



January 3, 2019

Mr. Adam Fox, P.E.
Principal Engineer
Environmental Compliance Section
Bureau of Engineering and Construction
State of Connecticut Department of Transportation
2800 Berlin Turnpike, P.O. Box 317546
Newington, CT 06131-7546

Attention: Amie Maines, P.E. / Michael Bedson, EIT

Subject: On-Call Asbestos, Lead, Air Quality & Demolition Compliance
Agreement No. 04.27-01(15)
HazMat Inspection - Bridge No. 00524, Arrigoni Bridge, Middletown, CT
ConnDOT Assignment No. 514-5158
ConnDOT Project No. 82-312
TRC Project No. 222165.5158.0710

Dear Mr. Fox:

TRC performed a limited survey for hazardous building materials associated with the rehabilitation of Bridge No. 00524 (Arrigoni Bridge) in Middletown, Connecticut. Results of the survey identified no detectable levels of lead in the painted structural steel/metal bridge components of Bridge No. 00524. Since no detectable amounts of lead in paint were identified on the structural steel/metal bridge components, any paint waste generated would be characterized as non-hazardous, non-RCRA waste. Lead paint was identified on the 3' concrete posts associated with the railing system on the east side of the bridge. Results obtained from TCLP waste stream sampling and analysis for leachable lead from the paint on the concrete posts characterized the paint waste stream as non-hazardous, non-RCRA waste. At Bridge No. 00524, various caulking on the bridge were sampled and found to contain no asbestos. Potential Universal Waste (UW) and Connecticut Regulated Waste (CRW) light fixtures associated with roadway luminaires, the navigation light system and aviation light system were identified at the bridge. No bird/pigeon guano accumulations or bloodborne pathogens (BBP) concerns were observed in accessible areas of the bridge. Associated laboratory data, TRC Mobile Data Solutions report and project descriptions are attached.

If you have any questions, please call TRC at (860) 298-9692.

Very Truly Yours,

TRC

A handwritten signature in black ink, appearing to read "Stephen R. Arienti".

Stephen R. Arienti, CHMM
Senior Project Manager – Program Manager

A handwritten signature in black ink, appearing to read "Erik R. Plimpton".

Erik R. Plimpton, P.E., CHMM, CMC
Vice President – Engineer in Charge



Lead Based Paint Measurement Summary Table

Device(s): Niton XLP301-A (Serial #24792) X Ray Fluorescence (XRF) Spectrum Analyzer
 Site: Bridge No. 00524, Arrigoni Bridge, Middletown, CT
 Project #: 222165.5158.0710
 Date(s): 10/10/2018
 Inspectors: Tom Martin & Brian Behrens

Number	Interior/ Exterior	Location	Bridge No.	Side	Structure	Feature	Material	Color	Condition	Reading (mg/cm ²)	Precision (mg/cm ²)	Depth Index	Duration (sec)	Date/Time
1			Self Calibration										116.3	10/10/2018 9:43
2			0.0 Calibration							0.0	0.0	1.6	2.4	10/10/2018 9:51
3			1.6 Calibration							1.6	0.1	1.2	7.2	10/10/2018 9:51
4			0.7 Calibration							0.7	0.1	1.1	7.6	10/10/2018 9:52
5						VOID								
6						VOID								
7						VOID								
8	Exterior	Middletown, CT	Arrigoni Bridge (00524)	south	railing		Metal	Grey	Defective	0.0	0.0	1.0	2.7	10/10/2018 10:04
9						VOID								
10	Exterior	Middletown, CT	Arrigoni Bridge (00524)	south	railing		Metal	Grey	Defective	0.0	0.0	1.0	3.1	10/10/2018 10:06
11	Exterior	Middletown, CT	Arrigoni Bridge (00524)	south-middle	railing		Metal	Grey	Defective	0.0	0.0	1.0	2.8	10/10/2018 10:22
12	Exterior	Middletown, CT	Arrigoni Bridge (00524)	south-middle	overhead support		Metal	Grey	Defective	0.0	0.0	3.9	28.1	10/10/2018 10:24
13	Exterior	Middletown, CT	Arrigoni Bridge (00524)	south-middle	overhead support		Metal	Grey	Defective	0.0	0.0	1.0	2.7	10/10/2018 10:26
14	Exterior	Middletown, CT	Arrigoni Bridge (00524)	north	railing post		Concrete	Grey	Defective	0.2	0.0	1.0	7.1	10/10/2018 10:58
15	Exterior	Middletown, CT	Arrigoni Bridge (00524)	north	railing post		Concrete	Grey	Defective	0.4	0.1	1.1	7.4	10/10/2018 10:59
16	Exterior	Middletown, CT	Arrigoni Bridge (00524)	north	railing post		Concrete	Grey	Defective	0.4	0.1	1.1	4.3	10/10/2018 10:59
17	Exterior	Middletown, CT	Arrigoni Bridge (00524)	north	light post		Metal	Grey	Defective	0.0	0.1	2.6	2.7	10/10/2018 11:06
18						VOID								
19	Exterior	Middletown, CT	Arrigoni Bridge (00524)	north	light post		Metal	Grey	Defective	0.0	0.0	1.0	1.8	10/10/2018 11:07
20	Exterior	Middletown, CT	Arrigoni Bridge (00524)	north	railing		Metal	Grey	Defective	0.0	0.0	1.0	2.7	10/10/2018 11:07
21	Exterior	Middletown, CT	Arrigoni Bridge (00524)	north	railing		Metal	Grey	Defective	0.0	0.0	1.0	3.1	10/10/2018 11:08
22	Exterior	Middletown, CT	Arrigoni Bridge (00524)	north	underside support		Metal	Grey	Defective	0.0	0.0	1.5	4.5	10/10/2018 11:15
23	Exterior	Middletown, CT	Arrigoni Bridge (00524)	north	ibeam		Metal	Grey	Defective	0.0	0.0	1.0	3.9	10/10/2018 11:21
24	Exterior	Middletown, CT	Arrigoni Bridge (00524)	north	ibeam		Metal	Grey	Defective	0.0	0.0	1.2	3.3	10/10/2018 11:22
25	Exterior	Middletown, CT	Arrigoni Bridge (00524)	south	underside support		Metal	Grey	Defective	0.0	0.1	2.7	1.8	10/10/2018 11:29
26	Exterior	Middletown, CT	Arrigoni Bridge (00524)	south	underside support		Metal	Grey	Defective	0.0	0.0	1.0	3.5	10/10/2018 11:31
27			0.0 Calibration											
28			1.6 Calibration							1.6	0.1	1.1	5.5	10/10/2018 11:59
29			0.7 Calibration							0.7	0.1	1.1	7.3	10/10/2018 12:00

Lead paint includes paint found to contain any detectable amount of lead by Atomic Absorption Spectrophotometry (AAS) or X-Ray Fluorescence (XRF).

