

Intended for:
Santa Monica-Malibu Unified School District
Santa Monica, California

Prepared By:
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Date
April 2017

SULFURYL FLUORIDE SAMPLING FOR ROOSEVELT ELEMENTARY SCHOOL FOR THE SANTA MONICA-MALIBU UNIFIED SCHOOL DISTRICT



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ACRONYMS AND ABBREVIATIONS

COC:	chain of custody
ppmv:	parts per million by volume
QA/QC:	quality assurance/quality control
QC:	quality control
Ramboll Environ:	Ramboll Environ US Corporation
SMMUSD:	Santa Monica-Malibu Unified School District
USEPA:	United States Environmental Protection Agency
$\mu\text{g}/\text{cm}^2$:	microgram(s) per square centimeter
$\mu\text{g}/\text{L}$:	microgram(s) per liter

EXECUTIVE SUMMARY

Sulfuryl fluoride is a gas has been used as a structural fumigant to control wood-destroying pests since 1957. Sulfuryl fluoride is a broad spectrum insecticide and rodenticide currently used for the control of existing infestations of pests including drywood termites, Formosan subterranean termites, powder post beetles, old house borers, bedbugs, cockroaches, clothes moths and rodents.

Sulfuryl fluoride was first registered with the United States Environmental Protection Agency (USEPA) in December 1959. In 1985, USEPA initiated a reevaluation of pesticides containing sulfuryl fluoride through a re-registration process to provide additional consideration of product chemistry and occupational and residential exposure safety information. In September 1993, the USEPA issued a Reregistration Eligibility Decision for pesticides containing sulfuryl fluoride and determined that the incorporation of this active ingredient in a pesticide product used by professional applicators with specific controls was effective and safe under controls and conditions specified by the agency.

The Santa Monica-Malibu Unified School District had the Roosevelt Elementary School fumigated over spring break to address a termite infestation. Standard industry aeration procedures and indoor air testing were reportedly followed prior to the school receiving clearance for re-entry. The district retained Ramboll Environ US Corp (Ramboll Environ) to develop a program to perform post clearance testing of materials in the school buildings in order to determine whether there were remaining sulfuryl fluoride residues on items that had been in the school during the fumigation or continuing emissions from porous items. A summary of activities described herein includes:

- Wipe sampling of various hard surface materials such as chairs, countertops and tabletops found in the school to evaluate the presence or absence of deposited residue from sulfuryl fluoride.
- Bulk sampling of various porous, synthetic materials such as carpets, upholstered furniture, and plush toys found in the building to evaluate the presence or absence of residual emissions of sulfuryl fluoride.

Samples from surfaces and bulk materials were collected in varied areas of the school complex to evaluate overall conditions in a representative manner. Eight surface wipe and eight bulk samples were submitted to a testing laboratory that used a method specified by the National Institutes of Occupational Safety and Health (NIOSH) to analyze sulfuryl fluoride.

No sulfuryl fluoride residues were detected on the surfaces tested and no sulfuryl fluoride emissions were being released from any of the porous materials. These results supplement the original indoor air clearance testing to document that the sulfuryl fluoride gas introduced during the fumigation has dissipated and does not pose a health risk for students, employees or guests at the school.

1. INTRODUCTION

This report summarizes surface wipe and bulk sampling activities and results related to sulfuryl fluoride fumigation as a termite treatment at Roosevelt Elementary School (RES) located at 801 Montana Avenue, Santa Monica, California. Sampling at the school was conducted on April 10, 2017 by Alta Environmental in collaboration with Ramboll Environ US Corp. (Ramboll Environ) on behalf of the Santa Monica-Malibu Unified School District (SMMUSD or District). Work was conducted and completed in accordance with an April 2017 *Site-Specific Sulfuryl Fluoride Sampling Plan for Roosevelt Elementary School* ("RES Specific Plan") developed by Ramboll Environ.

RES was fumigated with the pesticide Vikane™ over spring break to address termite issues. Sulfuryl fluoride is a gas and the active ingredient in this pesticide. After the fumigation treatment, standard industry aeration procedures and indoor air testing were reportedly followed prior to the school receiving clearance for re-entry. The district retained Ramboll Environ and Alta Environmental to perform post clearance testing of materials in the school buildings in order to determine whether there were remaining residues on items that had been in the school during the fumigation or continuing emissions from porous items.

A summary of activities described herein includes:

- In accordance with RES Specific Plan, Ramboll Environ directed wipe sampling of various hard surface materials including chairs, countertops and tabletops found in the school to evaluate the presence or absence of deposited residue from sulfuryl fluoride.
- In accordance with RES Specific Plan, Ramboll Environ directed bulk sampling of various porous, synthetic materials such as carpets, upholstered furniture, and plush toys found in the building to evaluate the presence or absence of residual emissions of sulfuryl fluoride.

The remainder of this report summarizes the objectives and methodology of the post-termite treatment surface wipe sampling; post-termite treatment bulk sampling; quality assurance/quality control (QA/QC) measures taken to confirm data reliability; and conclusions. **Appendices A** through **D** contain figures, photographs, as well as laboratory analytical reports for the surface wipe, and bulk sampling conducted on April 10, 2017.

2. SULFURYL FLUORIDE SAMPLING

2.1 Objectives of Sulfuryl Fluoride Sampling

Sulfuryl fluoride is a common fumigant gas used to treat for termites. As a gas, it is expected to dissipate as air exchange occurs via normal ventilation patterns for the buildings and the ventilation procedures used by the fumigation contractor. Indoor air testing for sulfuryl fluoride gas is used routinely as the means for documenting, in accordance with USEPA requirements, that it is safe to re-enter a building following fumigation and ventilation. To supplement this standard approach, SMMUSD requested an additional sampling program to determine whether residues related to sulfuryl fluoride could have been retained on surfaces that students, employees or guests would be expected to contact and whether sulfuryl fluoride gas could have been retained in porous items such as carpets, upholstered furniture, or plush toys and continue to offgas.

Ramboll Environ developed and directed implementation of a sampling plan to address these questions and directed laboratory analyses for sulfuryl fluoride residues and emissions suitable to determine the adequacy of the ventilation and dissipation and document whether there were remaining concerns regarding safety. The objectives of the wipe and bulk material sampling were to determine the presence or absence of sulfuryl fluoride as either a residual deposit on hard surfaces or as a residual emission from porous materials. Wipe and bulk samples were collected from four locations in the school selected to be representative of different portions of the complex.

2.2 Sample Collection

Samples were collected by Alta Environmental at the direction of Ramboll Environ from four different areas of the school complex – three classrooms and the teacher's lounge (Figure 1). The three classrooms and the teacher's lounge, are located in different buildings/structures on the school campus. A kindergarten classroom, located in portable structure, Building B2, was selected since younger children are more likely to handle toys and similar items and are more susceptible to inhalation exposure due to their smaller size. One of the other two classrooms was located in one of the main campus buildings, Building E (Classroom 20), and the other classroom was located in a portable structure, Building B6 (Classroom 38). The teacher's lounge was located in another one of the main campus buildings, Building J.

The following samples were collected in the kindergarten classroom:

- Wipe sample from a blue wooden chair.
- Wipe sample from a laminated gray shelf.
- Bulk sample of a small white and black plush toy located on the top of a blue storage bucket with similar toys.
- Bulk sample of the carpet from the north center part of the classroom.

The following samples were collected in Classroom 20:

- Wipe sample from a blue vinyl/plastic chair located in the center of the room.
- Wipe sample from a white laminated counter top located east of the south door.
- Bulk sample from a multi-colored sofa cushion located in the west center of the classroom.

- Bulk sample of the carpet located in the west center of the classroom.

The following samples were collected in the Classroom 38:

- Wipe sample from a 12-inch red rubber ball.
- Wipe sample from a blue vinyl/plastic chair located in the center of the classroom.
- Bulk sample of a blue pillow case located in the east center of the classroom.
- Bulk sample of the carpet from the east center of the classroom.

The following samples were collected in the teacher's lounge:

- Wipe sample from a blue vinyl/plastic chair located in the center of the room.
- Wipe sample from a wooden table top located in the center of the room.
- Bulk sample from the black synthetic fabric sofa cushion located in the west side of the room.
- Bulk sample of the carpet located along the west wall of the room.

2.3 Sample Collection Methods

This section includes a summary of the sampling used for surface wipe and bulk testing for residual sulfuryl fluoride. The methods are generally consistent with American Society of Testing Methods (ASTM) for wipe and bulk sampling. The methods described below apply to both the post-treatment surface wipe sampling and post-treatment bulk materials sampling.

2.3.1 Surface Wipe Samples

Surface wipe samples were collected following standard ASTM protocols. A new pair of nitrile gloves were used when collecting each sample. Two different types of wipe samples were collected from each of the selected building areas. The first type of surface targeted for wipe sampling included desktops or countertops in rooms where students would be working on these surfaces. The second type of surface targeted for wipe sampling included the surface of loose items that could be handled by students (e.g., balls).

