Alexandria Marquis
118 Fordway Ext.
Derry, NH 03038
978.335.2259
alexandriamarquis@gmail.com

June 1, 2017

Wendy A. Johnson, P.E., Project manager
The State of New Hampshire Department of Transportation
Bureau of Highway Design
John O. Morton Building
7 Hazen Drive
P.O. Box 483
Concord, NH 03302-0483

RE: Request for Additional Testing – Fordway Extension

Ms. Johnson,

I am writing in response to your May 19, 2017 letter. As I have indicated before, I am concerned that the information depicted in the department's Final Environmental Impact Statement is more than 10 years old. You have not included any updated testing nor responded to my request that all original locations tested at the Fordway Extension area be retested as explained below.

While I appreciate your conducting the additional noise measurements at our home on June 8, 2016, I again request that you conduct updated noise measurements at all original nineteen locations at the Fordway Extension area that were tested in 2001. "The noise monitoring was conducted at nineteen receptor locations, typically residences, from March to December of 2001."[1]

It is unreasonable and negligent to assume results from testing conducted more than 10 years ago is still accurate. You cannot convince me that any types of data collection methods/computer programs in your possession can predict future traffic patterns. While I understand you may have conducted studies, it is absolutely absurd for anyone or anything to predict the future.

As indicated in documentation on the rebuilding I-93 website, "At this time, there are approximately 270 sites (mostly private homes) within the I-93 project area that are considered to be impacted by highway traffic noise. By 2020, it is expected that the number of affected sites will have increased to approximately 325."[2] Thus, decibel readings have changed in the span of 10 plus years since the initial testing.

Many physical factors have changed or will change including:

1. The removal of various trees, "Four neighborhoods in Segment E are located in close proximity to the existing highway and may be affected by removal of the existing vegetative buffer between residences and the highway corridor... A privacy fence or a

[1] FEIS, Volume 1, 3-116.
[2] Environmental Noise Abatement Project Fact Sheet, updated 5/30/2007.

sound wall is planned for each of these areas, which should mitigate adverse visual impacts for the homeowners to some degree."[3];

2. Additional south/northbound lanes, the highway will extend 6 feet closer to Fordway Extension residential dwellings; And,
3. Bridge widening/construction[4].

As a result of such factors, more homes at the Fordway Extension area are now affected by the noise and a soundwall may be feasible.

You indicate that a privacy fence will remedy the visual affects of the highway for the residents at Fordway Extension, however, Fordway Extension is perpendicular to the highway and is also a hill. As a result, most homes are elevated and the highway is still visible. A privacy fence is not a solution and does not mitigate the visual affects. I again request that a sound wall be constructed at the Fordway Extension area.

Also, a privacy fence ("standard stockade fence") does not shield our property from the dangers of the highway, which will in turn be 6 feet closer to our property (with an added two lanes). As stated in the Final Environmental Impact Statement, "The segment of I-93 between Exits 3 and 4 recorded the highest number of crashes with 675 crashes (28 percent)" … "Of the total 2,427 crashes, 1,709 (70 percent) were limited to property damage only, while 699 crashes (29 percent) resulted in personal injury. Nineteen crashes (1 percent) resulted in a fatality. Of note, 15 of the 19 fatal crashes involved only a single vehicle."[5] This is quite concerning.

Please also provide updated water testing for Beaver Brook watershed just south of Exit 4. As previous water testing was conducted in approximately 2002/2003[6].

While you indicate in your letter that this is difficult - that is an understatement. We are real people, these are our homes, our families, our lives and our investments and you are simply saying "too bad, we are following the laws." This is not how a community should be treated. This project has affected the value of our property, the safety of our family and pets, family functions, our physical and mental health, sleep patterns (see attached doctor's note for my son), and our right to quiet and enjoyment. Our home is our biggest investment and health and safety are very important to our family.

