



# Memorandum

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**TO:** JE Dunn  
Kiewit  
Whiting-turner

**CC:** Marina Florian, UCB  
Mike Yanker, UCB

**FROM:** Thomas S. Norman, CTL Thompson

**DATE:** August 9, 2011

**SUBJECT:** Kittredge West and Kittredge Commons, Addendum #1  
University of Colorado

CTL Thompson Project No. FC05461.001/.002

Attached is Addendum #1 that reflects comments raised during the pre-bid walkthrough. Please call if you have any questions.

# **ADDENDUM #1**

## **University of Colorado Kittredge West and Commons Asbestos Abatement and Demolition Project CTL Project Number FC05461.001/.002**

Prepared by: Thomas S. Norman, CTL Thompson

Date of Addendum #1: August 9, 2011

### **Project Description**

The project includes the asbestos abatement, lead component and lead paint remediation, and regulated building material remediation of Kittredge West and Kittredge Commons buildings, University of Colorado, Boulder, Colorado.

### **Questions & Answers**

1. General: EPA has determined that the use of mechanical buffers to remove asbestos floor mastic renders the asbestos into a friable condition. CDPHE has initially accepted draft guidelines (attached) to remove the floor mastic with mechanical buffers. If the General Asbestos Contractor (GAC) will use mechanical buffers to remove floor mastic, the attached guideline shall be used and shall be submitted with the asbestos permit application to CDPHE.
2. General: Carpet is located over floor tiles in some areas.
3. General: The General Contractor must comply with CDPHE regulations regarding stormwater permits, groundwater permits, and dewatering permits.
4. General: The General Contractor and all subcontractor personnel that will be onsite must attend a 2-hour OSHA asbestos awareness training. UCB will not provide the training but CTL can be contacted for assistance.
5. General: The contractor responsible for transporting and disposing of the regulated building materials shall be licensed to transport and dispose of such materials. If properly packaged and labeled, UCB has permission to hold regulated and hazardous wastes for 90 days
6. West: Lead sheathing is probably located under the terrazzo shower pans in the restrooms that also contain lead-containing tile on the walls. Lead sheathing shall also be removed if located under the terrazzo shower pans. The cove base does not contain lead. The lead material may be removed by the Environmental Contractor and either recycled as sheet lead or disposed of as hazardous waste.
7. Commons: The following materials contain less than 1% asbestos:
  - Plaster with a stucco texture
  - Window glazing
  - Ceiling plaster

8. The following quantities have changed:
  - a. See revised drawings (attached)

Attachments: Removal of Floor Mastic Using a Mechanical Buffer – Draft Guidance Document  
Revised Sheets – Kittredge Commons ENV2, ENV3, ENV4

### **ADDENDUM #1**

**Reminder: Bids are to be provided to the General Contractors.**

**ENVCONTRACTOR SHALL ACKNOWLEDGE RECEIPT OF  
ADDENDUM #1 WITH SUBMITTED BID.**

# **REMOVAL OF FLOOR MASTIC USING A MECHANICAL BUFFER**

## **DRAFT - GUIDANCE DOCUMENT**

August 5, 2011

EPA finds that pursuant to 40 CFR 61.141, the use of a mechanical buffer with an abrasive pad causes floor mastic to become friable and, thus, it is considered a RACM under the asbestos NESHAP.

In compliance to U.S. Environmental Protection Agency Applicability Determination Index Control Number: Control Number: A040001 (12/12/03), A040002 (02/11/04) A060002 (12/05/05), the removal of floor mastic using a mechanical buffer is considered making the material friable under Colorado AQCC Regulation No. 8.

The use of hand methods to remove floor mastic does not render the asbestos friable and the applicable sections of the regulations for the removal of non-friable asbestos containing material still apply and have not changed.

The use of buffers to remove floor mastic renders the asbestos friable and an asbestos permit is required rather than a notice. Removal of floor mastic with a mechanical buffer must be performed by a GAC. CDPHE has determined that the use of the following process is an acceptable variance to AQCC Regulation No. 8. Applicants that attach the following process to their permit application will not be required to go through the variance process or associated variance fees.

For Floor Mastic Removal using a Mechanical Buffer the GAC shall:

AQCC Regulation No. 8 Section III applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels;

### **III.B.6 PROJECT MANAGER**

A project manager shall be used on all projects for friable asbestos-containing materials that exceed 3,000 square feet.

### **III.C. PROJECT DESIGN**

III.C.1. Prior to the start of any asbestos abatement in an area of public access of a non-school building, in which the amount of asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces, a written project design shall be developed by a Project Designer certified under these regulations.