Side A = Street side; Sides B, C, D follow clockwise

80 Lupes Drive
Stratford, CT 06615



Tel: (203) 377-9984
Fax: (203) 377-9952
e-mail: cet1@cetlabs.com

Client: Mr. Brian Behrens
TRC Environmental Consultants
21 Griffin Rd., North
Windsor, CT 06095

Analytical Report

CET# 8100421



Report Date: October 19, 2018
Project: CT DOT, Arrigoni Bridge, Middletown
Project Number: 222165.5158.0710

Connecticut Laboratory Certificate: PH 0116
Massachusetts Laboratory Certificate: M-CT903
Rhode Island Laboratory Certificate: 199



New York NELAP Accreditation: 11982
Pennsylvania Laboratory Certificate: 68-02927

CET #: 8100421

Project: CT DOT, Arrigoni Bridge, Middletown

Project Number: 222165.5158.0710

SAMPLE SUMMARY

The sample(s) were received at 21.0°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
01 Light Pole Supports	8100421-01	Paint Chip	10/10/2018 11:10	10/11/2018
02 Topside Overhead Support	8100421-02	Paint Chip	10/10/2018 10:30	10/11/2018
03 Railing	8100421-03	Paint Chip	10/10/2018 10:35	10/11/2018
04 I-Beam	8100421-04	Paint Chip	10/10/2018 11:25	10/11/2018
05 Concrete Railing Support	8100421-05	Paint Chip	10/10/2018 10:50	10/11/2018

Analyte: Total Lead [EPA 6010C]

Analyst: SS

Prep: EPA 3051A

Matrix: Paint Chip

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
8100421-01	01 Light Pole Supports	ND	0.10	%	1	B8J1902	10/19/2018	10/19/2018 12:22	
8100421-02	02 Topside Overhead Support	ND	0.10	%	1	B8J1902	10/19/2018	10/19/2018 12:26	
8100421-03	03 Railing	ND	0.10	%	1	B8J1902	10/19/2018	10/19/2018 12:30	
8100421-04	04 I-Beam	ND	0.10	%	1	B8J1902	10/19/2018	10/19/2018 12:35	
8100421-05	05 Concrete Railing Support	2.7	0.10	%	1	B8J1902	10/19/2018	10/19/2018 12:39	

CET #: 8100421

Project: CT DOT, Arrigoni Bridge, Middletown

Project Number: 222165.5158.0710

QUALITY CONTROL SECTION

Batch B8J1902 - EPA 6010C

Analyte	Result (%)	RL (%)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B8J1902-BLK1)									
Lead	ND	0.10							

Prepared: 10/19/2018 Analyzed: 10/19/2018

CET #: 8100421

Project: CT DOT, Arrigoni Bridge, Middletown

Project Number: 222165.5158.0710



80 Lupes Drive
Stratford, CT 06615

Tel: (203) 377-9984
Fax: (203) 377-9952
email: cet1@cetlabs.com

Quality Control Definitions and Abbreviations

Internal Standard (IS)	An Analyte added to each sample or sample extract. An internal standard is used to monitor retention time, calculate relative response, and quantify analytes of interest.
Surrogate Recovery	The % recovery for non-target organic compounds that are spiked into all samples. Used to determine method performance.
Continuing Calibration Batch	An analytical standard analyzed with each set of samples to verify initial calibration of the system. Samples that are analyzed together with the same method, sequence and lot of reagents within the same time period.
ND	Not detected at or above the specified reporting limit.
RL	Reporting Limit
Dilution	Multiplier added to detection levels (MDL) and/or sample results due to interferences and/or high concentration of target compounds.
Duplicate Result	Result from the duplicate analysis of a sample. Amount of analyte found in a sample.
Spike Level	Amount of analyte added to a sample
Matrix Spike Result	Amount of analyte found including amount that was spiked.
Matrix Spike Dup	Amount of analyte found in duplicate spikes including amount that was spike.
Matrix Spike % Recovery	% Recovery of spiked amount in sample.
Matrix Spike Dup % Recovery	% Recovery of spiked duplicate amount in sample.
RPD	Relative percent difference between Matrix Spike and Matrix Spike Duplicate.
Blank	Method Blank that has been taken through all steps of the analysis.
LCS % Recovery	Laboratory Control Sample percent recovery. The amount of analyte recovered from a fortified sample.
Recovery Limits	A range within which specified measurements results must fall to be compliant.
CC	Calibration Verification

Flags:

- H- Recovery is above the control limits
- L- Recovery is below the control limits
- B- Compound detected in the Blank
- P- RPD of dual column results exceeds 40%
- #- Sample result too high for accurate spike recovery.



Connecticut Laboratory Certification PH0116
Massachusetts Laboratory Certification M-CT903

New York NELAP Accreditation 11982
Rhode Island Certification 199

Complete Environmental Testing, Inc.

80 Lupes Drive, Stratford, CT 06615 • Tel: 203-377-9984 • Fax: 203-377-9952 • www.cetlabs.com

CET #: 8100421

Project: CT DOT, Arrigoni Bridge, Middletown

Project Number: 222165.5158.0710

All questions related to this report should be directed to David Ditta, Timothy Fusco, or Robert Blake at 203-377-9984.

Sincerely,

This technical report was reviewed by Robert Blake



David Ditta
Laboratory Director

Project Manager

Report Comments:

Sample Result Flags:

- E- The result is estimated, above the calibration range.
- H- The surrogate recovery is above the control limits.
- L- The surrogate recovery is below the control limits.
- B- The compound was detected in the laboratory blank.
- P- The Relative Percent Difference (RPD) of dual column analyses exceeds 40%.
- D- The RPD between the sample and the sample duplicate is high. Sample Homogeneity may be a problem.
- + - The Surrogate was diluted out.
- *C1- The Continuing Calibration did not meet method specifications and was biased low for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased low.
- *C2- The Continuing Calibration did not meet method specifications and was biased high for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased high.
- *F1- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the low side.
- *F2- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the high side.
- I- The Analyte exceeds %RSD limits for the Initial Calibration. This is a non-directional bias.

All results met standard operating procedures unless indicated by a data qualifier next to a sample result, or a narration in the QC report.

For Percent Solids, if any of the following prep methods (3050B, 3540C, 3545A, 3550C, 5035 and 9013A) were used for samples pertaining to this report, the percent solids procedure is within that prep method.

Complete Environmental Testing is only responsible for the certified testing and is not directly responsible for the integrity of the sample before laboratory receipt.

ND is None Detected at or above the specified reporting limit

RL is the Reporting Limit

All analyses were performed in house unless a Reference Laboratory is listed.

Samples will be disposed of 30 days after the report date.