Very Truly Yours,

Alexandria Marquis

Alexandria Marquis
Enclosures

Cc: David Caron , Administrator, Town of Derry (via electronic mail)
Yamilee Volcy FWHA (via electronic mail)
Peter Stamnas NHDOT (via electronic mail)
Jon Evans NHDOT (via electronic mail)
Chuck Schmidt, NHDOT (via electronic mail)
Conservation Law Foundation (via electronic mail)

---

[3] FEIS, Volume 1, p.4-158
[4] Final Environmental Impact Statement ("FEIS"), Volume 1, 4-153.
[5] FEIS Volume 1, pp.3-12, 3-13.
[6] FEIS Volume 1, p.3-39.

peak hour sound levels at nineteen receptor locations within the study area to help establish existing sound levels and to calibrate the noise model to the specific roadway locations. The sound levels were calculated using the FHWA's approved Traffic Noise Model (TNM)[32]. The modeling input data included peak hour traffic volumes, truck mix, vehicle speeds, and roadway and receptor geometry. The existing and future sound level predictions were based on the appropriate receptor peak hour traffic commuting period. The noise analysis calculated the sound levels at receptor locations and compared the results to the NHDOT and FHWA noise impact criteria. Where noise impacts were identified, mitigation measures were evaluated to determine if they were reasonable and feasible.

The study area was evaluated to identify receptor sites that have outdoor activities that might be sensitive to highway noise. In evaluating the I-93 corridor, the study area was subdivided into approximately 30 locations containing receptor sites that are sensitive to highway noise. Within the subdivisions, approximately 1,000 receptor sites were identified along the existing I-93 corridor from Salem to Manchester. Table 3.8-3 presents the receptor locations. The receptor locations, which predominately included outdoor ground level areas between the roadways and the buildings, are shown in **Figures 3.8-1 to 3.8-23**. Most of the receptor locations (residences) fall into the FHWA's "Activity Category B", which has a noise abatement criterion of 67 dBA. Other land uses, such as commercial buildings, (i.e., those that do not involve temporary overnight residence), are in FHWA "Activity Category C" which has a noise abatement criterion of 72 dBA.

■

3.8.3 Existing Conditions

Sound Level Measurements

A sound level program was conducted to obtain a sampling of the existing sound levels in the I-93 corridor and to provide a database for calibrating the noise model. The noise monitoring was conducted at nineteen receptor locations, typically residences, from March to December of 2001. These noise measurements were collected in conformance with the FHWA noise monitoring guidelines[33]. Traffic data were obtained at the same time as the sound level data. This traffic data included traffic volumes, vehicle mix (automobiles, medium trucks, and heavy trucks), and operating speeds. Noise sources in the study area included vehicles on I-93 and vehicles on local roadways. **Figures 3.8-1 to 3.8-23** presents the location of the noise monitoring sites. Table 3.8-4 presents the results of the noise monitoring program and the predicted results from the TNM. Little to no difference between the monitored results and the predicted results confirms that the Traffic Noise Model has been calibrated properly.

▼

32 *FHWA* Traffic *Noise Model - Version 1.1*, US Department of Transportation, FHWA -PD-96-009, September 2000.

33 *Measurement of Highway-Related Noise*, US Department of Transportation, Federal Highway Administration, FHWA-PD-96-046, May 1996.

PROJECT FACT SHEET

ENVIRONMENTAL MITIGATION
Noise Abatement

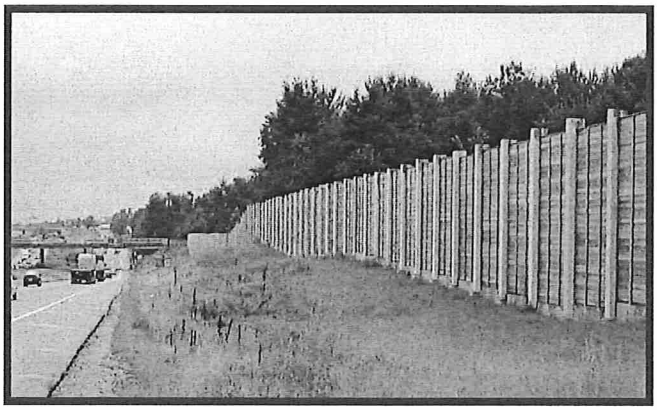
Noise is defined as unwanted or excessive sound, determined by loudness, frequency and duration. Sound becomes unwanted when it interferes with normal activities such as sleep, work or recreation.

The Federal Highway Administration (FHWA) requires noise abatement measures to be considered when noise levels approach (are within one decibel), are at, or exceed FHWA noise abatement criteria, which is 67 decibels for residential areas and 72 decibels for commercial properties.

As a frame of reference, the sound of normal conversation from three feet away is the equivalent of 66 decibels. Typically, a sound wall reduces noise levels by five to ten decibels.

