TRC

21 Griffin Rd. North
Windsor, CT 06095

T 860.298.9692
TRCcompanies.com

October 15, 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. / Mandy Socolosky

Subject: On-Call Asbestos, Lead, Air Quality & Demolition Compliance
Agreement No.: 8.07-01 (18)
HazMat Inspection - Bridge No. 02929, Route 80 over Deep River, Deep River, CT
ConnDOT Assignment No. 519-6001
ConnDOT Project No. 122-103
TRC Project No. 289951.6001.0710

Dear Mr. Fox:

TRC performed a limited survey for hazardous building materials associated with the replacement of Bridge No. 02929, Route 80 over Deep River in Deep River, Connecticut. Results of the survey identified lead paint to be present on the structural steel/metal bridge components of Bridge No. 02929. Results obtained from TCLP waste stream sampling and analysis for leachable lead from the paint on the structural steel/metal bridge components characterized the paint waste stream at Bridge No. 02929 as CTDEEP/RCRA hazardous waste. Grey brittle guard rail caulking and black padding material under the railing pedestals were sampled and found to be non-detect for asbestos. No bird/pigeon guano accumulations, bloodborne pathogen (BBP) concerns or other hazardous/regulated items were identified in accessible areas of Bridge No. 02929. Associated laboratory data, TRC Mobile Data Solutions report and project description/site map are attached.

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

Very Truly Yours,

TRC

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

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. 02929, Deep River, CT
Project # : 289951.6001.0710
Date(s): 7/5/2019
Inspectors: Catie Lemire

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**										185.1	7/5/2019 9:53
2			**0.0 Calibration**							0.0	0.0	1.0	1.2	7/5/2019 9:56
3			**3.6 Calibration**							3.8	0.2	1.3	7.1	7/5/2019 9:57
4			**1.6 Calibration**							1.4	0.2	1.1	3.3	7/5/2019 9:58
5	Exterior	Deep River	Bridge No. 02929		Girder		Metal	Silver		**4.7**	**0.8**	1.9	3.0	7/5/2019 10:02
6	Exterior	Deep River	Bridge No. 02929		Girder		Metal	Silver		**3.6**	**0.7**	1.8	2.8	7/5/2019 10:03
7	Exterior	Deep River	Bridge No. 02929		Girder		Metal	Silver		**4.8**	**0.5**	1.9	4.4	7/5/2019 10:04
8	Exterior	Deep River	Bridge No. 02929		Guard Rail Railing Supports		Metal	Red		**1.4**	**0.3**	1.6	2.5	7/5/2019 10:08
9	Exterior	Deep River	Bridge No. 02929		Guard Rail Railing Supports		Metal	Red		**2.1**	**1.0**	1.3	4.6	7/5/2019 10:09
10	Exterior	Deep River	Bridge No. 02929		Guard Rail Railing Supports		Metal	Red		**2.1**	**1.0**	1.4	5.0	7/5/2019 10:09
11			**0.0 Calibration**							0.0	0.0	1.0	1.3	7/5/2019 10:17
12			**3.6 Calibration**							3.8	0.7	1.3	2.0	7/5/2019 10:18
13			**1.6 Calibration**							1.4	0.3	1.1	2.6	7/5/2019 10:18

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

COMPLETE ENVIRONMENTAL TESTING, INC.

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

Client: Mr. Erik Plimpton
TRC Environmental Consultants
21 Griffin Rd., North
Windsor, CT 06095

Analytical Report

CET# 9070162

Report Date:July 12, 2019
Project: CTDOT, Bridge 02929, Deep River
Project Number: 289951.6001.0710

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

NELAP ACCREDITED TNI LABORATORY

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

CET # : 9070162
Project: CTDOT, Bridge 02929, Deep River
Project Number: 289951.6001.0710

SAMPLE SUMMARY

The sample(s) were received at 25.2°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
1	9070162-01	Paint Chip	7/05/2019	07/08/2019

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
9070162-01	1	270	0.13	mg/L	10	B9G1026	07/10/2019	07/12/2019 13:36	

CASE NARRATIVE

No collection time provided by client on chain of custody for the following sample: 9070162-01.

