Volume 3 of 3
Project Manual

Renovations to Physical Plant
Naugatuck Valley Community College
750 Chase Parkway
Waterbury, CT
Project No.: BI-CTC-500

Prepared By:
BVH Integrated Services, P.C.
206 West Newberry Road
Bloomfield, CT
06002

Melody A. Currey - Commissioner

State of Connecticut
Department of Administrative Services
Construction Services
Office of Legal Affairs, Policy, and Procurement
450 Columbus Boulevard, Suite 1302
Hartford, CT 06103

Project Manual Date: March 16, 2018

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ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
Telephone 860-282-9924
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www.atcgroupservices.com

December 28, 2017

Mr. Joel Baranowski
State of Connecticut
Department of Administrative Services
Division of Construction Services
450 Columbus Boulevard
Hartford, CT 06103

Re: Asbestos Inspection
Ekstrom Hall
Naugatuck Valley Community College
Waterbury, Connecticut
Project BI-CTC-500
Building 63180
ATC Project 2257317033

Dear Mr. Baranowski:

Please find enclosed the Asbestos Inspection Report for Ekstrom Hall at Naugatuck Valley Community College, Waterbury, Connecticut.

Should you have any questions concerning this report, do not hesitate to contact me at 860 282-9924 ext. 1123.

Sincerely,

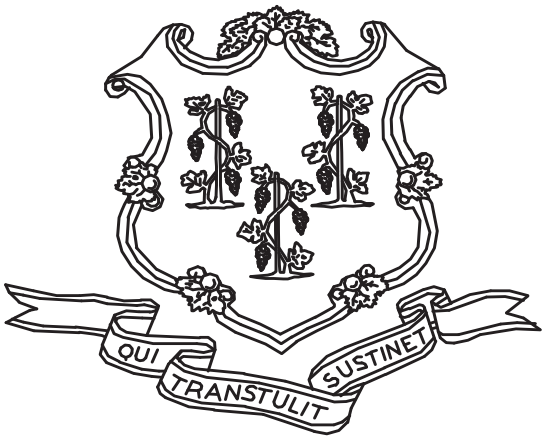
ATC Group Services LLC

_____

Edward P. Fennell Jr., P.E.
Division Manager
ATC Group Services LLC
Direct Line +1 860 282 9924 x1123
Email: edward.fennell@atcassociates.com
Encl: Asbestos Inspection Report Ekstrom Hall NVCC

ASBESTOS INSPECTION REPORT

EKSTROM HALL
NAUGATUCK VALLEY COMMUNITY COLLEGE
WATERBURY, CONNECTICUT
BUILDING 63180
PROJECT BI-CTC-500



STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

Prepared by:

ATC GROUP SERVICES LLC
290 ROBERTS STREET - SUITE 301
EAST HARTFORD, CT 06108

ATC PROJECT 2257317033

DECEMBER 18, 2017

Table of Contents

1.0 INTRODUCTION

ATC Group Services LLC (ATC) of East Hartford, Connecticut was retained by the State of Connecticut, Department of Administrative Services, Division of Construction Services (CTDCS) to conduct a pre-renovation inspection at Ekstrom Hall located at Naugatuck Valley Community College in Waterbury, Connecticut. The scope of the asbestos inspection included: surveying, sampling, and testing of suspect building materials.

The asbestos inspection was conducted by Mr. Scott Johnson on November 28, 2017. Mr. Johnson is a State of Connecticut, Department of Public Health (CTDPH) licensed asbestos inspector (CTDPH license number 000297). The survey was performed as a walk-through visual inspection, combined with the collection and analysis of bulk samples.

2.0 ASBESTOS-CONTAINING MATERIALS SURVEY

Materials which were considered suspect ACM included pipe fitting insulation, fiberglass pipe insulation paper/adhesive, fiberglass duct insulation adhesive, duct sealant, plaster ceiling, gaskets, fire stop caulk, and end cap sealant. Suspect materials that are inaccessible and were not sampled include roofing, waterproofing and gaskets.

2.1 ASBESTOS BULK SAMPLE COLLECTION/ANALYSIS PROCEDURE

Building materials considered suspect ACM were inspected and assessed using the methods presented in the United States Environmental Protection Agency AHERA regulations (40 CFR Part 763) and NESHAP regulations (40 CFR Part 61).

ATC collected bulk samples of building materials utilizing a sampling strategy that correlated with 40 CFR 763.86 as follows:

(a) *Surfacing materials.* An accredited inspector shall collect, in a statistically random manner that is representative of the homogeneous area, bulk samples from each homogeneous area of friable surfacing material that is not assumed to be ACM, and shall collect the samples as follows:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft^2 or less, except as provided in 40 CFR Part 763.87(c)(2).
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft^2 but less than or equal to 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).

(b) *Thermal system insulation.*

- (1) Except as provided in paragraphs (b)(2) through (4) of this section and 40 CFR Part 763.87(c), an accredited inspector shall collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that is not assumed to be ACM.

(2) Collect at least one bulk sample from each homogeneous area of patched thermal system insulation that is not assumed to be ACM if the patched section is less than 6 linear or square feet.

(3) In a manner sufficient to determine whether the material is ACM or not ACM, collect bulk samples from each insulated mechanical system that is not assumed to be ACM where cement or plaster is used on fittings such as tees, elbows, or valves, except as provided under 40 CFR Part 763.87(c)(2).

(4) Bulk samples are not required to be collected from any homogeneous area where the accredited inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) *Miscellaneous materials.* In a manner sufficient to determine whether material is ACM or not ACM, an accredited inspector shall collect bulk samples from each homogeneous area of friable or non-friable miscellaneous material that is not assumed to be ACM.

The bulk samples collected during the survey were analyzed by EMSL Analytical, Inc. (NVLAP #200700-0) located in Wallingford, Connecticut. The bulk samples were analyzed by Polarized Light Microscopy (PLM) with dispersion staining via EPA 600/R-93/116 Method. Utilizing PLM, the microscopist is able to identify and distinguish between asbestos group minerals and other fibrous materials such as cellulose, mineral wool, fiberglass, or synthetic fibers. The quantities of each of these substances is estimated based on the procedures defined in the above-cited reference and are reported as a percentage.

The EPA recognizes the following as asbestos: Chrysotile, Crocidolite, Amosite, Tremolite, Actinolite, and Anthophyllite. To be classified as ACM, the material must be determined to contain greater than one percent (1%) asbestos. In order to consider a material to be non-ACM, all samples of a homogeneous type of material that are collected must be analyzed and all results must indicate the material to contain less than 1% asbestos by weight.

3.0 ASBESTOS-CONTAINING MATERIALS

The results of PLM laboratory analysis indicated that the following materials are asbestos-containing material (ACM). ACM are those materials that contain greater than 1% asbestos, and are as follows:

- Miscellaneous Gasket (on Ground) – E103

The remaining materials which were sampled and tested were found to contain no detectable amounts of asbestos. Specifically, the following materials were determined to be non-ACM:

- Cementitious Plaster Ceiling
- Green Gaskets
- Mudded End Cap Sealant
- Mudded Pipe Fitting Insulation (All Sizes, All Systems)
- Mudded Pump Insulation (CHW P-9)
- Mudded Valve Insulation
- Mudded Tank Insulation
- Green Duct Sealant
- White End Cap Sealant
- Fiberglass Duct Insulation Adhesive – Yellow

- Fiberglass Pipe Insulation Paper/Adhesive

Refer to Section 6.0, Bulk Sample Summary of Suspect Materials, for all suspect materials that were identified and sampled.

4.0 DISCUSSION AND RECOMMENDATIONS

EPA regulations require the removal of Regulated Asbestos-Containing Materials (RACM) prior to renovation or demolition activities. RACM is defined as (a) Friable ACM, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation activities. The CTDPH defines "asbestos abatement" as removal, encapsulation, enclosure, renovation, repair, demolition, or other disturbance of ACM but does not include activities which are related to (A) the removal or repair of asbestos cement pipe and are performed by employees of a water company as defined in section 25-32a, or (B) the removal of non-friable ACM found exterior to a building or structure other than material defined as RACM in 40 CFR 61, the National Emission Standards for Hazardous Air Pollutants (NESHAP). Based upon these definitions, ACM identified in the building requires removal prior to renovation, demolition, or disturbance. The State of Connecticut Department of Environmental Protection (CTDEP) regulations require the proper disposal of all ACM, regardless of categorization.

Based on the ACM identification of a loose gasket, pipe flange gaskets should be presumed to be ACM.

5.0 LIMITATIONS

As with all such assessments, the results of the sampling represent conditions found on the date of the survey and may not represent conditions found at other times. Additionally, this assessment was limited with respect to the specific parameters indicated above and should not be construed to be a comprehensive evaluation or a definitive representation of conditions within the facility. The information presented in this report is intended to be used as a guide to evaluate the need for further investigation or the need for modifications to the processes or procedures surveyed.

6.0 BULK SAMPLE SUMMARY OF SUSPECT MATERIALS

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
EKSTROM HALL

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112817-EK-1A	Parking Garage - Level B2	Cementitious Plaster Ceiling	ND	-
112817-EK-1B	Parking Garage - Level B2	Cementitious Plaster Ceiling	ND	-
112817-EK-1C	Parking Garage - Level B2	Cementitious Plaster Ceiling	ND	-
112817-EK-2A	Mechanical Room E103 (by Zone 5 Pump)	Miscellaneous Gasket on Ground	**70**	**Chrysotile**
112817-EK-2B	Mechanical Room E103	Miscellaneous Gasket on Ground - Green	ND	-
112817-EK-3A	Mechanical Room E103 (CHW P-9)	Mudded End Cap Sealant	ND	-
112817-EK-3B	Mechanical Room E103 (HWR on Tank)	Mudded End Cap Sealant	ND	-
112817-EK-4A	Mechanical Room E103 (CHW Supply)	Mudded Pipe Fitting – 12” Pipe	ND	-
112817-EK-4B	Mechanical Room E103 (CHW Supply)	Mudded Pipe Fitting	ND	-
112817-EK-5A	Mechanical Room E103 (HW Return)	Mudded Pipe Fitting – 12” Pipe	ND	-
112817-EK-5B	Mechanical Room E103 (HW Return)	Mudded Pipe Fitting	ND	-
112817-EK-6A	Mechanical Room E103 (Domestic HW)	Mudded Pipe Fitting	ND	-
112817-EK-6B	Mechanical Room E103 (Domestic CHW)	Mudded Pipe Fitting	ND	-
112817-EK-7A	Mechanical Room E103 (Condensate Line)	Mudded Pipe Fitting	ND	-
112817-EK-7B	Mechanical Room E103 (CHW Return)	Mudded Pipe Fitting	ND	-
112817-EK-7C	Mechanical Room E103 (CHW P-9)	Mudded Insulation	ND	-
112817-EK-8A	Mechanical Room E103 (HW Supply)	Mudded Pipe Fitting	ND	-
112817-EK-8B	Mechanical Room E103 (Recirculating HW)	Mudded Pipe Fitting	ND	-
111817-EK-9A	Mechanical Room E104	Green Duct Sealant	ND	-
112817-EK-10A	Mechanical Room E103	Tank Insulation	ND	-

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
EKSTROM HALL

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112817-EK-10B	Mechanical Room E103	Tank Insulation	ND	-
112817-EK-10C	Mechanical Room E103	Tank Insulation	ND	-
112817-EK-11A	Mechanical Room E103 (Drain Line)	Mudded Pipe Fitting	ND	-
112817-EK-11B	Mechanical Room E103 (Drain Line)	Mudded Pipe Fitting	ND	-
112817-EK-11C	Mechanical Room E103 (Drain Line)	Mudded Pipe Fitting	ND	-
112817-EK-12A	Mechanical Room E103	White End Cap Sealant	ND	-
112817-EK-12B	Mechanical Room E103	White End Cap Sealant	ND	-
112817-EK-13A	Mechanical Room E104	Fiberglass Duct Insulation Adhesive – Yellow	ND	-
112817-EK-13B	Mechanical Room E104	Fiberglass Duct Insulation Adhesive – Yellow	ND	-
112817-EK-14A	Mechanical Room E103 (Zone #2)	Fiberglass Pipe Insulation Paper/Adhesive	ND	-
112817-EK-14B	Mechanical Room E103 (Zone #4)	Fiberglass Pipe Insulation Paper/Adhesive	ND	-
112817-EK-15A	Mechanical Room E104 (CHW Supply at AHU44)	Mudded Fitting on Valve	ND	-
112817-EK-15B	Mechanical Room E104 (CHW Return)	Mudded Pipe Fitting	ND	-
112817-EK-15C	Mechanical Room E104 (CHW Supply)	Mudded Pipe Fitting	ND	-
112817-EK-15D	Mechanical Room E104 (HW Supply)	Mudded Pipe Fitting	ND	-
112817-EK-15E	Mechanical Room E104 (HW Return P-13)	4” Mudded Pipe Fitting	ND	-
112817-EK-15F	Mechanical Room E104 (CHW Supply at AHU43)	Mudded Pipe Fitting	ND	-

ND = None Detected
NA/PS = Not Analyzed/Positive Stop
HTHW = High Temp Hot Water
HW = Hot Water
CHW = Chilled Water

7.0 BULK SAMPLE RESULTS/CHAIN - OF - CUSTODY FORMS

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705224
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Attention:	Ed Fennell	**Phone:**	(860) 282-9924
	ATC Group Services LLC	**Fax:**	(860) 282-9826
	290 Roberts Street	**Received Date:**	12/08/2017 2:35 PM
	Suite 301	**Analysis Date:**	12/09/2017 - 12/12/2017
	East Hartford, CT 06108	**Collected Date:**	11/30/2017
Project:	2257317033/NYCC-EKSTROM, 750 CHASE PARKWAY WATERBURY, CT 06708		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-EK-1A *241705224-0001*	Parking garage B2 - cementitious plaster ceiling	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-EK-1B *241705224-0002*	Parking garage B2 - cementitious plaster ceiling	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-EK-1C *241705224-0003*	Parking garage B2 - cementitious plaster ceiling	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-EK-2A *241705224-0004*	E103, zone 5 pump - misc gasket on ground	Various Fibrous Homogeneous		30% Non-fibrous (Other)	70% Chrysotile
112817-EK-2B *241705224-0005* *The sample group is not homogeneous.*	E103 - misc gasket on ground green	Green Non-Fibrous Heterogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
112817-EK-3A *241705224-0006*	E103, CHWP-9 - mudded ECS	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-EK-3B *241705224-0007*	E103, HWR on tank - mudded ECS	Tan Non-Fibrous Homogeneous	15% Min. Wool	85% Non-fibrous (Other)	None Detected
112817-EK-4A *241705224-0008*	E103, CHW supply - 12" mudded fitting	Gray/Tan Fibrous Homogeneous	25% Min. Wool 20% Glass	55% Non-fibrous (Other)	None Detected
112817-EK-4B *241705224-0009*	E103, CHW supply - mudded fitting	Tan Fibrous Homogeneous	30% Min. Wool 15% Glass	55% Non-fibrous (Other)	None Detected
112817-EK-5A *241705224-0010*	E103 HW return - 12" mudded fitting	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-EK-5B *241705224-0011*	E103 HW return - mudded fitting	Tan Fibrous Homogeneous	20% Cellulose 30% Min. Wool	50% Non-fibrous (Other)	None Detected
112817-EK-6A *241705224-0012*	E103 domestic HW - mudded fitting	Gray/White Fibrous Homogeneous	20% Cellulose 30% Min. Wool	50% Non-fibrous (Other)	None Detected
112817-EK-6B *241705224-0013*	E103 domestic CHW - mudded fitting	Tan Fibrous Homogeneous	25% Cellulose 30% Min. Wool	45% Non-fibrous (Other)	None Detected
112817-EK-7A *241705224-0014*	E103 condensate line - mudded fitting	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-EK-7B *241705224-0015*	E103 CHW return - mudded fitting	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-EK-7C *241705224-0016*	E103 CHWP-9 - mudded fitting	Tan Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected

Initial report from: 12/12/2017 16:47:13

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4 Wallingford, CT 06492
Tel/Fax: (203) 284-5948 / (203) 284-5978
http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order: 241705224
Customer ID: ATCE54
Customer PO: 17-10133-0001
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-EK-8A *241705224-0017*	E103 HW supply - mudded fitting	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-EK-8B *241705224-0018*	E103 recirculating HW - mudded fitting	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-EK-9A *241705224-0019*	E104 - green duct sealant	Gray Non-Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
112817-EK-10A *241705224-0020*	E103 - tank insulation	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-EK-10B *241705224-0021*	E103 - tank insulation	White Fibrous Homogeneous	25% Synthetic 10% Glass	65% Non-fibrous (Other)	None Detected
112817-EK-10C *241705224-0022*	E103 - tank insulation	Tan Fibrous Homogeneous	20% Cellulose 35% Min. Wool	45% Non-fibrous (Other)	None Detected
112817-EK-11A *241705224-0023*	E103 drain line - mudded fitting	Gray/Tan Fibrous Homogeneous	20% Cellulose 20% Min. Wool	60% Non-fibrous (Other)	None Detected
112817-EK-11B *241705224-0024*	E103 drain line - mudded fitting	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-EK-11C *241705224-0025*	E103 drain line - mudded fitting	Tan Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-EK-12A *241705224-0026*	E103 - white end cap sealant	White/Yellow Fibrous Homogeneous	15% Glass	85% Non-fibrous (Other)	None Detected
112817-EK-12B *241705224-0027*	E103 - white end cap sealant	Tan/Yellow Fibrous Homogeneous	30% Glass	70% Non-fibrous (Other)	None Detected
112817-EK-13A *241705224-0028*	E104 - fiberglass duct adhesive yellow	Yellow Non-Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
112817-EK-13B *241705224-0029*	E104 - fiberglass duct adhesive yellow	Yellow Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
112817-EK-14A *241705224-0030*	E103 zone #2 - fiberglass pipe insulation paper/adhesive	Silver/Yellow Fibrous Homogeneous	95% Glass	5% Non-fibrous (Other)	None Detected
112817-EK-14B *241705224-0031*	E103 zone #4 - fiberglass pipe insulation paper/adhesive	Silver/Yellow Fibrous Homogeneous	95% Glass	5% Non-fibrous (Other)	None Detected
112817-EK-15A *241705224-0032*	E104 CHW supply H44 - mudded fitting on valve	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-EK-15B *241705224-0033*	E104 CHW return - mudded fitting	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-EK-15C *241705224-0034*	E104 CHW supply - mudded fitting	Gray/Tan Fibrous Homogeneous	10% Cellulose 30% Min. Wool	60% Non-fibrous (Other)	None Detected

Initial report from: 12/12/2017 16:47:13

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4 Wallingford, CT 06492
Tel/Fax: (203) 284-5948 / (203) 284-5978
http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705224
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-EK-15D *241705224-0035*	E104 HW supply - mudded fitting	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-EK-15E *241705224-0036*	E104 HWP 13 - 4" mudded fitting HWR	Tan Fibrous Homogeneous	2% Cellulose 35% Min. Wool	63% Non-fibrous (Other)	None Detected
112817-EK-15F *241705224-0037*	E104 CHW supply - mudded fitting AH43	Tan Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected

Analyst(s)

Lauren Buffone (22)
Quetcy Castro Romero (15)

Lauren Brennan, Asbestos Lab Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0,

Initial report from: 12/12/2017 16:47:13

OrderID: 241705224

ATC ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

BULK SAMPLE LOG

241705224

ATC Inspector: JCOTT JOHNSON	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573/7033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 34
Building: NYCC – Ekstrom	Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _of_ (homogeneous material)		Field Number
Parking garage B2	Cementitious Plaster ceiling	S		Y		1	3	112817-EK-1A
Parking garage B2	Cementitious plaster ceiling	S		Y		2	3	-1B
Parking garage B2	Cementitious plaster ceiling	S		Y		3	3	-1C
E103, Zone 5 pump	misc gasket on ground	M		N		1	2	112817-EK-2A
E103	misc gasket on ground green	M		N		2	2	2B
E103, CHWP-9	Mudded ECS	TSI		Y		1	2	112817-EK-3A
E103, HWR on tank	Mudded ECS	TSI		Y		2	2	-3B
E103, CHW supply	12" mudded fitting	TSI		Y		1	2	112817-EK-4A
E103, CHW supply	mudded fitting	TSI		Y		2	2	-4B
E103, HW return	12" mudded fitting	TSI		Y		1	2	112817-EK-5A
E103, HW return	mudded fitting	TSI		Y		2	2	5B
E103, domestic HW	Mudded fitting	TSI		Y		1	2	112817-EK-6A
E103 domestic CHW	Mudded fitting	TSI		Y		2	2	-6B
E103, Condensate line	Mudded fitting	TSI		Y		1	3	112817-EK-7A
E103, CHW return	Mudded fitting	TSI		Y		2	3	-7B

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft); Ventilation (yes-no; if yes, type); Water (extensive-moderate-slight-none); Accessibility (within reach-barely reachable-not reachable); Air conduits (air plenum - air shaft - elevator shaft - duct); Deterioration (heavy-moderate-light-none); Vibration (gym-music rm-auditorium-mechanical rm-elevator-other); Air movement (high-moderate-low); Friability (yes-no; hard-mod-soft surface); Barriers (perm airtight-enclosed-encapsulated); Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date:
Received By/Date:

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OrderID: 241705224

ATC ENVIRONMENTAL · GEOTECHNICAL
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290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

BULK SAMPLE LOG

2417052224

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573317033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY
No. Samples Collected 34	
Building: NYCC -	Address: 700 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _ of _ (homogeneous material)		Field Number
E103 CHWP-9	Mudded Insulation	TSI		Y		3	3	112817-EK-7C
E103 HW Supply	Mudded fitting	TSI		Y		1	2	112817-EK-8A
E103, Recirculating HW	Mudded fitting	TSI		Y		2	2	↓ ↓ -8B
E104	Green Duct Sealant	M		N		1	1	112817-EK-9A
E103	Tank insulation	TSI		Y		1	3	112817-EK-10A
E103	Tank insulation	TSI		Y		2	3	↓ ↓ -10B
E103	Tank insulation	TSI		Y		3	3	↓ ↓ -10C
E103 Drain line	Mudded fitting	TSI		Y		1	3	112817-EK-11A
E103 Drain line	Mudded fitting	TSI		Y		2	3	↓ ↓ -11B
E103 Drain line	Mudded fitting	TSI		Y		3	3	↓ ↓ -11C
E103	White End Cap Sealant	M		N		1	2	112817-EK-12A
E103	White End Cap Sealant	M		N		2	2	↓ ↓ 12B

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg); Water (extensive-moderate-slight-none); Deterioration (heavy-moderate-light-none); Friability (yes-no; hard-mod-soft-surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft); Accessibility (within reach-barely reachable-not reachable); Vibration (gym-music rm-auditorium-mechanical rm-elevator-other); Barriers (open-airtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type); Air conduits (air plenum - air shaft - elevator shaft - duct); Air movement (high-moderate-low); Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

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Received By/Date:

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OrderID: 241705224

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BUILDING SCIENCES · MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

BULK SAMPLE LOG

241705224

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573317033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 34
Building: NVCC - Ekstrom	Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _ of _ (homogeneous material)		Field Number
E104	Fiber glass Duct Adhesive, yellow	M		N		1	2	112817-EK-13A
E104	Fiber glass Duct Adhesive, yellow	M		N		2	2	↓ ↓ -13B
E103 Zone #2	Fiber glass pipe insulation, Paper/Adhesive	M		N		1	2	112817-EK-14A
E103 Zone #4	Fiber glass pipe insulation, Paper/adhesive	M		N		2	2	↓ ↓ -14B
E104 CHW Supply HU4	mudded fitting on valve	TSI		Y		1	6	112817-EK-15A
E104 CHW return	mudded fitting	TSI		Y		2	6	↓ ↓ 15B
E104 CHW Supply	mudded fitting	TSI		Y		3	6	15C
E104 HW Supply	mudded fitting	TSI		Y		4	6	15D
E104 HWP 13	4" mudded fitting HWR	TSI		Y		5	6	15E
E104 CHW Supply	mudded fitting AHU3	TSI		Y		6	6	15F

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg) Water (extensive-moderate-slight-none) Deterioration (heavy-moderate-light-none) Friability (yes-no; hard-med-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft) Accessibility (within reach-barely reachable-not reachable) Vibration (gym-music rm-auditorium-mechanical rm-elevator-other) Barriers (perm-airtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type) Air conduits (air plenum - air shaft - elevator shaft - duct) Air movement (high-moderate-low) Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date:
Received By/Date:

RECEIVED
DEC 08 2017
By

APPENDIX A

LICENSE AND CERTIFICATION

Dear SCOTT J JOHNSON,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

RAUL PINO, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT
THE INDIVIDUAL NAMED BELOW IS CERTIFIED BY THIS DEPARTMENT AS A:
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SCOTT J JOHNSON

CERTIFICATE NO.
000297

CURRENT THROUGH
09/30/18

VALIDATION NO.
03-615244

SIGNATURE

COMMISSIONER

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE

COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE

COMMISSIONER

CERTIFICATE OF ACHIEVEMENT

This certifies that

Scott Johnson

has successfully completed the

Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

conducted by

ATC Group Services LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory Morsch

Principal Instructor: Gregory Morsch

October 12, 2017
Date of Course

October 12, 2018
Expiration Date

Gregory Morsch

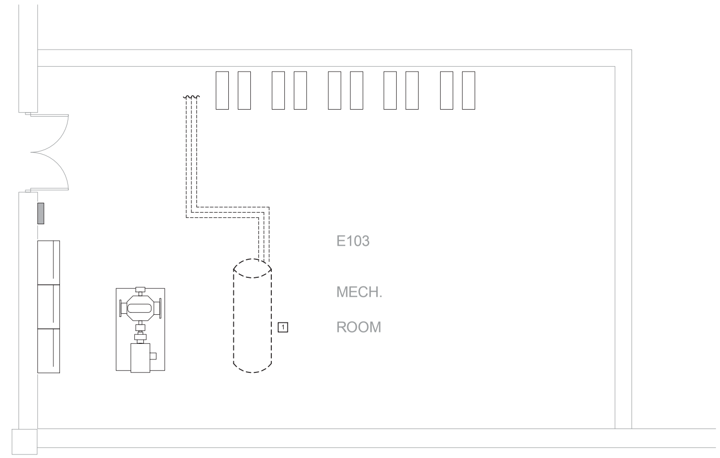
Regional Training Manager: Gregory Morsch

SIAR - 5858
Certificate Number

October 12, 2017
Examination Date

APPENDIX B

DRAWINGS

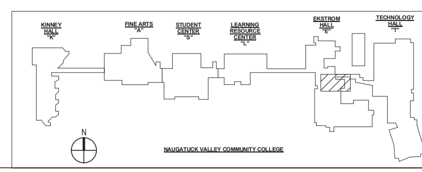


2 EKSTROM HALL LEVEL 1 MECHANICAL RM E103 PART PLAN - DEMOLITION
1/4" = 1'-0"

DEMOLITION DRAWING NOTES

1. REMOVE EXISTING DOMESTIC WATER STORAGE TANK AND ASSOCIATED PIPING, VALVES, AND EQUIPMENT.
CUT, VALVE, & CAP PIPING AT UPPER MECH ROOM & MAKE READY FOR CONNECTION TO NEW PIPING.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
EKSTROM HALL LEVEL 1 MECHANICAL ROOM E103 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

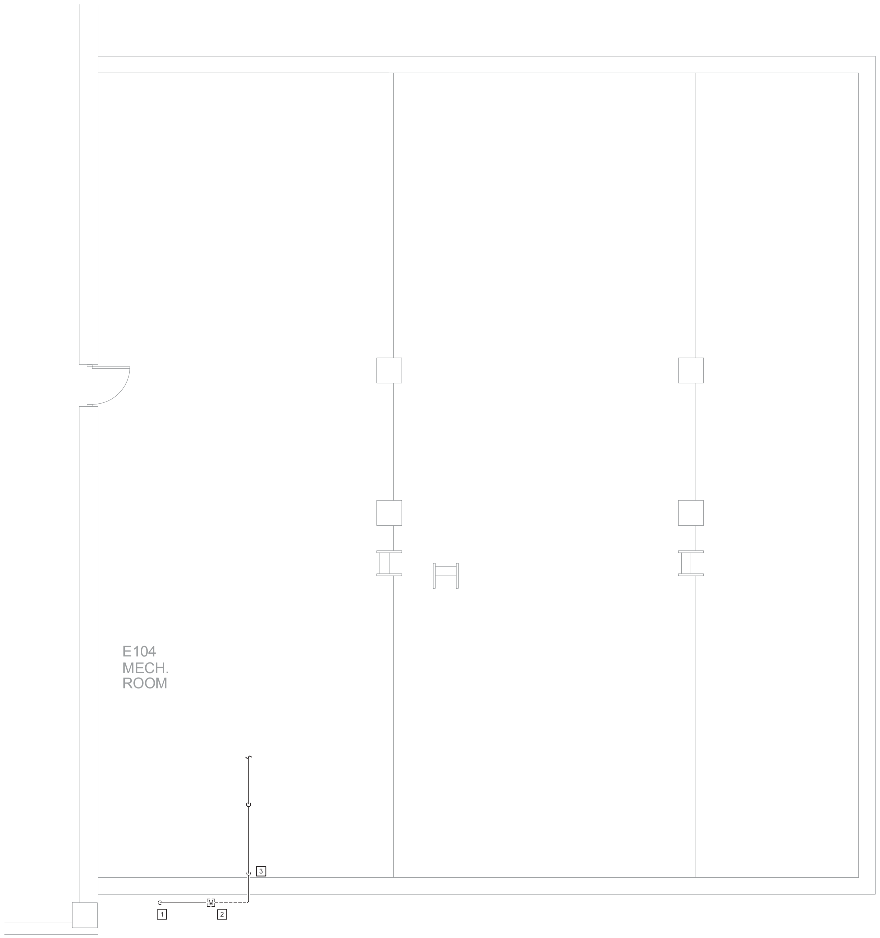
drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by JJM
approved by JBA
drawing no. **P-101.E1**

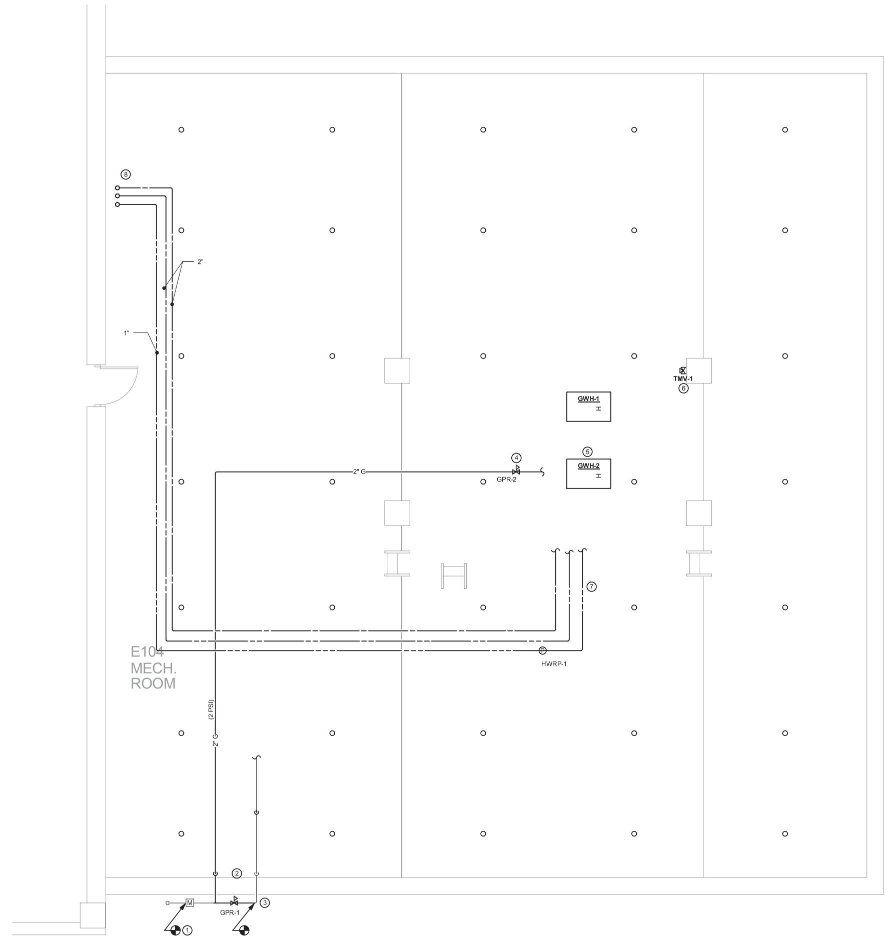
PLOTTED: 11/14/2017 4:05:32 PM



2 EKSTROM HALL LEVEL 1 MECHANICAL RM E104 PART PLAN - DEMOLITION
1/4" = 1'-0"

PLUMBING DEMOLITION DRAWING NOTES

1. EXISTING GAS SERVICE MAIN TO REMAIN.
2. REMOVE EXISTING GAS METER/REGULATOR ASSEMBLY. COORDINATE WORK WITH UTILITY CO.
3. EXISTING LOW PRESSURE LAB GAS TO REMAIN.



1 EKSTROM HALL LEVEL 1 MECHANICAL RM E104 PART PLAN - NEW
1/4" = 1'-0"

PLUMBING DRAWING NOTES

1. NEW GAS METER/REGULATOR BY GAS CO. SET REGULATOR TO DELIVER 2 PSI TO BUILDING.
2. NEW GAS PRESSURE REGULATOR. SET TO MATCH EXISTING LAB GAS SYSTEM PRESSURE. TERMINATE VENT WITH GOOSENECK & INSECT SCREEN.
3. CONNECT NEW GAS PIPING TO EXISTING LAB GAS MAIN.
4. GAS PRESSURE REGULATOR FOR WATER HEATERS. SET AT 12" W.C. OUTLET PRESSURE. PROVIDE 1" VENT UP THROUGH ROOF. TERMINATE WITH GOOSENECK & INSECT SCREEN.
5. GAS FIRED WATER HEATERS PROVIDE 2" H&CW, 1" HWR, 2" GAS CONNECTIONS. SEE DETAIL FOR PIPING INFORMATION.
6. MASTER TMV. PROVIDE 2" H&CW CONNECTIONS. SEE DETAIL FOR PIPING INFORMATION.
7. 2" H&CW, 1" HWR MAINS.
8. 2" CW, 2" HW, 1" HWR UP.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 26, 2017
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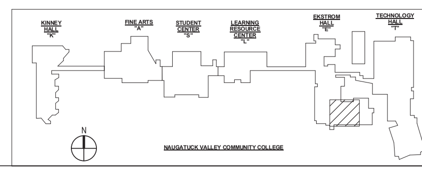

drawing title
EKSTROM HALL LEVEL 1 MECHANICAL ROOM
E104 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by JJM
approved by JBA
drawing no.
P-101.E2

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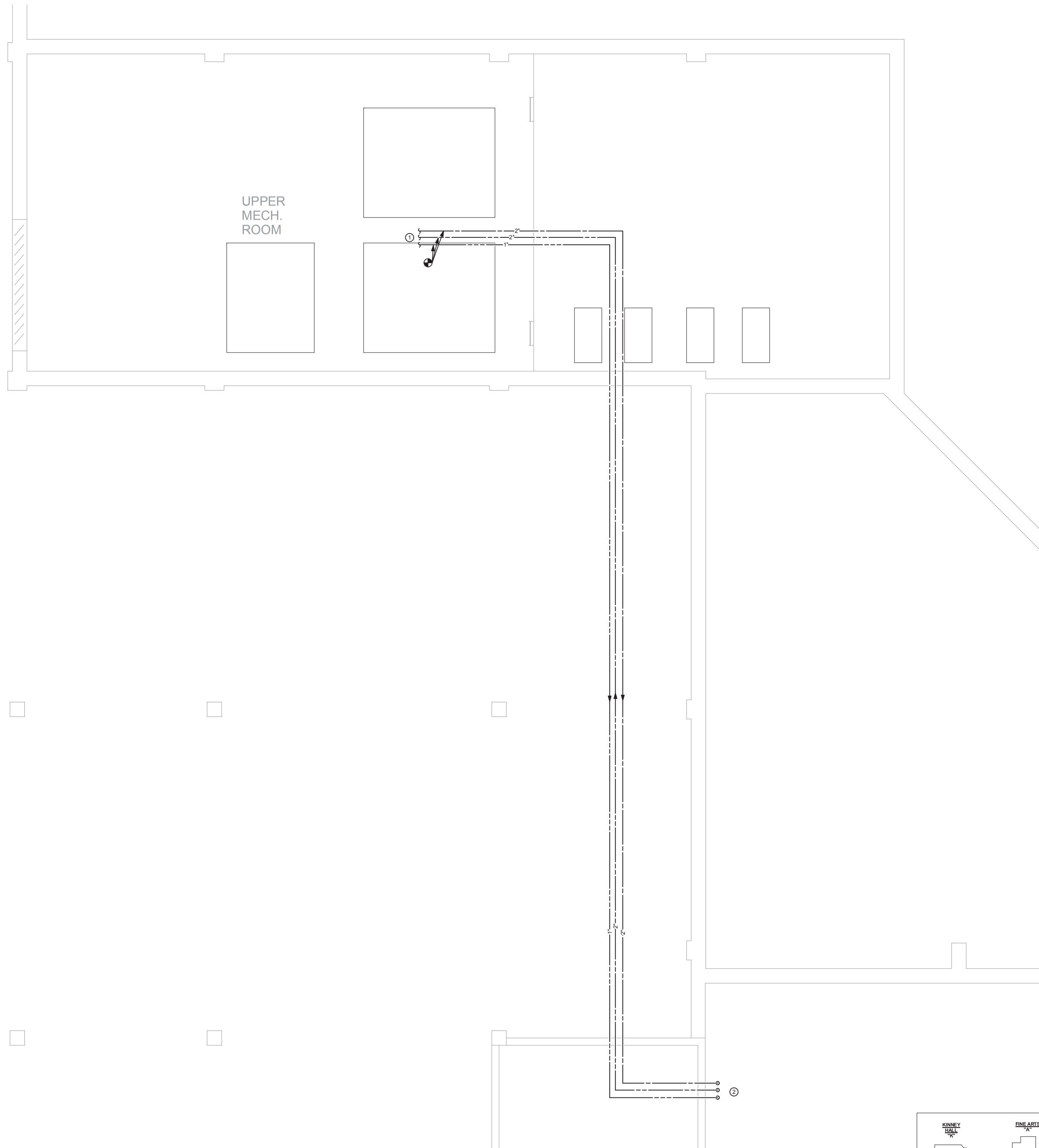
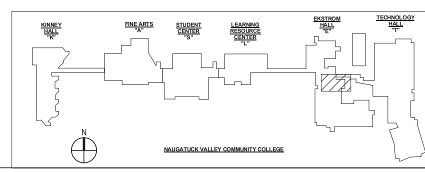


1 PLMB - EKSTROM HALL LEVEL 2 MECHANICAL RM E203 - NEW
1/4" = 1'-0"

PLUMBING DRAWING NOTES

1. CONNECT NEW 2" CW, 2" HW, 1" HWR MAINS TO EXISTING MAINS.
2. 2" H&CW, 1" HWR DN TO MECH ROOM E104.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
EKSTROM HALL LEVEL 2 MECHANICAL ROOM
E203 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
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50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by JJM
approved by JBA
drawing no. P-102.E1

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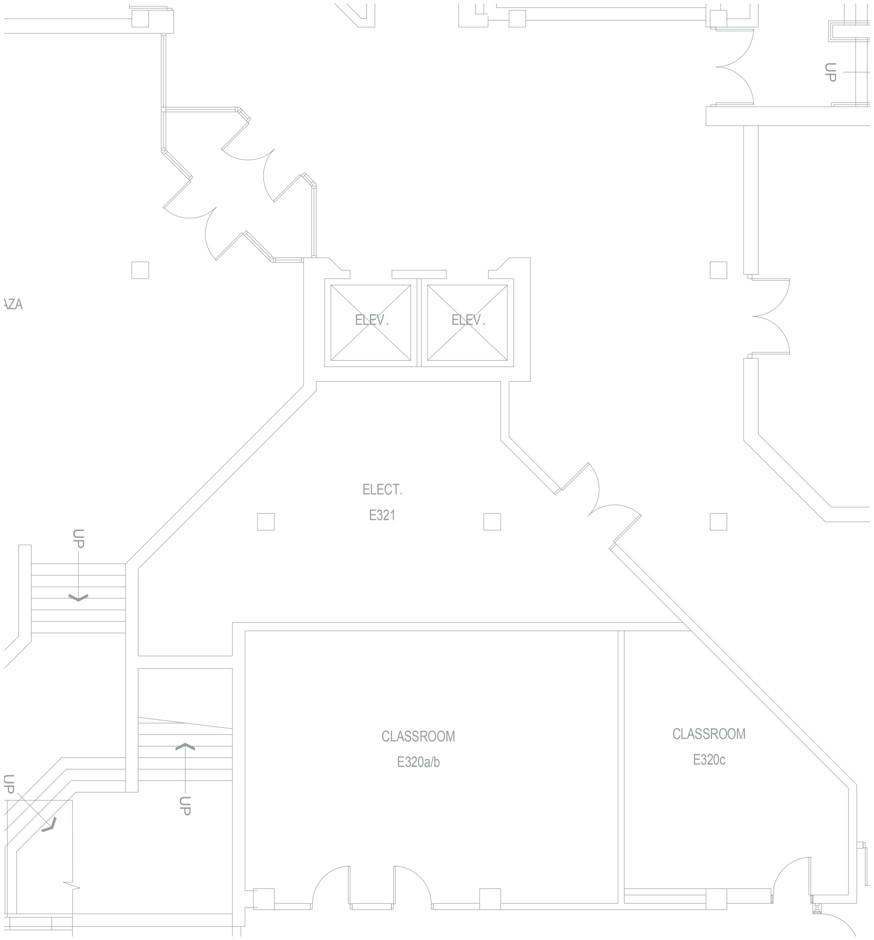
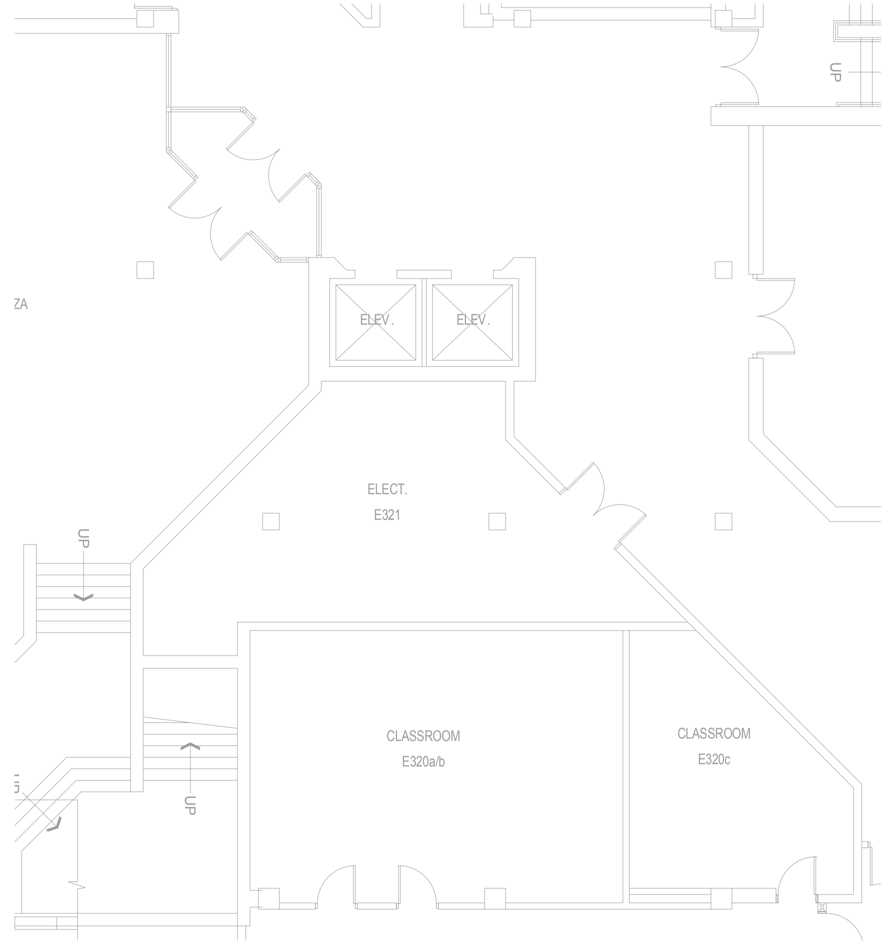
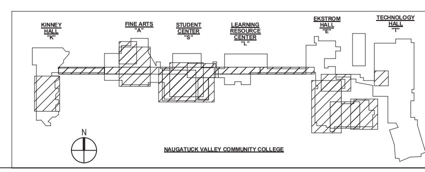


1 EKSTROM HALL LEVEL 3 PLUMBING PLAN - DEMOLITION
1/4" = 1'-0"



2 EKSTROM HALL LEVEL 3 PLUMBING PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
EKSTROM HALL LEVEL 3 MECHANICAL ROOM
E300 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

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BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by Author
approved by Checker
drawing no. P-103.E

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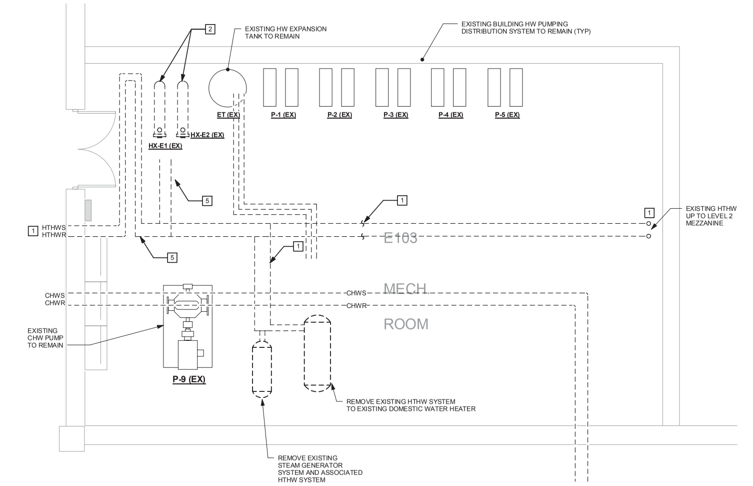
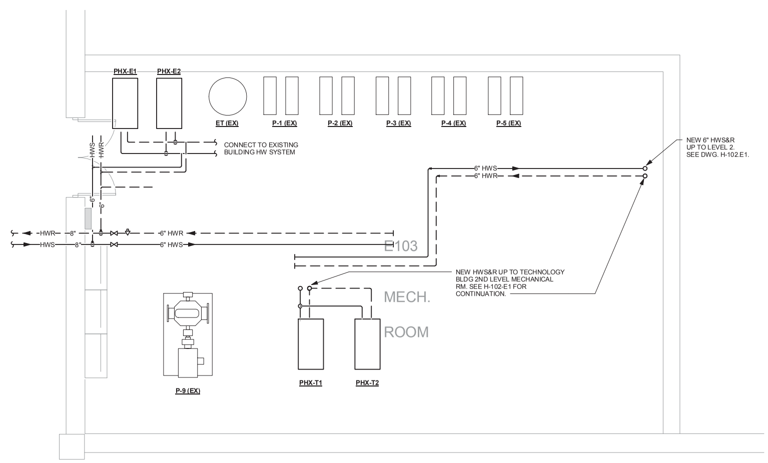


(2) EKSTROM HALL LEVEL 1 MECHANICAL RM E103 PART PLAN - DEMOLITION - H-101E1
1/4" = 1'-0"

DEMOLITION NOTES

1. REMOVE EXISTING HIGH TEMPERATURE HOT WATER PIPING SYSTEM.
2. REMOVE EXISTING HIGH TEMPERATURE HOT WATER TO HOT WATER HEAT EXCHANGER SYSTEM.
3. REMOVE EXISTING PUMP SYSTEM.
4. REMOVE EXISTING SPECIALTIES SYSTEM.
5. REMOVE EXISTING ATC SYSTEM.

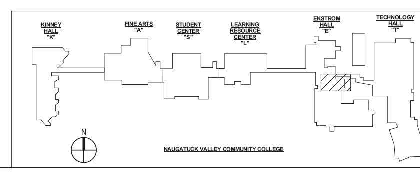


(1) EKSTROM HALL LEVEL 1 MECHANICAL ROOM E103 PART PLAN - NEW
1/4" = 1'-0"

NEW DRAWING NOTES

(1) NOT USED.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 26, 2017
NOT FOR CONSTRUCTION



drawing title
EKSTROM HALL LEVEL 1 MECHANICAL ROOM E103 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

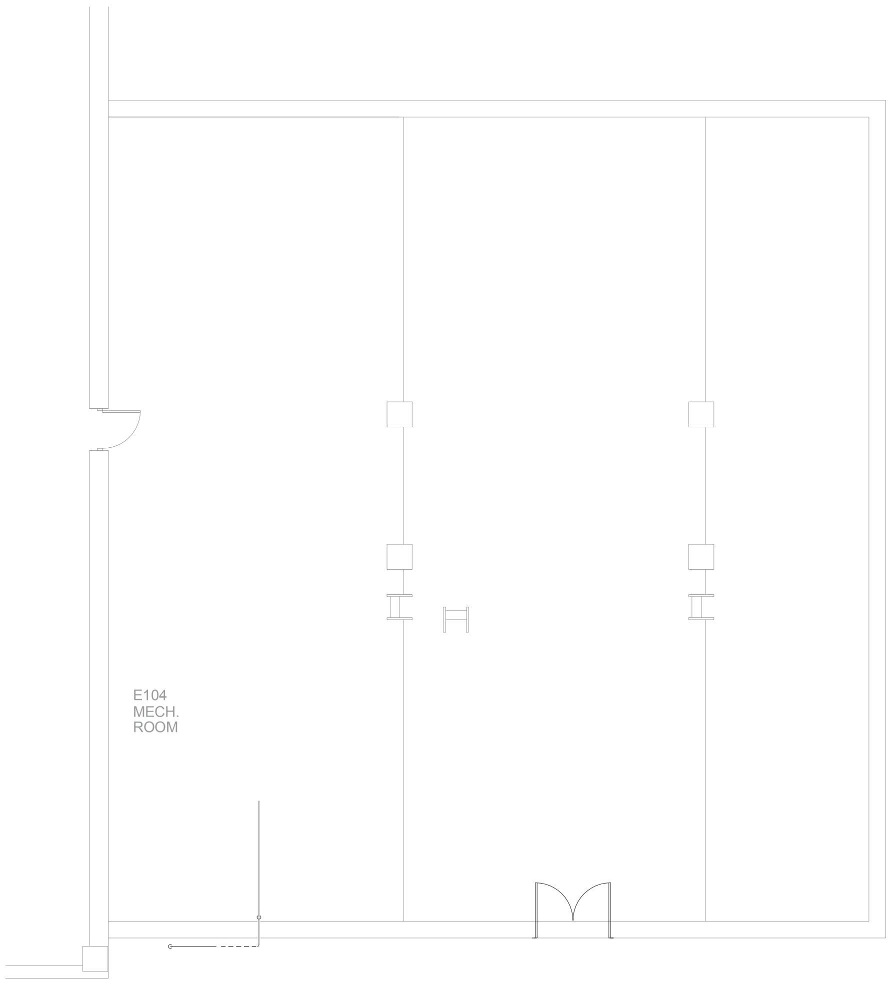
STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. H-101.E1



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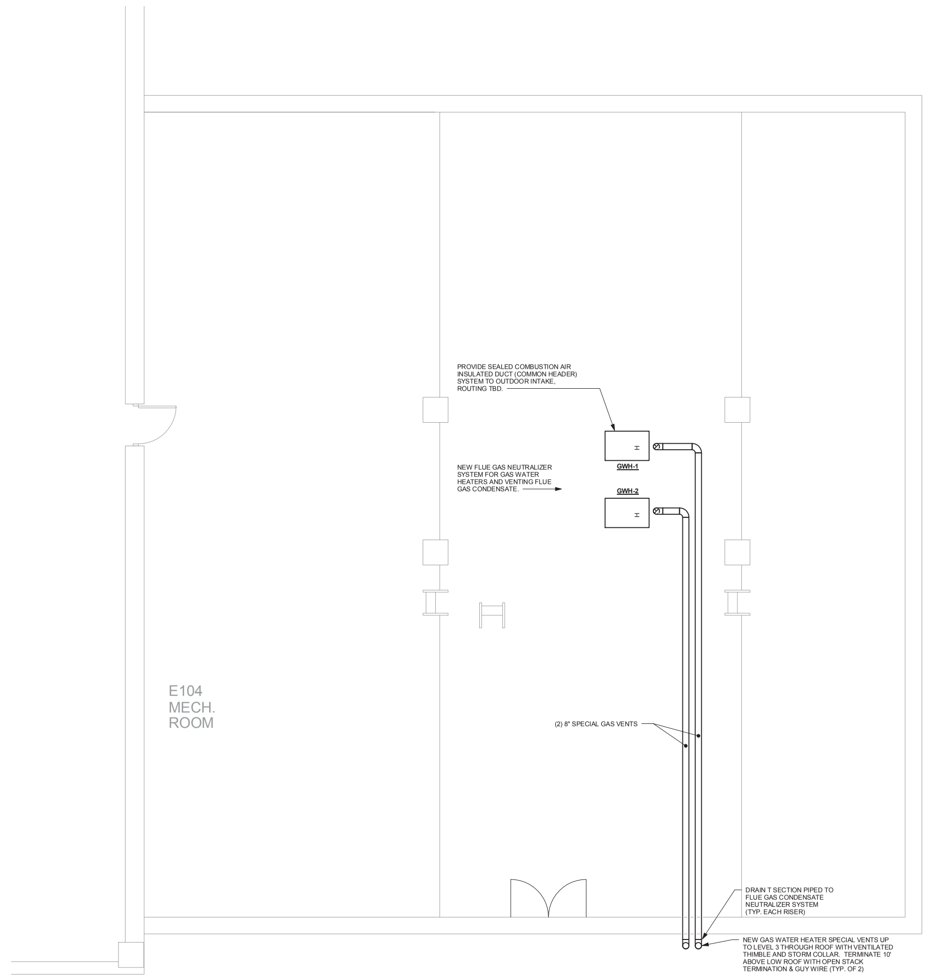
1/4" = 1'-0"



2 EKSTROM HALL LEVEL 1 MECHANICAL RM E104 PART PLAN - NEW - H-101E2
1/4" = 1'-0"

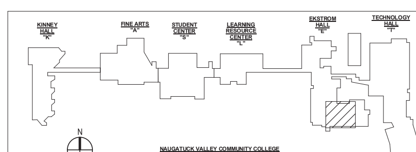
NEW DRAWING NOTES

1. NOT USED.

DEMOLITION NOTES

1. REMOVE EXISTING HIGH TEMPERATURE HOT WATER PIPING SYSTEM.
2. REMOVE EXISTING HIGH TEMPERATURE HOT WATER TO HOT WATER HEAT EXCHANGER SYSTEM.
3. REMOVE EXISTING PUMP SYSTEM.
4. REMOVE EXISTING SPECIALTIES SYSTEM.
5. REMOVE EXISTING ATC SYSTEM.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
EKSTROM HALL LEVEL 1 MECHANICAL ROOM E104 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

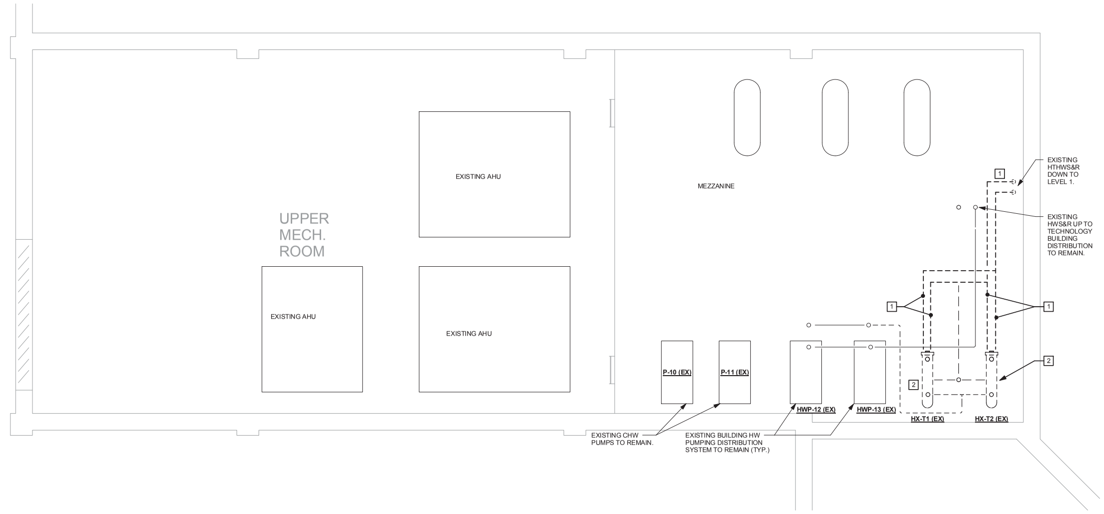
STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. H-101.E2

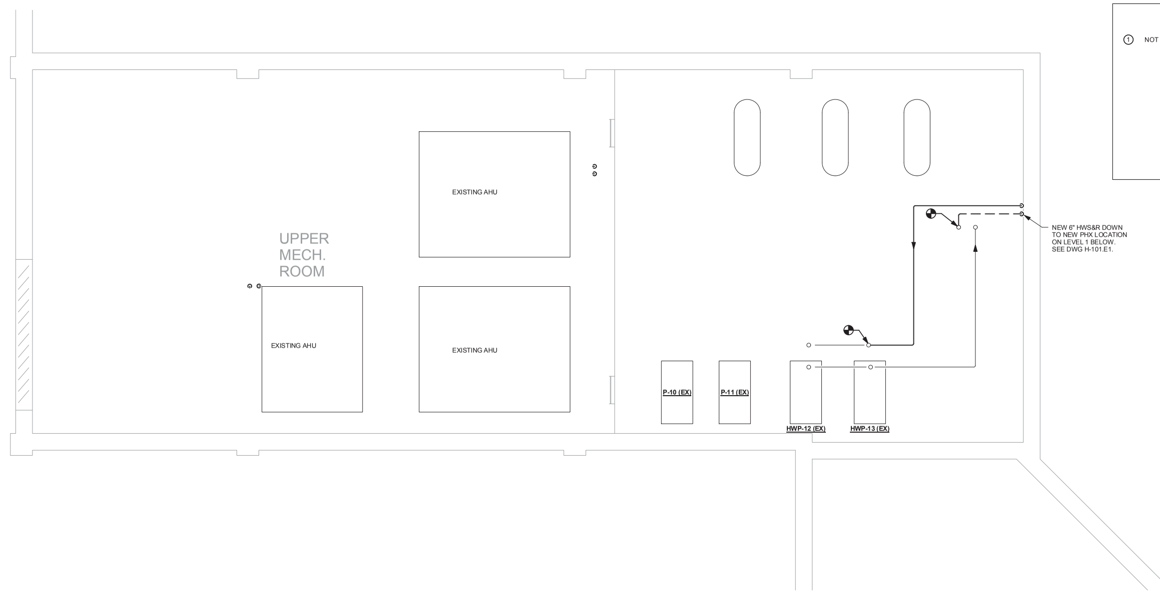


DEMOLITION NOTES

1. REMOVE EXISTING HIGH TEMPERATURE HOT WATER PIPING SYSTEM.
2. REMOVE EXISTING HIGH TEMPERATURE HOT WATER TO HOT WATER HEAT EXCHANGER SYSTEM.
3. REMOVE EXISTING PUMP SYSTEM.
4. REMOVE EXISTING SPECIALTIES SYSTEM.
5. REMOVE EXISTING ATC SYSTEM.