A 10 centimeter (cm) by 10 cm template was used to delineate the 100 square centimeter (cm²) area for collecting a wipe sample from flat work surfaces. For the plastic ball, the rounded surface was measured to establish an area of approximately 100 cm² to wipe.

Cotton gauze wipes were moistened with laboratory-supplied solvent (1N sodium hydroxide) and then the surface was wiped following the standard wiping pattern and number of passes specified by ASTM. Upon completion of the wiping, the wipe was folded and placed in the laboratory-supplied glass vial. Samples were labelled and placed in a cooler for transport to the analytical laboratory.

Both the flat surfaces and the loose items targeted for wipe sampling were cleaned using detergent and distilled deionized water following wiping to remove any residue from the solvent used to moisten the wipes.

2.3.2 Bulk Samples

Two different types of bulk samples were collected from each of the selected building areas using a new pair of nitrile gloves for each sample collection. The first type of surface targeted for bulk sampling was carpet. The second type of surface targeted for bulk sampling was

fabric-covered soft items such as pillows, couch cushions, and upholstered chairs. Bulk samples from the soft items included the fabric covering as well as the underlying porous foam/material. Bulky synthetic fiber materials (polyester, nylon, etc.) that are highly porous and would be anticipated to be among the most likely to retain any residual gases were selected to optimize the likelihood of finding any residual sulfuryl fluoride, if present.

An appropriate clean cutting tool (scraper, razor knife, shears) was used to cut out an approximately 100 cm² piece of fabric and/or carpet from each item selected for sampling. The shape of the sample was not important for emissions testing; however, the overall area was kept similar at approximately 100 cm². Samples were placed in new 1-liter, amber glass jars with Teflon-lined lids. Sealed jars were placed in a cooler for transport to the analytical laboratory.

Cutting tools were cleaned between samples using detergent then distilled, deionized water.

2.3.3 Laboratory Analyses

Sample containers were labelled and delivered to the LA Testing's Huntington Beach, California laboratory the same day they were collected. Samples were handled and submitted following chain-of-custody procedures.

Surface wipe samples were analyzed in accordance with *National Institute for Occupational Safety and Health (NIOSH) Method 6012*. NIOSH Method 6012 was developed for analysis of sulfuryl fluoride in air and modified to analyze the gauze wipes. The method involves collection of sulfuryl fluoride in air on a solid sorbent tube, desorption with sodium hydroxide to convert the sulfuryl fluoride to fluoride ion, and then analysis of fluoride ion using ion chromatography with conductivity detection. The method was modified for wipe sampling by collecting any sulfuryl fluoride-derived residue on solid surfaces using a cotton gauze wipe moistened with sodium hydroxide to convert the sulfuryl fluoride to fluoride ion and then performing the analysis using ion chromatography with conductivity detection according to the method.

Bulk samples were analyzed for sulfuryl fluoride off-gassing via modified NIOSH Method 6012. Each bulk sample was placed in a small chamber and a known volume of air (10 liters) was passed through the chamber to release any trapped sulfuryl fluoride. Any desorbed sulfuryl fluoride in air was then collected on a solid sorbent tube and analyzed using NIOSH Method 2016.

Ramboll Environ includes Quality Assurance and Quality Control (QA/QC) consideration for all of sampling and analysis programs. For this project a field blank was collected as a QC sample. The field blank served to assess the potential presence of background fluoride arising from field sampling procedures or from sampling materials. The field blank was obtained by moistening a cotton gauze wipe with the solvent, then placing it directly into a vial without wiping any surface.

3. RESULTS

This section includes a summary of post-treatment sampling for residual sulfuryl fluoride in April 2017. Additional sampling information is provided in **Appendix A** (sample location figures), **Appendix B** (sample location photographs), **Appendix C** (field sampling records), and **Appendix D** (laboratory analytical reports).

The sampling directed by Ramboll Environ focused on the evaluation of both surface wipe and bulk samples to evaluate the presence of residual sulfuryl fluoride on surfaces and potential emissions from soft, porous items from representative locations within the school buildings.

3.1 Surface Wipe Sample Results

Eight surface wipes samples, two from each of the targeted rooms, were analyzed. As shown in **Table 3-1**, sulfuryl fluoride residue was not detected on wipe samples from any of the surfaces.

The detection limit achieved by the laboratory (5.4 micrograms per square centimeter) was sensitive and sufficient to evaluate health concerns.

Table 3.1 Sulfuryl Fluoride Residue Analyses of Wipe Samples

Room	Item	Result – Sulfuryl fluoride residue	Sample ID
Kindergarten room	painted chair	ND*	15W410
	laminated shelf	ND*	16W410
Classroom 20	plastic chair	ND*	7W410
	laminated countertop	ND*	8W410
Classroom 38	plastic chair	ND*	3W410
	rubber ball	ND*	4W410
Teacher's lounge	plastic chair	ND*	11W410
	wooden tabletop	ND*	12W410

* ND – Not Detected at laboratory reporting limit of 5.4 µg/cm²

Analysis by NIOSH 6012M, background corrected using field blank

3.2 Bulk Sample Results

Emissions from eight bulk samples were analyzed, two from each of the targeted rooms. As shown in **Table 3-2**, sulfuryl fluoride emissions were not detected offgassing from any of the analyzed items.

The detection limit achieved by the laboratory (5.4 micrograms per liter, equivalent to 1.3 parts per million by volume) was sensitive and sufficient to evaluate health concerns.

Table 3.2 Sulfuryl Fluoride Emissions from Bulk Items

Room	Item	Result – Sulfuryl fluoride	Sample ID
Kindergarten room	plush toy	ND*	13B410
	carpet	ND*	14B410
Classroom 20	sofa cushion	ND*	6B410
	carpet	ND*	5B410
Classroom 38	pillow case	ND*	2B410
	carpet	ND*	1B410
Teacher's lounge	sofa cushion	ND*	10B410
	carpet	ND*	9B410

* ND -- Not Detected at laboratory reporting limit of 5.4 µg/L (1.3 ppm)
Analysis by NIOSH 6012M

