

# BETHEL HIGH SCHOOL BUILDING COMMITTEE

CLIFFORD J. HURGIN MUNICIPAL CENTER  
1 SCHOOL STREET, BETHEL, CT. 06801

MEETING ROOM "B"

September 22, 2010

6:30 P.M.

SPECIAL MEETING

## MINUTES

**PRESENT:** Chairman, Bill Slifkin, members: Robert Tripi, Judy Novachek, James Lacey, and John Rondano.

**ABSENT:** David Norvig and Toni Hernandez

**ALSO PRESENT:** First Selectman, Matt Knickerbocker, Teri Yonsky, Larry Craybas, Chris Troetti, and Bob Germinaro.

**CALL TO ORDER:** Chairman William Slifkin called the meeting to order at 6:30 P.M.

### **DISCUSSION OF \$5,000.00 INVOICE:**

Chairman Slifkin made a motion to deny payment of \$5,000.00 to LaRosa Construction without a proper invoice or proof of damage. Motion was seconded by Judy Novachek for the sake of discussion.

Discussion on motion: Robert Tripi read a letter into the minutes from a previous construction manager from Morganti. (See attached). In this letter it claims that damage was done to Morganti's construction trailer and \$5,000.00 was being held back from payment to LaRosa until the damage was repaired. This letter is confirming the repairs had been done and LaRosa is due the \$5,000.00.

The committee was in agreement that this information was never brought to anyone's attention and without proof no payment is due LaRosa.

Vote, all in favor, motion unanimously approved.

**STATUS OF LAWSUITS:** C&H Electric has brought suit against the Town of Bethel. Chairman Slifkin noted that at this point all is quiet regarding the status of this lawsuit(See letter attached).

**DISCUSSION OF DOLLARS SPENT AND BALANCE REMAINING:** Chairman Slifkin reported that he was under the impression there was a balance remaining of \$79,000.00. The current comptroller reported there are no funds remaining in the account. It is believed that the former comptroller used the remaining funds of \$79,000 for bonding costs.

RECEIVED

2010 SEP 23 P 2:01

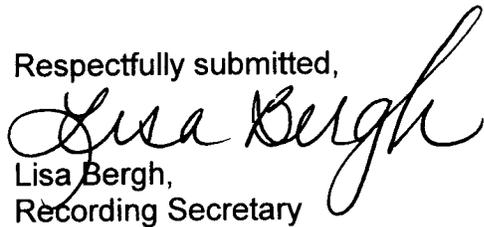
TOWN OF BETHEL  
TOWN CLERK

Larry Craybas brought the subject to light that there are items concerning the High School that need to be addressed. Bob Germinaro was asked to do an assessment of problems that need attention. (See attached). A resolution to these issues is desired in order to close this project out. A meeting is requested of the Building Committee to review and discuss the proper way to proceed with this.

Motion to adjourn was made by Robert Tripi, motion seconded by John Rondano. Vote, all in favor, motion unanimously approved.

Meeting adjourned at 6:46 P.M.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Lisa Bergh". The signature is written in a cursive, flowing style with a large initial "L".

Lisa Bergh,  
Recording Secretary

MARTIN J. LAWLOR, JR.

Attorney at Law

99 Greenwood Avenue  
Bethel, Connecticut 06801

Telephone (203) 790-9398

Facsimile (203) 744-0678

June 1, 2010

Mr. Robert B. Cordeau, President  
C & H Electric, Inc.  
1999 South Main Street  
Waterbury, CT 06706

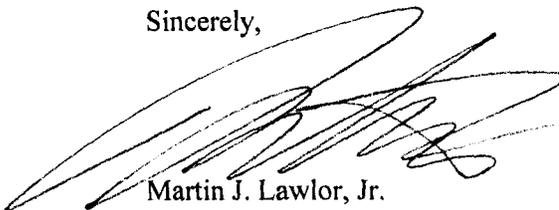
RE: Town of Bethel  
Bethel High School Addition  
and Renovation Project

Dear Mr. Cordeau,

First, I would like to apologize for not responding sooner after our meeting with First Selectman Knickerbocker several months ago. I have discussed this matter in detail with First Selectman Knickerbocker and have reviewed the following: correspondence and information you provided at our meeting, the contract between C & H and the Town of Bethel, several memos and correspondence from previous Town Counsel, and, memos from outside counsel concerning C & H's claims.

At this point in time with the information we possess, the Town of Bethel is not in a position to continue further negotiations with C & H regarding its claims for delay, labor escalation costs and increased project management fees for the Bethel High School Addition and Renovation Project. Should C & H wish to pursue these claims, it should proceed through the process as set forth in the contract between the parties dated February 21, 2007.

Sincerely,



Martin J. Lawlor, Jr.

MJL: cjb

cc: Matthew S. Knickerbocker, First Selectman  
William H. Slifkin, Chairman, BHS Building Com.



July 29, 2010

Faxed 203-778-7515

Town of Bethel  
1 School Street  
Bethel, CT 06801

**Re: Bethel High School Construction Renovation  
Release of Funds LaRosa Building Group LLC  
Damage to the Construction Traller**

Dear: Robert Kozloski

LaRosa Building Group LLC has repaired the damage to the construction trailer to our satisfaction. Please release any remaining funds owed to the LaRosa Building Group LLC. It is our understanding that a sum of five thousand dollars has been held to cover the repair cost.

If you have any questions or problems, please feel free to contact Tim Gunn in our main office or myself. My field office telephone number is 860-727-1285 or on my cell at 203-996-7583

Very truly yours,

Robert P. Zaccagnino  
Project Manager

BZ:bz  
Cc: file; T Gunn;



# Bethel Public Schools

## **Bethel High School Building Project Post Facility Report Update**

### Table of Contents:

- Section 1. General Overview of Building Condition
- Section 2. H.V.A.C Mechanical issues.
- Section 3. Electrical Issues
- Section 4. Plumbing Issues
- Section 5. General Conditions
- Section 6. Action Plan

R. Germinaro

## **Section 1.**

### **General Overview of Building Conditions:**

The following report will highlight mechanical issues and general operating and building conditions that exist at the completion of the Bethel High School renovation project. The items are reported as per the categories listed.

#### **Grounds:**

The grounds around the perimeter of the building are in very good condition. Young planting and shrubs appear to be thriving and are well layout for future growth abilities. The landscaping has held up over two complete seasons of growth.

The sidewalks do not display signs of deterioration or settling cracks. Light surface pitting can be observed on some of the walkways in the front of the building in the area of the old main entryway. Drainage appears to be working correctly no standing water can be observed following rainstorms or winter run off.

Retaining walls along the rear of the buildings back parking lot display sign of separation and settling. Island paving curbing display heavy damage and material deterioration can be observed as a result of winter plowing and heavy truck deliveries traffic.

The new pavement material around the building is solid, no signs of cracking/potholes can be observed. Drainage appears to be good with no pooling of water can be observed.

The parking lot lighting continues to be an issue; several pole fixtures in the upper lot have issues with wiring splices. Lamps appear to be burning out more than normal and the fixtures are difficult to maintain.

The flagpole mechanism and cabling appear to be in good working order and operating correctly with no signs of wear.

The traffic signs and poles in and around the parking lot appear to be good condition displaying no signs of wear or graffiti damage.

The new crushed rock walkway installed to the tennis courts have wash away and has become impassable for foot traffic. Drainage from higher elevation has cut creators through surface material.

Parking patterns and vehicle traffic flow on the property appear to be operating smoothly, parent drop off and visitors parking continue to be areas to monitor. Bus loop flow appears to be smooth, but is also an area to continue monitor.