CET # : 8100421

Project: CT DOT, Arrigoni Bridge, Middletown

Project Number: 222165.5158.0710

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA 6010C in Solid</i>	
Lead	CT,NY,PA

Complete Environmental Testing operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Public Health	PH0116	09/30/2020
NY	New York Certification (NELAC)	11982	04/01/2019
PA	Pennsylvania DEP	68-02927	05/31/2019



21 GRIFFIN ROAD NORTH
WINDSOR, CONNECTICUT 06095
TELEPHONE (860) 298-9692
FAX (860) 298-6380

8100421

Edition: November 2013
Supersede Previous Edition

TCLP CHAIN OF CUSTODY

PROJECT NUMBER 222105.5.53.0710 222105		PROJECT NAME Arizon Bridge Middlebury, CT		LAB ID #.	
INSPECTOR: (SIGNATURE) <i>B. Borrens</i>		INSPECTOR: (PRINTED) Brian Borrens		TURNAROUND TIME	
				24hr	48hr
				24hr	48hr
				3day	5day
				3day	5day

FIELD SAMPLE NUMBER	DATE	TIME	TYPE		SAMPLE LOCATION	PARAMETERS					MATERIAL								
			COM	GRAB		RCRA Pb	RCRA Pb, AS, CR, CB	8 RCRA Metals	TCLP Pb	SPLP Pb		AS Pb, P, Cr, Ni							
01	10/11/18	1110	X	X	Light Pole Supports														
02		1020	X	X	Topside Overhead Support														
03		1005	X	X	Railings														
04		1125	X	X	I-beam														
05		1050	X	X	Concrete railings supports														
06		1135	X	X	Bridges - Arizgon.					X									

Relinquished by: (Signature) <i>B. Borrens</i>	Date: 10/10/18	Received by: (Signature) <i>[Signature]</i>	Relinquished by: (Signature) <i>[Signature]</i>	Date: 10/11/18	Received by: (Signature) <i>[Signature]</i>
(Printed) Brian ? Borrens	Time: 1410	(Printed) GRIFFIN GILDAY	(Printed) GRIFFIN GILDAY	Time: 1515	(Printed) GRIFFIN GILDAY
IF any detectable levels in samples #1-5, then analyze #1-6 for TCLP Pb					

1140 21°C

Client: Mr. Brian Behrens
TRC Environmental Consultants
21 Griffin Rd., North
Windsor, CT 06095

Analytical Report

CET# 8110449



Report Date: November 16, 2018
Project: CT DOT, Arrigoni Bridge, Middletown
Project Number: 222165.5158.0710

Connecticut Laboratory Certificate: PH 0116
Massachusetts Laboratory Certificate: M-CT903
Rhode Island Laboratory Certificate: 199



New York NELAP Accreditation: 11982
Pennsylvania Laboratory Certificate: 68-02927

CET #: 8110449

Project: CT DOT, Arrigoni Bridge, Middletown

Project Number: 222165.5158.0710

SAMPLE SUMMARY

The sample(s) were received at 21.0°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
06 Bridge	8110449-01	Paint Chip	10/10/2018 11:35	10/11/2018

Analyte: TCLP Lead [EPA 6020A]

Analyst: CED

Prep: EPA 3005A-1311

Matrix: Extract

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
8110449-01	06 Bridge	0.016	0.013	mg/L	1	B8K1619	11/16/2018	11/16/2018 13:57	

CET # : 8110449

Project: CT DOT, Arrigoni Bridge, Middletown

Project Number: 222165.5158.0710

QUALITY CONTROL SECTION

Batch B8K1619 - EPA 6020A

Analyte	Result (mg/L)	RL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Blank (B8K1619-BLK1)					Prepared: 11/16/2018 Analyzed: 11/16/2018				
Lead	ND	0.013							
LCS (B8K1619-BS1)					Prepared: 11/16/2018 Analyzed: 11/16/2018				
Lead	0.182	0.013	0.200		91.1	80 - 120			

CET #: 8110449

Project: CT DOT, Arrigoni Bridge, Middletown

Project Number: 222165.5158.0710



80 Lupes Drive
Stratford, CT 06615

Tel: (203) 377-9984
Fax: (203) 377-9952
email: cet1@cetlabs.com

Quality Control Definitions and Abbreviations

Internal Standard (IS)	An Analyte added to each sample or sample extract. An internal standard is used to monitor retention time, calculate relative response, and quantify analytes of interest.
Surrogate Recovery	The % recovery for non-target organic compounds that are spiked into all samples. Used to determine method performance.
Continuing Calibration Batch	An analytical standard analyzed with each set of samples to verify initial calibration of the system. Samples that are analyzed together with the same method, sequence and lot of reagents within the same time period.
ND	Not detected at or above the specified reporting limit.
RL	Reporting Limit
Dilution	Multiplier added to detection levels (MDL) and/or sample results due to interferences and/or high concentration of target compounds.
Duplicate	Result from the duplicate analysis of a sample.
Result	Amount of analyte found in a sample.
Spike Level	Amount of analyte added to a sample
Matrix Spike Result	Amount of analyte found including amount that was spiked.
Matrix Spike Dup	Amount of analyte found in duplicate spikes including amount that was spike.
Matrix Spike % Recovery	% Recovery of spiked amount in sample.
Matrix Spike Dup % Recovery	% Recovery of spiked duplicate amount in sample.
RPD	Relative percent difference between Matrix Spike and Matrix Spike Duplicate.
Blank	Method Blank that has been taken through all steps of the analysis.
LCS % Recovery	Laboratory Control Sample percent recovery. The amount of analyte recovered from a fortified sample.
Recovery Limits	A range within which specified measurements results must fall to be compliant.
CC	Calibration Verification

Flags:

- H- Recovery is above the control limits
- L- Recovery is below the control limits
- B- Compound detected in the Blank
- P- RPD of dual column results exceeds 40%
- #- Sample result too high for accurate spike recovery.



Connecticut Laboratory Certification PH0116
Massachusetts Laboratory Certification M-CT903

New York NELAP Accreditation 11982
Rhode Island Certification 199

CET #: 8110449

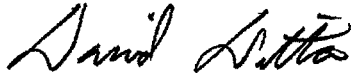
Project: CT DOT, Arrigoni Bridge, Middletown

Project Number: 222165.5158.0710

All questions related to this report should be directed to David Ditta, Timothy Fusco, or Robert Blake at 203-377-9984.

Sincerely,

This technical report was reviewed by Robert Blake



David Ditta
Laboratory Director

Project Manager

Report Comments:

Sample Result Flags:

- E- The result is estimated, above the calibration range.
- H- The surrogate recovery is above the control limits.
- L- The surrogate recovery is below the control limits.
- B- The compound was detected in the laboratory blank.
- P- The Relative Percent Difference (RPD) of dual column analyses exceeds 40%.
- D- The RPD between the sample and the sample duplicate is high. Sample Homogeneity may be a problem.
- + - The Surrogate was diluted out.
- *C1- The Continuing Calibration did not meet method specifications and was biased low for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased low.
- *C2- The Continuing Calibration did not meet method specifications and was biased high for this analyte. Increased uncertainty is associated with the reported value which is likely to be biased high.
- *F1- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the low side.
- *F2- The Laboratory Control Sample recovery is outside of control limits. Reported value for this analyte is likely to be biased on the high side.
- I- The Analyte exceeds %RSD limits for the Initial Calibration. This is a non-directional bias.