At this time, there are approximately 270 sites (mostly private homes) within the I-93 project area that are considered to be impacted by highway traffic noise. By 2020, it is expected that the number of affected sites will have increased to approximately 325.

Based on preliminary engineering, on a project-wide basis, over five miles (27,700 lineal feet, which equates to over one-fourth the total length of the project) of sound walls will be erected in about a dozen locations to mitigate the current and anticipated increase in noise along the project corridor. As final engineering design progresses, the locations and height of the currently proposed sound walls will be further refined, and additional locations will be evaluated.



The use of sound walls is not always possible or practical at all impacted locations. In order for this noise abatement measure to be considered, the following criteria must be met:

1) The site must have predicted sound levels resulting in adverse noise impacts.

2) The sound wall must be able to provide a reduction of at least five decibels in sound levels.

3) It must be cost effective and feasible to construct.

4) It should not have a substantial impact on other resources, such as wetlands, historic properties or endangered species.

From an abutter perspective, sound walls serve a dual purpose of reducing both noise and visual impacts as the affected site is shielded from the noise source by blocking the line of sight, thus reducing the transmission of sound waves.

In some locations, and based on the work to be accomplished by individual construction contracts, early construction of proposed noise barriers will be considered in the construction sequencing so that they can provide a reduction in subsequent construction noise. Typically, however, the noise barrier will need to be the last phase of construction due to the need for detours and proper construction sequencing.

The current design specification for sound walls in New Hampshire calls for concrete support posts and pressure treated wood panels. The NHDOT is evaluating other materials and designs to determine if there may be other choices for improved performance and longevity, greater cost effectiveness, and to lessen environmental impact.

The changes at Exit 3 will also change the visual character of the highway for motorists. The larger, straighter highway will create a more homogeneous visual setting than is now present.

Options in Segment D also include a relocation of approximately 0.9 miles of NH 111. The relocated NH 111 will cross an intact forested area of relatively high visual character north of existing NH 111. Portions of the relocated section will be visible to motorists on I-93, adjacent to commercial properties, and to some degree residences fronting along existing NH 111 in the area. Approximately one-third of the relocated NH 111 will be located in a cut and will be fully or somewhat visually shielded from the residences adjacent to Cobbetts Pond to the south (e.g., on Rocky Ridge Road).

No change will occur to the visual setting of Searles Castle, a locally important cultural feature located on a hillside approximately 2000 feet to the northeast of Exit 3. The Castle property does not currently have a view of the highway, and even with the change in the vicinity of Exit 3 a substantial vegetative buffer will continue to shield the Castle.

Segment E

The project will have no impact on the open space and recreational areas identified in the Derry Master Plan (Table 3.9-1), since these areas are not located adjacent to the highway and have no views to or from the highway.

Four neighborhoods in Segment E are located in close proximity to the existing highway and may be affected by removal of the existing vegetative buffer between residences and the highway corridor. Construction of the Three-Lane Alternative will have a low adverse impact on Fordway Extension and Derryfield Road in Derry and Charleston Avenue (impacted by the westerly widening option only) and Trolley Car Lane in Londonderry. A privacy fence or a sound wall is planned for each of these areas, which should mitigate adverse visual impacts for the homeowners to some degree.

Moderate adverse impacts are expected to users of the Woodmont Orchard in Londonderry since all alternatives will impact the existing wooded buffer between the orchard and the highway. The Westerly Option in Segment E would remove almost the entire 100-foot buffer, while an Easterly Widening would allow some wooded buffer to remain between the roadway and the orchard. The Easterly Widening would minimize the effect of the project upon users of the orchard, which is considered open space in the community.

Segment F

The majority of the highway corridor in Segment F is forested, which provides screening of the adjacent highway barrel and creates a rural/undeveloped visual setting. The portion of the highway from Stonehenge Road to Exit 5 (NH 28) will be affected by removal of the forested buffer currently present in the median. No adverse effect will result north of Exit 5 since only a slight amount of vegetation

time. It is expected that noise levels exceeding 67 decibels could occur up to 500 feet away from construction activities. In general, construction noise would be restricted to daylight hours, although night construction will be required given the need to maintain traffic in both directions much of the time during daylight hours.

