR ADDITIONAL WINTER PROTETION ALONG SIDE SLOPES OF GRASSED WATERWAYS AND IN ALL AREAS EQUAL TO OR GREATER THAN 8% SLOPE.

1C.) DURING WINTER CONDITIONS, AREAS THAT WILL NOT BE COMPLETED(COVERED AND/OR FINISH GRADED) WITHIN SEVEN(7) DAYS OF DISTURBANCE SHALL BE ANCHORED WITH TEMPORARY EROSION CONTROL MEASURES. TEMPORARY EROSION CONTROL SHALL INCLUDE EROSION CONTROL MESH, NETTING OR MULCH AS DIRECTED BY THE INSPECTING ENGINEER AND AS SHOWN ON THE DESIGN PLANS. IF MULCH IS USED, HAY OR STRAW MULCH SHALL BE APPLIED TO PROVIDE A MINIMUM UNIFORM MULCH DEPTH OF 4". THE APPLICATION AREA SHALL BE SUFFICIENTLY COVERED WITH MULCH TO AVOID ANY VISIBLE SOIL EXPOSURE.

2. ALL TOPSOIL SHALL BE COLLECTED, STOCKPILED, SEEDED WITH RYE AT 3 LBS/1,000 S.F. AND MULCHED, AND RE-USED AS REQUIRED. SILTATION FENCING SHALL BE PLACED DOWN GRADIENT FROM STOCKPILED LOAM. LOAM SHALL BE STOCKPILED AT LOCATIONS DESIGNATED BY THE OWNER AND INSPECTING ENGINEER.

3. ALL SILT FENCES AND EROSION CONTROL MEASURES SHALL BE INSTALLED ACCORDING TO THIS PLAN. THESE SHALL BE MAINTAINED DURING DEVELOPMENT TO REMOVE SEDIMENT FROM RUNOFF WATER. ALL THE SILT FENCES AND EROSION CONTROL MEASURES SHALL BE INSPECTED BEFORE AND AFTER ANY RAINFALL OR RUNOFF EVENT, MAINTAINED, AND CLEANED UNTIL ALL AREAS HAVE AT LEAST 85%-90% VIGOROUS PERENNIAL VEGETATIVE COVER OF GRASSES.

4. A CONSTRUCTION ENTRANCE SHALL BE BUILT AS DIRECTED BY THE INSPECTING ENGINEER. ROADWAY AREAS SHALL BE PERIODICALLY SWEPT OR WASHED TO AVOID TRACKING OF MUD, DUST OR DEBRIS FROM THE CONSTRUCTION AREA. DUST CONTROL DURING CONSTRUCTION SHALL BE ACHIEVED BY THE USE OF A WATERING TRUCK TO PERIODICALLY SPRINKLE THE EXPOSED ROADWAY AREAS AS NECESSARY TO REDUCE DUST DURING THE DRY MONTHS.

5. STONE CHECK DMS MAY BE REMOVED ONLY AFTER THE ROADWAYS ARE PAVED AND THE VEGETATED SWALES ARE ESTABLISED WITH A LEAST 85% TO 90% OF VIGOROUS PERENNIAL GROWTH.

6. ALL AREAS SHALL BE SEEDED AND STABILIZED IN ACCORDANCE WITH THE FOLLOWING VEGETATION PLAN.

C. VEGETATION PLAN
REVEGETATION MEASURES SHALL COMMENCE IMMEDIATELY UPON COMPLETION OF CONSTRUCTION OF THE ROADWAY IMPROVEMENTS. DISTURBED AREAS SHALL ALSO BE MULCHED AND ANCHORED PRIOR TO ANY STORM EVENT. SEE MULCHING REQUIREMENTS IN SECTION B(1A)ABOVE. IF FINAL SEEDING CANNOT BE ACCOMPLISHED BY SEPTEMBER 15TH, THEN ALL DISTURBEVED AREAS SHALL BE SEEDED WITH A WINTER COVER CROP OF RYE AT THE RATE OF 3LBS/1,000 SQ.FT. TO PROVIDE WINTER PROTECTION. SEEDED AREAS SHALL BE COVERED WITH EROSION CONTROL MESH. SEE WINTER PROTECTION REQUIREMENTS IN SECTION B(1B) ABOVE.