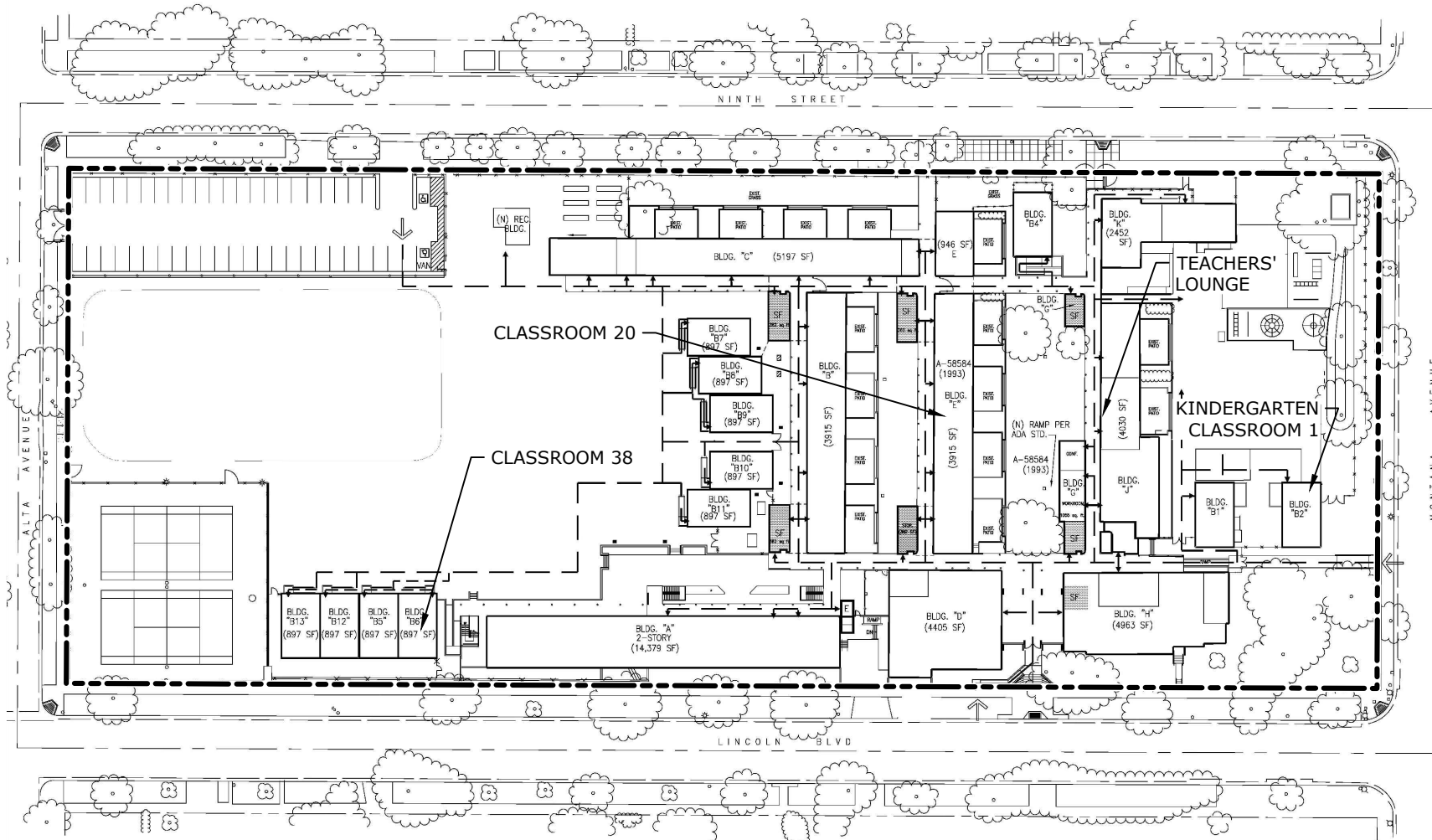
4. CONCLUSIONS

The Santa Monica-Malibu Unified School District had the Roosevelt Elementary School fumigated over spring break to address a termite infestation. Standard industry aeration procedures and indoor air testing were reportedly followed prior to the school receiving clearance for re-entry. To supplement the standard clearance testing of indoor air, the district retained Ramboll Environ to develop a program for testing materials that had been in the school buildings during the fumigation in order to determine whether there were remaining residues from sulfuryl fluoride on surfaces or residual emissions from porous items.

Two surface wipe samples and two bulk samples of porous items were collected in four different rooms from different portions of the school complex. The wipe samples included surfaces such as chairs, tabletops and countertops that students, employees or guests could contact and a children's toy (rubber ball). The porous items included items such as a plush toy, sofa cushions and carpet.

No sulfuryl fluoride residues were detected on any of the surfaces tested. No sulfuryl fluoride emissions being released from any of the porous materials were detected. These results supplement the original indoor air clearance testing to document that the sulfuryl fluoride gas introduced during the fumigation has dissipated and does not pose a health risk for students, employees or guests at the school.

FIGURES



SOURCE:
 BASE PLAN: SANTA MONICA MALIBU UNITED SCHOOL
 DISTRICT (SMMUSD), THEODORE ROOSEVELT
 ELEMENTARY SCHOOL. "SITE PLAN". WINDOWS,
 PAINT, FLOORS & DOORS PROJECT. SHEET: A1.1.
 DATE: 09/16/2016.

LEGEND:

--- PROPERTY BOUNDARY
 (APPROXIMATE)

0 100
 SCALE IN FEET

SITE PLAN AND SAMPLING LOCATION MAP

ROOSEVELT ELEMENTARY SCHOOL
 MALIBU, CALIFORNIA

**FIGURE
 1**

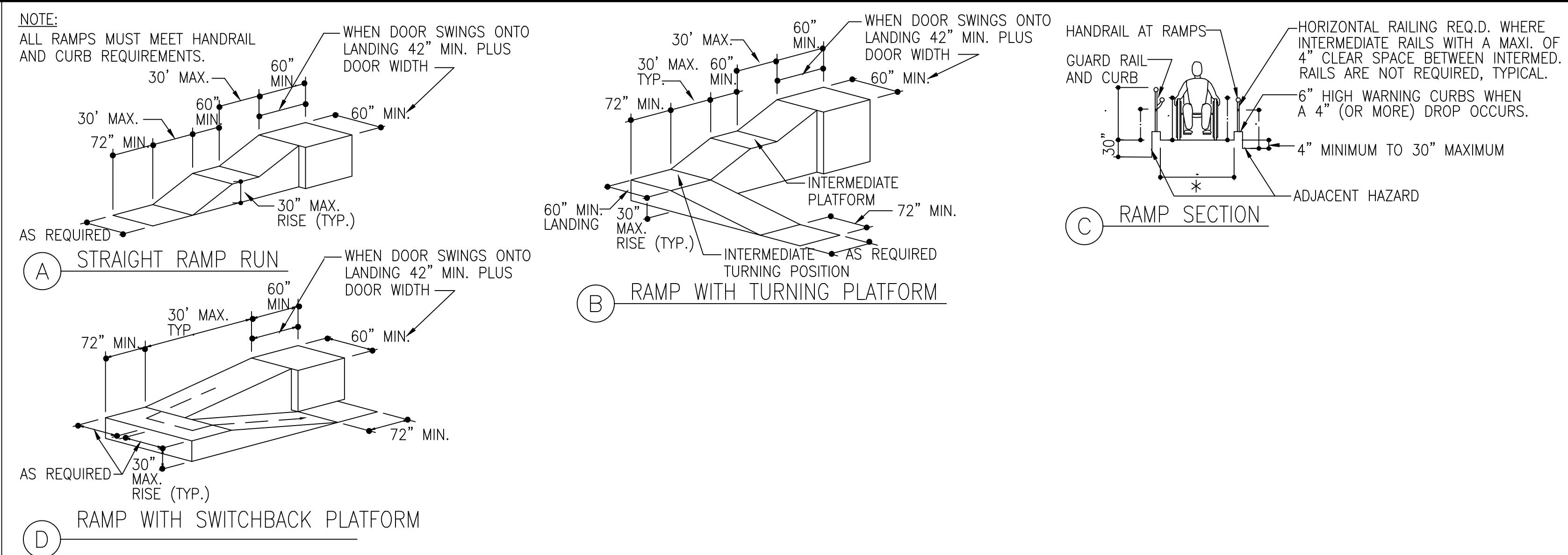
PROJECT: 0433980P

RAMBOLL ENVIRON

DRAFTED BY: DLB

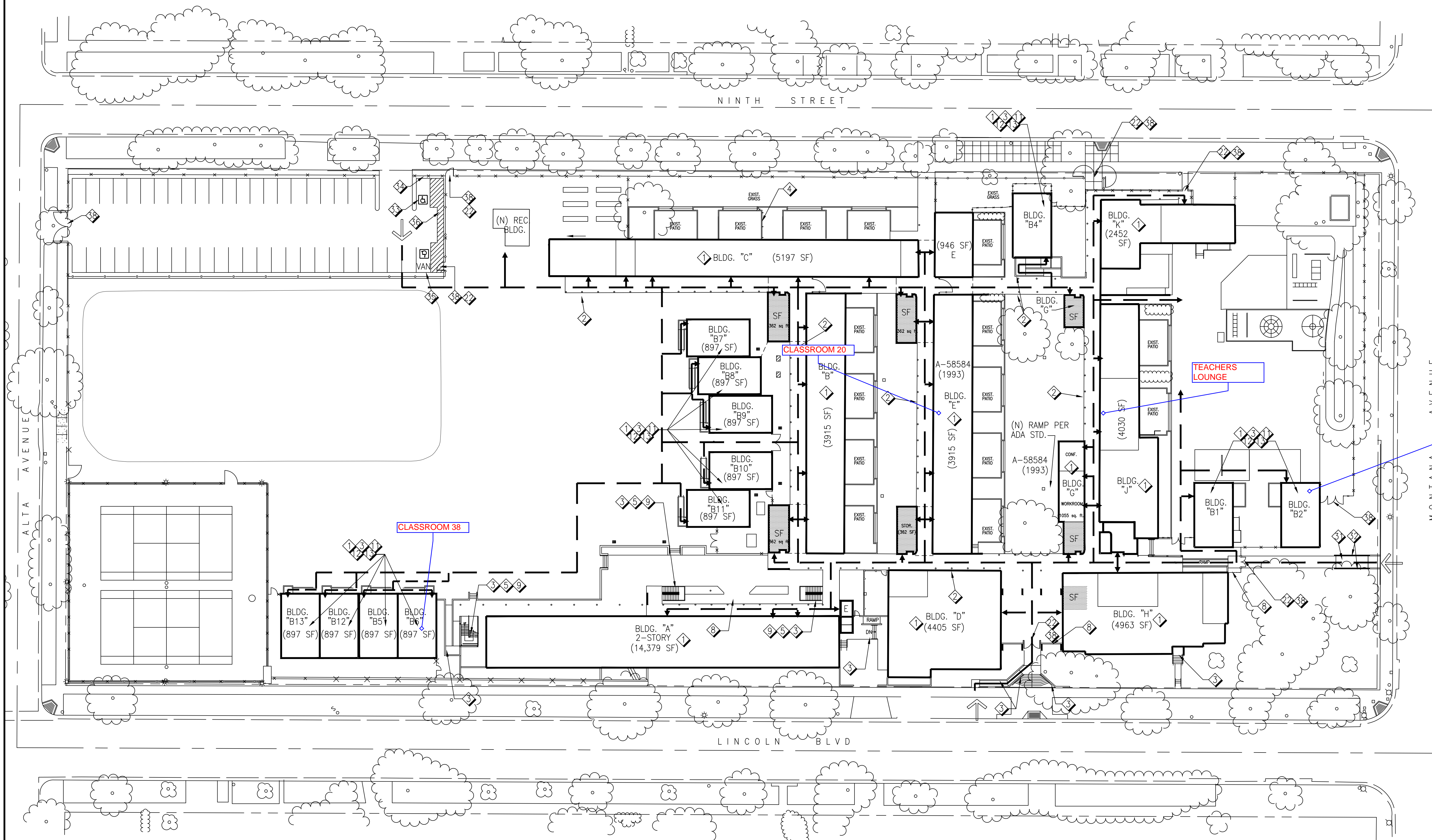
DATE: 04/26/2017

APPENDIX A
SAMPLE LOCATION MAPS FOR APRIL 2017 SULFURYL FLUORIDE
SAMPLING AT RES



RAMP DETAILS

SULFURYL FLUORIDE SAMPLE LOCATION MAP, 4/10/17



KEY NOTES (THIS SHEET ONLY)