### **Exterior Facade:**

The exterior brick of the building display no signs of wear or damage, grout sealant can be observed peeling and falling away from some of the seams. Roof drains and down spouts appear to be working fine.

Classrooms windows all operate smoothly and display no signs of wear or damage.

Exterior doors themselves are in good working condition, experiencing many difficulties with the mechanisms that hold each of these doors open.

Three of the exterior gym windows had been warranty replaced by the installer as a result of the internal weather seal breaking causing fogging.

Experienced electrical violations, which required immediate repairs with the installation of a section of exterior wall mounted lights on the rear of the building. The fixtures had shorted out and failed as a result of improper weatherproof fitting used.

The brass like sign (Bethel High School) on the front of the building is in good condition, no corrosion, vandalism or weathering can be observed.

### **Interior Appearance and Condition:**

The over all interior painting throughout the building appears to be good. Many areas had to be touched up and completed by the custodial staff. The paint quality in some areas is not holding up to daily cleaning and requires continuing touch up. (See section 5 of this report for details)

Floor tile and office carpeting over all condition is good, several hallway areas have missing VCT tile and unfinished concrete surface. (See section 5 of this report for details)

Interior wood doors are in good condition; door hardware has been troublesome and has created problems for the user.

Several interior hallway signs where not installed and had to be completed by the custodial staff. The over all condition of the building signage throughout the building is good.

### **Interior Appearance and Condition cont.**

Student and Staff restroom facilities that are on line are in good working condition, they are clean and graffiti free, minimal maintenance issues have been reported. Several restrooms on the second floor still remain off line as a result of the major plumbing issues not addressed by the project. (See section 4 of this report for details).

Numerous water fountains throughout the building still remain an issue. Several of the units are off line and are unusable. The replacement of the fountains were not part of the project and were abandoned in place during the demolition phase of the renovation. (See section 4. of this report for details)

Interior lighting throughout the building has not been reported as an issue, fixtures lamps and ballast display normal wear and burn time.

Environmental conditions throughout the building are still an issue requiring continual attention. Cold and warm spots and airflow issues can be experienced in many section of the building. (See section 2 of this report for details)

Interior communication within the building is still an issue. The classroom intercom phones are not withstanding normal use, many phones are in need of replacement and repair. Paging quality and sound levels throughout the building are also an issue. Many area speakers are inaudible.

Classroom ceiling tiles and grid work are in good condition, several location have missing or incomplete installation. (See section 5 of this report for details)

Classroom furniture appears to be in good condition and withstanding normal use. No issues have been reported with it daily use.

Gym bleachers condition is not good, the bleachers required immediate repairs as a result of missing hardware. Additional work was required to perform realignment repair to the bleacher movement track. The bleachers still require additional repairs to the handicap railing which have broken as the result of the alignment mentioned above.

Interior burglar and fire alarm systems are online and functioning. Many issues with both of these systems have been experienced and repaired by BOE. (See section 3 of this report for details)

## **Section 2. HVAC Mechanical Issues and Conditions:**

As reported, the environmental conditions continue to plague the building. Many issues have been the result of the mechanical problems with the air handling equipment. The issues are within both the exiting equipment and the new units supplied by the project.

This is a list of some of the issues encountered:

1. The electronic control of the equipment is restrictive and cumbersome to operate. The many layers of proprietary controls prevent the normal troubleshooting of problems to operate. As an example; all ten (10) of the (McQuay - Lon) units possess internal factory installed controls feathers that operate at a level not within our local control and above the electronic control measures installed from SNE Building Systems. There have been many instances where both of these control measures disagree on how to operate the unit and shuts down, requiring assistance of a billable service charge service call to correct.
2. Many of the new units were installed on old existing duck work. It has been discovered that the condition of this duck work is poor and in many areas not connected.
3. The warranty period was at near completion upon receipt of owner ship of the building. As a result, the majority of all service calls were billable.
4. The units prior to turnover to the owner experienced two seasons of no preventive maintenance performed on the equipment. Upon receipt of the equipment at turn over filters were moldy and dirty and required replacement. Belts and motors also required needed service. All billable service.

The following portion of this section is the review of the Wing Testing & Balancing Co. Inc. report. This type company was brought in to perform a rebalancing and testing of one of the most troublesome section of the building, Area D. Served by AHX-1.

(See attached Report)

WING'S Testing & Balancing Co., INC. dated June 25, 2010

The findings of this report highlight a list of mechanical issues found incomplete and improperly installed. A repair quote has been requested from our current mechanical service company to make the needed repairs listed in Wing Report. The budget number for this repair is \$8,000.



**WING'S** TESTING & BALANCING CO., INC.

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**Bethel High School  
Area D**

\* \* \* \*

Bethel High School  
Attn: Bob Germinaro  
300 Whittlesey Dr.  
Bethel, CT

June 25, 2010



# WING'S TESTING & BALANCING CO., INC.

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June 25, 2010  
Bethel High School  
Attn: Bob Germinaro  
300 Whittlesey Dr.  
Bethel, CT

Re: Bethel High School Area-D

Dear Bob,

The testing and balancing of the above referenced location has been completed. The following are our findings:

- We started by testing the system with all VAV boxes calling for full cooling flow (max). The vortex dampers for the supply and return fan were found slightly closed. We adjusted so that they would be 100% open, maximizing the flow potential.
- The variable speed controllers for the fans were running at maximum speed during all testing.
- Currently, the system is moving about 61% of design, when all of the VAV boxes are calling for full flow.
- The distribution for each VAV was balanced at design airflow. In order to achieve design flow at some boxes, many of the other VAV's needed to be closed to build pressure. When we obtained 2.5" of pressure in the duct, we were able to get design airflow.
- When VAV boxes 31, 34, 35 & 11 were calibrated, the control computer indicated an unreliable reading (factor of zero). **We recommend that the control contractor troubleshoot the cause of this.**
- 1 of 4 supply diffusers is not installed for VAV-32. The flex is taped shut at the diffuser end above the ceiling. **We recommend a sheet metal contractor connect as shown on the drawing.**
- VAV boxes 32 & 25 would not move to the minimum position when commanded. **We recommend that the control contractor troubleshoot the cause of this.**
- 3 of 8 supply diffusers were not installed for VAV-26. **We recommend a sheet metal contractor connect as shown on the drawing.**
- The only supply diffuser for VAV-27 is not installed and is open ended above ceiling. **We recommend a sheet metal contractor connect as shown on the drawing.**
- VAVs number 9 and 18 have their diffuser connected (one each), but the diffuser is located above the ceiling, rather than in the grid. **We recommend a sheet metal contractor connect as shown on the drawing.**
- VAV 26 is an 8" box with a connected load above the setpoint in the computer. We changed the setpoint to get more air to those areas. **We recommend that an engineer review if the box is properly sized.**

94 North Branford Road • Branford, CT 06405

(203) 481-4988 • Fax (203) 488-5634 • wings@wingstesting.com

- We found unused humidifiers in the supply branches which are restricting airflow. **We recommend that the humidifier be removed to reduce system resistance, and increase airflow potential.**
- There is an unused return damper at the unit which reduces the area from 3.33 square feet to 1.58 square feet. **We recommend that this damper be removed in order to reduce system resistance, and increase airflow potential.**
- The outside air damper is 46"x13". The outdoor air and return dampers are controlled by the same signal. **We recommend that an engineer review the sizing, to determine if the current ductwork is properly sized for economizer operation.**
- Many thermostats were found to be out of calibration. **We recommend that the control contractor calibrate all of the thermostats.**

*Summary:*

The calibration of the VAV boxes and the balancing of the distribution was a good first step in combating the overheating problem of this system. We were able to identify many areas that need repair. By repairing the items listed in this report, and removing the unused humidifier and return damper, we will then have the potential for the most airflow with the least amount of resistance on the system. After the systems are repaired, we highly recommend that Wing's be contracted to adjust the fan sheaves in order to develop the maximum amount of airflow available. By doing this, and adjusting space setpoints so that boxes will satisfy, and reduce to minimum flow rates, we should be able to develop enough static pressure to satisfy all of the VAV boxes.