In an effort to minimize construction noise, proposed noise barriers will be built as soon as possible so that they may provide a reduction in subsequent construction noise to the residences. However, at some locations (such as Location 6, Lowell Road in Salem) the noise barrier will need to be the last phase of construction due to the location of temporary detour roadway.

Bridge construction represents a source of higher noise levels due to pile driving and other activities. Major bridge construction is planned for the following locations:

- Cross Street (over I-93 NB & SB)
- I-93 Exit 1 SB On & Off Ramps (over I-93 NB & SB)
- I-93 Exit 1 SB On Ramp (over South Policy Street)
- I-93 NB & SB (over Lowell Road, NH 38)
- I-93 NB & SB (over Porcupine Brook)
- I-93 NB & SB (over Pelham Road, NH 97)
- I-93 Exit 2 SB On Loop Ramp (over Pelham Road, NH 97)
- Brookdale Road (over I-93 NB & SB)
- I-93 NB & SB (over NH 111A)
- I-93 NB & SB (over NH 111)
- I-93 Exit 3 NB & SB Loop Ramp (over NH 111)
- I-93 NB & SB (over North Lowell Road)
- I-93 NB & SB (over Fordway Extension)
- I-93 NB & SB (over Kendall Pond Road)
- I-93 NB & SB (over Beaver Brook)
- NH 102 (over I-93 NB & SB)
- Ash Street (over I-93 NB & SB)
- I-93 NB & SB (over Stonehenge Road)
- I-93 NB & SB (over NH 28)
- I-93 NB & SB (over Railroad Corridor)
- I-93 NB (over Cohas Brook Sta. 1917+00)
- I-93 NB (over Cohas Brook Sta. 1965+00)
- I-93 NB & SB (over Bodwell Road)
- I-93 / I-293 NB (over Cohas Brook Sta. 1989+00)

Ledge removal also represents a source of higher noise levels due to blasting and other activities. Major ledge removal is anticipated for the following locations:

- I-93 NB & SB (500-foot section south of Exit 3 Interchange)
- I-93 NB & SB (2,500-foot section within Exit 3 Interchange)
- I-93 NB & SB (1,000-foot section north of Exit 3 Interchange)
- I-93 NB & SB (1,500-foot section south of North Lowell Road)
- I-93 NB & SB (1,500-foot section north of North Lowell Road)
- I-93 NB & SB (2,500-foot section north of Windham/Derry Townline)
- I-93 NB & SB (1,000-foot section within Exit 4 Interchange)
- I-93 NB & SB (1,600-foot section north of Pillsbury Road/Ash Street)

from the Massachusetts state line to I-293, revealed a total of 2,427 crashes during the eight-year period. A summary of the crash data is presented in Table 3.2-4.

Table 3.2-4
Crash Summary (January 1995 – December 2002)

Location	Property Damage Only	Personal Injury	Fatal Crash	Total
From MA state line to Exit 1	158	74	2	234
At Exit 1	26	11	0	37
From Exit 1 to Exit 2	170	74	3	247
At Exit 2	28	6	0	34
From Exit 2 to Exit 3	191	91	2	284
At Exit 3	31	6	0	37
From Exit 3 to Exit 4	491	180	4	675
At Exist 4	31	10	0	41
From Exit 4 to Exit 5	215	88	3	306
At Exit 5	37	11	1	49
From Exit 5 to I-293	257	136	4	397
At I-293	28	8	0	36
Unknown	46	4	0	50
Total	1709	699	19	2427

Year		Month	
1995	253	January	292
1996	236	February	191
1997	203	March	259
1998	292	April	164
1999	243	May	212
2000	463[1]	June	198
2001	386	July	184
2002	351	August	197
Total	2427	September	172
		October	198
Surface Condition		November	170
Dry	1741	December	190
Wet	289	Total	2427
Snow/Ice	371		
Debris	5		
Unknown/Other	21		
Total	2427		

1 Beginning in the year 2000, a more detailed accident record-keeping system was initiated.

Although caution should be applied when attempting to relate crash trends to potential causation, the following trends have been identified.

The segment of I-93 between Exits 3 and 4 recorded the highest number of crashes with 675 crashes (28 percent). Three hundred and ninety-seven crashes (16 percent) were recorded between Exit 5 and I-293. The segments between Exits 4 and 5, and between Exits 2 and 3 recorded 306 crashes (13 percent) and 284 crashes (12 percent), respectively.