REVEGETATION MEASURES SHALL CONSIST OF THE FOLLOWING:
1. FOUR INCHES OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE. LOAM SHALL BE FREE OF SUBSOIL, CLAY LUMPS, STONES AND OTHER OBJECTS OVER 1" IN DIAMETER, AND WITHOUT WEEDS, ROOTS OR OTHER OBJECTIONABLE MATERIAL.

2. SOILS TESTS SHALL BE TAKEN AT THE TIME OF SOIL STRIPPING TO DETERMINE FERTILIZATION REQUIREMENTS. SOILS TEST SHALL BE TAKEN PROMPTLY AS TO NOT INTERFERE WITH THE 14 DAY LIMIT ON SOIL EXPOSURE. BASED UPON TEST RESULTS, SOIL AMENDMENTS SHALL BE INCORPORATED INTO THE SOIL PRIOR TO FINAL SEEDING. IN LIEU OF SOIL TEST, SOIL AMENDMENTS MAY BE APPLIED AS FOLLOWS:

ITEM	APPLICATION RATE
10-20-20 FERTILIZER (N-P205-K2O) OR EQUAL	18.4 LBS/1,000 SF
GROUND LIMESTONE(50% CALCIUM & MAGNESIUM OXIDE)	138 LBS/1,000 SF

3. FOLLOWING SEED BED PREPARATION, SWALE AREAS, FILL AREAS AND BACK SLOPES SHALL BE SEEDED AT A RATE OF 3 LBS/1,00 SF WITH A MIXTURE OF 35% CREEPING RED FESCUE, 5% RED TOP, 24% KENTUCKY BLUEGRASS, 10% PERENNIAL RYEGRASS, 20% ANNUAL RYEGRASS AND 5% WHITE DUTCH CLOVER.

4. EROSION CONTROL MESH SHALL BE APPLIED IN ACCORDANCE WITH THE PLANS OVER ALL FINISH SEEDED AREAS AS SPECIFIED ON THE DESIGN PLANS.

5. ALL HAY BALE AND/OR FILTER FABRIC BARRIERS WILL REMAIN IN PLACE UNTIL SEEDING HAVE BECOME 85%-90% ESTABLISHED AND THEN REMOVED WITHIN 10 DAYS.

6. THE INSPECTIONG ENGINEER AT THEIR DISCRETION, MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AND/OR SUPPLEMENTAL VEGETATIVE PROVISIONS TO MAINTAIN STABILITY OF EARTHWORKS AND FINISH GRADED AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY SUPPLEMENTAL MEASURES AS DIRECTED BY THE INSPECTION ENGINEER. FAILURE TO COMPLY WITH THE ENGINEER'S DIRECTIONS WILL RESULT IN DISCONTINUATION OF CONSTRUCTION ACTIVITIES.