The following pages are your record of current operating conditions. If you have any questions, or if we can be of further service, please do not hesitate to call.

Very truly yours,

Wing's Testing & Balancing Co., Inc.



Chris Bonczek  
TAB Technician

# SUPPLY FAN REPORT

<b>PROJECT:</b> Bethel High School	<b>DATE:</b> 6/17/10
<b>AREA SERVED:</b> Area-D	<b>TECH:</b> JF, CB

## FAN DATA

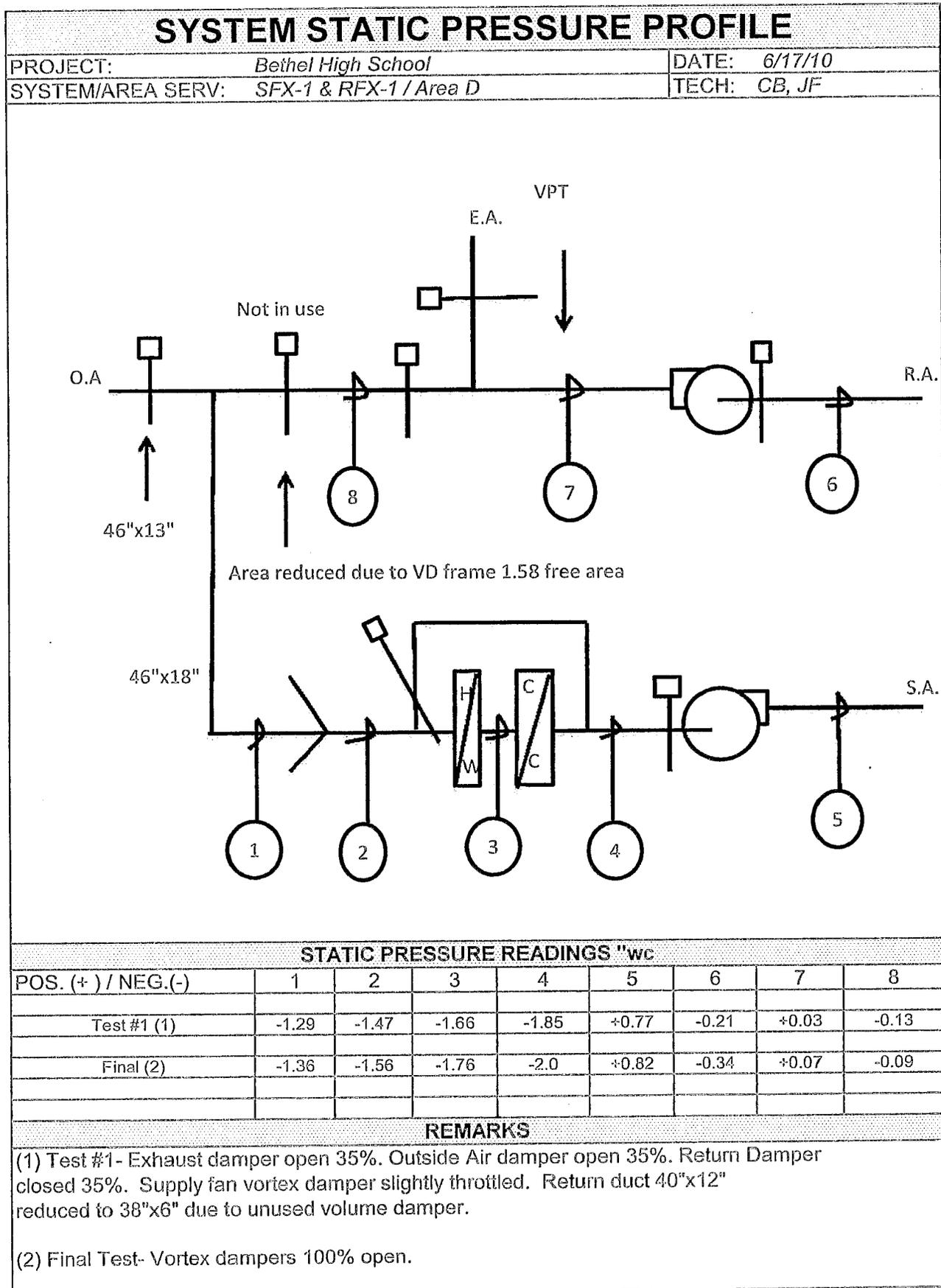
FAN NUMBER	SFX-1	RFX-1				
LOCATION	Penthouse	Penthouse				
AREA SERVED	Area D	Area D				
MANUFACTURER	Trane	Trane				
MODEL OR SIZE	CF27A1SW3CCWTHSH	24A1SW3CWTAUSH				
	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
TOTAL CFM	10650	6518	8520	5866		
RETURN AIR	8520	N/A (2)	8520	5866		
OUTSIDE AIR	2130	N/A (2)	---	---		
DISCH. STATIC	---	+0.82"	---	+0.07"	---	
SUCTION STATIC	---	-2.0	---	-0.34"	---	
TOTAL STATIC	N.D.	2.82	N.D.	0.41"		
FAN RPM	N.D.	1359	N.D.	891		
PULLEY O.D.	9 1/2"X1 7/16"		7 3/4"X1 7/16"			

## MOTOR DATA

MANUFACTURER	Baldor	Baldor				
MODEL OR FR.	215T	182T				
HORSEPOWER	N.D.	10	N.D.	3		
MOTOR RPM	1770	1770	1765	1765		
VOLTAGE / PH.	460/3	460/3	460/3	460/3		
AMPS	LEG 1	12.5	10.5	4.0	2.5	
	LEG 2	---	---	---	---	
	LEG 3	---	---	---	---	
SHEAVE O.D.	7 1/2"x1 3/8"		4"x 1 1/8"			
BELTS - QTY / SIZE	2/BX-105		2/A90			
SHEAVE POSITION	100% Closed		100% Closed			

## REMARKS

- (1) Mixing dampers all on the same signal.
- (2) No location to gain an accurate reading for outside air or exhaust air.





# AIR DEVICE / BOX REPORT

PROJECT: *Bethel High School* DATE: 6/18/10  
 SYSTEM/AREA SERV: *SFX-1 2nd Floor* TECH: JF, CB