The segments between Exit 1 and Exit 2, and between the MA state line and Exit 1 recorded the fewest crashes with 247 (10 percent) and 234 (10 percent), respectively. The number of crashes that occurred at each of the interchanges range from a low of 34 at Exit 2 to a high of 49 at Exit 5.

The roadway surface condition was recorded as dry for 1,741 crashes (72 percent), snow or ice for 371 crashes (15 percent), and wet for 289 crashes (12 percent). Five crashes were related to debris in the roadway. The road condition for the remaining 21 crashes are unknown.

Of the total 2,427 crashes, 1,709 (70 percent) were limited to property damage only, while 699 crashes (29 percent) resulted in personal injury. Nineteen crashes (1 percent) resulted in a fatality. Of note, 15 of the 19 fatal crashes involved only a single vehicle.

The number of crashes that occurred between 1995 and 1997 revealed a steady decline with the number of crashes each year recorded at 253, 236 and 203, respectively. However, the trend was broken in 1998 when 292 crashes were recorded. The number of crashes again declined in 1999 with 243 crashes reported. However, since 1999 the number of reported crashes has been much higher. The 3-year period of 2000, 2001, and 2002 recorded 463, 386, and 351 crashes, respectively. This may be in part due to an ongoing effort by NHDOS and NHDOT to improve record-keeping and accuracy relative to crash data.

The month of January recorded the highest number of crashes with 292. The next four highest months were March, May, June and October with 259, 212, 198, and 198, respectively.

■

3.2.5 Geometric Deficiencies

This section summarizes the geometric concerns and deficiencies that currently exist along the I-93 segment under study. These were identified by comparing the existing horizontal and vertical geometry with parameters listed in *A Policy on Geometric Design of Highways and Streets*[23] *(AASHTO)* and *The Policy for Interstate Highways (AASHTO)* for the same type of highway facility and based on current NHDOT standards. AASHTO provides desirable and minimum/maximum design parameters for each design element, which allow for some flexibility in design. The desirable value provides a somewhat higher level of safety, efficiency and comfort, relative to the minimum/maximum design parameters. Both must be balanced with acceptable impacts and costs. Desirable values are preferred particularly for Interstate-type facilities, where the public expectations are generally higher.

▼

[23] American Association of State Highway and Transportation Officials, A Policy on Geometric Design of Highways and Streets, Washington, D.C., 2001.

Table 3.4-1
I-93 Road Salt Sampling Study Results[1] (12/2002-5/2003)

Map Location No.[2]	Stream	RA/DA[3]	Average Specific Conductance(µs/cm)[5]		Percent Difference	Average Chloride Conc. (mg/l)		Percent Difference
		%	up[4]	down		up	down	
1	Spicket River	0.1	357	443	24%	91	119	31%
2	Policy Brook	0.3	652	759	16%	187	213	14%
3	Trib to Harris	4.2	497	565	14%	143	149	4%
4	S. Trib to Canobie	4.4	191	336	76%	35	85	143%
5	N. Trib to Canobie	3.4	ns	773	na	ns	218	na
5C	N'east Trib to Canobie reference	na[6]	ns	701	na	ns	198	na
6	Searles Rd Trib-reference	na[6]	ns	309	na	ns	68	na
7	Dinsmore Brook	9.6	162	554	242%	14	154	996%
8	N. Trib to Golden Brk	3.4	ns	316	na	ns	67	na
9	Trib- Flatrock Brk	1.3	na	347	na	ns	77	na
10	S. Trib-Beaver Brk	1.7	343	418	22%	88	97	10%
10C	N.Trib-Beaver Brk	2.7	ns	266	na	ns	55	na
11	Beaver Brook	0.1	360	371	3%	98	99	1%
12	Trib-Wheeler Pond	3.2	431	555	29%	107	133	25%
13	Trib to Hood Pond	1.5	264	318	20%	61	71	17%
14	Little Cohas Brook[7]	3.5	195	297	52%	38	85	123%
15	Cohas Brook	0.8	193	265	37%	40	66	64%

Notes:
1 Based on samples collected twice per month by NHDOT from December 2002 to May 2003.
2 See **Figure 3.4-1** for locations.
3 Represents the ratio of I-93 roadway area to the drainage area expressed as a percentage.
4 Up and down refer to upstream and downstream of I-93 roadway.
5 Specific conductance levels above 850 and 2,855 µs/cm max indicate a potential exceedance of the chronic and acute aquatic life criteria of 230 and 860 mg/l, respectively.
6 These streams are not affected by I-93 roadway drainage and were used as reference streams.
7 Little Cohas Brook is crossed by NH 28 but not I-93.
ns Not sampled.
na Not applicable.

description of the 2002-2003 study results can be found in a separate report entitled, "Road Salt Constituent Monitoring Program, Data Summary Report, July 2003" (NHDOT 2003). This effort was coordinated with NHDES and USEPA who collected the additional specific conductance data in 2002-2003, which is also presented in the above referenced report.