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

Sincerely,

David Ditta

David Ditta
Laboratory Director

This technical report was reviewed by Robert Blake

R Blake J.

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- Analyte exceeds method limits from second source standard in Initial Calibration Verification (ICV). No 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
Reporting Limit (RL) is the limit of detection for an analyte after any adjustment made for dilution or percent moisture.
All analyses were performed in house unless a Reference Laboratory is listed.
Samples will be disposed of 30 days after the report date.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 6020A in Water	
Lead	CT

Complete Environmental Testing operates under the following certifications and accreditations:

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

9070162

TRC

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

Edition: November 2013
Supersede Previous Edition

TCLP CHAIN OF CUSTODY

LAB ID #.

PROJECT NUMBER	PROJECT NAME	PARAMETERS	TURNAROUND TIME
6001 (1) 189951.5998.0710	CTDOT Bridge 02929 Deepriver, CT		24hr / 48hr / X 3day / 5day
INSPECTOR: (SIGNATURE) C. Lemire	(PRINTED)		24hr / 48hr / 3day / 5day

FIELD SAMPLE NUMBER	DATE	TIME	TYPE: COMP	TYPE: GRAB	SAMPLE LOCATION	RCRA Pb	RCRA Pb, AS, CR, CD	8 RCRA Metals	TCLP Pb	SPLP Pb		MATERIAL
1	7/5/19				Railings & I beams				X			Silver/Red paint

Relinquished by: (Signature)	Date:	Received by: (Signature)	Relinquished by: (Signature)	Date:	Received by: (Signature)
(Printed) C. Lemire	Time:	(Printed)	(Printed) ROBERT PERGAMENT	Time: 1300	(Printed) ROBERT PERGAMENT

please email EPlimpton@trccompanies.com and SArienti@trcccompanies.com

Page 1 of 1

TEMP N 25.2° Joe Faber 7-8-19 1550

TRC

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 #. 53973

PROJECT NUMBER	PROJECT NAME	PARAMETERS	TURNAROUND TIME
6001 ~~28995.5998~~	CTDOT Bridge 02929 Deepriver, CT		PLM: ☐ 8hr ☐ 24hr ☒ 48hr ☐ 3day TEM: ☐ 24hr ☒ 48hr ☐ 3day ☐ 5day
SIGNATURE	INSPECTOR		
	C. Lemire		

FIELD SAMPLE NUMBER	DATE	TIME	TYPE: COMP	TYPE: 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)	MATERIAL
1						X					C.-Greybrittle caulk
2						X				X	C. L
3						X					P. Black pad
4						X				X	P. L

Relinquished by: (Signature)	Date:	Received by: (Signature)	Relinquished by: (Signature)	Date:	Received by: (Signature)
	7/5/19	7/5/19			
(Printed) C. Lemire	Time: 1245	(Printed) K. Williamson 1300	(Printed)	Time:	(Printed)

Remarks:

Condition of Samples:_____
Acceptable: Yes ____ No ____
Comments:

Page of

Industrial Hygiene Laboratory
21 Griffin Road North
Windsor, CT 06095
(860) 298-6308

TRC
Results you can rely on

BULK ASBESTOS ANALYSIS REPORT

CLIENT: CT Department of Transportation

Lab Log #:	0053973
Project #:	289951.6001.0710
Date Received:	07/05/2019
Date Analyzed:	07/05/2019

Site: Bridge 02929, Deep River, 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	Black (pad)	Yes	No	- -	10%	fibrous glass	ND	None
4	Black (pad)	Yes	No	- -	10%	fibrous glass	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.

Analyzed by: K. Williamson
Kathleen Williamson, Laboratory Manager

Reviewed by: Cathryn Lemire
Cathryn Lemire, Approved Signatory

Date Issued
07/08/2019

NT 17843

Proscience Analytical Services, Inc.

