



February 6, 2018

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: Jason Coite, P.E. / Stephen Clout

Subject: On-Call Asbestos, Lead, Air Quality & Demolition Compliance
Agreement No. 04.27-01(15)
HazMat Inspection – Route 34 – Ten (10) Traffic Signal Controller Cabinets,
Derby/Orange, Connecticut
ConnDOT Assignment No. 514-5690
ConnDOT Project No. 106-126
TRC Project No. 222165.5690.0710

Dear Mr. Fox:

TRC performed a limited survey for hazardous materials associated with the replacement of 10 traffic signal controller cabinets at Intersection Nos. 036-205, 036-209, 036-213, 036-210, 106-217, 106-215, 106-208, 106-214, 106-209 & 106-210 on Route 34 in Derby and Orange, Connecticut. Results of the survey identified no detectable levels ($0.0 \text{ mg/cm}^2/\text{ND} < 0.10\%$ by weight) of lead in paint to be present on any of the metal controller cabinet components located at those intersections. Any paint waste generated from metal controller cabinet surfaces at Intersection Nos. 036-205, 036-209, 036-213, 036-210, 106-217, 106-215, 106-208, 106-214, 106-209 & 106-210 is considered to be non-hazardous, non-RCRA waste. White flexible caulking at Intersection No. 036-209 and yellow flexible caulking at Intersection Nos. 036-213, 106-217, 106-215 & 106-209 was sampled and found to be non-ACM. Associated laboratory data, inspector notes/sketches, project descriptions and site maps 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 "Michael C. Kostruba".

Michael C. Kostruba CSP, CHMM
Project Manager

Reviewed by:

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
 Client : Connecticut Department of Transportation
 Site : Controller Cabinets-Rte 34, Orange/Derby, CT
 Project # : 222165.5690.0710
 Date(s) : 12/18/2017
 Inspector : Cathryn Lemire

Number	Interior/ Exterior	Floor	Intersection No.	Side	Structure	Feature	Material	Color	Condition	Reading (mg/cm ²)	Precision (mg/cm ²)	Depth Index	Duration (sec)	Date/Time
1		Shutter Calibration											154.52	12/18/2017
2		Calibration (0.01 mg/cm ²)										1.0	3.26	12/18/2017
3		Calibration (3.58 mg/cm ²)										1.38	17.89	12/18/2017
4		Calibration (0.31 mg/cm ²)										1.27	6.97	12/18/2017
5	Exterior		Intersection No. 036-209		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
6	Exterior		Intersection No. 036-209		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
7	Exterior		Intersection No. 036-213		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
8	Exterior		Intersection No. 036-213		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
9	Exterior		Intersection No. 036-210		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
10	Exterior		Intersection No. 036-210		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
11	Exterior		Intersection No. 106-217		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
12	Exterior		Intersection No. 106-217		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
13	Exterior		Intersection No. 106-215		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
14	Exterior		Intersection No. 106-215		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
15	Exterior		Intersection No. 106-208		Controller Box		Metal	Silver	NA	0.0	0.0	Not Available	Not Available	12/18/2017
16	Exterior		Intersection No. 106-208		Controller Box		Metal	Silver	NA	0.0	0.0	Not Available	Not Available	12/18/2017
17	Exterior		Intersection No. 106-214		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
18	Exterior		Intersection No. 106-214		Controller Box		Metal	Grey/Blue	NA	0.0	0.0	Not Available	Not Available	12/18/2017
19	Exterior		Intersection No. 106-209		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
20	Exterior		Intersection No. 106-209		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
21	Exterior		Intersection No. 106-210		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
22	Exterior		Intersection No. 106-210		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
23	Exterior		Intersection No. 036-205		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
24	Exterior		Intersection No. 036-205		Controller Box		Metal	Grey	NA	0.0	0.0	Not Available	Not Available	12/18/2017
25		Calibration (0.01 mg/cm ²)										1.0	2.09	12/18/2017
26		Calibration (3.58 mg/cm ²)										1.32	10.93	12/18/2017
27		Calibration (0.31 mg/cm ²)										1.0	3.02	12/18/2017

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



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

Analytical Report

CET# 7120539

Report Date: December 21, 2017
Project: DOT
Project Number: Control Cabinets RT34
PO Number: 222165.5690.0710

Connecticut Laboratory Certificate: PH 0116
Massachusetts laboratory Certificate: M-CT903



New York NELAP Accreditation: 11982
Rhode Island Certification: 199

CET #: 7120539

Project: DOT

Project Number: Control Cabinets RT34

SAMPLE SUMMARY

The sample(s) were received at 26.5°C.

This report contains analytical data associated with following samples only.

