

SURVEY REPORT

PRE-RENOVATION INVESTIGATIVE SURVEY FOR HAZARDOUS BUILDING MATERIALS

NOROTON HEIGHTS RAILROAD STATION – PLATFORM REPLACEMENT DARIEN, CONNECTICUT

Project No. 301-170

Prepared for

State of Connecticut
Department of Transportation
Newington, Connecticut

Prepared by

TRC
Windsor, Connecticut

Issued
January 2016

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TRC Project No. 222165.5202.0710
Issued-January 2016

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PROJECT OUTLINE

DOT Project No.: 301-170
Assignment No.: 514-5202
DOT Project Manager: Roger Levesque, P.E.

Site Address: Noroton Heights Railroad Station – Platform Replacement,
Darien, CT

TRC Project No.: 222165.5202.0710
Asbestos Inspector: Hilton Hernandez (LIC #000424)
David Heelon (LIC #000635)
Bryce Aston (LIC #000161)
Lead Inspector: David Heelon (LIC #002188)
Date(s) of Inspection: 1/19/16

Asbestos Identified: Yes
Lead Paint Identified: Yes, however all XRF readings tested <1.0 mg/cm²
Gen. Bldg. Mat. Haz Waste: No, per EPA/CTDEEP memo dated January 26, 2004
Add'l Haz./Reg. Mat./Waste/Items: Yes (See Table 6)

Asbestos Removal Cost Estimate: \$ 5,825
Haz/Reg Materials/Wastes/Items Removal Cost Estimate: \$ 3,770

Additional Notes:

The property consists of a railroad station with two platforms (eastbound and westbound) that are scheduled to be replaced. Platforms, landings, ramps, stairways and pedestrian shelter, guardrails/handrails, benches, signage and lighting are all to be removed and potentially replaced. The eastbound platform pedestrian shelter and support are included in the renovation; however, the westbound platform station building, canopy structure and overhead pedestrian bridge will not be impacted and will remain in use following renovation activities. A new doorway will be installed into the westbound platform station building. ACM advertisement billboards reportedly to be removed by MNRR.

TABLES

TABLE 1
BULK SAMPLE SUMMARY OF SUSPECT ASBESTOS CONTAINING MATERIALS
NOROTON HEIGHTS RAILROAD STATION – PLATFORM REPLACEMENT
METRO-NORTH RAILROAD – NEW HAVEN MAIN LINE
DARIEN, CONNECTICUT

Sample No.	Sample Location	Type of Homogeneous Material	% and Type Asbestos
1	Westbound advertisement board	T1 – gray transite board	10% chrysotile
2	Eastbound advertisement board	T1 – gray transite board	NA/PS
3	Westbound Platform	EJ1 – light gray expansion joint caulk	ND ¹
4	Eastbound Platform	EJ1 – light gray expansion joint caulk	ND
5	Westbound Platform	EJ2 – black tar expansion joint material	ND ¹
6	Eastbound Platform	EJ2 – black tar expansion joint material	ND
7	Westbound Platform	EJ3 – black brittle expansion joint material	ND ¹
8	Eastbound Platform	EJ3 – black brittle expansion joint material	ND
9	Westbound Platform	EJ4 – black fiber expansion joint material	ND ¹
10	Eastbound Platform	EJ4 – black fiber expansion joint material	ND

NA/PVA Not analyzed/positive via inseparable association with a confirmed positive ACM

NA/PS Not analyzed/positive stop, homogeneous to sample proven to contain asbestos

ND<1% Non-detected, less than 1%

NAD No asbestos detected

+ Although found to be negative by analysis, material is homogeneous to a determined ACM and therefore must be considered positive

1 Result confirmed by TEM analyses

* Quantified by PLM Point Counting techniques

TABLE 2
IDENTIFIED ASBESTOS CONTAINING MATERIALS (>1%)
NOROTON HEIGHTS RAILROAD STATION – PLATFORM REPLACEMENT
METRO-NORTH RAILROAD – NEW HAVEN MAIN LINE
DARIEN, CONNECTICUT

Material	Sampled/ Assumed (mo/yr)	General Location	NESHAP Category	AHERA Category	Estimated Quantity
T1 – gray transite board	Sampled 1/16	Eastbound & Westbound platform advertisement boards	Category II Non-friable	Miscellaneous	1,050 SF (14 signs eastbound 15 signs westbound)

AHERA Categories = thermal system insulation (TSI), surfacing material or miscellaneous
NESHAP Categories = friable, category I non-friable or category II non-friable
Friable = crumbled, pulverized or reduced to powder by hand pressure when dry
Category I Non-friable = packings, gaskets, resilient floor covering and asphalt roofing
Category II Non-friable = all non-friable that is not Category I