LOCATION	NO.	SIZE		DESIGN		TEST	FINAL CFM		COMP K		NOTES
				MIN	MAX	I	MIN	MAX	MIN	MAX	
<b>2nd Floor</b>											
<b>VAV-29</b>											
Classroom 321	1	4'LD	FH	N.D.	N.D.	197	---	203			
Classroom 321	2	4'LD	FH	N.D.	N.D.	127	---	194			
Classroom 321	3	4'LD	FH	N.D.	N.D.	131	---	209			
Classroom 321	4	4'LD	FH	N.D.	N.D.	81	---	199			
				300	850	536	298	805	457	1197	
<b>VAV-30</b>											
		10"Ø									
Classroom 323	1	4'LD	FH	N.D.	N.D.	176	---	190			
Classroom 323	2	4'LD	FH	N.D.	N.D.	174	---	219			
Classroom 323	3	4'LD	FH	N.D.	N.D.	210	---	216			
Classroom 323	4	4'LD	FH	N.D.	N.D.	152	---	184			
				300	850	712	304	809	417	1238	
<b>VAV-31</b>											
		10"Ø									
Classroom 330	1	4'LD	FH	N.D.	N.D.	176	---	187			
Classroom 330	2	4'LD	FH	N.D.	N.D.	221	---	207			
Classroom 330	3	4'LD	FH	N.D.	N.D.	119	---	201			
Classroom 330	4	4'LD	FH	N.D.	N.D.	99	---	199			
				300	830	615	335	794	0	1341	(3)
<b>VAV-32</b>											
		10"Ø									
Classroom 329	1	4'LD	FH	N.D.	N.D.	150	---	249			
Classroom 329	2	4'LD	FH	N.D.	N.D.	158	---	277			
Classroom 329	3	---	---	N.D.	N.D.	N.I.	---	---			(1)
Classroom 329	4	4'LD	FH	N.D.	N.D.	134	---	286			
				300	830	442	---	812	---	1171	(2)
<b>VAV-33</b>											
		10"Ø									
Classroom 337	1	4'LD	FH	N.D.	N.D.	134	---	205			
Classroom 337	2	4'LD	FH	N.D.	N.D.	139	---	227			
Classroom 337	3	4'LD	FH	N.D.	N.D.	107	---	199			
Classroom 337	4	4'LD	FH	N.D.	N.D.	125	---	204			
				300	830	505	325	835	494	1560	
<b>VAV-34</b>											
		6"Ø									
Storage 18	1	4'LD	FH	100	240	136	128	236	0	319.96	(3)
<b>VAV-35</b>											
		6"Ø									
Office 9	1	4'LD	FH	100	320	127	110	258	0	351	(3)

**REMARKS**

- (1) Diffuser not installed. Flex sealed with tape.
- (2) VAV would not move to minimum when commanded.
- (3) Minimum flow is set to lowest calibration factor.

## AIR DEVICE / BOX REPORT

PROJECT:		Bethel High School							DATE:		6/18/10	
SYSTEM/AREA SERV:		SFX-1 1st Floor							TECH:		JF, CB	
LOCATION	NO.	SIZE		DESIGN		TEST	FINAL CFM		COMP K		NOTES	
				MIN	MAX	I	MIN	MAX	MIN	MAX		
<b>1st Floor</b>												
<b>VAV-11</b>		8"Ø										
Classroom 217	1	4'LD	FH	ND	ND	74	---	145				
Classroom 217	2	4'LD	FH	ND	ND	69	---	157				
Classroom 217	3	4'LD	FH	ND	ND	65	---	154				
Classroom 217	4	4'LD	FH	ND	ND	76	---	170				
				200	660	284	299	626	0	909	(1)	
<b>VAV-10</b>												
		8"Ø										
Classroom 216	1	4'LD	FH	ND	ND	90	---	164				
Classroom 216	2	4'LD	FH	ND	ND	96	---	172				
Classroom 216	3	4'LD	FH	ND	ND	99	---	164				
Classroom 216	4	4'LD	FH	ND	ND	87	---	169				
				200	660	372	216	669	305	747		
<b>VAV-28</b>												
		4"Ø										
Storage 215 (tele/com)	1	2'LD	FH	ND	ND	83	---	162				
Storage 218 (office)	2	2'LD	FH	ND	ND	101	---	139				
				75	300	184	82	301	88	203.42		
<b>VAV-25</b>												
		8"Ø										
222	1	4'LD	FH	ND	ND	132	---	154				
222	2	4'LD	FH	ND	ND	177	---	156				
222	3	4'LD	FH	ND	ND	139	---	156				
222	4	4'LD	FH	ND	ND	154	---	166				
				200	660	602	---	632	---	681	(2)	
<b>VAV-24</b>												
		8"Ø										
223	1	4'LD	FH	ND	ND	101	---	155				
223	2	4'LD	FH	ND	ND	101	---	163				
223	3	4'LD	FH	ND	ND	107	---	167				
223	4	4'LD	FH	ND	ND	105	---	159				
				200	660	414	187	644	295	661		

**REMARKS**

- (1) Minimum flow is set to lowest calibration factor.
- (2) VAV would not move to minimum position when commanded.

AIR DEVICE / BOX REPORT												
PROJECT: <i>Bethel High School</i>									DATE: <i>6/18/10</i>			
SYSTEM/AREA SERV: <i>SFX-1 1st Floor</i>									TECH: <i>JF, CB</i>			
LOCATION	NO.	SIZE		DESIGN		TEST	FINAL CFM		COMP K		NOTES	
				MIN	MAX	I	MIN	MAX	MIN	MAX		
<b>1st Floor</b>												
<b>VAV-26</b>	1	8"φ										
Classroom 227	1	2410	FH	N.D.	250	54	---	200				
Classroom 227	2	2410	FH	N.D.	250	39	---	199				
Classroom 227	3	2410	FH	N.D.	250	29	---	223				
Classroom 227	4	N.I.	---	N.D.	250	NI	---	NI			(1)	
Entry	5	N.I.	---	N.D.	250	NI	---	NI			(1)	
Office	6	4'LD	FH	N.D.	250	26	---	163				
Office	7	4'LD	FH	N.D.	250	0	---	60				
Entry	8	N.I.	---	N.D.	250	NI	---	NI			(1)	
				75	2000			81	845	303	678	(3)
<b>VAV-27</b>												
		6"φ										
Classroom 224	1	---	see vpt	49	210	180	45	195	143	271	(1,2)	
REMARKS												
(1) Not installed. (2) Open ended above ceiling (3) The maximum flow setpoint in the computer was 605. The setpoint was changed to 1000 to get more air to those areas.												

AIR DEVICE / BOX REPORT											
PROJECT: Bethel High School									DATE: 6/18/10		
SYSTEM/AREA SERV: AHX-1 / Lower Level									TECH: JF, CB		
LOCATION	NO.	SIZE		DESIGN		TEST	FINAL CFM		COMP K		NOTES
				MIN	MAX	I	MIN	MAX	MIN	MAX	
<b>Lower Level</b>											
<b>VAV-9</b>											
Dark Room	1	4"LD	see vpt	50	150	149	52	149	65	186.47	(1,2)
<b>VAV-16</b>											
V-Graphics	1	4"LD	FH	N.D.	N.D.	127	---	169			
V-Graphics	2	4"LD	FH	N.D.	N.D.	139	---	173			
V-Graphics	3	4"LD	FH	N.D.	N.D.	120	---	147			
V-Graphics	4	4"LD	FH	N.D.	N.D.	135	---	154			
V-Graphics	5	4"LD	FH	N.D.	N.D.	145	---	169			
V-Graphics	6	4"LD	FH	N.D.	N.D.	148	---	164			
				300	950	814	309	976	453	1163	
<b>VAV-17</b>											
Draft/Graph 106	1	4"LD	FH	N.D.	N.D.	111	---	140			
Draft/Graph 106	2	4"LD	FH	N.D.	N.D.	109	---	130			
Draft/Graph 106	3	4"LD	FH	N.D.	N.D.	130	---	152			
Draft/Graph 106	4	4"LD	FH	N.D.	N.D.	162	---	194			
Draft/Graph 106	5	4"LD	FH	N.D.	N.D.	165	---	205			
Draft/Graph 106	6	4"LD	FH	N.D.	N.D.	139	---	175			
				300	950	816	316	996	451	1210.56	
<b>VAV-18</b>											
Draft/Graph 106	1	4"LD	FH	N.D.	N.D.	80	---	159			
Draft/Graph 106	2	4"LD	FH	N.D.	N.D.	87	---	150			
Draft/Graph 106	3	4"LD	FH	N.D.	N.D.	88	---	155			
Draft/Graph 106	4	4"LD	FH	N.D.	N.D.	95	---	166			
Draft/Graph 106	5	4"LD	FH	N.D.	N.D.	98	---	158			
Draft/Graph 106	6	4"LD	FH	N.D.	N.D.	87	---	156			
Storage	7	2"LD	see vpt	N.D.	N.D.	22	---	39			(1,2)
				300	950	557	294	983	556.99	1300	
REMARKS											
(1) Not installed. Diffuser above ceiling. (2) See VPT sheet.											