Sample ID	Laboratory ID	Matrix	Collection Date/Time	Receipt Date
01	7120539-01	Paint Chip	12/18/2017 8:30	12/19/2017
02	7120539-02	Paint Chip	12/18/2017 9:00	12/19/2017
03	7120539-03	Paint Chip	12/18/2017 9:30	12/19/2017
05	7120539-05	Paint Chip	12/18/2017 11:00	12/19/2017
06	7120539-06	Paint Chip	12/18/2017 10:30	12/19/2017
07	7120539-07	Paint Chip	12/18/2017 11:30	12/19/2017
08	7120539-08	Paint Chip	12/18/2017 12:00	12/19/2017
09	7120539-09	Paint Chip	12/18/2017 12:30	12/19/2017
10	7120539-10	Paint Chip	12/18/2017 13:00	12/19/2017

Analyte: Total Lead [EPA 6010C]

Analyst: SS

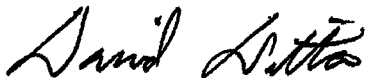
Matrix: Paint Chip

Laboratory ID	Client Sample ID	Result	RL	Units	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
7120539-01	01	ND	0.10	%	1	B7L2019	12/20/2017	12/20/2017 17:27	
7120539-02	02	ND	0.10	%	1	B7L2019	12/20/2017	12/20/2017 17:40	
7120539-03	03	ND	0.10	%	1	B7L2019	12/20/2017	12/20/2017 17:44	
7120539-05	05	ND	0.10	%	1	B7L2019	12/20/2017	12/20/2017 17:49	
7120539-06	06	ND	0.10	%	1	B7L2019	12/20/2017	12/20/2017 17:53	
7120539-07	07	ND	0.10	%	1	B7L2019	12/20/2017	12/20/2017 17:58	
7120539-08	08	ND	0.10	%	1	B7L2019	12/20/2017	12/20/2017 18:03	
7120539-09	09	ND	0.10	%	1	B7L2019	12/20/2017	12/20/2017 18:07	
7120539-10	10	ND	0.10	%	1	B7L2019	12/20/2017	12/20/2017 18:11	

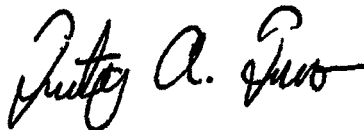
All questions related to this report should be directed to David Ditta, Timothy Fusco, or Robert Blake at 203-377-9984.

Sincerely,

This technical report was reviewed by Timothy Fusco



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 # : 7120539

Project: DOT

Project Number: Control Cabinets RT34

CERTIFICATIONS

Certified Analyses included in this Report

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

Complete Environmental Testing operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Public Health	PH0116	09/30/2018



7120539

Edition: November 2013
Supersede Previous Edition21 GRIFFIN ROAD NORTH
WINDSOR, CONNECTICUT 06095
TELEPHONE (860) 298-9692
FAX (860) 298-6380

CHAIN OF CUSTODY

PROJECT NUMBER

PROJECT NAME

D01

PARAMETERS

LAB ID #

TURNAROUND TIME

24hr	48hr	3day	5day
☒	☐	☐	☐

Inspector: (Signature)
Eric Githers

(Printed)

Eric Githers

RCRA Pb

RCRA Pb, AS, CR, CD

8 RCRA Metals

TCLP Pb

SPLP Pb

MATERIAL

FIELD
SAMPLE
NUMBER

DATE

TIME

COMP
GRAB

SAMPLE LOCATION

01	12/18/17	0930	X	Int # 106-217 CH1 Box						Gray Paint
02		0900	X	Int # 36-209 CH1 Box						
03		0930	X	Int # 106-209 CH1 Box						
04		1000	X	Int # 106-208 CH1 Box						Gray w/ Green Paint
05		1100	X	Int # 106-214 CH1 Box						
06		1030	X	Int # 36-205 CH1 Box						
07		1130	X	Int # 106-210 CH1 Box						
08		1200	X	Int # 036-213 CH1 Box						
09		1230	X	Int # 036-210 CH1 Box						
10		1300	X	Int # 106-215 CH1 Box						

Relinquished by: (Signature)

Date:

Received by: (Signature)

12/18/17

Relinquished by: (Signature)

Date:

Received by: (Signature)

(Printed)

Time:

(Printed)

(Printed)

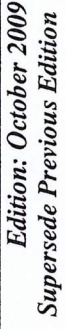
Time:

(Printed)

Eric Githers

1515

*Robert Peterson**Robert Peterson**WLO**WLO*All results to elimpson@trcsolutions.com + sarant@trcsolutions.com



ASBESTOS BULK SAMPLING CHAIN OF CUSTODY

51693

[illegible]