1 / H-102.L3

(2) EKSTROM HALL LEVEL 2 MECHANICAL ROOM E203 PART PLAN - DEMOLITION - H-102E1
1/4" = 1'-0"



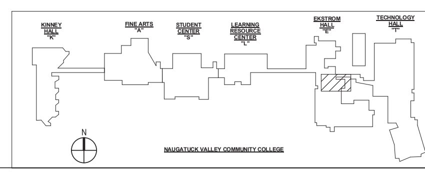
NEW DRAWING NOTES

1. NOT USED.

1 / H-102.L3

(1) EKSTROM HALL LEVEL 2 MECHANICAL ROOM E203 PART PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 26, 2017
NOT FOR CONSTRUCTION



drawing title
EKSTROM HALL LEVEL 2 MECHANICAL ROOM E203 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. H-102.E1

PLOTTED: 11/14/2017 4:04:35 PM

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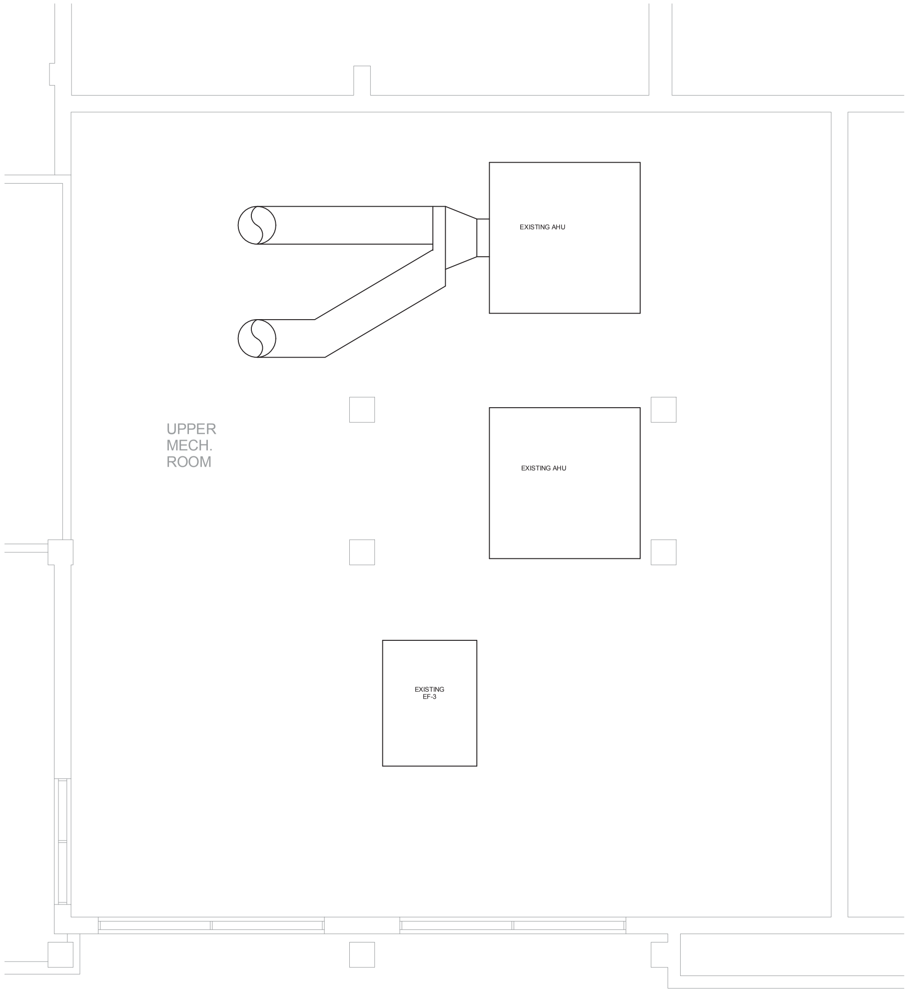


1 EKSTROM HALL LEVEL 2 MECHANICAL RM E204 PART PLAN - DEMOLITION - H-102E2
1/4" = 1'-0"

2 EKSTROM HALL LEVEL 2 MECHANICAL RM E204 PART PLAN - NEW - H-102E2
1/4" = 1'-0"

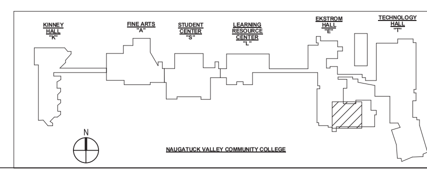
DEMOLITION NOTES

1. REMOVE EXISTING HIGH TEMPERATURE HOT WATER PIPING SYSTEM.
2. REMOVE EXISTING HIGH TEMPERATURE HOT WATER TO HOT WATER HEAT EXCHANGER SYSTEM.
3. REMOVE EXISTING PUMP SYSTEM.
4. REMOVE EXISTING SPECIALTIES SYSTEM.
5. REMOVE EXISTING ATC SYSTEM.

NEW DRAWING NOTES

1. NOT USED.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 28, 2017
NOT FOR CONSTRUCTION



drawing title
EKSTROM HALL LEVEL 2 MECHANICAL ROOM E204 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. **H-102.E2**

PLOTTED: 11/14/2017 4:04:37 PM

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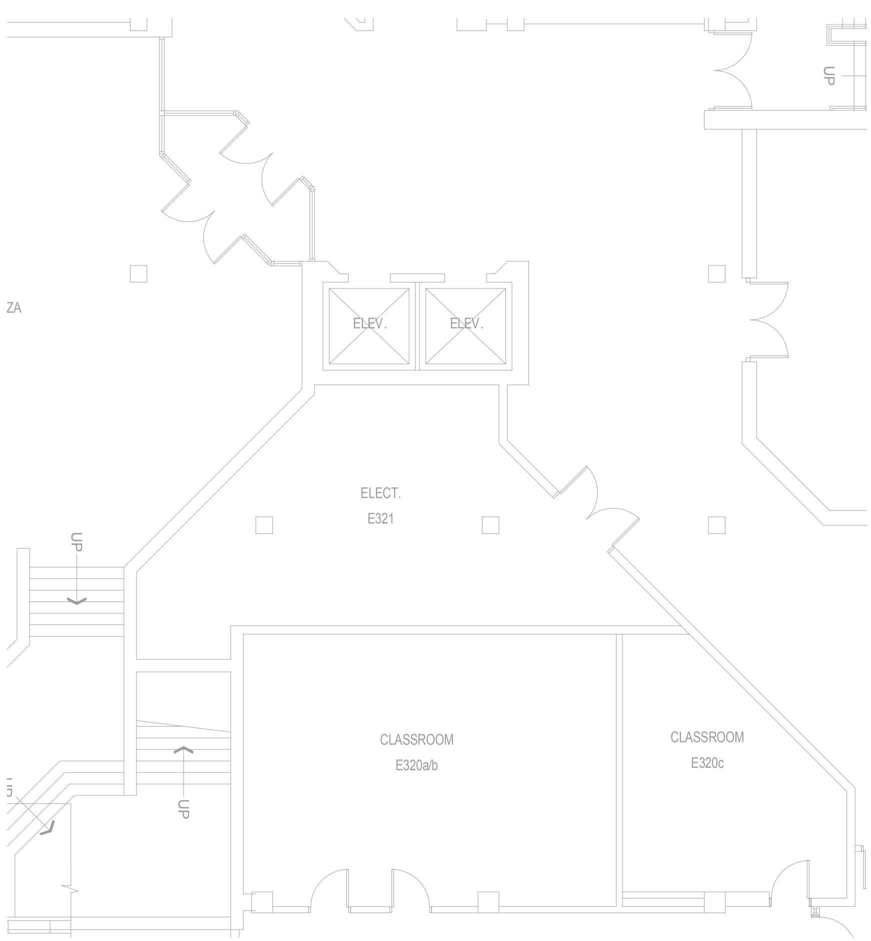

1 EKSTROM HALL LEVEL 3 HVAC PLAN - DEMOLITION
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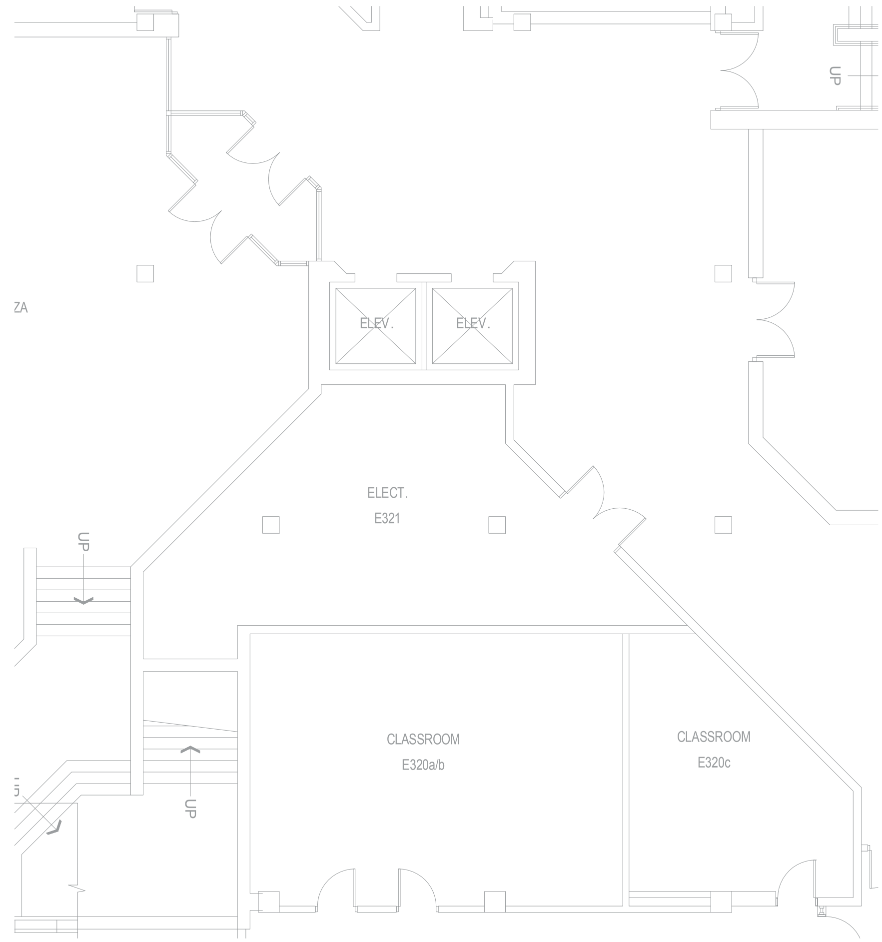
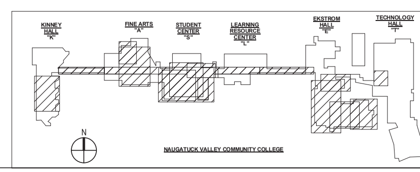


2 EKSTROM HALL LEVEL 3 HAVC PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 26, 2017
NOT FOR CONSTRUCTION



drawing title
EKSTROM HALL LEVEL 3 MECHANICAL ROOM
E330 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by Author
approved by Checker
drawing no. H-103.E

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ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
Telephone 860-282-9924
Fax 860-282-9826
www.atcgroupservices.com

December 28, 2017

Mr. Joel Baranowski
State of Connecticut
Department of Administrative Services
Division of Construction Services
450 Columbus Boulevard
Hartford, CT 06103

Re: Asbestos Inspection
Core Building – Boiler Room
Naugatuck Valley Community College
Waterbury, Connecticut
Project BI-CTC-500
Building 63261
ATC Project 2257317033

Dear Mr. Baranowski:

Please find enclosed the Asbestos Inspection Report for the Core Building - Boiler Room at Naugatuck Valley Community College, Waterbury, Connecticut.

Should you have any questions concerning this report, do not hesitate to contact me at 860 282-9924 ext. 1123.

Sincerely,

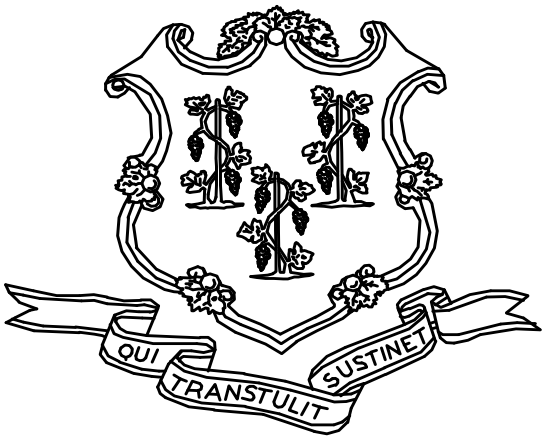
ATC Group Services LLC

_____

Edward P. Fennell Jr., P.E.
Division Manager
ATC Group Services LLC
Direct Line +1 860 282 9924 x1123
Email: edward.fennell@atcassociates.com
Encl: Asbestos Inspection Report Core Building - Boiler Room NVCC

ASBESTOS INSPECTION REPORT

BOILER ROOM
CORE BUILDING
NAUGATUCK VALLEY COMMUNITY COLLEGE
WATERBURY, CONNECTICUT
BUILDING 63261
PROJECT BI-CTC-500



STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

Prepared by:

ATC GROUP SERVICES LLC
290 ROBERTS STREET - SUITE 301
EAST HARTFORD, CT 06108

ATC PROJECT 2257317033

DECEMBER 19, 2017

Table of Contents

1.0 INTRODUCTION

ATC Group Services LLC (ATC) of East Hartford, Connecticut was retained by the State of Connecticut, Department of Administrative Services, Division of Construction Services (CTDCS) to conduct a pre-renovation inspection at Core Building - Boiler Room located at Naugatuck Valley Community College in Waterbury, Connecticut. The scope of the asbestos inspection included: surveying, sampling, and testing of suspect building materials.

The asbestos inspection was conducted by Mr. Scott Johnson on November 30, 2017. Mr. Johnson is a State of Connecticut, Department of Public Health (CTDPH) licensed asbestos inspector (CTDPH license number 000297). The survey was performed as a walk-through visual inspection, combined with the collection and analysis of bulk samples.

2.0 ASBESTOS-CONTAINING MATERIALS SURVEY

Materials which were considered suspect ACM included fiberglass pipe fitting insulation, valve insulation, boiler components, fire brick and mortar, tank insulation, pipe insulation paper/adhesive, end cap sealant,. Suspect materials that are inaccessible and were not sampled include spray-on fireproofing, gaskets.

2.1 ASBESTOS BULK SAMPLE COLLECTION/ANALYSIS PROCEDURE

Building materials considered suspect ACM were inspected and assessed using the methods presented in the United States Environmental Protection Agency AHERA regulations (40 CFR Part 763) and NESHAP regulations (40 CFR Part 61).

ATC collected bulk samples of building materials utilizing a sampling strategy that correlated with 40 CFR 763.86 as follows:

(a) *Surfacing materials.* An accredited inspector shall collect, in a statistically random manner that is representative of the homogeneous area, bulk samples from each homogeneous area of friable surfacing material that is not assumed to be ACM, and shall collect the samples as follows:

(1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft^2 or less, except as provided in 40 CFR Part 763.87(c)(2).
(2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft^2 but less than or equal to 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).
(3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).

(b) *Thermal system insulation.*

(1) Except as provided in paragraphs (b)(2) through (4) of this section and 40 CFR Part 763.87(c), an accredited inspector shall collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that is not assumed to be ACM.
(2) Collect at least one bulk sample from each homogeneous area of patched thermal system insulation that is not assumed to be ACM if the patched section is less than 6 linear or square feet.

(3) In a manner sufficient to determine whether the material is ACM or not ACM, collect bulk samples from each insulated mechanical system that is not assumed to be ACM where cement or plaster is used on fittings such as tees, elbows, or valves, except as provided under 40 CFR Part 763.87(c)(2).

(4) Bulk samples are not required to be collected from any homogeneous area where the accredited inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) *Miscellaneous materials.* In a manner sufficient to determine whether material is ACM or not ACM, an accredited inspector shall collect bulk samples from each homogeneous area of friable or non-friable miscellaneous material that is not assumed to be ACM.

The bulk samples collected during the survey were analyzed by EMSL Analytical, Inc. (NVLAP #200700-0) located in Wallingford, Connecticut. The bulk samples were analyzed by Polarized Light Microscopy (PLM) with dispersion staining via EPA 600/R-93/116 Method. Utilizing PLM, the microscopist is able to identify and distinguish between asbestos group minerals and other fibrous materials such as cellulose, mineral wool, fiberglass, or synthetic fibers. The quantities of each of these substances is estimated based on the procedures defined in the above-cited reference and are reported as a percentage.

The EPA recognizes the following as asbestos: Chrysotile, Crocidolite, Amosite, Tremolite, Actinolite, and Anthophyllite. To be classified as ACM, the material must be determined to contain greater than one percent (1%) asbestos. In order to consider a material to be non-ACM, all samples of a homogeneous type of material that are collected must be analyzed and all results must indicate the material to contain less than 1% asbestos by weight.

3.0 ASBESTOS-CONTAINING MATERIALS

The results of PLM laboratory analysis indicated that the following materials are asbestos-containing material (ACM). ACM are those materials that contain greater than 1% asbestos, and are as follows:

- Rope Gaskets – Boilers

The remaining materials which were sampled and tested were found to contain no detectable amounts of asbestos. Specifically, the following materials were determined to be non-ACM:

- Mudded Pipe Fitting Insulation (All sizes, All systems)
- Tank Insulation
- White End Cap Sealant
- Fiberglass Pipe Insulation Paper/Adhesive
- Fiberglass Insulation Canvas Wrap
- Fire Brick
- Fire Brick Mortar
- Interior Boiler Putty at Exhaust

Boiler mixing tank insulation was identified to contain Vermiculite.

Refer to Section 6.0, Bulk Sample Summary of Suspect Materials, for all suspect materials that were identified and sampled.

4.0 DISCUSSION AND RECOMMENDATIONS

EPA regulations require the removal of Regulated Asbestos-Containing Materials (RACM) prior to renovation or demolition activities. RACM is defined as (a) Friable ACM, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation activities. The CTDPH defines "asbestos abatement" as removal, encapsulation, enclosure, renovation, repair, demolition, or other disturbance of ACM but does not include activities which are related to (A) the removal or repair of asbestos cement pipe and are performed by employees of a water company as defined in section 25-32a, or (B) the removal of non-friable ACM found exterior to a building or structure other than material defined as RACM in 40 CFR 61, the National Emission Standards for Hazardous Air Pollutants (NESHAP). Based upon these definitions, ACM identified in the building requires removal prior to renovation, demolition, or disturbance. The State of Connecticut Department of Environmental Protection (CTDEP) regulations require the proper disposal of all ACM, regardless of categorization.

Duct Gasket Putty – Tan could possibly be found on duct work throughout.

5.0 LIMITATIONS

As with all such assessments, the results of the sampling represent conditions found on the date of the survey and may not represent conditions found at other times. Additionally, this assessment was limited with respect to the specific parameters indicated above and should not be construed to be a comprehensive evaluation or a definitive representation of conditions within the facility. The information presented in this report is intended to be used as a guide to evaluate the need for further investigation or the need for modifications to the processes or procedures surveyed.

Pipe Flange Gaskets were not accessible to be sampled but could possibly be found on piping throughout.

6.0 BULK SAMPLE SUMMARY OF SUSPECT MATERIALS

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
CORE BUILDING
BOILER ROOM

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112817-BR-1A	Hot Water Tank near Drinking Fountain	Hot Water Tank Insulation	ND	-
112817-BR-1B	Hot Water Tank near Drinking Fountain	Hot Water Tank Insulation	ND	-
112817-BR-2A	Mixing Tank near Drinking Fountain	Mixing Tank Insulation	ND	-
112817-BR-2B	Mixing Tank near Drinking Fountain	Mixing Tank Insulation	ND	-
112817-BR-3A	Boiler #2	Interior Boiler Putty at Exhaust	ND	-
112817-BR-3B	Boiler #2	Interior Boiler Putty at Exhaust	ND	-
112817-BR-4A	**Boiler #2**	**Rope Gasket on Door**	**65**	**Chrysotile**
112817-BR-4B	**Boiler #2**	**Rope Gasket on Door**	**70**	**Chrysotile**
112817-BR-5A	Boiler #2	Fire Brick Mortar	ND	-
112817-BR-5B	Boiler #2	Fire Brick Mortar	ND	-
112817-BR-6A	Green Chiller	Fiberglass Insulation Canvas Wrap (HTHW Supply)	ND	-
112817-BR-6B	Green Chiller	Fiberglass Insulation Canvas Wrap (HTHW Supply)	ND	-
112817-BR-7A	Middle Chiller	White End Cap Sealant	ND	-
112817-BR-7B	HTHW Supply (Tag 015)	White End Cap Sealant	ND	-
112817-BR-7C	Hot Water Tank near Drinking Fountain	White End Cap Sealant	ND	-
112817-BR-8A	Boiler #2	18” Mudded Fitting Insulation	ND	-
112817-BR-8B	Green Chiller	18” Mudded Fitting Insulation (HTHW Line)	ND	-

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
CORE BUILDING
BOILER ROOM

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112817-BR-8C	Boiler #2	18" Mudded Fitting Insulation (HTHW Return)	ND	-
112817-BR-8D	Adjacent to P-16	18" Mudded Fitting Insulation (HTHW Supply)	ND	-
111817-BR-8E	Mixing Tank	18" Mudded Fitting Insulation (HTHW Return)	ND	-
112817-BR-9A	BW Pumps in Back of Room by Stairs	Fiberglass Pipe Insulation Paper/Adhesive (BW Supply)	ND	-
112817-BR-9B	BW Pumps in Back of Room by Stairs	Fiberglass Pipe Insulation Paper/Adhesive (BW Return)	ND	-
112817-BR-10A	Boiler #2	6" Mudded Pipe Fitting Insulation (HTHW Return)	ND	-
112817-BR-10B	Boiler #2	6" Mudded Pipe Fitting Insulation (HW Tank)	ND	-
112817-BR-10C	Boiler #2	6" Mudded Pipe Fitting Insulation (HTHW Supply)	ND	-
112817-BR-11A	Boiler #2	Fire Brick	ND	-
112817-BR-11B	Boiler #2	Fire Brick	ND	-
112817-BR-12A	Near Green Chiller by Stairs	Mudded Pipe Fitting Insulation (BW Return)	ND	-
112817-BR-12B	Boiler #2	Mudded Pipe Fitting Insulation (Fuel Oil Return)	ND	-
112817-BR-12C	Pump P-16	Mudded Pipe Fitting Insulation (HTHW Supply)	ND	-
112817-BR-12D	Near Sink by Hot Water Tank	Mudded Pipe Fitting Insulation	ND	-
112817-BR-12E	BW Pumps in Back of Room by Stairs	Mudded Pipe Fitting Insulation (BW Return)	ND	-
112817-BR-12F	BW Pumps in Back of Room by Stairs	Mudded Pipe Fitting Insulation (BW Supply)	ND	-
112817-BR-12G	Pump P-33	Mudded Pipe Fitting Insulation (HTHW Supply)	ND	-
112817-BR-12H	Pump P-33	Mudded Pipe Fitting Insulation (CHW Supply)	ND	-

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
CORE BUILDING
BOILER ROOM

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112817-BR-12I	BW Pumps in Back of Room by Stairs	Mudded Pipe Fitting Insulation (BW Supply)	ND	-
112817-BR-12J	Boiler #1	Mudded Pipe Fitting Insulation (Fuel Oil Return)	ND	-
112817-BR-12K	By Drinking Fountain	Mudded Pipe Fitting Insulation (HTHW Return)	ND	-
112817-BR-12L	By Drinking Fountain	Mudded Pipe Fitting Insulation (CHW Return)	ND	-

ND = None Detected
CHW = Chilled Water
HTHW = High Temp Hot Water
HW = Hot Water

7.0 BULK SAMPLE RESULTS/CHAIN - OF - CUSTODY FORMS

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705225
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Attention:	Ed Fennell	**Phone:**	(860) 282-9924
	ATC Group Services LLC	**Fax:**	(860) 282-9826
	290 Roberts Street	**Received Date:**	12/08/2017 2:35 PM
	Suite 301	**Analysis Date:**	12/12/2017
	East Hartford, CT 06108	**Collected Date:**	11/30/2017
Project:	2257317033/NYCC-BOILER ROOM, 750 CHASE PARKWAY WATERBURY, CT 06708		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-1A *241705225-0001*	HW tank #2 boiler - hot water tank insulation	Tan Non-Fibrous Homogeneous	15% Min. Wool	85% Non-fibrous (Other)	None Detected
112817-1B *241705225-0002*	HW tank #2 boiler - hot water tank insulation	Tan Fibrous Homogeneous	25% Min. Wool	2% Vermiculite 73% Non-fibrous (Other)	None Detected
112817-2A *241705225-0003*	Mixing tank #2 boiler - mixing tank insulation	Brown Fibrous Homogeneous	30% Cellulose	15% Vermiculite 55% Non-fibrous (Other)	None Detected
112817-2B *241705225-0004*	Mixing tank #2 boiler - mixing tank insulation	Tan Fibrous Homogeneous	10% Cellulose 10% Min. Wool	10% Vermiculite 70% Non-fibrous (Other)	None Detected
112817-3A *241705225-0005*	Fire box #2 boiler - interior putty	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-3B *241705225-0006*	Fire box #2 boiler - interior putty	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-4A *241705225-0007*	Fire box #2 boiler - rope gasket	Gray Fibrous Homogeneous	20% Cellulose	15% Non-fibrous (Other)	65% Chrysotile
112817-4B *241705225-0008*	Fire box #2 boiler - rope gasket	Gray Fibrous Homogeneous	20% Synthetic	10% Non-fibrous (Other)	70% Chrysotile
112817-5A *241705225-0009*	#2 boiler, older - fire brick mortar	Tan Non-Fibrous Homogeneous		10% Vermiculite 90% Non-fibrous (Other)	None Detected
112817-5B *241705225-0010*	#2 boiler, older - fire brick mortar	Tan Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
112817-6A *241705225-0011*	Green boiler, HTHW supply - fiberglass paper canvas	Tan Fibrous Homogeneous	70% Cellulose 25% Glass	5% Non-fibrous (Other)	None Detected
112817-6B *241705225-0012*	Green boiler, HTHW supply - fiberglass paper canvas	Tan Fibrous Homogeneous	70% Cellulose 15% Glass	15% Non-fibrous (Other)	None Detected
112817-7A *241705225-0013*	HTHW return - white end cap sealant	Gray/White Non-Fibrous Homogeneous	10% Cellulose 5% Glass	85% Non-fibrous (Other)	None Detected
112817-7B *241705225-0014*	HTHW 015 - white end cap sealant	White/Yellow Fibrous Homogeneous	25% Glass	75% Non-fibrous (Other)	None Detected
112817-7C *241705225-0015*	HW tank - white end cap sealant	Tan/Yellow Fibrous Homogeneous	25% Glass	75% Non-fibrous (Other)	None Detected
112817-Br-8A *241705225-0016*	#2 boiler, HTHW boiler - 18" mudded fitting	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected

Initial report from: 12/12/2017 16:36:38

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705225
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-Br-8B *241705225-0017*	Green boiler, HTHW - 18" mudded fitting	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-Br-8C *241705225-0018*	#2 boiler, HTHW return - 18" mudded fitting	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-Br-8D *241705225-0019*	Adjacent to P-16 - 18" mudded fitting, HTHW supply	Tan Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-Br-8E *241705225-0020*	Mixing tank, HTHW return - 18" mudded fitting	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-Br-9A *241705225-0021*	Pumps back of room - fiber insulation BW supply	Tan/Silver Fibrous Homogeneous	75% Cellulose 20% Glass	5% Non-fibrous (Other)	None Detected
112817-Br-9B *241705225-0022*	Pumps back of room - fiber insulation BW supply	Tan/Silver Fibrous Homogeneous	75% Cellulose 20% Glass	5% Non-fibrous (Other)	None Detected
112817-Br-10A *241705225-0023*	#2 boiler, HW tank - mudded fittings; 6" HTHW return	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-Br-10B *241705225-0024*	#2 boiler, HW tank - 6" mudded fitting	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-Br-10C *241705225-0025*	#2 boiler, HTH supply - 6" mudded fitting	Gray Fibrous Homogeneous	10% Cellulose 35% Min. Wool	55% Non-fibrous (Other)	None Detected
112817-Br-11A *241705225-0026*	#2 boiler - fire brick	Tan Non-Fibrous Homogeneous		5% Quartz 95% Non-fibrous (Other)	None Detected
112817-Br-11B *241705225-0027*	#2 boiler - fire brick	Tan Non-Fibrous Homogeneous		5% Quartz 95% Non-fibrous (Other)	None Detected
112817-Br-12A *241705225-0028*	Pipes in back - mudded fitting , BW return	Gray/Tan Fibrous Homogeneous	30% Cellulose 30% Min. Wool	40% Non-fibrous (Other)	None Detected
112817-Br-12B *241705225-0029*	#2 boiler - mudded fitting, fuel oil return	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-Br-12C *241705225-0030*	Pump P-16 - mudded fitting, HTHW supply	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-Br-12D *241705225-0031*	By sink - mudded fitting	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-Br-12E *241705225-0032*	Pipes back of room - mudded fitting, BW return	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-Br-12F *241705225-0033*	Pumps back of room - mudded fitting, BW supply	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-Br-12G *241705225-0034*	Pump P-33 - mudded fitting HTHW supply	Gray/Yellow Fibrous Homogeneous	25% Min. Wool 15% Glass	60% Non-fibrous (Other)	None Detected
112817-Br-12H *241705225-0035*	CHW supply - mudded fitting	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected

Initial report from: 12/12/2017 16:36:38

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705225
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-Br-12I *241705225-0036*	Pipes in back - mudded fitting, BW supply	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-Br-12J *241705225-0037*	#2 boiler - mudded fitting, fuel oil return	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-Br-12K *241705225-0038*	At drinking fountain - mudded fitting, HTHW return	Gray Fibrous Homogeneous	25% Cellulose 35% Min. Wool	40% Non-fibrous (Other)	None Detected
112817-Br-12L *241705225-0039*	CHW return - mudded fitting	Gray Fibrous Homogeneous	35% Cellulose 35% Min. Wool	30% Non-fibrous (Other)	None Detected

Analyst(s)

Lauren Buffone (23)

Quetcy Castro Romero (16)

Lauren Brennan, Asbestos Lab Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0,

Initial report from: 12/12/2017 16:36:38

OrderID: 241705225

ATC ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

BULK SAMPLE LOG

241705225

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573117033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 39
Building: NVCC – Boiler room	Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _of_ (homogeneous material)		Field Number
Hw Tank #2 boiler	Hot water tank insulation	TSI		Y		1	2	112817 - 1A
Hw Tank #2 boiler	Hot water tank insulation	TSI		Y		2	2	↓ 1B
Mixing tank #2 boiler	mixing tank insulation	TSI		Y		1	2	112817 - 2A
Mixing tank #2 boiler	Mixing tank insulation	TSI		Y		2	2	↓ 2B
Fire box #2 boiler	Interior putty	M		N		1	2	112817 - 3A
Fire box #2 boiler	Interior putty	M		N		2	2	↓ 3B
Fire door #2 boiler	rope gasket	M		N		1	2	112817 - 4A
Fire door #2 boiler	rope gasket	M		N		2	2	↓ 4B
#2 boiler, older	Fire brick mortar	M		N		1	3	112817 - 5A
#2 boiler, older	Fire brick mortar	M		N		2	2	↓ - 5B
Green boiler, HTHW supply	Fiber glass paper canvas,	TSI		N		1	2	112817 - 6A
Green boiler, HTHW supply	Fiber glass paper canvas	TSI		N		2	2	↓ 6B
HTHW return	white End Cap Sealant	M		N		1	3	112817 - 7A
HTHW 015	white End Cap Sealant	M		N		2	3	7B
Hw Tank	white End Cap Sealant	M		N		3	3	↓ 7C

Comments: (Analyze by PLM)

Notes
Damage Factors:
Disturbance Factors:

Physical (sig dmg-dmg-no dmg)
Proximity (<1ft- 1-6ft- >6ft)
Ventilation (yes-no; if yes, type)
Water (extensive-moderate-slight-none)
Accessibility (within reach-barely reachable-not reachable)
Air conduits (air plenum - air shaft - elevator shaft - duct)
Deterioration (heavy-moderate-light-none)
Vibration (gym-music rm-auditorium-mechanical rm-elevator-other)
Air movement (high-moderate-low)
Friability (yes-no; hard-mod-soft surface)
Barriers (perm air tight-enclosed-encapsulated)
Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
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Received By/Date:
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OrderID: 241705225

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290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

BULK SAMPLE LOG

241705225

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573117033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 39
Building: NYCC – Boiler room	Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _ of _ (homogeneous material)		Field Number
#2 boiler, HTHW boiler	18" mudded fitting	TSI		Y		1	5	112817-BR- 8A
Green boiler, HTHW	18" mudded fitting	TSI		Y		2	5	8B
#2 boiler, HTHW return	18" mudded fitting	TSI		Y		3	5	8C
Adjacent to P-16	18" mudded fitting, HTHW supply	TSI		Y		4	5	8D
mixing Tank, HTHW return	18" mudded fitting.	TSI		Y		5	5	8E
Pumps back of room	Fiber insulation BW supply	TSI		N		1	2	112817-BR- 9A
Pumps back of room	Fiber glass insulation BW supply	TSI		N		2	2	9B
#2 boiler, HTW Tank	Mudded fittings; 6" HTHW return	TSI		Y		1	3	112817-BR- 10A
#2 boiler, HW Tank	6" mudded fittings.	TSI		Y		2	3	10B
#2 boiler, HTH Supply	6" mudded fittings	TSI		Y		3	3	10C
~~#2 boiler~~								
#2 boiler	Fire brick	M		N		1	2	112817-BR- 11A
#2 boiler	Fire brick	M		N		2	2	11B

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg) Water (extensive-moderate-slight-none) Deterioration (heavy-moderate-light-none) Friability (yes-no; hard-mod-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft) Accessibility (within reach-barely reachable-not reachable) Vibration (gym-music rm-auditorium-mechanical rm-elevator-other) Barriers (perm enclosed-encapsulated)
Ventilation (yes-no; if yes, type) Air conduits (air plenum - air shaft - elevator shaft - duct) Air movement (high-moderate-low) Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

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East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

BULK SAMPLE LOG

241705225

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573317033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:

Lab Name: EMSL — Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 39

Building: NYCC – Boiler room — Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _of_ (homogeneous material)		Field Number
Pipes in back	Mudded fitting, BW return	TSI		Y		1	12	112817-BR-12A
#2 boiler	Mudded fitting Fuel oil return	TSI		Y		2	12	12B
Pump P-16	Mudded fitting, HTHW supply	TSI		Y		3	12	12C
by sink	Mudded fitting	TSI		Y		4	12	12D
Pipes back of room	Mudded fitting, BW return	TSI		Y		5	12	12E
Pumps back of room	Mudded fitting BW Supply	TSI		Y		6	12	12F
Pump P-33	Mudded fitting HTHW supply	TSI		Y		7	12	12G
CHW Supply	Mudded fitting	TSI		Y		8	12	12H
Pipes in back	Mudded fitting, BW Supply	TSI		Y		9	12	12I
#1 boiler	Mudded fitting, Fuel oil return	TSI		Y		10	12	12J
@Drinking fountain	Mudded fitting, HTHW return	TSI		Y		11	12	12K
CHW return	Mudded fitting	TSI		Y		12	12	12L

Comments: (Analyze by PLM)

Notes
Damage Factors:
Disturbance Factors:

Physical (sig dmg-dmg-no dmg)
Proximity (<1ft- 1-6ft- >6ft)
Ventilation (yes-no; if yes, type)
Water (extensive-moderate-slight-none)
Accessibility (within reach-barely reachable-not reachable)
Air conduits (air plenum - air shaft - elevator shaft - duct)
Deterioration (heavy-moderate-light-none)
Vibration (gym-music rm-auditorium-mechanical rm-elevator-other)
Air movement (high-moderate-low)
Friability (yes-no; hard-mod-soft surface)
Barriers (perm. fitting-enclosed-encap-surface)
Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date:
Received By/Date:

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APPENDIX A

LICENSE AND CERTIFICATION

Dear SCOTT J JOHNSON,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

RAUL PINO, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED BY THIS DEPARTMENT AS A:

ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SCOTT J JOHNSON

CERTIFICATE NO.
000297

CURRENT THROUGH
09/30/18

VALIDATION NO.
03-615244

SIGNATURE

COMMISSIONER

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

CERTIFICATE OF ACHIEVEMENT

This certifies that

Scott Johnson

has successfully completed the

Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

conducted by

ATC Group Services LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory Morsch

Principal Instructor: Gregory Morsch

October 12, 2017
Date of Course

October 12, 2018
Expiration Date

Gregory Morsch

Regional Training Manager: Gregory Morsch

SIAR - 5858
Certificate Number

October 12, 2017
Examination Date

APPENDIX B

DRAWINGS

8 9 10 11 12 13

TELEPHONE ROOM C208

STORAGE

MAIN ELECTRICAL ROOM

UP

UPPER CENTRAL PLANT

1 CORE LEVEL 2 PLUMBING PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION

KINNEY HALL "K" | FINE ARTS "A" | STUDENT CENTER "S" | LEARNING RESOURCE CENTER "L" | EKSTROM HALL "E" | TECHNOLOGY "T"

N

NAUGATUCK VALLEY COMMUNITY COLLEGE

drawing title
CORE LEVEL 2 PLUMBING PLAN - NEW

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by Author
approved by Checker
drawing no. P-102.C2

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8 9 10 11 12 13

TELEPHONE ROOM C208

STORAGE

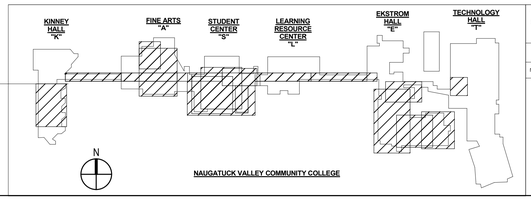
MAIN ELECTRICAL ROOM

UP

UPPER CENTRAL PLANT

1 CORE LEVEL 2 PLUMBING PLAN - DEMOLITION
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
CORE LEVEL 2 PLUMBING PLAN - DEMOLITION

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
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project
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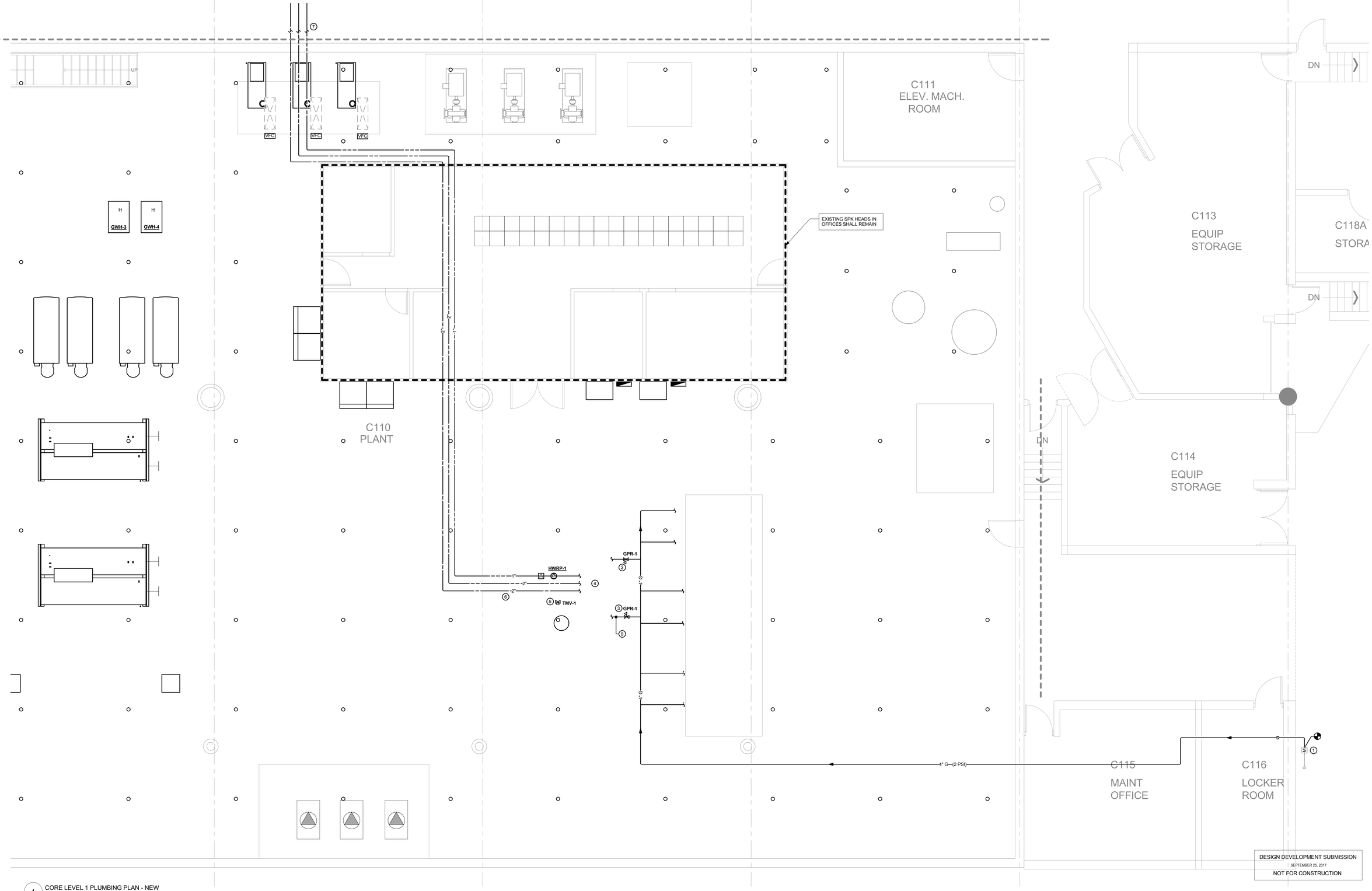


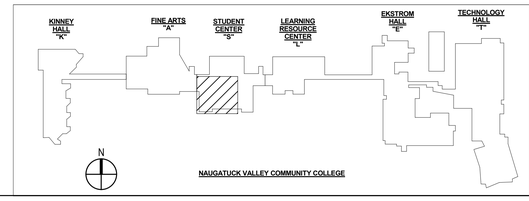
1 CORE LEVEL 1 PLUMBING PLAN - NEW
1/4" = 1'-0"

FIRE PROTECTION GENERAL NOTES

1. CONTRACTOR SHALL RPOVIDE ALLOWANCES FOR THE REMOVAL OF EXISTING AND INSTALLATION OF NEW SPRINKLER HEADS, BRANCH PIPING, HANGERS, AND ASSOCIATED EQUIPMENT THAT CONFLICT WITH NEW HVAC WORK IN THE PLANT.

PLUMBING DRAWING NOTES

1. NEW GAS MAIN FROM NEW GAS METER/REGULATOR ASSEMBLY. SET REGULATOR TO DELIVER 2 PSI TO BUILDING. COORDINATE WORK WITH GAS CO.
2. GAS PRESSURE REGULATOR FOR WATER HEATERS. SET AT 12" W.C. OUTLET PRESSURE. PROVIDE 1" VENT UP THROUGH ROOF. TERMINATE WITH GOOSENECK & INSECT SCREEN.
3. GAS PRESSURE REGULATOR FOR BOILERS. SET AT 12" W.C. OUTLET PRESSURE. PROVIDE 1" VENT UP THROUGH ROOF. TERMINATE WITH GOOSENECK & INSECT SCREEN.
4. GAS FIRED WATER HEATERS. PROVIDE 2" H&CW, 1" HWR, 2" GAS CONNECTIONS. SEE DETAIL FOR PIPING INFORMATION.
5. MASTER TMV. PROVIDE 2" H&CW CONNECTIONS. SEE DETAIL FOR PIPING INFORMATION.
6. 2" H&CW, 1" HWR MAINS.
7. CONNECT NEW 2" H&CW, 1" HWR MAINS TO EXISTING IN MECHANICAL ROOM. REFER TO PLUMBING DWG #P-101.S3 FOR CONTINUATION.
8. 4" GAS TO BOILERS. PROVIDE GAS PRESSURE REGULATOR VENT TO ROOF. TERMINATE WITH GOOSENECK FITTING AND INSECT SCREEN.



DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
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drawing title
CORE LEVEL 1 PLUMBING PLAN - NEW

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by JJM
approved by JBA
drawing no. P-101.C2

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9 10 11 12 13 14

C111
ELEV. MACH.
ROOM

C110
PLANT

C113
EQUIP
STORAGE

C114
EQUIP
STORAGE

C115
MAINT
OFFICE

C116
LOCKER
ROOM

DN

UP

FIRE PROTECTION GENERAL NOTES

1. REMOVE EXISTING SPRINKLER HEADS, BRANCH PIPING, HANGERS, SUPPORTS. CAP SPRINKLER PIPING BACK AT BRANCH MAINS WITH SUPERVISORY VALVE.
2. PROVIDE NEW SPRINKLER HEADS AND BRANCH PIPING. PROVIDE DISTRIBUTION FROM VALVED CONNECTION AT BRANCH MAIN.