# AIR DEVICE REPORT

PROJECT: *Bethel High School* DATE: *6/18/10*

SYSTEM / AREA: *RFX-1 / Area D* TECH: *CB*

LOCATION	NO.	SIZE	A K	DESIGN		TEST		FINAL		NOTES
				FPM	CFM	FPM	CFM	FPM	CFM	
<b>Return</b>										
<b>2nd Floor</b>										
Room 321	R1	22"X22"	FH	---	ND	---	380	---	380	
Room 323	R2	22"X22"	FH	---	ND	---	300	---	300	
Room 329	R3	22"X22"	FH	---	ND	---	517	---	517	
Room 330	R4	22"X22"	FH	---	ND	---	393	---	393	
Room 337	R5	22"X22"	FH	---	ND	---	326	---	326	
Office 9	R6	22"X22"	FH	---	ND	---	166	---	166	
Storage 18	R7	22"X22"	FH	---	ND	---	205	---	205	
							2287		2287	
<b>1st Floor</b>										
Room 216	R8	22"X22"	FH	---	ND	---	280	---	280	
Room 217	R9	22"X22"	FH	---	ND	---	202	---	202	
Room 222	R10	22"X22"	FH	---	ND	---	195	---	195	
Room 223	R11	22"X22"	FH	---	ND	---	259	---	259	
Room 224	R12	22"X22"	FH	---	ND	---	0	---	0	
Room 227	R13	22"X22"	FH	---	ND	---	117	---	117	
Office	R14	22"X22"	FH	---	ND	---	80	---	80	
							1133		1133	
<b>Lower Level</b>										
Room 106	R15	22"X22"	FH	---	ND	---	266	---	266	
Room 106	R16	22"X22"	FH	---	ND	---	200	---	200	
Video Graphics	R17	22"X22"	FH	---	ND	---	253	---	253	
							719		719	
<b>Total</b>	---	---	---	---	8520	---	4139	---	4139	

REMARKS

### **Section 3. Electrical Issues:**

At the completion of the project there were a number of electrical related items needing further attention. The following is a list of these issues:

1. Parking lot lighting; several of the upper parking lot light poles appear to have a break in the underground electrical circuit. A number of these poles located at the end of the circuit show a direct electrical short when tested. This condition has existed from the time this equipment was turned over for the school to use. The warranty for the installation of these poles has expired prior to the ownership of the equipment. All repairs will require a billable service charge.
2. Exterior wall pack lights on the rear of the building required immediate repair work as the exterior lights stopped working. The cause of the power outage was an exterior connection on one of the lights shorted out and burned. The connector was discovered to be an electrical violation which used a non weather proof fitting that allowed water to enter the fixture and short out. Repairs required a billable service charge to correct the violation.
3. As seen in section 5, photos electrical junction boxes hang beneath the ceiling grid. The craftsmanship and the violation of this installation require that this be removed and relocated.
4. The burglar and fire alarm system from the start of the project and all thru the completion has been problematic. During the demolition phase of the project many wire locations were cut and damaged. A section of the new circuit in the gym had to be removed and replaced as a result of shorting and false signaling. The second floor horn/strobe circuit never was installed and had to be worked in after the job was completed. All paid for by BOE funds.
5. Intercom communication in classrooms has been an issue, the intercom phones are falling apart and several need replacement. Few areas of the building still have black out areas where overhead paging cannot be heard.

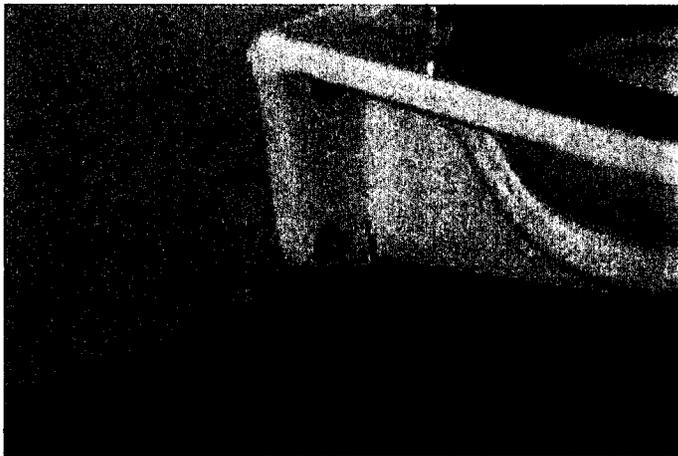
The items listed here are to be addressed in the 2011-2012 460 Budget, or sooner if needed.

#### Section 4. Plumbing Issues:

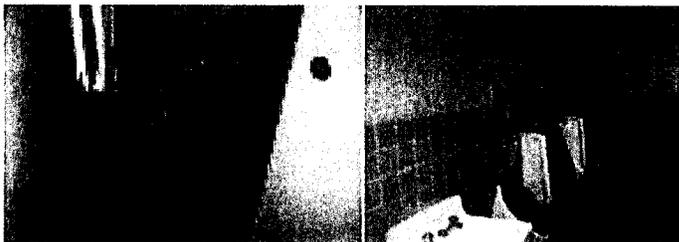
This section of the report contains the bulk of the problems still existing at the High School. The area of attention is the group of restrooms on the second floor that have been omitted from the project. The confusion on this issue is that the project planners were informed this group of restrooms were off line and nonfunctioning for more than 8 plus years prior to the start of the project, but didn't include it into the scope of the renovation project.

The second part of the confusion is that for an area that was not part of the renovation project, why did these facilities receive a fresh coat of paint, new ceramic floor tile, new ceiling tiles, upgrade fire notification horn/strobe, new wood doors, and paging speakers?

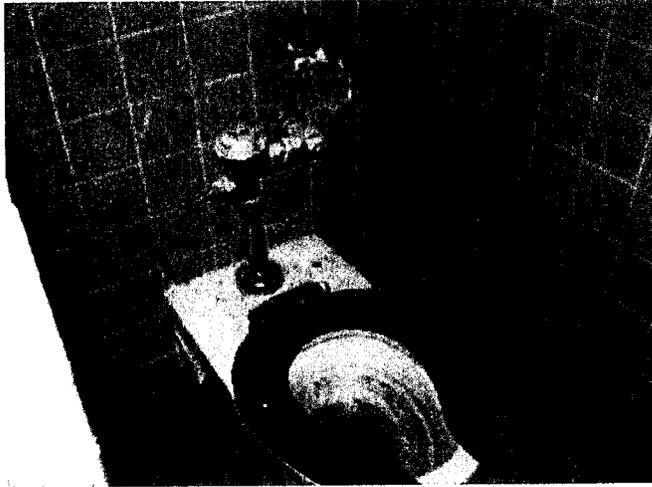
An outside plumbing contractor has been brought in to examine these facilities to determine the conditions of the fixtures and associated plumbing of these rooms. As mentioned these fixtures have been off line for many years, the plumbing contractor also confirmed the toilets seals are dried out, the flush valves are non-functioning and corroded, many of the copper water lines appear to have been leaking prior to the water being shut down many years ago. The urinals, toilets and sinks are not in the condition to be put back into service due to variety of mechanical issues.