1. EXISTING METAL COPING TO BE REPAINTED
2. EXISTING METAL PIPE COLUMNS TO BE REPAINTED
3. EXISTING METAL HANDRAIL TO BE REPAINTED
4. EXISTING METAL GUARDRAIL TO BE REPAINTED
5. (E) METAL STAIRS TO BE REPAINTED; EXISTING CONCRETE TREAD TO BE POWER WASHED
6. EXISTING FULL HEIGHT METAL SCREEN TO BE REPAINTED
7. EXISTING GUARDRAIL SCREEN TO BE REPAINTED
8. EXISTING BUILDING BASE TO BE REPAINTED
9. EXISTING BUILDING CORNER TRIM TO BE REPAINTED
10. EXISTING WOOD RAMP TO BE REPAINTED
11. EXISTING GATE SIGN TO REMAIN
12. NEW ACCESSIBLE RAMP; 1:12 SLOPE, REMOVE EXISTING STAIRS
13. NEW 34" HANDRAIL
14. NEW ACCESSIBLE PARKING STALL
15. NEW ACCESSIBLE PARKING SIGN
16. VAN ACCESSIBLE PARKING SIGN - EXISTING TO REMAIN
17. STRIPE PAVING AT ACCESSIBLE AISLE
18. PANIC EXIT DEVICE WITH LEVER HORIZONTAL

LEGEND

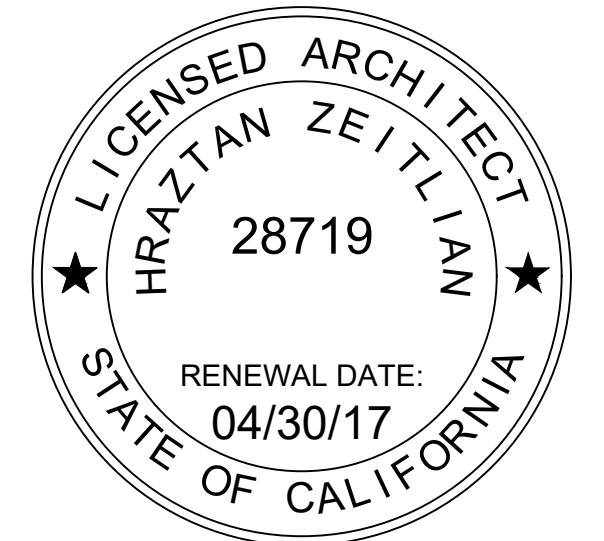
- | | |
|---|------------------------------|
| | ACCESSIBLE PATH OF TRAVEL |
|  | ACCESSIBLE SITE ACCESS |
|  | ACCESSIBLE BUILDING ENTRANCE |
|  | ACCESSIBLE SANITARY FACILITY |

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SANTA MONICA MALIBU UNIFIED SCHOOL DISTRICT

THEODORE ROOSEVELT
ELEMENTARY SCHOOL

801 MONTANA AVENUE
SANTA MONICA, CA 90403

WINDOWS, PAINT, FLOORS &
DOORS PROJECT

90% ASSESSMENT PHASE	8/1/16
100% ASSESSMENT PHASE	8/16/16
50% CONSTRUCTION DOCUMENTS	9/16/16

ISSUE DESCRIPTION

SHEET TITLE
SITE PLAN

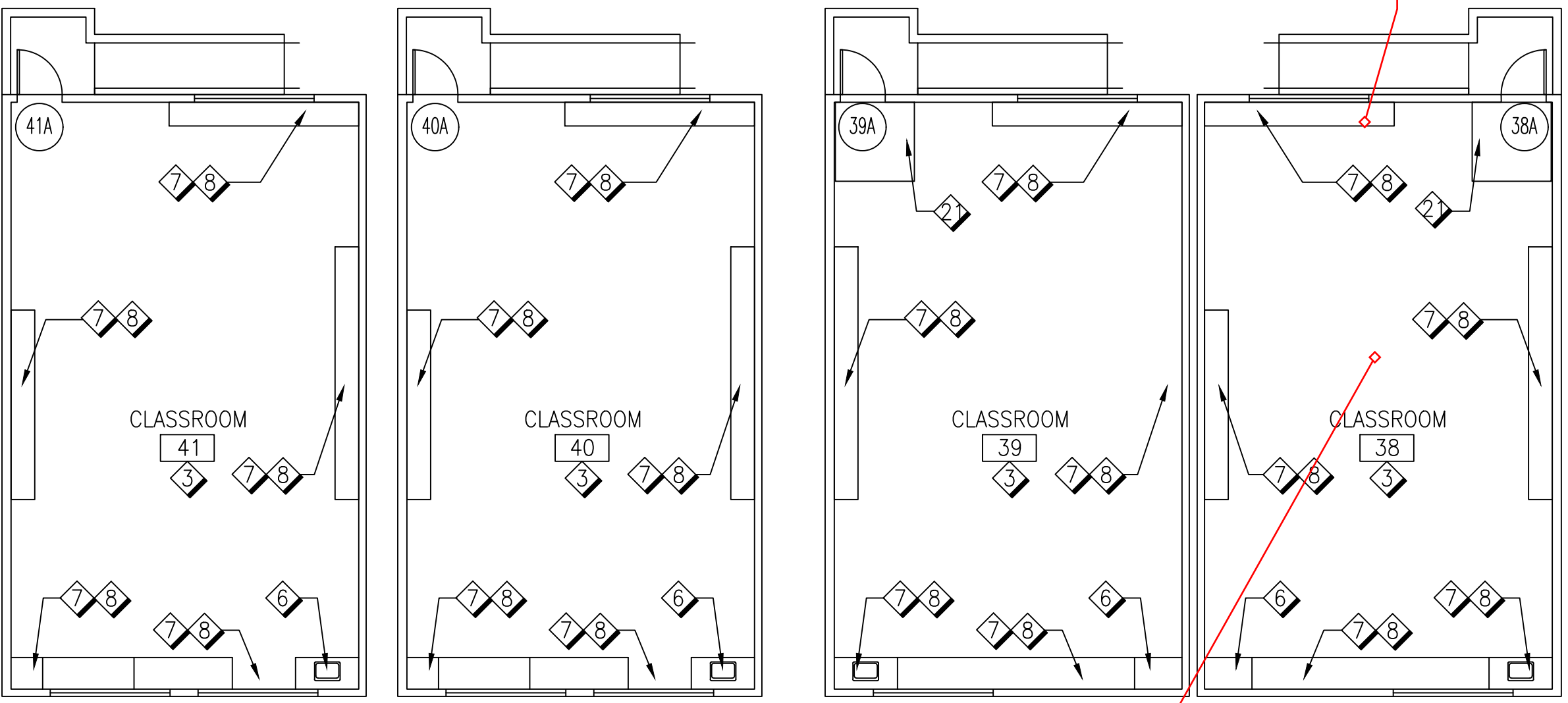
DATE
09/16/2016

SHEET NUMBER

A1.1

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SULFURYL FLUORIDE SAMPLE LOCATION MAP, 4/10/17