All results met standard operating procedures unless indicated by a data qualifier next to a sample result, or a narration in the QC report.

For Percent Solids, if any of the following prep methods (3050B, 3540C, 3545A, 3550C, 5035 and 9013A) were used for samples pertaining to this report, the percent solids procedure is within that prep method.

Complete Environmental Testing is only responsible for the certified testing and is not directly responsible for the integrity of the sample before laboratory receipt.

ND is None Detected at or above the specified reporting limit

RL is the Reporting Limit

All analyses were performed in house unless a Reference Laboratory is listed.

Samples will be disposed of 30 days after the report date.

CET # : 8110449

Project: CT DOT, Arrigoni Bridge, Middletown

Project Number: 222165.5158.0710

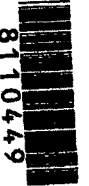
CERTIFICATIONS

Certified Analyses Included in this Report

Analyte	Certifications
<i>EPA 6020A in Water</i>	
Lead	CT

Complete Environmental Testing operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Public Health	PH0116	09/30/2020



8110449

Edition: November 2013
Supersede Previous Edition

21 GRIFFIN ROAD NORTH

WINDSOR, CONNECTICUT 06095

TELEPHONE (860) 298-9692

FAX (860) 298-6380

TCLP CHAIN OF CUSTODY

LAB ID #

PROJECT NUMBER

PROJECT NAME

222705, 5.58.0715

Averett Bridge
Haddam, CT

INSPECTOR: (SIGNATURE)

(PRINTED)

B. Barr

Brian Barrons

TURNAROUND TIME

TCLP	24hr	48hr	3day	5day
	24hr	48hr	3day	5day

FIELD SAMPLE NUMBER	DATE	TIME	TYPE		SAMPLE LOCATION	PARAMETERS					MATERIAL								
			COMP	GRAB		RCRA Pb	RCRA Pb, AS, CR, CD	8 RCRA Metals	TCLP Pb	SPLP Pb		PAS Paint Chip							
01	10/11/18	1110	X		Light Pole Supports														
02	10/20		X		Logical Overhead Support														
03	10/05		X		Railings														
04	11/25		X		I-beam														
05	10/50		X		Concrete railings supports														
06	11/35		X		Bridge-Arripes														

Relinquished by: (Signature)

B. Barr

(Printed)

Brian Barrons

Date:

10/10/18

Time:

1410

Received by: (Signature)

G. Gilman

(Printed)

GREG GILMAN

Relinquished by: (Signature)

G. Gilman

(Printed)

GREG GILMAN

Date:

10/11/18

Time:

1615

Received by: (Signature)

B. Barr

(Printed)

Brian Barrons

* IS any detectable levels in samples #1-5, then analyze #10. See TCLP 7D



21 GRIFFIN ROAD NORTH
WINDSOR, CONNECTICUT 06095
TELEPHONE (860) 298-9692
FAX (860) 298-6380

Edition: October 2009
Supersede Previous Edition

ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

LAB ID #. 52904

PROJECT NUMBER		PROJECT NAME		PARAMETERS						TURNAROUND TIME								
				PLM EPA 600/R93/116 (POSITIVE STOP)	PLM EPA 600/R93/116 (w/ gravimetric reduction) (POSITIVE STOP)	ANALYZE BY LAYER	POINT COUNT (IF >1% & <10%)	TEM NY NOB 198.4 (IF PLM SERIES NEG)	PLM:	8hr	24hr	48hr	3day					
PROJECT NAME		INSPECTOR		TYPE		SAMPLE LOCATION		PLM:		TEM:		3day		5day				
CONDDOT		Tom Martin		COMP	GRAB													
222165.5158.0710		Arrigoni Bridge, 1-23 Main St, Portland, CT																
FIELD SAMPLE NUMBER	DATE	TIME		COMP	GRAB	SAMPLE LOCATION		PLM EPA 600/R93/116 (POSITIVE STOP)		PLM EPA 600/R93/116 (w/ gravimetric reduction) (POSITIVE STOP)		ANALYZE BY LAYER		POINT COUNT (IF >1% & <10%)		TEM NY NOB 198.4 (IF PLM SERIES NEG)		
1	10/10/18	10:01		X	X	Top side east		X										
2	10/10/18	10:04		X	X	Top side east		X										
3	10/10/18	10:10		X	X	Top side east		X										
4	10/10/18	10:11		X	X	Top side west		X										
5	10/10/18	10:22		X	X	Topside east		X										
6	10/10/18	10:43		X	X	Topside east		X										
MATERIAL																		
C1 - Railing support caulk-flexible, grey																		
C1 - Railing support caulk-flexible, grey																		
C2 - White flexible caulk at sidewalk/jersey barrier junction																		
C2 - White flexible caulk at sidewalk/jersey barrier junction																		
C3 - Manhole cover caulk-hard grey																		
C3 - Manhole cover caulk-hard grey																		

Relinquished by: (Signature) <i>Tom Martin</i> (Printed)	Date: 10/10/18	Received by: (Signature) <i>[Signature]</i> (Printed)	Date: 10/10/18
Remarks: <i>Tom Martin</i>	Time: 1401	Relinquished by: (Signature) (Printed)	Time: 1402
Condition of Samples: Acceptable: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Received by: (Signature) (Printed)	
Comments:		Page 1 of 1	

BULK ASBESTOS ANALYSIS REPORT

CLIENT: CT Department of Transportation

Lab Log #: 0052904
 Project #: 222165.5158.0710
 Date Received: 10/10/2018
 Date Analyzed: 10/10/2018

Site: Arrigoni Bridge, 1-23 Main Street, Portland, CT

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos %	Asbestos Type
1	Grey (caulk)	Yes	No	--	---	ND	None
2	Grey (caulk)	Yes	No	--	---	ND	None
3	White (caulk)	Yes	No	--	---	ND	None
4	White (caulk)	Yes	No	--	---	ND	None
5	Grey (caulk)	Yes	No	--	---	ND	None
6	Grey (caulk)	Yes	No	--	---	ND	None

Reporting limit- asbestos present at 1%
 ND - asbestos was not detected
 Trace - asbestos was observed at level of less than 1%
 NA/PS - Not Analyzed / Positive Stop
 SNA- Sample Not Analyzed- See Chain of Custody for details

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, EPA recommends, and certain states (e.g. NY) require, that negative results be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation 1982 (EPA 600/M4-82-020) Bulk Analysis Code 18/A01 and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials July 1993, R.L. Perkins and B.W. Harvey, (EPA/600/R-93/116) Bulk Analysis Code 18/A03, which utilize polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2019. TRC is accredited by the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC in the Industrial Hygiene Program (IHLAP) for PLM effective through October 1, 2019. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and QC data related to the samples is available upon written request from client.

This report shall not be reproduced, except in full, without the written approval of TRC. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items tested.