III.C.2. Prior to the start of any asbestos abatement in a school building in which the amount of friable asbestos-containing material to be abated exceeds 3 linear feet on pipes, or 3 square feet on other surfaces, a written project design shall be developed by a Project Designer certified under these regulations, in accordance with paragraph IV.G.7 of this regulation.

III.G. PERMITS. Obtain permits for friable asbestos materials as required.

## **REMOVAL OF FLOOR MASTIC USING A MECHANICAL BUFFER**

### III.H. ABATEMENT SEQUENCE

This subsection III.H. applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

#### III.H.1. Pre-Abatement

Below are the steps for the pre-abatement phase of the project. Please note that steps 1 through 6, where applicable, are mandatory, and the exact sequence shown below is mandatory.

- 1) Install critical barriers  
(pursuant to subsection III.I, Critical Barrier Installation)
- 2) Establish negative pressure  
(pursuant to subsection III.J, Air Cleaning and Negative Pressure Requirements)
- 3) Construct the decontamination area  
(pursuant to subsection III.K, Decontamination Area)  
Exemption: Work Areas  $\leq$  3,000 square feet – 2 stage change room / load out
- 5) Cover fixed objects  
(pursuant to subsection III.M, Covering Fixed Objects)
- 6) Construct the containment  
(pursuant to subsection III.N, Containment Components)