Derry Medical Center
6 Buttrick Road, Suite 200
Londonderry, NH 03053
(603) 537-1300
(603) 537-1326

5/16/2016

JAMESON C. MARQUIS has been under my care for routine medical concerns. He does have a history of insomnia and is a very light sleeper. Any increased noise will likely further interfere with his sleep. Decreased sleep will likely impact his development and weaken his immune system. Please take this into consideration when planning for highway related noise pollution related to his residence. Thank you!

Sincerely,

Provider Signature

Jennifer M. Cremone APRN
Provider Name

118 Fordway Extension
Derry NH

abutting 193 Southbound Corridor

118 Fordway Ext.

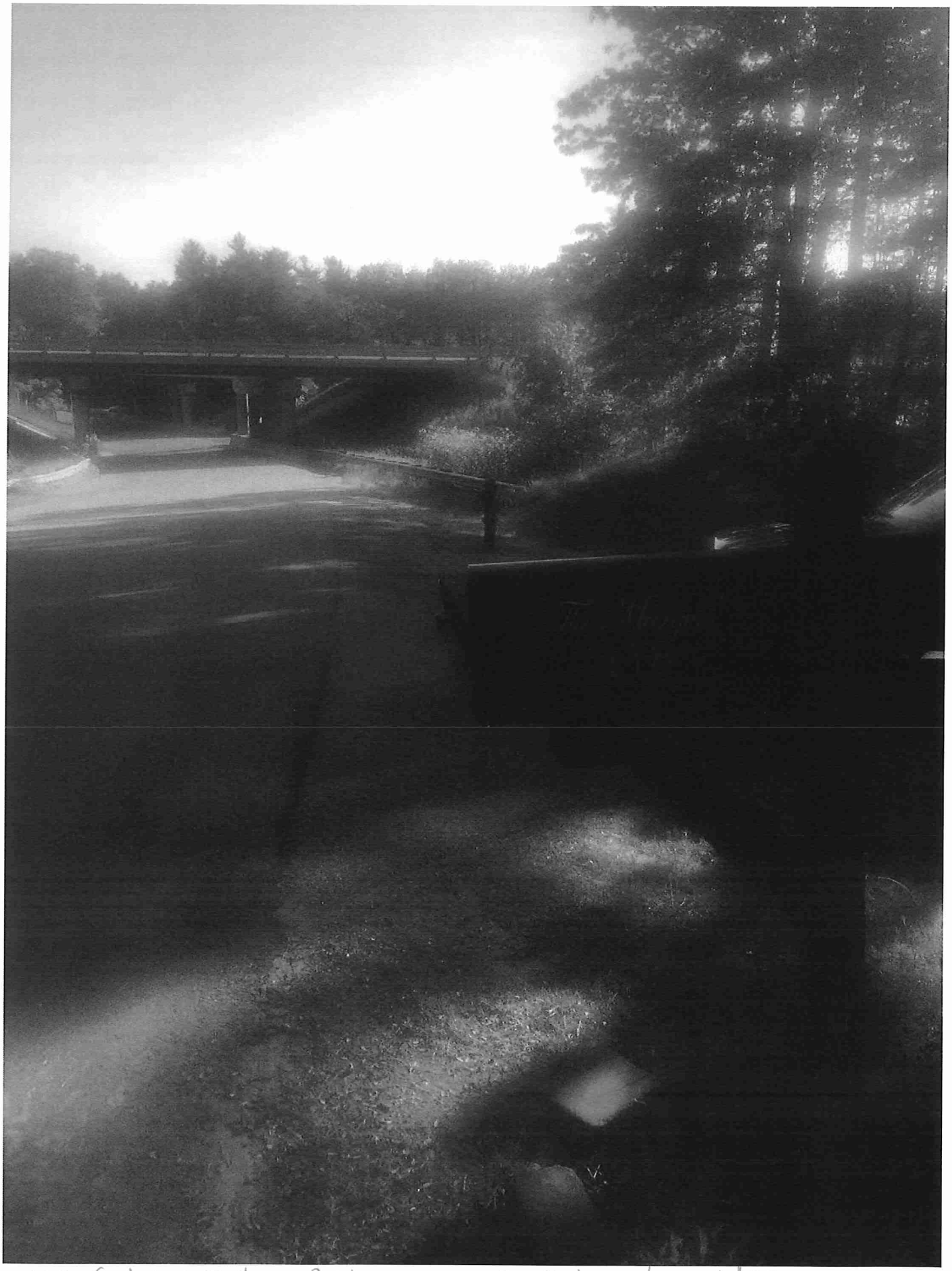
193 Southbound corridor

View from Bedroom @ 118 Fordway Ext.

193 Southbound corridor

118 Ford Way Ext.
Bridge @ 193 Southbound Corridor

Tree on homeowner's property removed by R.S. Audley during removal of vegetation.



118 fordway Ext., Bridge 193 Southbound corridor

Petition to Build a Noise Barrier/Sound Wall at Fordway Extension, Derry, NH 03038

Reasoning: Rebuilding I93 Project Plans do not include the erection of a Noise Barrier/Sound Wall. I93 Southbound runs perpendicular to Fordway Extension in Derry, NH. There are homes on Fordway Extension adjacent to the highway being affected by the expansion of I93 southbound. The I93 Project plan is to expand the highway 6 feet closer to the residential homes with the addition of two traffic lanes. In conclusion, the present noise and dangers of the highway to the homes will become greater as the project nears completion in 2020. The safety of our children, value of our homes, and our rights to "quiet enjoyment" are in jeopardy if a noise barrier/sound wall is not erected.