Relinquished by: (Signature) <i>Eric Gitberg</i>	Date: 12/19/17	Received by: (Signature) <i>Eric Gitberg</i>	12/15/17	Relinquished by: (Signature)	Date:	Received by: (Signature)
(Printed) Eric Gitberg	Time: 1500	(Printed) Eric Gitberg	1500	(Printed)	Time:	(Printed)
Remarks: Results to epimutation@resolutions.com			Condition of Samples: Acceptable: Yes ☒ No ☐		Page 1 of 7	



BULK ASBESTOS ANALYSIS REPORT

CLIENT: CT Department of Transportation

Lab Log #: 0051693
Project #: 222165.5690.0710
Date Received: 12/18/2017
Date Analyzed: 12/20/2017

Site: 10 Control Cabinets, Rt. 34, Derby, 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	White (caulk)	Yes	No	--	---	ND	None
2	White (caulk)	Yes	No	--	---	ND	None
3	Yellow (caulk)	Yes	No	--	---	ND	None
4	Yellow (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, 2018. TRC is accredited by the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC in the Industrial Hygiene Program (IHLAP) for PLM effective through October 1, 2018. 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
Kathleen Williamson, Laboratory Manager

Reviewed by: Cathryn Lemire
Cathryn Lemire, Approved Signatory

Date Issued
12/20/2017

TRC LABORATORY ASBESTOS ANALYTICAL ACCREDITATIONS

NVLAP Lab Code 101424-0
RI #AAL-007 TX #300354
CO# AL-15020

AIHA-LAP, LLC #100122 CT #PH-0426
VT #AL014538 LA#05011 VA #3333 000283
PHIL# 461 PA#68-03387

ME LA-0075, LB-0071 MA #AA000052 NY #10980 WV# LT000411
AZ #A20944 HI #L-09-004 NJ #CT004 CA #2907

NT 6958

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 #: 222165.5690.0710
Client Reference: CT DOT - 10 Control Cabinets, Rte. 34, Derby, CT
PO #: C222165
Client #: 297
Client Name: TRC Environmental Corp. (CT)

Batch: NT 16958
Method: NOB
Date Received: 12/21/2017
Date Analyzed: 12/27/2017
Date of Report: 12/27/2017

LAB ID	Field ID	Description:	Color	Initial Weight	% Asbestos Types				% Other Non-asb.	% Organic	% Carb.	Total % Asbestos	Analyzed / Charged	Preped / Charged
					CHR	AMO	ACT	CRO						
NT128100	2	White Flexible Caulking		.1441	.00	.00	.00	.00	2.98	22.28	74.74	ND	Yes	No
NT128101	4	Yellow Flexible Caulking		.1343	.00	.00	.00	.00	.30	99.55	.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



SUBJECT

Derby INT Rt. 34

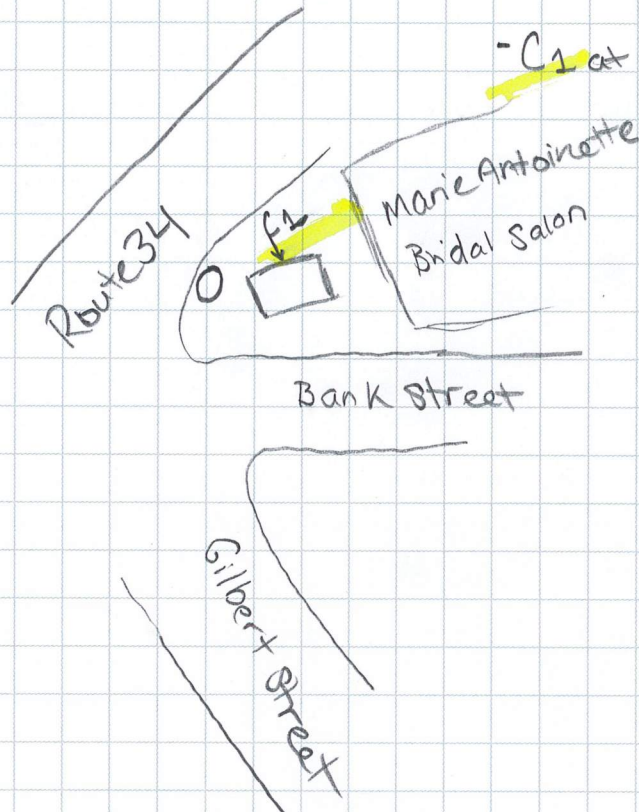
SHEET NO. _____ OF _____
PROJECT NO. 222165.5690.0710
DATE _____
BY _____
CHK'D _____