#### III.N.4. Secondary Containment.

I.B.91. Secondary Containment means a system of airtight barriers to isolate the work area to prevent the migration of air from the work area.

Splash guards covering the lower section of the work area to a minimum of 4' from the floor, sealed to the bottom of the lower section.

III.N.1. Wall, Floor and Ceiling Polyethylene is not required.

### III.O. ABATEMENT METHODS

#### III.O.1. Removal

##### III.O.1.a. Controlling Airborne Fiber Release/Emissions

The use of the mechanical buffers will comply with OSHA 29 CFR 1926.1101:

Standard Interpretation 2005 - 05/18/2005 - Prohibitions and/or restrictions on aggressive methods for removing asbestos-containing mastic from floors: The floor machine must be a low-speed floor machine that spins the floor pads at no greater than 175 revolutions per minute

[http://www.osha.gov/pls/oshaweb/owadis.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=25083](http://www.osha.gov/pls/oshaweb/owadis.show_document?p_table=INTERPRETATIONS&p_id=25083)

## **REMOVAL OF FLOOR MASTIC USING A MECHANICAL BUFFER**

### III.P. CLEARING ABATEMENT PROJECTS

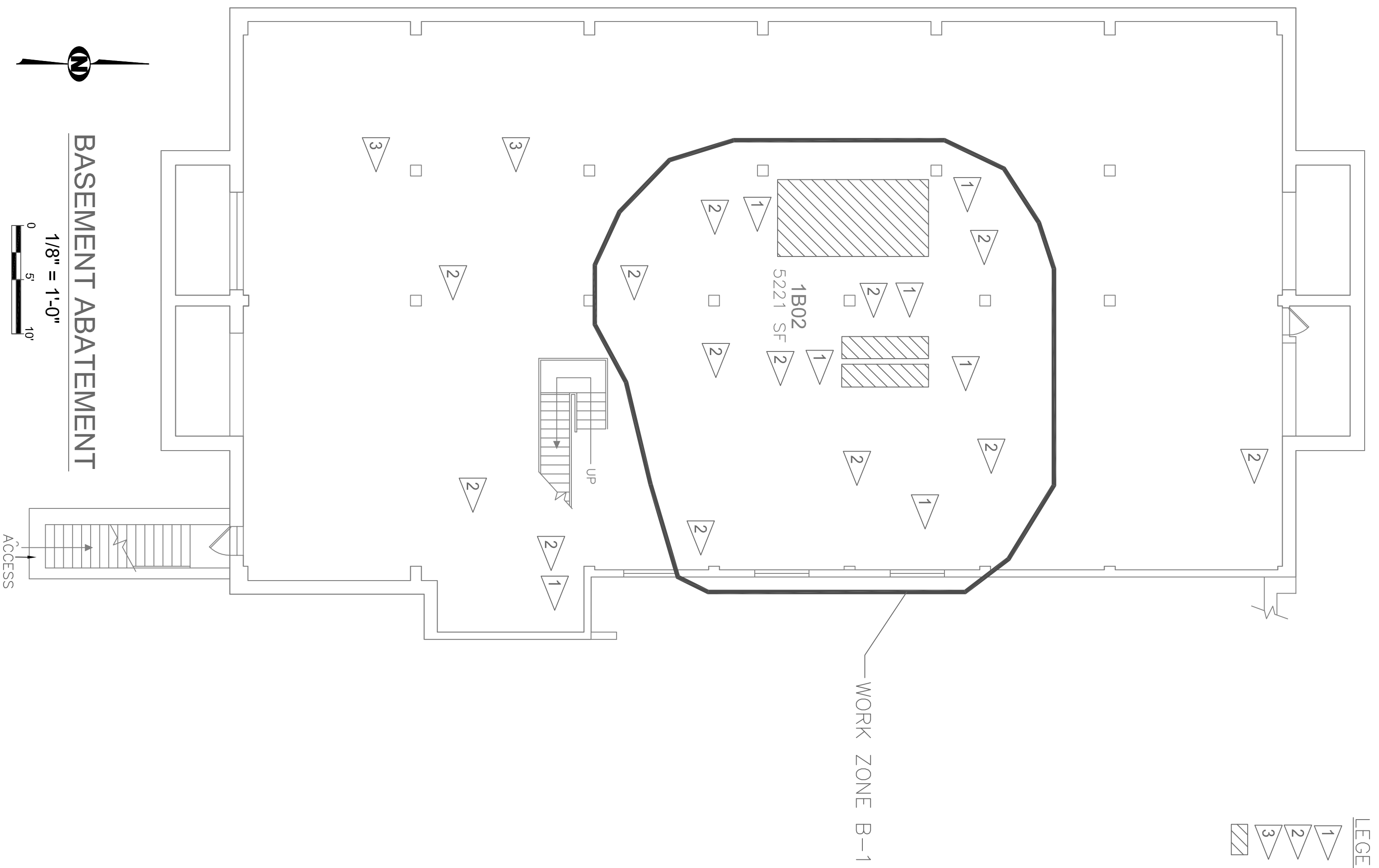
This subsection III.P. applies to asbestos abatement projects in areas of public access, other than school buildings, where the amount of asbestos-containing material that will be abated exceeds the trigger levels. For clearance requirements in school buildings, see paragraph IV.G.9. (Completion of Response Actions).