As you see in this photo the base of the toilet displays cracks and fluid leaks. This is a typical condition that can be observed on many of the fixtures. Also in this photo is the new floor tile and wall paint that was installed and was not part of the project.

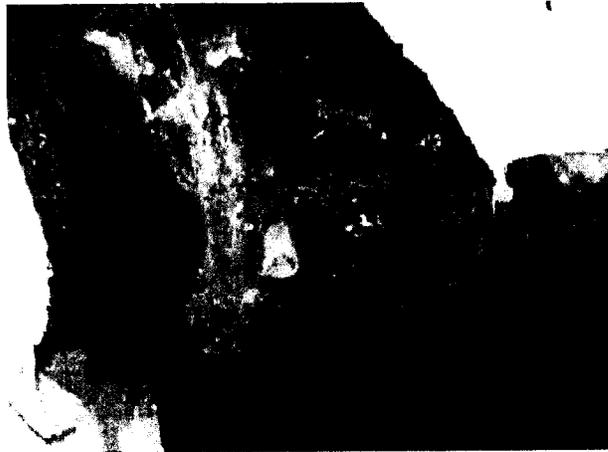


These fixtures are bagged off as a result of non-functioning waste drainage and leaking water into the wall from dried out joints.



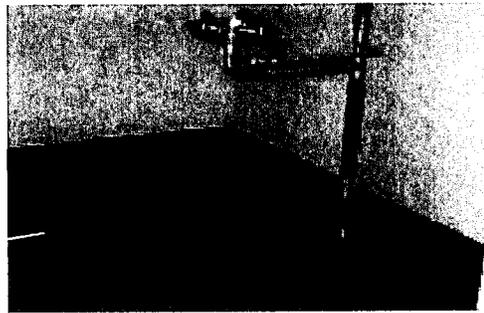
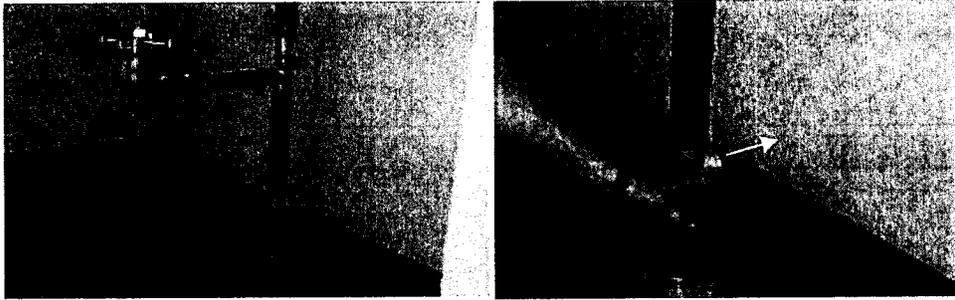
Another typical photo of conditions observed. This was the final product after the new floor tile was installed and room painted. As you can observe the waste lines are dried out in this toilet and entire restroom has holes in concrete as a result from water leaking within the walls. As mentioned, this was part of our confusion, why was paint and tile installed but not plumbing renovations?

On September 15, a leak was discovered in the D-Wing, lower level. This leak is in a 2 ½ inch water feed for the upper floors. Our plumbing contractor while inspecting other plumbing issues within the building, checked this leak out and reported that this leak was the result of poor craftsmanship in the soldering of these copper pipes.



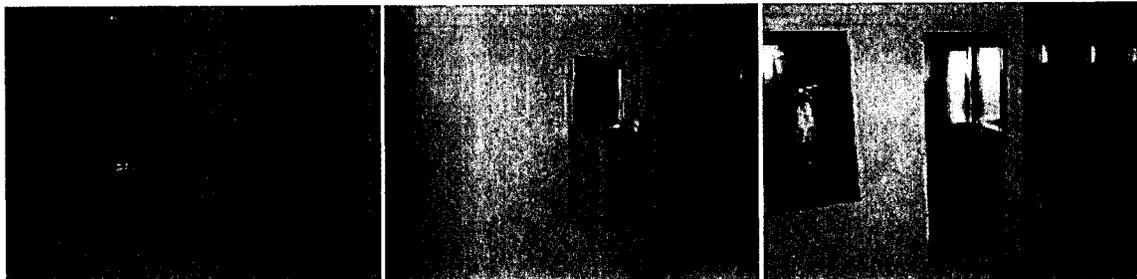
As a result of this condition, the contractor has been asked to inspect other areas for possible leaks or questionable installations.

Other areas of concerns are the installation of the emergency eye wash stations located in the new science wing of the building. The station immediately developed leaks on connection to the eye wash units that had to be repaired. Also the installation of the units without a drain attached raised many questions. As you can observe in the photo the discharge port located at the base of the station faces away from the station and is not tied into the floor drain.



If the station is activated, this will result in major flooding of the immediate area.

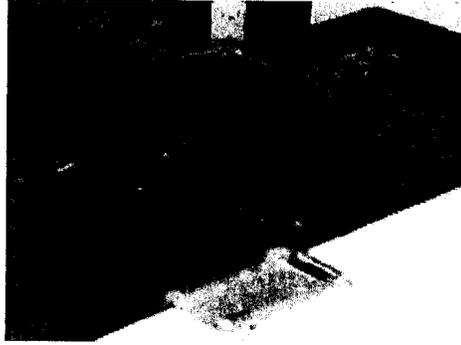
Another area of concern are the water fountains. I was informed that the existing water fountains were not part of the renovation project. But several of these water fountains where identified to the project planners as being off line and non-repairable. Also many of these units are not handicap accessible and should have been included in the renovation process.



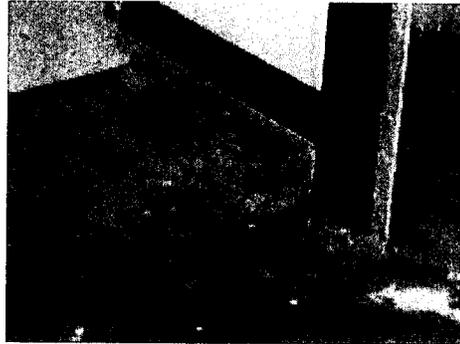
## Section 5. General conditions:

This section will highlight a number of areas displaying poor craftsmanship and concerns from the renovation project:

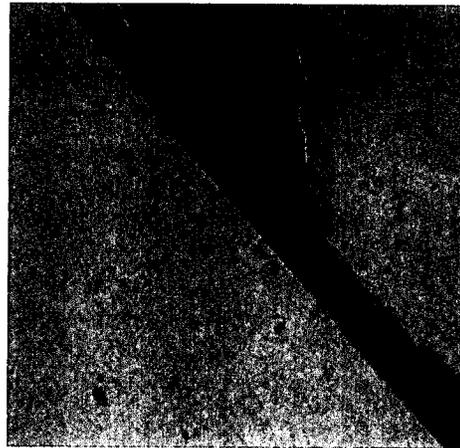
At the base of stairwell 6 is an area where a wall was removed. A section of the metal frame remains, creating a trip hazard. Also, this photo displays the unfinished floor tiles and bare concrete conditions that the project considered a finish product.



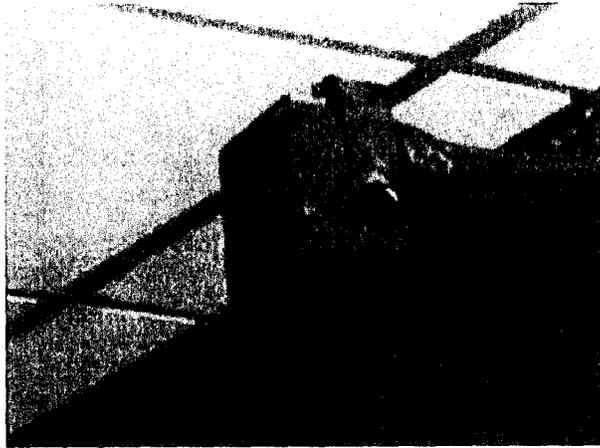
This photo is another area with unfinished flooring and bare concrete.