SAMPLE #4W-410

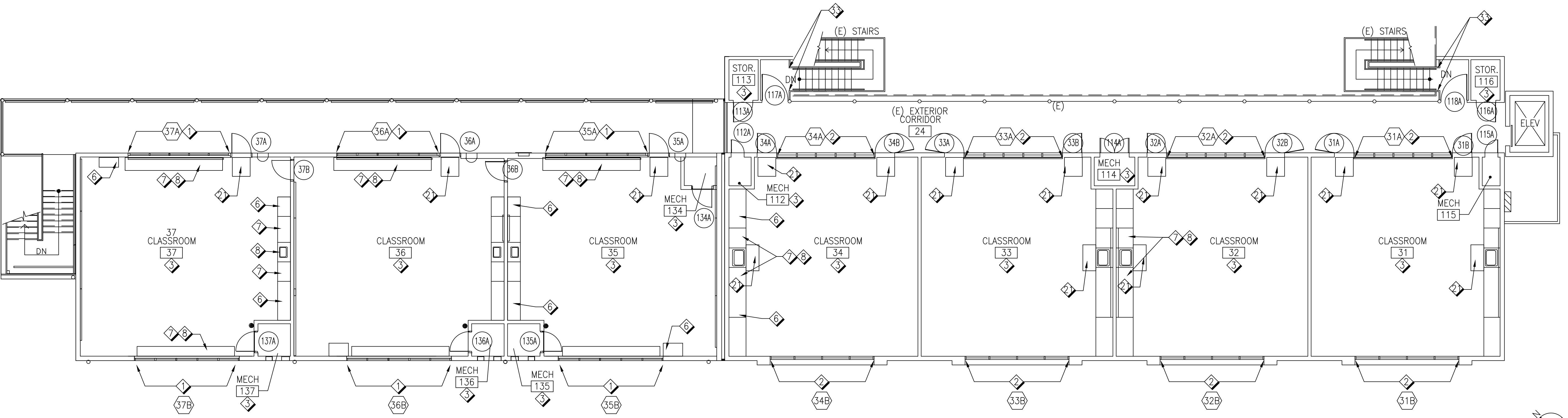
KEY NOTES (THIS SHEET ONLY)

- 1. EXISTING WINDOW TO REMAIN
- 2. NEW WINDOW TO REPLACE EXISTING - SEE SCHEDULE A4.1
- 3. NEW ROOM FINISHES - SEE SCHEDULE A6.1
- 4. EXISTING PLASTIC LAMINATE UPPER CABINET TO REMAIN
- 5. EXISTING PLASTIC LAMINATE FULL-HEIGHT CABINET TO REMAIN
- 6. EXISTING PLASTIC LAMINATE BASE CABINET TO REMAIN
- 7. EXISTING PLASTIC LAMINATE COUNTER TO REMAIN
- 8. EXISTING FULL HEIGHT CABINET W/ DOORS TO BE REPAINTED
- 9. EXISTING FULL HEIGHT CABINET W/ OPEN SHELVES TO BE REPAINTED
- 10. EXISTING BASE CABINET W/ DOORS TO BE PAINTED
- 11. EXISTING BASE CABINET W/ OPEN SHELVES TO BE REPAINTED
- 12. EXISTING COUNTER SUPPORTS TO BE REPAINTED
- 13. EXISTING SHELF TO REMAIN
- 14. EXISTING DOUBLE SHELVES TO REMAIN
- 15. EXISTING UPPER CABINET W/ OPEN SHELVES TO BE REPAINTED
- 16. REPLACE EXISTING LOW WOOD SWING DOORS
- 17. EXISTING WOOD FULL HEIGHT CABINET TO REMAIN
- 18. EXISTING WOOD BASE CABINET TO REMAIN
- 19. EXISTING STAINLESS STEEL EQUIPMENT TO REMAIN
- 20. EDGE OF VINYL FLOOR
- 21. EXISTING SOFFIT ABOVE TO BE PAINTED
- 22. EXISTING WOOD STAIRS TO BE REFINISHED
- 23. STEEL HANDRAILS - TO BE PAINTED

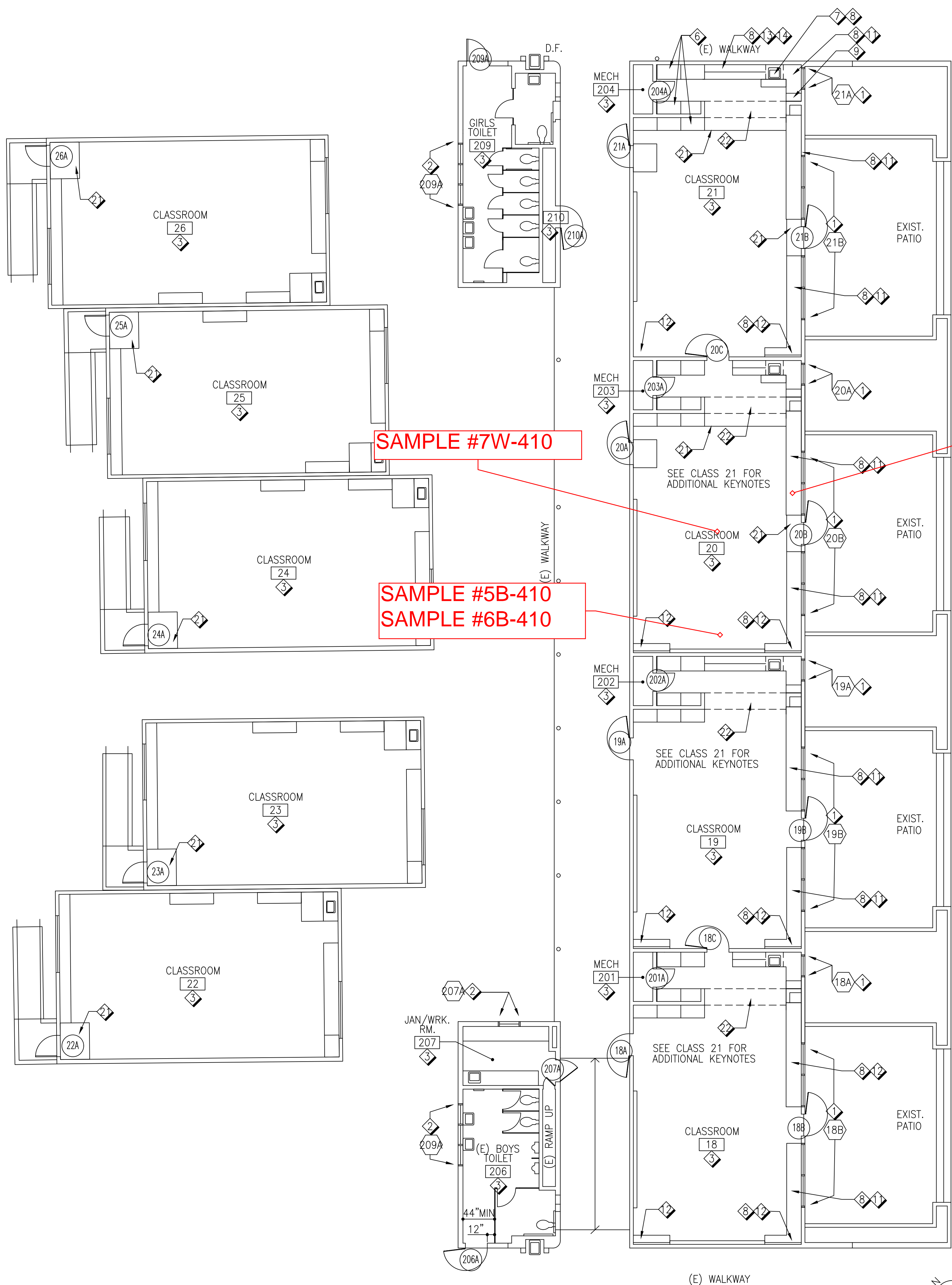
NORTHWEST PORTABLE BUILDINGS - FLOOR PLAN

SCALE
1/8"=1'-0"

3



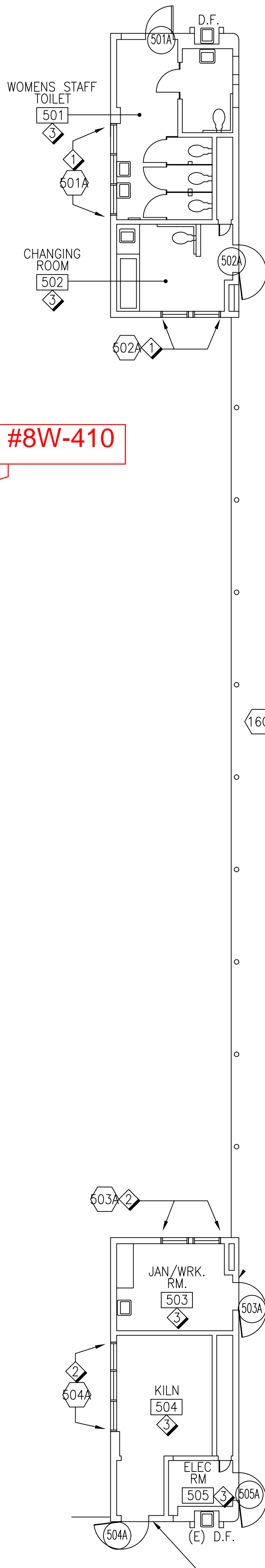
SULFURYL FLUORIDE SAMPLE LOCATION MAP, 4/10/17