Analyzed by: K. Williamson Reviewed by: Cathryn Lemire Date Issued: 10/11/2018
 Kathleen Williamson, Laboratory Manager Cathryn Lemire, Approved Signatory

TRC LABORATORY ASBESTOS ANALYTICAL ACCREDITATIONS

NVLAP Lab Code 101424-0 AIHA-LAP, LLC #100122 CT #PH-0426 ME LA-0075, LB-0071 MA #AA000052 NY #10980 WV# LT000411
 RI #AAL-007 TX #300354 VT #AL014538 LA#05011 VA #3333 000283 AZ #A20944 HI #L-09-004 NJ #CT004 CA #2907
 CO# AL-15020 PHIL# 461 PA#68-03387

NT17512



21 GRIFFIN ROAD NORTH
WINDSOR, CONNECTICUT 06095
TELEPHONE (860) 298-9692
FAX (860) 298-6380

ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

Edition: October 2009
Supersede Previous Edition

PROJECT NUMBER 222165.5158.0710		PROJECT NAME ConnDOT Arrigoni Bridge, 1-23 Main St, Portland, CT		LAB ID #. 52904	
SIGNATURE <i>Tom Martin</i>		INSPECTOR Tom Martin		TURNAROUND TIME	
FIELD SAMPLE NUMBER	DATE	TIME	TYPE	SAMPLE LOCATION	MATERIAL
1	10/10/18	10:01	X	Top side east	C1 - Railing support caulk-flexible, grey
2	10/10/18	10:04	X	Top side east	C1 - Railing support caulk-flexible, grey
3	10/10/18	10:10	X	Top side east	C2 - White flexible caulk at sidewalk/jersey barrier junction
4	10/10/18	10:11	X	Top side west	C2 - White flexible caulk at sidewalk/jersey barrier junction
5	10/10/18	10:22	X	Topside east	C3 - Manhole cover caulk-hard grey
6	10/10/18	10:43	X	Topside east	C3 - Manhole cover caulk-hard grey

PLM:	8hr	24hr	48hr	3day
	24hr	48hr	3day	5day
PARAMETERS				
PLM EPA 600/R93/116 (POSITIVE STOP)	X			
PLM EPA 600/R93/116 (w/ gravimetric reduction) (POSITIVE STOP)				
ANALYZE BY LAYER				
POINT COUNT (IF >1% & <10%)				
TEM NY NOB 1984 (IF PLM SERIES NEG)	X			

Relinquished by: (Signature) <i>Tom Martin</i> (Printed)	Date: 10/10/18	Received by: (Signature) <i>Tom Martin</i> (Printed)	Date: 10/10/18
Time: 1401	Time: 1402	Relinquished by: (Signature)	Received by: (Signature)
Remarks:	Condition of Samples: Acceptable: Yes <input type="checkbox"/> No <input type="checkbox"/>		
			Page 1 of 1

ProScience Analytical Services, Inc.

22 Cummings Park, Woburn, Massachusetts 01801
 781-935-3212 ~ Fax: 781-932-4857 ~ E-Mail: general@proscience.net

Laboratory Report


Client Project #: 222165.5158.0710
 Client Reference: CT DOT - Arrigoni Bridge, I-23 Main Street, Portland, CT
 PO #: C222165
 Client #: 297
 Client Name: TRC Environmental Corp. (CT)

Batch: NT 17512
 Method: NOB
 Date Received: 10/12/2018
 Date Analyzed: 10/16/2018
 Date of Report: 10/16/2018

LAB ID	Field ID	Description:	Color	Initial Weight	% Asbestos Types						TRE	% Other Non-asb.	% Organic	% Carb.	Total % Asbestos	Analyzed / Charged	Preped / Charged
					CHR	AMO	ACT	CRO	ANT	ANT							
NT132092	1	Railing Support Caulk - Flexible, Grey		.2400	.00	.00	.00	.00	.00	.00	7.91	83.67	8.42	ND	Yes	No	
NT132093	3	White Flexible Caulk		.5845	.00	.00	.00	.00	.00	.00	37.70	60.14	2.16	ND	Yes	No	
NT132094	5	Manhole Cover Caulk - Hard Grey		.4802	.00	.00	.00	.00	.00	.00	17.70	80.26	2.04	ND	Yes	No	

Comments:

Key: CHR = Chrysotile AMO = Amosite CRO = Crocidolite ACT = Actinolite TRE = Tremolite ANT = Anthophyllite TR = Trace = < 1% ND = None Detected


 Mark Derosier, Analyst

ConnDOT, Arrigoni Bridge, Middlesex, , Portland, 06480, CT, US, Main St, 1-23

Created	2018-10-10 09:35:03 EDT by Brian Behrens
Updated	2018-10-10 14:40:52 EDT by Stephen Arienti
Location	41.5706216404602, -72.6427215524694
Status	■ Survey Complete

Job Information

Site Name	Arrigoni Bridge
Address	1-23 Main St Portland, CT 06480
TRC Project Number	222165.5158.0710
Project Manager	Erik Plimpton
Inspector(s)	Brian Behrens, Tom Martin
Client	ConnDOT
Type of Asbestos Survey	Reno/Demo
Additional Analysis for NOB Materials (Calc)	TEM NY NOB 198.4
PLM Turnaround Time (TAT)	3-day
TEM Turnaround Time (TAT)	5-day
Date	2018-10-10
General Notes	Poison ivy on one of the underside vertical supports. Topside between bridge supports, there is silicone between the jersey barriers. Also, no suspect ACM on bridge bearings

Overview Photo













TCLP CHAIN OF CUSTODY																
CTRC	21 GRIFIN ROAD NORTH WINDSOR, CONNECTICUT 06095 TEL: 860.238.6800 FAX: 860.238.8092			PROJECT NAME Avonlea Bridge Middletown, CT				LAB ID #								
PROJECT NUMBER 2323-15-55-0710	INSPECTOR (SIGNATURE) <i>B. B. Barris</i>	DATE 10/13/15	TIME 14:15	TYPE COMP	SAMPLE LOCATION 110m	B CRA Pb	B CRA Pb, AS, CR, CD	8 B CRA Metals	TCLP Pb	SPL Pb	PMS (Iron Cr 2)					
FIELD SAMPLE NUMBER 01	DATE 10/13/15	TIME 14:15	TYPE COMP	SAMPLE LOCATION 110m	B CRA Pb	B CRA Pb, AS, CR, CD	8 B CRA Metals	TCLP Pb	SPL Pb	PMS (Iron Cr 2)	TURNAROUND TIME 23hr 24hr 48hr 72hr 96hr 120hr 144hr 168hr 216hr					
MATERIAL																

Relinquished by (Signature) <i>B. Barris</i>	Date 10/13/15	Received by (Signature)	Date
(Printed) Ben ? Barris	14:10	(Printed)	
* IS ANY AVERAGE TAKEN IN SAMPLE #1-5, THEN ANALYZE TO EQ TCLP 70		Received by (Signature)	
		(Printed)	Time
			Page 1 of 1