Int 036-209

✓ C1 - Hard white vendable caulk

- C1 at cabinet on control box ~ 5 Lf

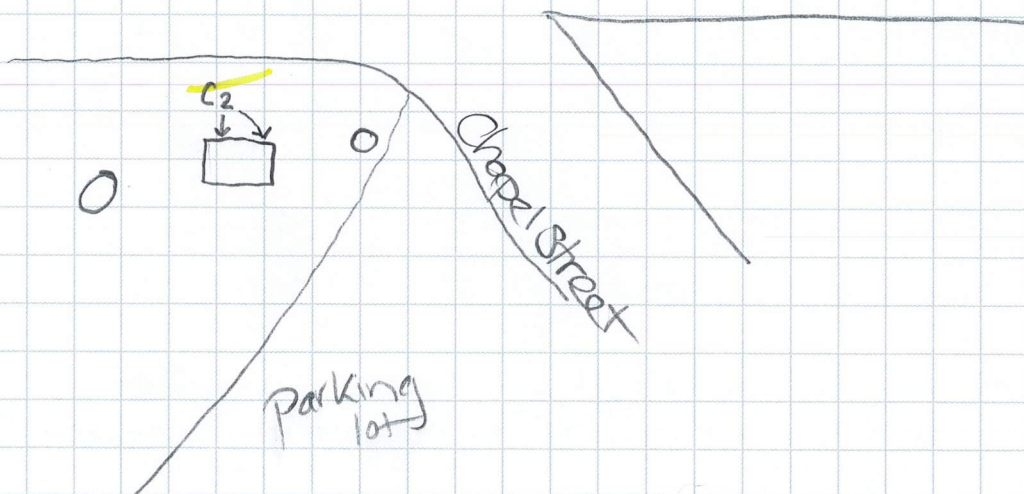
• Digital meter - electric box



✓ Intersection 36-213

C2 - yellow stretchy caulk on face panel 8 Lf

Route 34



SHEET NO. _____ OF _____

PROJECT NO. _____

DATE _____

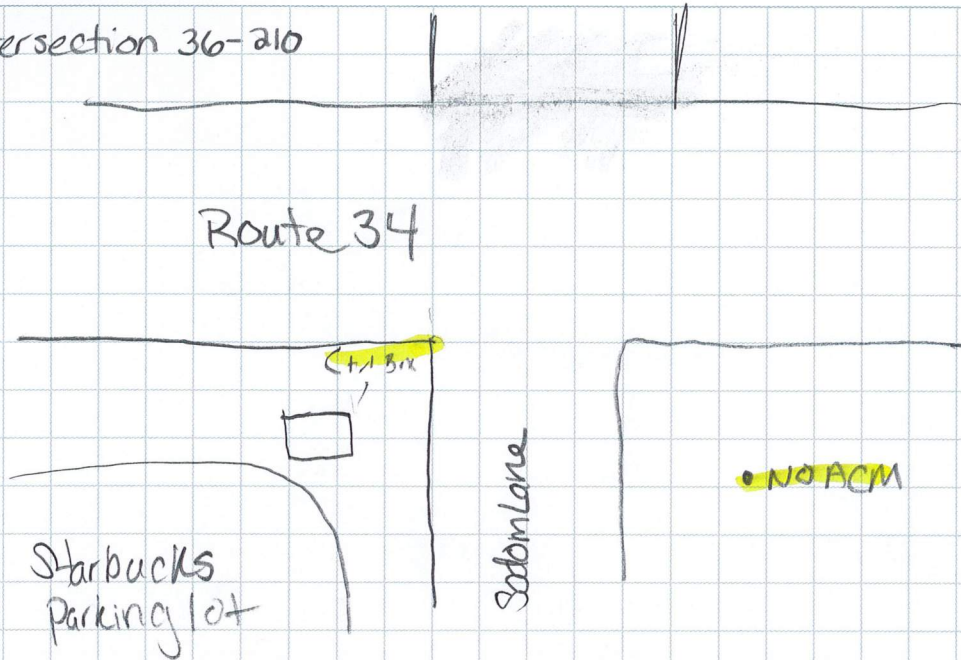