BUILDING B & NORTH PORTABLE BUILDINGS - FLOOR PLAN

SCALE
1/8"=1'-0"

2



BUILDING E - FLOOR PLAN

SCALE
1/8"=1'-0"

1

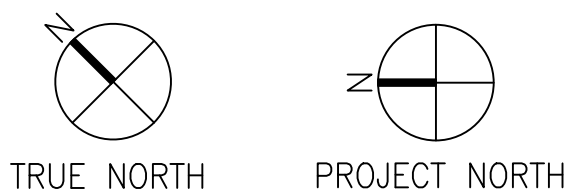
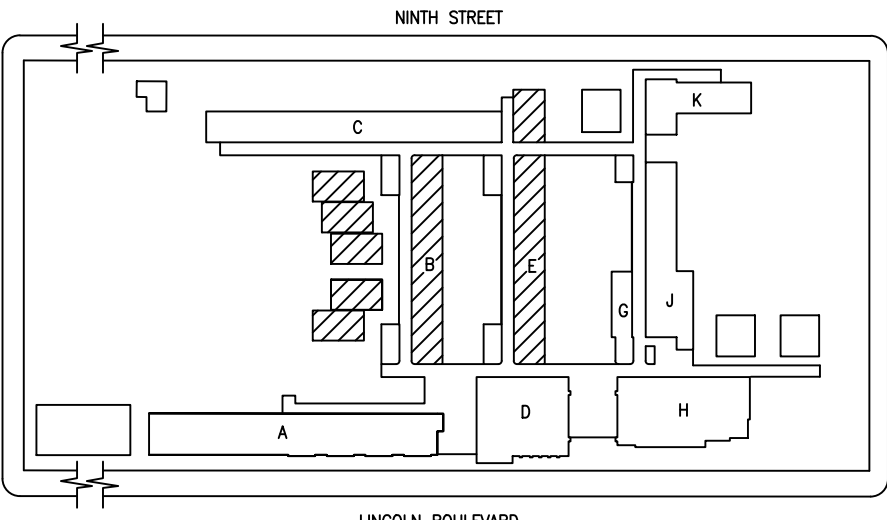
KEY NOTES (THIS SHEET ONLY)

- 1 EXISTING WINDOW TO REMAIN
- 2 NEW WINDOW TO REPLACE EXISTING - SEE SCHEDULE A4.1
- 3 NEW ROOM FINISHES - SEE SCHEDULE A6.1
- 4 EXISTING PLASTIC LAMINATE UPPER CABINET TO REMAIN
- 5 EXISTING PLASTIC LAMINATE FULL-HEIGHT CABINET TO REMAIN
- 6 EXISTING PLASTIC LAMINATE BASE CABINET TO REMAIN
- 7 EXISTING PLASTIC LAMINATE COUNTER TO REMAIN
- 8 EXISTING FULL HEIGHT CABINET W/ DOORS TO BE REPAINTED
- 9 EXISTING FULL HEIGHT CABINET W/ OPEN SHELVES TO BE REPAINTED
- 10 EXISTING BASE CABINET W/ DOORS TO BE PAINTED
- 11 EXISTING BASE CABINET W/ OPEN SHELVES TO BE REPAINTED
- 12 EXISTING COUNTER SUPPORTS TO BE REPAINTED
- 13 EXISTING SHELF TO REMAIN
- 14 EXISTING DOUBLE SHELVES TO REMAIN
- 15 EXISTING UPPER CABINET W/ OPEN SHELVES TO BE REPAINTED
- 16 REPLACE EXISTING LOW WOOD SWING DOORS
- 17 EXISTING WOOD FULL HEIGHT CABINET TO REMAIN
- 18 EXISTING WOOD BASE CABINET TO REMAIN
- 19 EXISTING STAINLESS STEEL EQUIPMENT TO REMAIN
- 20 EDGE OF VINYL FLOOR
- 21 EXISTING SOFFIT ABOVE TO BE PAINTED
- 22 EXISTING WOOD STAIRS TO BE REFINISHED

GENERAL NOTES

1. REFER TO SHEET A-5.1 FOR DOOR & HARDWARE SCHEDULE.
2. PATCH & REPAIR SURFACES DAMAGED BY DEMOLITION. NEW WORK TO MATCH EXIST. ADJ. FIN. SURFACES TO REMAIN.

Key Plan:



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ADVANCED ARCHITECTURE

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ISSUE DESCRIPTION

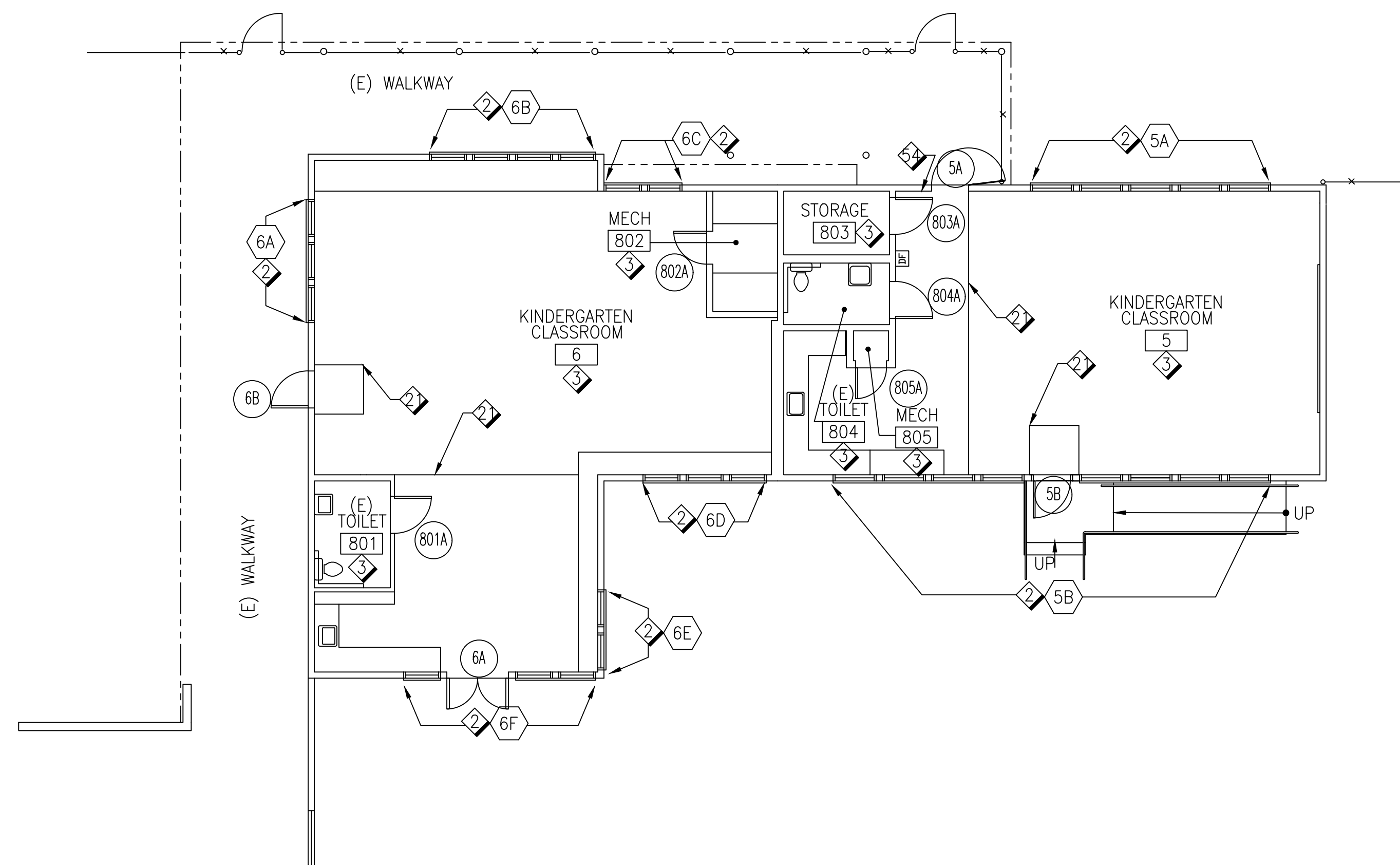
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BUILDING B, E, & N
PORTABLE BLDGS. FLOOR
PLANS