Surveys Performed

Asbestos, XRF

Asbestos Section

(2), C, 1, Railing support caulk-flexible, grey

Representative Photos



1, Top side: east

Sample Number	1
Sample Location	Top side: east
Analyze by Layer	No
Asbestos Bulk Analysis	PLM EPA 600/R93/116
Grab or Composite	Grab
Date	2018-10-10
Time	10:01

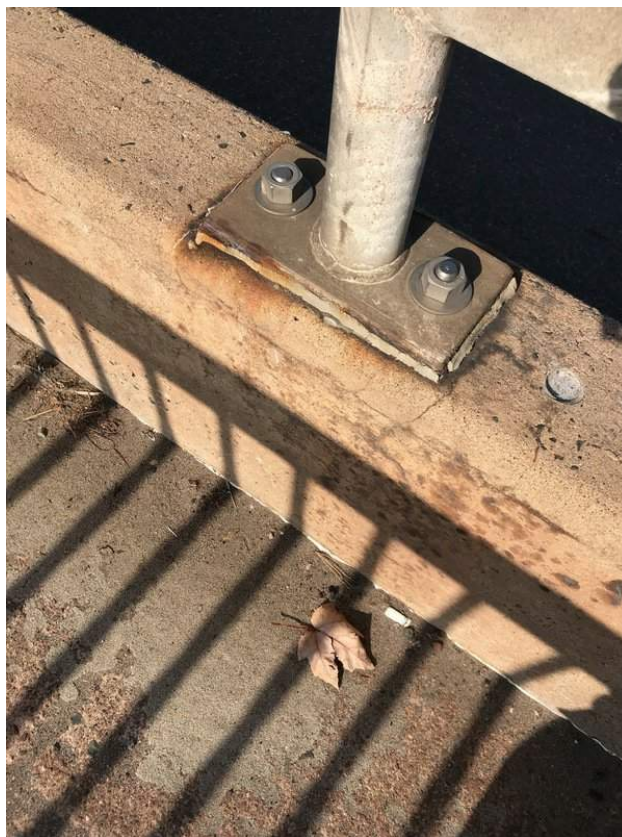
Sample Location Photo



2, Top side: east

Sample Number	2
Sample Location	Top side: east
Analyze by Layer	No
Asbestos Bulk Analysis	PLM EPA 600/R93/116
Grab or Composite	Grab
Date	2018-10-10
Time	10:04

Sample Location Photo

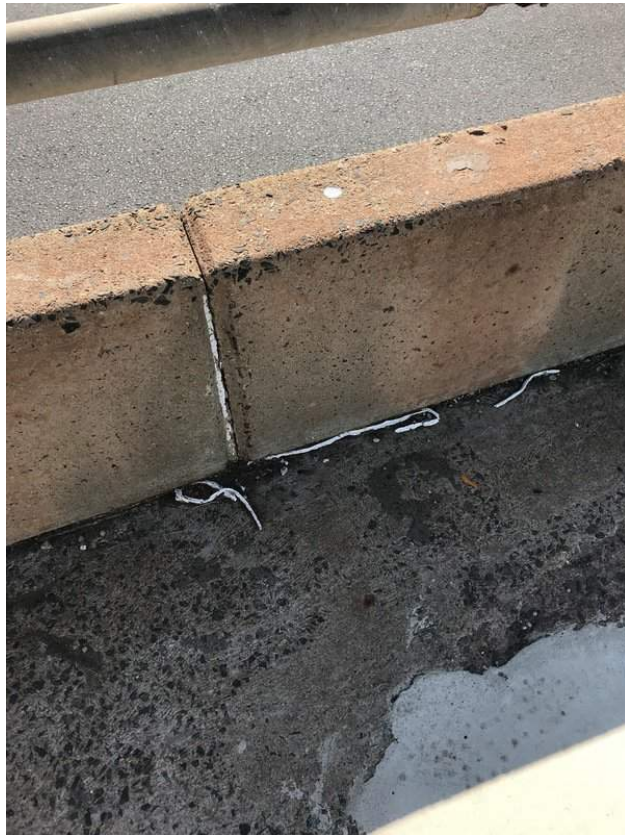


Material Information

Sampled or Assumed?	Sampled
Material Acronym	C, 1
Material Description	Railing support caulk-flexible, grey
Is Material a Non-Friable Organically Bound (NOB)	Yes
Homogeneous Area	Top side
Total Approximate Quantity	>50 LF
Total Count	(2)

(2), C, 2, White flexible caulk at sidewalk/jersey barrier junction

Representative Photos



3, Top side east

Sample Number

3

Sample Location	Top side east
Analyze by Layer	No
Asbestos Bulk Analysis	PLM EPA 600/R93/116
Grab or Composite	Grab
Date	2018-10-10
Time	10:10

Sample Location Photo



4, Top side west

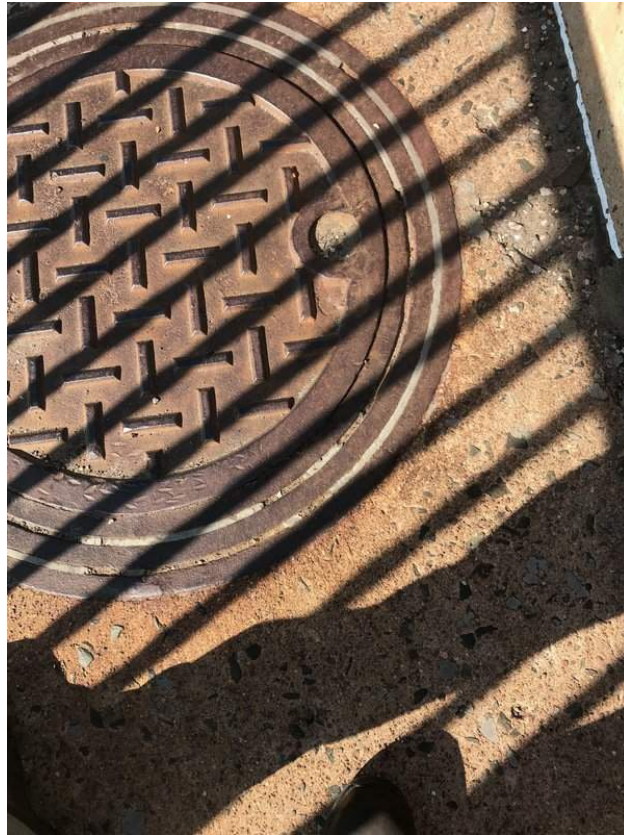
Sample Number	4
Sample Location	Top side west
Analyze by Layer	No
Asbestos Bulk Analysis	PLM EPA 600/R93/116
Grab or Composite	Grab
Date	2018-10-10
Time	10:11