PLUMBING DRAWING NOTES

1 REMOVE GAS PIPING CONNECTION TO HVAC EQUIPMENT. CUT & CAP GAS PIPING BACK TO DISCHARGE SIDE OF GAS METER.

1 CORE LEVEL 1 PLUMBING PLAN - DEMOLITION
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION

KINNEY HALL "A" · FINE ARTS "A" · STUDENT CENTER "S" · LEARNING RESOURCE CENTER "L" · EKSTROM HALL "E" · TECHNOLOGY HALL "T"

N

NAUGATUCK VALLEY COMMUNITY COLLEGE

drawing title
CORE LEVEL 1 PLUMBING PLAN - DEMOLITION

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

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BLOOMFIELD CT, 06002

project
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CAD no. 21-16-043
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date
scale 1/4" = 1'-0"
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approved by JBA
drawing no. **P-101.C1**

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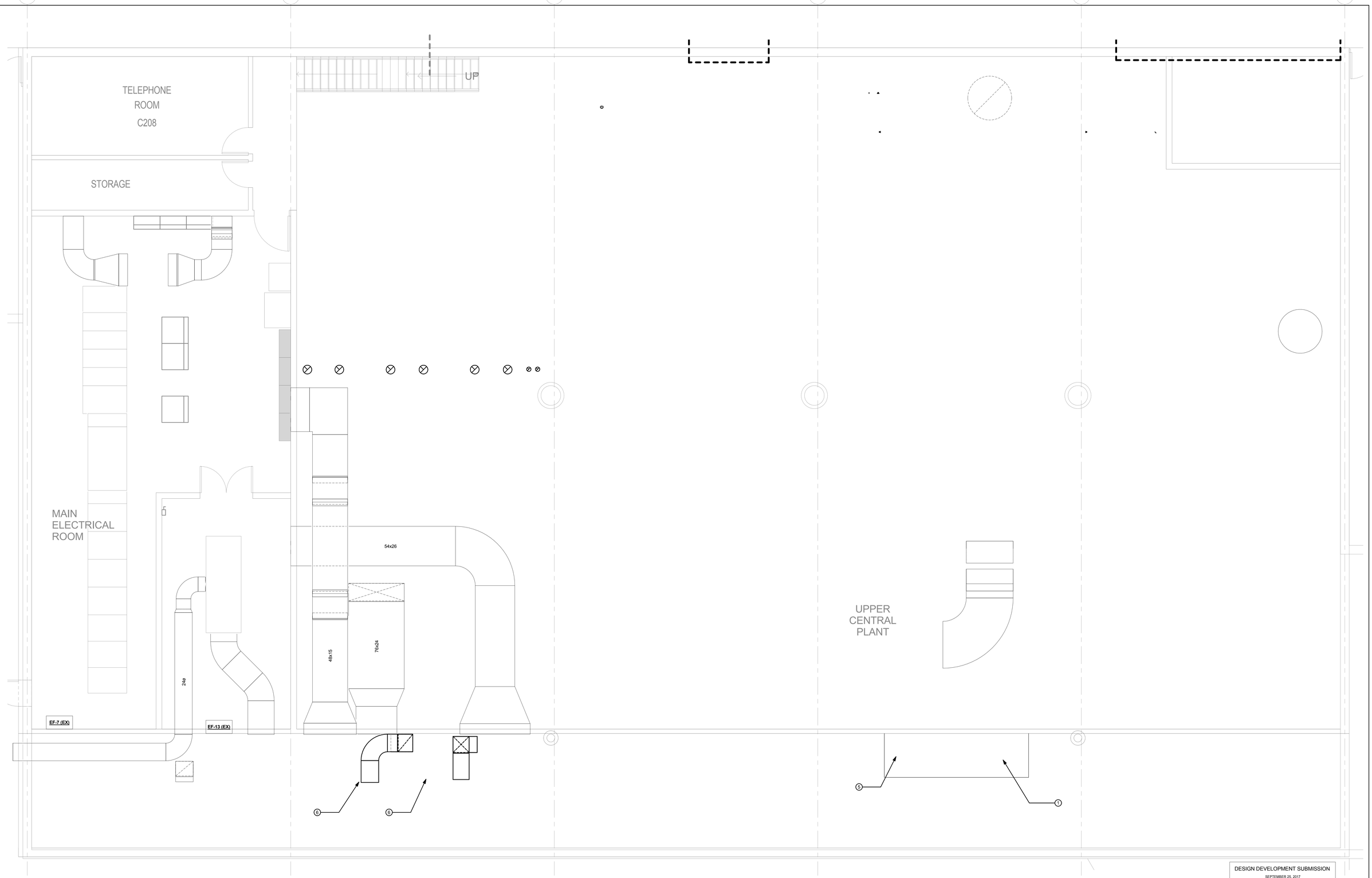
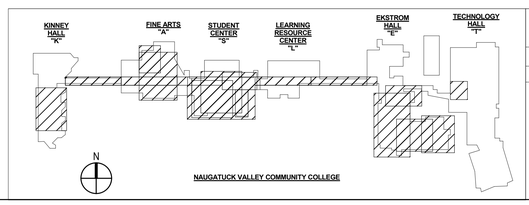


1 CORE LEVEL 2 HVAC PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
CORE CENTER LEVEL 2 HVAC PLAN - NEW

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
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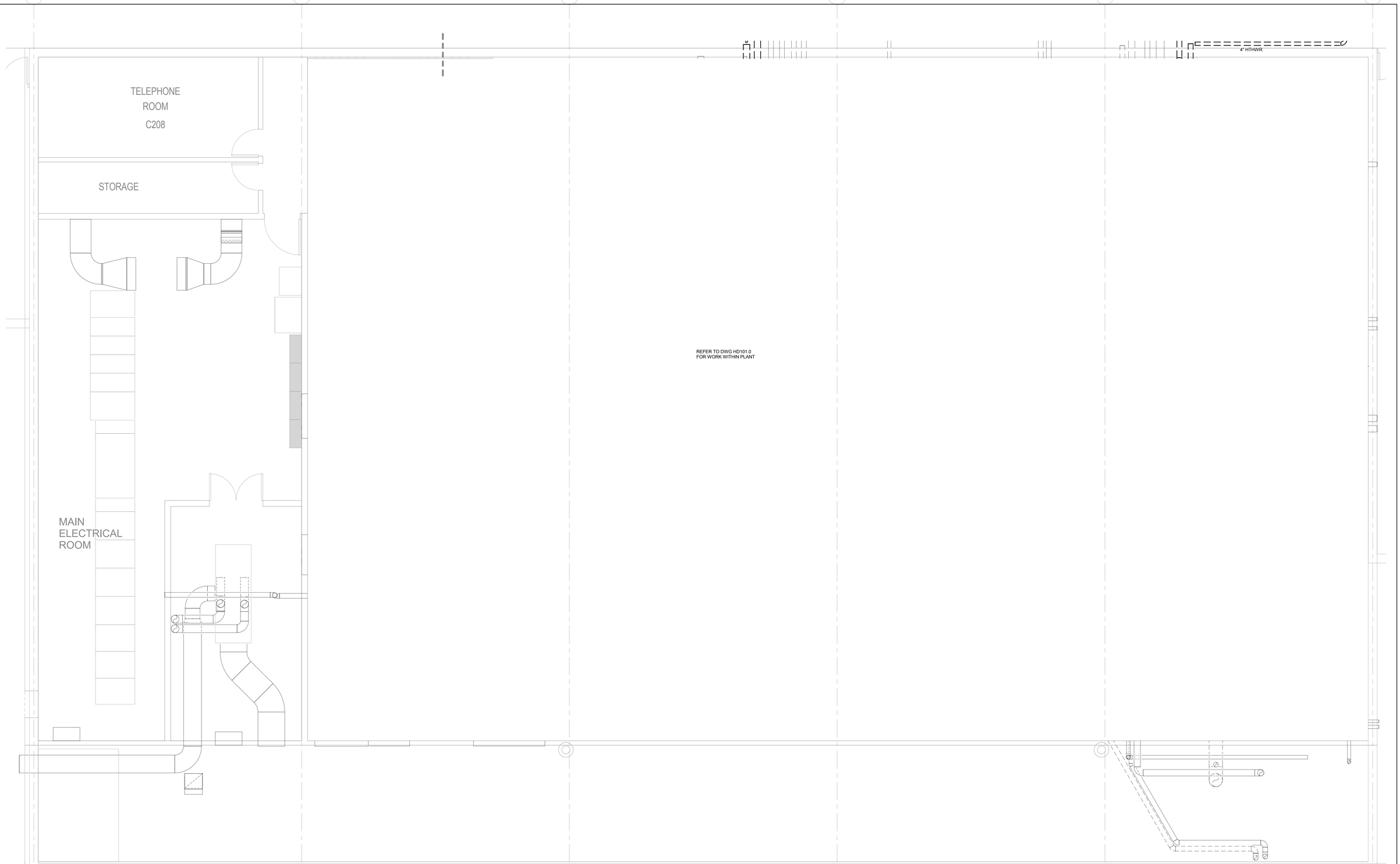
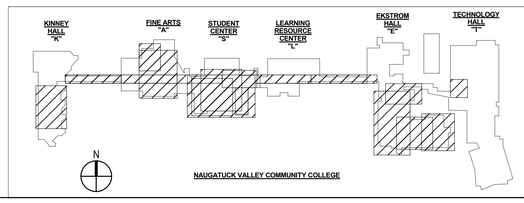


2 CORE LEVEL 2 HVAC PLAN - DEMOLITION
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
CORE LEVEL 2 HVAC PLAN - DEMOLITION

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
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Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

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drawn by Author
approved by Checker
drawing no. **H-102.C1**

11/14/2017 4:04:33 PM E:\REVIT\NVCC\211643 - MEP - 2016 (RR).rvt

PLOTTED: 11/14/2017 4:04:33 PM

C111
ELEV. MACH. ROOM
C110
PLANT
NEW DRAWING NOTES
1 NOT USED.
1 / H-102.S2
1 / H-102.S4
HWP(EX) HWP(EX) CHWP(EX) CHWP(EX)
HWP-1C HWP-1B HWP-1A
P-1(EX) P-2(EX) P-3(EX)
PHX-1 PHX-2 PHX-3
AS-1
ET-1A ET-1B ET-1C
GWH-3 GWH-4
B-1 B-2 B-3 B-4 B-5 B-6
CH-1 CH-2
EF-C1 SF-C1
P-6(EX) P-5(EX) P-4(EX)
12" HWS
6" HWS
6" HWR
12" HWR
14" CHWR
14" CHWS
6" CHWS
6" CHWR
10" CHWS
10" CHWR
8" CHWR
16" CHWS
10" CHWS&R
10" CDWS&R
12" HWS
64x40
48x24
36x20
6" HWS DN TO EACH BOILER (TYP.).
14"ø OF DN TO EACH BOILER.
6" HWR DN TO EACH BOILER (TYP.).
20x12 SUPPLY GRILL UP HIGH (TYP OF 3)
20x12 EXHAUST DN TO 12" AFF (TYP OF 3)
48X24 COMMON OA DUCT FOR BOILER/GWH SEALED COMBUSTION AIR.
NEW CHW AND CDW PIPE RUNOUTS FROM EXISTING HEADERS TO NEW CHILLER.
NEW EXHAUST AND O.A. DUCTS UP TO EXISTING LOUVERS
NEW 120L X 48H OA LOUVER WITH TWO PLENUMS DEDICATED TO BOILER/GWH (72X48) AND CHILLER VENT (48X48)
DN
UP

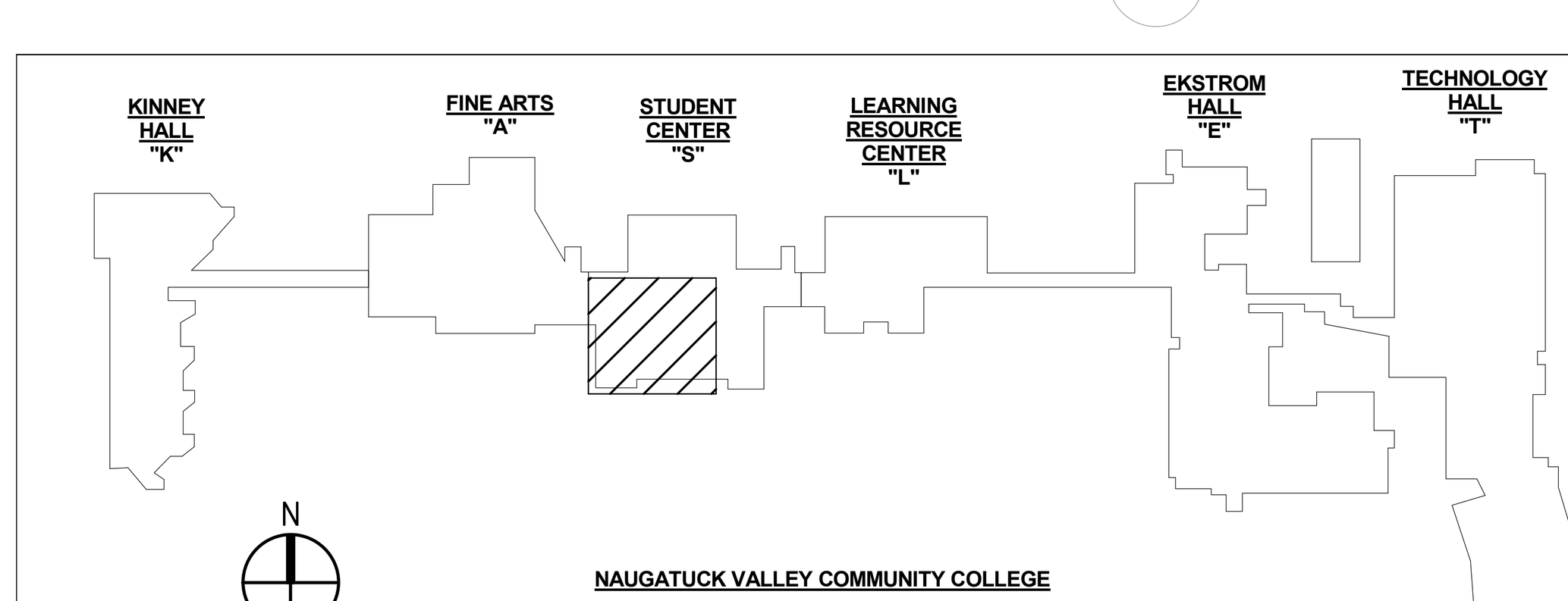
DESIGN DEVELOPMENT SUBMISSION

SEPTEMBER 25, 2017

NOT FOR CONSTRUCTION

1 CORE LEVEL 1 HVAC PLAN - NEW

1/4" = 1'-0"



drawing title: CORE LEVEL 1 HVAC PLAN - NEW

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date:
scale: 1/4" = 1'-0"
drawn by: KLB
approved by: JBA
drawing no.: H-101.C2

PLOTTED: 11/14/2017 4:04:24 PM

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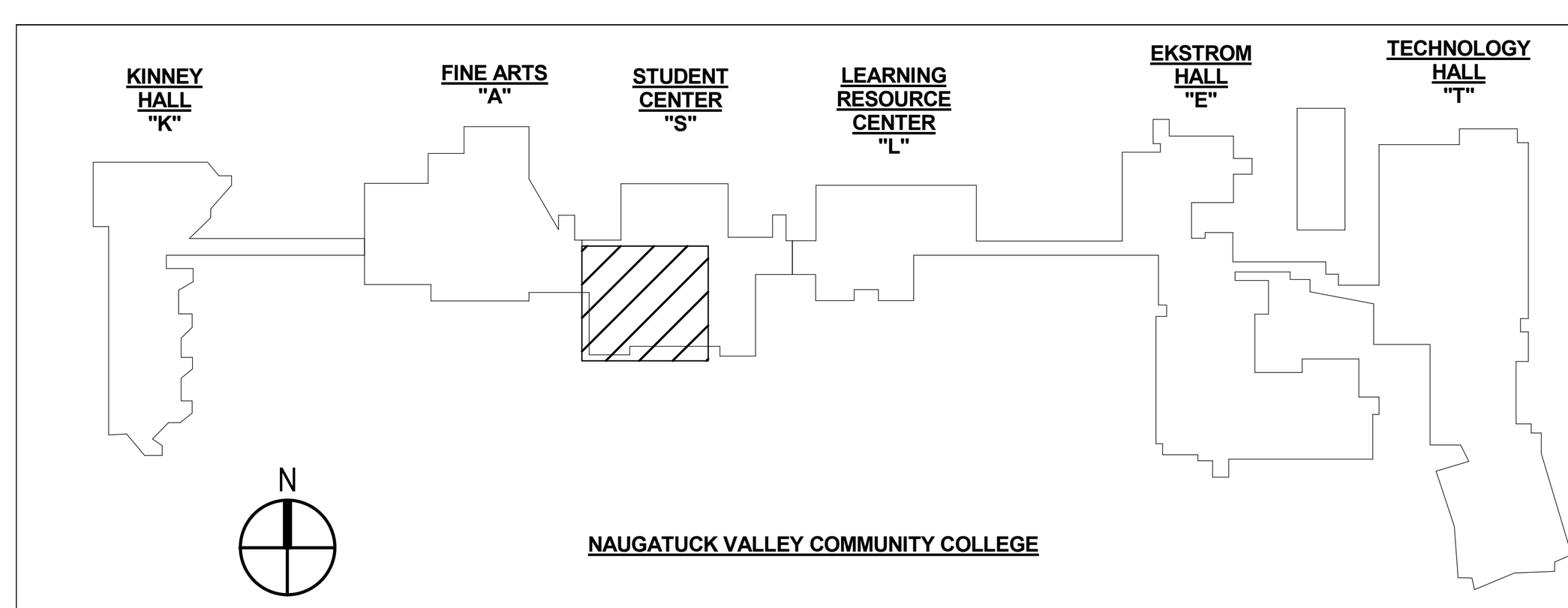
1 CORE LEVEL 1 HVAC PLAN - DEMOLITION
1/4" = 1'-0"

DEMOLITION NOTES

1. REMOVE EXISTING HIGH TEMPERATURE HOT WATER PIPING SYSTEM.
2. REMOVE EXISTING HIGH TEMPERATURE HOT WATER TO HOT WATER HEAT EXCHANGER SYSTEM.
3. REMOVE EXISTING PUMP SYSTEM.
4. REMOVE EXISTING SPECIALTIES SYSTEM.
5. REMOVE EXISTING ATC SYSTEM.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title: CORE LEVEL 1 HVAC PLAN - DEMOLITION

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date:
scale: 1/4" = 1'-0"
drawn by: KLB
approved by: JBA
drawing no.: H-101.C1

PLOTTED: 11/14/2017 4:04:18 PM

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290 Roberts Street, Suite 301
East Hartford, CT 06108
Telephone 860-282-9924
Fax 860-282-9826
www.atcgroupservices.com

December 28, 2017

Mr. Joel Baranowski
State of Connecticut
Department of Administrative Services
Division of Construction Services
450 Columbus Boulevard
Hartford, CT 06103

Re: Asbestos Inspection
Fine Arts
Naugatuck Valley Community College
Waterbury, Connecticut
Project BI-CTC-500
Building 63261
ATC Project 2257317033

Dear Mr. Baranowski:

Please find enclosed the Asbestos Inspection Report for Fine Arts at Naugatuck Valley Community College, Waterbury, Connecticut.

Should you have any questions concerning this report, do not hesitate to contact me at 860 282-9924 ext. 1123.

Sincerely,

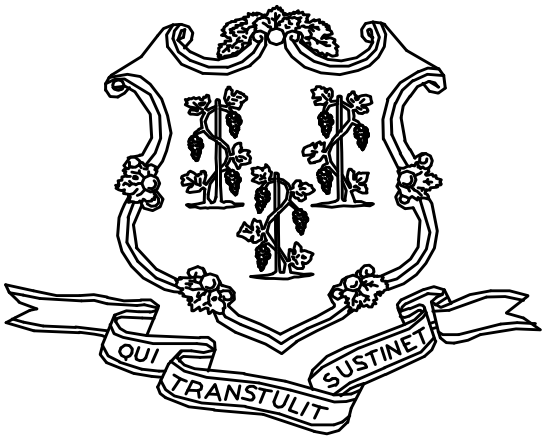
ATC Group Services LLC

_____

Edward P. Fennell Jr., P.E.
Division Manager
ATC Group Services LLC
Direct Line +1 860 282 9924 x1123
Email: edward.fennell@atcassociates.com
Encl: Asbestos Inspection Report Fine Arts NVCC

ASBESTOS INSPECTION REPORT

FINE ARTS
NAUGATUCK VALLEY COMMUNITY COLLEGE
WATERBURY, CONNECTICUT
BUILDING 63261
PROJECT BI-CTC-500



STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

Prepared by:

ATC GROUP SERVICES LLC
290 ROBERTS STREET - SUITE 301
EAST HARTFORD, CT 06108

ATC PROJECT 2257317033

DECEMBER 19, 2017

Table of Contents

1.0 INTRODUCTION

ATC Group Services LLC (ATC) of East Hartford, Connecticut was retained by the State of Connecticut, Department of Administrative Services, Division of Construction Services (CTDCS) to conduct a pre-renovation inspection at Fine Arts located at Naugatuck Valley Community College in Waterbury, Connecticut. The scope of the asbestos inspection included: surveying, sampling, and testing of suspect building materials.

The asbestos inspection was conducted by Mr. Scott Johnson on November 28, 2017. Mr. Johnson is a State of Connecticut, Department of Public Health (CTDPH) licensed asbestos inspector (CTDPH license number 000297). The survey was performed as a walk-through visual inspection, combined with the collection and analysis of bulk samples.

2.0 ASBESTOS-CONTAINING MATERIALS SURVEY

Materials which were considered suspect ACM included pipe fitting insulation, fiberglass pipe insulation paper/adhesive, spray-on fireproofing, end cap sealant, penetration sealants, suspended ceiling tile, gypsum board and joint compound, duct sealants, duct gasket putty, and fire stop sealant. Suspect materials that are inaccessible and were not sampled include gaskets.

2.1 ASBESTOS BULK SAMPLE COLLECTION/ANALYSIS PROCEDURE

Building materials considered suspect ACM were inspected and assessed using the methods presented in the United States Environmental Protection Agency AHERA regulations (40 CFR Part 763) and NESHAP regulations (40 CFR Part 61).

ATC collected bulk samples of building materials utilizing a sampling strategy that correlated with 40 CFR 763.86 as follows:

(a) *Surfacing materials.* An accredited inspector shall collect, in a statistically random manner that is representative of the homogeneous area, bulk samples from each homogeneous area of friable surfacing material that is not assumed to be ACM, and shall collect the samples as follows:

(1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft^2 or less, except as provided in 40 CFR Part 763.87(c)(2).

(2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft^2 but less than or equal to 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).

(3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).

(b) *Thermal system insulation.*

(1) Except as provided in paragraphs (b)(2) through (4) of this section and 40 CFR Part 763.87(c), an accredited inspector shall collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that is not assumed to be ACM.

(2) Collect at least one bulk sample from each homogeneous area of patched thermal system insulation that is not assumed to be ACM if the patched section is less than 6 linear or square feet.

(3) In a manner sufficient to determine whether the material is ACM or not ACM, collect bulk samples from each insulated mechanical system that is not assumed to be ACM where cement or plaster is used on fittings such as tees, elbows, or valves, except as provided under 40 CFR Part 763.87(c)(2).

(4) Bulk samples are not required to be collected from any homogeneous area where the accredited inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) *Miscellaneous materials.* In a manner sufficient to determine whether material is ACM or not ACM, an accredited inspector shall collect bulk samples from each homogeneous area of friable or non-friable miscellaneous material that is not assumed to be ACM.

The bulk samples collected during the survey were analyzed by EMSL Analytical, Inc. (NVLAP #200700-0) located in Wallingford, Connecticut. The bulk samples were analyzed by Polarized Light Microscopy (PLM) with dispersion staining via EPA 600/R-93/116 Method. Utilizing PLM, the microscopist is able to identify and distinguish between asbestos group minerals and other fibrous materials such as cellulose, mineral wool, fiberglass, or synthetic fibers. The quantities of each of these substances is estimated based on the procedures defined in the above-cited reference and are reported as a percentage.

The EPA recognizes the following as asbestos: Chrysotile, Crocidolite, Amosite, Tremolite, Actinolite, and Anthophyllite. To be classified as ACM, the material must be determined to contain greater than one percent (1%) asbestos. In order to consider a material to be non-ACM, all samples of a homogeneous type of material that are collected must be analyzed and all results must indicate the material to contain less than 1% asbestos by weight.

3.0 ASBESTOS-CONTAINING MATERIALS

The results of PLM laboratory analysis indicated that the following materials are asbestos-containing material (ACM). ACM are those materials that contain greater than 1% asbestos, and are as follows:

- Duct Gasket Putty – Tan

The remaining materials which were sampled and tested were found to contain no detectable amounts of asbestos. Specifically, the following materials were determined to be non-ACM:

- Spray-On Fireproofing – Brown
- Mudded Pipe Fitting Insulation (All Sizes, All Systems)
- White End Cap Sealant
- Fiberglass Pipe Insulation Paper/Adhesive
- Fire Stop Sealant
- Floor Penetration Caulk
- Duct Sealant – Green
- Gypsum Board
- Joint Compound – White
- 2'x 2' Suspended Ceiling Tile – Coral Pattern

- Black Tar Drip at Electrical Penetration

Spray-On Fireproofing – Brown was identified to contain Vermiculite.

Refer to Section 6.0, Bulk Sample Summary of Suspect Materials, for all suspect materials that were identified and sampled.

4.0 DISCUSSION AND RECOMMENDATIONS

EPA regulations require the removal of Regulated Asbestos-Containing Materials (RACM) prior to renovation or demolition activities. RACM is defined as (a) Friable ACM, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation activities. The CTDPH defines "asbestos abatement" as removal, encapsulation, enclosure, renovation, repair, demolition, or other disturbance of ACM but does not include activities which are related to (A) the removal or repair of asbestos cement pipe and are performed by employees of a water company as defined in section 25-32a, or (B) the removal of non-friable ACM found exterior to a building or structure other than material defined as RACM in 40 CFR 61, the National Emission Standards for Hazardous Air Pollutants (NESHAP). Based upon these definitions, ACM identified in the building requires removal prior to renovation, demolition, or disturbance. The State of Connecticut Department of Environmental Protection (CTDEP) regulations require the proper disposal of all ACM, regardless of categorization.

Duct Gasket Putty – Tan could possibly be found on duct work throughout.

5.0 LIMITATIONS

As with all such assessments, the results of the sampling represent conditions found on the date of the survey and may not represent conditions found at other times. Additionally, this assessment was limited with respect to the specific parameters indicated above and should not be construed to be a comprehensive evaluation or a definitive representation of conditions within the facility. The information presented in this report is intended to be used as a guide to evaluate the need for further investigation or the need for modifications to the processes or procedures surveyed.

6.0 BULK SAMPLE SUMMARY OF SUSPECT MATERIALS

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
FINE ARTS

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112817-FA-1A	5th Floor Corridor Near A512C	Spray-On Fire Proofing Insulation – Brown	ND	-
112817-FA-1B	4th Floor Auditorium	Spray-On Fire Proofing Insulation – Brown	ND	-
112817-FA-1C	Mechanical Room A510	Spray-On Fire Proofing Insulation – Brown	ND	-
112817-FA-1D	Mechanical Room A510	Spray-On Fire Proofing Insulation – Brown	ND	-
112817-FA-1E	Mechanical Room A510	Spray-On Fire Proofing Insulation – Brown	ND	-
112817-FA-2A	Mechanical Room A510	White End Cap Sealant at (HW Pump 4)	ND	-
112817-FA-2B	Mechanical Room A510	White End Cap Sealant at (CHW #2)	ND	-
112817-FA-2C	Level 2 Pipe Tunnel	White End Cap Sealant (Drain Line)	ND	-
112817-FA-2D	Level 2 Pipe Tunnel	White End Cap Sealant (CHW Supply)	ND	-
112817-FA-3A	Mechanical Room A510	Fiberglass Pipe Insulation Paper/Adhesive	ND	-
112817-FA-3B	Level 2 Pipe Tunnel	Fiberglass Pipe Insulation Paper/Adhesive (CHW Supply)	ND	-
112817-FA-4A	Mechanical Room A510	Floor Penetration Caulk (HTHW Return)	ND	-
112817-FA-4B	Mechanical Room A510	Floor Penetration Caulk (CHW Return)	ND	-
112817-FA-5A	Level 2 Pipe Tunnel	Mudded Pipe Fitting Insulation (HTHW Return)	ND	-
112817-FA-5B	Level 2 Pipe Tunnel	Mudded Pipe Fitting Insulation (HTHW Supply at Ramp)	ND	-
112817-FA-5C	Level 2 Pipe Tunnel	Mudded Pipe Fitting Insulation (CHW Supply)	ND	-
112817-FA-5D	Level 2 Pipe Tunnel	Mudded Pipe Fitting Insulation (CHW Return)	ND	-
112817-FA-6A	**Mechanical Room A510**	**Duct Gasket Putty – Tan**	**3**	**Chrysotile**
112817-FA-6B	**Mechanical Room A510**	**Duct Gasket Putty – Tan**	**2**	**Chrysotile**

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
FINE ARTS

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112817-FA-7A	Mechanical Room A510	Duct Sealant on Air Supply Duct – Tan/Green	ND	-
112817-FA-7B	Mechanical Room A510	Duct Sealant – Green	<1	Chrysotile
112817-FA-8A	Level 2 Pipe Tunnel	Red Fire Stop Sealant	ND	-
112817-FA-9A	Level 2 Pipe Tunnel	Black Tar Drip at Electrical Penetration	ND	-
112817-FA-9B	Level 2 Pipe Tunnel	Black Tar Drip at Electrical Penetration	ND	-
112817-FA-10A	4th Floor Auditorium	2’ x 2’ Suspended Ceiling Tile – Coral Pattern	ND	-
112817-FA-10B	5th Floor Hall	2’ x 2’ Suspended Ceiling Tile – Coral Pattern	ND	-
112817-FA-11A	5th Floor Hall	Joint Compound – White	ND	-
112817-FA-11B	5th Floor Hall	Joint Compound – White	ND	-
112817-FA-12A	5th Floor Hall	Gypsum Board	ND	-
112817-FA-12B	5th Floor Hall	Gypsum Board	ND	-

ND = None Detected
HTHW = High Temp Hot Water
HW = Hot Water
CHW = Chilled Water

7.0 BULK SAMPLE RESULTS/CHAIN - OF - CUSTODY FORMS

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705223
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Attention:	Ed Fennell	**Phone:**	(860) 282-9924
	ATC Group Services LLC	**Fax:**	(860) 282-9826
	290 Roberts Street	**Received Date:**	12/08/2017 2:35 PM
	Suite 301	**Analysis Date:**	12/13/2017
	East Hartford, CT 06108	**Collected Date:**	11/30/2017
Project:	2257317033/NYCC-FINE ARTS, 750 CHASE PARKWAY WATERBURY, CT 06708		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-FA-1A *241705223-0001*	5th floor corridor near A512C - spray on fire proofing, brown	Tan Fibrous Homogeneous	35% Cellulose	10% Vermiculite 55% Non-fibrous (Other)	None Detected
112817-FA-1B *241705223-0002*	4th floor auditorium - spray on fire proofing, brown	Tan Fibrous Homogeneous	30% Cellulose	10% Vermiculite 60% Non-fibrous (Other)	None Detected
112817-FA-1C *241705223-0003*	A510 - spray on fire proofing, brown	Tan Fibrous Homogeneous	35% Cellulose 5% Glass	10% Vermiculite 50% Non-fibrous (Other)	None Detected
112817-FA-1D *241705223-0004*	A510 - spray on fire proofing, brown	Tan Fibrous Homogeneous	40% Cellulose 15% Glass	10% Vermiculite 35% Non-fibrous (Other)	None Detected
112817-FA-1E *241705223-0005*	A510 - spray on fire proofing, brown	Tan Fibrous Homogeneous	40% Cellulose 15% Glass	10% Vermiculite 35% Non-fibrous (Other)	None Detected
112817-FA-2A *241705223-0006*	A510 - white end cap sealant @ HW pump 4	White Non-Fibrous Homogeneous	5% Cellulose 10% Glass	85% Non-fibrous (Other)	None Detected
112817-FA-2B *241705223-0007*	A510 - white end cap sealant @ CHW #2	White/Yellow Fibrous Homogeneous	25% Glass	75% Non-fibrous (Other)	None Detected
112817-FA-2C *241705223-0008*	Level 2 tunnel - white end cap sealant on drain line	White/Yellow Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected
112817-FA-2D *241705223-0009*	Level 2 tunnel - white end cap sealant on CHW supply	Tan Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected
112817-FA-3A *241705223-0010*	A510 - fiberglass paper pipe insulation	Tan/Silver Fibrous Homogeneous	60% Cellulose 30% Glass	10% Non-fibrous (Other)	None Detected
112817-FA-3B *241705223-0011*	Level 2 tunnel - fiberglass pipe insulation paper @ CW supply	Tan/Silver Fibrous Homogeneous	70% Cellulose 30% Glass		None Detected
112817-FA-4A *241705223-0012*	A510 - penetration caulk @ HTHW return	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-FA-4B *241705223-0013*	A510 - penetration caulk @ CHW return	White Non-Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
112817-FA-5A *241705223-0014*	Level 2 pipe tunnel - mudded pipe fitting @ HTHW return	Gray/White Fibrous Homogeneous	20% Cellulose 30% Min. Wool	50% Non-fibrous (Other)	None Detected
112817-FA-5B *241705223-0015*	Level 2 pipe tunnel - mudded pipe fitting @ ramp	Gray/White Fibrous Homogeneous	20% Cellulose 30% Min. Wool	50% Non-fibrous (Other)	None Detected
112817-FA-5C *241705223-0016*	Level 2 pipe tunnel - mudded pipe fitting @ CHW supply	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected

Initial report from: 12/13/2017 13:46:16

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705223
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-FA-5D *241705223-0017*	Level 2 pipe tunnel - mudded pipe fitting @ CHW return	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-FA-6A *241705223-0018*	A510 - duct gasket sealant putty, tan	Tan Non-Fibrous Homogeneous	3% Cellulose	94% Non-fibrous (Other)	3% Chrysotile
112817-FA-6B *241705223-0019*	A510 - gasket putty, tan	Gray Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
112817-FA-7A *241705223-0020*	A510 - duct sealant on air supply duct, tan	Gray Non-Fibrous Homogeneous	10% Fibrous (Other)	90% Non-fibrous (Other)	None Detected
112817-FA-7B *241705223-0021* *The sample group is not homogeneous.*	A510 - duct sealant, green	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
112817-FA-8A *241705223-0022*	Level 2 pipe tunnel - red fire stop sealant	Red Non-Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
112817-FA-9A *241705223-0023*	Level 2 tunnel - black tar drip @ electrical penetration	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-FA-9B *241705223-0024*	Level 2 tunnel - black tar drip @ electrical penetration	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-FA-10A *241705223-0025*	4th floor auditorium - suspended ceiling tile, 2'x2' coral pattern	Gray Fibrous Homogeneous	75% Min. Wool	25% Non-fibrous (Other)	None Detected
112817-FA-10B *241705223-0026*	5th floor - 2'x2' suspended ceiling tile, coral pattern	Gray Fibrous Homogeneous	80% Min. Wool	20% Non-fibrous (Other)	None Detected
112817-FA-11A *241705223-0027*	5th floor - joint compound-white	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-FA-11B *241705223-0028*	5th floor - joint compound-white	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-FA-12A *241705223-0029*	5th floor - gypsum board-white	Gray/Tan Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
112817-FA-12B *241705223-0030*	5th floor - gypsum board-white	Gray Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected

Initial report from: 12/13/2017 13:46:16

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

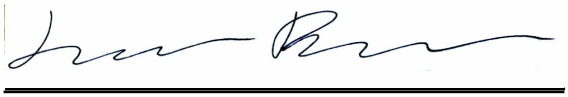
http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705223
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Analyst(s)

Lauren Buffone (18)

Quetcy Castro Romero (12)



Lauren Brennan, Asbestos Lab Manager
or Other Approved Signatory

Initial report from: 12/13/2017 13:46:16

OrderID: 241705223

ATC ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

BULK SAMPLE LOG

241705223

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573/7033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 30
Building: NVCC – Fine Arts	Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _of_ (homogeneous material)		Field Number
5th floor Corridor near A512C	Spray on Fire proofing, Brown	S		Y		1	5	112817-FA-1A
5th floor Auditorium	Spray on Fire proofing, Brown	S		Y		2	5	1B
A510	Spray on Fire proofing, Brown	S		Y		3	5	1C
A510	Spray on Fire proofing, Brown	S		Y		4	5	1D
A510	Spray on Fire proofing, Brown	S		Y		5	5	1E
A510	white End Cap Sealant @ HW pump 4	M		N		1	4	112817-FA-2A
A510	white End Cap Sealant @ CHW #2	M		N		2	4	2B
level 2 Tunnel	white End Cap Sealant on Drain line	M		N		3	4	2C
level 2 Tunnel	white End Cap Sealant on CHW Supply	M		N		4	4	2D
A510	Fiber glass paper Pipe insulation	M		N		1	2	112817-FA-3A
level 2 Tunnel	Fiber glass pipe insulation paper @ CW supply	M		N		2	2	3B
A510	Penetration Caulk @ HTHW return	M		N		1	2	112817-FA-4A
A510	Penetration Caulk @ CHW return	M		N		2	2	-FA-4B
level 2 pipe tunnel	Mudded pipe fitting @ HTHW return	TSI		Y		1	4	112817-FA-5A
level 2 Pipe Tunnel	Mudded pipe fitting @ ramp	TSI		Y		2	4	5B

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg) Water (extensive-moderate-slight-none) Deterioration (heavy-moderate-light-none) Friability (yes-no; hard-mod-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft) Accessibility (within reach-barely reachable-not reachable) Vibration (gym-music rm-auditorium-mechanical rm-elevator-other) Barriers (perm airtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type) Air conduits (air plenum - air shaft - elevator shaft - duct) Air movement (high-moderate-low) Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date:
Received By/Date:

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DEC 08 2017
By 14:35

OrderID: 241705223

ATC ENVIRONMENTAL · GEOTECHNICAL
BUILDING SCIENCES · MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

BULK SAMPLE LOG

241705223

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 2257317033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 30
Building: NVCC - Fine Arts	Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _of_ (homogeneous material)		Field Number
level 2 pipe tunnel	mudded pipe fitting @ CHW supply	TSI		Y		3	4	112817-FA-5C
level 2 pipe tunnel	mudded pipe fitting @ CHW return	TSI		Y		4	4	5D
A510	Duct Gasket Sealant puddy, Tan	M		N		1	2	112817-FA-6A
A510	Gasket puddy, Tan	M		N		2	2	6B
A510	Duct Sealant on Air supply Duct, FAN	M		N		1	2	112817-FA-7A
A510	Duct Sealant, Green	M		N		2	2	-7B
level 2 pipe tunnel	red Fire stop Sealant	M		N		1	1	112817-FA-8A
level 2 Tunnel	Black Tar Drip @ electrical penetration	M		N		1	2	112817-FA-9A
level 2 Tunnel	Black Tar Drip @ electrical penetration	M		N		2	2	9B
1st floor Auditorium	Suspended ceiling tile, 2'x2', coral pattern	M		Y		1	2	112817-FA-10A
5th floor	2'x2' suspended ceiling tile, coral pattern	M		Y		2	2	10B
5th floor	Joint compound - white	M		Y		1	2	112817-FA-11A
5th floor	Joint compound - white	M		Y		2	2	11B
5th floor	Gypsum Board - white	M		Y		1	2	112817-FA-12A
						2	2	-12B

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg) Water (extensive-moderate-slight-none) Deterioration (heavy-moderate-light-none) Friability (yes-no; hard-mod-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft) Accessibility (within reach-barely reachable-not reachable) Vibration (gym-music rm-auditorium-mechanical rm-elevator-other) Barriers (perm airtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type) Air conduits (air plenum - air shaft - elevator shaft - duct) Air movement (high-moderate-low) Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date:
Received By/Date:

RECEIVED
DEC 08 2017
By 14:35

APPENDIX A

LICENSE AND CERTIFICATION

Dear SCOTT J JOHNSON,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

RAUL PINO, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED BY THIS DEPARTMENT AS A:

ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SCOTT J JOHNSON

CERTIFICATE NO.
000297

CURRENT THROUGH
09/30/18

VALIDATION NO.
03-615244

SIGNATURE

COMMISSIONER

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

CERTIFICATE OF ACHIEVEMENT

This certifies that

Scott Johnson

has successfully completed the

Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

conducted by

ATC Group Services LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory Morsch

Principal Instructor: Gregory Morsch

October 12, 2017
Date of Course

October 12, 2018
Expiration Date

Gregory Morsch

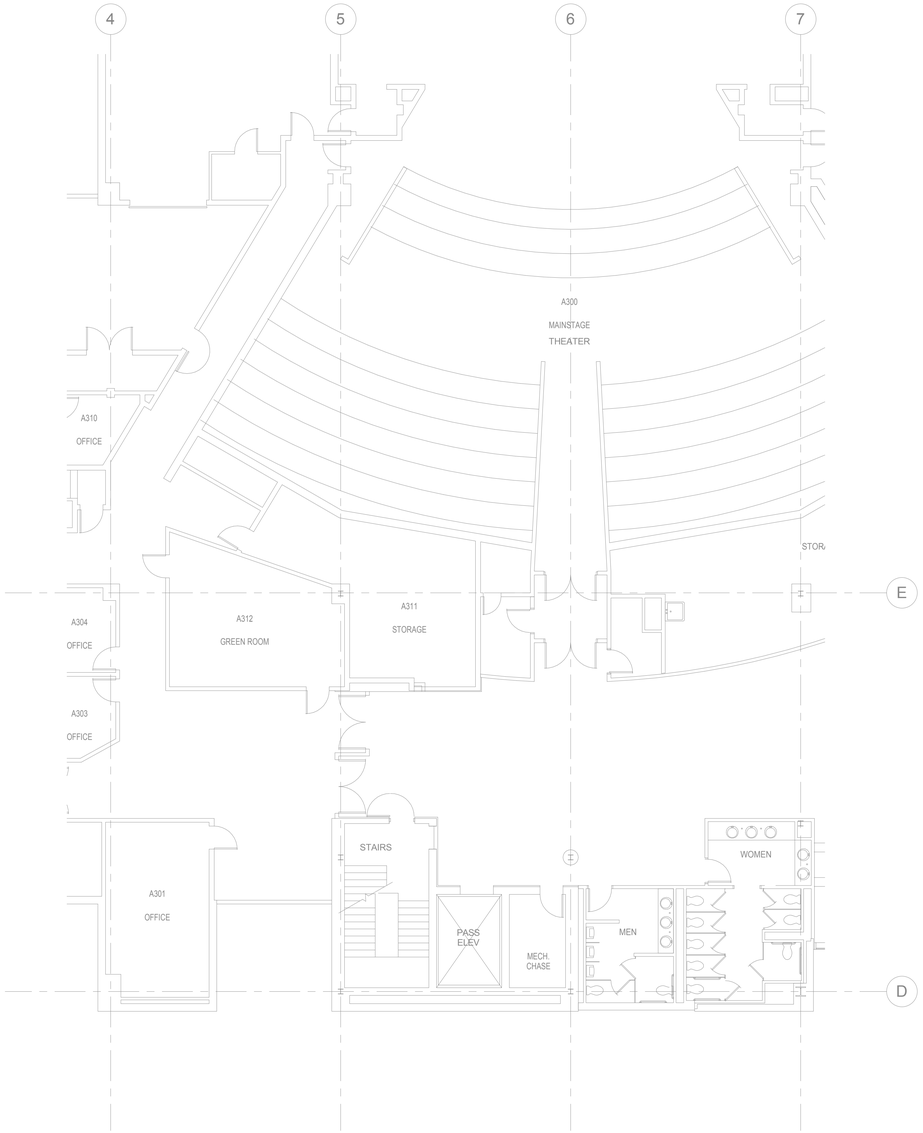
Regional Training Manager: Gregory Morsch

SIAR - 5858
Certificate Number

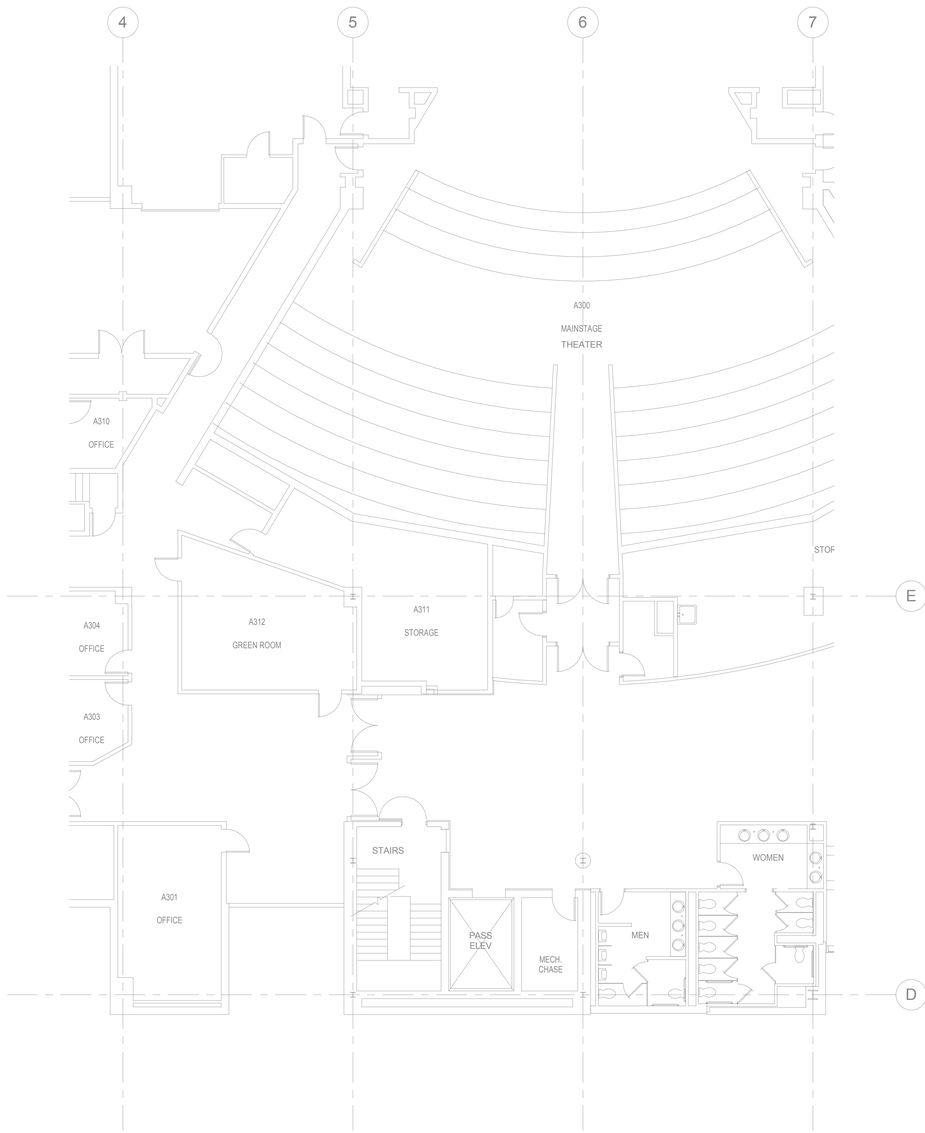
October 12, 2017
Examination Date

APPENDIX B

DRAWINGS

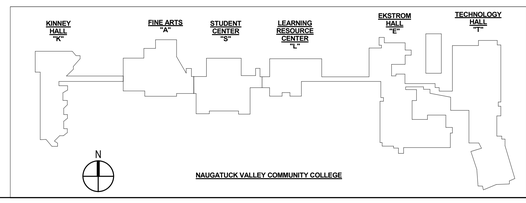


1 FINE ARTS LEVEL 3 PLUMBING PLAN - DEMOLITION
1/8" = 1'-0"



2 FINE ARTS LEVEL 3 PLUMBING PLAN - NEW
1/8" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
FINE ARTS LEVEL 3 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/8" = 1'-0"
drawn by Author
approved by Checker
drawing no. **P-103.A**

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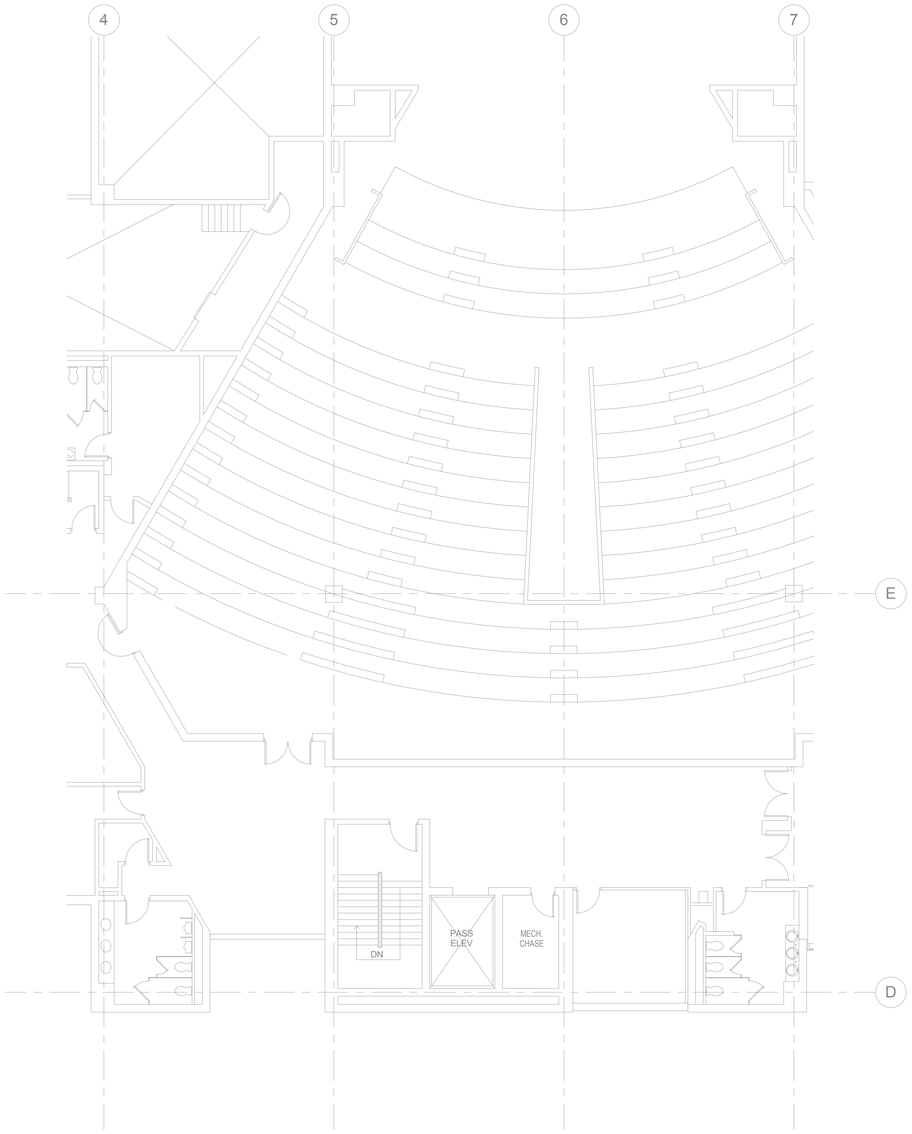

1 FINE ARTS LEVEL 4 PLUMBING PLAN - DEMOLITION
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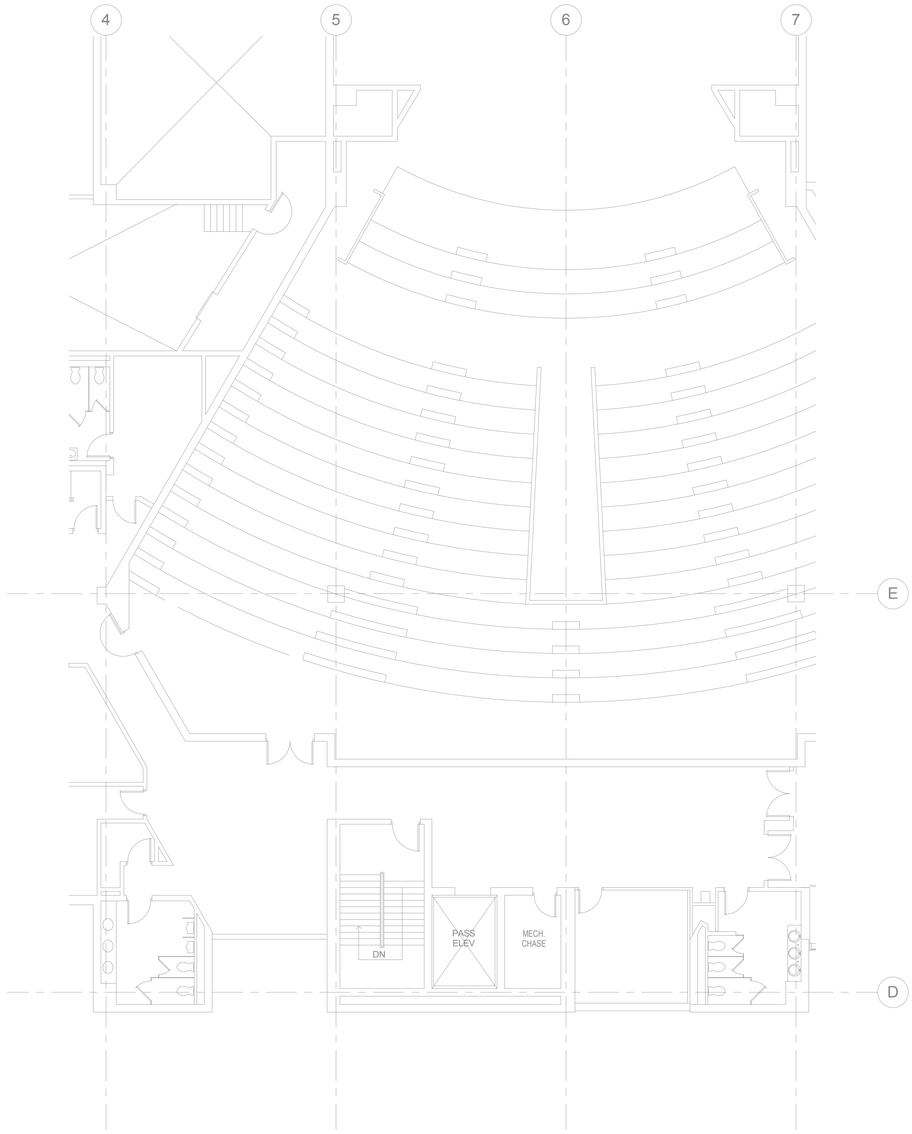
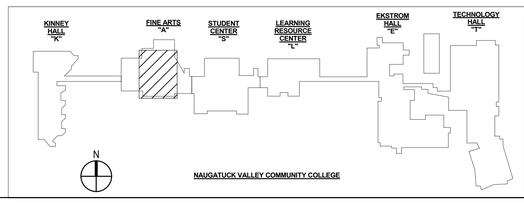


2 FINE ARTS LEVEL 4 PART PLAN - NEW
1/8" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
FINE ARTS LEVEL 4 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/8" = 1'-0"
drawn by Author
approved by Checker
drawing no. **P-104.A**

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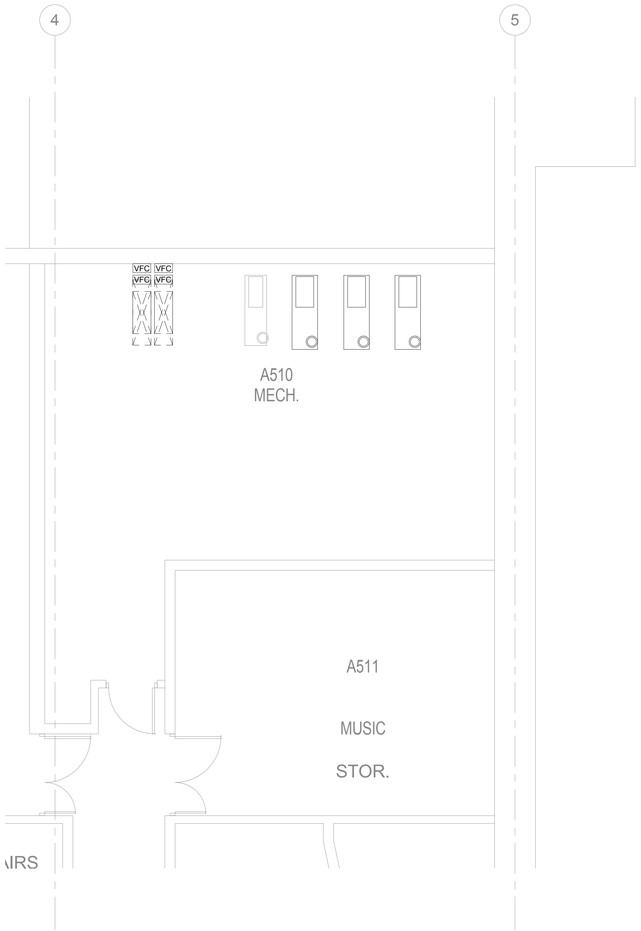
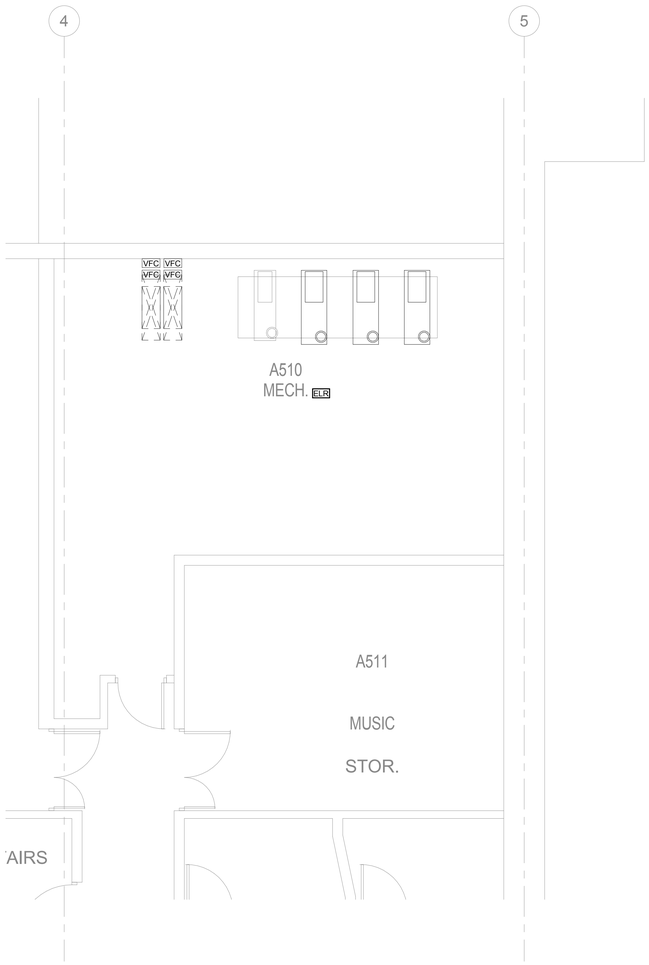
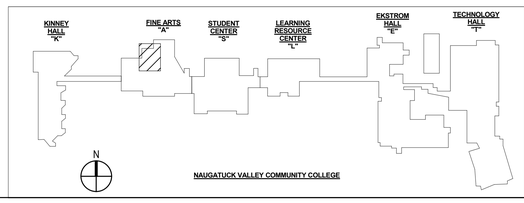


1 FINE ARTS LEVEL 5 PLUMBING PLAN - DEMOLITION
1/4" = 1'-0"



2 FINE ARTS LEVEL 5 PLUMBING PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
FINE ARTS LEVEL 5 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

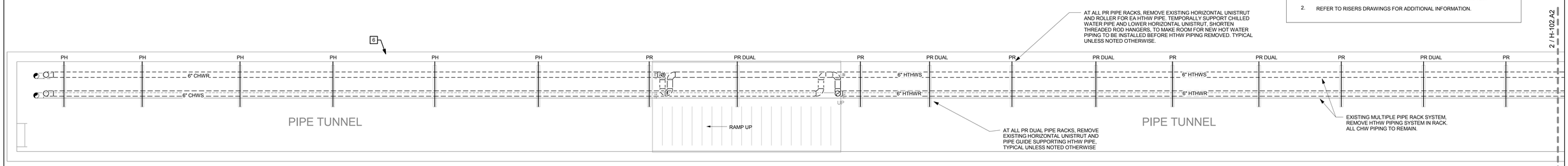
project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by Author
approved by Checker
drawing no. **P-105.A**

HVAC GENERAL DEMOLITION NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL DEMOLITION NOTES.
2. REFER TO RISERS DRAWINGS FOR ADDITIONAL INFORMATION.



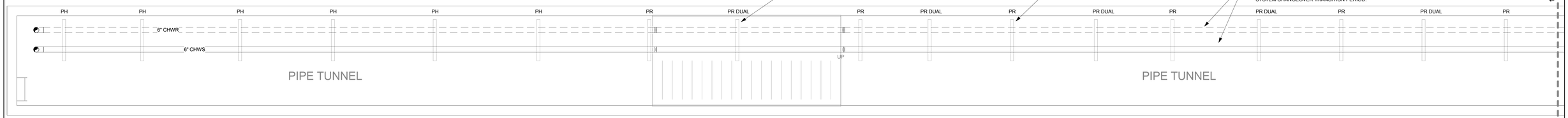
2 KINNEY HALL/FINE ARTS LEVEL 2 PIPE TUNNEL PART PLAN - DEMOLITION
1/4" = 1'-0"

DEMOLITION DRAWING NOTES

1 NOT USED.
2 NOT USED.

HVAC GENERAL NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL NOTES.
2. REFER TO RISERS AND FLOW DIAGRAMS FOR ADDITIONAL INFORMATION.



1 KINNEY HALL/FINE ARTS LEVEL 2 PIPE TUNNEL PART PLAN - NEW
1/4" = 1'-0"

NEW DRAWING NOTES

1 NOT USED.

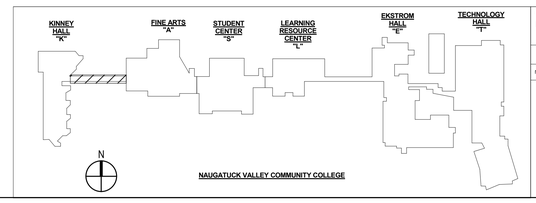
DRAWING GENERAL NOTES

1. SEE DWG # H-102.A1 NOTES ON DEMO AND NEW PLANS FOR SCOPE REQUIREMENTS RELATED TO REMOVAL OF HTHW SYSTEM AND INSTALLATION OF NEW HW SYSTEM, INCLUDING MODIFICATION TO PIPE RACK SYSTEMS.

LEGEND

PR	PIPE RACK SUPPORT SYSTEM WITH ROLLER SUPPORT FOR EACH PIPE
PR DUAL	EXISTING DUAL UNISTRUT FRAME PIPE RACK SUPPORT SYSTEM WITH PIPE CUIDE SUPPORT FOR EACH PIPE
PH	EXISTING MULTIPLE PIPE HANGER SUPPORT SYSTEM WITH THREADED ROD HUNG FROM STRUCTURE ABOVE AND ROLER PIPE SUPPORT

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
KINNEY HALL/FINE ARTS LEVEL 2 HVAC PIPE TUNNEL PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. H-102.A1

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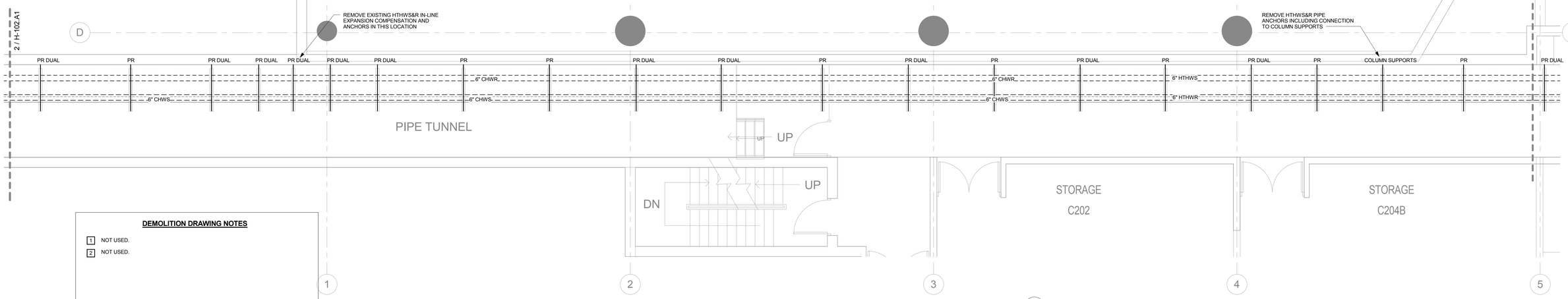
HVAC GENERAL DEMOLITION NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL DEMOLITION NOTES.
2. REFER TO RISERS DRAWINGS FOR ADDITIONAL INFORMATION.