22 Cummings Park, Woburn, MA 01801 Ph. 781-935-3212 Fax 781-932-4857

TEM Bulk Chain of Custody Record

Date: 07/08/19

PO#: **C289951** Analysis Type: Chatfield **EPA N.O.B** Qualitative

Client: TRC

Client Job#: 289951.5998.0710

Client Job Ref./Loc.: CT DOT- Bridge 02929, Deep River, CT

Relinquished by: K. Williamson- KWilliamson@trcsolutions.com

Received by: Paula Leavitt-Lace 7/9/19 9:30

Report to: E. Plimpton- EPlimpton@trccompanies.com & SArienti@trccompanies.com

Samplers Name: C. Lemire

Turnaround Time: <12 Hour <24 Hour **<48 Hour** <3 Day 5 Day Other:

				For Lab Use Only	
Client ID #	**Lab ID#**	**Description**	**Location**	**Acceptable on Receipt**	**Comments**
2	53973	Caulk	See COC		
4	53973	Pad			

For Lab Use Only	# Spies	Total	Client #	Batch #	Results Reported	Comments

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 #: 289951.5998.0710
Client Reference: CT DOT - Bridge 02929, Deep River, CT
PO #: C289951
Client #: 297
Client Name: TRC Companies, Inc. (CT)

Batch: **NT 17843**
Method: NOB
Date Received: 7/9/2019
Date Analyzed: 7/11/2019
Date of Report: 7/11/2019

LAB ID	Field ID	Description:	Color	Initial Weight	% Asbestos Types						% Other	%	%	Total %	Analyzed /	Prepped /
					CHR	AMO	ACT	CRO	ANT	TRE	Non-asb.	Organic	Carb.	Asbestos	Charged	Charged
NT134268	2	Grey Brittle Caulk		.6032	8.18	.00	.00	.00	.00	.00	24.54	20.03	47.25	**8.18**	Yes	No
NT134269	4	Black Pad		.1845	.00	.00	.00	.00	.00	.00	1.85	91.00	7.15	**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, Bridge 02929, United States, Middlesex County, , Connecticut, Deep River, 06417, Elm Street, 361

Created	2019-07-05 13:52:23 UTC by Catie Lemire
Updated	2019-07-05 17:12:47 UTC by Catie Lemire
Location	41.3714104, -72.4569766
Status	Survey Complete

Job Information

Site Name	Bridge 02929
Address	361 Elm Street Deep River, Connecticut 06417
TRC Project Number	289951.6001.0710
Project Manager	Erik Plimpton, Stephen Arienti
Inspector(s)	Catie Lemire, Nick Selvo
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)	3-day
Date	2019-07-05
Overview Photo	

silver and red paint on railing

silver and red paint on ibeam

Surveys Performed	Asbestos, XRF

Asbestos Section

(2), C, 1, Brittle grey caulk , 2

Representative Photos

Railing base

Sample Location	Railing base
Analyze by Layer	No
Asbestos Bulk Analysis	PLM EPA 600/R93/116
Grab or Composite	Grab
Date	2019-07-05
Time	10:12

Sample Location Photo

Railing base

Sample Location	Railing base
Analyze by Layer	No
Asbestos Bulk Analysis	PLM EPA 600/R93/116
Grab or Composite	Grab
Date	2019-07-05
Time	10:14

Material Information

Sampled or Assumed?	Sampled
Material Acronym	C, 1
Material Description	Brittle grey caulk
Is Material a Non-Friable Organically Bound (NOB)	Yes
Total Approximate Quantity	40lf
Total Count	(2)
Total Count (number only)	2

(2), P1, Black padding material, 2

Representative Photos

Under railing pedestal

Sample Location	Under railing pedestal
Analyze by Layer	No
Asbestos Bulk Analysis	PLM EPA 600/R93/116
Grab or Composite	Grab
Date	2019-07-05
Time	11:58

Under railing pedestal

Sample Location	Under railing pedestal
Analyze by Layer	No
Asbestos Bulk Analysis	PLM EPA 600/R93/116
Grab or Composite	Grab
Date	2019-07-05
Time	11:58

Material Information

Sampled or Assumed?	Sampled
Material Acronym	P1
Material Description	Black padding material
Is Material a Non-Friable Organically Bound (NOB)	Yes
Total Approximate Quantity	20sqft
Total Count	(2)

Total Count (number only)	2

XRF Section

Niton XRF Model No.	24792
XRF Survey Completed	Yes
XRF Data Downloaded	Yes
XRF Shots >1.0 on non-metallic building materials	No
Date Data Downloaded	2019-07-05

General Information

Signature

Signed 2019-07-05 13:54:00 UTC

Asbestos Samples Submitted to TRC Lab	Yes
Date Submitted to Lab	2019-07-05
App Name	WinBSI HBM Survey 1.0

Generate Report Documentation

Select one or more documents below to be generated. Once completed in the cloud, they will be sent to the listed email address. Please report any difficulties or errors to Justin Coleman.