Material Information

Sampled or Assumed?	Sampled
Material Acronym	C, 2
Material Description	White flexible caulk at sidewalk/jersey barrier junction
Is Material a Non-Friable Organically Bound (NOB)	Yes
Homogeneous Area	Sidewalk/jersey barrier junction and barrier junctions
Total Approximate Quantity	300 LF
Total Count	(2)

(2), C, 3, Manhole cover caulk-hard grey

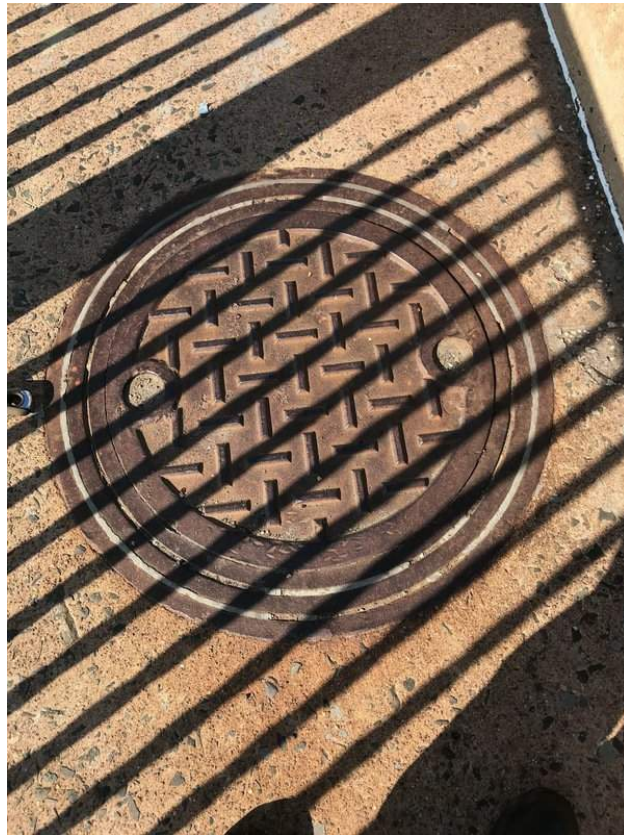
Representative Photos



5, Topside east

Sample Number	5
Sample Location	Topside east
Analyze by Layer	No
Asbestos Bulk Analysis	PLM EPA 600/R93/116
Grab or Composite	Grab
Date	2018-10-10
Time	10:22

Sample Location Photo



6, Topside east

Sample Number	6
Sample Location	Topside east
Analyze by Layer	No
Asbestos Bulk Analysis	PLM EPA 600/R93/116
Grab or Composite	Grab
Date	2018-10-10
Time	10:43

Material Information

Sampled or Assumed?	Sampled
Material Acronym	C, 3
Material Description	Manhole cover caulk-hard grey
Is Material a Non-Friable Organically Bound (NOB)	Yes
Homogeneous Area	Top side
Total Approximate Quantity	15 LF
Total Count	(2)

XRF Section

Niton XRF Model No.	24792
XRF Survey Completed	Yes
XRF Data Downloaded	No
XRF Shots >1.0 on non-metallic building materials	No

Date Data Downloaded 2018-10-10

General Information

Asbestos Samples Submitted to TRC Lab Yes

Date Submitted to Lab 2018-10-10

App Name WinBSI HBM Survey 1.0

SCOPE OF SERVICES
PROJECT NO. 82-312
BRIDGE NO. 00524
ROUTE 66 OVER ROUTE 9, CONNECTICUT RIVER
AND P&W RAILROAD
MIDDLETOWN/PORTLAND
September 14, 2017_Revision 01

GENERAL DESCRIPTION

The rehabilitation improvements associated with this Scope of Services for the Connecticut Department of Transportation are described as follows:

The contract plans and documents will be prepared using the latest edition of AASHTO LRFD Bridge Design Specifications in U.S. Customary Units. Submissions will comply with the Department's Digital Design Environment and the Digital Project Development Manual.

Project No. 82-312 – Bridge No. 00524, Arrigoni Bridge, Route 66 over Route 9, Connecticut River, and P&W Railroad, Middletown/Portland - This project consists of bridge rehabilitation based on the recommendations contained in the latest Routine and Fracture Critical and In-Depth Inspection Report performed in 2017, the Underwater Inspection Report dated April 20, 2017 and strengthening of primary structural components for AASHTO and CT Legal Load vehicles based on an As-Inspected load rating. The structure will also be load rated for two emergency vehicles, Type EV2 and EV3.

The latest condition inspection report notes gaps and/or impact rust between the bottom of deck and top flange of stringers without the presence of shear connectors, a condition resulting in an unbraced compression flange. A review of the 2012 LRFR bridge rating report and a limited investigation of the approach span stringer rating capacity for an HL-93 vehicle indicates most if not all approach span stringers will have a Strength I Inventory and Operating level Rating Factor below 1.0 due to a lateral torsional buckling failure mechanism. (Final determination on extent of stringer rehabilitation will be determined upon completion of the as-inspected ratings)

Specific rehabilitation items include superstructure steel repairs and/or strengthening, spot painting of the superstructure, steel and concrete substructure repairs, complete deck replacement including sidewalks of the Middletown and Portland approach spans, replacement of deteriorated electrical components, upgrading roadway lighting and IMS components. Other work based on on-going stakeholder coordination could be included into the scope in the future as extra work. Maintenance and protection of traffic plans, staging, signing, and pavement marking plans will be developed for work on the affected areas on the roadway and beneath the bridge. Any work related to repair, strengthening, and painting superstructure/substructure structural steel will be considered extra work.

FINAL DESIGN

- A. After the strengthening of the superstructure steel and steel trestle components the final Load Rating analysis will be performed for the rehabilitated bridge. The As-

Rehabilitated Load Rating Submission package in accordance with the Departments' Bridge Load Rating Manual will be prepared. The As-Rehabilitated load rating submission package will include the Middletown and Portland approach spans, arch spans 10 and 11, truss suspender ropes, gussets and steel trestle bents of the Portland approach viaduct.

B. Rehabilitation work will include:

APPROACH DECK

- Deck replacement of the Middletown and Portland approach spans including roadway barriers and sidewalk.
- Approach deck replacement will utilize precast deck panels made composite with the existing steel stringers and ultra-high performance concrete closure pours.
- Repair approach span sidewalk brackets.
- Repair ornamental metal bridge railing for both the Middletown and Portland
- Approach Spans and retrofit with combination protective fence over Route 9 and railroad crossings.

SUPERSTRUCTURE

- Steel corrosion repairs, spot cleaning and painting of superstructure steel [will be considered extra work.]
- Remove impacted rust and laminated rust between members [will be considered extra work].
- Install suspender rope separators.
- Replace Portland viaduct deteriorated elastomeric bearings.
- Steel member strengthening required based on completion of the as-inspected ratings will be negotiated as extra work.