TABLE 3
CONFIRMED NON-ASBESTOS CONTAINING MATERIALS (<1%)
NOROTON HEIGHTS RAILROAD STATION – PLATFORM REPLACEMENT
METRO-NORTH RAILROAD – NEW HAVEN MAIN LINE
DARIEN, CONNECTICUT

Material	General Location
EJ1 – light gray expansion joint caulk	Eastbound & westbound platforms
EJ2 – black tar expansion joint material	Eastbound & westbound platforms
EJ3 – black brittle expansion joint material	Eastbound & westbound platforms
EJ4 – black fiber expansion joint material	Eastbound & westbound platforms

** However, associated layers are positive.*

TABLE 4
SUMMARY OF LEAD PAINT XRF MEASUREMENTS
NOROTON HEIGHTS RAILROAD STATION – PLATFORM REPLACEMENT
METRO-NORTH RAILROAD – NEW HAVEN MAIN LINE
DARIEN, CONNECTICUT

Structure	No. of Measurements	Calibrations	Void	Lead Detected	No Lead Detected
Railroad platform replacement areas	35	9	2	5	19

See Lead Paint XRF Measurement Table in Appendix H.

TABLE 5
SUMMARY OF COMPOSITE BUILDING MATERIAL WASTE CHARACTERIZATION
NOROTON HEIGHTS RAILROAD STATION – PLATFORM REPLACEMENT
METRO-NORTH RAILROAD – NEW HAVEN MAIN LINE
DARIEN, CONNECTICUT

Waste Stream	Metal	mg/L Leachate	Hazardous/Non-Hazardous
Eastbound/ Westbound Platform Replacement Bldg. Material Composite (Excluding metal substrates)	<p><u>No</u> TCLP sample for Lead warranted as XRF readings on non-metallic components were all below 1.0 mg/cm² and therefore the debris is presumed as <u>non-hazardous</u> per CTDEEP/USEPA clarification memo of January 26, 2004.</p>		

Note: Any metal components should be recycled to promote waste minimization efforts, rather than disposed of, and the recycling operation is exempt from the USEPA RCRA and CTDEP Hazardous Waste regulations.

See Appendix I for CTDEEP/USEPA clarification memo of January 26, 2004.

BDL - Below Detection Limit

ND - Not Detected

TABLE 6
INVENTORY OF ADDITIONAL HAZARDOUS/REGULATED
MATERIALS, WASTES AND ITEMS IDENTIFIED
NOROTON HEIGHTS RAILROAD STATION – PLATFORM REPLACEMENT
METRO-NORTH RAILROAD – NEW HAVEN MAIN LINE
DARIEN, CONNECTICUT

Quantity	Size	Material/Item	General Location	Potential Hazard
Forty three (43)		Sulfide bulbs	Westbound side	UW – Hg lamps
Six (6)		LED direction signs	Westbound side	UW – used electronics (printed circuit boards) UW – Hg lamps
Forty three (43)		Sulfide bulbs	Eastbound side	UW – Hg lamps

- CRW- Connecticut Regulated Waste – PCBs (CR01), Oils (CR02/CR03), waste chemical liquids - antifreeze, latex & solvent paints, sludges, etc. (CR04), waste chemical solids (CR05)
- UW- Universal Waste (batteries, thermostat ampoules, fluorescent lamps, used electronics)
- IH- Inhalation hazard (silicas, etc.)
- I- Ignitable - may contain ingredients which are ignitable (materials which have a flashpoint <140°F) (D001)
- C- Corrosive - may contain ingredients which are alkaline or acidic (materials with a PH<2 or >12.5) (D002)
- T- Toxic - may contain ingredients which are harmful if swallowed or which release vapors that can cause irritation
- R- Reactive – may contain ingredients which are unstable, react violently with water or are explosive (D003)

APPENDIX A

SITE PHOTOS

APPENDIX B

SITE SKETCHES

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ASBESTOS BULK SAMPLE CHAIN OF CUSTODY FORMS

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PLM LABORATORY ANALYSIS DATA

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LEAD PAINT XRF MEASUREMENT TABLE

APPENDIX I

COMPOSITE BUILDING MATERIAL WASTE CHARACTERIZATION DATA

APPENDIX J

**ITEMIZED COST ESTIMATE
FOR ASBESTOS ABATEMENT**

TRC
Asbestos Abatement Cost Estimate
CTDAS Contract # 10PSX0238
(Effective: February 1, 2011 – January 31, 2016)