### III.Q. TEAR DOWN

### III.R. WASTE HANDLING

Non-friable floor tile may be disposed of as non-friable if properly sealed in leak-tight containers and loaded out of the work area pursuant to this section 'prior' to the use of mechanical buffers.

All material within the work area after the use of the mechanical buffers are considered friable.



**LEGEND**

	PIPE INSULATION	250	LINEAR FEET
	PIPE FITTINGS	275	EACH
	FLEX CONNECTORS	2	EACH
	TANK INSULATION	110	CUBIC FEET

WORK ZONE B-1

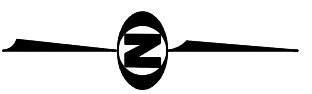
1B02  
5221 SF

UP

ACCESS

**BASEMENT ABATEMENT**

1/8" = 1'-0"



DESIGNER	FJS/TSN	SHEET	ENV2
REVISOR	RMD	REVISION	ENV4
DATE	07-21-2011	SCALE	PER PLAN
PROJECT #	FC05461.001		

**CLIENT:**  
 DEPT OF HOUSING AND DINING  
 UNIVERSITY OF COLORADO  
 159 UCB  
 BOULDER, COLORADO

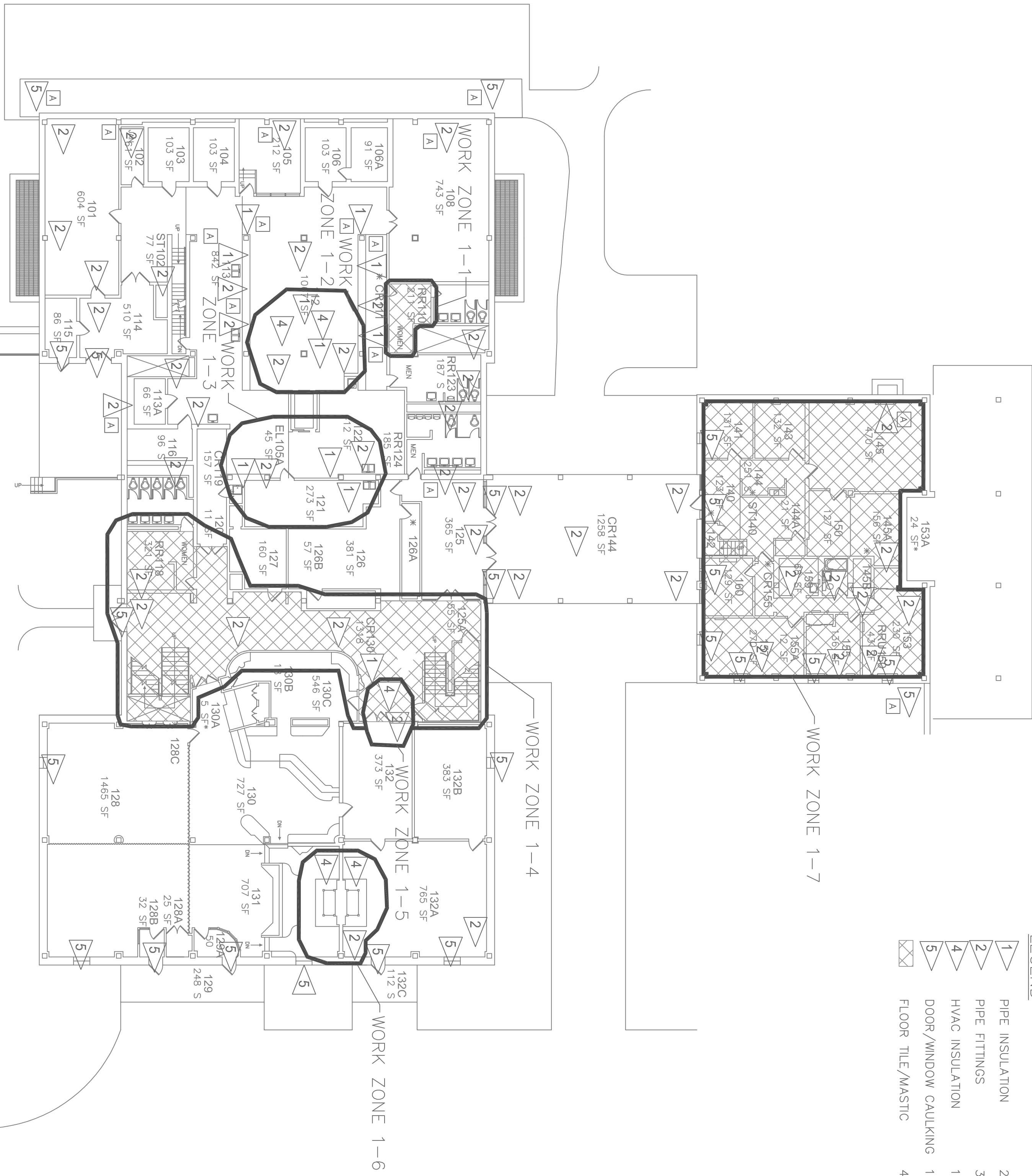
Contact:  
 Marina Florian

BASEMENT ABATEMENT		
NO.	DATE	REVISION/ISSUE
A	08/09/11	
2		
3		

**PROJECT LOCATION:**  
 KITTREDGE COMMONS  
 UNIVERSITY OF COLORADO  
 BOULDER, COLORADO

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 351 Linden Street, Suite 140  
 Fort Collins, CO 80524

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**LEGEND**

1	PIPE INSULATION	250	LINEAR FEET	A
2	PIPE FITTINGS	350	EACH	A
4	HVAC INSULATION	100	CUBIC FEET	A
4	DOOR/WINDOW CAULKING	1200	LINEAR FEET	A
5	FLOOR TILE/MASTIC	4620	SQUARE FEET	A

**FIRST FLOOR ABATEMENT**

1/16" = 1'-0"