Where should the document(s) be sent?	clemire@trcsolutions.com
Generate Documents	N/A

Project Description

Project No. 122-103 (PE/CN)
Replacement of Bridge No. 02929
Route 80 over Deep River in Deep River

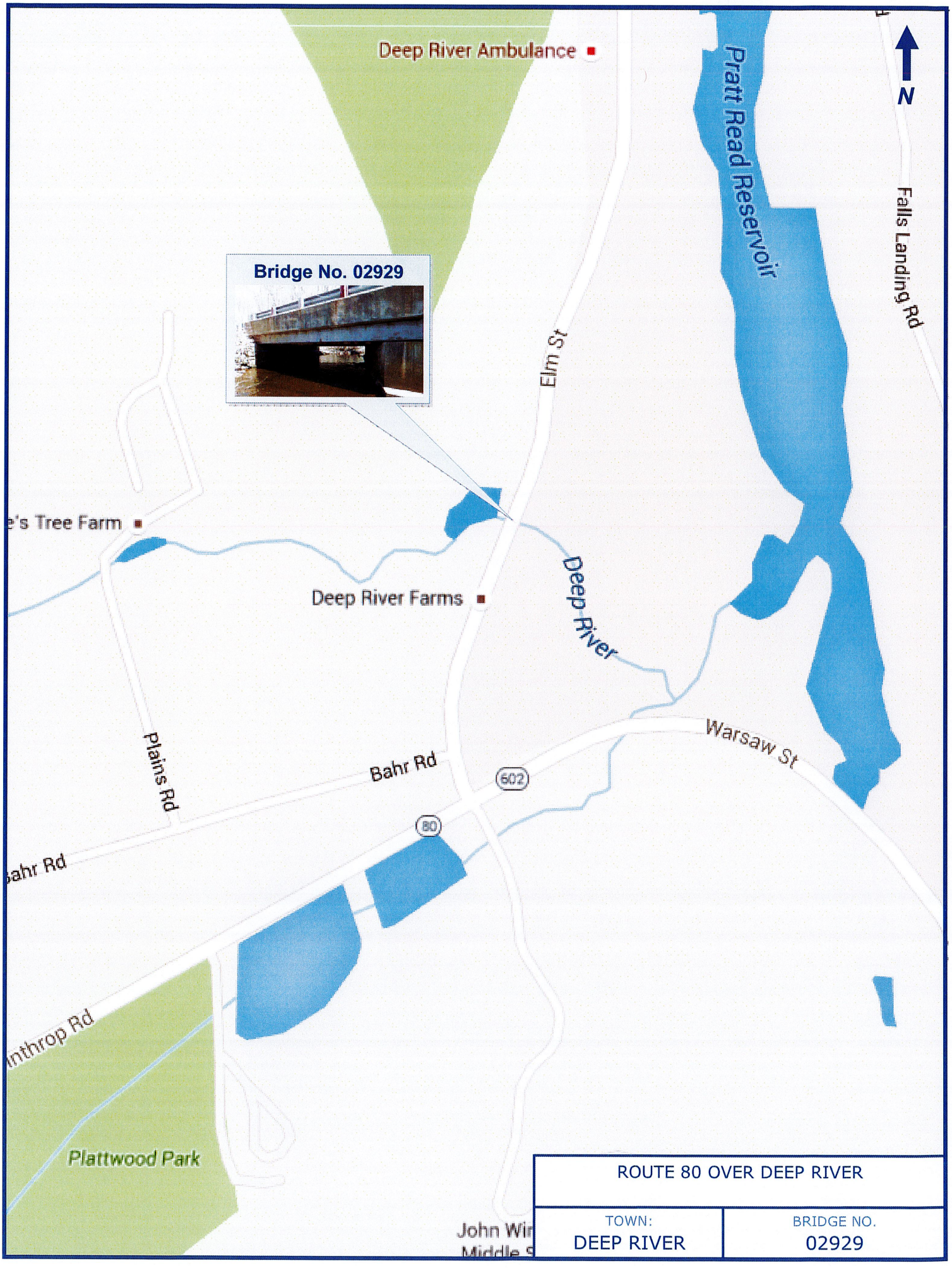
This project involves the replacement of Bridge No. 02929, which carries Route 80 over Deep River in the town of Deep River. The existing structure is a single span bridge consisting of a steel girder superstructure with a concrete deck supported by stone masonry and concrete abutments and wingwalls. The interior bays of the structure were constructed with metal arch pans (which have been removed) to support the concrete deck during placement. The outer 2 bays (upstream and downstream face) were added extensions and do not have the same girder size or deck thickness. This bridge, built in 1916, carries one lane of Route 80 traffic in each direction. The span length is 25 feet. The curb-to-curb roadway width over the bridge is 30 feet and the out-to-out width is 32 feet 6 inches. The approach roadway width is 25 feet. There are no sidewalks on the bridge or at the approaches. The structure has a skew angle of 33 degrees relative to the channel below. The estimated 2015 average daily traffic on the structure is 6,200 vehicles with 3% trucks.