DATE
09/16/2016

SHEET NUMBER

A2.2

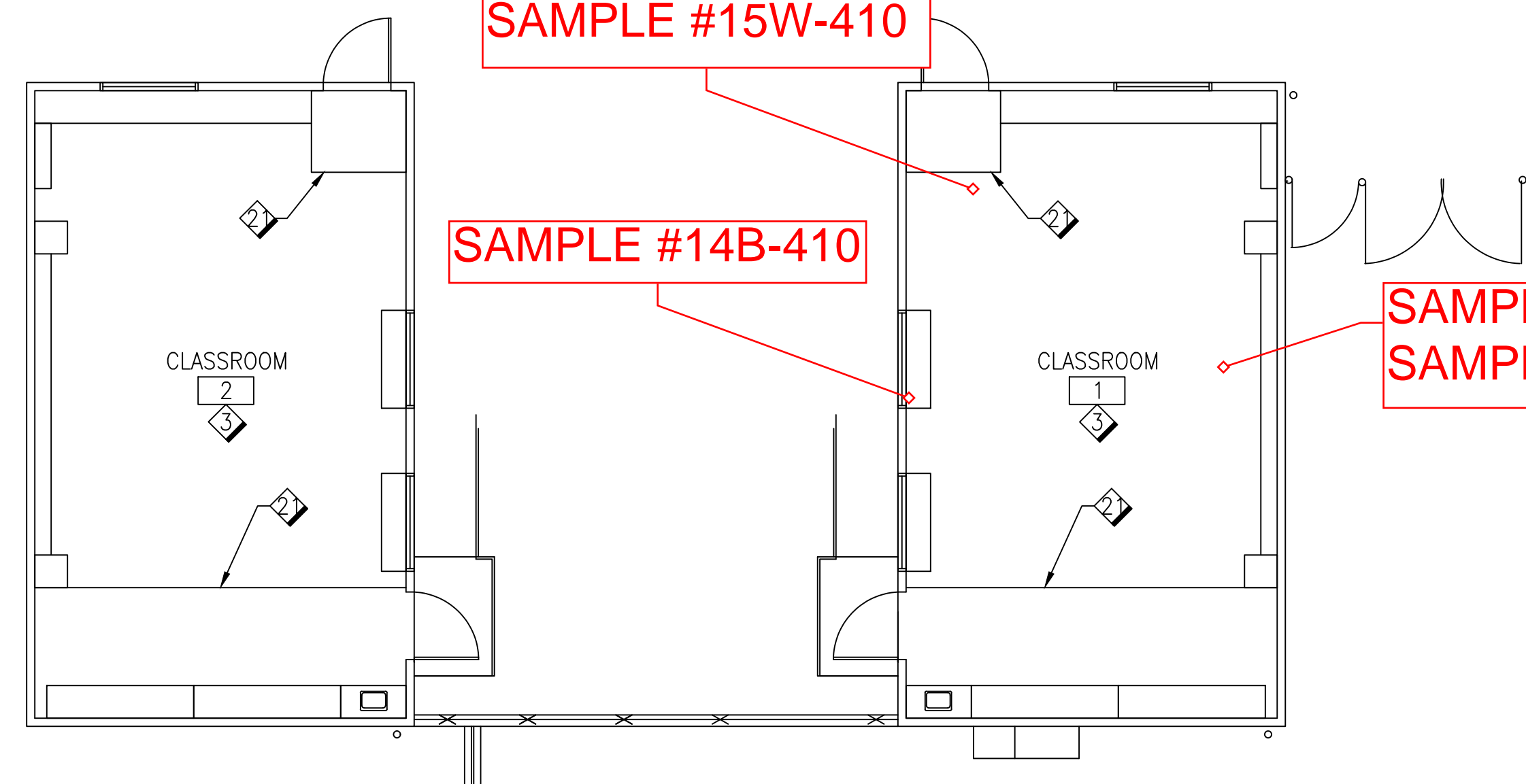
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BUILDING K - FLOOR PLAN

SCALE
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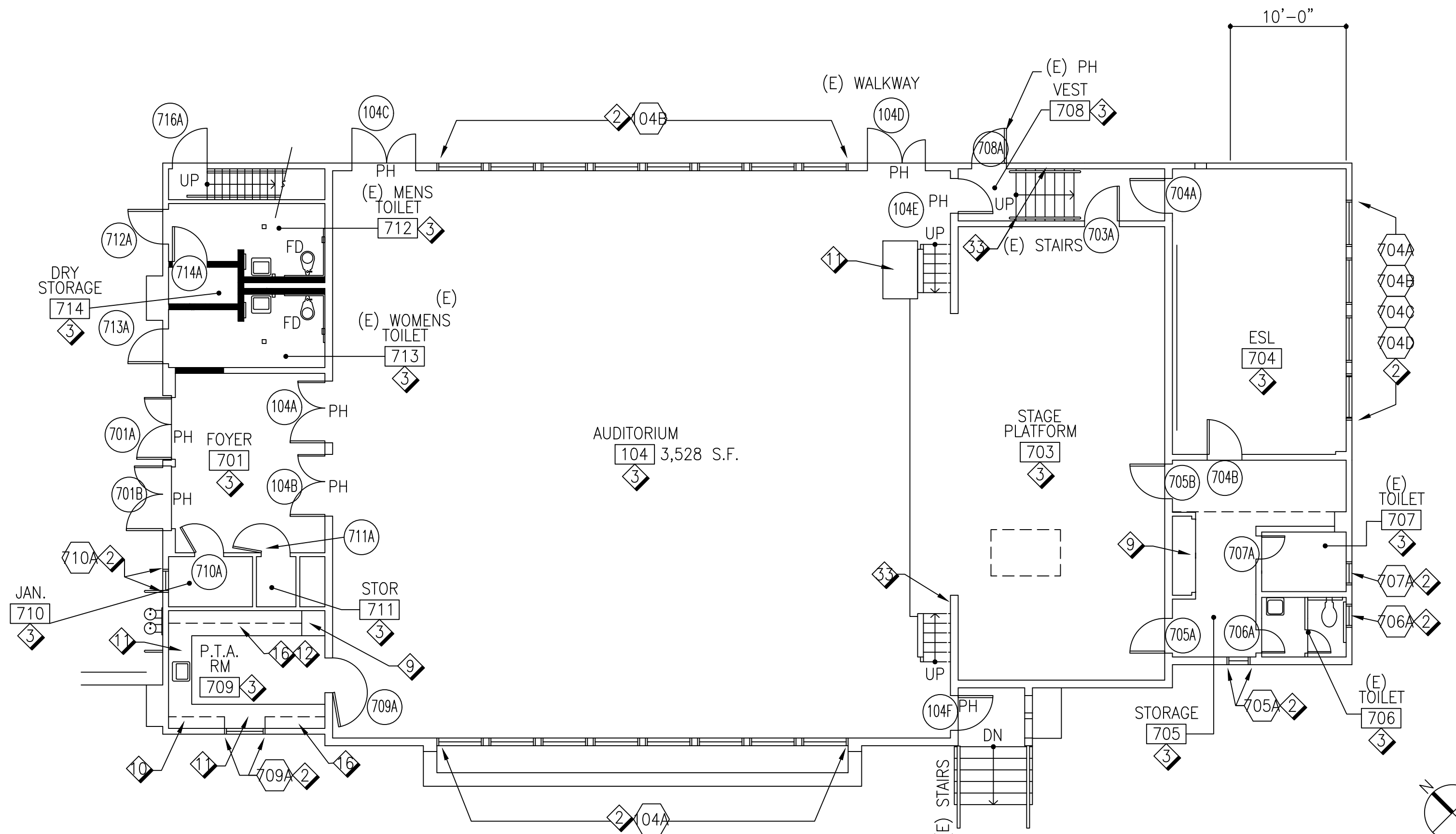
4



SOUTH PORTABLE BUILDINGS - FLOOR PLAN

SCALE
1/8"=1'-0"