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Contact:  
 Marina Florian

**FIRST FLOOR ABATEMENT**

NO.	DATE	REVISION/ISSUE
1	08/09/11	
2		
3		

**PROJECT LOCATION:**

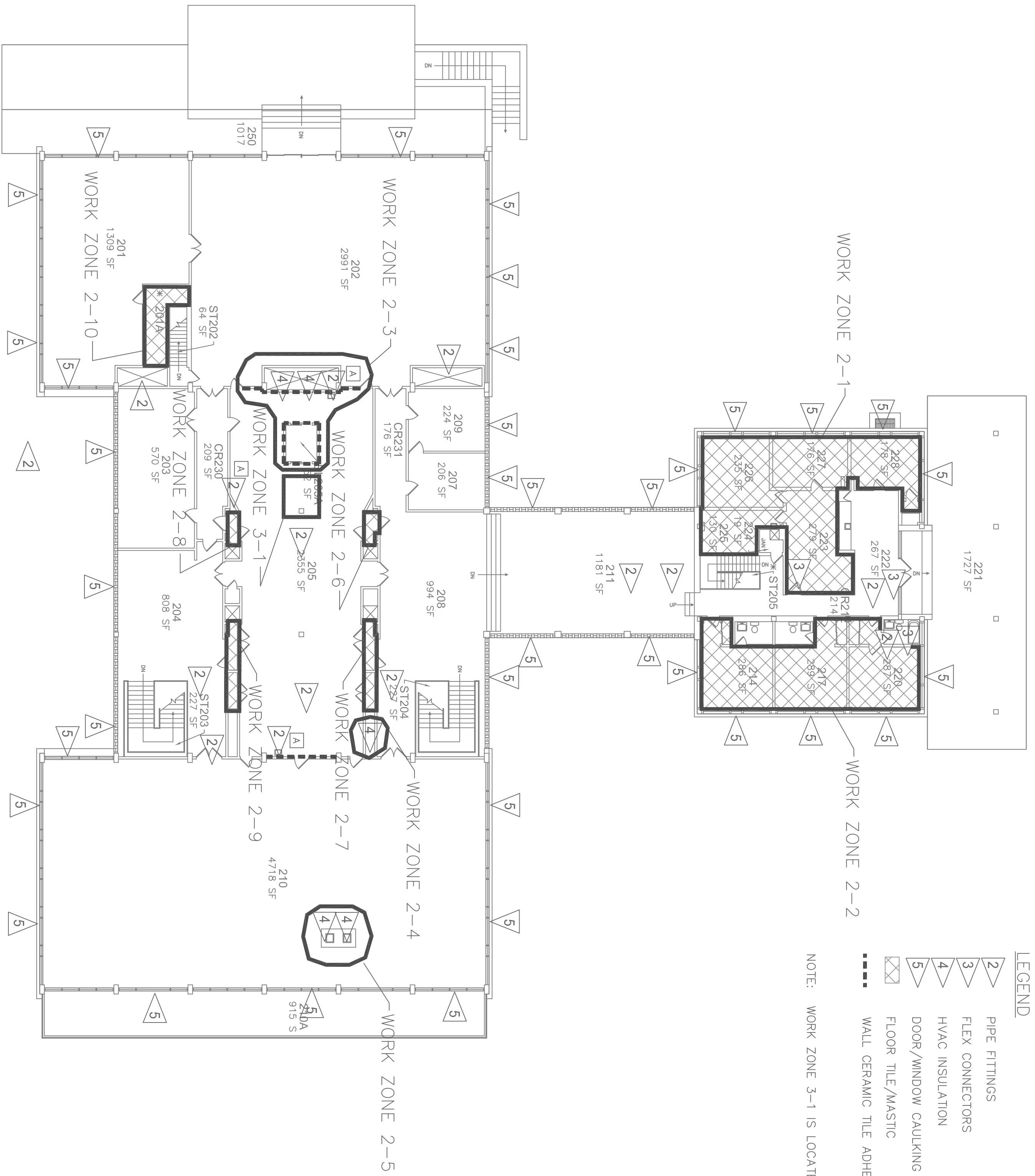
KITTREDGE COMMONS  
 UNIVERSITY OF COLORADO  
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DESIGN/ISSUE	SHEET
F.I.C./TSN	ENV/3
RMD	ENV/3
PROJECT #	FC05461.001
DATE	07-21-2011
SCALE	ENV/4
PER PLAN	



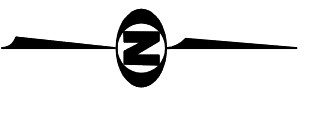
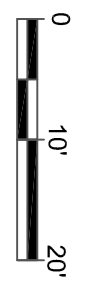
**LEGEND**

	PIPE FITTINGS	75	EACH
	FLEX CONNECTORS	6	EACH
	HVAC INSULATION	100	CUBIC FEET
	DOOR/WINDOW CAULKING	8000	LINEAR FEET
	FLOOR TILE/MASTIC	2000	SQUARE FEET
	WALL CERAMIC TILE ADHESIVE	50	SQUARE FEET

NOTE: WORK ZONE 3-1 IS LOCATED ON ROOF.

**SECOND FLOOR ABATEMENT**

1/16" = 1'-0"



**CLIENT:**  
 DEPT. OF HOUSING AND DINING  
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 159 UCB  
 BOULDER, COLORADO  
 Contact:  
 Marina Florian

**SECOND FLOOR ABATEMENT**

NO.	DATE	REVISION/ISSUE
1	08/09/11	
2		
3		

**PROJECT LOCATION:**  
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DESIGN/DATE	SHEET
F.L.C./TSN	ENV4
RMD	ENV4
PROJECT #	FC05461.001
DATE	07-21-2011
PER PLAN	ENV4