SUBSTRUCTURE

- Repair and refurbish Portland approach steel trestle bents [will be considered extra work]
- Repair and refurbish concrete pedestals
- Repair Middletown approach concrete piers
- Piers 9, 10 and 11 within the river channel have stone fascia with mortared joints and lead caulking. Only mortared joints above the water line will be repaired. Submerged mortared joints will not be repaired. [To avoid permit for any barges and equipment on the water Pier #10 is exempt and only Piers 9 and 11 on the river banks shall have caulking]

INCIDENT MANAGEMENT SYSTEM (IMS)

- Replace supported 36 fiber optic cable between CCTV Site #2, Middletown and CCTV Site #3, Portland with 36 fiber optic cable in 2" RMC attached to structure.
- Existing camera and VMS sign must maintain operation at all times during construction.
- Plans and details from Project No. 82-300 will be used including fiber splice diagram, camera plan and VMS plan.
- Plan sheets will depict IMS facilities at a Scale of 1"=40'

- Detail sheets will depict structural attachments and transitions from Approach to Main Spans of the Bridge.

ELECTRICAL/ILLUMINATION

- Refurbish or replace existing deteriorated steel light standards on Bridge No. 00524.
- Replace roadway HPS luminaires (including surface conduit and surface mounted junction boxes under sidewalks with LED roadway luminaires. Utilize temporary and/or permanent roadway luminaires and temporary circuitry where necessary to ensure continuous function during construction.
- Replace navigation light system (surface conduit, junction boxes, conductors, mounting brackets, etc.) with LED lights utilizing standard 120 volt AC power. Coordinate type and placement of navigation lights with U.S.C.G. Utilize temporary and/or permanent navigation lights to ensure continuous function during construction.
- Replace aviation light system (surface conduit, junction boxes, conductors, mounting brackets, etc.) with LED lights utilizing standard 120 volt AC power. Coordinate type and placement of aviation lights with F.A.A. Utilize temporary and/or permanent aviation light to ensure continuous function during construction.
- Replace existing lighting control cabinet including conduit feed with conductors to bridge.
- Coordinate with Utility Company for electric service removal and electric service installation.

- C. A semi-final design submission will be prepared for review at an approximate 60% completion level. Upon approval of the Semi-Final Design (60%± Complete), final contract documents will be developed. Final Plans for Review (90% complete) and Final Design (100% complete) submissions will be made in accordance with the Department's Digital Project Development Manual (DPD). A separate Highway Design Phase submission will not be prepared. All highway related items will be included within the Bridge Design Plans.

The Final Design Phase will include the following tasks:

- As-Rehabilitated Load Rating Submission Package in accordance with the Department's Bridge Load Rating Manual dated February 2016.
- Establish a horizontal alignment for baseline for the entire limits of the project (bridge and roadway approaches)
- Prepare Semi-Final Design (60% Complete), Final Plans for Reviews (90% Complete) and Final Plans (100% Complete).
- Prepare Stage Construction Plans for Traffic Control on Bridge
- Prepare superstructure repair plans and details.
- Prepare deck replacement plans and details for approach spans (Spans 1-9 and 12 – 30)
- Prepare suggested construction sequence.
- Prepare substructure repair plans and details.
- Prepare elastomeric bearing replacement and jacking details
- Prepare miscellaneous plans and details.
- Prepare Electrical plans and details.
- Prepare IMS plans and details.

- Prepare Detailed Estimate Sheets.
- Prepare Special Provisions.
- Update Cost Estimates for Each Submission.
- Prepare Quantity Computations.
- Construction Schedule Calendar Day Chart.

D. Any work related to repair, strengthening, and painting superstructure/substructure structural steel will be considered extra work.

PERMITS

Permit needs will be determined early in Final Design and negotiated as extra work if necessary.

DESIGN PROGRESS MEETINGS

There will be approximately nine (9) design progress meetings for two STV personnel.

SOILS

Soils and Foundations will not be affected by this project.

TRAFFIC

Traffic (MPT) Plans and specifications will be provided for work under the bridge and as may be required on the bridge and approaches.

The following work tasks will be included.

- Transportation Management Plan
- MPT plans and specifications
- Detailed Estimate Sheet
- Permanent Signing and Pavement Marking Plans
- MPT quantities and cost Estimate
- Meetings and coordination with Traffic Unit

HYDRAULICS AND DRAINAGE

None anticipated.

UTILITIES

Determine rehabilitation impacts to utilities and coordinate the maintenance of utilities during rehabilitation. It is anticipated two utility coordination meetings will be conducted.

RAILROAD COORDINATION

The Providence & Worcester Railroad Company has active freight train activity below this bridge. STV will schedule and attend meetings as needed during the Final Design to coordinate incorporation of railroad specifications into the contract documents. This project will require a Railroad Force Account line item for contractors work activities which will take place on, about or over their tracks during the construction phase of the project.

REVIEW OF SHOP/WORKING DRAWINGS, & DESIGN SERVICES DURING CONSTRUCTION (DSDC)

The review of shop drawings, working drawings, DSDC will be accomplished as specified in Sections 17.3 and 17.4 of the "Bridge Design Manual".

This will be negotiated as extra work.

FAMILIARIZATION VISITS TO SITE

It is anticipated that four site visits will be conducted to observe existing condition and perform a constructability review during design.

ROW REQUIREMENTS

A schedule of adjacent property owners, as determined from survey information will be provided to CTDOT for any property owners impacted by the proposed construction.

SURVEY

Field Survey to be provided by the Department.

STRUCTURE SUBMISSIONS

Structure submission will conform to the Bridge Design Manual and the Digital Project Development Manual and as stated above.

HIGHWAY DESIGN

Develop appropriate details for the following highway items in accordance with Department standards:

- Design of approach guiderail attachments (4 total) and replacement of those systems to the terminus as necessary to meet current Department's standards.
- Replacement of the existing median guiderail system on the Middletown side including appropriate attenuation systems in compliance with the 2016 edition of MASH (Manual for Assessing Safety Hardware) criteria.
- Approach Work – (Changes to the vertical alignment are not anticipated)
 - o Detail Mill and Pave (Highway Plans & Typical Sections)
 - o Identify & detail curbing for replacement along Middletown approach (Median and Shoulder).
 - o Remove Roadway Barrier Curb at Middletown Approach, replace with Concrete Barrier Curb (Hwy. Detail) for transition to new 42" Bridge Parapet.
 - Remove and replace concrete sidewalk to facilitate this work, MDS sheet due to grade differential on bridge.
 - Minor Full-Depth Reconstruction to facilitate removed barrier sections & new curbing installation.

ALTERNATIVES STUDY OF BRIDGE PROTECTIVE MEASURES

Investigate methods to enhance the existing bridge fencing to reduce/deter suicide attempts form the bridge. This study includes the following tasks:

- Investigate fencing alternatives
- Investigate methods other than protective fencing such as netting
- Investigate the effectiveness of signing and public awareness/notification measures
- Coordinate with CT Suicide Advisory Board
- Attend meetings with the Department, municipalities, and advisory board. Assume two meetings.
- Prepare a report discussing alternatives and findings and provide recommendations.