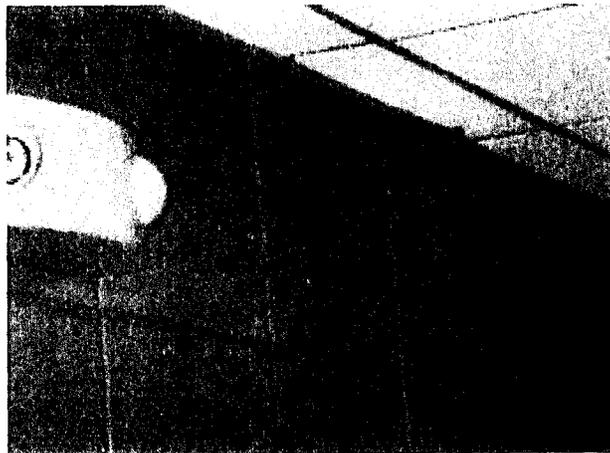
On the second floor in the D-Wing area are unfinished and poorly crafted expansion joints in the hallway. These conditions have been reported to be trip hazards.



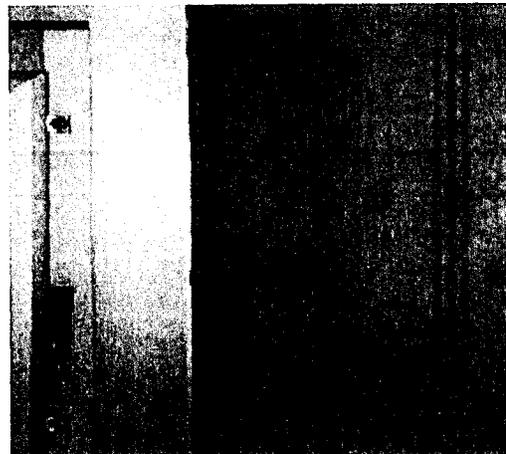
In the second floor hallway, this electrical junction box can be observed to be poorly crafted and hanging through the ceiling and protruding through the block wall. This unsightly electrical violation was the finished product of the project.



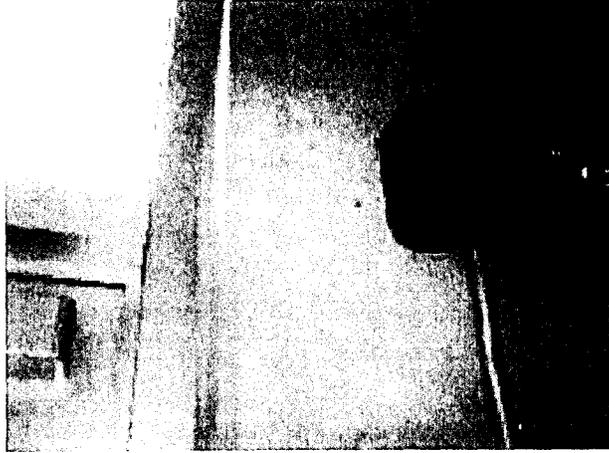
This photo is similar to the one above; an electrical pipe protrudes from the wall up through the ceiling. This is another poorly crafted installation that was considered a finished product of the project.



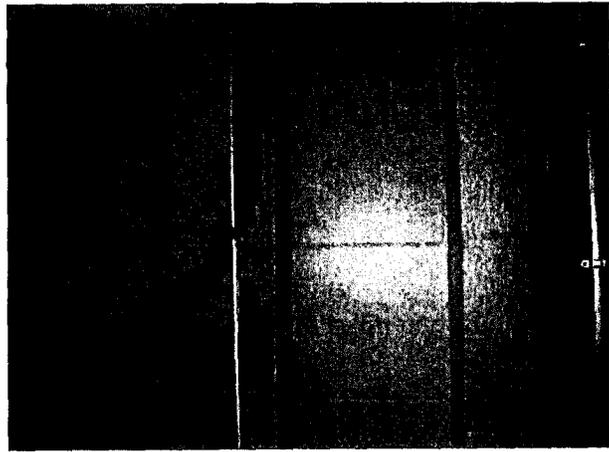
This photo of unfinished concrete surfaces is a typical condition observed throughout the building. In this photo, sections of the concrete have become loose and exposed concrete nails can be seen protruding through the surface.



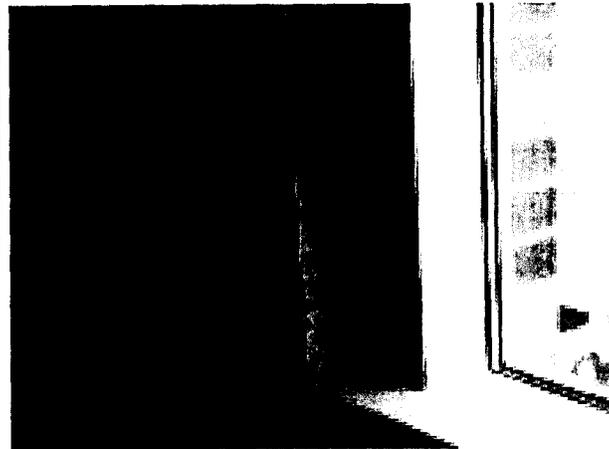
This photo is similar to the previous one unfinished rough concrete surfaces painted over and considered finished by the project.



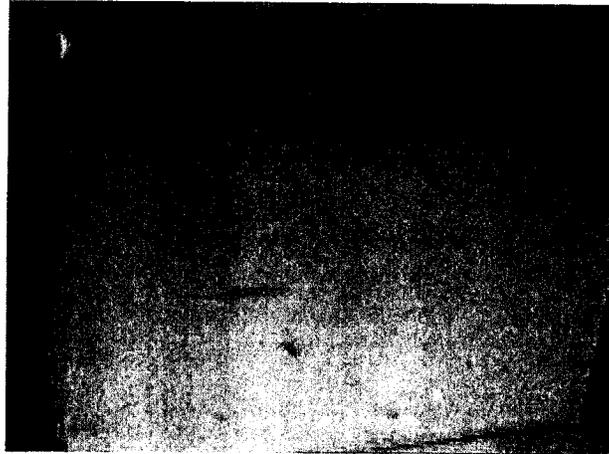
On the second floor in the D-Wing, this photo displays a poorly crafted expansion joint patch made of scrap wooden pallets, which were stuffed into the gap to cover the opening. This installation became loose and fell apart and had to be removed to protect passerby from fall debris.



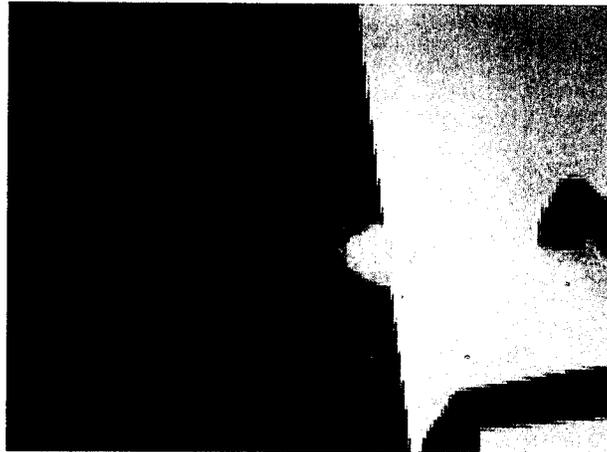
This is a typical condition that was observed throughout the building at the completion of the project. The unfinished concrete surfaces were not addressed but simply painted over. In some of these locations the materials are becoming loose and brittle.