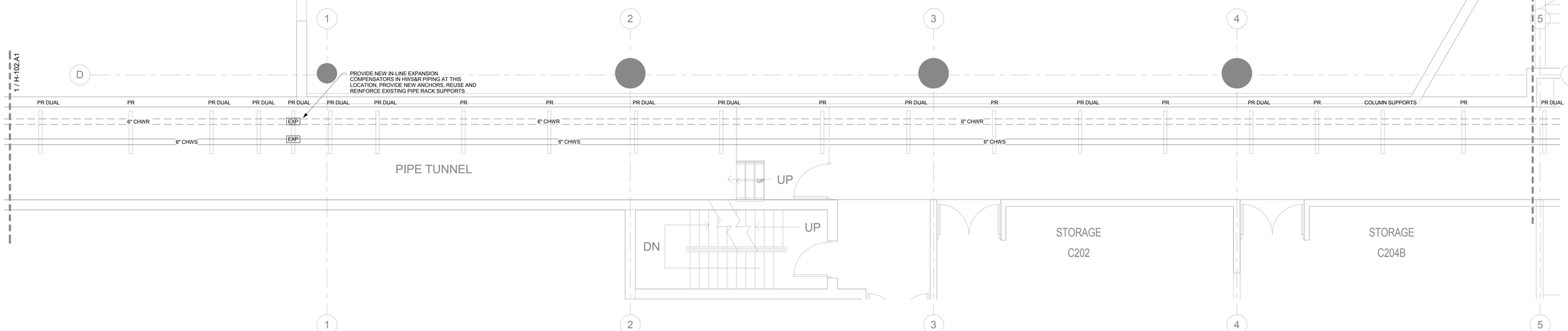
2 FINE ART LEVEL 2 PIPE TUNNEL PART PLAN - DEMOLITION
1/4" = 1'-0"

DEMOLITION DRAWING NOTES

1. NOT USED.
2. NOT USED.

HVAC GENERAL NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL NOTES.
2. REFER TO RISERS AND FLOW DIAGRAMS FOR ADDITIONAL INFORMATION.



1 FINE ART LEVEL 2 PIPE TUNNEL PART PLAN - NEW
1/4" = 1'-0"

NEW DRAWING NOTES

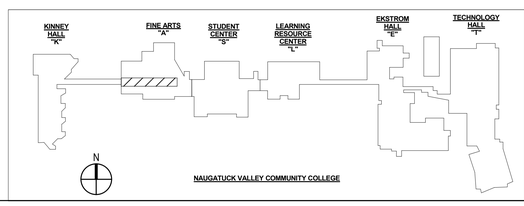
1. NOT USED.

DRAWING GENERAL NOTES

1. SEE DWG # H-102.A1 NOTES ON DEMO AND NEW PLANS FOR SCOPE REQUIREMENTS RELATED TO REMOVAL OF HTHW SYSTEM AND INSTALLATION OF NEW HW SYSTEM, INCLUDING MODIFICATION TO PIPE RACK SYSTEMS.

LEGEND

PR	PIPE RACK SUPPORT SYSTEM WITH ROLLER SUPPORT FOR EACH PIPE
PR DUAL	EXISTING DUAL UNISTRUT FRAME PIPE RACK SUPPORT SYSTEM WITH PIPE CUIDE SUPPORT FOR EACH PIPE
PH	EXISTING MULTIPLE PIPE HANGER SUPPORT SYSTEM WITH THREADED ROD HUNG FROM STRUCTURE ABOVE AND ROLER PIPE SUPPORT



DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION

drawing title: FINE ARTS LEVEL 2 HVAC PIPE TUNNEL PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by: BVH INTEGRATED SERVICES, 50 GRIFFIN ROAD SOUTH, BLOOMFIELD CT, 06002

project: RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043 | project no. BI-CTC-500

date | scale: 1/4" = 1'-0" | drawn by: KLB | approved by: JBA | drawing no.: H-102.A2

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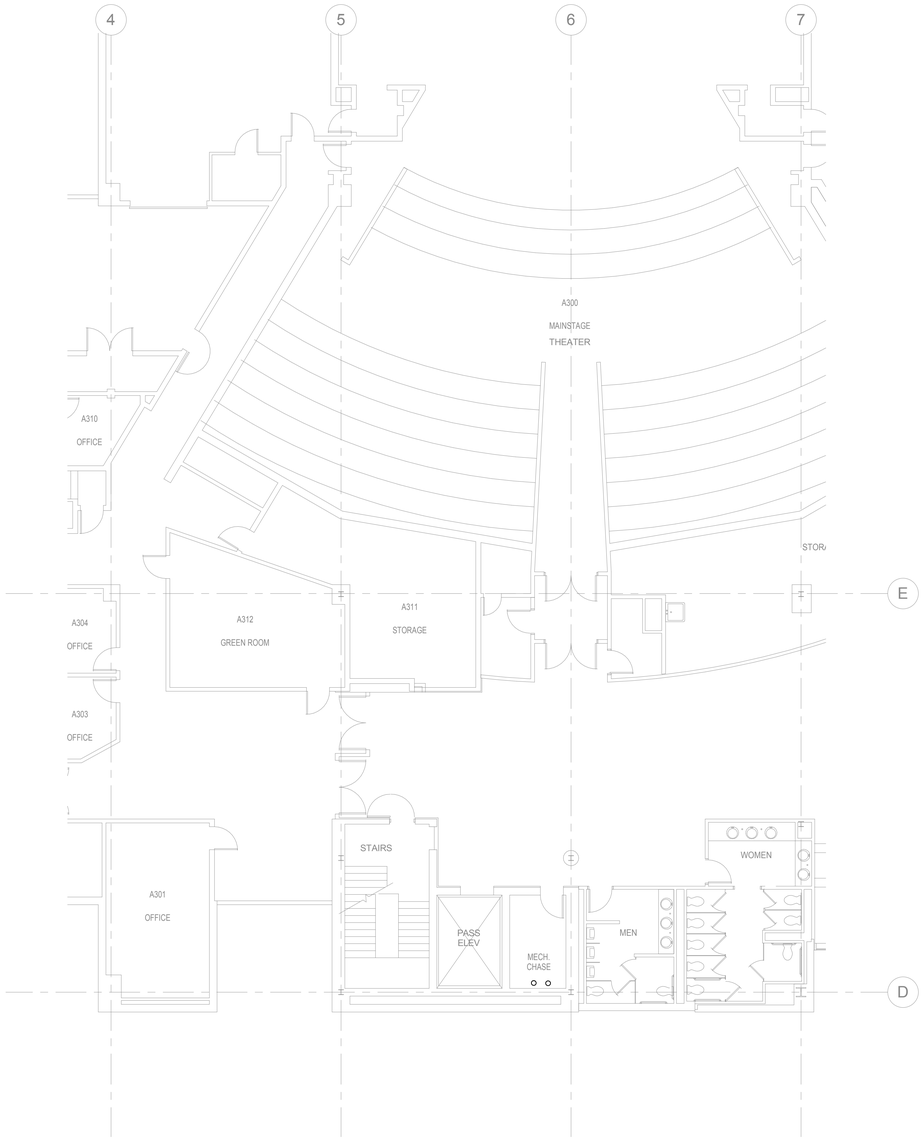
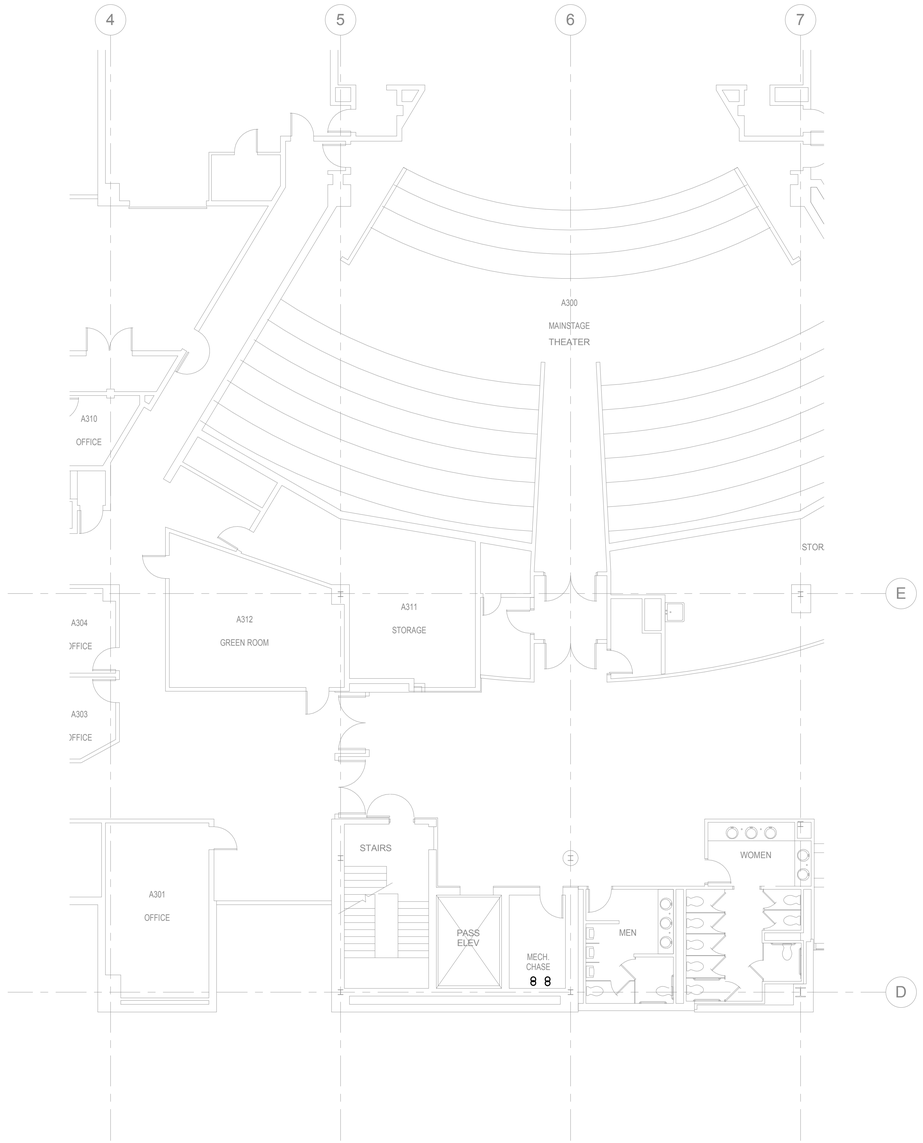
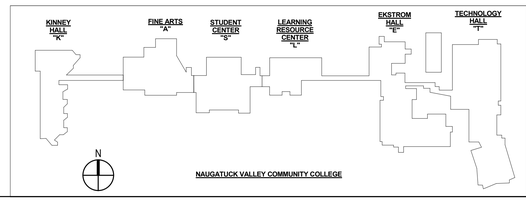


1 FINE ARTS LEVEL 3 HVAC PLAN - DEMOLITION
1/8" = 1'-0"



2 FINE ARTS LEVEL 3 HVAC PLAN - NEW
1/8" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
FINE ARTS LEVEL 3 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/8" = 1'-0"
drawn by Author
approved by Checker
drawing no. **H-103.A**

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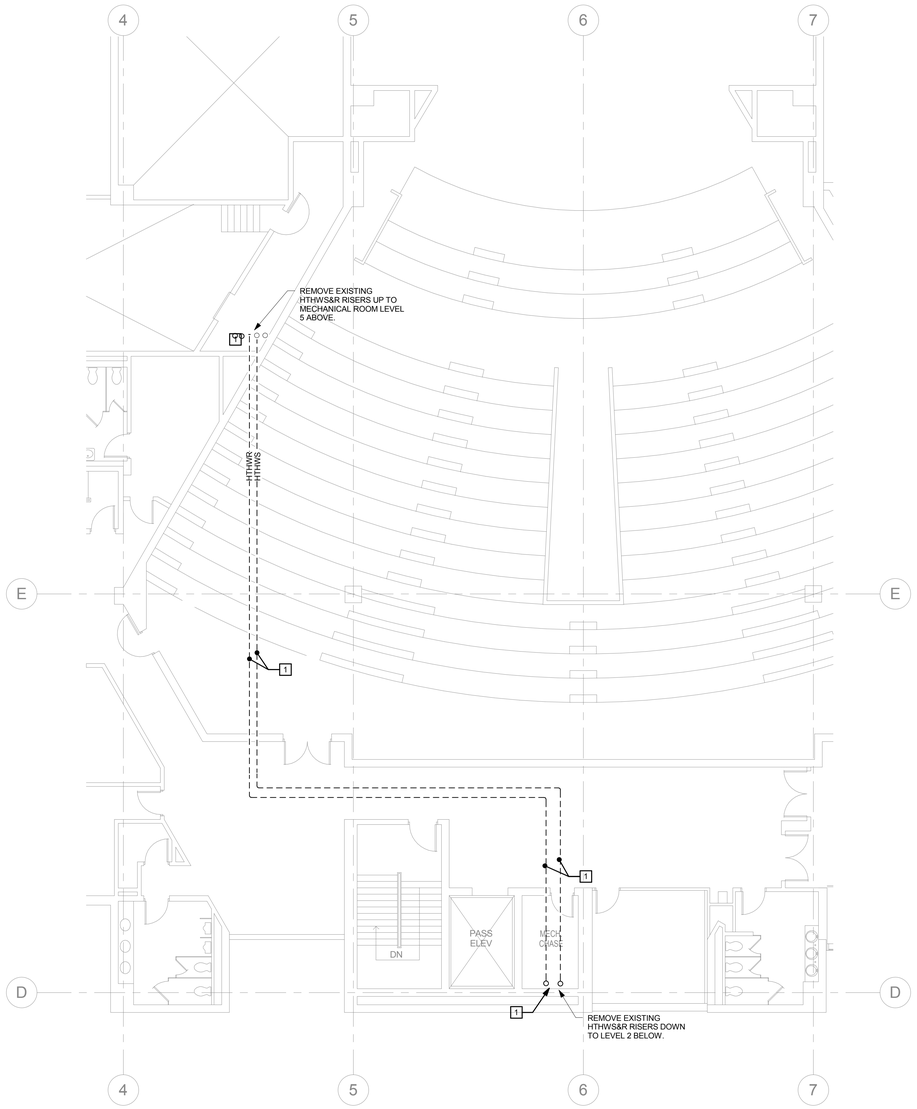
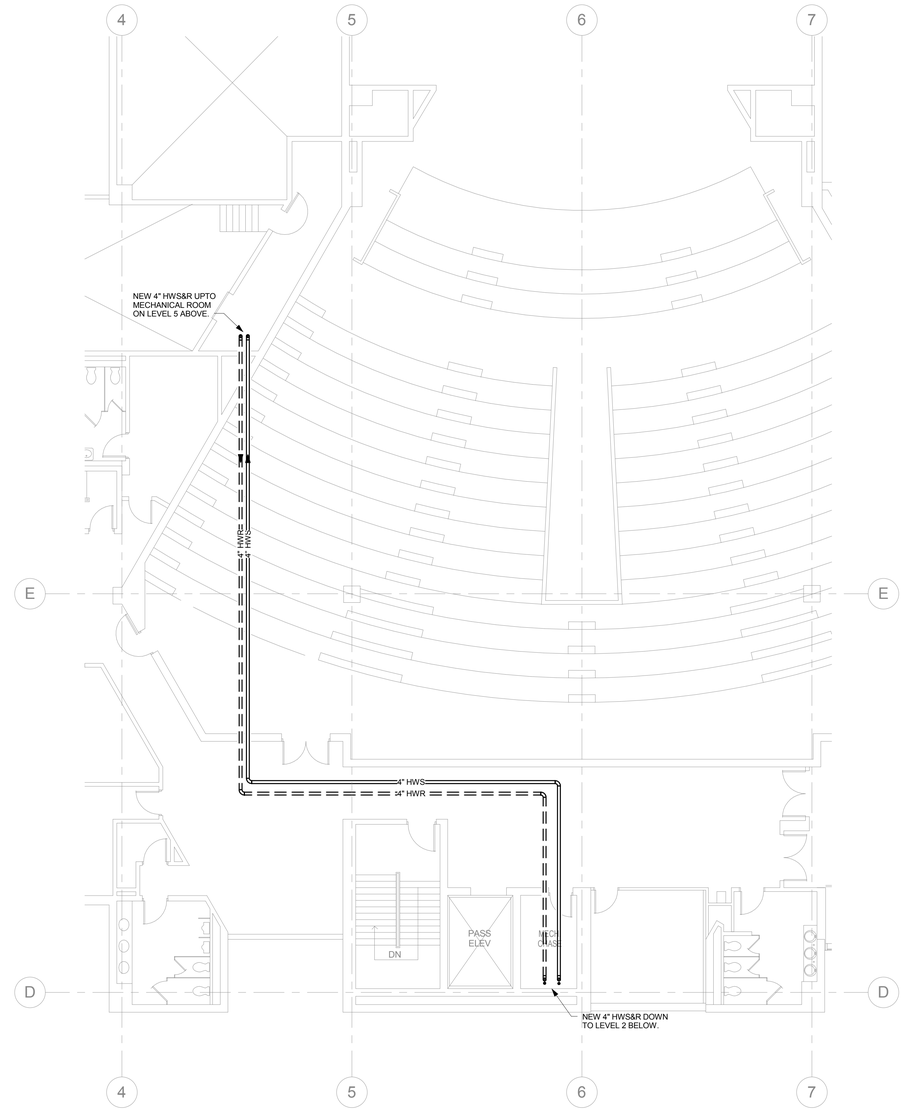


3 FINE ARTS LEVEL 4 HVAC PLAN - DEMOLITION
1/8" = 1'-0"



2 FINE ARTS LEVEL 4 HVAC PLAN - NEW
1/8" = 1'-0"

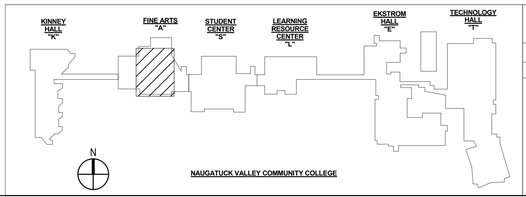
DEMOLITION NOTES

1. REMOVE EXISTING HIGH TEMPERATURE HOT WATER PIPING SYSTEM.
2. REMOVE EXISTING HIGH TEMPERATURE HOT WATER TO HOT WATER HEAT EXCHANGER SYSTEM.
3. REMOVE EXISTING PUMP SYSTEM.
4. REMOVE EXISTING SPECIALTIES SYSTEM.
5. REMOVE EXISTING ATC SYSTEM.

NEW DRAWING NOTES

1. NOT USED.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
FINE ARTS LEVEL 4 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
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date
scale 1/8" = 1'-0"
drawn by KLB
approved by JBA
drawing no. **H-104.A**

11/14/2017 4:04:34 PM E:\REVIT\WCC21\16043 - MEP - 2016 (R3).rvt

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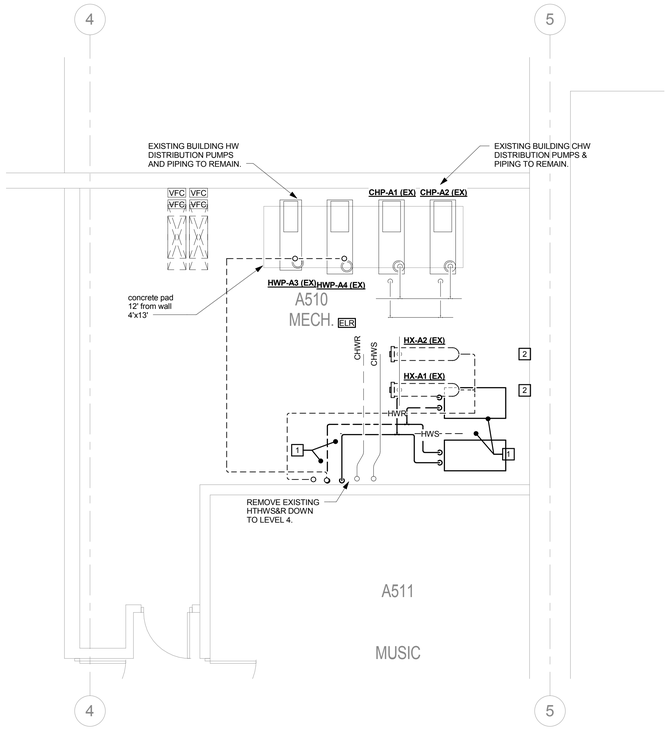
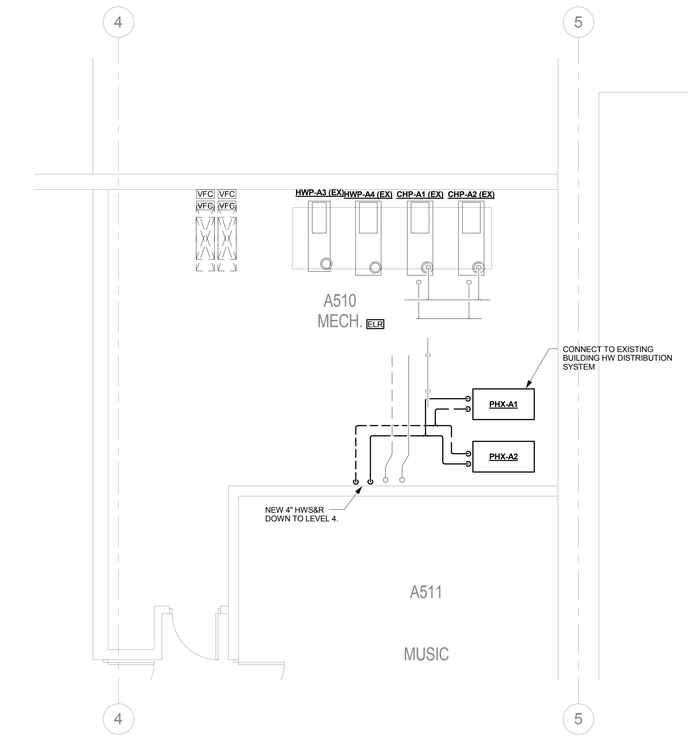


4 FINE ARTS LEVEL 5 HVAC PLAN - DEMOLITION
1/4" = 1'-0"



3 FINE ARTS LEVEL 5 HVAC PLAN - NEW
1/4" = 1'-0"

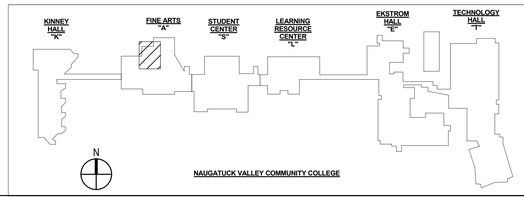
DEMOLITION NOTES

1. REMOVE EXISTING HIGH TEMPERATURE HOT WATER PIPING SYSTEM.
2. REMOVE EXISTING HIGH TEMPERATURE HOT WATER TO HOT WATER HEAT EXCHANGER SYSTEM.
3. REMOVE EXISTING PUMP SYSTEM.
4. REMOVE EXISTING SPECIALTIES SYSTEM.
5. REMOVE EXISTING ATC SYSTEM.

NEW DRAWING NOTES

1. NOT USED.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title: FINE ARTS LEVEL 5 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

date:
scale: 1/4" = 1'-0"
drawn by: KLB
approved by: JBA
drawing no.: **H-105.A**

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no.: 21-16-043
project no.: BI-CTC-500

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ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
Telephone 860-282-9924
Fax 860-282-9826
www.atcgroupservices.com

December 28, 2017

Mr. Joel Baranowski
State of Connecticut
Department of Administrative Services
Division of Construction Services
450 Columbus Boulevard
Hartford, CT 06103

Re: Asbestos Inspection
Learning Resource Center
Naugatuck Valley Community College
Waterbury, Connecticut
Project BI-CTC-500
Building 63261
ATC Project 2257317033

Dear Mr. Baranowski:

Please find enclosed the Asbestos Inspection Report for the Learning Resource Center at Naugatuck Valley Community College, Waterbury, Connecticut.

Should you have any questions concerning this report, do not hesitate to contact me at 860 282-9924 ext. 1123.

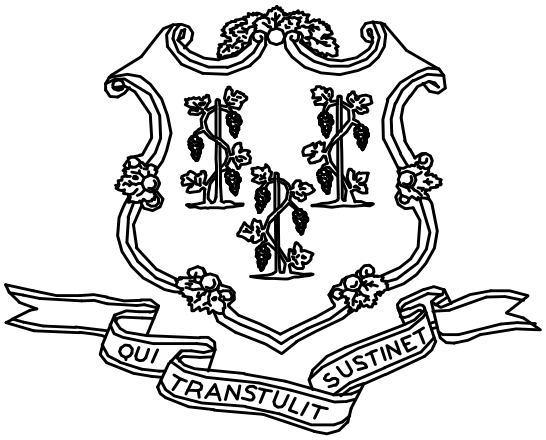
Sincerely,

ATC Group Services LLC

Edward P. Fennell Jr., P.E.
Division Manager
ATC Group Services LLC
Direct Line +1 860 282 9924 x1123
Email: edward.fennell@atcassociates.com
Encl: Asbestos Inspection Report Learning Resource Center NVCC

ASBESTOS INSPECTION REPORT

LEARNING RESOURCE CENTER
NAUGATUCK VALLEY COMMUNITY COLLEGE
WATERBURY, CONNECTICUT
BUILDING 63261
PROJECT BI-CTC-500



STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

Prepared by:

ATC GROUP SERVICES LLC
290 ROBERTS STREET - SUITE 301
EAST HARTFORD, CT 06108

ATC PROJECT 2257317033

DECEMBER 19, 2017

Table of Contents

1.0 INTRODUCTION

ATC Group Services LLC (ATC) of East Hartford, Connecticut was retained by the State of Connecticut, Department of Administrative Services, Division of Construction Services (CTDCS) to conduct a pre-renovation inspection at Learning Resource Center located at Naugatuck Valley Community College in Waterbury, Connecticut. The scope of the asbestos inspection included: surveying, sampling, and testing of suspect building materials.

The asbestos inspection was conducted by Mr. Scott Johnson on November 28, 2017. Mr. Johnson is a State of Connecticut, Department of Public Health (CTDPH) licensed asbestos inspector (CTDPH license number 000297). The survey was performed as a walk-through visual inspection, combined with the collection and analysis of bulk samples.

2.0 ASBESTOS-CONTAINING MATERIALS SURVEY

Materials which were considered suspect ACM included pipe fitting insulation, fiberglass pipe insulation paper/adhesive, spray-on fireproofing, gaskets, and end cap sealant, penetration sealants, suspended ceiling g tile, gypsum board, joint compound, cove base and adhesive. Suspect materials that are inaccessible and were not sampled include gaskets.

2.1 ASBESTOS BULK SAMPLE COLLECTION/ANALYSIS PROCEDURE

Building materials considered suspect ACM were inspected and assessed using the methods presented in the United States Environmental Protection Agency AHERA regulations (40 CFR Part 763) and NESHAP regulations (40 CFR Part 61).

ATC collected bulk samples of building materials utilizing a sampling strategy that correlated with 40 CFR 763.86 as follows:

(a) *Surfacing materials.* An accredited inspector shall collect, in a statistically random manner that is representative of the homogeneous area, bulk samples from each homogeneous area of friable surfacing material that is not assumed to be ACM, and shall collect the samples as follows:

(1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft^2 or less, except as provided in 40 CFR Part 763.87(c)(2).

(2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft^2 but less than or equal to 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).

(3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).

(b) *Thermal system insulation.*

(1) Except as provided in paragraphs (b)(2) through (4) of this section and 40 CFR Part 763.87(c), an accredited inspector shall collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that is not assumed to be ACM.

(2) Collect at least one bulk sample from each homogeneous area of patched thermal system insulation that is not assumed to be ACM if the patched section is less than 6 linear or square feet.

(3) In a manner sufficient to determine whether the material is ACM or not ACM, collect bulk samples from each insulated mechanical system that is not assumed to be ACM where cement or plaster is used on fittings such as tees, elbows, or valves, except as provided under 40 CFR Part 763.87(c)(2).

(4) Bulk samples are not required to be collected from any homogeneous area where the accredited inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) *Miscellaneous materials.* In a manner sufficient to determine whether material is ACM or not ACM, an accredited inspector shall collect bulk samples from each homogeneous area of friable or non-friable miscellaneous material that is not assumed to be ACM.

The bulk samples collected during the survey were analyzed by EMSL Analytical, Inc. (NVLAP #200700-0) located in Wallingford, Connecticut. The bulk samples were analyzed by Polarized Light Microscopy (PLM) with dispersion staining via EPA 600/R-93/116 Method. Utilizing PLM, the microscopist is able to identify and distinguish between asbestos group minerals and other fibrous materials such as cellulose, mineral wool, fiberglass, or synthetic fibers. The quantities of each of these substances is estimated based on the procedures defined in the above-cited reference and are reported as a percentage.

The EPA recognizes the following as asbestos: Chrysotile, Crocidolite, Amosite, Tremolite, Actinolite, and Anthophyllite. To be classified as ACM, the material must be determined to contain greater than one percent (1%) asbestos. In order to consider a material to be non-ACM, all samples of a homogeneous type of material that are collected must be analyzed and all results must indicate the material to contain less than 1% asbestos by weight.

3.0 ASBESTOS-CONTAINING MATERIALS

The results of PLM laboratory analysis indicated that the following materials are asbestos-containing material (ACM). ACM are those materials that contain greater than 1% asbestos, and are as follows:

- None

The remaining materials which were sampled and tested were found to contain no detectable amounts of asbestos. Specifically, the following materials were determined to be non-ACM:

- Spray-On Fireproofing – Brown
- Mudded End Cap Sealant
- Mudded Pipe Fitting Insulation (All Sizes, All Systems)
- Mudded Valve Insulation
- White End Cap Sealant
- Fiberglass Pipe Insulation Paper/Adhesive
- Fire Stop Sealant
- Electrical Penetration Putty
- Duct Sealant
- Gypsum Board

- Joint Compound – White
- 2'x 2' Suspended Ceiling Tile – Coral Pattern
- 2'x 4' Suspended Ceiling Tile – Fissured
- Cove Base and Associated Adhesive

Spray-On Fireproofing – Brown was identified to contain Vermiculite.

Refer to Section 6.0, Bulk Sample Summary of Suspect Materials, for all suspect materials that were identified and sampled.

4.0 DISCUSSION AND RECOMMENDATIONS

EPA regulations require the removal of Regulated Asbestos-Containing Materials (RACM) prior to renovation or demolition activities. RACM is defined as (a) Friable ACM, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation activities. The CTDPH defines "asbestos abatement" as removal, encapsulation, enclosure, renovation, repair, demolition, or other disturbance of ACM but does not include activities which are related to (A) the removal or repair of asbestos cement pipe and are performed by employees of a water company as defined in section 25-32a, or (B) the removal of non-friable ACM found exterior to a building or structure other than material defined as RACM in 40 CFR 61, the National Emission Standards for Hazardous Air Pollutants (NESHAP). Based upon these definitions, ACM identified in the building requires removal prior to renovation, demolition, or disturbance. The State of Connecticut Department of Environmental Protection (CTDEP) regulations require the proper disposal of all ACM, regardless of categorization.

Duct Gasket Putty – Tan could possibly be found on duct work throughout.

5.0 LIMITATIONS

As with all such assessments, the results of the sampling represent conditions found on the date of the survey and may not represent conditions found at other times. Additionally, this assessment was limited with respect to the specific parameters indicated above and should not be construed to be a comprehensive evaluation or a definitive representation of conditions within the facility. The information presented in this report is intended to be used as a guide to evaluate the need for further investigation or the need for modifications to the processes or procedures surveyed.

6.0 BULK SAMPLE SUMMARY OF SUSPECT MATERIALS

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
LEARNING RESOURCE CENTER

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112817-LC-1A	Level 2 Pipe Tunnel	Mudded Pipe Fitting Insulation (HW Return)	ND	-
112817-LC-1B	Level 2 Pipe Tunnel	Mudded Pipe Fitting Insulation (Drain Line)	ND	-
112817-LC-1C	Level 2 Pipe Tunnel	Mudded Pipe Fitting Insulation (Drain Line)	ND	-
112817-LC-1D	Level 2 Pipe Tunnel	Mudded Pipe Fitting Insulation (HW Supply)	ND	-
112817-LC-1E	Level 2 Pipe Tunnel	Mudded Pipe Fitting Insulation (Cold Water Supply)	ND	-
112817-LC-1F	Level 2 Pipe Tunnel	Mudded Pipe Fitting Insulation (CHW Supply)	ND	-
112817-LC-2A	Level 2 Pipe Tunnel	White End Cap Sealant (Drain Line)	ND	-
112817-LC-2B	Level 2 Pipe Tunnel	Mudded Valve Fitting Insulation (CHW Return)	ND	-
112817-LC-2C	Level 2 Pipe Tunnel	Mudded Valve Fitting Insulation (CHW Supply)	ND	-
112817-LC-2D	Level 2 Pipe Tunnel	White End Cap Sealant (HW Supply)	ND	-
112817-LC-3A	Level 2 Pipe Tunnel	Fiberglass Insulation Paper/Adhesive (CHW Return)	ND	-
112817-LC-3B	Level 2 Pipe Tunnel	Fiberglass Insulation Paper/Adhesive (HW Return)	ND	-
112817-LC-4A	L500	4” Red Cove Base	ND	-
112817-LC-4B	L500	Tan Adhesive for 4” Red Cove Base	ND	-
112817-LC-5A	L500	Green Duct Sealant	ND	-
112817-LC-6A	L500 Upper Level	Spray-On Fire Proofing Insulation	ND	-
112817-LC-6B	L500	Spray-On Fire Proofing Insulation	ND	-

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
LEARNING RESOURCE CENTER

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112817-LC-6C	L500	Spray-On Fire Proofing Insulation	ND	-
112817-LC-7A	L500	White Penetration Caulk	ND	-
112817-LC-7B	L500	Electrical Penetration Putty	ND	-
112817-LC-7C	L500	Red Fire Proof Putty	ND	-
112817-LC-7D	L500	Brown Fire Stop Sealant	ND	-
112817-LC-8A	L500	Fiberglass Pipe Insulation Paper/Adhesive	ND	-
112817-LC-8B	L500	White End Cap Sealant (HW Return)	ND	-
112817-LC-9A	L500 Corridor Outside	2'x2' Suspended Ceiling Tile – Coral Pattern	ND	-
112817-LC-10A	L500	Joint Compound – White	ND	-
112817-LC-10B	L500	Gypsum Board	ND	-
112817-LC-11A	L316 Custodial Room	2' X 4' Suspended Ceiling Tile – Fissured	ND	-
112817-LC-12A	L316	Fiberglass Pipe Insulation Paper/Adhesive	ND	-

ND = None Detected
HW = Hot Water
CHW = Chilled Water

7.0 BULK SAMPLE RESULTS/CHAIN - OF - CUSTODY FORMS

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705222
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Attention:	Ed Fennell	**Phone:**	(860) 282-9924
	ATC Group Services LLC	**Fax:**	(860) 282-9826
	290 Roberts Street	**Received Date:**	12/08/2017 2:35 PM
	Suite 301	**Analysis Date:**	12/09/2017 - 12/12/2017
	East Hartford, CT 06108	**Collected Date:**	11/30/2017
Project:	2257317033/NYCC-LEARNING CENTER, 750 CHASE PARKWAY WATERBURY, CT 06708		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-LC-1A *241705222-0001*	Level 2 pipe tunnel - mudded fitting, HW return	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-LC-1B *241705222-0002*	Level 2 pipe tunnel - mudded fitting on drain line	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-LC-1C *241705222-0003*	Level 2 pipe tunnel - mudded fitting on drain line	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-LC-1D *241705222-0004*	Level 2 pipe tunnel - mudded fitting on HW supply	Gray Fibrous Homogeneous	40% Min. Wool	60% Non-fibrous (Other)	None Detected
112817-LC-1E *241705222-0005*	Level 2 pipe tunnel - mudded fitting on cold water supply	Tan Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-LC-1F *241705222-0006*	Level 2 pipe tunnel - mudded fitting on CHW supply	Tan Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-LC-2A *241705222-0007*	Level 2 pipe tunnel - white end cap sealant on drain line	White/Yellow Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected
112817-LC-2B *241705222-0008*	Level 2 pipe tunnel - mudded valve fitting CHW return	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112817-LC-2C *241705222-0009*	Level 2 pipe tunnel - mudded valve fitting CHW supply	Tan Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-LC-2D *241705222-0010*	Level 2 pipe tunnel - white end cap sealant HW supply	Tan Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112817-LC-3A *241705222-0011*	Level 2 pipe tunnel - fiberglass insulation paper, CHW return	Tan/Silver Fibrous Homogeneous	70% Cellulose 20% Glass	10% Non-fibrous (Other)	None Detected
112817-LC-3B *241705222-0012*	Level 2 pipe tunnel - fiberglass insulation paper, HW return	Tan/Silver Fibrous Homogeneous	70% Cellulose 25% Glass	5% Non-fibrous (Other)	None Detected
112817-LC-4A *241705222-0013*	L500 - 4" red cove base	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-LC-4B *241705222-0014*	L500 - 4" red cove base adhesive	Yellow Non-Fibrous Homogeneous	2% Glass	98% Non-fibrous (Other)	None Detected
112817-LC-5A *241705222-0015*	L500 - green duct sealant	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-LC-6A *241705222-0016*	L500 upper level - spray on fire proofing	Brown Fibrous Homogeneous	50% Cellulose	20% Vermiculite 30% Non-fibrous (Other)	None Detected

Initial report from: 12/12/2017 16:53:50

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705222
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-LC-6B *241705222-0017*	L500 - spray on fire proofing	Brown Fibrous Homogeneous	60% Cellulose 5% Glass	20% Vermiculite 15% Non-fibrous (Other)	None Detected
112817-LC-6C *241705222-0018*	L500 - spray on fire proofing	Tan Fibrous Homogeneous	60% Cellulose 10% Glass	10% Vermiculite 20% Non-fibrous (Other)	None Detected
112817-LC-7A *241705222-0019*	L500 - white penetration caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-LC-7B *241705222-0020*	L500 - electrical penetration putty	Brown Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
112817-LC-7C *241705222-0021*	L500 - red fire proof putty	Tan Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
112817-LC-7D *241705222-0022*	L500 - brown fire stop sealant	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-LC-8A *241705222-0023*	L500 - fiberglass pipe insulation paper/adhesive	Tan/Silver Fibrous Homogeneous	70% Cellulose 20% Glass	10% Non-fibrous (Other)	None Detected
112817-LC-8B *241705222-0024*	L500 - white end cap sealant, HWP	Tan/Yellow Fibrous Homogeneous	60% Cellulose 20% Glass	20% Non-fibrous (Other)	None Detected
112817-LC-9A *241705222-0025*	L500 corridor outside - suspended ceiling tile coral pattern 2'x2'	Gray/Silver Fibrous Homogeneous	70% Min. Wool	30% Non-fibrous (Other)	None Detected
112817-LC-10A *241705222-0026*	L500 - joint compound white	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112817-LC-10B *241705222-0027*	L500 - gypsum board	Gray Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
112817-LC-11A *241705222-0028*	L316 custodial rm - 2'x4' suspended ceiling tile, fissured	Gray Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (Other)	None Detected
112817-LC-12A *241705222-0029*	L316 custodial - fiberglass pipe insulation paper/adhesive	Tan/Silver Fibrous Homogeneous	70% Cellulose 20% Glass	10% Non-fibrous (Other)	None Detected

Analyst(s)

Lauren Buffone (19)

Quetcy Castro Romero (10)

Lauren Brennan, Asbestos Lab Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0,

Initial report from: 12/12/2017 16:53:50

OrderID: 241705222

ATC ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

BULK SAMPLE LOG

241705222

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

ATC Inspector: JCOTT JOHNSON	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573/7033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 29
Building: NVCC – Learning Center	Address: 750 Chase Parkway, Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _ of _ (homogeneous material)		Field Number
level 2 pipe tunnel	Mudded fitting, HW Return	TSI		Y		1	6	112817-LC-1A
level 2 pipe tunnel	mudded fitting on Drain line	TSI		Y		2	6	-1B
level 2 pipe tunnel	Mudded fitting on Drain line	TSI		Y		3	6	-1C
level 2 pipe tunnel	mudded fitting on HW Supply	TSI		Y		4	6	-1D
level 2 pipe tunnel	mudded fitting on cold water supply	TSI		Y		5	6	-1E
level 2 pipe tunnel	Mudded fitting on CHW Supply	TSI		Y		6	6	-1F
level 2 pipe tunnel	White end Cap Sealant on Drain line	M		N		1	9	112817-LC-2A
level 2 pipe tunnel	Mudded valve fitting CHW return	M		Y		2	9	2B
level 2 pipe tunnel	mudded valve fitting CHW Supply	M		Y		3	4	2C
level 2 pipe tunnel	White End Cap Sealant HW Supply	M		N		4	4	2D
level 2 pipe tunnel	Fiber glass insulation paper, CHW return	M		N		1	2	112817-LC-3A
level 2 pipe tunnel	Fiber glass insulation paper, HW return	M		N		2	2	3B
L500	4" red cove box	M		N		1	2	112817-LC-4A
L500	4" red cove box Adhesive	M		N		2	2	4B
L500	Green Duct Sealant	M		N		1	1	112817-LC-5A

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg); Water (extensive-moderate-slight-none); Deterioration (heavy-moderate-light-none); Friability (yes-no; hard-med-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft); Accessibility (within reach-barely reachable-not reachable); Vibration (gym-music rm-auditorium-mechanical rm-elevator-other); Barriers (permairtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type); Air conduits (air plenum - air shaft - elevator shaft - duct); Air movement (high-moderate-low); Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date:
Received By/Date:

RECEIVED
DEC 08 2017
By

OrderID: 241705222

ENVIRONMENTAL • GEOTECHNICAL
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BULK SAMPLE LOG

241705222

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 2257317033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 29
Building: NVCC – Learning Center	Address: 750 Chase Parkway, Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _ of _ (homogeneous material)		Field Number
L500 upper level	Spray on Fire proofing	S		Y		1	3	112817-LC-6A
L500	Spray on Fire Proofing	S		Y		2	3	6B
L500	Spray on Fire Proofing	S		Y		3	3	6C
L500	White Penetration Caulk	M		N		1	4	112817-LC-7A
L500	Electrical Penetration Putty	M		N		2	4	7B
L500	Red Fire Proof Putty	M		N		3	4	7C
L500	Brown Fire Stop Sealant	M		N		4	4	7D
L500	Fiber glass pipe insulation Paper/adhesive	M		N		1	2	112817-LC-8A
L500	White End Cap Sealant, HWP	M		N		2	2	8B
L500 Corridor outside	Suspended ceiling tile, Cornl Pattern, 2'x2'	M		Y		1	1	112817-LC-9A
L500	Joint Compound, white	M		Y		1	2	112817-LC-10A
L500	Gypsum Board	M		Y		2	2	10B
L316 Custodial Rm	2'x4' Suspended ceiling tile, Fissured	M		Y		1	1	112817-LC-11A
L316	Fiber glass pipe insulation paper/Adhesive	M		N		1	1	112817-LC-12A

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg); Water (extensive-moderate-slight-none); Deterioration (heavy-moderate-light-none); Friability (yes-no; hard-mod-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft); Accessibility (within reach-barely reachable-not reachable); Vibration (gym-music rm-auditorium-mechanical rm-elevator-other); Barriers (perm-airtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type); Air conduits (air plenum - air shaft - elevator shaft - duct); Air movement (high-moderate-low); Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date:
Received By/Date:

RECEIVED DEC 08 2017 By 14:33

APPENDIX A

LICENSE AND CERTIFICATION

Dear SCOTT J JOHNSON,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

RAUL PINO, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED BY THIS DEPARTMENT AS A:

ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SCOTT J JOHNSON

CERTIFICATE NO.
000297

CURRENT THROUGH
09/30/18

VALIDATION NO.
03-615244

SIGNATURE

COMMISSIONER

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

CERTIFICATE OF ACHIEVEMENT

This certifies that

Scott Johnson

has successfully completed the

Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

conducted by

ATC Group Services LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory Morsch

Principal Instructor: Gregory Morsch

October 12, 2017
Date of Course

October 12, 2018
Expiration Date

Gregory Morsch

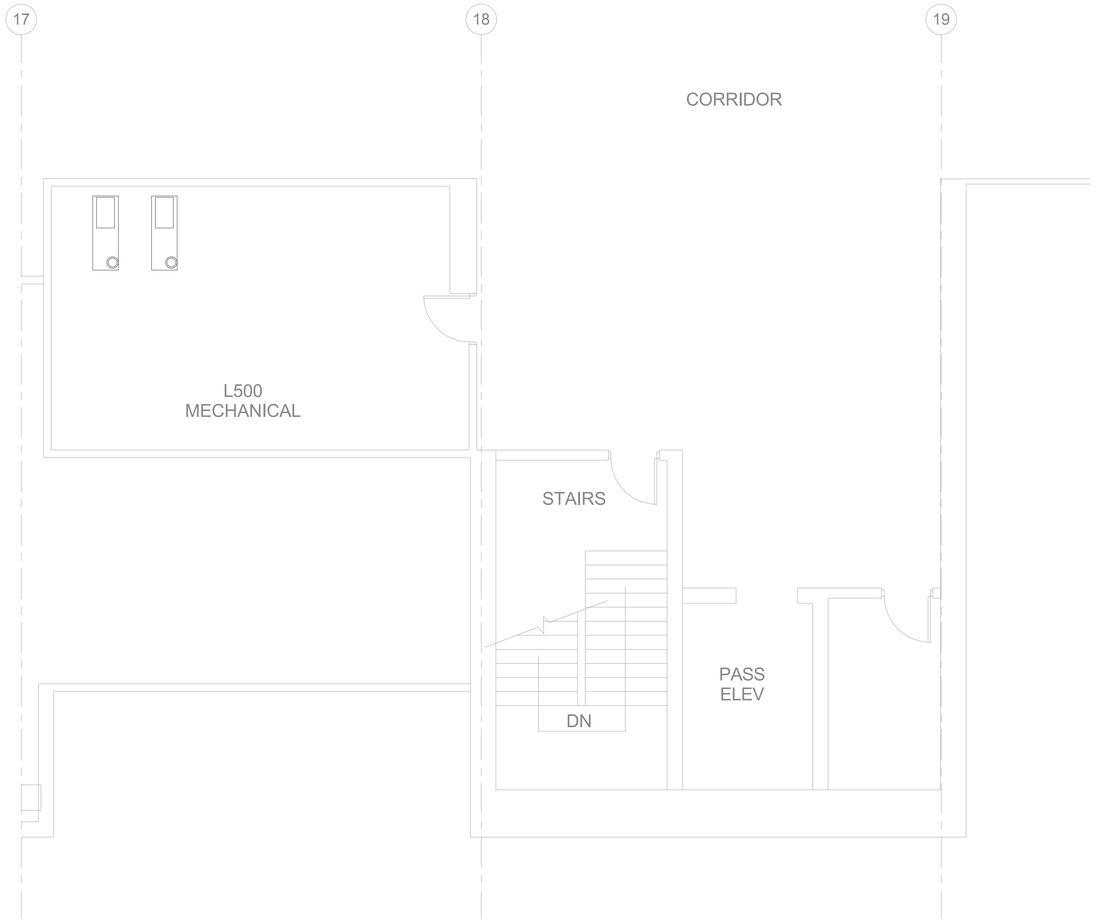
Regional Training Manager: Gregory Morsch

SIAR - 5858
Certificate Number

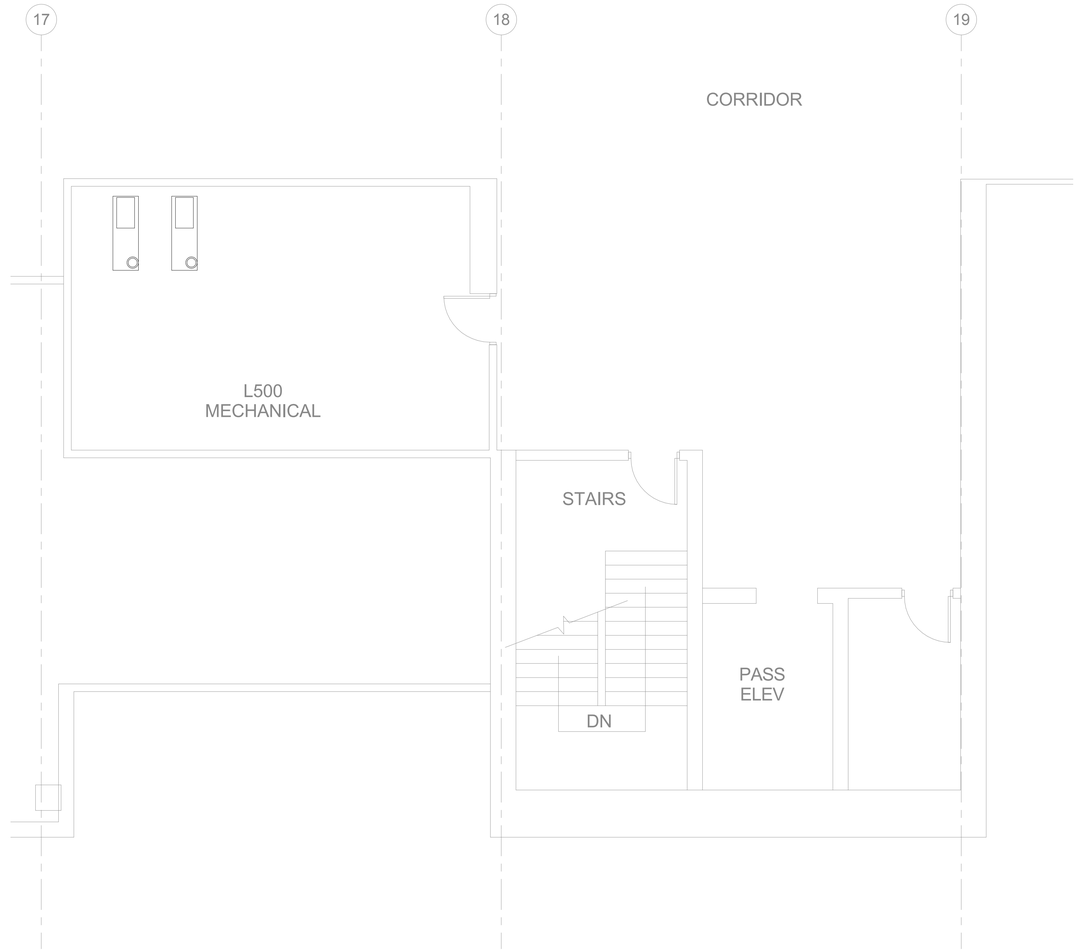
October 12, 2017
Examination Date

APPENDIX B

DRAWINGS

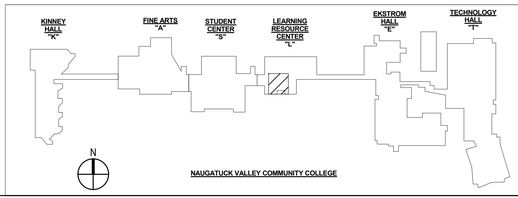


1 LERNING RESOURCE CENTER LEVEL 5 PLUMBING PLAN - DEMOLITION
1/4" = 1'-0"



2 LERNING RESOURCE CENTER LEVEL 5 PLUMBING PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
LERNING RESOURCE CENTER LEVEL 5 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by Author
approved by Checker
drawing no. **P-105.L**

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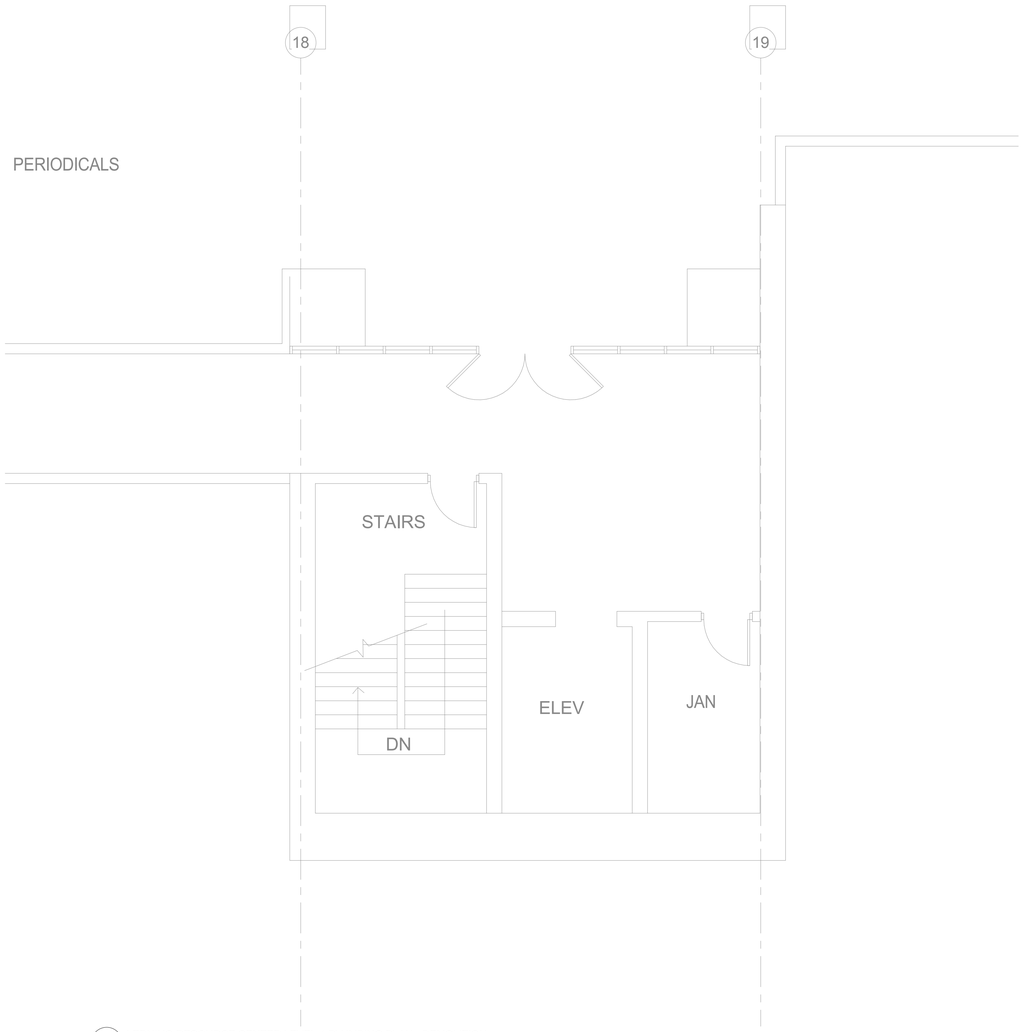
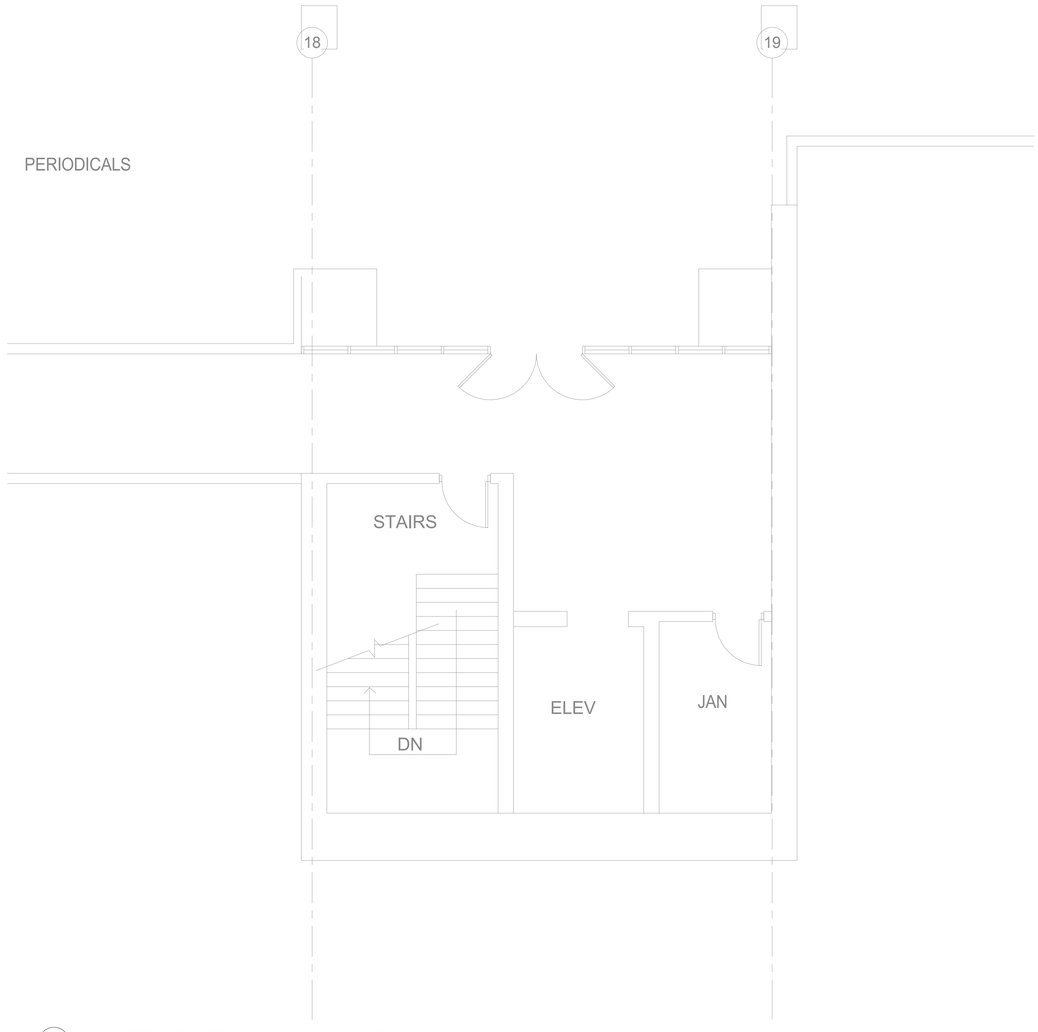
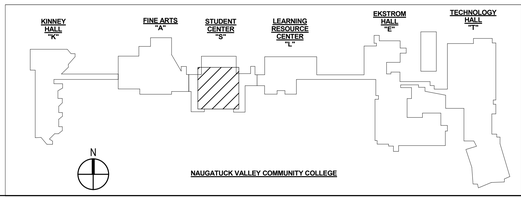