BY _____

CHK'D _____



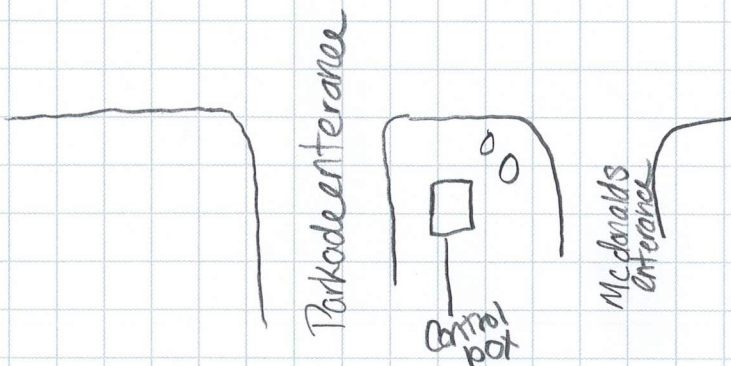
SUBJECT _____

✓ Intersection 36-210



Intersection 106-217

- C2 present 8Lf
- Digital ~~control~~ meter - electric box





SUBJECT _____

SHEET NO. _____ OF _____

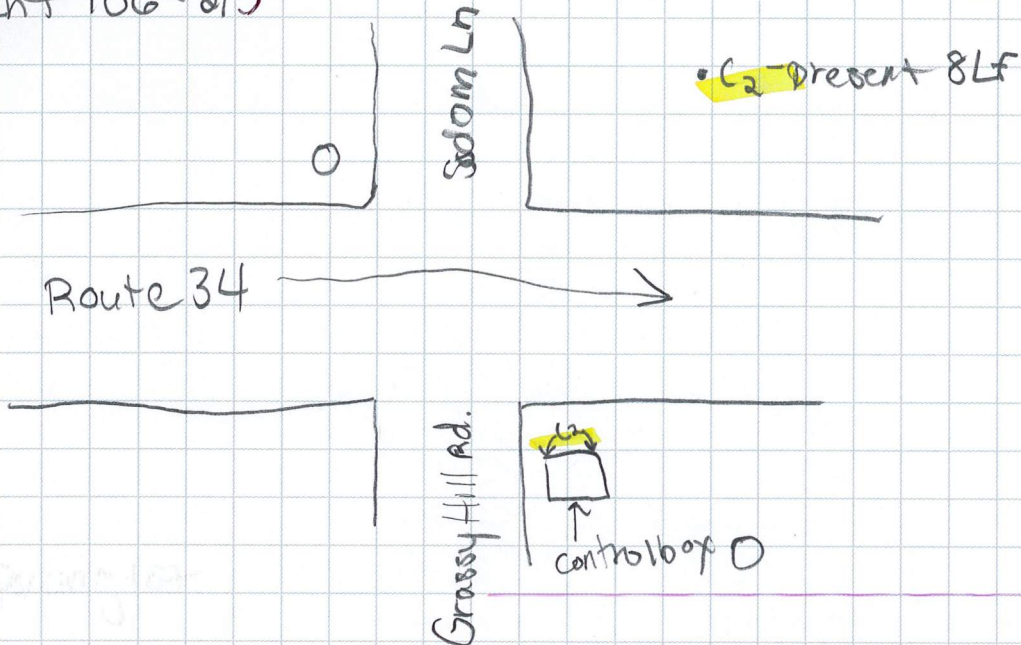
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DATE _____