Site: Noroton Heights Railroad Station - Platform Replacement, Darien, CT

TRC Project #: 222165.5202.0710

DOT Project #: 301-170

<u>ITEM DESCRIPTION</u>	<u>QTY</u>	<u>UNIT</u>	<u>COST</u>	<u>MULT</u>	<u>TOTAL</u>
ASBESTOS REMOVAL					
HEPA VACUUMING	300	SF	\$ 0.24	1 \$	72.00
PIPING REMOVAL <6" INCL FITTINGS		LF	\$ 1.45	1 \$	-
PIPING REMOVAL 6"-12" INCL FITTINGS		LF	\$ 2.17	1 \$	-
PIPING REMOVAL >12" INCL FITTINGS		LF	\$ 2.89	1 \$	-
GLOVE BAG FIRST 25		EA	\$ 20.23	1 \$	-
GLOVEBAG 25-50		EA	\$ 17.34	1 \$	-
GLOVEBAG OVER 50		EA	\$ 14.45	1 \$	-
REMOVE EQUIPMENT INSULATION		SF	\$ 2.89	1 \$	-
REMOVE HVAC DUCT INSULATION		SF	\$ 2.89	1 \$	-
REMOVE HVAC DUCT FLEX CONN		SF	\$ 2.17	1 \$	-
FLOOR TILE AND MASTIC		SF	\$ 0.87	1 \$	-
FLOOR TILE (NO MASTIC)		SF	\$ 0.43	1 \$	-
SPRAY ON FIREPROOFING		SF	\$ 1.73	1 \$	-
PLASTER LATHE AND BLACK IRON		SF	\$ 2.17	1 \$	-
ACCOUSTIC OR METAL PAN CEILING INCL GRID		SF	\$ 1.45	1 \$	-
ACCOUSTIC PANELS CLEAN GRID FOR REUSE		SF	\$ 1.16	1 \$	-
ACCOUSTIC PLASTER FINISH MTL (SCRAPE)		SF	\$ 1.88	1 \$	-
PATCH/SEAL DAMAGED INSULATION		SF	\$ 0.87	1 \$	-
CONTAMINATED SOIL (2" DEPTH)		SF	\$ 1.16	1 \$	-
TRANSITE MATERIAL	1050	SF	\$ 0.72	1 \$	756.00
ROOFING OR FLASHING		SF	\$ 1.01	1 \$	-
UNDERGROUND PIPE OR INSULATION (HAND EXCAVATION)		LF	\$ 8.67	1 \$	-
CARPET OVER TILE		SF	\$ 0.72	1 \$	-
WALL BASE AND MASTIC		LF	\$ 0.72	1 \$	-
REMOVAL OF DRYWALL PARTITIONS INCL FRAMING		SF	\$ 0.58	1 \$	-
REMOVAL OF CMU WALL		SF	\$ 1.45	1 \$	-
PREP WORK AREA	3000	SF	\$ 0.97	1 \$	2,910.00
SOLID BARRIER OR ACCESS TUNNELS 2X4 AND PLYWOOD		SF/SA	\$ 0.72	1 \$	-
STANDBY ABATEMENT PERSONNEL	16	HR	\$ 26.00	1 \$	416.00
SELECTIVE DEMOLITION TO ACCESS ACM		SF	\$ 0.87	1 \$	-
REMOVAL OF FLOOR LEVELING MATERIAL		SF	\$ 0.58	1 \$	-
MISCELLANEOUS ITEMS					
MOBILIZATION (1 PER WORK AREA)	1	EA	\$ 250.00	1 \$	250.00
WORKER DECON (1 PER WORK AREA)	1	EA	\$ 250.00	1 \$	250.00
TEMP ELECTRICAL CONNECTION (LICENSED ELECTRICIAN)		EA	\$ 250.00	1.1 \$	-
TEMP GENERATOR		DY	\$ 20.00	1.1 \$	-
ACM DISPOSAL (INCLUDES TRANSPORTATION)	5	CY	\$ 55.00	1.1 \$	302.50
HAZARDOUS WASTE DISPOSAL (INCLUDES TRANS)		CY	\$ 250.00	1.1 \$	-
CONSTRUCTION DEBRIS DISPOSAL (INCLUDES TRANS)		CY	\$ 25.00	1.1 \$	-
FIXED SCAFFOLDING		SF	\$ 10.00	1.1 \$	-
EXCAVATION TO EXPOSE UNDERGROUND PIPE		CY	\$ 15.00	1.1 \$	-
PROJECT NOTIFICATION (1% OF ABATEMENT COST)	1	EA	\$ 101.83	1.1 \$	112.02
PROJECT BOND (3% OF TOTAL CONTRACT)		EA		1.1 \$	-
ESCALATION FACTORS					
WORK SURFACES 10-20 FEET HIGH				15% \$	-
WORK SURFACES OVER 20 FEET HIGH				30% \$	-
NON REGULAR WORK HOURS 6:00PM-6:00AM AND WEEKEND				30% \$	-
EMERGENCY RESPONSE (<24 hr)				30% \$	-
CONFINED SPACE WORK				15% \$	-
REMOVAL OF MULTIPLE LAYERS OF TILE (EACH ADDIT LAYER)				50% \$	-
REMOVE ON LIVE STEAM EQUIPMENT				25% \$	-
EXTERIOR WORK			\$ 756.00	30% \$	226.80
NEGOTIATED ITEMS					
		SF		1 \$	-
		SF		1 \$	-
				1 \$	-
				1 \$	-
				1 \$	-
CONTINGENCY (10%)				10% \$	529.53
TOTAL					\$ 5,824.85