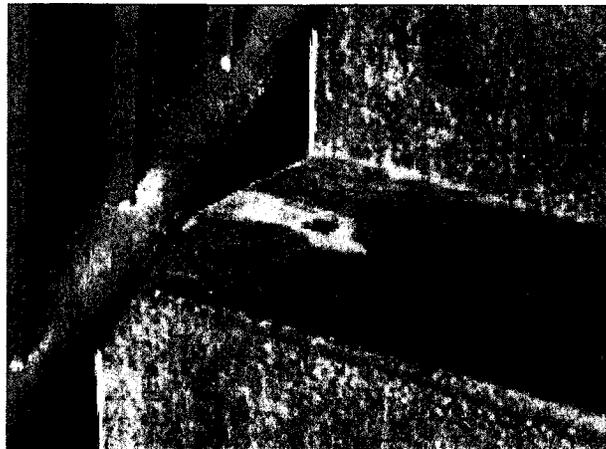
1 photo highlights the conditions of the flooring of the elevator that was damaged by the construction project and not repaired. The elevator was used heavily during the demolition phase of the project by all trades on the project. Broken VCT tile and damaged wall surfaces can be



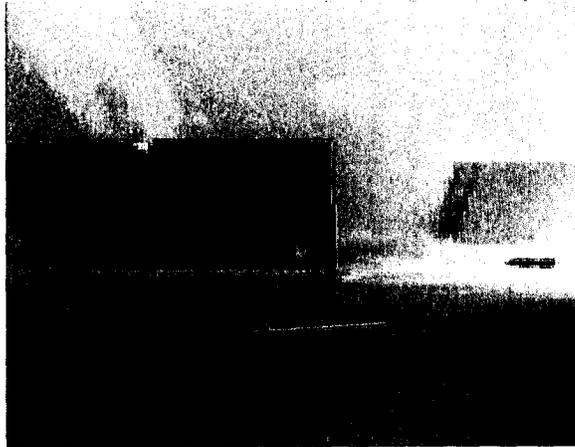
This is a typical condition that can be observed throughout the new science wing. Old pipe passage holes through the concrete floor were poorly patched resulting in the concrete to coming apart and sinking into the floor, developing trip hazards for chair legs.



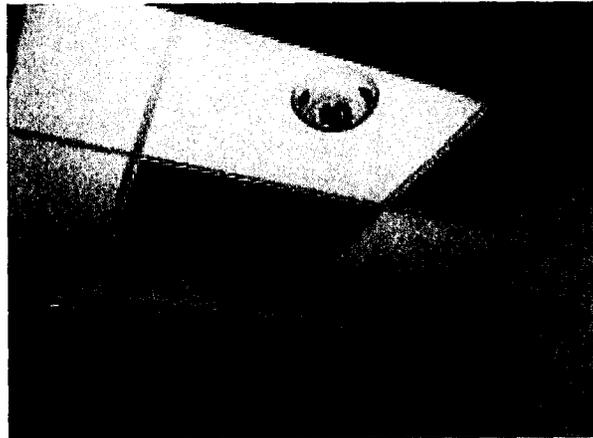
Throughout the building, within the stairwells the old railings were cut out as part of the renovation. This project resulted in metal stubs protruding from the concrete. The rough unfinished appearance creates an unsightly condition as the metal has started to rust and discolor the concrete.



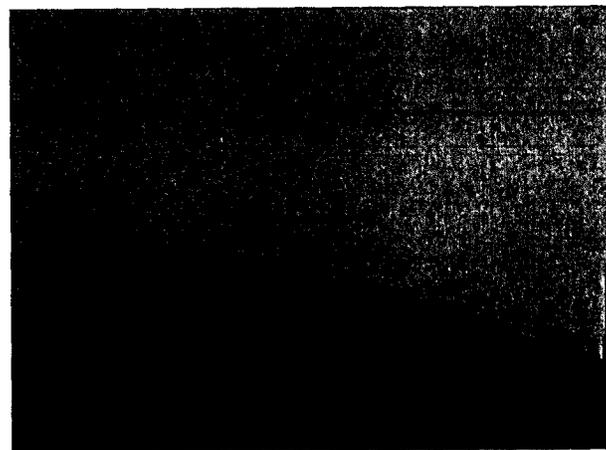
This photo displays a room on the second floor where the sheetrock ceiling was not properly finished. This photo also shows unfinished sheet metal work and missing HVAC grills. The black arrow in the photo shows a section of the ceiling that had to be cut out to allow the door to operate. This poorly finished room requires additional work to complete.



This is an area on the second floor that shows an uncompleted ceiling grid with metal objects hanging from the ceiling above. Numerous areas had unfinished areas that were completed by the custodial staff.



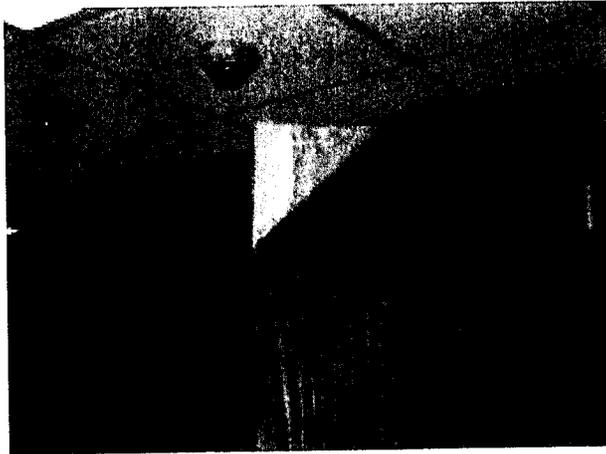
This is an example of an area that was left unfinished. Within this stairwell is an unpainted wall that had to be painted to make ready for the start of the school. Notice in the photo that no base board molding is installed and the floor VCT tile is installed.



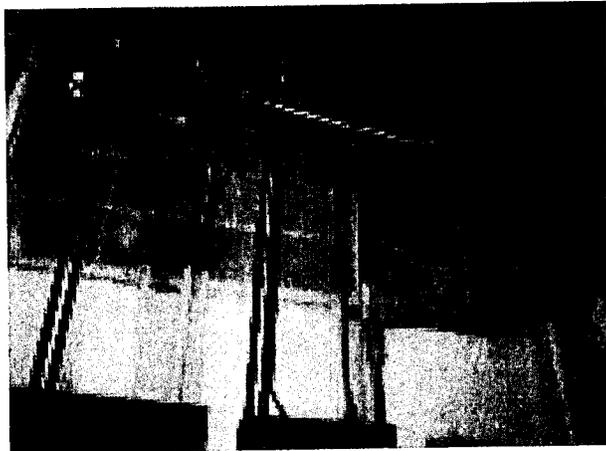
In this photo, the student lockers throughout the building display unfinished assembly. Notice in photo that no top sections were installed to close up the top of the lockers, exposing unfinished edges and open gaps where garbage and debris will collect.



This door outside the Kitchen was damaged by construction workers during the summer months of the project. This has been reported many times to the project resulting in no response. This door passage was used by many of the trades throughout the project pushing their material carts into the building.



This photo displays an unfinished supply room where a ceiling was removed by the project and never replaced. This resulted in a custodians room without lighting and ventilation. This has been also reported many times to the project.



**Section 6. Action Plan:**

PENDING ....PENDING....