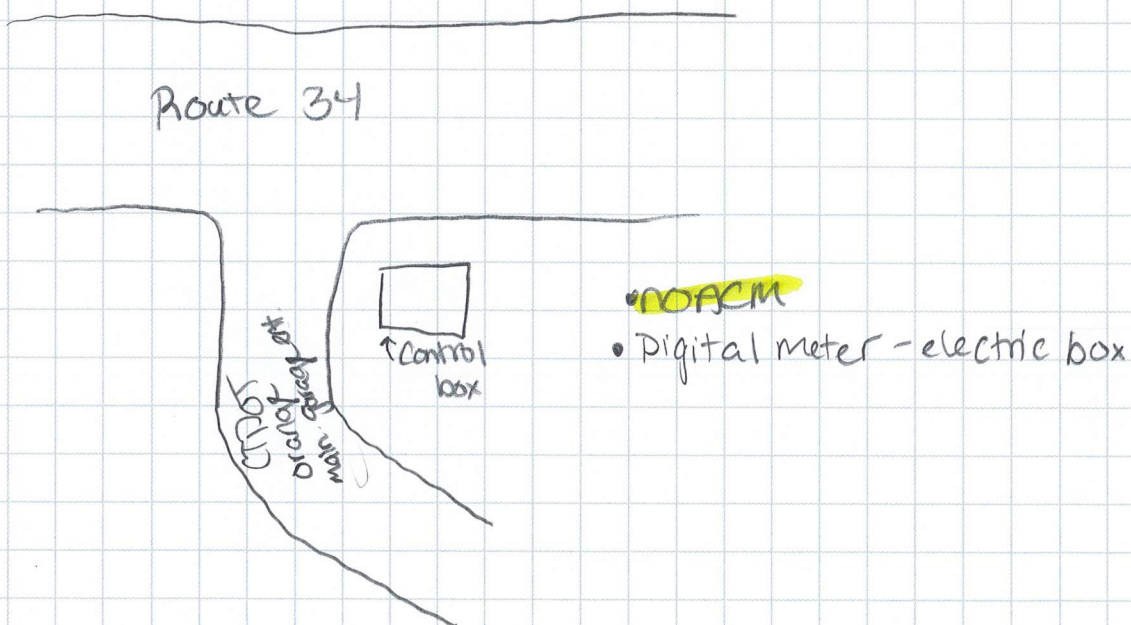
BY _____

CHK'D _____

✓ Int 106-215



Int 106-808





SUBJECT _____

SHEET NO. _____ OF _____

PROJECT NO. _____

DATE _____

BY _____

CHK'D _____

✓

Int 106-214

Abbey

Route 34

exit ramp

Control box

Greenway

• no ACM

park n ride

✓

Int 106-209

Orange Rd

Route 34

Control box

Driveway

Route 52

• C2 present



SUBJECT _____

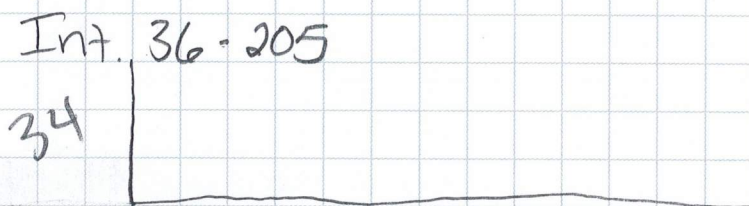
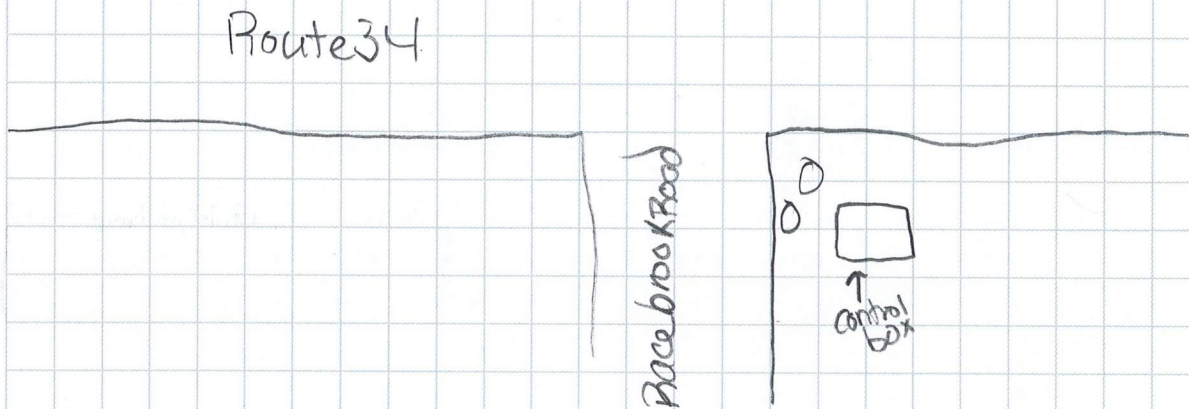
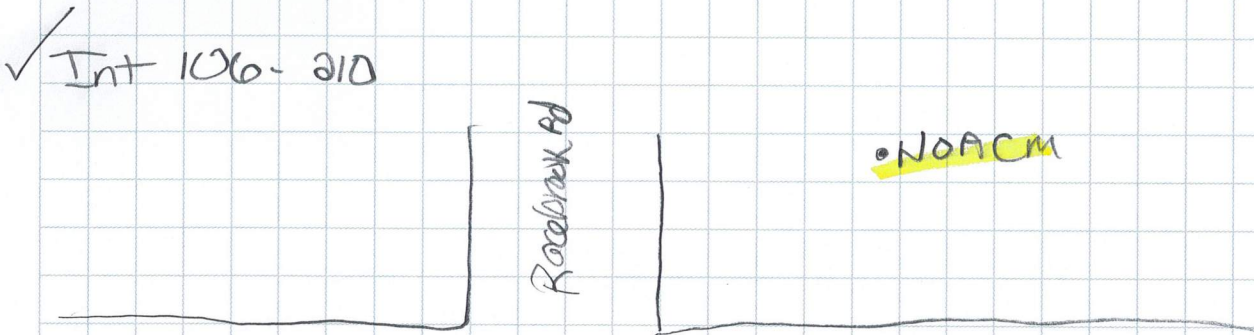
SHEET NO. _____ OF _____