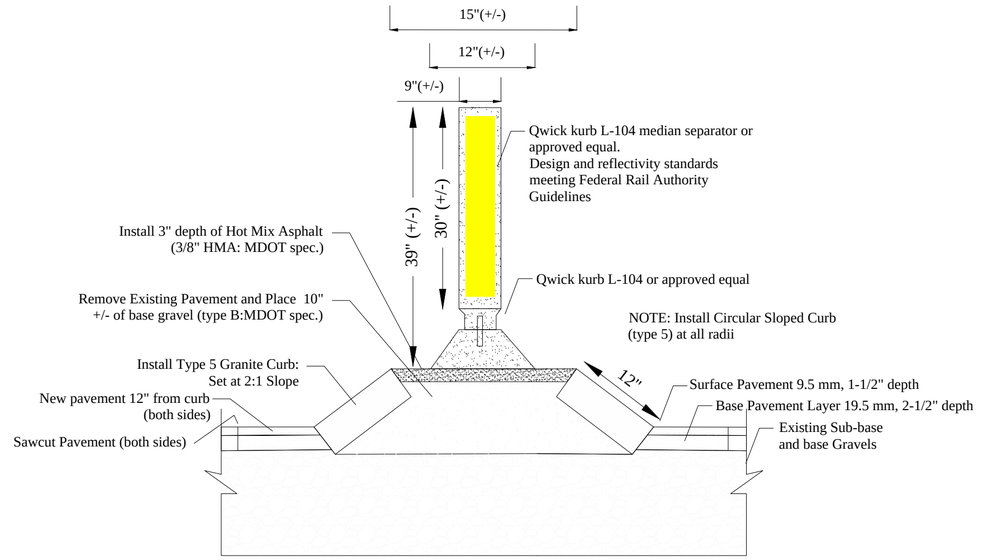
D. CONSTRUCTION SCHEDULE:
SITE IMPROVEMENTS WILL MOST LIKELY BEGIN IN _____ DEPENDING UPON FINAL PROJECT APPROVAL. THE FOLLOWING SCHEDULE IS ANTICIPATED FOR CONSTRUCTION.

SCHEDULEDOO S.F. A
1. ESTIMATED CONSTRUCTION TIME. _____ MONTHS
2. EROSION CONTROL MEASURES PLACED. WEEK 1
3. SITE CLEARING AND GRUBBING WEEK 2
4. CONSTRUCTION OF ROAD SUBBASE
5. STORMWATER MANAGEMENT AREA CONSTRUCTION
6. UTILITY IMPROVEMENTS WEEK 3
7. MULCH SPREAD FOR WINTER EROSION CONTROL OCT. 15 OF
8. START FINAL SEEDINGS ON PREPARED AREAS. (DURING GROWING SEASON.) OCT
9. BIWEEKLY MONITORING OF VEGETATIVE GROWTH.
*10. RE-SEEDING OF AREAS, IF NEEDED. AS REQUIRED
*11. REMOVAL OF EROSION CONTROL DEVICES. UPON FINAL PROJECT COMPLETION

* DATES ARE SUBJECT TO CHANGE AT THE DISCRETION OF THE ENGINEER, DEPENDING ON CONSTRUCTION PROGRESS.

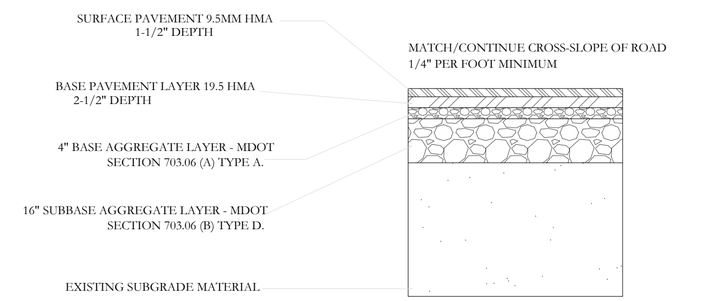
E. INSPECTION/MONITORING
MAINTENANCE MEASURES SHALL BE APLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, THE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES. THE CONTRACTOR SHALL PERFORM REPAIRS AS NEEDED TO ALLOW CONTINUED PROPER FUNCTIONING OF THE EROSION CONTROL MEASURE. THE CONTRACTOR SHALL PROVIDE THE MUNICIPALITY WITH WRITTEN DOCUMENTATION DESCRIBING DATES OF INSPECTIONS AND NECESSARY FOLLOW-UP WORK TO MAINTAIN EROSION CONTROL MEASURES MEETING THE REQUIREMENTS OF THIS PLAN.

FOLLOWING THE TEMPORARY AND/OR FINAL SEEDINGS, THE CONTRACTOR SHALL INSPECT THE WORK AREA SEMI-MONTHLY UNTIL THE SEEDINGS HAVE BEEN ESTABLISHED. ESTABLISHED MEANS A MINIMUM OF 85%-90% OF AREAS VEGETATED WITH VIGOROUS GROWTH. RESEEDING SHALL BE CARRIED OUT BY THE CONTRACTOR WITH FOLLOW-UP INSPECTIONS IN THE EVENT OF ANY FAILURES UNTIL VEGETATION IS ADEQUATELY ESTABLISHED.