2 LERNING RESOURCE CENTER LEVEL 4 PLUMBING PLAN - DEMOLITION
1/4" = 1'-0"



1 LERNING RESOURCE CENTER LEVEL 4 PLUMBING PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
LERNING RESOURCE CENTER LEVEL 4 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

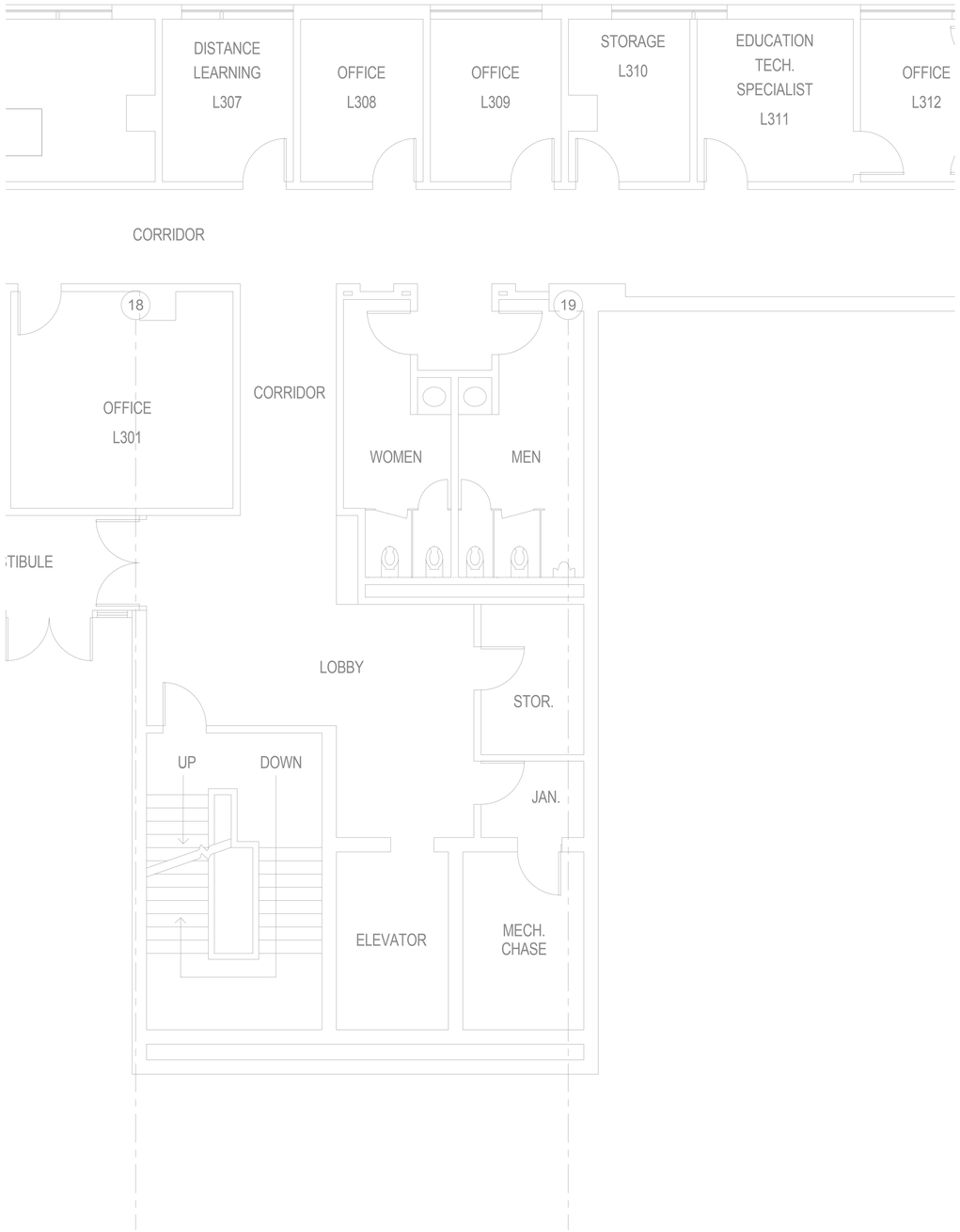
STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043	project no. BI-CTC-500

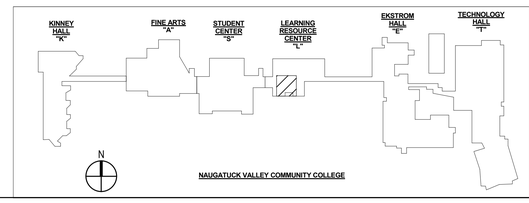
date	
scale	1/4" = 1'-0"
drawn by	JJM
approved by	JBA
drawing no.	**P-104.L**



1 LEARNING RESOURCE CENTER LEVEL 3 PLUMBING PLAN - DEMOLITION
1/4" = 1'-0"

2 LEARNING RESOURCE CENTER LEVEL 3 PLUMBING PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
LEARNING RESOURCE CENTER LEVEL 3 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
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date
scale 1/4" = 1'-0"
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approved by Checker
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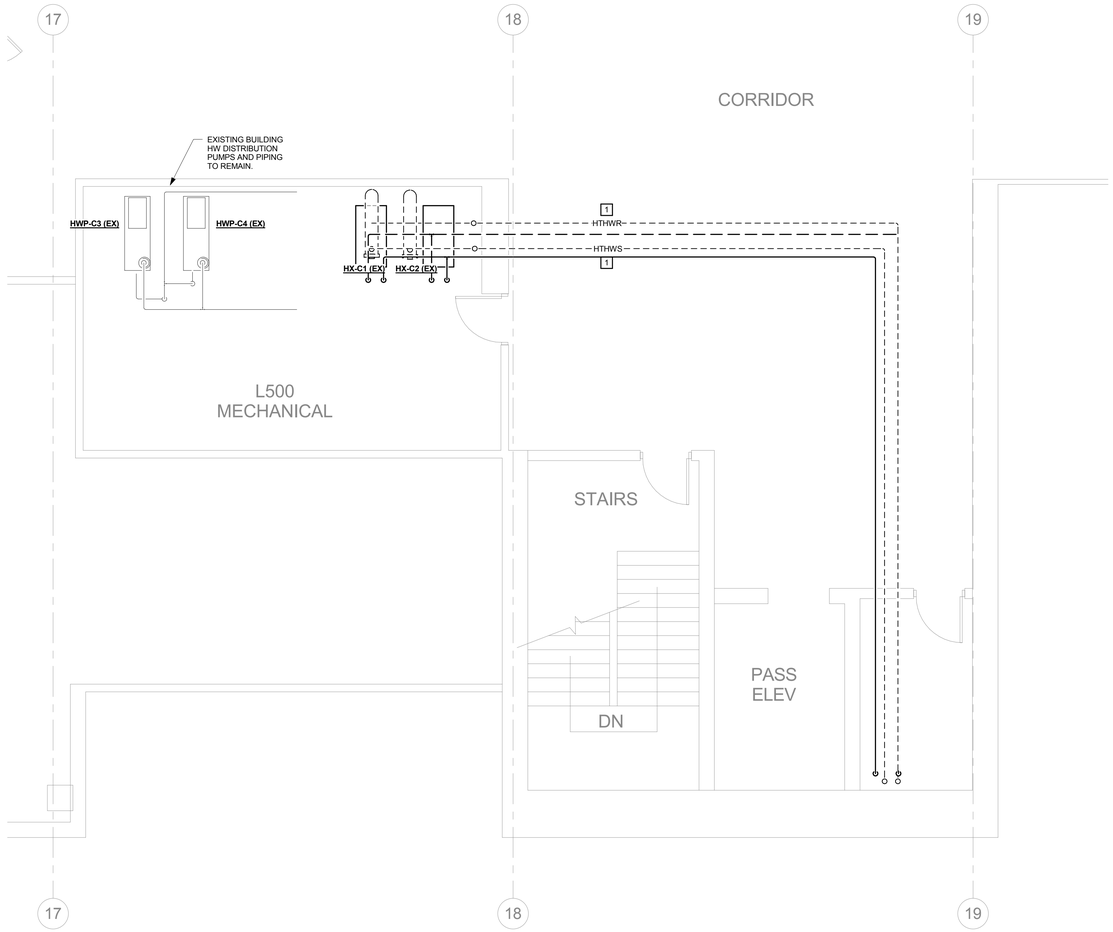
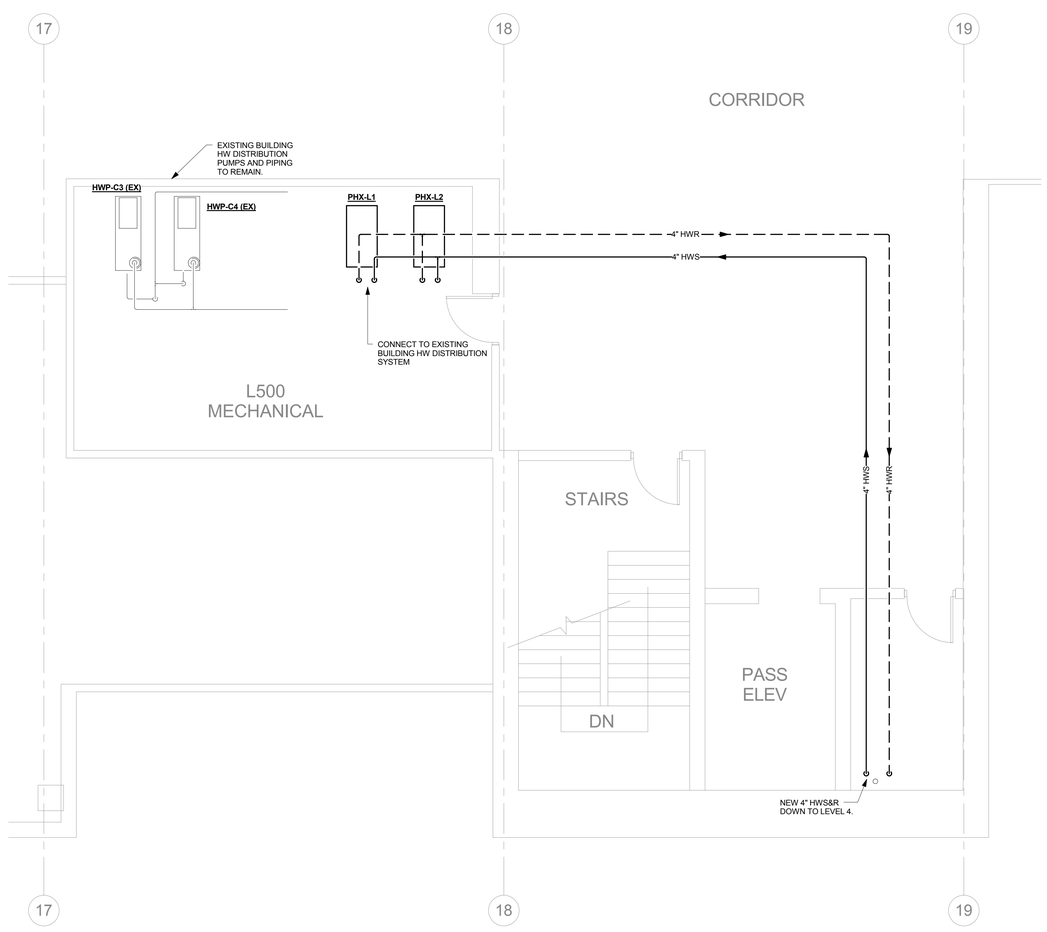


3 LEARNING RESOURCE CENTER LEVEL 5 HVAC PLAN - DEMOLITION
1/4" = 1'-0"



1 LEARNING RESOURCE CENTER LEVEL 5 HVAC PLAN - NEW
1/4" = 1'-0"

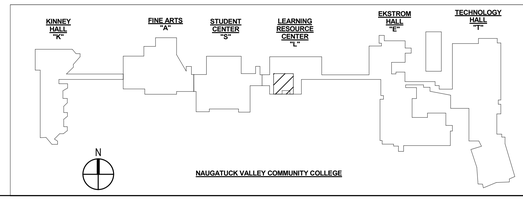
DEMOLITION NOTES

1. REMOVE EXISTING HIGH TEMPERATURE HOT WATER PIPING SYSTEM.
2. REMOVE EXISTING HIGH TEMPERATURE HOT WATER TO HOT WATER HEAT EXCHANGER SYSTEM.
3. REMOVE EXISTING PUMP SYSTEM.
4. REMOVE EXISTING SPECIALTIES SYSTEM.
5. REMOVE EXISTING ATC SYSTEM.

NEW DRAWING NOTES

1. NOT USED.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
LEARNING RESOURCE CENTER LEVEL 5 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. **H-105.L**

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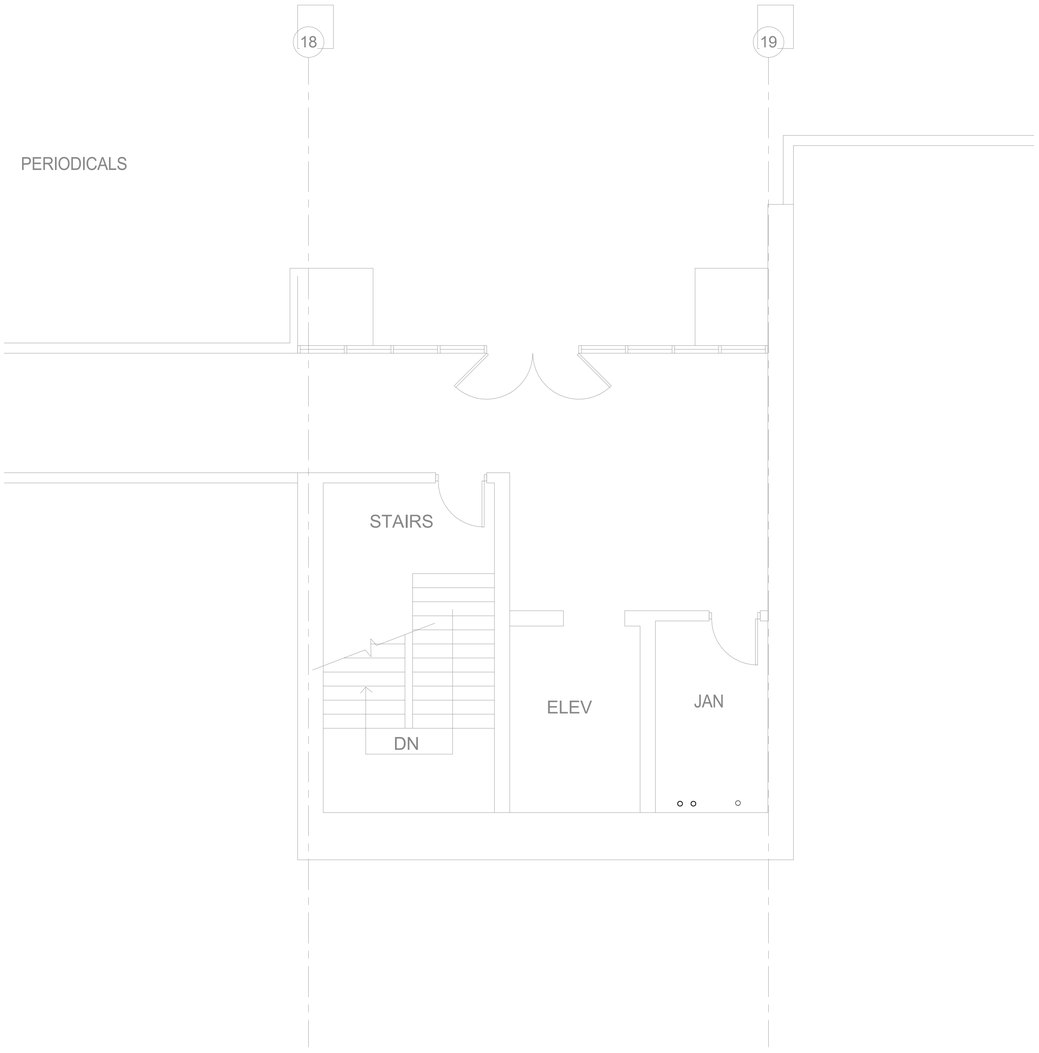
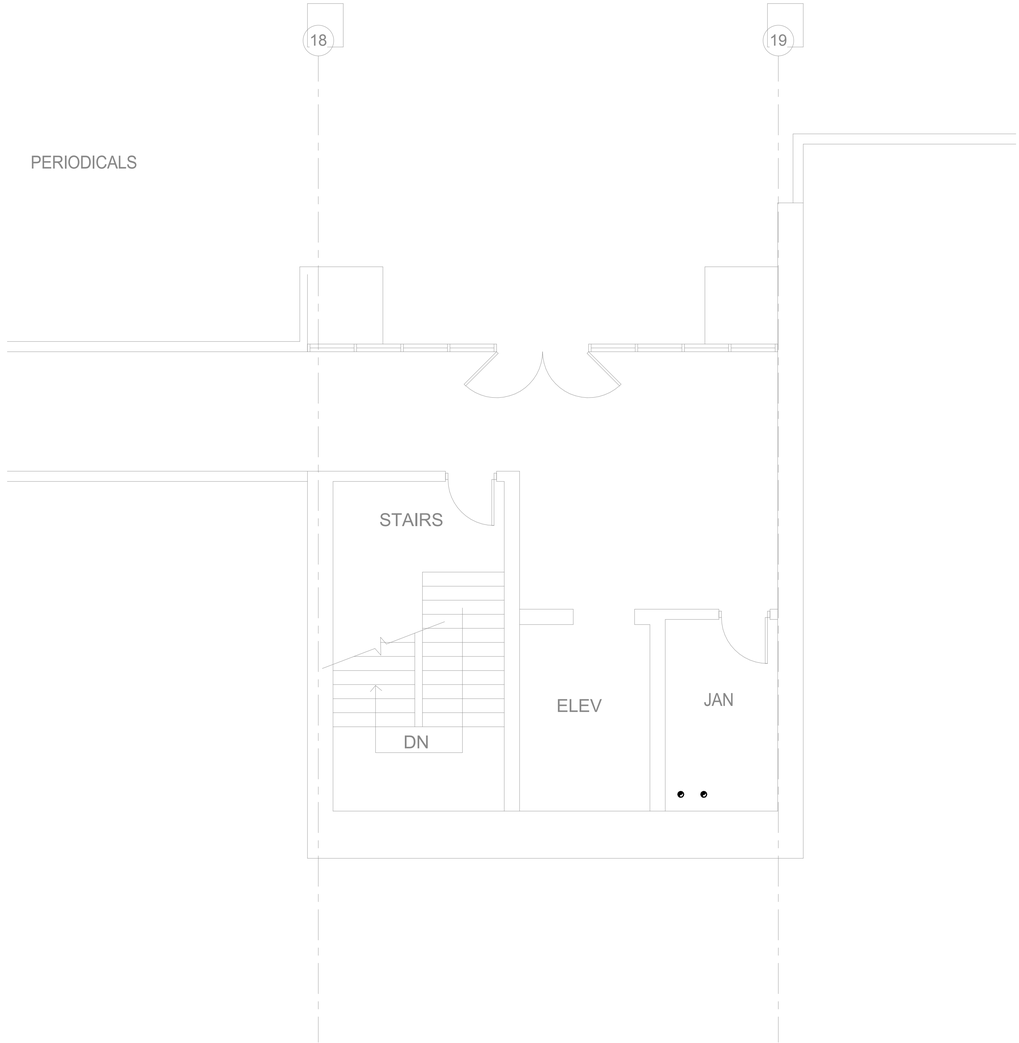
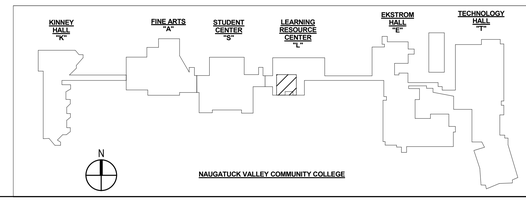


1 LEARNING RESOURCE CENTER LEVEL 4 HAVC PLAN - DEMOLITION
1/4" = 1'-0"



2 LEARNING RESOURCE CENTER LEVEL 4 HAVC PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
LEARNING RESOURCE CENTER LEVEL 4 HAVC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

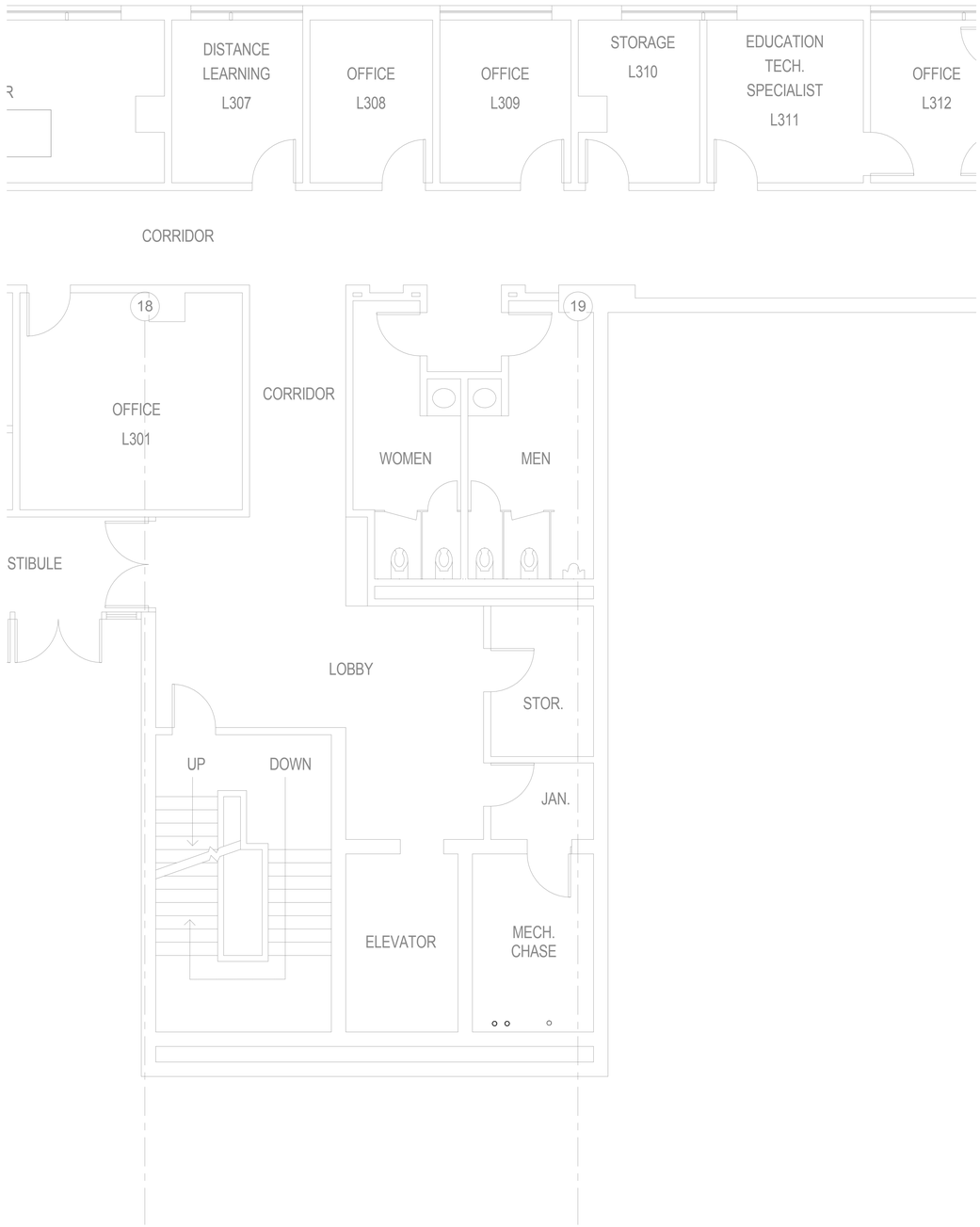
STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

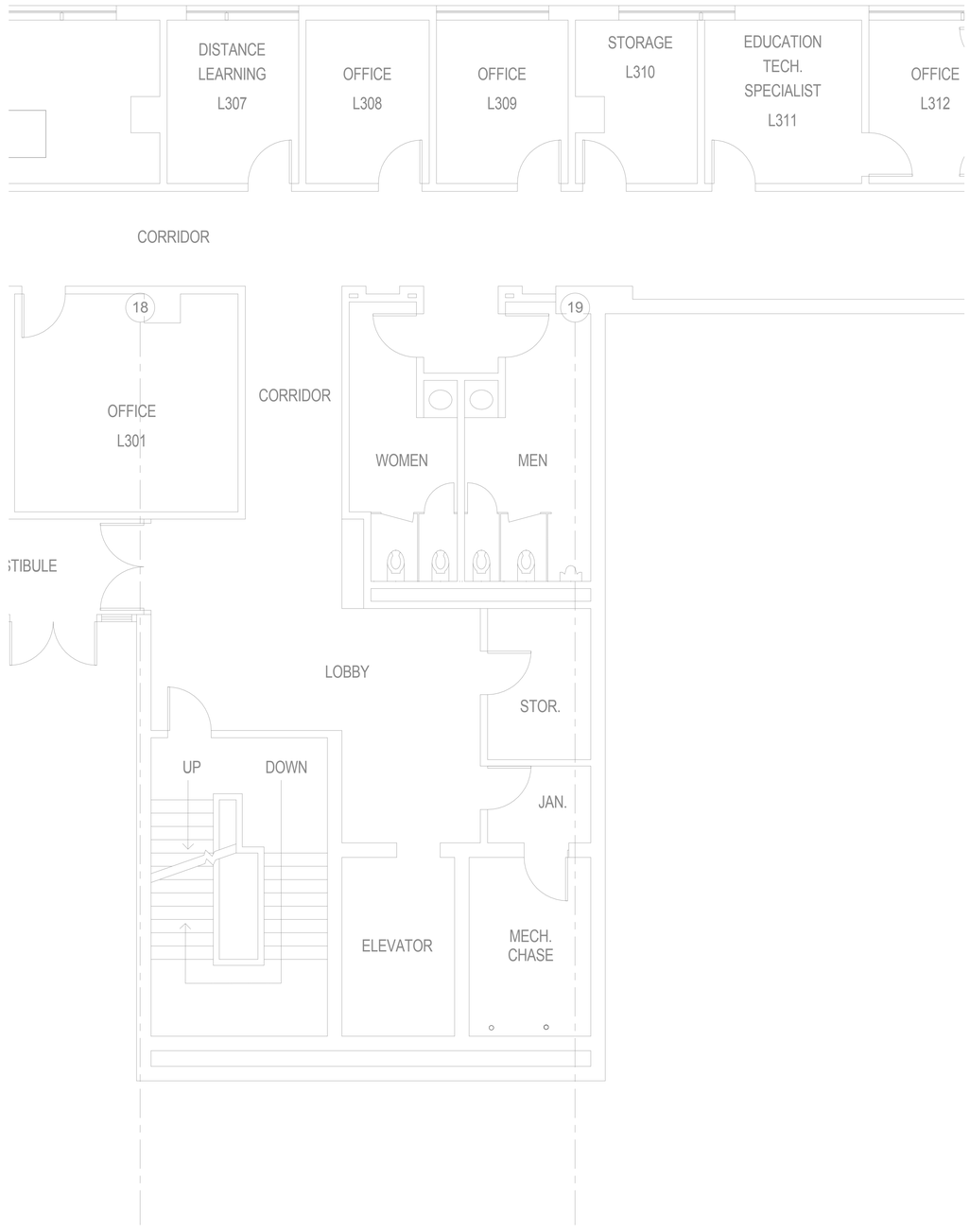
project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by Author
approved by Checker
drawing no. **H-104.L**

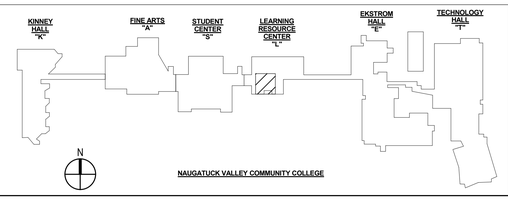


1 LEARNING RESOURCE CENTER LEVEL 3 HVAC PLAN - DEMOLITION
1/4" = 1'-0"



2 LEARNING RESOURCE CENTER LEVEL 3 HAVC PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
LEARNING RESOURCE CENTER LEVE 3 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by Author
approved by Checker
drawing no. **H-103.L**

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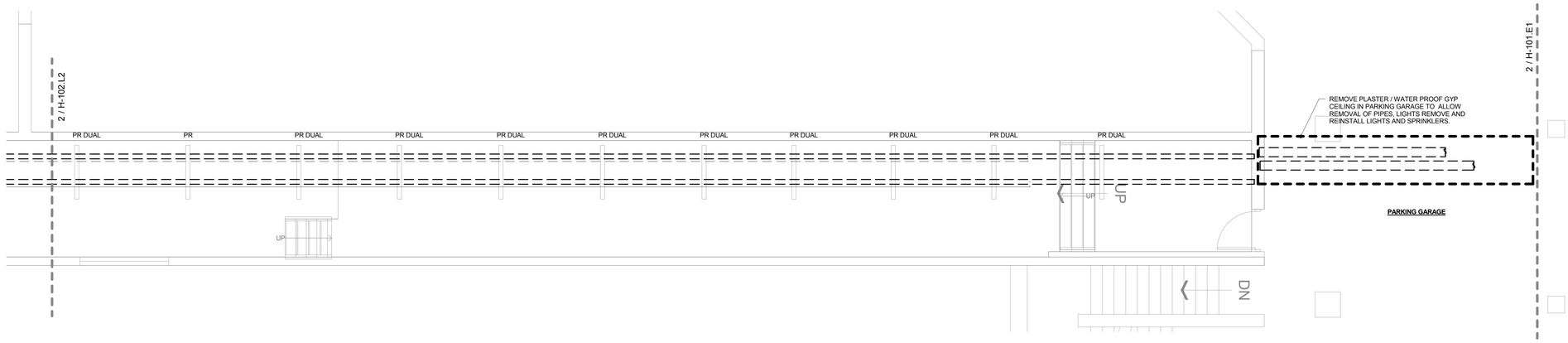
HVAC GENERAL DEMOLITION NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL DEMOLITION NOTES.
2. REFER TO RISERS DRAWINGS FOR ADDITIONAL INFORMATION.



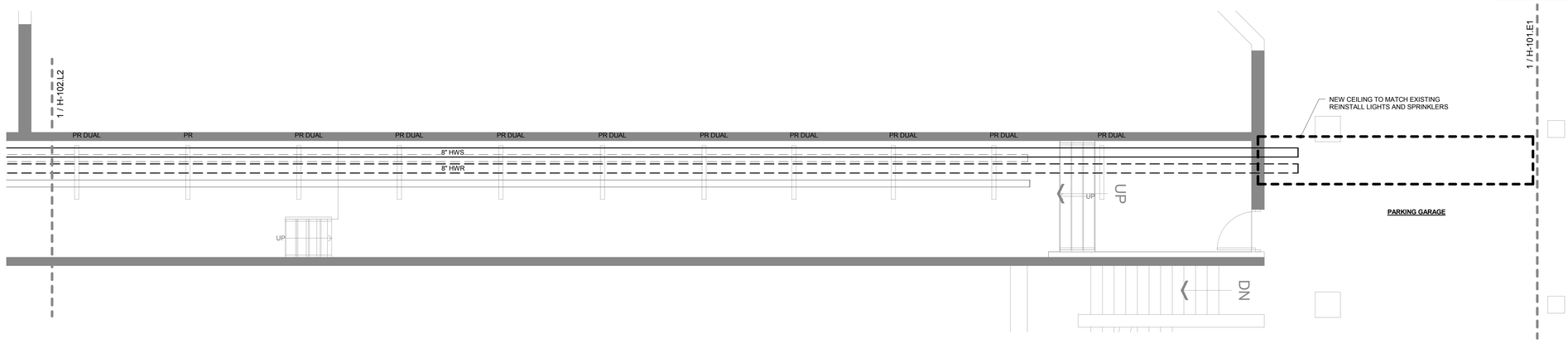
2 UPPER PLANT AND TUNNEL LEVEL 2 PART PLAN - DEMOLITION
1/4" = 1'-0"

DEMOLITION NOTES

1. NOT USED.
2. NOT USED.

HVAC GENERAL NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL NOTES.
2. REFER TO RISERS AND FLOW DIAGRAMS FOR ADDITIONAL INFORMATION.



1 UPPER PLANT AND TUNNEL LEVEL 2 PART PLAN
1/4" = 1'-0"

NEW DRAWING NOTES

1. NOT USED.

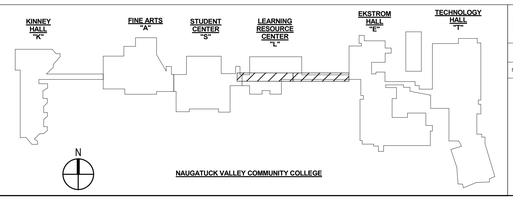
DRAWING GENERAL NOTES

1. SEE DWG # H-102.A1 NOTES ON DEMO AND NEW PLANS FOR SCOPE REQUIREMENTS RELATED TO REMOVAL OF HTHW SYSTEM AND INSTALLATION OF NEW HW SYSTEM, INCLUDING MODIFICATION TO PIPE RACK SYSTEMS.

LEGEND

PR	PIPE RACK SUPPORT SYSTEM WITH ROLLER SUPPORT FOR EACH PIPE
PR DUAL	EXISTING DUAL UNISTRUT FRAME PIPE RACK SUPPORT SYSTEM WITH PIPE CUIDE SUPPORT FOR EACH PIPE
PH	EXISTING MULTIPLE PIPE HANGER SUPPORT SYSTEM WITH THREADED ROD HUNG FROM STRUCTURE ABOVE AND ROLER PIPE SUPPORT

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
LEARNING RESOURCE CENTER LEVEL 2 HVAC PIPE TUNNEL PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. **H-102.L3**

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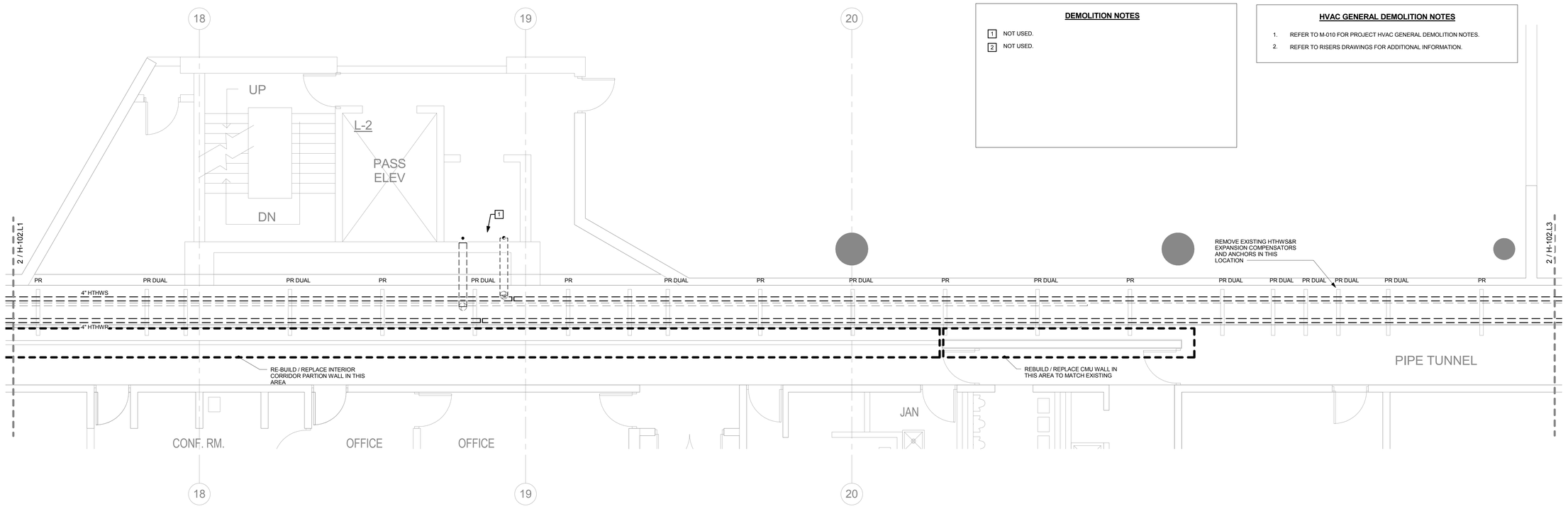


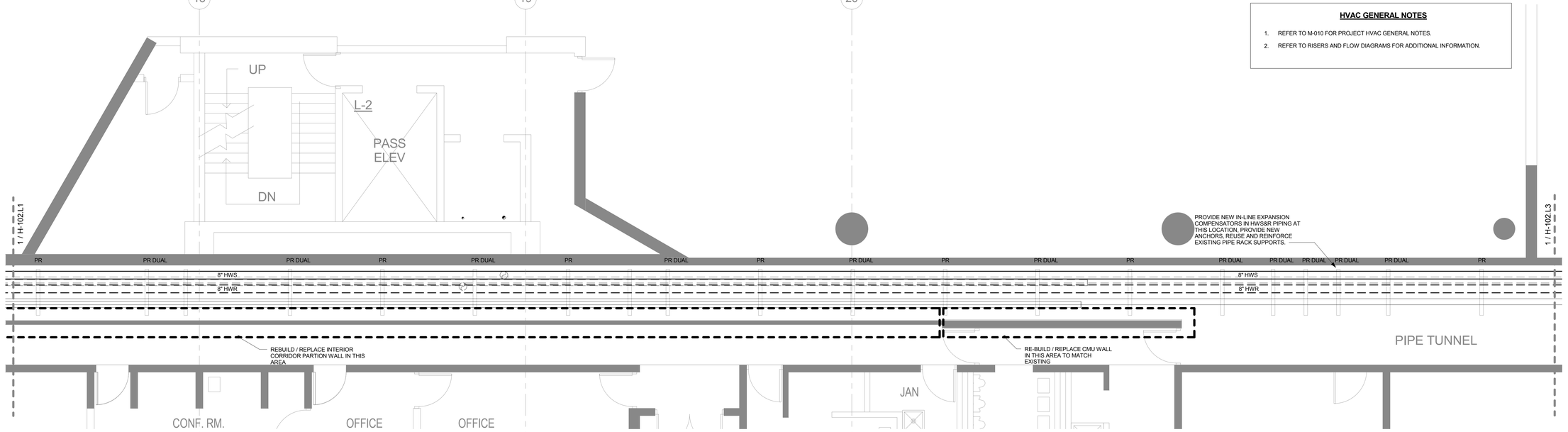
DEMOLITION NOTES

1. NOT USED.
2. NOT USED.

HVAC GENERAL DEMOLITION NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL DEMOLITION NOTES.
2. REFER TO RISERS DRAWINGS FOR ADDITIONAL INFORMATION.

2 LEARNING RESOURCE CENTER LEVEL 2 HVAC PIPE TUNNEL PLANS - DEMOLITION
1/4" = 1'-0"



HVAC GENERAL NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL NOTES.
2. REFER TO RISERS AND FLOW DIAGRAMS FOR ADDITIONAL INFORMATION.

1 LEARNING RESOURCE CENTER LEVEL 2 HVAC PIPE TUNNEL PLANS - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION

NEW DRAWING NOTES

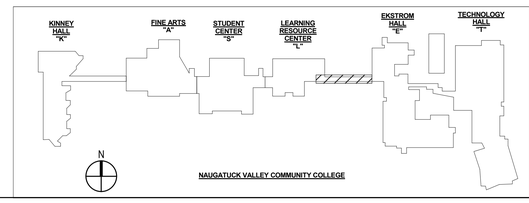
1. NOT USED.

DRAWING GENERAL NOTES

1. SEE DWG # H-102.A1 NOTES ON DEMO AND NEW PLANS FOR SCOPE REQUIREMENTS RELATED TO REMOVAL OF HTHW SYSTEM AND INSTALLATION OF NEW HW SYSTEM, INCLUDING MODIFICATION TO PIPE RACK SYSTEMS.

LEGEND

PR	PIPE RACK SUPPORT SYSTEM WITH ROLLER SUPPORT FOR EACH PIPE
PR DUAL	EXISTING DUAL UNISTRUT FRAME PIPE RACK SUPPORT SYSTEM WITH PIPE CUIDE SUPPORT FOR EACH PIPE
PH	EXISTING MULTIPLE PIPE HANGER SUPPORT SYSTEM WITH THREADED ROD HUNG FROM STRUCTURE ABOVE AND ROLER PIPE SUPPORT



drawing title: LEARNING RESOURCE CENTER LEVEL 2 HVAC PIPE TUNNEL PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

date:
scale: 1/4" = 1'-0"
drawn by: KLB
approved by: JBA
drawing no.: H-102.L2

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no.: 21-16-043
project no.: BI-CTC-500

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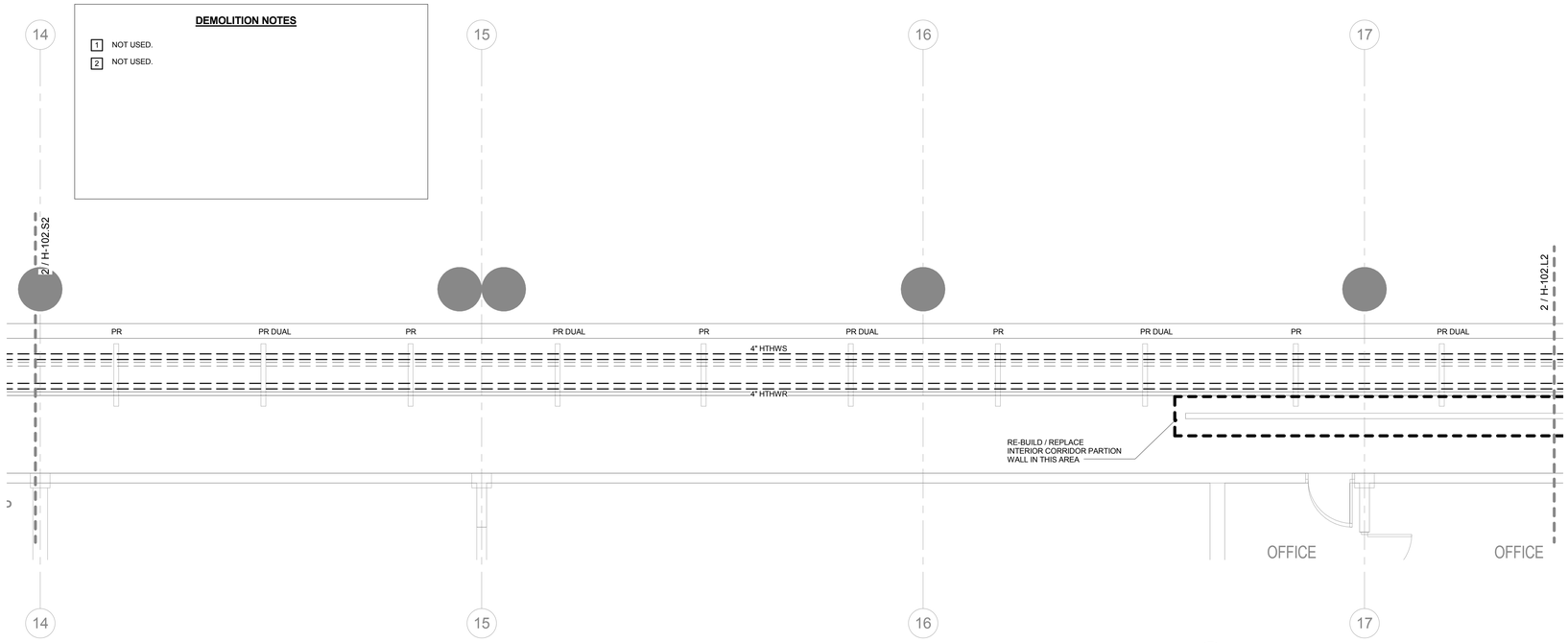
DEMOLITION NOTES

1. NOT USED.
2. NOT USED.



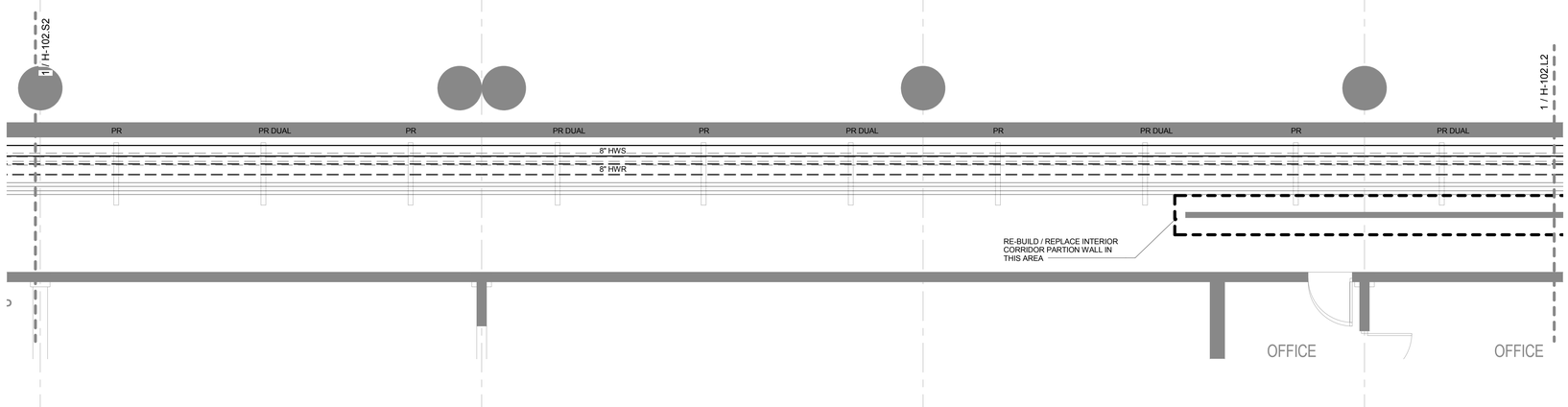
2 UPPER PLANT AND TUNNEL LEVEL 2 PART PLAN - DEMOLITION
1/4" = 1'-0"

HVAC GENERAL DEMOLITION NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL DEMOLITION NOTES.
2. REFER TO RISERS DRAWINGS FOR ADDITIONAL INFORMATION.

HVAC GENERAL NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL NOTES.
2. REFER TO RISERS AND FLOW DIAGRAMS FOR ADDITIONAL INFORMATION.



1 UPPER PLANT AND TUNNEL LEVEL 2 PART PLAN
1/4" = 1'-0"

NEW DRAWING NOTES

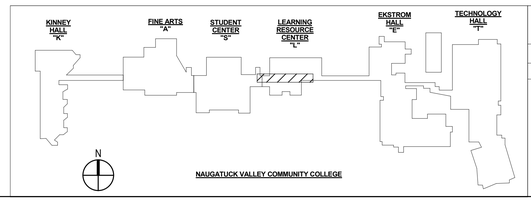
1. NOT USED.

DRAWING GENERAL NOTES

1. SEE DWG # H-102.A1 NOTES ON DEMO AND NEW PLANS FOR SCOPE REQUIREMENTS RELATED TO REMOVAL OF HTHW SYSTEM AND INSTALLATION OF NEW HW SYSTEM, INCLUDING MODIFICATION TO PIPE RACK SYSTEMS.

LEGEND

PR	PIPE RACK SUPPORT SYSTEM WITH ROLLER SUPPORT FOR EACH PIPE
PR DUAL	EXISTING DUAL UNISTRUT FRAME PIPE RACK SUPPORT SYSTEM WITH PIPE CUIDE SUPPORT FOR EACH PIPE
PH	EXISTING MULTIPLE PIPE HANGER SUPPORT SYSTEM WITH THREADED ROD HUNG FROM STRUCTURE ABOVE AND ROLER PIPE SUPPORT



DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION

drawing title
LEARNING RESOURCE CENTER LEVEL 2 HVAC PIPE TUNNEL PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. **H-102.L1**

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

11/14/2017 4:04:38 PM E:\REVIT\NVCC21160\43 - MEP - 2016 (RR).rvt

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BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
Telephone 860-282-9924
Fax 860-282-9826
www.atcgroupservices.com

December 28, 2017

Mr. Joel Baranowski
State of Connecticut
Department of Administrative Services
Division of Construction Services
450 Columbus Boulevard
Hartford, CT 06103

Re: Asbestos Inspection
Student Center
Naugatuck Valley Community College
Waterbury, Connecticut
Project BI-CTC-500
Building 63261
ATC Project 2257317033

Dear Mr. Baranowski:

Please find enclosed the Asbestos Inspection Report for the Student Center at Naugatuck Valley Community College, Waterbury, Connecticut.

Should you have any questions concerning this report, do not hesitate to contact me at 860 282-9924 ext. 1123.

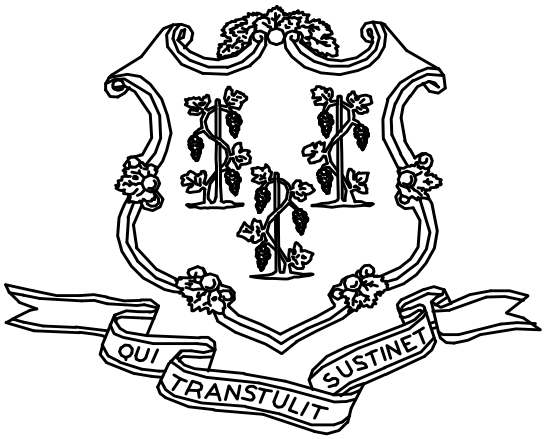
Sincerely,

ATC Group Services LLC

Edward P. Fennell Jr., P.E.
Division Manager
ATC Group Services LLC
Direct Line +1 860 282 9924 x1123
Email: edward.fennell@atcassociates.com
Encl: Asbestos Inspection Report Student Center NVCC

ASBESTOS INSPECTION REPORT

STUDENT CENTER
NAUGATUCK VALLEY COMMUNITY COLLEGE
WATERBURY, CONNECTICUT
BUILDING 63261
PROJECT BI-CTC-500



STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

Prepared by:

ATC GROUP SERVICES LLC
290 ROBERTS STREET - SUITE 301
EAST HARTFORD, CT 06108

ATC PROJECT 2257317033

DECEMBER 19, 2017

Table of Contents

1.0 INTRODUCTION

ATC Group Services LLC (ATC) of East Hartford, Connecticut was retained by the State of Connecticut, Department of Administrative Services, Division of Construction Services (CTDCS) to conduct a pre-renovation inspection at the Student Center located at Naugatuck Valley Community College in Waterbury, Connecticut. The scope of the asbestos inspection included: surveying, sampling, and testing of suspect building materials.

The asbestos inspection was conducted by Mr. Scott Johnson on November 29, 2017. Mr. Johnson is a State of Connecticut, Department of Public Health (CTDPH) licensed asbestos inspector (CTDPH license number 000297). The survey was performed as a walk-through visual inspection, combined with the collection and analysis of bulk samples.

2.0 ASBESTOS-CONTAINING MATERIALS SURVEY

Materials which were considered suspect ACM included pipe fitting insulation, fiberglass pipe insulation paper/adhesive, spray-on fireproofing, gaskets, end cap sealant, penetration sealants, suspended ceiling tile, gypsum board and joint compound. Suspect materials that are inaccessible and were not sampled include gaskets.

2.1 ASBESTOS BULK SAMPLE COLLECTION/ANALYSIS PROCEDURE

Building materials considered suspect ACM were inspected and assessed using the methods presented in the United States Environmental Protection Agency AHERA regulations (40 CFR Part 763) and NESHAP regulations (40 CFR Part 61).

ATC collected bulk samples of building materials utilizing a sampling strategy that correlated with 40 CFR 763.86 as follows:

(a) *Surfacing materials.* An accredited inspector shall collect, in a statistically random manner that is representative of the homogeneous area, bulk samples from each homogeneous area of friable surfacing material that is not assumed to be ACM, and shall collect the samples as follows:

- (1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft^2 or less, except as provided in 40 CFR Part 763.87(c)(2).
- (2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft^2 but less than or equal to 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).
- (3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).

(b) *Thermal system insulation.*

- (1) Except as provided in paragraphs (b)(2) through (4) of this section and 40 CFR Part 763.87(c), an accredited inspector shall collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that is not assumed to be ACM.

(2) Collect at least one bulk sample from each homogeneous area of patched thermal system insulation that is not assumed to be ACM if the patched section is less than 6 linear or square feet.

(3) In a manner sufficient to determine whether the material is ACM or not ACM, collect bulk samples from each insulated mechanical system that is not assumed to be ACM where cement or plaster is used on fittings such as tees, elbows, or valves, except as provided under 40 CFR Part 763.87(c)(2).

(4) Bulk samples are not required to be collected from any homogeneous area where the accredited inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) *Miscellaneous materials.* In a manner sufficient to determine whether material is ACM or not ACM, an accredited inspector shall collect bulk samples from each homogeneous area of friable or non-friable miscellaneous material that is not assumed to be ACM.

The bulk samples collected during the survey were analyzed by EMSL Analytical, Inc. (NVLAP #200700-0) located in Wallingford, Connecticut. The bulk samples were analyzed by Polarized Light Microscopy (PLM) with dispersion staining via EPA 600/R-93/116 Method. Utilizing PLM, the microscopist is able to identify and distinguish between asbestos group minerals and other fibrous materials such as cellulose, mineral wool, fiberglass, or synthetic fibers. The quantities of each of these substances is estimated based on the procedures defined in the above-cited reference and are reported as a percentage.