Addressed to: Representative Frank Guinta

Date: June 8, 2016

Petition Summary

Name	Signature	Address	Date
Alexandria Marquis	Alexandria Marquis	118 Fordway Ext	6/8/16
Dina Coventry	Dina Coventry	122 Fordway Ext	6/8/16
Thomas Bergstrom		125 Fordway Ext	6/8/16
Mary Lou Bergstrom	Mary Lou Bergstrom	125 Fordway Ext	6/8/16
Michelle Perry	Michelle Perry	137 Fordway EXT	6-8-16
Heather Calder	Heather Calder	152 Fordway Ext	6-8-16
	MICHAEL RANEY	153 FORDWAY EXT	6-8-16
Denise Clark	DENISE CLARK	160 Fordway EXT	6-8-16
Phil Levine	Phil LEVINE	160 Fordway EXT	6-08-16
Matt Belmont	Matt Belmont	183 Fordway EXT	6-8-16
Stacey Belmont	Stacey Belmont	183 Fordway EXT	6-8-16
ELAINE KRAUS	Elaine Kraus	132 FORDWAY EXT	6-8-16
Donna & David Banfield	Donna & David Banfield	130 Fordway Ext	6/8/16
Lynn Carey	Lynn Carey	128 Fordway Ext	6/8/16
AL COREY		126 FORDWAY EXT	6/8/16
Justin Corey		128 FORDWAY EXT	6-8-16
Tracy Campbell		126 Fordway EXT	6/8/16
Colleen Campbell	Colleen Campbell	126 Fordway Ext	6/8/16
Kristine Davies	Kristine Davies	124 fordway Ext	6/8/16
Nicholas Bergstrom	Nicholas Bergstrom	129 Fordway Ext	6/8/16
TOM [illegible]		115 Fordway EXT	6/9/16
Ken White		113 Fordway Ext	6/8/16
Jameson Marquis		118 Fordway ext	6/8/16
Linda Marquis	Linda Marquis	118 Fordway Ext	6/9/16
Evan McGuire		109 FORDWAY EXT	6.7.16
Carl McGuire	Carl McGuire	109 Fordway EXT	6/7/16
Rachelle Haviland	Rachelle R. Haviland	106 Fordway Ext	6-9-16
David Harris		106 Fordway Ext	6-9-16
Kevin Loiselle		104L Fordway Ext	6-9-16

Todd Hazard	[signature]	121 Fodway Ext	6/9/16