TYPE 5 CURB ISLAND WITH CHANNELIZING DEVICE

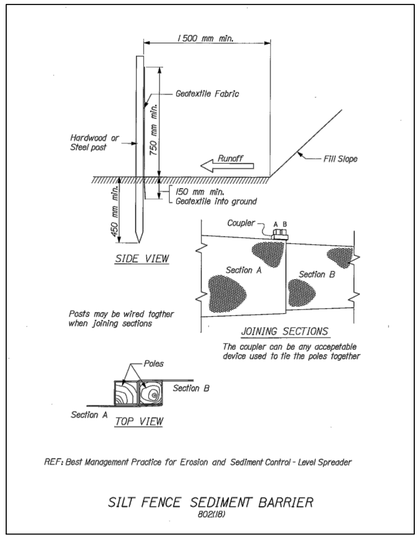
Not to Scale



WHERE SOIL IS DISTURBED ALONG THE EDGE OF SHOULDERS, REPLACE EXISTING TOPSOIL. ADD NECESSARY QUANTITIES TO OBTAIN REQUIRED DEPTH OF 4". SEED AND MULCH WHERE DIRECTED BY THE ENGINEER OR WHERE SHOWN ON PLANS.

FOR TOPSOIL MATERIAL - SEE SPECIFICATIONS. SEEDING AND MULCH SHALL CONFORM TO MDOT SPECIFICATIONS FOR HIGHWAYS AND BRIDGES SSECTION 618 METHOD 2 AND SECTION 619 RESPECTIVELY (1995 EDITION).

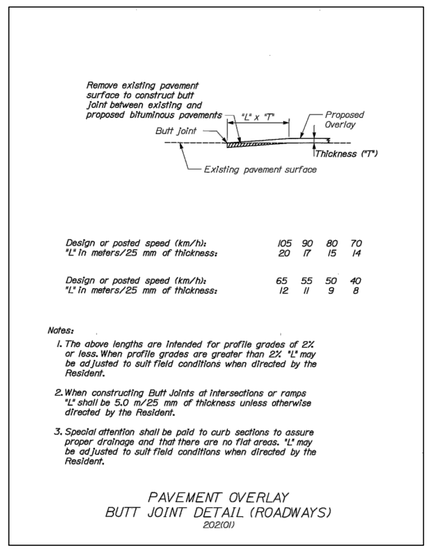
PAVED SHOULDER DETAIL



REF: Best Management Practice for Erosion and Sediment Control - Level Spreader

SILT FENCE SEDIMENT BARRIER

802(1B)



Design or posted speed (km/h):	105	90	80	70
"L" in meters/25 mm of thickness:	20	17	15	14
Design or posted speed (km/h):	65	55	50	40
"L" in meters/25 mm of thickness:	12	11	9	8

Notes:
1. The above lengths are intended for profile grades of 2% or less. When profile grades are greater than 2% "L" may be adjusted to suit field conditions when directed by the Resident.
2. When constructing Butt Joints at intersections or ramps "L" shall be 5.0 m/25 mm of thickness unless otherwise directed by the Resident.
3. Special attention shall be paid to curb sections to assure proper drainage and that there are no flat areas. "L" may be adjusted to suit field conditions when directed by the Resident.

PAVEMENT OVERLAY BUTT JOINT DETAIL (ROADWAYS)

202(01)

36"X36" STREET SIGN (MUTCD: W10-9)

Not to Scale

36"x36" Street Sign (MUTCD: W-10-5)

Town of Falmouth
Parks and Public Works Department

Railroad Crossing Upgrades
Blackstrap, Falmouth, Field, and Woodville Roads

DESIGNED BY: JJR	
CHECKED BY:	Details and General Notes
DATE: 6/8/12	SCALE: NTS

SHEET 5 OF 5