The EPA recognizes the following as asbestos: Chrysotile, Crocidolite, Amosite, Tremolite, Actinolite, and Anthophyllite. To be classified as ACM, the material must be determined to contain greater than one percent (1%) asbestos. In order to consider a material to be non-ACM, all samples of a homogeneous type of material that are collected must be analyzed and all results must indicate the material to contain less than 1% asbestos by weight.

3.0 ASBESTOS-CONTAINING MATERIALS

The results of PLM laboratory analysis indicated that the following materials are asbestos-containing material (ACM). ACM are those materials that contain greater than 1% asbestos, and are as follows:

- Vermiculite Debris Pile – Level 2 Tunnel
- White/Gray Pipe Penetration Caulk in Wall – Level 2 Tunnel

The remaining materials which were sampled and tested were found to contain no detectable amounts of asbestos. Specifically, the following materials were determined to be non-ACM:

- Spray-On Fireproofing – Brown
- Mudded Pipe Fitting Insulation (All Sizes, All Systems)
- White End Cap Sealant
- Fiberglass Pipe Insulation Paper/Adhesive
- Fire Stop Sealant
- Gray Penetration Caulk
- Duct Sealant
- Gypsum Board
- Joint Compound – White

- 2'x 2' Suspended Ceiling Tile – Coral Pattern
- 2'x 2' Suspended Ceiling Tile – Pinholes
- 2'x 4' Suspended Ceiling Tile – Fissured
- Expansion Joint Caulk

Spray-On Fireproofing – Brown was identified to contain Vermiculite.

Refer to Section 6.0, Bulk Sample Summary of Suspect Materials, for all suspect materials that were identified and sampled.

4.0 DISCUSSION AND RECOMMENDATIONS

EPA regulations require the removal of Regulated Asbestos-Containing Materials (RACM) prior to renovation or demolition activities. RACM is defined as (a) Friable ACM, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation activities. The CTDPH defines "asbestos abatement" as removal, encapsulation, enclosure, renovation, repair, demolition, or other disturbance of ACM but does not include activities which are related to (A) the removal or repair of asbestos cement pipe and are performed by employees of a water company as defined in section 25-32a, or (B) the removal of non-friable ACM found exterior to a building or structure other than material defined as RACM in 40 CFR 61, the National Emission Standards for Hazardous Air Pollutants (NESHAP). Based upon these definitions, ACM identified in the building requires removal prior to renovation, demolition, or disturbance. The State of Connecticut Department of Environmental Protection (CTDEP) regulations require the proper disposal of all ACM, regardless of categorization.

Duct Gasket Putty – Tan could possibly be found on duct work throughout.

5.0 LIMITATIONS

As with all such assessments, the results of the sampling represent conditions found on the date of the survey and may not represent conditions found at other times. Additionally, this assessment was limited with respect to the specific parameters indicated above and should not be construed to be a comprehensive evaluation or a definitive representation of conditions within the facility. The information presented in this report is intended to be used as a guide to evaluate the need for further investigation or the need for modifications to the processes or procedures surveyed.

6.0 BULK SAMPLE SUMMARY OF SUSPECT MATERIALS

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
STUDENT CENTER

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112917-SC-1A	Level 2 Tunnel	Mudded Pipe Fitting Insulation (CHW Return)	ND	-
112917-SC-1B	Level 2 Tunnel	Mudded Pipe Fitting Insulation (CHW Supply)	ND	-
112917-SC-1C	Level 2 Tunnel	Mudded Pipe Fitting Insulation (CHW Supply 8")	ND	-
112917-SC-2A	Level 2 Tunnel	Mudded Pipe Fitting Insulation (HW Supply)	ND	-
112917-SC-2B	Level 2 Tunnel	Mudded Pipe Fitting Insulation (HW Return)	ND	-
112917-SC-2C	Level 2 Tunnel	Mudded Pipe Fitting Insulation (HW Return)	ND	-
112917-SC-3A	A409/S407	Spray-On Fireproofing Insulation –Brown	ND	-
112917-SC-3B	A409/S407	Spray-On Fireproofing Insulation –Brown	ND	-
112917-SC-4A	Level 2 Tunnel	White End Cap Sealant	ND	-
112917-SC-4B	A409/S407	White End Cap Sealant	ND	-
112917-SC-5A	A409/S407	Fiberglass Pipe Insulation Paper/Adhesive	ND	-
112917-SC-5B	Level 2 Tunnel	Fiberglass Pipe Insulation Paper/Adhesive	ND	-
112917-SC-6A	**Level 2 Tunnel**	**Pipe Penetration Calk Gray/White (CHW Supply)**	**5**	**Chrysotile**
112917-SC-6B	**Level 2 Tunnel**	**Pipe Penetration Calk Gray/White (HW Return)**	**5**	**Chrysotile**
112917-SC-7A	A409/S407	4" Red Cove Base	ND	-
112917-SC-8A	A409/S407	Tan Adhesive for 4" Red Cove Base	ND	-
112917-SC-9A	S402	2' X 4' Suspended Ceiling Tile – Fissured	ND	-
112917-SC-9B	S402	2' X 4' Suspended Ceiling Tile – Fissured	ND	-
112917-SC-10A	Hall at A409/S407	2' X 2' Suspended Ceiling Tile – Pinholes	ND	-
112917-SC-10B	Hall at A409/S407	2' X 2' Suspended Ceiling Tile – Pinholes	ND	-

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
STUDENT CENTER

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112917-SC-11A	Hall at S403	2’ X 2’ Suspended Ceiling Tile – Coral Pattern	ND	-
112917-SC-11B	Hall at S403	2’ X 2’ Suspended Ceiling Tile – Coral Pattern	ND	-
112917-SC-12A	S402	12” x 12” Gray Mottled Floor Tile	ND	-
112917-SC-12B	S402	12” X 12” Gray Mottled Floor Tile	ND	-
112917-SC-13A	S402	Black Mastic for 12” Gray Mottled Floor Tile	ND	-
112917-SC-14A	A409/S407	Gypsum Board	ND	-
112917-SC-15A	A409/S407	Joint Compound – White	ND	-
112917-SC-16A	A409/S407	Green Duct Seam Sealant	ND	-
112917-SC-16B	A409/S407	Green Duct Seam Sealant	ND	-
112917-SC-17A	A409/S407	Gray Pipe Penetration Caulk	ND	-
112917-SC-18A	Level 2 Tunnel	Red Fire Stop	ND	-
112917-SC-19A	A409/S407	Gasket at Pressure Valve Release	ND	-
112917-SC-20A	Level 2 Tunnel	Yellow Expansion Joint Caulk	ND	-
112917-SC-20B	Level 2 Tunnel	Yellow Expansion Joint Caulk	ND	-
112917-SC-21A	**Level 2 Tunnel**	**Vermiculite Debris Pile**	**ACM**	**Libby Amphibole**

ND = None Detected
ACM = Asbestos Containing Material
HW = Hot Water
CHW = Chilled Water

7.0 BULK SAMPLE RESULTS/CHAIN - OF - CUSTODY FORMS

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705183
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Attention:	Ed Fennell	**Phone:**	(860) 282-9924
	ATC Group Services LLC	**Fax:**	(860) 282-9826
	290 Roberts Street	**Received Date:**	12/06/2017 4:35 PM
	Suite 301	**Analysis Date:**	12/08/2017 - 12/09/2017
	East Hartford, CT 06108	**Collected Date:**	11/30/2017
Project:	2257317033/NYCC-STUDENT CENTER, 750 CHASE PARKWAY WATERBURY, CT 06708		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112917-SC-1A *241705183-0001*	Level 2 tunnel - mudded pipe fitting- CHW return	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
112917-SC-1B *241705183-0002*	Level 2 tunnel - mudded pipe fitting- CHW supply	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112917-SC-1C *241705183-0003*	Level 2 tunnel - mudded pipe fitting- CHW supply 8"	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112917-SC-2A *241705183-0004*	Level 2 tunnel - mudded pipe fitting- HW supply	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112917-SC-2B *241705183-0005*	Level 2 tunnel - mudded pipe fitting- HW return	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected
112917-SC-2C *241705183-0006*	Level 2 tunnel - mudded pipe fitting- HW return	Gray Fibrous Homogeneous	10% Cellulose 35% Min. Wool	55% Non-fibrous (Other)	None Detected
112917-SC-3A *241705183-0007*	A409/S407 - spray on fireproofing-brown	Tan Fibrous Homogeneous	25% Cellulose 10% Glass	10% Vermiculite 55% Non-fibrous (Other)	None Detected
112917-SC-3B *241705183-0008*	A409/S407 - spray on fireproofing-brown	Tan Fibrous Homogeneous	30% Cellulose 15% Glass	5% Vermiculite 50% Non-fibrous (Other)	None Detected
112917-SC-4A *241705183-0009*	Level 2 tunnel - white end cap sealant	White/Yellow Fibrous Homogeneous	3% Cellulose 15% Glass	82% Non-fibrous (Other)	None Detected
112917-SC-4B *241705183-0010*	A409/S407 - white end cap sealant	White Fibrous Homogeneous	25% Glass	75% Non-fibrous (Other)	None Detected
112917-SC-5A *241705183-0011*	A409/S407 - fiberglass pipe insulation paper/adhesive	White/Silver Fibrous Homogeneous	75% Cellulose 20% Glass	5% Non-fibrous (Other)	None Detected
112917-SC-5B *241705183-0012*	Level 2 tunnel - fiberglass pipe insulation paper/adhesive	White/Silver Fibrous Homogeneous	65% Cellulose 35% Glass		None Detected
112917-SC-6A *241705183-0013*	Level 2 tunnel - pipe penetration caulk gray/white- CHW supply	White Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
112917-SC-6B *241705183-0014*	Level 2 tunnel - pipe penetration caulk gray/white- HW return	Gray Non-Fibrous Homogeneous	5% Glass	90% Non-fibrous (Other)	5% Chrysotile
112917-SC-7A *241705183-0015*	A409/S407 - 4" red cove base	Gray/Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 12/09/2017 14:58:35

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705183
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112917-SC-8A *241705183-0016*	A409/S407 - tan adhesive for 4" red cove base	Yellow Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
112917-SC-9A *241705183-0017*	S402 - 2'x4' suspended ceiling tile-fissured	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
112917-SC-9B *241705183-0018*	S402 - 2'x4' suspended ceiling tile-fissured	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
112917-SC-10A *241705183-0019*	Hall at A409/S407 - 2'x2' suspended ceiling tile-pinholes	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
112917-SC-10B *241705183-0020*	Hall at A409/S407 - 2'x2' suspended ceiling tile-pinholes	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	10% Perlite 10% Non-fibrous (Other)	None Detected
112917-SC-11A *241705183-0021*	Hall at S403 - 2'x2' suspended ceiling-coral pattern	White Fibrous Homogeneous	85% Min. Wool	15% Non-fibrous (Other)	None Detected
112917-SC-11B *241705183-0022*	Hall at S403 - 2'x2' suspended ceiling-coral pattern	Gray Fibrous Homogeneous	85% Min. Wool	15% Non-fibrous (Other)	None Detected
112917-SC-12A *241705183-0023*	S402 - 12"x12" gray mottled floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112917-SC-12B *241705183-0024*	S402 - 12"x12" gray mottled floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112917-SC-13A *241705183-0025*	S402 - black mastic for 12" gray mottled ft	Black Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
112917-SC-14A *241705183-0026*	A409/S407 - gypsum board	Gray/Tan Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
112917-SC-15A *241705183-0027*	A409/S407 - joint compound-white	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112917-SC-16A *241705183-0028*	A409/S407 - green duct seam sealant	Gray Non-Fibrous Homogeneous	5% Fibrous (Other)	95% Non-fibrous (Other)	None Detected
112917-SC-16B *241705183-0029*	A409/S407 - green duct seam sealant	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112917-SC-17A *241705183-0030*	A409/S407 - gray pipe penetration caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112917-SC-18A *241705183-0031*	Level 2 tunnel - red fire stop	Red Non-Fibrous Homogeneous	10% Glass	90% Non-fibrous (Other)	None Detected
112917-SC-19A *241705183-0032*	A409/S407 - gasket at pressure valve release	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112917-SC-20A *241705183-0033*	Level 2 tunnel - yellow expansion joint caulk	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
112917-SC-20B *241705183-0034*	Level 2 tunnel - yellow expansion joint caulk	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 12/09/2017 14:58:35

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

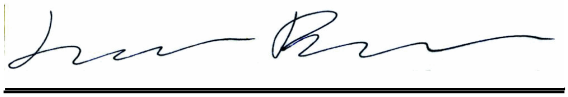
http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705183
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Analyst(s)

Lauren Buffone (22)

Quetcy Castro Romero (12)



Lauren Brennan, Asbestos Lab Manager
or Other Approved Signatory

Initial report from: 12/09/2017 14:58:35

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4, Wallingford, CT 06492
Phone/Fax: 203-284-5948 / (203) 284-5978
http://www.EMSL.com wallingfordlab@emsl.com

EMSL Order:	241705183
CustomerID:	ATCE54
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ProjectID:	

Attn: **Ed Fennell**
ATC Group Services LLC
290 Roberts Street
Suite 301
East Hartford, CT 06108

Phone:	(860) 282-9924
Fax:	(860) 282-9826
Received:	12/06/17 4:35 PM
Analysis Date:	12/9/2017
Collected:	11/30/2017

Project: **2257317033/NYCC-STUDENT CENTER, 750 CHASE PARKWAY WATERBURY, CT 06708**

Test Report:Qualitative Asbestos Analysis by Transmission Electron Microscopy (TEM) and Filtration Technique

Sample	Description	TEM Result	Notes
112917-SC-21A *241705183-0035*	Level 2 tunnel - vermiculite debris pile across from C207	**Libby Amphibole**	

Analyst(s)

Lauren Buffone (1)

Lauren Brennan, Asbestos Lab Manager
or other approved signatory

Initial report from 12/09/2017 14:58:33

OrderID: 241705183

ATC ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

BULK SAMPLE LOG

241705183

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 2257317033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 35
Building: NVCC – Student Center	Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _ of _ (homogeneous material)		Field Number
Level 2 Tunnel ↓ ↓ —	Mudded Pipe Fitting - CHW Return CHW Supply	TSI		Y		1/2	3	112917-SC-1A -1B -1C
	Mudded Pipe Fitting - CHW Supply 8"	TSI		Y		3	3	
Level 2 Tunnel ↓ ↓ —	Mudded Pipe Fitting - HW Supply HW Return	TSI		Y		1/2	3	-2A -2B -2C
	Mudded Pipe Fitting - HW ~~Supply~~ Return	TSI		Y		3	3	
A409/S407 A409/S407	Sprayon Fireproofing - Brown	S		Y		1/2	2	-3A -3B
Level 2 Tunnel A409/S407	White Endcap Sealant	M		N		1/2	2	-4A -4B
A409/S407 Level 2 Tunnel	Fiberglass Pipe Insulation Paper/Adhesive	M		N		1/2	2	-5A -5B
Level 2 Tunnel Level 2 Tunnel	Pipe Penetration Caulk Gray/White - CHW Supply - HW Return	M		N		1/2	2	-6A -6B

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg); Water (extensive-moderate-slight-none); Deterioration (heavy-moderate-light-none); Friability (yes-no; hard-mod-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft); Accessibility (within reach-barely reachable-not reachable); Vibration (gym-music rm-auditorium-mechanical rm-elevator-other); Barriers (perm airtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type); Air conduits (air plenum - air shaft - elevator shaft - duct); Air movement (high-moderate-low); Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date:
Received By/Date: 12/6/17 16:35

OrderID: 241705183

ATC ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

BULK SAMPLE LOG

241706183

ATC Inspector: SCOTT JOHNSON	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573317033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 35
Building: NVCC – Student Center	Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _of_ (homogeneous material)		Field Number
9. ~~A409/S407~~ A409/S407	4" Red Cove Base	M		N		1	1	112917-SC-7A
A409/S407	Tan Adhesive for 4" Red Cove Base	M		N		1	1	-8A
S402	2'x4' Suspended Ceiling Tile - Fissured	M		~~N~~		1	2	-9A
S402						2		-9B
Hall at A409/S407	2'x2' Suspended Ceiling Tile - Pinholes	M		Y		1	2	-10A
Hall at A409/S407						2		-10B
Hall at S403	2'x2' Suspended Ceiling Tile - Coral Pattern	M		Y		1	2	-11A
Hall at S403						2		-11B
S402	12"x12" Gray Mottled Floor Tile	M		N		1	2	-12A
S402						2		-12B
S402	Black Mastic for 12" Gray Mottled FT	M		N		1	1	-13A
A409/S407	Gypsum Board	M		N		1	1	-14A

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg); Water (extensive-moderate-slight-none); Deterioration (heavy-moderate-light-none); Friability (yes-no; hard-mod-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft); Accessibility (within reach-barely reachable-not reachable); Vibration (gym-music rm-auditorium-mechanical rm-elevator-other); Barriers (perm airtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type); Air conduits (air plenum - air shaft - elevator shaft - duct); Air movement (high-moderate-low); Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date:
Received By/Date:

OrderID: 241705183

ATC ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

BULK SAMPLE LOG

241705183

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

ATC Inspector: SCOTT JOHNSON	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573117033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 35
Building: NVCC – Student Center	Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _of_ (homogeneous material)		Field Number
A409/S407	Joint Compound - White	M		N		1	1	112917-SC-15A
A409/S407	Green Duct Seam Sealant	M		N		1	2	-16A
A409/S407						2		-16B
A409/S407	Gray Pipe Penetration Caulk	M		N		1	1	-17A
Level 2 Tunnel	Red Fire Stop	M		N		1	1	-18A
A409/S407	Gasket at Pressure Valve Release	M		N		1	1	-19A
Level 2 Tunnel	Yellow Expansion Joint Caulk	M		N		1	2	-20A
Level 2 Tunnel						2		-20B
Level 2 Tunnel	Vermiculite Debris Pile across from C207	M		Y		1	1	-21A

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg); Water (extensive-moderate-slight-none); Deterioration (heavy-moderate-light-none); Friability (yes-no; hard-mod-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft); Accessibility (within reach-barely reachable-not reachable); Vibration (gym-music rm-auditorium-mechanical rm-elevator-other); Barriers (perm airtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type); Air conduits (air plenum - air shaft - elevator shaft - duct); Air movement (high-moderate-low); Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date:
Received By/Date:

APPENDIX A

LICENSE AND CERTIFICATION

Dear SCOTT J JOHNSON,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

RAUL PINO, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED BY THIS DEPARTMENT AS A:

ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SCOTT J JOHNSON

CERTIFICATE NO.
000297

CURRENT THROUGH
09/30/18

VALIDATION NO.
03-615244

SIGNATURE

COMMISSIONER

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

CERTIFICATE OF ACHIEVEMENT

This certifies that

Scott Johnson

has successfully completed the

Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

conducted by

ATC Group Services LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory Morsch

Principal Instructor: Gregory Morsch

October 12, 2017
Date of Course

October 12, 2018
Expiration Date

Gregory Morsch

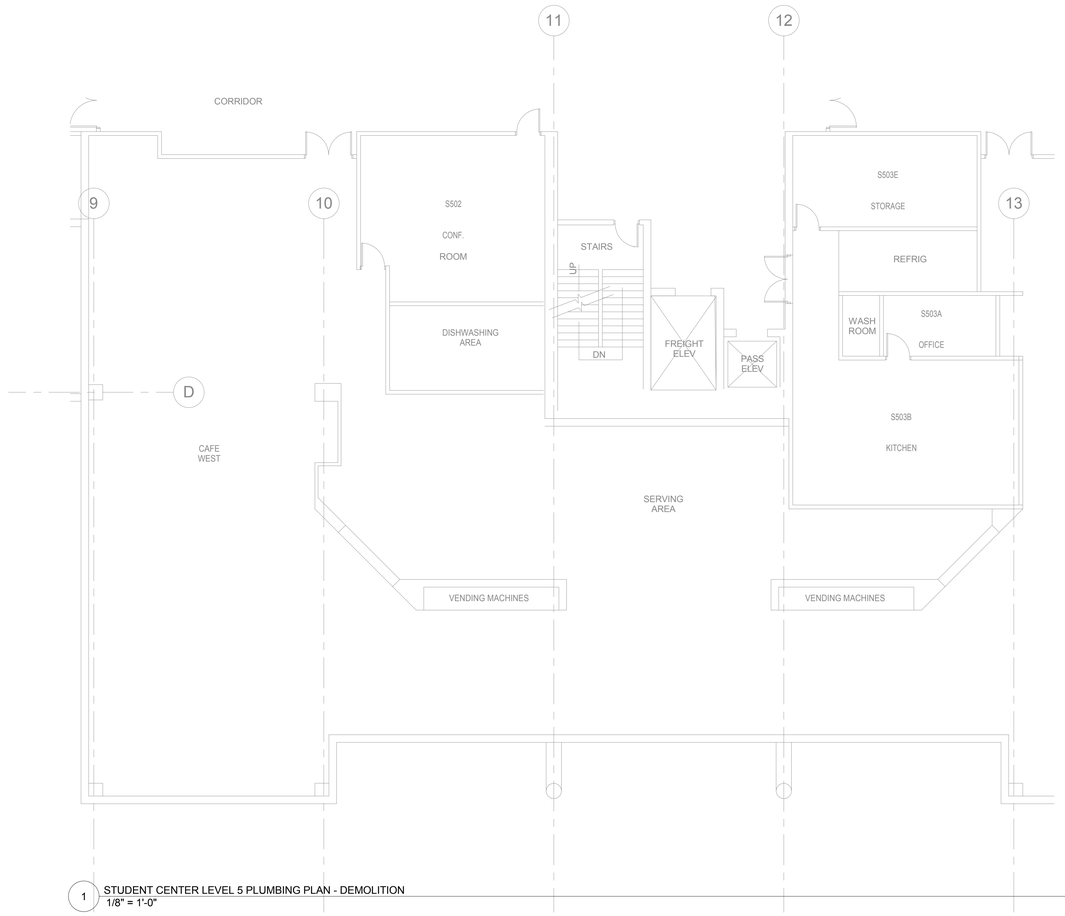
Regional Training Manager: Gregory Morsch

SIAR - 5858
Certificate Number

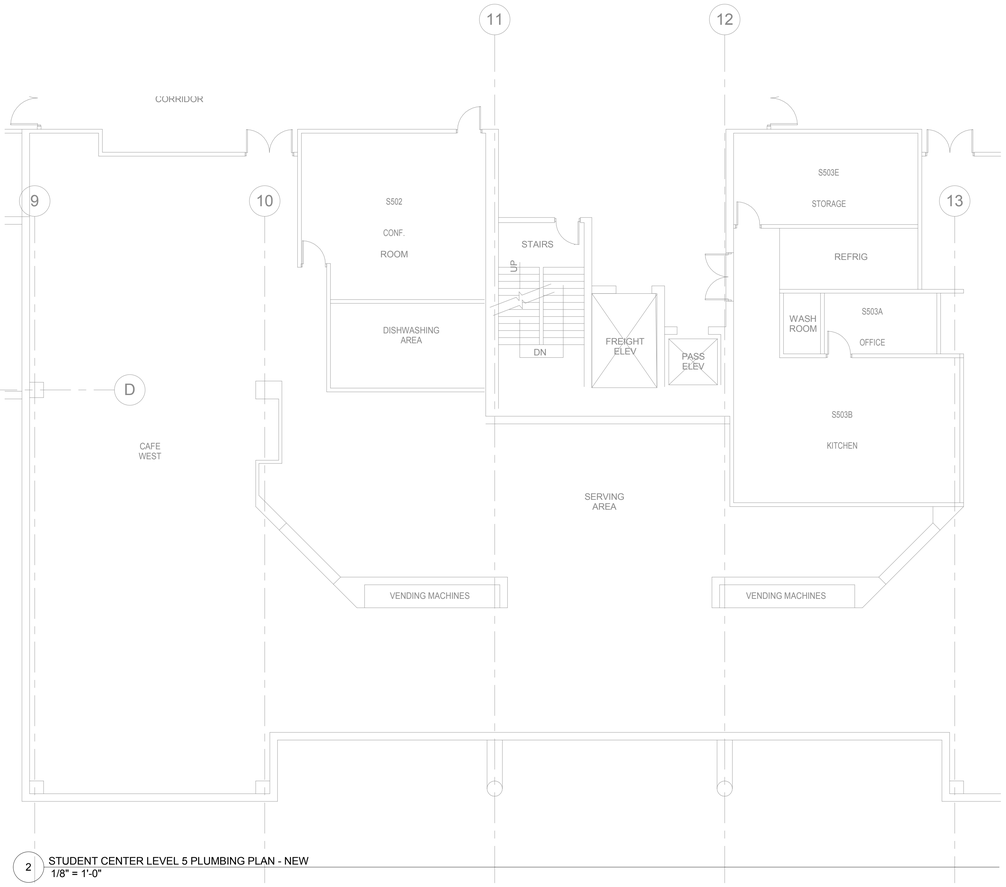
October 12, 2017
Examination Date

APPENDIX B

DRAWINGS

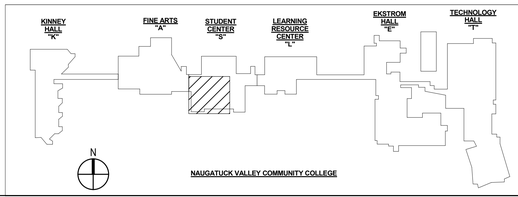


1 STUDENT CENTER LEVEL 5 PLUMBING PLAN - DEMOLITION
1/8" = 1'-0"



2 STUDENT CENTER LEVEL 5 PLUMBING PLAN - NEW
1/8" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
STUDENT CENTER LEVEL 5 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/8" = 1'-0"
drawn by Author
approved by Checker
drawing no. **P-105.S**

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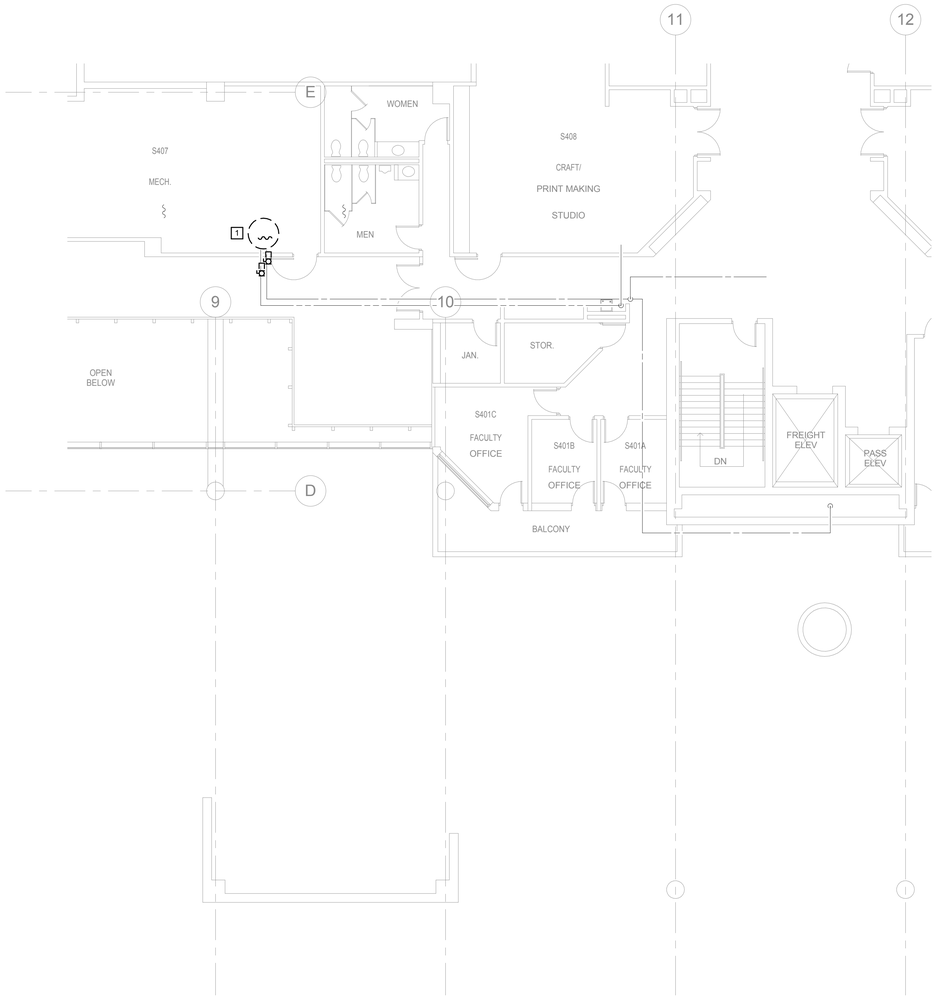
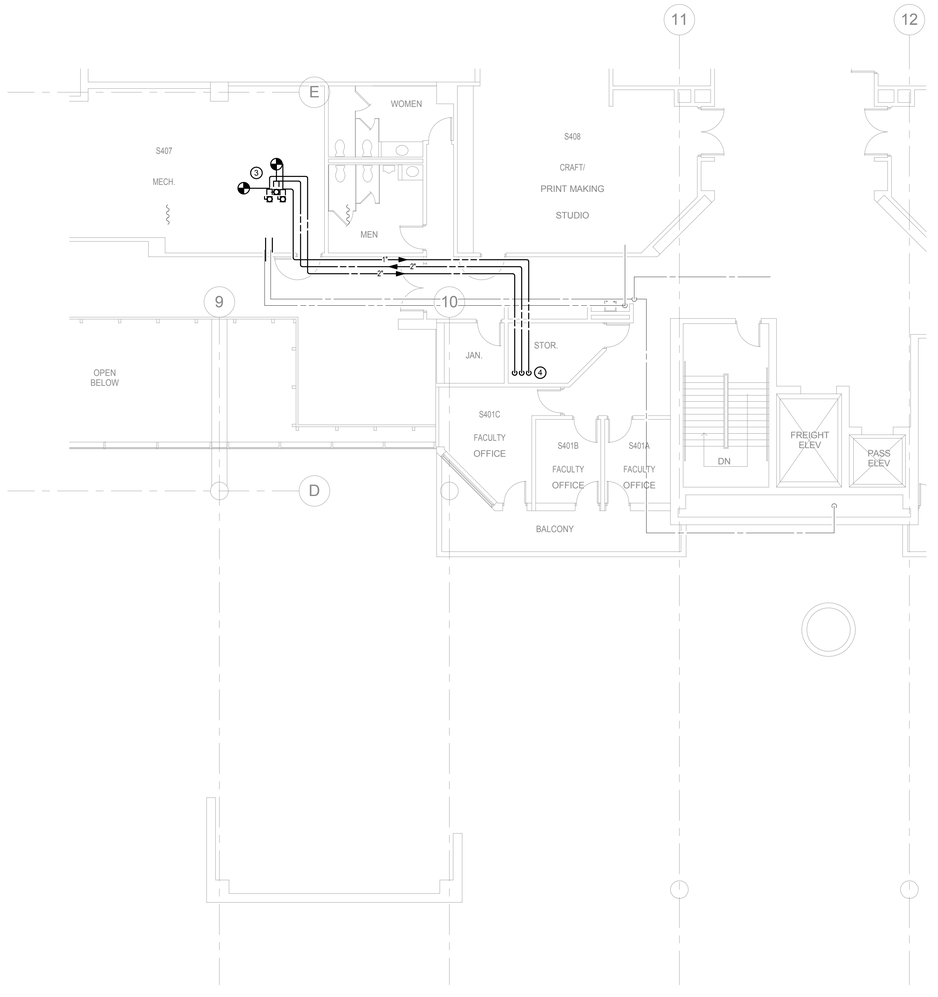


2 STUDENT CENTER LEVEL 4 PLUMBING PLAN - DEMOLITION
1/8" = 1'-0"

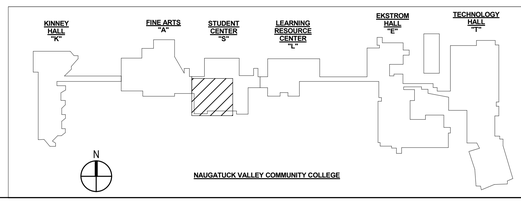


1 STUDENT CENTER LEVEL 4 PLUMBING PLAN - NEW
1/8" = 1'-0"

PLUMBING DEMOLITION DRAWING NOTES

1 REMOVE EXISTING DOMESTIC WATER HEAT EXCHANGER AND ASSOCIATED EQUIPMENT. CUT, VALVE, AND CAP EXISTING DOMESTIC CW, HW, & HWR BACK TO OVERHEAD SPACE.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
STUDENT CENTER LEVEL 4 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

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50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

date
scale 1/8" = 1'-0"
drawn by Author
approved by Checker
drawing no. P-104.S

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

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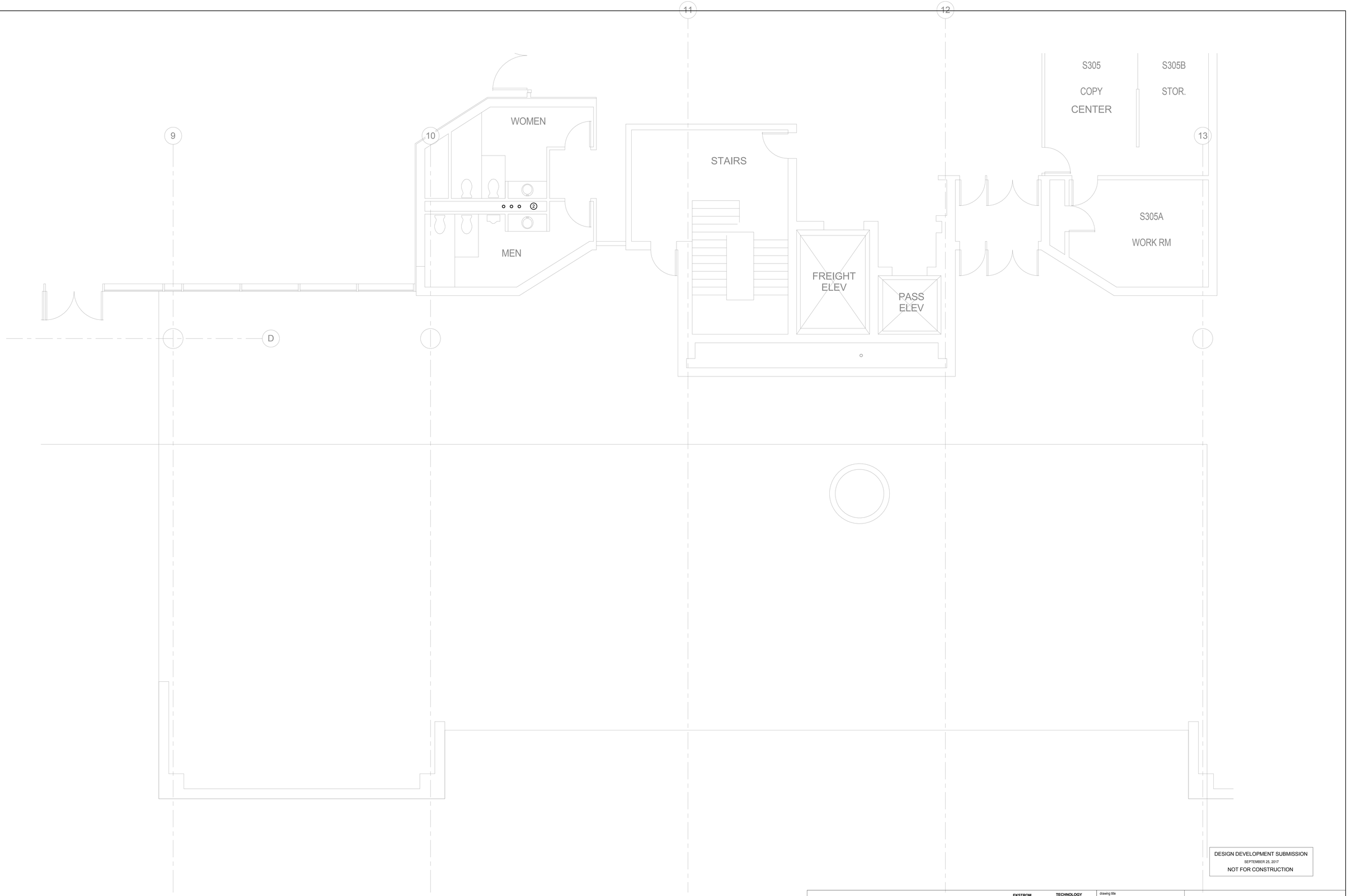
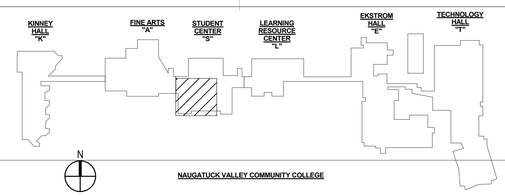


1 STUDENT CENTER LEVEL 3 PLUMBING PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
STUDENT CENTER LEVEL 3 PLUMBING PLAN - NEW

HISTORY OF SUBMISSIONS

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STATE OF CONNECTICUT
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50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by Author
approved by Checker
drawing no. **P-103.S2**

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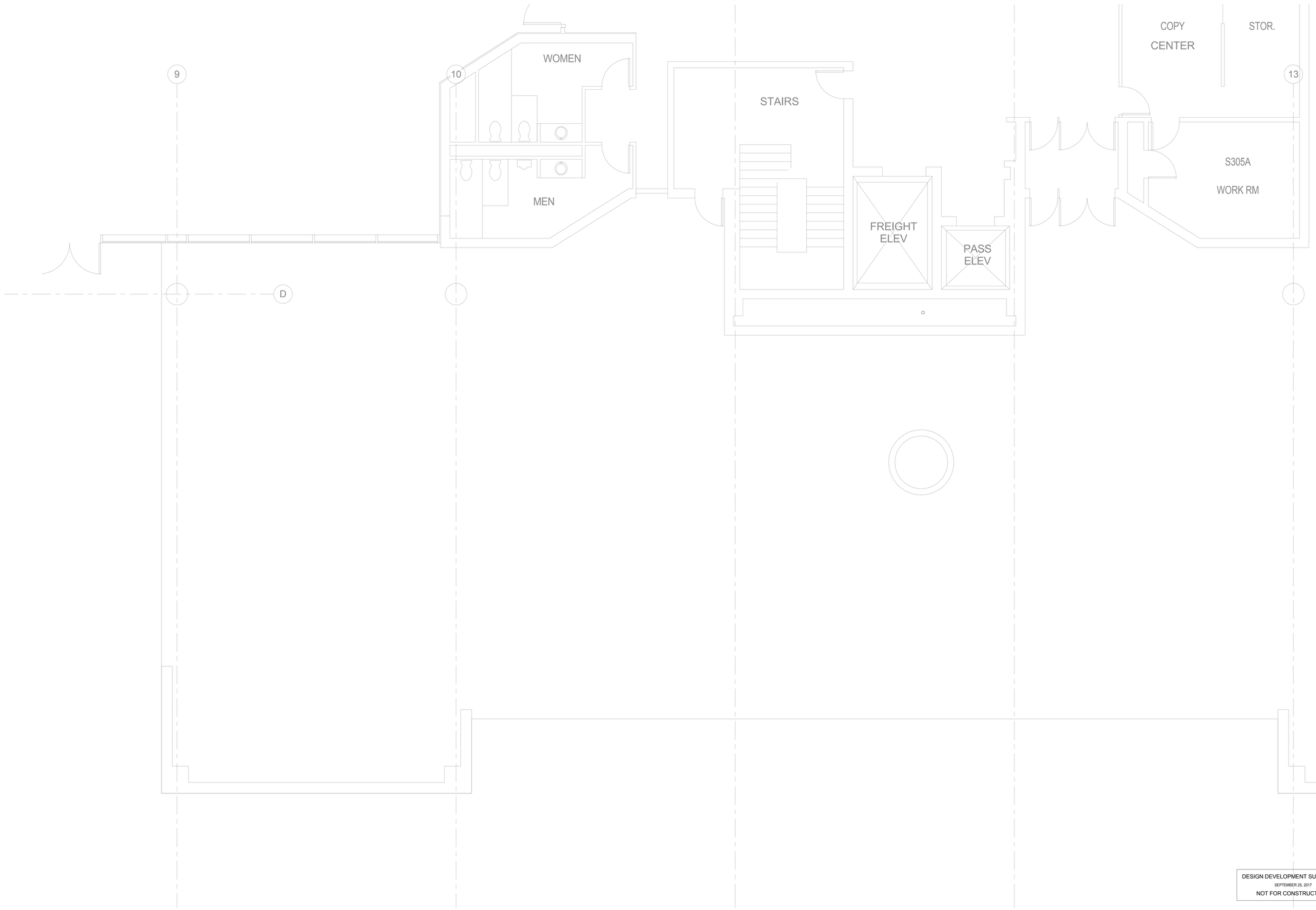
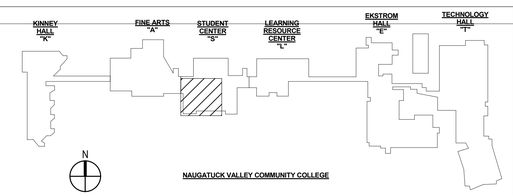


1 STUDENT CENTER LEVEL 3 PLUMBING PLAN - DEMOLITION
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
STUDENT CENTER LEVEL 3 PLUMBING PLAN - DEMOLITION

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

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BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by Author
approved by Checker
drawing no. P-103.S1

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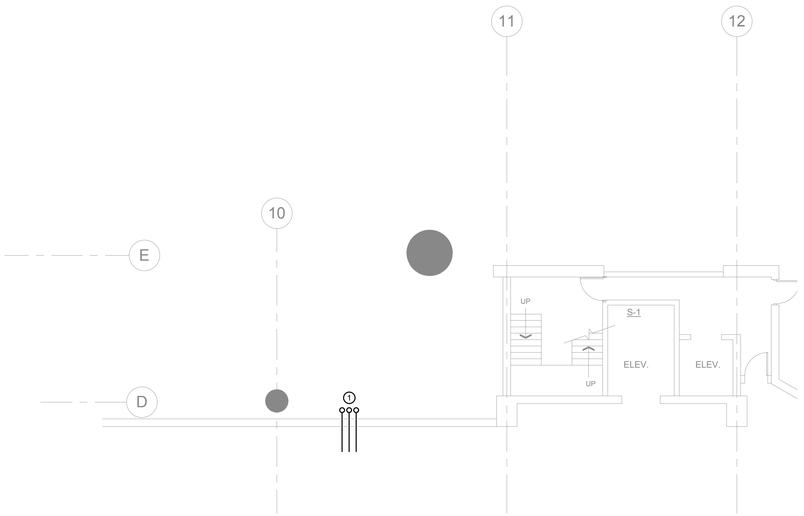
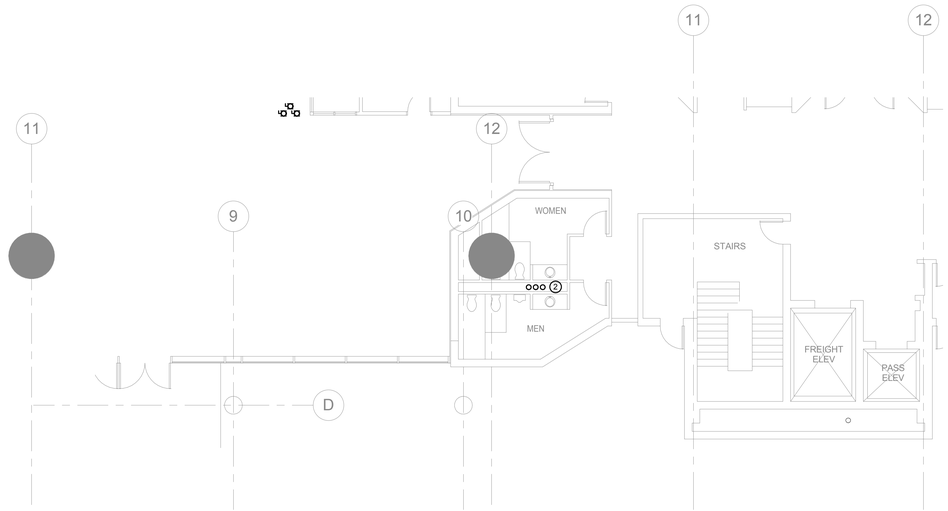


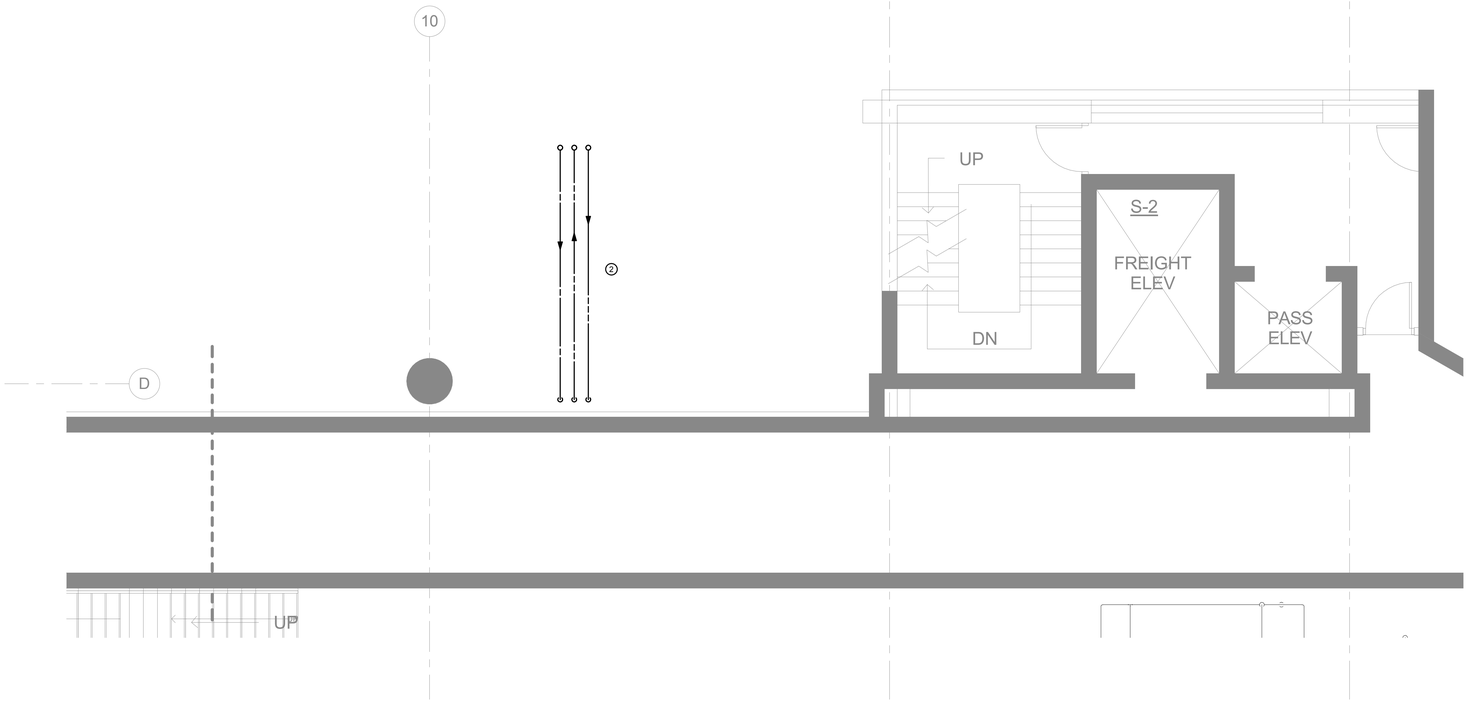
4 STUDENT CENTER LEVEL 1 PLANT PART PLAN - NEW
1/8" = 1'-0"



1 PLMB - LEVEL 3 - CAMPUS - Student Center Plan
1/8" = 1'-0"

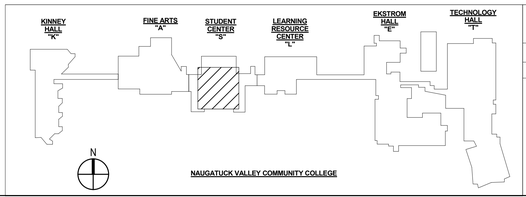
PLUMBING DRAWING NOTES

1. 2"H&CW, 1"HWR UP. REFER TO DWG #P-101.S2 FOR CONTNUATION OF PIPING.
2. 2"CW, 2"HW, 2"HWR UP AND DN.
3. PROVIDE 2"CW, 2"HW, 1"HWR CONNECTIONS TO EXISTING. VERIFY EXACT LOCATION OF FLOOR MAINS IN FIELD.
4. 2"CW, 2"HW, 1"HWR UP FROM BELOW.



3 STUDENT CENTER PIPE TUNNEL LEVEL 2 PART PLAN - NEW
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
STUDENT CENTER PLUMBING PART PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale As indicated
drawn by Author
approved by Checker
drawing no. **P-101.S3**

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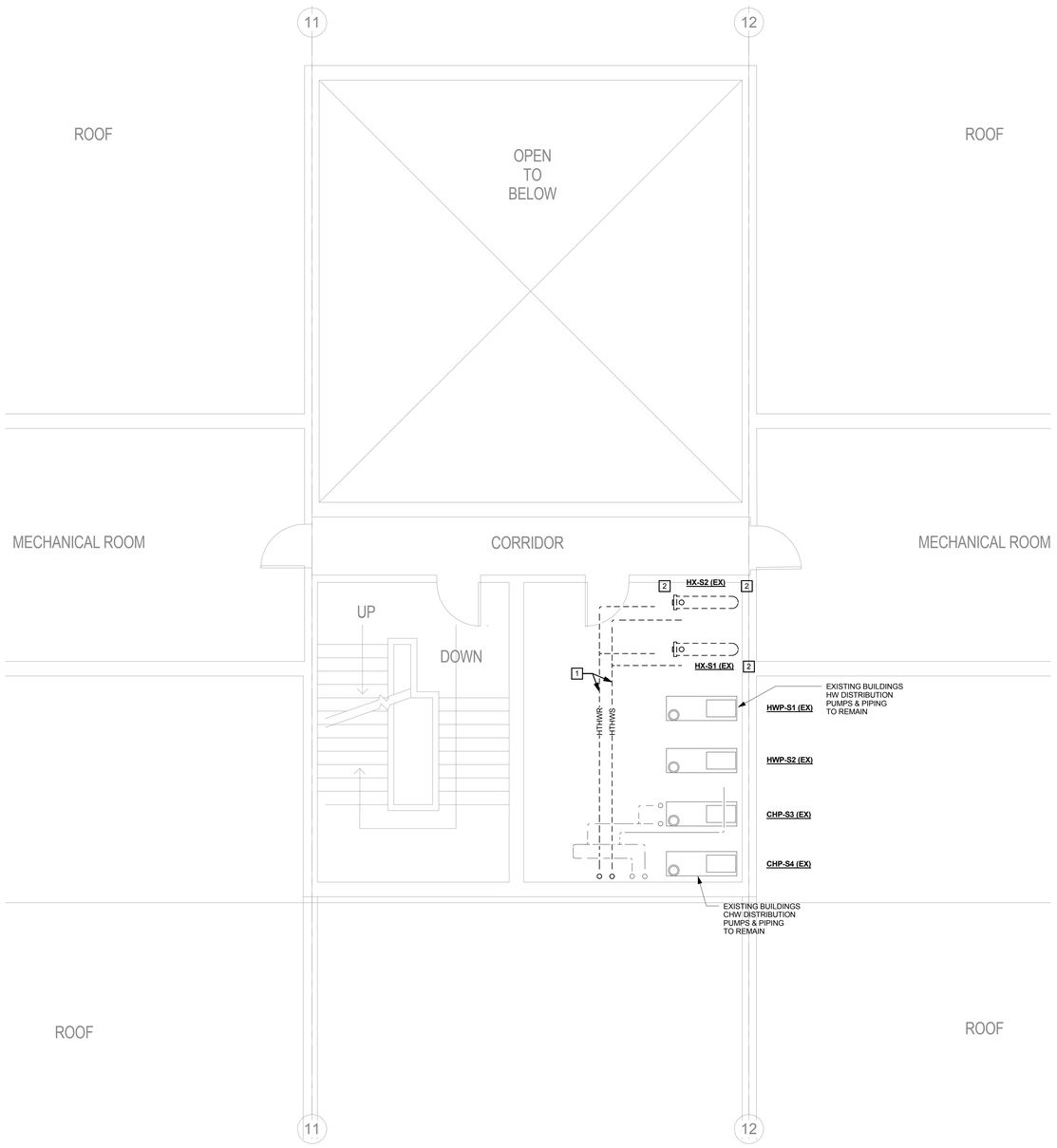
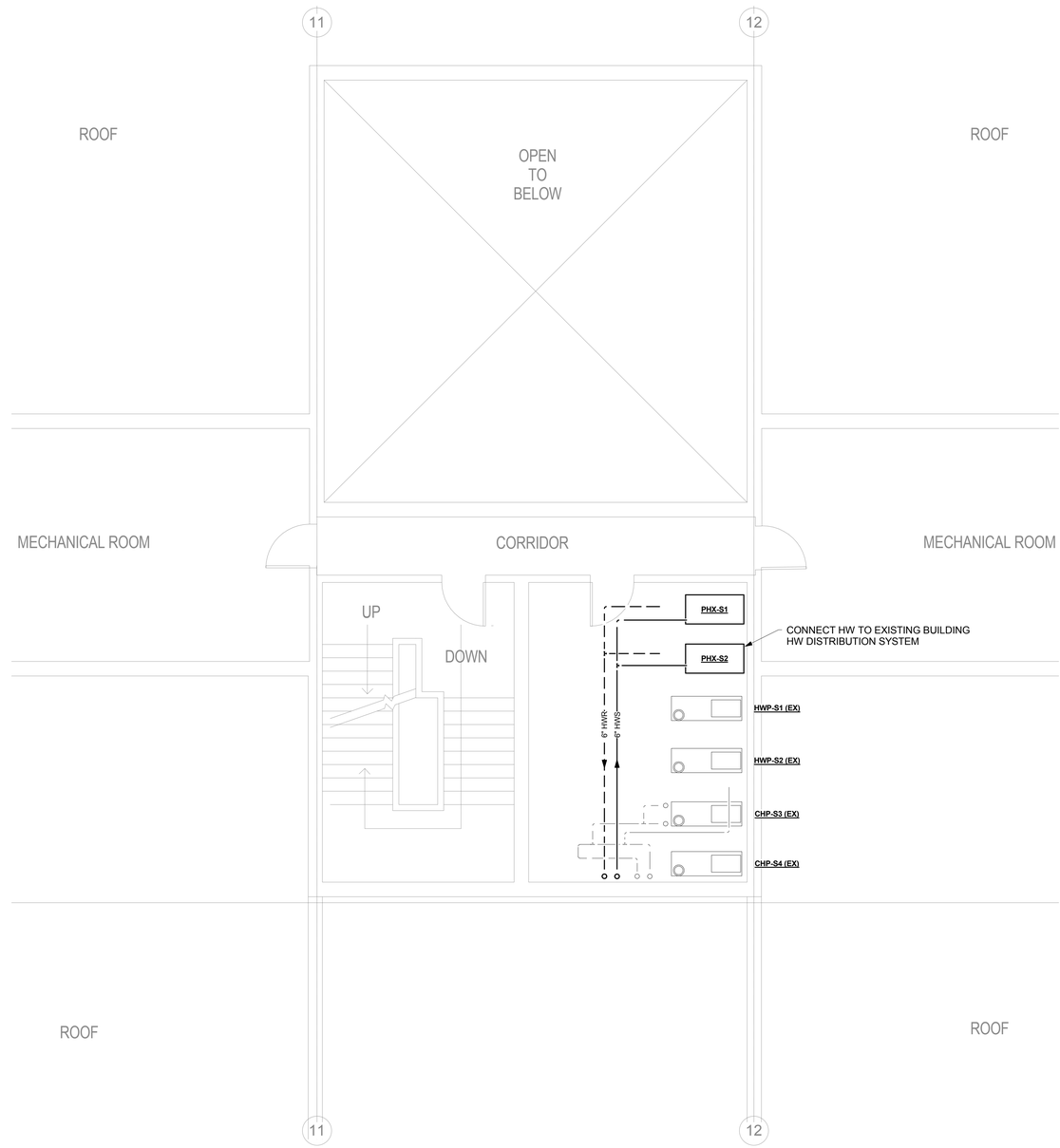


2 STUDENT CENTER LEVEL 6 PART PLAN - DEMOLITION
1/4" = 1'-0"



1 STUDENT CENTER LEVEL 6 PART PLAN - NEW
1/4" = 1'-0"

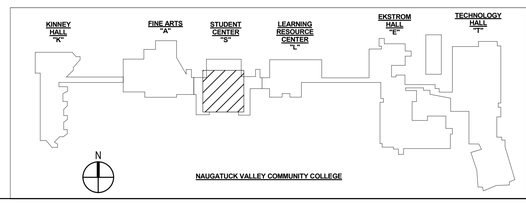
DEMOLITION NOTES

1. REMOVE EXISTING HIGH TEMPERATURE HOT WATER PIPING SYSTEM.
2. REMOVE EXISTING HIGH TEMPERATURE HOT WATER TO HOT WATER HEAT EXCHANGER SYSTEM.
3. REMOVE EXISTING PUMP SYSTEM.
4. REMOVE EXISTING SPECIALTIES SYSTEM.
5. REMOVE EXISTING ATC SYSTEM.