PROJECT NO. _____

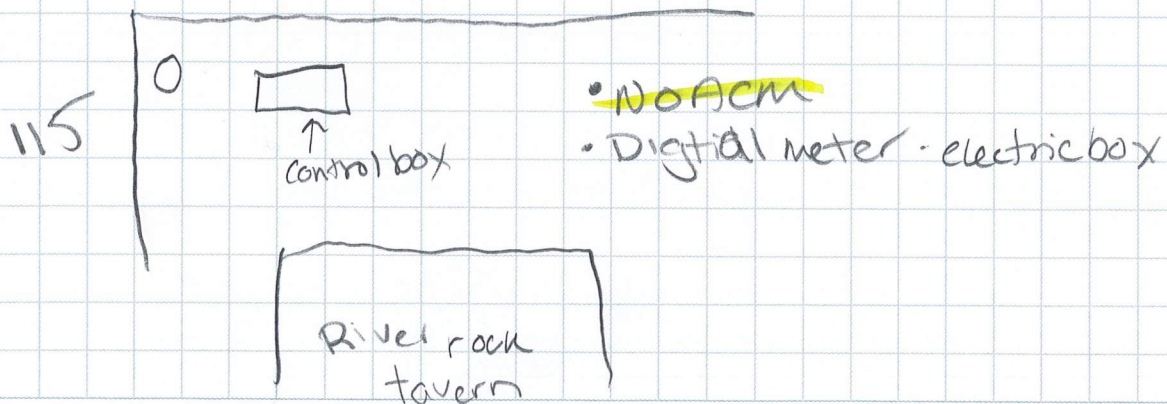
DATE _____

BY _____

CHK'D _____



34/8



PROJECT DESCRIPTION
State Project No. 106-126
Federal Aid Project No. 0034(114)PE
Intersection Improvements at Route 34 and Baldwin Road &
Computerized Traffic Signal System (CTSS) Upgrade
Towns of Derby and Orange

Project Location:

This project is located at the intersection of Route 34 and Baldwin Road and at eleven adjacent signalized intersections on Route 34 in the towns of Derby and Orange.

Purpose and Need:

This project will provide intersection improvements and a new traffic control signal at Route 34 and Baldwin Road to improve safety and will also include replacement of traffic controller cabinets at eleven adjacent signalized intersections. The intersection of Route 34 at Baldwin Road is rated at sequence number 1183 on the 2012-2014 Suggested List of Surveillance Study Sites (SLOSSS)¹. The eleven traffic signals are part of a closed loop system with outdated controller cabinets that have reached the end of their service life.

Project Description:

Existing Conditions: The existing three-legged intersection of Route 34 and Baldwin Road is unsignalized with a stop controlled approach on Baldwin Road. Route 34 is a four-lane, raised median divided, urban principal arterial and is part of the National Highway System (NHS). The eastern approach to the intersection has a left turn lane and Route 34 has a posted speed limit of 45 mph. Baldwin Road is a two-lane local road with a posted speed limit of 30 mph. The existing closed loop signal system contains eleven signals that are broken into two subsystems. The system uses an outdated DOS-based system (Transyt) that is not compatible with the Department's current information technology network. This outdated equipment is no longer available for new purchases or replacement parts and the Department is unable to adequately maintain this system. Additionally, this prevents new traffic control signals from being added to the system.

Proposed Conditions: A traffic control signal will be installed at the intersection of Route 34 and Baldwin Road. The existing raised median and left-turn lane on the Route 34 eastbound approach to the intersection will be revised to provide a longer taper and additional storage length for left turning vehicles. The Route 34 westbound approach and Baldwin Road will be widened to provide right turn lanes. Full depth pavement reconstruction will be used for the areas that are widened. The pavement on Route 34 and Baldwin Road within the limits of the intersection improvements will receive a mill and overlay treatment.

The eleven existing controller cabinets will be removed and replaced with new controller cabinets that are compatible with the Department's current information technology network. This will allow the existing coordination to be updated to improve traffic flow, mitigate congestion, improve safety, and reduce travel time, fuel consumption, and emissions. The new traffic control signal at the intersection of Route 34 and Baldwin Road will be incorporated into the upgraded signal system.

¹ "Pursuant to Title 23 United States Code Section 409, this data is not admissible and not discoverable in any federal or state court proceeding, and cannot be considered for any other purpose in any action for damages arising from an occurrence at a location addressed in this report."

Permits:

Permits are not anticipated.

Utilities:

There is a fire hydrant located on the north side of Route 34 at the intersection with Baldwin Road that may be impacted by the Route 34 right turn lane widening.

Rights of Way:

Rights of way involvement may be required along Baldwin Road due to roadway widening.

Preliminary Cost Estimate:

Funding is 90% federal and 10% state. Preliminary construction costs for the project are \$1,085,000.