APPENDIX K

HAZARDOUS/REGULATED MATERIALS, WASTES AND ITEMS REMOVAL COST ESTIMATE

TRC
Hazardous/Regulated Materials, Wastes & Items Removal Cost Estimate
(excluding asbestos abatement)
CTDAS Contract # 14PSX0314
(Effective: March 3, 2015 – February 28, 2020)

Site: Noroton Heights Railroad Station, Darien, Connecticut **DOT Project #: 301-170**
TRC Project #: 222165.5202.0710

Item	Item #	Quantity	Units	Rate	Total
Operations Supervisor	1	0	hrs	\$50.00	\$0.00
Equipment Operator	4	0	hrs	\$46.00	\$0.00
Equipment Operator OT	4	0	hrs	\$69.00	\$0.00
Laborer	8	32	hrs	\$46.00	\$1,472.00
Laborer OT	8	0	hrs	\$69.00	\$0.00
Driver (Mobilization/Disposal/Vac)	5	8	hrs	\$46.00	\$368.00
Driver (Mobilization/Disposal/Vac) OT	5	0	hrs	\$69.00	\$0.00
Vacuum Truck (oil)	12	0	hrs	\$56.10	\$0.00
Box truck	18	24	hrs	\$16.00	\$384.00
Utility Trucks (< 18000 GVW)	17	0	hrs	\$16.00	\$0.00
Loader/Backhoe (12' dig depth)	33	0	hrs	\$43.00	\$0.00
Loader/Backhoe (15' dig depth)	34	0	hrs	\$45.00	\$0.00
Lowbed Trailer/Tractor	27	0	hrs	\$50.00	\$0.00
Triaxle Dump Truck	23	0	hrs	\$45.00	\$0.00
Roll-off Truck	30	0	hrs	\$46.00	\$0.00
Roll-off Container (30 CY)	31	0	hrs	\$5.00	\$0.00
Roll-off Liners (haz waste/CRW soil)	130	0	ea	\$65.00	\$0.00
* Highlift		0	hrs	\$35.00	\$0.00
Water Wagon	29	0	hrs	\$20.00	\$0.00
*Hoses (dust suppression)		0	hrs	\$15.00	\$0.00
Frac Tank (20,000 gal)	89	0	hrs	\$7.50	\$0.00
5,000 psi Hi-Pressure Cleaner	82	0	hrs	\$20.00	\$0.00
Silt Fence	131	0	LF	\$1.00	\$0.00
Level C PPE (Pb)	90	0	person-hrs	\$22.00	\$0.00
Poly (10-mil sheeting 20'x100')	124	0	ea	\$95.00	\$0.00
Speedi-Dry (50 lb bag)	132	0	bag	\$10.00	\$0.00
17C DOT 55 gal Drums (haz items)	119	5	ea	\$40.00	\$200.00
Generator (5 kw)	80	0	hrs	\$20.00	\$0.00
* Dispose of haz-waste/regulated items		10	ea	\$100.00	\$1,000.00
* Dispose of AST/UST/sump contents (oil)		0	gal	\$1.00	\$0.00
* Dispose of trench/drain sludge (CRW)		0	CY	\$50.00	\$0.00
* Dispose of sediment/concrete (CRW)		0	CY	\$50.00	\$0.00
* Dispose of contaminated soil (CRW)		0	CY	\$50.00	\$0.00
* Dispose of Pb-painted components (haz)		0	CY	\$125.00	\$0.00
* Dispose of contaminated wood (haz)		0	CY	\$125.00	\$0.00
* Dispose of boiler/fly ash (haz)		0	CY	\$125.00	\$0.00
* CFC Reclaim (subcontractor)		0	day	\$1,000.00	\$0.00
Contingency (10%)					\$342.40
TOTAL ESTIMATE					\$3,766.40

* Line items not included in Contract 14PSX0314, rate estimated by TRC
Cost estimate based on assumption of 1 day for hazardous/regulated item removal. No AST removal; no Pb component removal

APPENDIX L

RELATED CORRESPONDENCE