NEW DRAWING NOTES

1. NOT USED.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
STUDENT CENTER LEVEL 6 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. H-106.S

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

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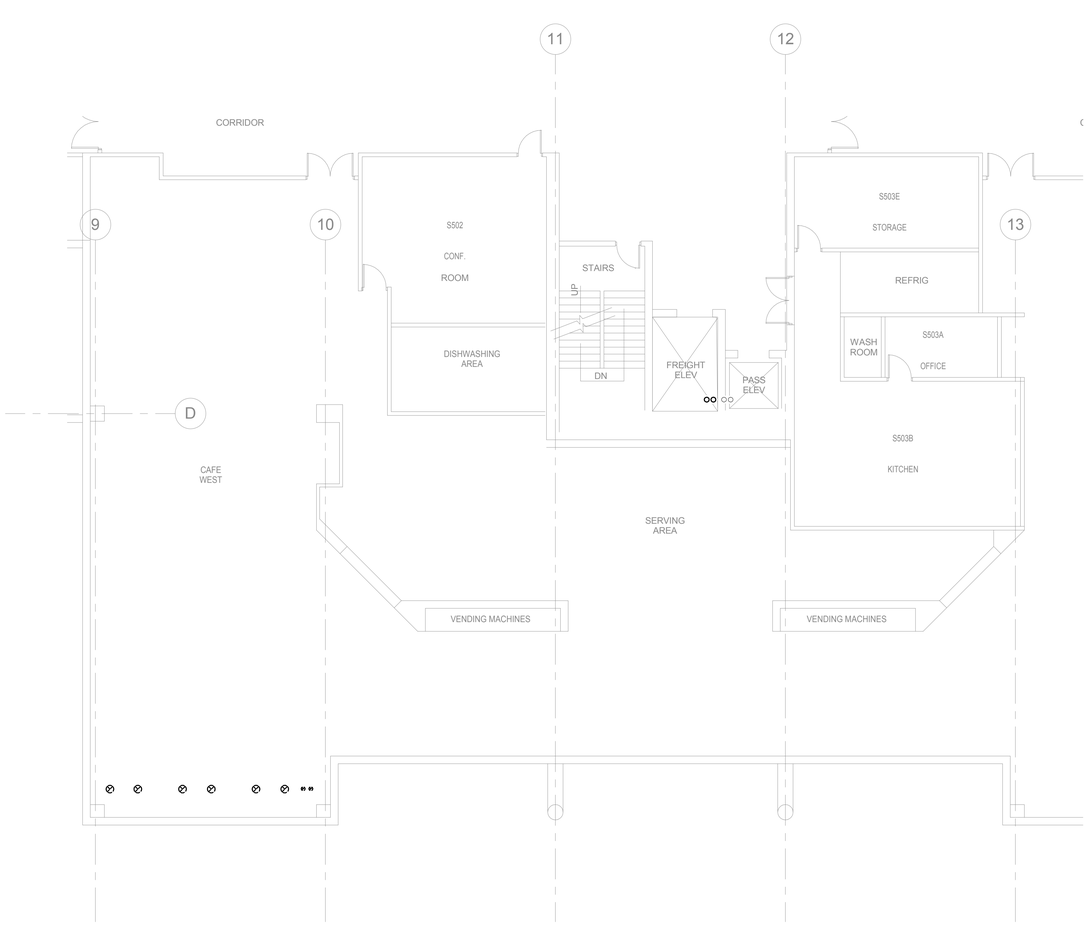

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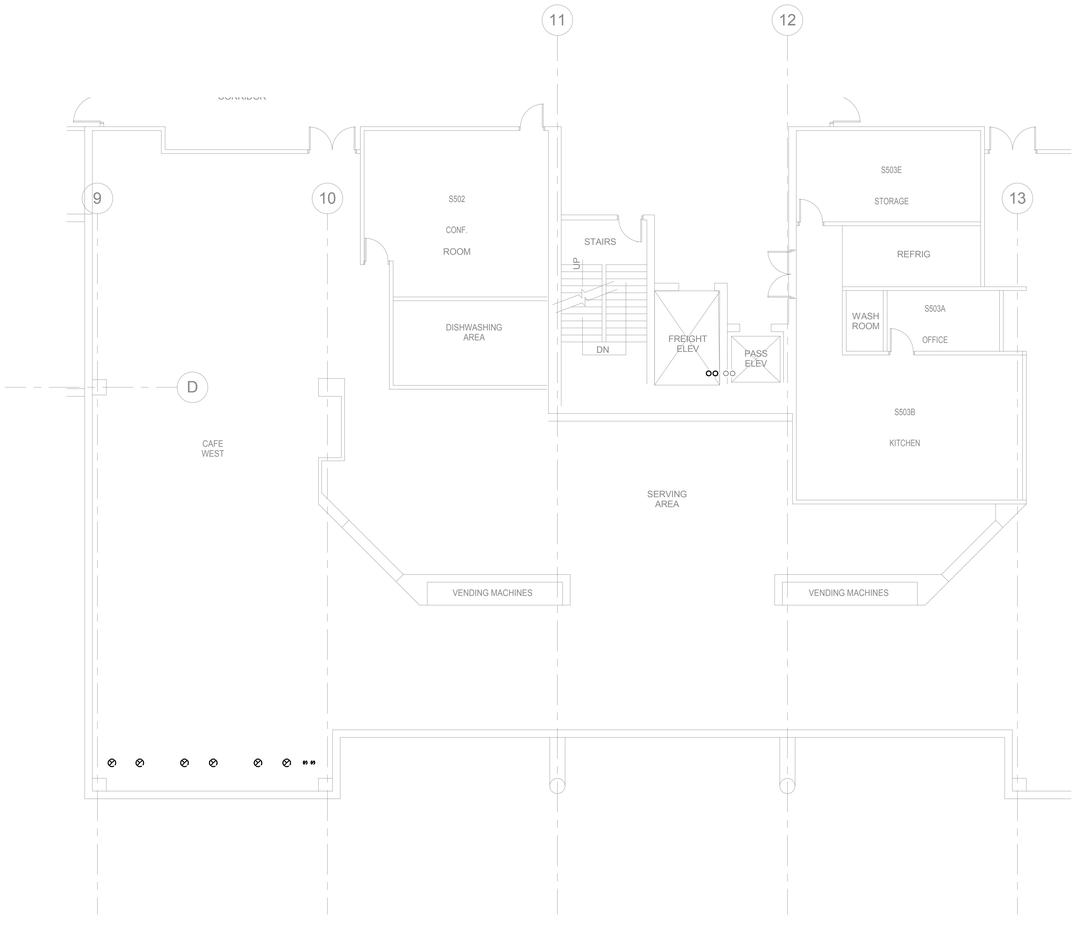
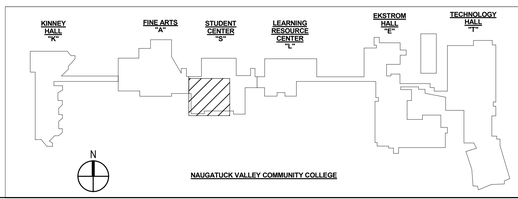
1/8" = 1'-0"



1 STUDENT CENTER LEVEL 5 HVAC PLAN - NEW
1/8" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
STUDENT CENTER LEVEL 5 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

date:
scale: 1/8" = 1'-0"
drawn by: Author
approved by: Checker
drawing no.: **H-105.S**

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no.: 21-16-043
project no.: BI-CTC-500

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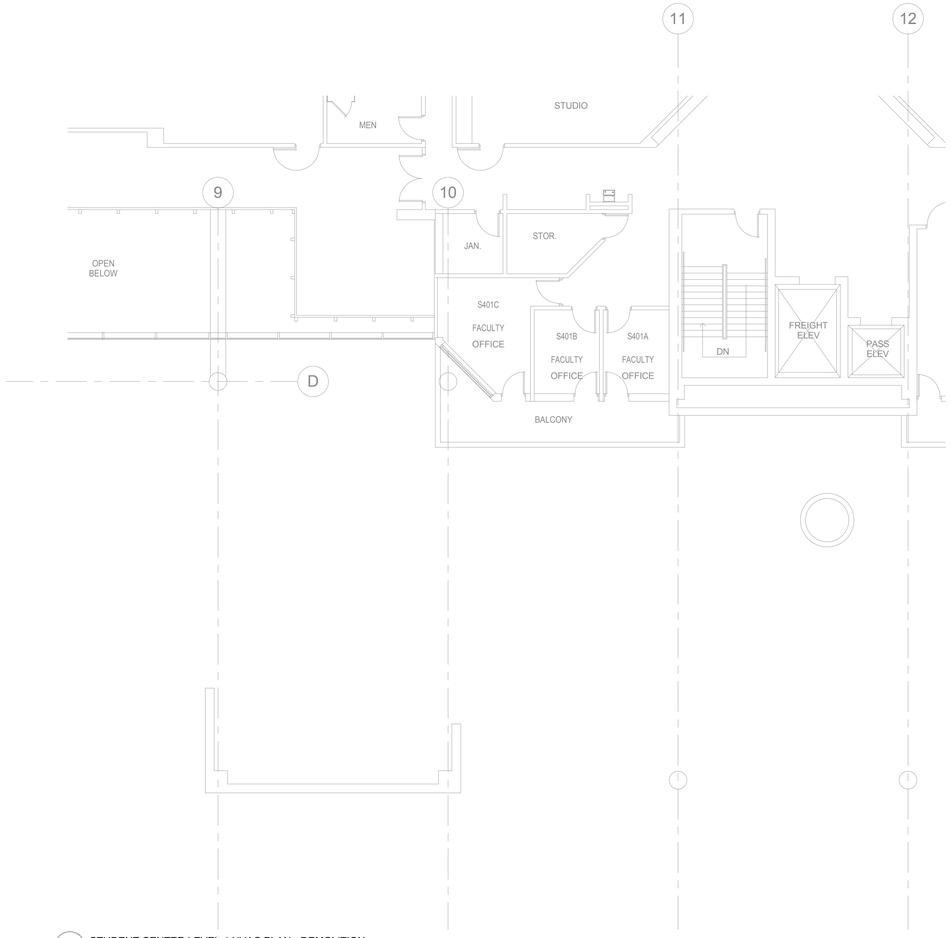
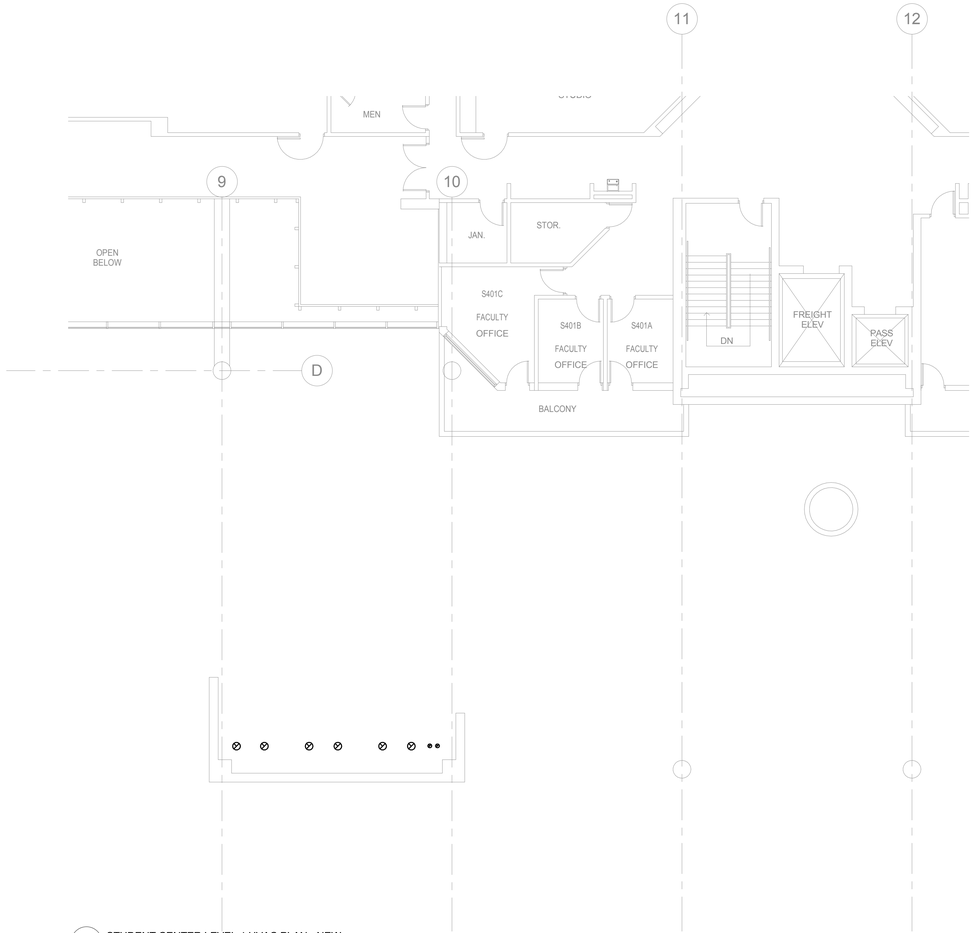
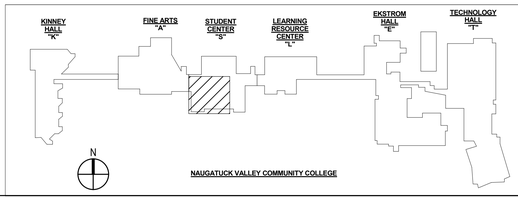


2 STUDENT CENTER LEVEL 4 HVAC PLAN - DEMOLITION
1/8" = 1'-0"



1 STUDENT CENTER LEVEL 4 HVAC PLAN - NEW
1/8" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
STUDENT CENTER LEVEL 3 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
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drawn by Author
approved by Checker
drawing no. **H-104.S**

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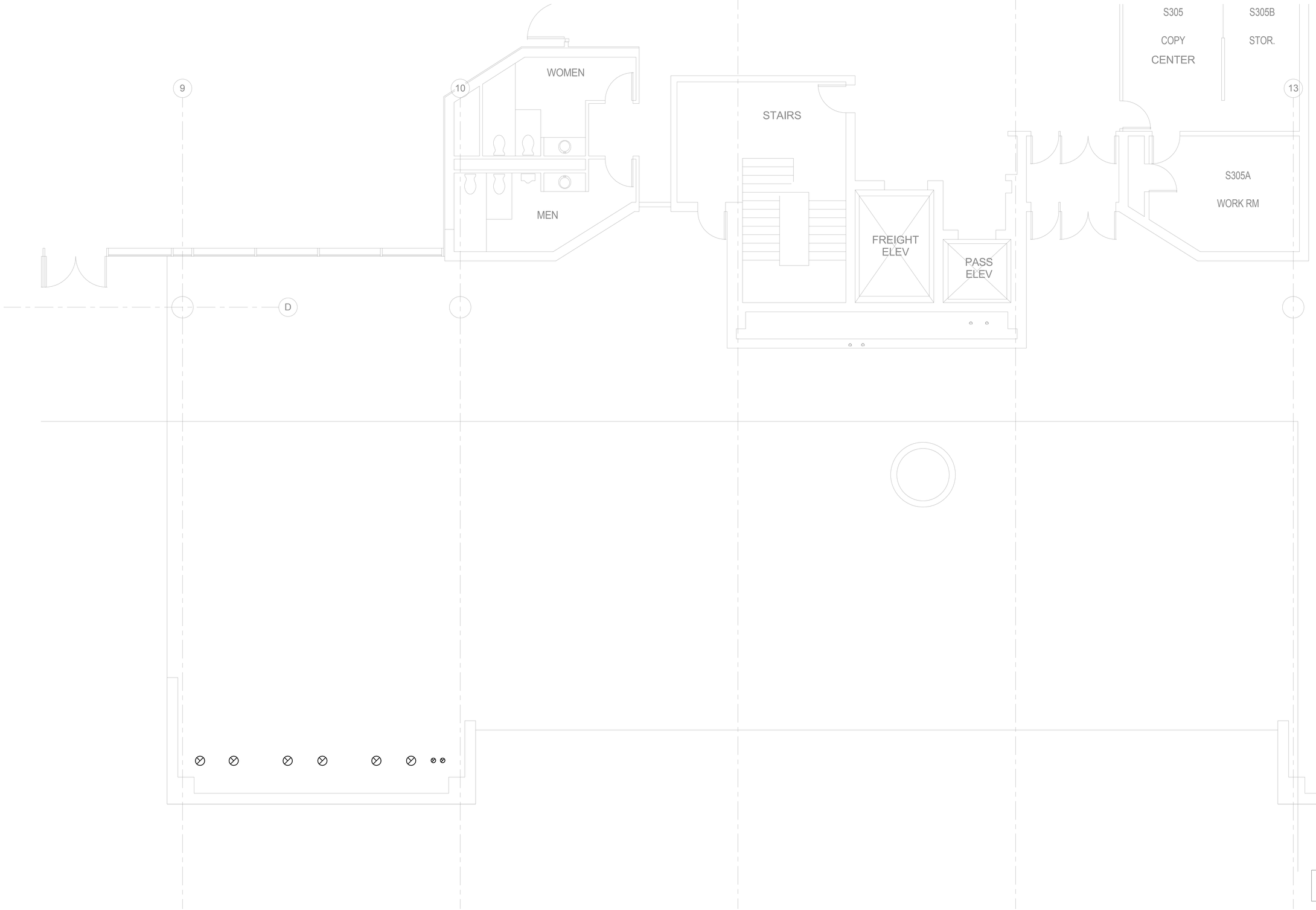

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KINNEY HALL "K" | FINE ARTS "A" | STUDENT CENTER "S" | LEARNING RESOURCE CENTER "L" | EKSTROM HALL "E" | TECHNOLOGY HALL "T"

N

NAUGATUCK VALLEY COMMUNITY COLLEGE

drawing title
STUDENT CENTER LEVEL 3 HVAC PLAN - NEW

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
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50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by Author
approved by Checker
drawing no. **H-103.S2**

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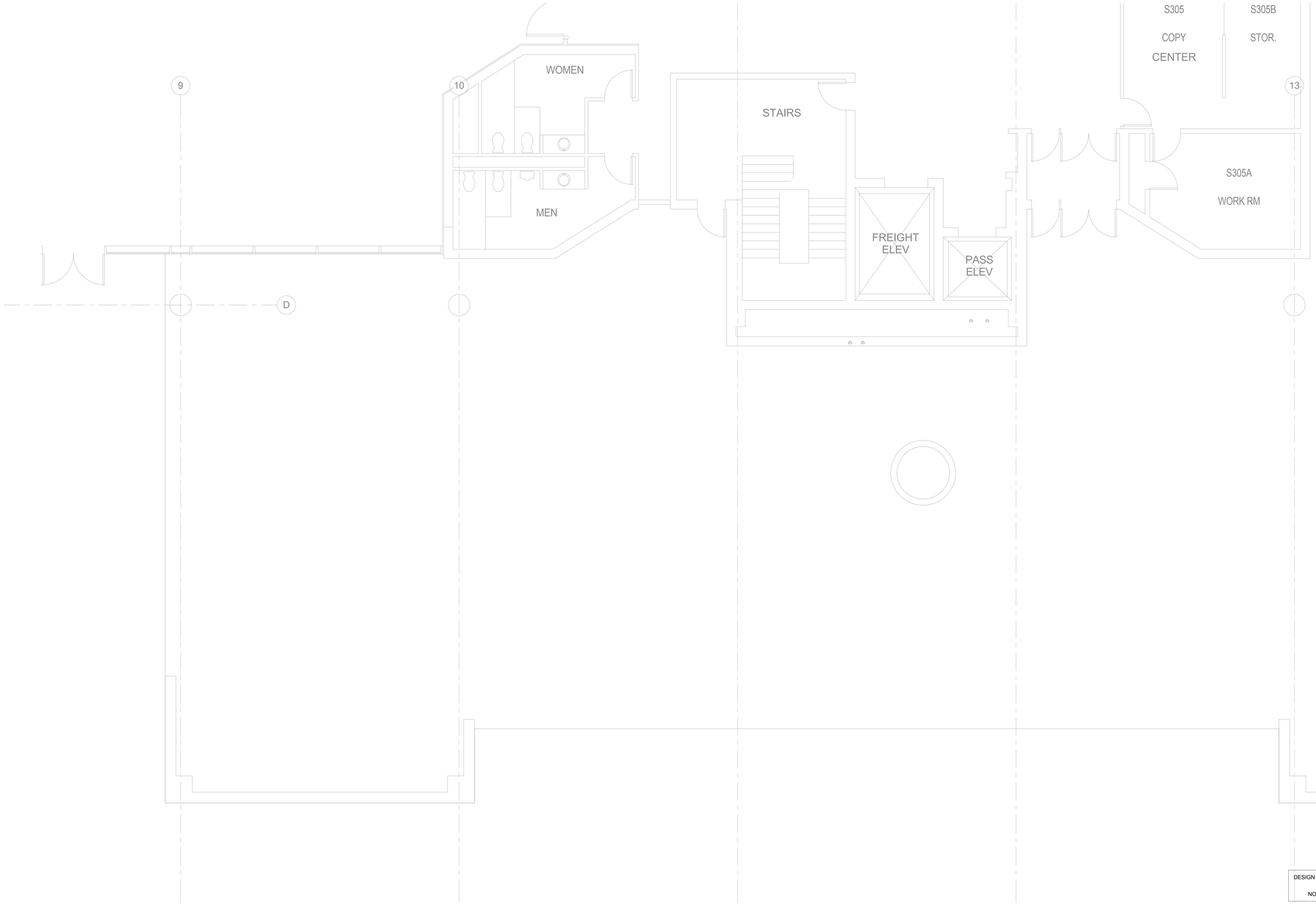
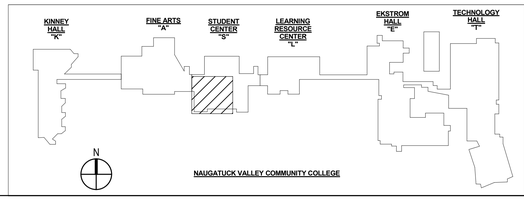
1'-0"



1 STUDENT CENTER LEVEL 3 HVAC PLAN - DEMOLITION
1/4" = 1'-0"

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
STUDENT CENTER LEVEL 3 HVAC PLAN - DEMOLITION

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

date:
scale: 1/4" = 1'-0"
drawn by: Author
approved by: Checker
drawing no.: **H-103.S1**

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no.: 21-16-043
project no.: BI-CTC-500

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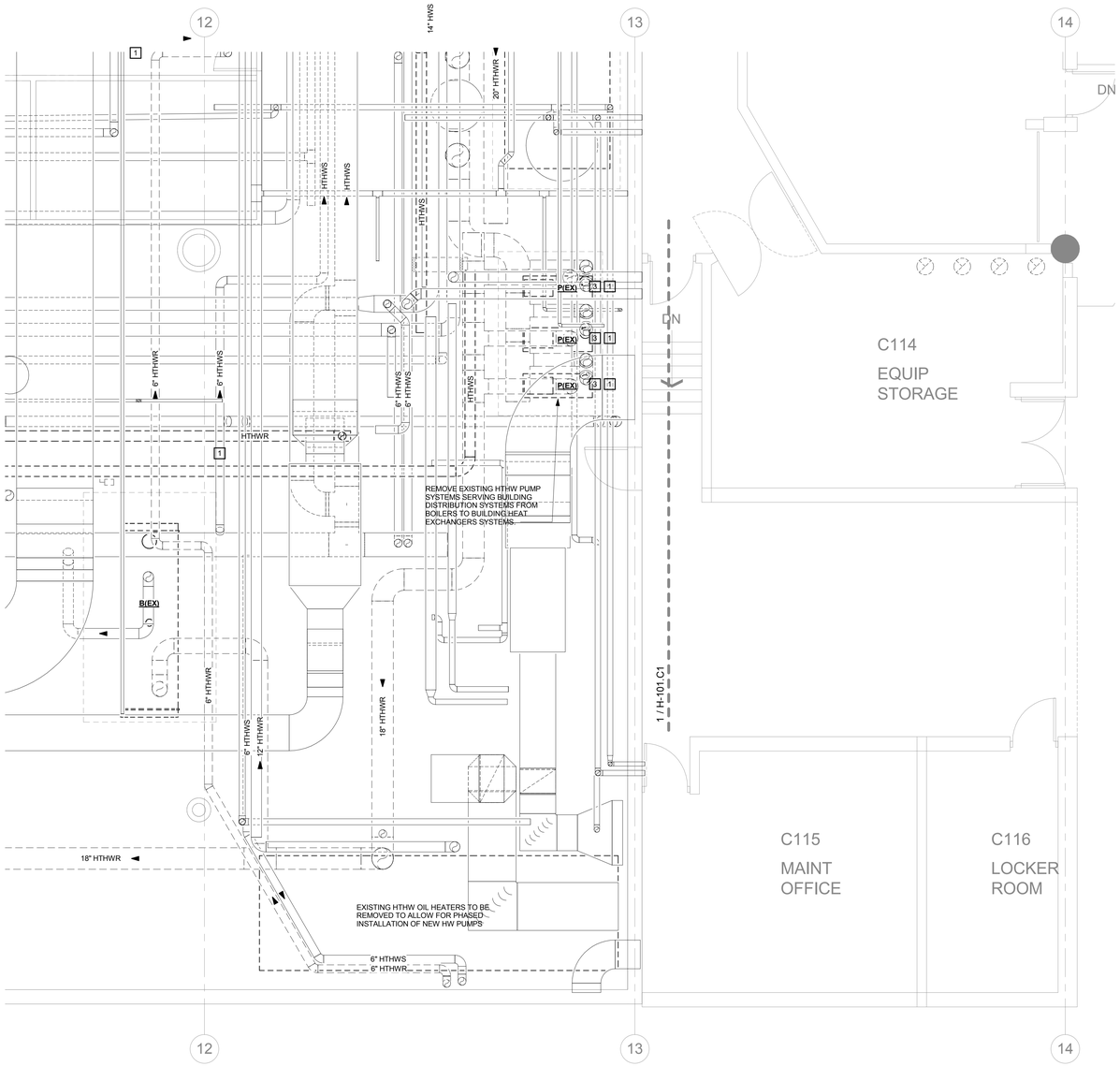

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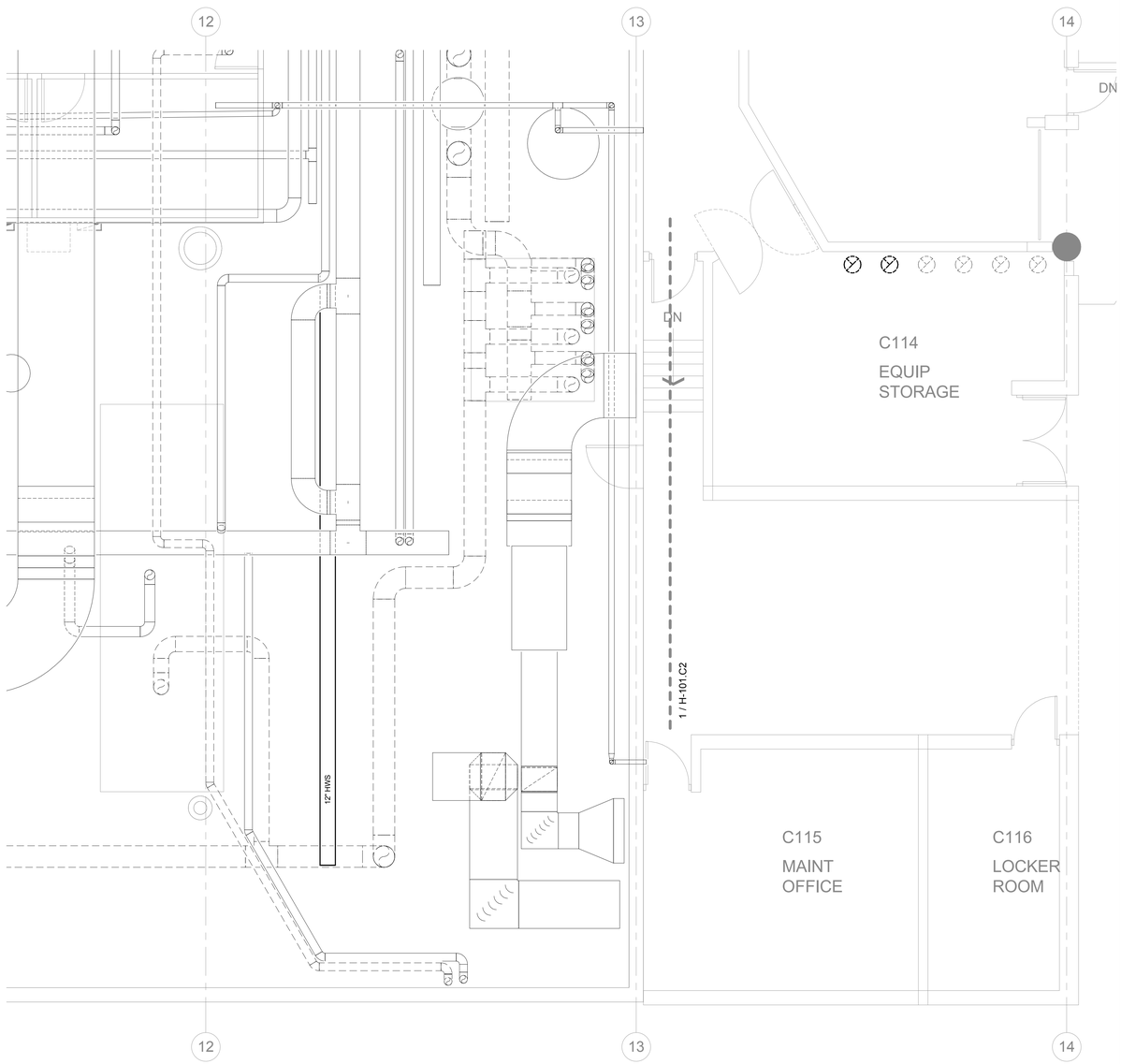

1 STUDENT CENTER LEVEL 1 PLANT PART PLAN - NEW - H-102S3
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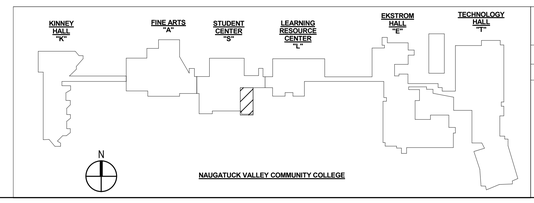
DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
STUDENT CENTER LEVEL 1 HVAC PLAN - NEW

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. H-102.S4

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

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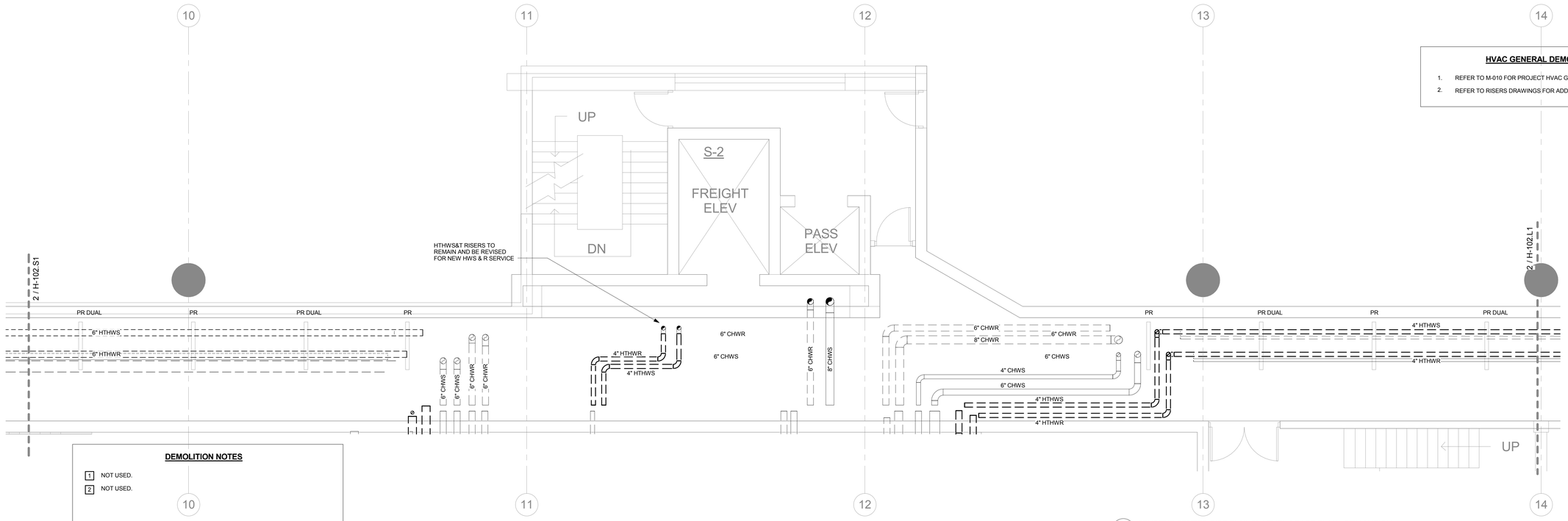


HVAC GENERAL DEMOLITION NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL DEMOLITION NOTES.
2. REFER TO RISERS DRAWINGS FOR ADDITIONAL INFORMATION.

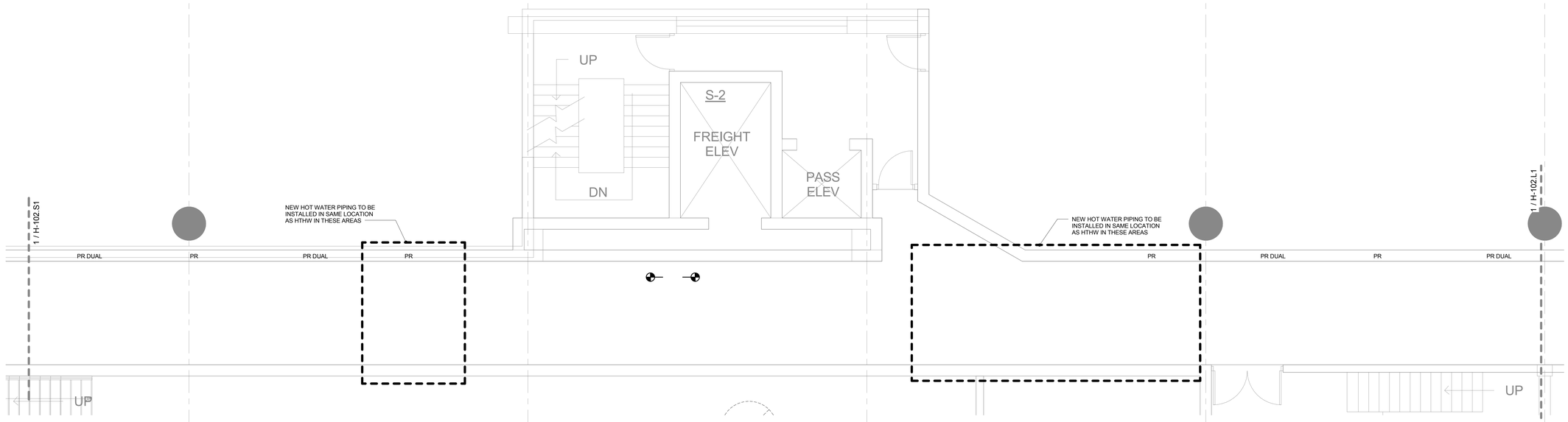
DEMOLITION NOTES

1. NOT USED.
2. NOT USED.

2 STUDENT CENTER PIPE TUNNEL LEVEL 2 PART PLAN - DEMOLITION
1/4" = 1'-0"

HVAC GENERAL NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL NOTES.
2. REFER TO RISERS AND FLOW DIAGRAMS FOR ADDITIONAL INFORMATION.



NEW DRAWING NOTES

1. NOT USED.

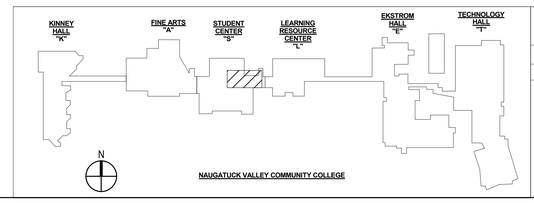
1 STUDENT CENTER PIPE TUNNEL LEVEL 2 PART PLAN - NEW
1/4" = 1'-0"

DRAWING GENERAL NOTES

1. SEE DWG # H-102.A1 NOTES ON DEMO AND NEW PLANS FOR SCOPE REQUIREMENTS RELATED TO REMOVAL OF HTHW SYSTEM AND INSTALLATION OF NEW HW SYSTEM, INCLUDING MODIFICATION TO PIPE RACK SYSTEMS.

LEGEND

PR	PIPE RACK SUPPORT SYSTEM WITH ROLLER SUPPORT FOR EACH PIPE
PR DUAL	EXISTING DUAL UNISTRUT FRAME PIPE RACK SUPPORT SYSTEM WITH PIPE CUIDE SUPPORT FOR EACH PIPE
PH	EXISTING MULTIPLE PIPE HANGER SUPPORT SYSTEM WITH THREADED ROD HUNG FROM STRUCTURE ABOVE AND ROLER PIPE SUPPORT



DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION

drawing title
STUDENT CENTER LEVEL 2 HVAC PIPE TUNNEL PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no.	21-16-043
project no.	BI-CTC-500
date	
scale	1/4" = 1'-0"
drawn by	KLB
approved by	JBA
drawing no.	**H-102.S2**

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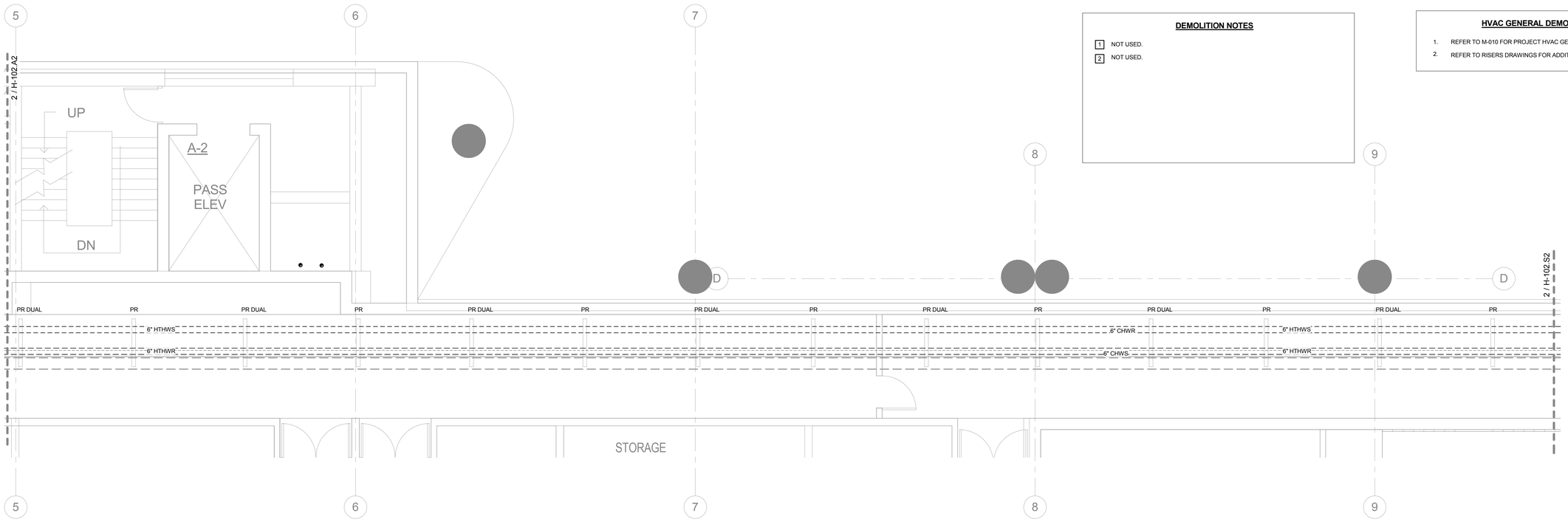


DEMOLITION NOTES

1. NOT USED.
2. NOT USED.

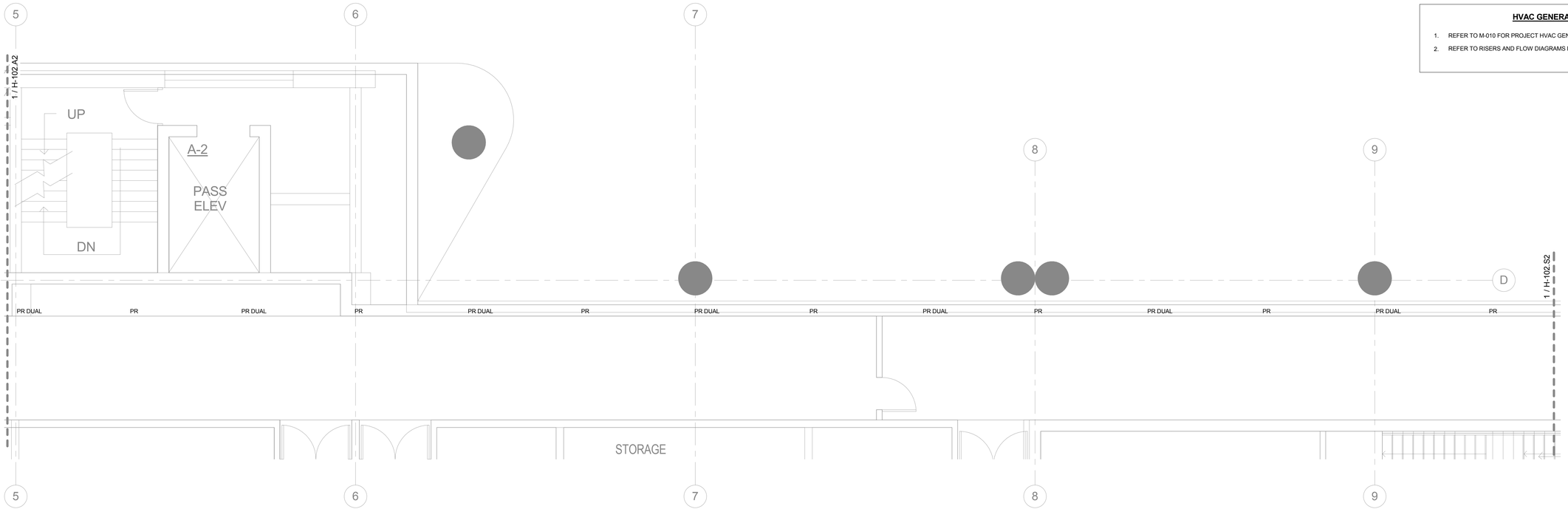
HVAC GENERAL DEMOLITION NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL DEMOLITION NOTES.
2. REFER TO RISERS DRAWINGS FOR ADDITIONAL INFORMATION.

2 STUDENT CENTER PIPE TUNNEL LEVEL 2 PART PLAN - DEMOLITION
1/4" = 1'-0"

HVAC GENERAL NOTES

1. REFER TO M-010 FOR PROJECT HVAC GENERAL NOTES.
2. REFER TO RISERS AND FLOW DIAGRAMS FOR ADDITIONAL INFORMATION.



NEW DRAWING NOTES

1. NOT USED.

DRAWING GENERAL NOTES

1. SEE DWG # H-102.A1 NOTES ON DEMO AND NEW PLANS FOR SCOPE REQUIREMENTS RELATED TO REMOVAL OF HTHW SYSTEM AND INSTALLATION OF NEW HW SYSTEM, INCLUDING MODIFICATION TO PIPE RACK SYSTEMS.

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1 STUDENT CENTER PIPE TUNNEL LEVEL 2 PART PLAN - NEW
1/4" = 1'-0"

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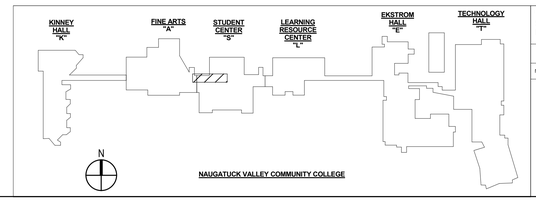
NOT FOR CONSTRUCTION



drawing title
STUDENT CENTER LEVEL 2 HVAC PIPE TUNNEL PLANS

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STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
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50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

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ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
Telephone 860-282-9924
Fax 860-282-9826
www.atcgroupservices.com

December 28, 2017

Mr. Joel Baranowski
State of Connecticut
Department of Administrative Services
Division of Construction Services
450 Columbus Boulevard
Hartford, CT 06103

Re: Asbestos Inspection
Kinney Hall
Naugatuck Valley Community College
Waterbury, Connecticut
Project BI-CTC-500
Building 63378
ATC Project 2257317033

Dear Mr. Baranowski:

Please find enclosed the Asbestos Inspection Report for Kinney Hall at Naugatuck Valley Community College, Waterbury, Connecticut.

Should you have any questions concerning this report, do not hesitate to contact me at 860 282-9924 ext. 1123.

Sincerely,

ATC Group Services LLC

_____

Edward P. Fennell Jr., P.E.
Division Manager
ATC Group Services LLC
Direct Line +1 860 282 9924 x1123
Email: edward.fennell@atcassociates.com
Encl: Asbestos Inspection Report Kinney Hall NVCC

ASBESTOS INSPECTION REPORT

KINNEY HALL
NAUGATUCK VALLEY COMMUNITY COLLEGE
WATERBURY, CONNECTICUT
BUILDING 63378
PROJECT BI-CTC-500

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

Prepared by:

ATC GROUP SERVICES LLC
290 ROBERTS STREET - SUITE 301
EAST HARTFORD, CT 06108

ATC PROJECT 2257317033

DECEMBER 18, 2017

Table of Contents

1.0 INTRODUCTION

ATC Group Services LLC (ATC) of East Hartford, Connecticut was retained by the State of Connecticut, Department of Administrative Services, Division of Construction Services (CTDCS) to conduct a pre-renovation inspection at Kinney Hall located at Naugatuck Valley Community College in Waterbury, Connecticut. The scope of the asbestos inspection included: surveying, sampling, and testing of suspect building materials.

The asbestos inspection was conducted by Mr. Scott Johnson on November 28, 2017. Mr. Johnson is a State of Connecticut, Department of Public Health (CTDPH) licensed asbestos inspector (CTDPH license number 000297). The survey was performed as a walk-through visual inspection, combined with the collection and analysis of bulk samples.

2.0 ASBESTOS-CONTAINING MATERIALS SURVEY

Materials which were considered suspect ACM included pipe fitting insulation, fiberglass pipe insulation paper/adhesive, spray-on fireproofing, gaskets, and end cap sealant. Suspect materials that are inaccessible and were not sampled include gaskets.

2.1 ASBESTOS BULK SAMPLE COLLECTION/ANALYSIS PROCEDURE

Building materials considered suspect ACM were inspected and assessed using the methods presented in the United States Environmental Protection Agency AHERA regulations (40 CFR Part 763) and NESHAP regulations (40 CFR Part 61).

ATC collected bulk samples of building materials utilizing a sampling strategy that correlated with 40 CFR 763.86 as follows:

(a) *Surfacing materials.* An accredited inspector shall collect, in a statistically random manner that is representative of the homogeneous area, bulk samples from each homogeneous area of friable surfacing material that is not assumed to be ACM, and shall collect the samples as follows:

(1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft^2 or less, except as provided in 40 CFR Part 763.87(c)(2).
(2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft^2 but less than or equal to 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).
(3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).

(b) *Thermal system insulation.*

(1) Except as provided in paragraphs (b)(2) through (4) of this section and 40 CFR Part 763.87(c), an accredited inspector shall collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that is not assumed to be ACM.
(2) Collect at least one bulk sample from each homogeneous area of patched thermal system insulation that is not assumed to be ACM if the patched section is less than 6 linear or square feet.

(3) In a manner sufficient to determine whether the material is ACM or not ACM, collect bulk samples from each insulated mechanical system that is not assumed to be ACM where cement or plaster is used on fittings such as tees, elbows, or valves, except as provided under 40 CFR Part 763.87(c)(2).

(4) Bulk samples are not required to be collected from any homogeneous area where the accredited inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) *Miscellaneous materials.* In a manner sufficient to determine whether material is ACM or not ACM, an accredited inspector shall collect bulk samples from each homogeneous area of friable or non-friable miscellaneous material that is not assumed to be ACM.

The bulk samples collected during the survey were analyzed by EMSL Analytical, Inc. (NVLAP #200700-0) located in Wallingford, Connecticut. The bulk samples were analyzed by Polarized Light Microscopy (PLM) with dispersion staining via EPA 600/R-93/116 Method. Utilizing PLM, the microscopist is able to identify and distinguish between asbestos group minerals and other fibrous materials such as cellulose, mineral wool, fiberglass, or synthetic fibers. The quantities of each of these substances is estimated based on the procedures defined in the above-cited reference and are reported as a percentage.

The EPA recognizes the following as asbestos: Chrysotile, Crocidolite, Amosite, Tremolite, Actinolite, and Anthophyllite. To be classified as ACM, the material must be determined to contain greater than one percent (1%) asbestos. In order to consider a material to be non-ACM, all samples of a homogeneous type of material that are collected must be analyzed and all results must indicate the material to contain less than 1% asbestos by weight.

3.0 ASBESTOS-CONTAINING MATERIALS

The results of PLM laboratory analysis indicated that the following materials are asbestos-containing material (ACM). ACM are those materials that contain greater than 1% asbestos, and are as follows:

- None

The remaining materials which were sampled and tested were found to contain no detectable amounts of asbestos. Specifically, the following materials were determined to be non-ACM:

- Spray-On Fireproofing – Brown
- Mudded End Cap Sealant
- Mudded Pipe Fitting Insulation (All Sizes, All Systems)
- Mudded Valve Insulation
- Mudded Tank Insulation
- White End Cap Sealant
- Fiberglass Pipe Insulation Paper/Adhesive

Spray-On Fireproofing – Brown and Mudded End Cap Sealant were identified to contain Vermiculite.

Refer to Section 6.0, Bulk Sample Summary of Suspect Materials, for all suspect materials that were identified and sampled.

4.0 DISCUSSION AND RECOMMENDATIONS

EPA regulations require the removal of Regulated Asbestos-Containing Materials (RACM) prior to renovation or demolition activities. RACM is defined as (a) Friable ACM, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation activities. The CTDPH defines "asbestos abatement" as removal, encapsulation, enclosure, renovation, repair, demolition, or other disturbance of ACM but does not include activities which are related to (A) the removal or repair of asbestos cement pipe and are performed by employees of a water company as defined in section 25-32a, or (B) the removal of non-friable ACM found exterior to a building or structure other than material defined as RACM in 40 CFR 61, the National Emission Standards for Hazardous Air Pollutants (NESHAP). Based upon these definitions, ACM identified in the building requires removal prior to renovation, demolition, or disturbance. The State of Connecticut Department of Environmental Protection (CTDEP) regulations require the proper disposal of all ACM, regardless of categorization.

5.0 LIMITATIONS

As with all such assessments, the results of the sampling represent conditions found on the date of the survey and may not represent conditions found at other times. Additionally, this assessment was limited with respect to the specific parameters indicated above and should not be construed to be a comprehensive evaluation or a definitive representation of conditions within the facility. The information presented in this report is intended to be used as a guide to evaluate the need for further investigation or the need for modifications to the processes or procedures surveyed.