Schedule:

ROW:	December 14, 2016
FDP:	June 6, 2018
DCD:	July 18, 2018
ADV:	August 15, 2018

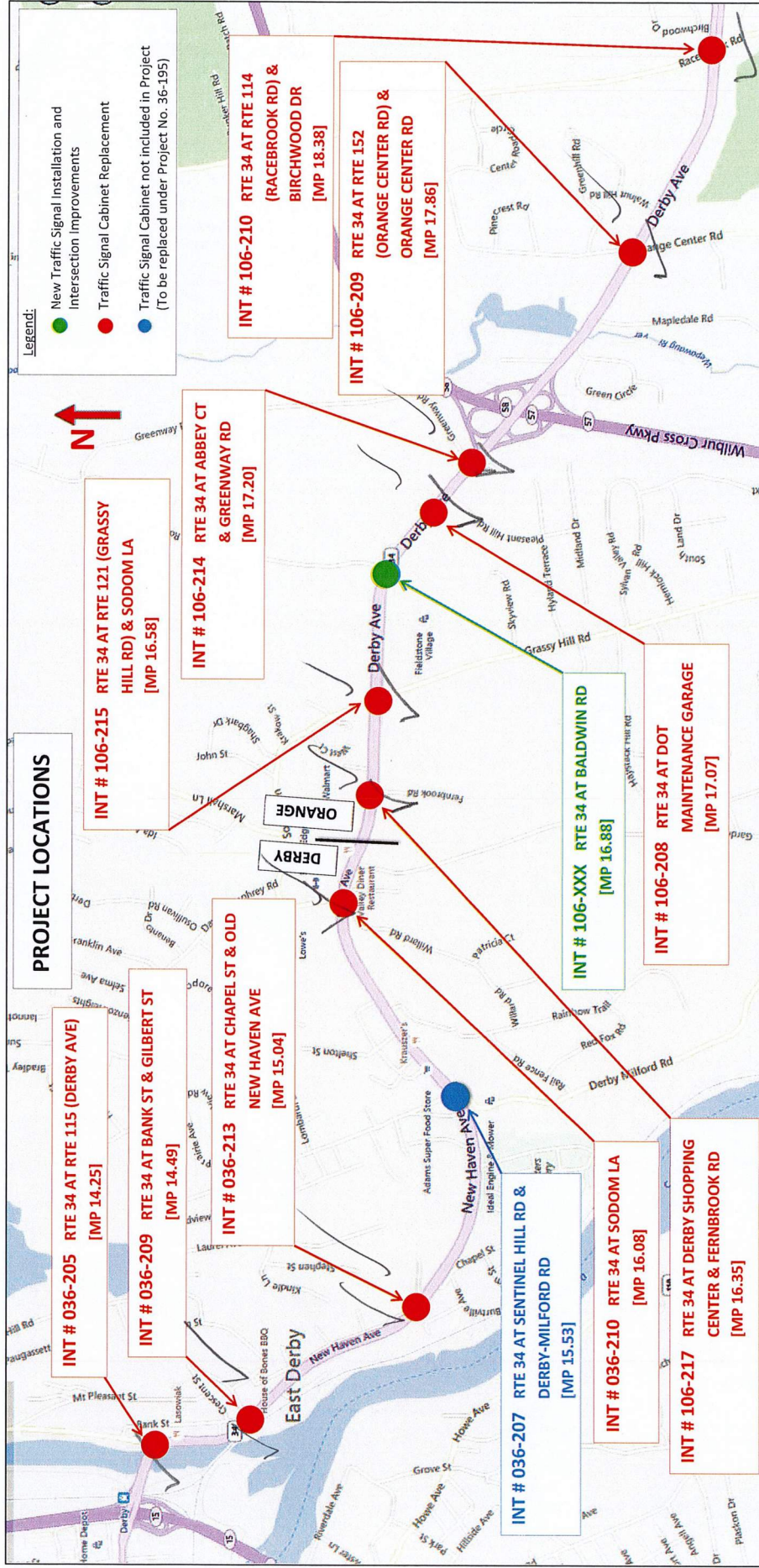
PROJECT LOCATION PLAN

STATE PROJECT NO. 106-126

FEDERAL AID PROJECT NO. 0034(114)PE

COMPUTERIZED TRAFFIC SIGNAL SYSTEM UPGRADE

TOWN OF ORANGE & CITY OF DERBY



New Traffic Signal to be Installed

Traffic Signal Cabinet Replacement

Traffic Signal Cabinet not Included in Project

Total Number of Intersections

1

10

1

12

PROJECT LOCATION PLAN

State Project No. 106-126

Intersection Improvements at Route 34 and Baldwin Road Town of Orange