Bridge No. 02929 is structurally deficient due to areas of heavy rusting heavy rusting with areas of section loss to the top flanges, webs, and bottom flanges of beams of up to 27.2%, 40.8%, and 36.2%, respectively. The bottom flanges of original beams are exposed. Concrete footings/scour walls of abutments are exposed up to 22 inches high and are undermined up to 6 inches deep. The upstream channel approaches the bridge opening at a steep angle.

The proposed project consists of replacing the existing structure with a 46.8-foot clear span bridge. The superstructure will consist of 54-foot precast concrete arch units on pile supported reinforced concrete abutments. It will be constructed on the same alignment and location as the existing bridge. The wingwall at the northwest corner of the existing structure will remain. U-type wingwalls will be constructed at the outlet and at the southwest corner of the inlet. Membrane waterproofing will be applied to the top of the arch units before backfilling. Standard 42-inch solid safety shaped parapets integral with the fasciae arch units will protect the widened roadway of two (2) 12-foot lanes and two (2) 4-foot shoulders. To achieve hydraulic adequacy the roadway will be raised approximately 3 inches. Full depth pavement construction will occur atop the backfill within the limits of the new structure. Adjacent sections will undergo milling and overlay to transition to the existing roadway profile. Metal beam rail with appropriate end treatments and bridge transitions will line both sides of the roadway. The proposed channel under the bridge will have 4:1 side slopes. The streambed material is comprised of ledge, small boulders and gravel; therefore riprap is not required. In addition to increasing the hydraulic efficiency of the crossing, the 54 foot precast arch also incorporates ACOE requirements for new bridges, specifically spanning the bankfull width by 1.2 times. Construction will be performed in two stages utilizing signalized alternating one-way road closure for a period of approximately 6 months. The proposed detour length utilizing all state highways is 6.0 miles. A temporary driveway will be constructed to maintain access to the driveway south east of the bridge

Analyses presented in the Preliminary Hydraulic Analysis Report indicate that for the 100-year design storm flow, the existing structure is hydraulically inadequate and the proposed structure is hydraulically adequate.

The wetland resources at the site consist of State Regulated Wetlands and Watercourse and Federally Regulated Waters of the U.S. The contributing drainage area of Deep River at the bridge is approximately 3.36 square miles. According to the August 28, 2008, Panel 09007C0327, Middlesex County Flood Insurance Rate Map, the project is located within a FEMA Flood Zone A.



ROUTE 80 OVER DEEP RIVER	
TOWN: DEEP RIVER	BRIDGE NO. 02929

Bridge No. 02929
Route 80 over Deep River
Deep River

N