6.0 BULK SAMPLE SUMMARY OF SUSPECT MATERIALS

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
KINNEY HALL

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
112817-K-1A	Mechanical Room K411	Spray On Fire Proofing – Brown	ND	-
112817-K-1B	Mechanical Room K411	Spray On Fire Proofing – Brown	ND	-
112817-K-1C	Mechanical Room K411	Spray On Fire Proofing – Brown	ND	-
112817-K-2A	Mechanical Room K411	Mudded End Cap Sealant at CWP 1	ND	-
112817-K-2B	Mechanical Room K411	Mudded End Cap Sealant at CWP 2	ND	-
112817-K-2C	Mechanical Room K411	Mudded End Cap Sealant at Ramp	ND	-
112817-K-2D	Mechanical Room K411 – Tunnel	Mudded End Cap Sealant at CWS	ND	-
112817-K-2E	Mechanical Room K411 – Tunnel	Mudded End Cap Sealant at CWS by Ramp	ND	-
112817-K-2F	Mechanical Room K411 – Tunnel	Mudded End Cap Sealant Canvas at Valve	ND	-
112817-K-3A	Mechanical Room K411	Fiberglass Pipe Insulation Paper/Adhesive at HWP-4	ND	-
112817-K-3B	Mechanical Room K411	Fiberglass Pipe Insulation Paper/Adhesive at CWP-1	ND	-
112817-K-3C	Mechanical Room K411 – Tunnel	Fiberglass Pipe Insulation Paper at CW 6	ND	-
112817-K-4A	Mechanical Room K411	Mudded Insulation on Hot Water Tank	ND	-
112817-K-4B	Mechanical Room K411	Mudded Insulation on Hot Water Tank	ND	-
112817-K-4C	Mechanical Room K411	Mudded Insulation on Hot Water Tank	ND	-
112817-K-4D	Mechanical Room K411	Mudded Insulation on Hot Water Tank	ND	-
112817-K-5A	Mechanical Room K411	White End Cap Sealant	ND	-
112817-K-5B	Mechanical Room K411	White End Cap Sealant	ND	-

ND = None Detected
HW = Hot Water
CW = Cold Water

7.0 BULK SAMPLE RESULTS/CHAIN - OF - CUSTODY FORMS

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705221
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Attention:	Ed Fennell	**Phone:**	(860) 282-9924
	ATC Group Services LLC	**Fax:**	(860) 282-9826
	290 Roberts Street	**Received Date:**	12/08/2017 2:35 PM
	Suite 301	**Analysis Date:**	12/12/2017 - 12/13/2017
	East Hartford, CT 06108	**Collected Date:**	11/30/2017
Project:	2257317033/NYCC-KINNEY HALL, 750 CHASE PARKWAY WATERBURY, CT 06708		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-K-1A *241705221-0001*	K411 mechanical rm - spray on fire proofing, brown	Brown Non-Fibrous Homogeneous		20% Vermiculite 80% Non-fibrous (Other)	None Detected
112817-K-1B *241705221-0002*	K411 mechanical rm - spray on fire proofing, brown	Brown Non-Fibrous Homogeneous		15% Vermiculite 85% Non-fibrous (Other)	None Detected
112817-K-1C *241705221-0003*	K411 mechanical rm - spray on fire proofing, brown	Tan Non-Fibrous Homogeneous		10% Vermiculite 90% Non-fibrous (Other)	None Detected
112817-K-2A *241705221-0004*	K411 mechanical rm - mudded end cap sealant, at CWP1	Gray Fibrous Homogeneous	50% Min. Wool	50% Non-fibrous (Other)	None Detected
112817-K-2B *241705221-0005*	K411 mechanical rm - mudded end cap sealant, at CWP2	Gray/White Fibrous Homogeneous	10% Cellulose 50% Min. Wool	40% Non-fibrous (Other)	None Detected
112817-K-2C *241705221-0006*	K411 mechanical rm - mudded end cap sealant, at ramp	Brown Fibrous Homogeneous	30% Cellulose	10% Vermiculite 60% Non-fibrous (Other)	None Detected
112817-K-2D *241705221-0007*	K411 tunnel - mudded end cap sealant, at CWS	Gray Fibrous Homogeneous	20% Cellulose 30% Min. Wool	50% Non-fibrous (Other)	None Detected
112817-K-2E *241705221-0008*	K411 tunnel - mudded end cap sealant, at CWS @ ramp	Tan Fibrous Homogeneous	20% Cellulose	10% Vermiculite 70% Non-fibrous (Other)	None Detected
112817-K-2F *241705221-0009*	K411 tunnel - mudded end cap sealant, canvas valve	Tan Fibrous Homogeneous	35% Cellulose	10% Vermiculite 55% Non-fibrous (Other)	None Detected
112817-K-3A *241705221-0010*	K411 mechanical rm - fiberglass pipe insulation paper at HWP-4	Tan/Silver Fibrous Homogeneous	70% Cellulose 20% Glass	10% Non-fibrous (Other)	None Detected
112817-K-3B *241705221-0011*	K411 mechanical rm - fiberglass pipe insulation paper at CWP-1	Tan/Silver Fibrous Homogeneous	70% Cellulose 25% Glass	5% Non-fibrous (Other)	None Detected
112817-K-3C *241705221-0012*	K411 tunnel - fiberglass pipe insulation paper at CWP-6	Tan/Silver Fibrous Homogeneous	70% Cellulose 20% Glass	10% Non-fibrous (Other)	None Detected
112817-K-4A *241705221-0013*	K411 mechanical rm - mudded insulation on hot water tank	Gray/Tan/White Fibrous Homogeneous	30% Cellulose 20% Min. Wool	50% Non-fibrous (Other)	None Detected
112817-K-4B *241705221-0014*	K411 mechanical rm - mudded insulation on hot water tank	White Fibrous Homogeneous	50% Cellulose 10% Glass	40% Non-fibrous (Other)	None Detected
112817-K-4C *241705221-0015*	K411 mechanical rm - mudded insulation on hot water tank	White Fibrous Homogeneous	50% Cellulose 10% Glass	40% Non-fibrous (Other)	None Detected

Initial report from: 12/13/2017 13:40:35

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4 Wallingford, CT 06492
Tel/Fax: (203) 284-5948 / (203) 284-5978
http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705221
Customer ID:	ATCE54
Customer PO:	17-10133-0001
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
112817-K-4D *241705221-0016*	K411 mechanical rm - mudded insulation on hot water tank (near wall)	Gray/Tan/White Fibrous Homogeneous	50% Cellulose 20% Glass	30% Non-fibrous (Other)	None Detected
112817-K-5A *241705221-0017*	K411 mechanical rm - white end cap sealant	White/Yellow Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected
112817-K-5B *241705221-0018*	K411 mechanical rm - white end cap sealant	Tan/Yellow Fibrous Homogeneous	45% Cellulose 25% Glass	30% Non-fibrous (Other)	None Detected

Analyst(s)

Lauren Buffone (12)
Quetcy Castro Romero (6)

Lauren Brennan, Asbestos Lab Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0,

Initial report from: 12/13/2017 13:40:35

OrderID: 241705221

ENVIRONMENTAL · GEOTECHNICAL
BUILDING SCIENCES · MATERIALS TESTING

BULK SAMPLE LOG

241705221

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 225731/7033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 18
Building: NVCC – Kinney Hall	Address: 750 Chase Parkway, Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _ of _ (homogeneous material)		Field Number
K411 Mechanical Rm	Spray on Fire Proofing, Brown	S		Y		1	3	112817-K-1A
K411 Mechanical Rm						2		-1B
K411 Mechanical Rm	Spray on Fire Proofing, Brown	S		Y		3	3	-1C
K411 Mechanical Rm	Mudded End Cap Sealant, at CWP1	TSI		Y		1	6	112817-K-2A
K411 Mechanical Rm	Mudded End Cap Sealant, at CWP2					2	6	-2B
K411 Mechanical Rm	Mudded End Cap Sealant, at Ramp	TSI		Y		3	6	-2C
K411 Tunnel	Mudded End Cap Sealant, at CWS	TSI		Y		4	6	-2D
K411 Tunnel	Mudded End Cap Sealant at CWS @ ramp					5		-2E
K411 Tunnel	Mudded End Cap Sealant, Canvas Valve	TSI		Y		6	6	-2F
K411 Mechanical rm	Fiber glass pipe insulation Paper at HWP-4	M		N		1	3	112817-K-3A
K411 Mechanical Rm	Fiber glass pipe insulation paper at CWP-1	M				2	3	-3B
K411 Tunnel	Fiber glass pipe insulation paper at CW6	M		N		3	3	-3C

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg) Water (extensive-moderate-slight-none) Deterioration (heavy-moderate-light-none) Friability (yes-no; hard-mod-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft) Accessibility (within reach-barely reachable-not reachable) Vibration (gym-music rm-auditorium-mechanical rm-elevator-other) Barriers (perm airtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type) Air conduits (air plenum - air shaft - elevator shaft - duct) Air movement (high-moderate-low) Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date: 12/8/17 14:35
Received By/Date:

OrderID: 241705221

ATC ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

BULK SAMPLE LOG

241705221

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573117033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 18
Building: NVCC – Kinney Hall	Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample 1 of _ (homogeneous material)		Field Number
K411 Mechanical Rm	Hot Muddea insulation on Hot water tank	TSI		Y		1	4	112817-K-4A
K411 Mechanical Rm	Muddea insulation on Hot water tank					2	4	4B
K411 Mechanical Rm	Muddea insulation on hot water tank	TSI				3	4	4C
K411 Mechanical RM	Muddea insulation on Hot water tank (near wall)					4	4	4D
K411 Mechanical Rm	White end cap Sealant	M		N		1	2	112817-K-5A
K411 Mechanical Rm	White end cap Sealant					2	2	5B

RECEIVED
DEC 08 2017
By 14:37

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg); Water (extensive-moderate-slight-none); Deterioration (heavy-moderate-light-none); Friability (yes-no; hard-mod-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft); Accessibility (within reach-barely reachable-not reachable); Vibration (gym-music rm-auditorium-mechanical rm-elevator-other); Barriers (perm airtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type); Air conduits (air plenum - air shaft - elevator shaft - duct); Air movement (high-moderate-low); Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:
Received By/Date:
Received By/Date:

APPENDIX A

LICENSE AND CERTIFICATION

Dear SCOTT J JOHNSON,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

RAUL PINO, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED BY THIS DEPARTMENT AS A:

ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SCOTT J JOHNSON

CERTIFICATE NO.
000297

CURRENT THROUGH
09/30/18

VALIDATION NO.
03-615244

SIGNATURE

COMMISSIONER

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

CERTIFICATE OF ACHIEVEMENT

This certifies that

Scott Johnson

has successfully completed the

Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

conducted by

ATC Group Services LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory Morsch

Principal Instructor: Gregory Morsch

October 12, 2017
Date of Course

October 12, 2018
Expiration Date

Gregory Morsch

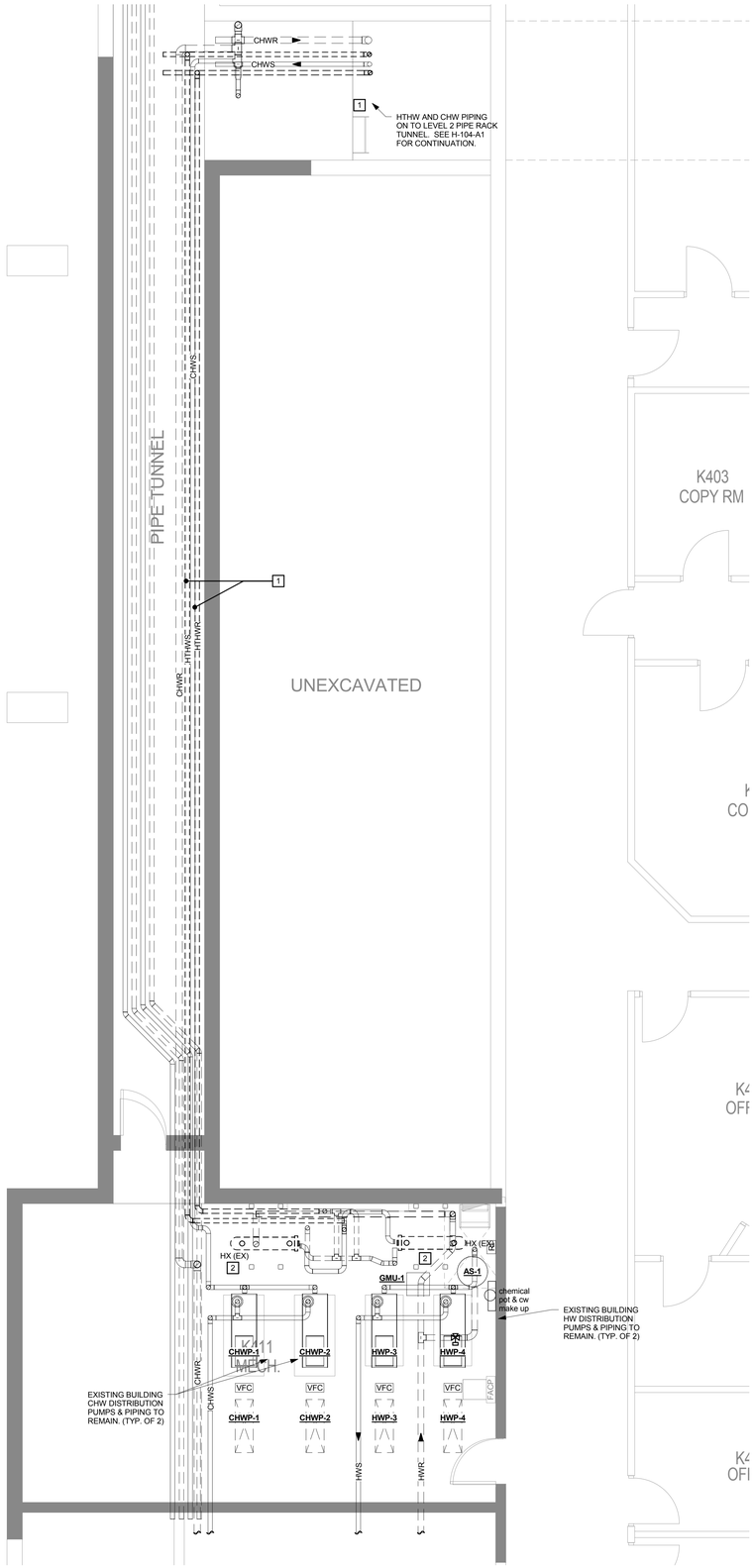
Regional Training Manager: Gregory Morsch

SIAR - 5858
Certificate Number

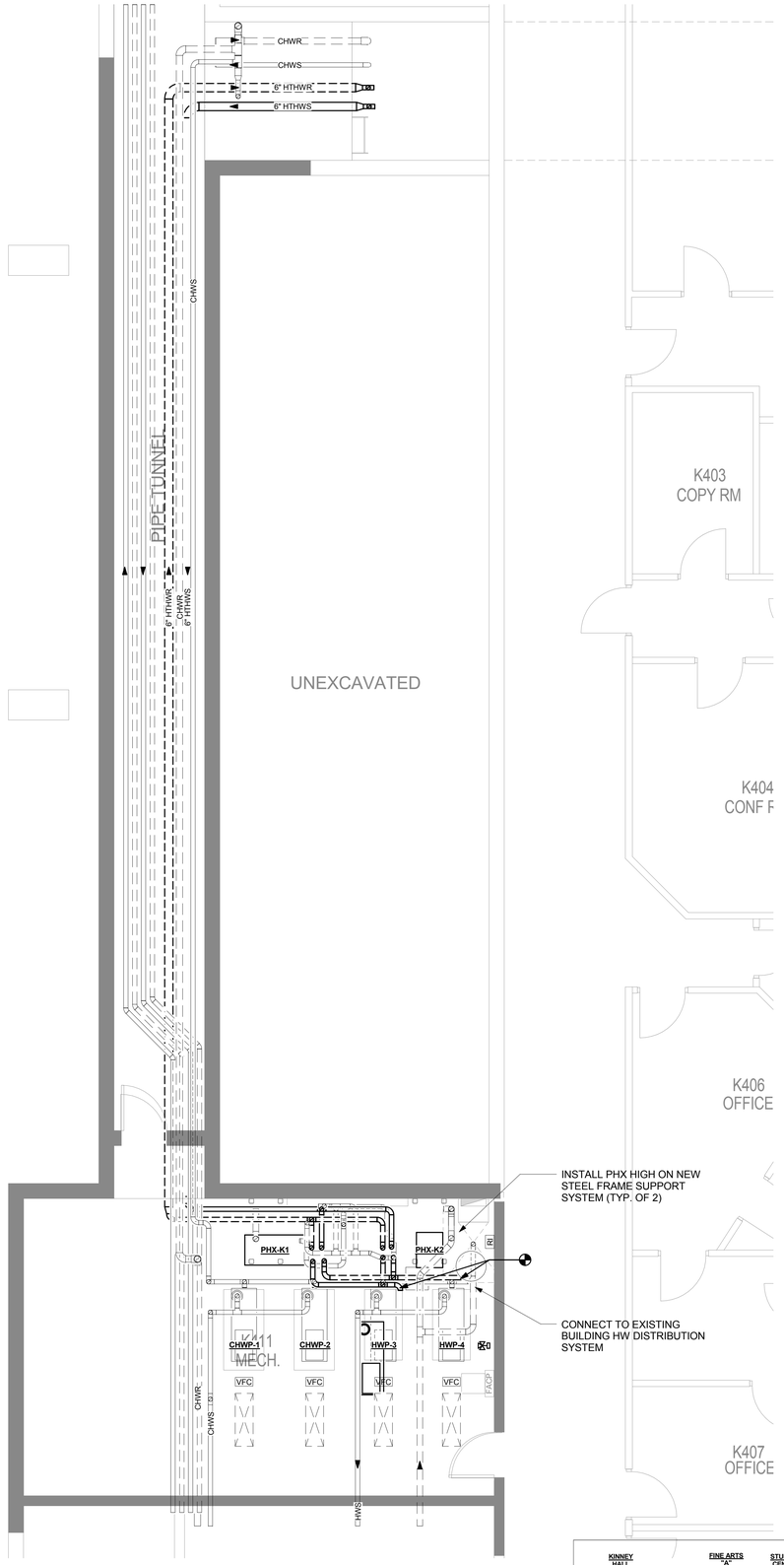
October 12, 2017
Examination Date

APPENDIX B

DRAWINGS



2 KINNEY HALL LEVEL 4 PART PLAN - DEMOLITION - H-104K
1/4" = 1'-0"



1 KINNEY HALL LEVEL 4 PART PLAN - NEW
1/4" = 1'-0"

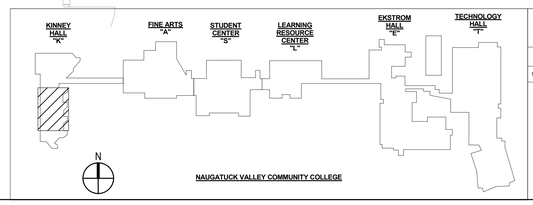
DEMOLITION NOTES

1. REMOVE EXISTING HIGH TEMPERATURE HOT WATER PIPING SYSTEM.
2. REMOVE EXISTING HIGH TEMPERATURE HOT WATER TO HOT WATER HEAT EXCHANGER SYSTEM.
3. REMOVE EXISTING PUMP SYSTEM.
4. REMOVE EXISTING SPECIALTIES SYSTEM.
5. REMOVE EXISTING ATC SYSTEM.

NEW DRAWING NOTES

1. NOT USED.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title: KINNEY HALL LEVEL 4 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. **H-104.K**

11/14/2017 4:04:58 PM E:\REVIT\NVCC\211604\3 - MEP - 2016_(RR).rvt

PLOTTED: 11/14/2017 4:04:40 PM

ENVIRONMENTAL • GEOTECHNICAL
BUILDING SCIENCES • MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
Telephone 860-282-9924
Fax 860-282-9826
www.atcgroupservices.com

December 28, 2017

Mr. Joel Baranowski
State of Connecticut
Department of Administrative Services
Division of Construction Services
450 Columbus Boulevard
Hartford, CT 06103

Re: Asbestos Inspection
Technology Hall
Naugatuck Valley Community College
Waterbury, Connecticut
Project BI-CTC-500
Building 97250
ATC Project 2257317033

Dear Mr. Baranowski:

Please find enclosed the Asbestos Inspection Report for Technology Hall at Naugatuck Valley Community College, Waterbury, Connecticut.

Should you have any questions concerning this report, do not hesitate to contact me at 860 282-9924 ext. 1123.

Sincerely,

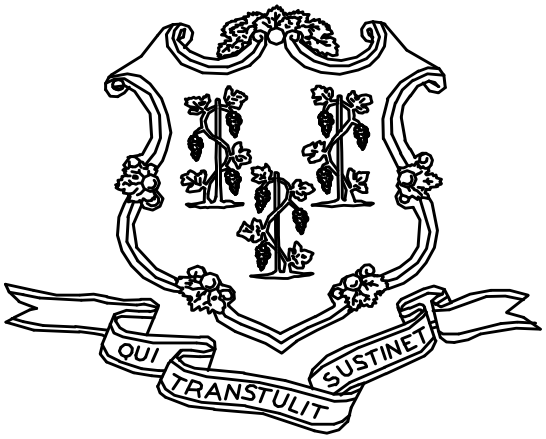
ATC Group Services LLC

_____

Edward P. Fennell Jr., P.E.
Division Manager
ATC Group Services LLC
Direct Line +1 860 282 9924 x1123
Email: edward.fennell@atcassociates.com
Encl: Asbestos Inspection Report Technology Hall NVCC

ASBESTOS INSPECTION REPORT

TECHNOLOGY HALL
NAUGATUCK VALLEY COMMUNITY COLLEGE
WATERBURY, CONNECTICUT
BUILDING 97250
PROJECT BI-CTC-500



STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

Prepared by:

ATC GROUP SERVICES LLC
290 ROBERTS STREET - SUITE 301
EAST HARTFORD, CT 06108

ATC PROJECT 2257317033

DECEMBER 19, 2017

Table of Contents

1.0 INTRODUCTION

ATC Group Services LLC (ATC) of East Hartford, Connecticut was retained by the State of Connecticut, Department of Administrative Services, Division of Construction Services (CTDCS) to conduct a pre-renovation inspection at Technology Hall located at Naugatuck Valley Community College in Waterbury, Connecticut. The scope of the asbestos inspection included: surveying, sampling, and testing of suspect building materials.

The asbestos inspection was conducted by Mr. Scott Johnson on November 30, 2017. Mr. Johnson is a State of Connecticut, Department of Public Health (CTDPH) licensed asbestos inspector (CTDPH license number 000297). The survey was performed as a walk-through visual inspection, combined with the collection and analysis of bulk samples.

2.0 ASBESTOS-CONTAINING MATERIALS SURVEY

Materials which were considered suspect ACM included fiberglass pipe insulation paper/adhesive, end cap sealant, duct sealant, fire stop caulk. Suspect materials that are inaccessible and were not sampled include spray-on fireproofing, gaskets.

2.1 ASBESTOS BULK SAMPLE COLLECTION/ANALYSIS PROCEDURE

Building materials considered suspect ACM were inspected and assessed using the methods presented in the United States Environmental Protection Agency AHERA regulations (40 CFR Part 763) and NESHAP regulations (40 CFR Part 61).

ATC collected bulk samples of building materials utilizing a sampling strategy that correlated with 40 CFR 763.86 as follows:

(a) *Surfacing materials.* An accredited inspector shall collect, in a statistically random manner that is representative of the homogeneous area, bulk samples from each homogeneous area of friable surfacing material that is not assumed to be ACM, and shall collect the samples as follows:

(1) At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft^2 or less, except as provided in 40 CFR Part 763.87(c)(2).
(2) At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft^2 but less than or equal to 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).
(3) At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft^2, except as provided in 40 CFR Part 763.87(c)(2).

(b) *Thermal system insulation.*

(1) Except as provided in paragraphs (b)(2) through (4) of this section and 40 CFR Part 763.87(c), an accredited inspector shall collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that is not assumed to be ACM.
(2) Collect at least one bulk sample from each homogeneous area of patched thermal system insulation that is not assumed to be ACM if the patched section is less than 6 linear or square feet.

(3) In a manner sufficient to determine whether the material is ACM or not ACM, collect bulk samples from each insulated mechanical system that is not assumed to be ACM where cement or plaster is used on fittings such as tees, elbows, or valves, except as provided under 40 CFR Part 763.87(c)(2).

(4) Bulk samples are not required to be collected from any homogeneous area where the accredited inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

(c) *Miscellaneous materials.* In a manner sufficient to determine whether material is ACM or not ACM, an accredited inspector shall collect bulk samples from each homogeneous area of friable or non-friable miscellaneous material that is not assumed to be ACM.

The bulk samples collected during the survey were analyzed by EMSL Analytical, Inc. (NVLAP #200700-0) located in Wallingford, Connecticut. The bulk samples were analyzed by Polarized Light Microscopy (PLM) with dispersion staining via EPA 600/R-93/116 Method. Utilizing PLM, the microscopist is able to identify and distinguish between asbestos group minerals and other fibrous materials such as cellulose, mineral wool, fiberglass, or synthetic fibers. The quantities of each of these substances is estimated based on the procedures defined in the above-cited reference and are reported as a percentage.

The EPA recognizes the following as asbestos: Chrysotile, Crocidolite, Amosite, Tremolite, Actinolite, and Anthophyllite. To be classified as ACM, the material must be determined to contain greater than one percent (1%) asbestos. In order to consider a material to be non-ACM, all samples of a homogeneous type of material that are collected must be analyzed and all results must indicate the material to contain less than 1% asbestos by weight.

3.0 ASBESTOS-CONTAINING MATERIALS

The results of PLM laboratory analysis indicated that the following materials are asbestos-containing material (ACM). ACM are those materials that contain greater than 1% asbestos, and are as follows:

- None

The remaining materials which were sampled and tested were found to contain no detectable amounts of asbestos. Specifically, the following materials were determined to be non-ACM:

- White End Cap Sealant
- Fiberglass Pipe Insulation Paper/Adhesive
- Red Fire Stop Sealant
- Gray Duct Sealant
- Miscellaneous Gasket

Refer to Section 6.0, Bulk Sample Summary of Suspect Materials, for all suspect materials that were identified and sampled.

4.0 DISCUSSION AND RECOMMENDATIONS

EPA regulations require the removal of Regulated Asbestos-Containing Materials (RACM) prior to renovation or demolition activities. RACM is defined as (a) Friable ACM, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation activities. The CTDPH defines "asbestos abatement" as removal, encapsulation, enclosure, renovation, repair, demolition, or other disturbance of ACM but does not include activities which are related to (A) the removal or repair of asbestos cement pipe and are performed by employees of a water company as defined in section 25-32a, or (B) the removal of non-friable ACM found exterior to a building or structure other than material defined as RACM in 40 CFR 61, the National Emission Standards for Hazardous Air Pollutants (NESHAP). Based upon these definitions, ACM identified in the building requires removal prior to renovation, demolition, or disturbance. The State of Connecticut Department of Environmental Protection (CTDEP) regulations require the proper disposal of all ACM, regardless of categorization.

5.0 LIMITATIONS

As with all such assessments, the results of the sampling represent conditions found on the date of the survey and may not represent conditions found at other times. Additionally, this assessment was limited with respect to the specific parameters indicated above and should not be construed to be a comprehensive evaluation or a definitive representation of conditions within the facility. The information presented in this report is intended to be used as a guide to evaluate the need for further investigation or the need for modifications to the processes or procedures surveyed.

6.0 BULK SAMPLE SUMMARY OF SUSPECT MATERIALS

TABLE 6-1
BULK SAMPLE SUMMARY OF SUSPECT MATERIALS
NAUGATUCK VALLEY COMMUNITY COLLEGE
TECHNOLOGY HALL

Sample Number	Sample Location	Material	% Asbestos	Asbestos Type
113017-T-1A	Room T520	Fiberglass Pipe Insulation Paper/Adhesive	ND	-
113017-T-1B	Room MSN	Fiberglass Pipe Insulation Paper/Adhesive	ND	-
113017-T-2A	Room T520	White End Cap Sealant	ND	-
113017-T-2B	Room MSN	White End Cap Sealant	ND	-
113017-T-3A	Room T520	Red Fire Stop Caulk	ND	-
113017-T-3B	Room MSN	Red Fire Stop Caulk	ND	-
113017-T-4A	Room MSN	Gray Duct Seam Sealant	ND	-
113017-T-4B	Room MSN	Gray Duct Seam Sealant	ND	-
113017-T-5A	Room MSN	Miscellaneous Gasket	ND	-
113017-T-5B	Room MSN	Miscellaneous Gasket	ND	-

ND = None Detected

7.0 BULK SAMPLE RESULTS/CHAIN - OF - CUSTODY FORMS

EMSL Analytical, Inc.

29 North Plains Highway, Unit # 4 Wallingford, CT 06492

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order:	241705180
Customer ID:	ATCE54
Customer PO:	2257317033
Project ID:	

Attention:	Scott Johnson	**Phone:**	(860) 282-9924
	ATC Group Services LLC	**Fax:**	(860) 282-9826
	290 Roberts Street	**Received Date:**	12/06/2017 4:35 PM
	East Hartford, CT 06108	**Analysis Date:**	12/07/2017 - 12/09/2017
		Collected Date:	

Project: 2257317033 / NYCC- TECHNOLOGY BUILDING / 750 CHASE PARKWAY WATERBURY, CT 06708

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
113017-T-1A *241705180-0001*	T520 - FIBERGLASS PIPE INSULATION PAPER/ADHESIVE	White/Silver/Yellow Fibrous Homogeneous	60% Cellulose 30% Glass	10% Non-fibrous (Other)	None Detected
113017-T-1B *241705180-0002*	ROOM M5N - FIBERGLASS PIPE INSULATION PAPER/ADHESIVE	Tan/Silver Fibrous Homogeneous	60% Cellulose 30% Glass	10% Non-fibrous (Other)	None Detected
113017-T-2A *241705180-0003*	T520 - WHITE END CAP SEALANT	White/Yellow Fibrous Homogeneous	25% Glass	75% Non-fibrous (Other)	None Detected
113017-T-2B *241705180-0004*	ROOM M5N - WHITE END CAP SEALANT	White/Yellow Fibrous Homogeneous	30% Glass	70% Non-fibrous (Other)	None Detected
113017-T-3A *241705180-0005*	T520 - RED FIRE STOP CAULK	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
113017-T-3B *241705180-0006*	ROOM M5N - RED FIRE STOP CAULK	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
113017-T-4A *241705180-0007*	ROOM M5N - GRAY DUCT SEAM SEALANT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
113017-T-4B *241705180-0008*	ROOM M5N - GRAY DUCT SEAM SEALANT	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
113017-T-5A *241705180-0009*	ROOM M5N - MISC. GASKET	Gray Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
113017-T-5B *241705180-0010*	ROOM M5N - MISC. GASKET	Gray Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected

Analyst(s)

Lauren Buffone (5)

Quetcy Castro Romero (5)

Lauren Brennan, Asbestos Lab Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0,

Initial report from: 12/09/2017 15:29:45

241705180

BULK SAMPLE LOG

ENVIRONMENTAL · GEOTECHNICAL
BUILDING SCIENCES · MATERIALS TESTING

290 Roberts Street, Suite 301
East Hartford, CT 06108
(860) 282-9924 Fax: (860) 282-9826

ATC Inspector: Scott Johnson	Client Name: CTDCS
Accreditation No.: 000297	Project No./Task No.: 22573/7033
Survey Date: 11/30/17	Project Manager: Ed Fennell
Signature:	Requested Completion Date:
Lab Name: EMSL	Requested turnaround time (circle) 3 HR 6 HR 24 HR 48 HR (3 DY) 5 DY — No. Samples Collected 10
Building: NVCC – Technology Building	Address: 750 Chase Parkway Waterbury, CT 06708

Location	Material Description	Type S TSI MISC	Estimated Quantity	Friable Y/N	Condition (SD D ND)	Sample _ of _ (homogeneous material)		Field Number
T520 Room M5N	Fiberglass Pipe Insulation Paper/Adhesive	M		N		1/2	2	113017-T-1A
								-1B
T520 Room M5N	White End cap sealant	M		N		1/2	2	-2A
								-2B
T520 Room M5N	Red Fire Stop Caulk	M		N		1/2	2	-3A
								-3B
Room M5N Room M5N	Gray Duct Seam Sealant	M		N		1/2	2	-4A
								-4B
Room M5N Room M5N	Misc. Gasket	M		N		1/2	2	-5A
								-5B

Comments: (Analyze by PLM)

Notes
Damage Factors: Physical (sig dmg-dmg-no dmg) Water (extensive-moderate-slight-none) Deterioration (heavy-moderate-light-none) Friability (yes-no; hard-mod-soft surface)
Disturbance Factors: Proximity (<1ft- 1-6ft- >6ft) Accessibility (within reach-barely reachable-not reachable) Vibration (gym-music rm-auditorium-mechanical rm-elevator-other) Barriers (perm airtight-enclosed-encapsulated)
Ventilation (yes-no; if yes, type) Air conduits (air plenum - air shaft - elevator shaft - duct) Air movement (high-moderate-low) Texture (rough-pitted-moderate-smooth)

Relinquished By/Date: 12/1/17
Relinquished By/Date:

Received By/Date: 12/6/17 16:35
Received By/Date:

APPENDIX A

LICENSE AND CERTIFICATION

Dear SCOTT J JOHNSON,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

RAUL PINO, MD, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED BY THIS DEPARTMENT AS A:

ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SCOTT J JOHNSON

CERTIFICATE NO.
000297

CURRENT THROUGH
09/30/18

VALIDATION NO.
03-615244

SIGNATURE

COMMISSIONER

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
SCOTT J JOHNSON

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-615244	000297	09/30/18

PROFESSION
ASBESTOS CONSULTANT-INSP/MGMT PLANNER

SIGNATURE COMMISSIONER

CERTIFICATE OF ACHIEVEMENT

This certifies that

Scott Johnson

has successfully completed the

Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

conducted by

ATC Group Services LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory Morsch

Principal Instructor: Gregory Morsch

October 12, 2017
Date of Course

October 12, 2018
Expiration Date

Gregory Morsch

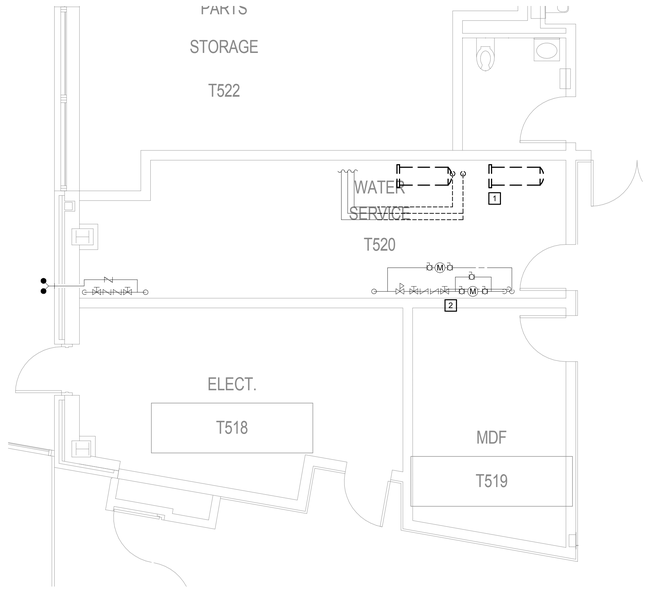
Regional Training Manager: Gregory Morsch

SIAR - 5858
Certificate Number

October 12, 2017
Examination Date

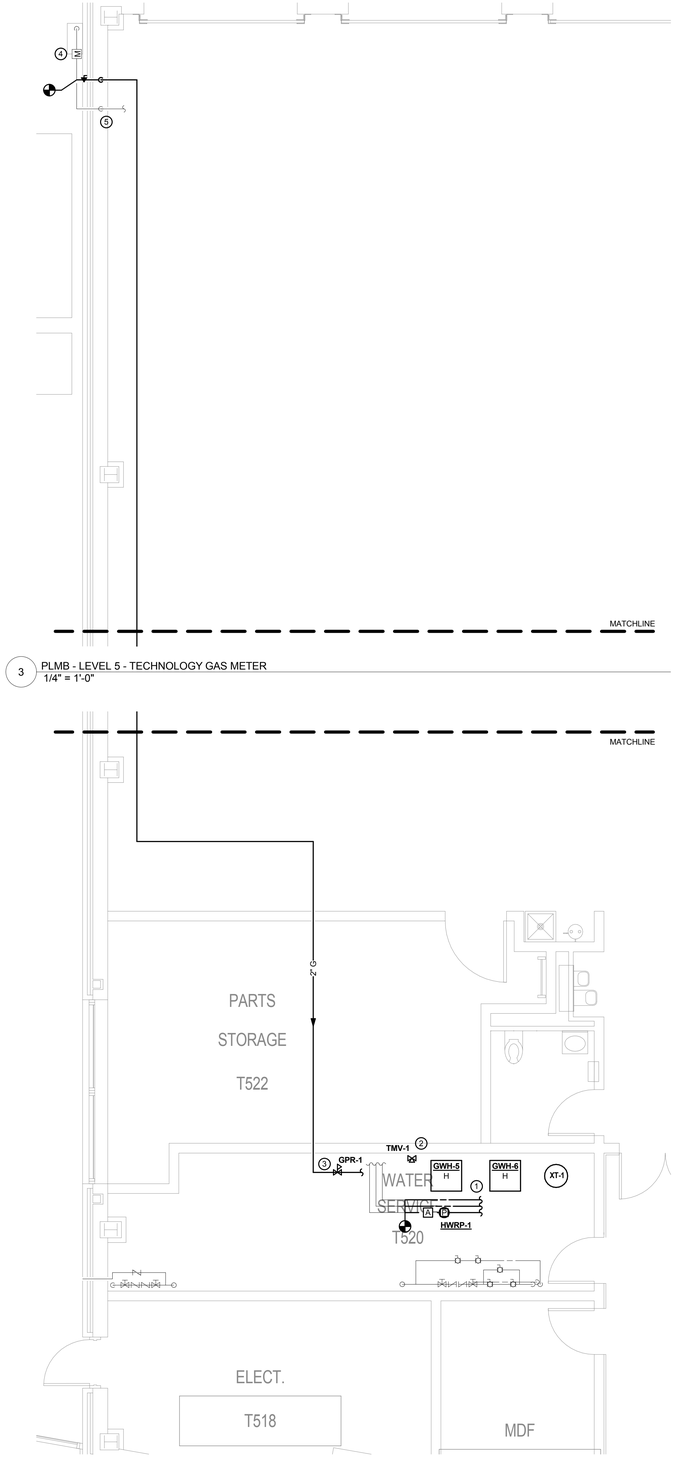
APPENDIX B

DRAWINGS



2 PLMB - DEMO LEVEL 5 - TECHNOLOGY HALL
1/4" = 1'-0"

4 PLMB LEVEL 5 TECHNOLOGY HALL OVERALL PLAN
1/8" = 1'-0"



3 PLMB - LEVEL 5 - TECHNOLOGY GAS METER
1/4" = 1'-0"

1 PLMB LEVEL 5 TECHNOLOGY HALL PLAN
1/4" = 1'-0"

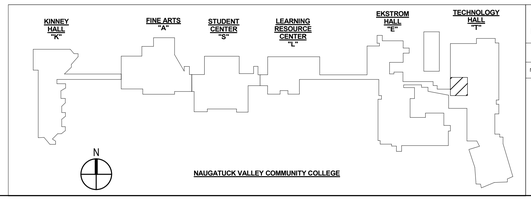
PLUMBING DEMOLITION DRAWING NOTES

1. REMOVE EXISTING DOMESTIC WATER HEAT EXCHANGERS AND ASSOCIATED EQUIPMENT. CUT, VALVE, AND CAP EXISTING DOMESTIC CW, HW, & HWR BACK TO OVERHEAD SPACE FOR FUTURE CONNECTION TO NEW DOMESTIC WATER HEATERS.
2. EXISTING DOMESTIC WATER METER ASSEMBLIES AND PRESSURE REDUCING VALVE SHALL REMAIN.

PLUMBING DRAWING NOTES

1. GAS FIRED WATER HEATERS. PROVIDE 2" H&CW, 1" HWR, 2" GAS CONNECTIONS SEE DETAIL FOR PIPING INFORMATION.
2. MASTER TMV. PROVIDE 2" H&CW CONNECTIONS. SEE DETAIL FOR PIPING INFORMATION.
3. GAS PRESSURE REGULATOR FOR WATER HEATERS, SET AT 12" W.C. OUTLET PRESSURE. PROVIDE 1" VENT UP THROUGH ROOF. TERMINATE WITH GOOSENECK & INSECT SCREEN.
4. NEW 2 PSI GAS MAIN. CONNECT TO EXISTING GAS SERVICE MAIN UPSTREAM OF EXISTING PRESSURE REGULATOR.
5. EXISTING GAS TO REMAIN.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
TECHNOLOGY HALL LEVEL 5 PLUMBING PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale: As indicated
drawn by: JJM
approved by: JBA
drawing no. **P-105.T**

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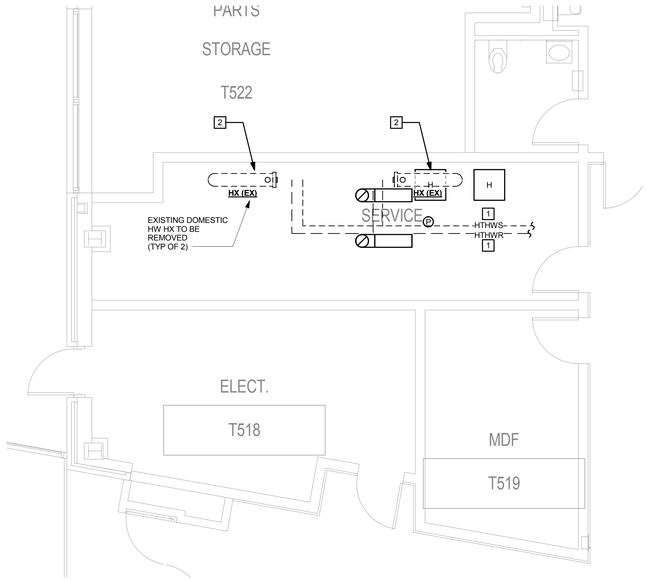
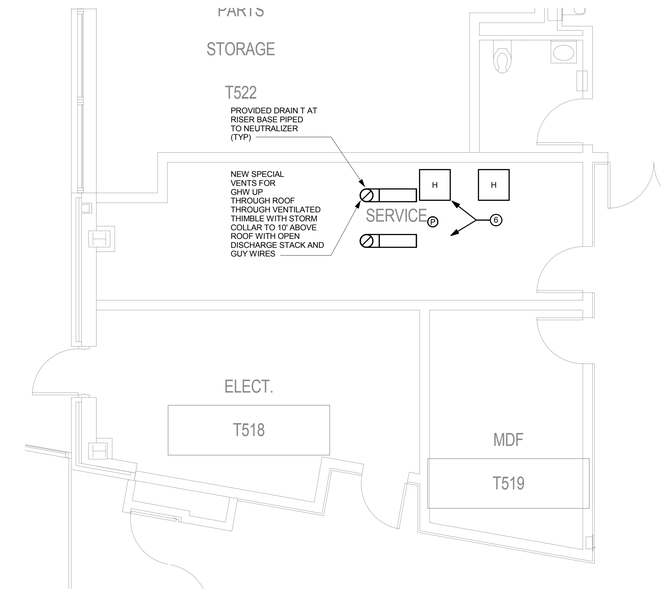


1 TECHNOLOGY HALL LEVEL 5 PART PLAN - DEMOLITION
1/4" = 1'-0"



3 TECHNOLOGY HALL LEVEL 5 PART PLAN - NEW
1/4" = 1'-0"

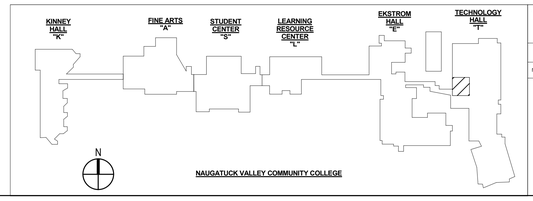
DEMOLITION NOTES

1. REMOVE EXISTING HIGH TEMPERATURE HOT WATER PIPING SYSTEM.
2. REMOVE EXISTING HIGH TEMPERATURE HOT WATER TO HOT WATER HEAT EXCHANGER SYSTEM.
3. REMOVE EXISTING PUMP SYSTEM.
4. REMOVE EXISTING SPECIALTIES SYSTEM.
5. REMOVE EXISTING ATC SYSTEM.

NEW DRAWING NOTES

1. NOT USED.

DESIGN DEVELOPMENT SUBMISSION
SEPTEMBER 25, 2017
NOT FOR CONSTRUCTION



drawing title
TECHNOLOGY HALL LEVEL 5 HVAC PLANS

HISTORY OF SUBMISSIONS

mark	date	description

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
DIVISION OF CONSTRUCTION SERVICES

drawing prepared by
BVH INTEGRATED SERVICES
50 GRIFFIN ROAD SOUTH
BLOOMFIELD CT, 06002

project
RENOVATIONS TO PHYSICAL PLANT
Naugatuck Valley Community College
750 Chase Parkway, Waterbury, CT 06708

CAD no. 21-16-043
project no. BI-CTC-500

date
scale 1/4" = 1'-0"
drawn by KLB
approved by JBA
drawing no. **H-105.T**

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Section 50 40 00
Subsurface Geotechnical Report
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Section 50 50 00
Elevator Agreement
(Not Used)

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Section 50 60 00
FM Global Checklist for Roofing Systems

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CHECKLIST FOR ROOFING SYSTEM

CONTACT INFORMATION: **INDEX NUMBER:**

ROOFING CONTRACTOR (NAME & ADDRESS)	TELEPHONE NO.:	**FAX:**
	E-MAIL ADDRESS:	**CONTACT:**
CLIENT (NAME & ADDRESS)	TELEPHONE NO.:	**FAX:**
	E-MAIL ADDRESS:	**CONTACT:**

OVERVIEW OF WORK: *(Submit 1 form per roof area)*

Building Name & Number:		
Building Dimensions: Length: *ft/m;*	Width: *ft/m.;*	Height *ft/m*.
Roof Slope:		
Parapet Height ,max *(in./m*):	Parapet Height ,min (*in /m):*	
Type of Work: ☐ New Construction ☐ Recover (New roof over existing Roofing System) ☐ Reroof (New cover/remove existing roofing system to deck) ☐ Other		
FM Approved RoofNav Assembly Numbers:		

ROOF SURFACING:

☐ None	
☐ Coating	*(Trade Name/Application Rate)*
☐ Granules	*(Application Rate)*
☐ Gravel/Slag	*(Application Rate)*
☐ Ballast: ☐ Stone Size ☐ Pavers *(Beveled or square edge*); ☐ Other: Ballast Weight (psf): Field: Perimeter: Corners:	

ROOF COVER/MEMBRANE:
(Please provide ALL applicable details including trade name, type, number of plies, thickness, reinforced, adhesive)

☐ Panel: ☐ Through Fastened Metal ☐ Standing Seam metal ☐ Fiber Reinforced Plastic (FRP) ☐ Other:			
☐ Single Ply:	☐ Adhered	☐ Fastened	☐Ballasted
☐ Built Up Roofing (BUR)			
☐ Modified Bitumen	☐ Lap Width in/mm	☐ Lap Adhesion Type	
☐ Spray Applied			
☐ Other:			

BASE SHEET:
(Please include Trade Name, Type, and Width)

☐ None		
Trade Name:	Width: ☐ 36 In. ☐ 1 meter (39 In.)	
☐ Fastened	☐ Adhered	
☐ Secured per RoofNav **OR**	☐ Per FM Global Loss Prevention Data Sheet 1-29	
Comments:		
☐ Lap Width in/mm	☐ Lap Adhesion Type	
☐ Air Retarder	☐ Vapor Retarder	

INSULATION

Layer	Trade Name	Thickness (In.)	Fastened	Adhered	Tapered
1. Top			☐	☐	☐
2. Next			☐	☐	☐
3. Next			☐	☐	☐
4. Next			☐	☐	☐

☐ Glass Fiber/Mineral Wool/Batt	☐ Facer Type/Vapor Barrier
☐ Thermal Barrier	

CHECKLIST FOR ROOFING SYSTEM

☐ Other:
☐ None

DECK:
(Please include manufacturer, type, yield strength, thickness/gage, etc.)

☐ Steel:	
☐ LWIC (Form Deck):	☐ Cementitious Wood Fiber:
☐ Concrete: ☐ Pre-cast panels or ☐ Cast in Place	
☐ Wood	
☐ Fiber Reinforced Cement	☐ Fiber Reinforced Plastic
☐ Gypsum: ☐ Plank	☐ Poured
☐ Other:	
Comments:	

ROOF STRUCTURE (Include Size, Gage, Etc.):

☐ Purlins ☐ "C" OR ☐ "Z"		
☐ Joists ☐ Wood OR ☐ Steel		
☐ Beams ☐ Wood OR ☐ Steel		
☐ Other:		
Spacing: Field:	Perimeter:	Corners:
Comments:		

FASTENERS USED IN ROOF ASSEMBLY:

Roof Cover Fasteners: Trade Name:		Length:	Diameter:
Stress Plate/Batten:			
Spacing: Field: **X**	Perimeter: **X**	Corners: **X**	
Insulation Fasteners: Trade Name:		Type:	
Size:		Stress Plate:	
Spacing: Field:	Perimeter:	Corners:	
Deck Or Roof Panels Fasteners: Trade Name:		Type:	
Length:		Size Washer:	
If Weld: Size:	Weld:	Washer:	
Deck Side Lap Fasteners: Field: **X**	Perimeter: **X**	Corners: **X**	
Spacing: Field: **X**	Perimeter: **X**	Corners: **X**	
Base Sheet Fasteners Trade Name:		Type:	
Head Diameter:		Length:	
Spacing: (Attached Sketches as necessary) Spacing Along Laps: Field:		Perimeter:	Corners:
No. Intermediate Rows: Field:		Perimeter:	Corners:
Spacing Along Intermediate Rows: Field:		Perimeter:	Corners:

PERIMETER FLASHING:
(Attach a detailed sketch of metal fascia, gravel stop, nailer, coping, etc.)

☐ FM Approved Flashing	Manufacturer/Trade Name:
☐ Other:	Flashing Max Wind Rating:
Nailer Size / Securement Per FM Global Data Sheet 1-49? ☐ Yes ☐ No	
Comments:	

DRAINAGE:

For new construction: Has roof drainage been designed by a Qualified Engineer per FM Global Loss Prevention Data Sheet 1-54 and the local building code? ☐ Yes ☐ No (Attach details)
For re-roofing and recovering: will the roof drainage be changed from the original design (for example: drain inserts, drains covered or removed, new expansion joints, blocked or reduced scupper size? ☐ Yes ☐ No If yes, were the changes reviewed by a Qualified Engineer? ☐ Yes ☐ No (Attach details)
Is secondary (emergency) roof drainage provided per FM Global Data Sheet 1-54? ☐ Yes ☐ No (Attach details)

CHECKLIST FOR ROOFING SYSTEM

FM Global OFFICE REVIEW
(Please leave blank for FM Global Office Review)

WIND:

Design Wind Speed: *(mph)*	Ground Terrain: ☐ B ☐ C ☐ D
Uplift Pressure in field: *(psf)*	Uplift Rating Required:
Adequate Uplift Rating Provided:	Adequate? ☐ Yes ☐ No

FIRE:

Internal Assembly Rating:	☐ Class 1	☐ Class 2	☐ Non-Combustible	
External Fire Rating:	☐ Class A	☐ Class B	☐ Class C	☐ None
Concealed Spaces?	☐ Yes	☐ No	Sprinklers below Roof?	☐ Yes ☐ No
Adequate?	☐ Yes	☐ No		

HAIL:

Hail Zone ☐ VSH ☐ SH ☐ MH	Hail Rating Provided ☐VSH ☐ SH ☐ MH
	FM 4473 Specification Class (if provided): ☐2 ☐3 ☐4
Adequate? ☐ Yes ☐ No	

COLLAPSE:

If standing seam, has collapse been reviewed? ☐ Yes ☐ No

COMMENTS:

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Section 50 60 01
FM Global Checklist for Boiler Installer

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INSTALLER'S CHECKLIST FOR AUTOMATIC-LIGHTED BOILER SAFETY COMBUSTION CONTROL SYSTEM

NOTE: This checklist does not apply to pressure parts of the boiler, steam and water piping, valves, etc., and does not supersede any statutory regulations of any city, county, state or province. User should contact his boiler inspector.

PART A – PLANS:

INSTALLER'S NAME & ADDRESS	CONTRACT OR JOB NUMBER	DATE PART "A" SENT TO FM GLOBAL:	INDEX NO.
CUSTOMER (OWNER) NAME & ADDRESS		DATE CONTRACT SIGNED BY CUSTOMER:	OPERATIONS CTR.
BOILER LOCATION: (BUILDING NAME/NUMBER)	☐ BASEMENT ☐ GROUND FLOOR	FLOOR NUMBER	TOTAL NO. OF FLOORS
BOILER MAKE/MODEL NUMBER	BOILER MAXIMUM FUEL BTU/HOUR INPUT: GAS: OIL:		
FUELS MAIN BURNER: ☐ NATURAL GAS ☐ LP GAS ☐ FUEL OIL NO. ☐ HEATED ☐ UNHEATED		☐ GAS ☐ OIL NO. ☐ SPARK IGNITED	
MAIN & PILOT BURNER(S): MAKE & MODEL NUMBER(S)	MAKE & MODEL NO. IF HIGH ENERGY ELECTRIC INGNITOR USED FOR DIRECT IGNITION OF MAIN OIL BURNER:		
FLAME SAFEGUARDS & FLAME SENSING ELEMENTS – MAKE & MODEL OF EACH		BURNER OBSERVATION PORTS? ☐ YES ☐ NO	
TRIAL-FOR IGNITION GAS: SEC. MAIN BURNER OIL: SEC.	PILOT BURNER FLAME ESTABLISHED PERIOD GAS: SEC. OIL: SEC.		
HIGH & LOW GAS PRESS. INTERLOCKS MAKE/MODEL OF EACH		LOW OIL PRESSURE	
MAIN BURNER GAS SAFETY SHUT-OFF VALVE (S) (MBGSSOV) MAKE/MODEL NO(S):	MAIN BURNER OIL SAFETY SHUT-OFF VALVE(S) (MBOSSOV) MAKE/MODEL NO(S):		
PILOT BURNER GAS SAFETY SHUT-OFF VALVE - MAKE/MODEL NO(S):	PILOT BURNER OIL SAFETY SHUT-OFF VALVE(S) (MBOSSOV) MAKE/MODEL NO(S):		
MBGSSOV PROVED CLOSED BEFORE & DURING PRE-IGNITION PURGE*	MBOSSOV PROVED CLOSED BEFORE & DURING PRE-IGNITION PURGE*		
LEAK TEST MEANS PROVIDED FOR MAIN GAS SAFETY SHUT-OFF VALVE(S):	STRAINERS, DRIPPOTS, TRAPS, ETC. UPSTREAM MAIN FUEL SAFETY SHUT-OFF VALVE(S) :		
BOILER AIR CHANGES IN PURGE ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8	PURGE AIR RATE AT LEAST 50% AVERAGE OF MAXIMUM ☐ FIRING RATE ☐ OTHER % MAX.	COMB. AIR FAILURE INTERLOCK(S): MAKE/MODEL NO(S).	
LOW FIRE START? ☐ YES ☐ NO	LOW OIL TEMPERTAURE INTERLOCK – MAKE/MODEL NO. ☐ YES ☐ NO	LOW ATOMIZING STEAM INTERLOCK? ☐ YES ☐ NO	
LOW ATOMIZING AIR INTERLOCK – MAKE/MODEL NO. ☐ YES ☐ NO	LOW DIFFERENTIAL OIL/ATOMIZING MEDIA INTERLOCK – MAKE/MODEL NO. ☐ YES ☐ NO		
ACCESSIBLE EMERGENCY BOILER FUEL SUPPLY(S) MANUAL SHUT-OFF VALVE(S) PROVIDED? ☐ YES ☐ NO	FUSIBLE LINKS FUEL SHUT-OFF VALVE(S) PROVIDED IN BOILER OIL SUPPLY? ☐ YES ☐ NO		
LOW WATER LEVEL FUEL CUTOFF(S) (LWFC)? ☐ YES ☐ NO NUMBER PROVIDED ☐ ONE ☐ TWO	HIGH WATER TEMPERATURE FUEL TRIP? ☐ YES ☐ NO	HIGH STEAM PRESS. FUEL TRIP ☐ YES ☐ NO	
LWFC(S) – MAKE/MODEL NO(S).	LOW WATER ALARM? ☐ YES ☐ NO ☐ AUDIBLE ☐ VISUAL	AUTO. FEEDWATER REG.? ☐ YES ☐ NO	
OTHER DATA/COMMENTS:			

PART B – INSTALLER'S INSPECTION & TEST OF COMPLETED SAFETY COMBUSTION CONTROL SYSTEM:

☐ **Automatically controlled draft dampers and burners adjusted for smooth lighting off and stable flame at all firing rates.**
☐ **All controls adjusted and tested for proper response.**
☐ **Flame sensing element supervises pilot at a point where it will reliably ignite main burner.**
☐ **Emergency fuel supply shutoff valves properly installed, identified.**
☐ **Adequate fresh air openings for combustion air into boiler room.**
☐ **Customer's operator instructed.**
☐ **Printed operating instructions left.**
☐ **Application blank with Part "B" signed & completed left with customer for posting at boiler.**

SIGNED: INSTALLER'S FIELD REPRESENTATIVE	TEST WITNESSED FOR CUSTOMER (BY)	DATE:

PART C – FM GLOBAL FIELD EXAMINATION OF COMPLETED SAFETY COMBUSTION CONTROL SYSTEM:

☐ Plans Checked ☐ Installer's Inspection & Test of Completed Safety Combustion Control System Checked

☐ Safety Controls Tested Date: _____

INSTALLER'S CHECKLIST FOR AUTOMATIC-LIGHTED BOILER SAFETY COMBUSTION CONTROL SYSTEM

The liability to FM Global is limited to that covered by its insurance policies. No other liability is assumed by reason of this report.

INSTRUCTIONS TO INSTALLER:

1. Fill out Part A and submit copy to the nearest FM Global Operations Center.
2. Fill out Part B at customer location and leave with customer.

- **Valves which permit supervision of closed portion (valve seal over-travels to actuate an interlock) are shown by a double dagger with a valve make and model number in the listings in the Factory Mutual Research Approval Guide and are highly recommended with a gas boiler or an oil boiler having fuel BTU per hour rating 12,500,000 or over for proving valve is closed before and throughout re-ignition purge.**

****** **Generally two (2) low water cutoffs are required for automatically fired steam boilers, low water cutoffs should be Factory Mutual Research approved, separately piped, connected electrically in series, and preferably uses two different operating principles (e.g. float type or probe type).**

GLOSSARY:

An automatic-lighted boiler is one where fuel to the main burner is turned on automatically by means of automatic pressure – or temperature controlled devices.

Prior to turning on the fuel to the main burner, the control arrangement automatically provides either an electric ignition source of electric-ignited pilot flame, or the main burner has a continuous-burning manually lighted pilot.

The term combustion (flame) safeguard to control a device which senses the presence of flame and will cause fuel shut-off in the event of flame failure by causing the safety shut-off valve to close. It may sound an alarm and be of the programming type.

A supervised flame is a flame whose presence or absence is detected by a combustion safeguard.

A proved pilot is a pilot flame supervised by a combustion safeguard which senses the presence of the pilot flame prior to permitting the main burner fuel safety shut-off valve to open.

A programming combustion safeguard on lighting off, turns on the ignition system, determines the length of time it is on and when the pilot and main fuel valves open. On failing to sense the flame, all fuel is hut off and locked out.

The trial-for-ignition period is defined as that period of time the programming combustion safeguard permits the main burned fuel valve to be open before the main flame sensing device is required to detect the main flame. If the main flame is not detected, all fuel is shut off and locked out immediately and there is no further ignition attempt.

A continuous pilot can only be lighted by the fireman and burns without turndown throughout the entire time the boiler is in service, whether the main burner is firing or not.

An interrupted pilot is electrically ignited automatically each time there is a call for heat. The pilot fuel is usually cut off automatically for programming combustion safeguard at the end of the trial-for-ignition period of the main burner, so that the main flame supervision must begin.

An intermittent pilot is electrically ignited automatically each time there is a call for heat. It burns during the entire time the main burner fires and is shut off with the main burner at the end of the call for heat.

Safe-start component check is a checking circuit, usually built into the combustion safeguard, which prevents lighting off if the combustion safeguard is in an unsafe condition.