3

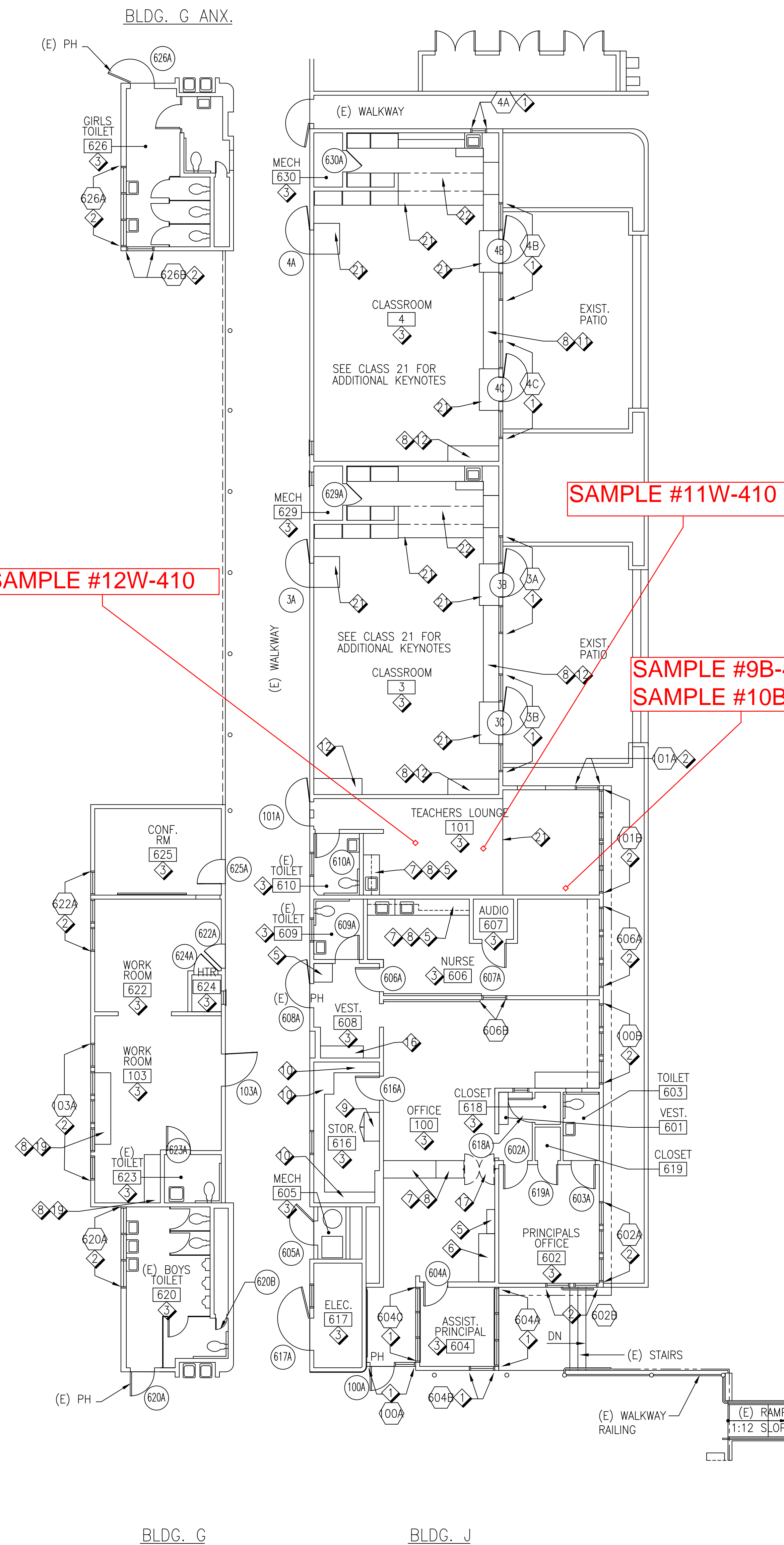


BUILDING H - FLOOR PLAN

SCALE
1/8"=1'-0"

2

SULFURYL FLUORIDE SAMPLE LOCATION MAP, 4/10/17



BUILDING G & J - FLOOR PLAN

SCALE
1/8"=1'-0"

1

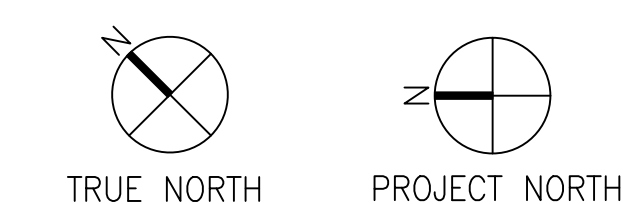
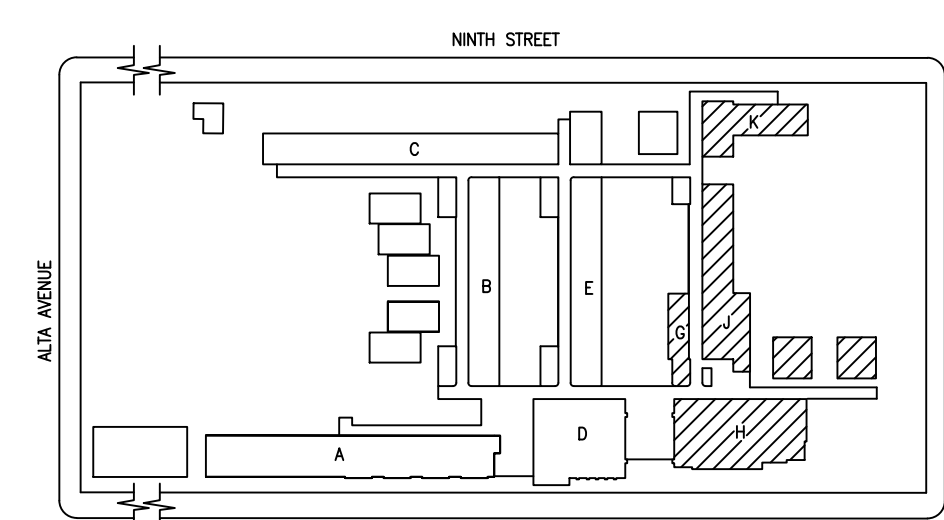
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- EXISTING WINDOW TO REMAIN
- NEW WINDOW TO REPLACE EXISTING - SEE SCHEDULE A4.1
- NEW ROOM FINISHES - SEE SCHEDULE A6.1
- EXISTING PLASTIC LAMINATE UPPER CABINET TO REMAIN
- EXISTING PLASTIC LAMINATE FULL-HEIGHT CABINET TO REMAIN
- EXISTING PLASTIC LAMINATE BASE CABINET TO REMAIN
- EXISTING PLASTIC LAMINATE COUNTER TO REMAIN
- EXISTING FULL HEIGHT CABINET W/ DOORS TO BE REPAINTED
- EXISTING FULL HEIGHT CABINET W/ OPEN SHELVES TO BE REPAINTED
- EXISTING BASE CABINET W/ DOORS TO BE PAINTED
- EXISTING BASE CABINET W/ OPEN SHELVES TO BE REPAINTED
- EXISTING COUNTER SUPPORTS TO BE REPAINTED
- EXISTING SHELF TO REMAIN
- EXISTING DOUBLE SHELVES TO REMAIN
- EXISTING UPPER CABINET W/ OPEN SHELVES TO BE REPAINTED
- REPLACE EXISTING LOW WOOD SWING DOORS
- EXISTING WOOD FULL HEIGHT CABINET TO REMAIN
- EXISTING WOOD BASE CABINET TO REMAIN
- EXISTING STAINLESS STEEL EQUIPMENT TO REMAIN
- EDGE OF VINYL FLOOR
- EXISTING SOFFIT ABOVE TO BE PAINTED
- EXISTING WOOD STAIRS TO BE REFINISHED
- STEEL HANDRAILS - TO BE PAINTED

GENERAL NOTES

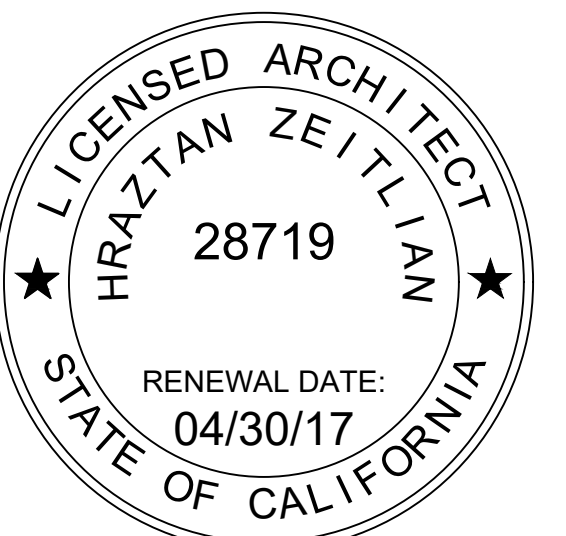
- REFER TO SHEET A-5.1 FOR DOOR & HARDWARE SCHEDULE.
- PATCH & REPAIR SURFACES DAMAGED BY DEMOLITION. NEW WORK TO MATCH EXIST. ADJ. FIN. SURFACES TO REMAIN.

Key Plan:



STRUERE
ADVANCED ARCHITECTURE

3324 GRAND VIEW
LOS ANGELES, CALIFORNIA 90066
TELEPHONE (310) 748-7649
E-MAIL HRAZTAN@STRUERE.COM
WWW.STRUERE.COM



SMUSD
SANTA MONICA MALIBU UNIFIED SCHOOL DISTRICT

THEODORE ROOSEVELT
ELEMENTARY SCHOOL

801 MONTANA AVENUE
SANTA MONICA, CA 90403

WINDOWS, PAINT, FLOORS &
DOORS PROJECT

90% ASSESSMENT PHASE	8/1/16
100% ASSESSMENT PHASE	8/16/16
50% CONSTRUCTION DOCUMENTS	9/16/16

ISSUE DESCRIPTION

SHEET TITLE
BUILDING G, H, J, K &
SOUTH PORTABLE BLDGS.
FLOOR PLANS

DATE
09/16/2016

SHEET NUMBER

A2.4
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APPENDIX B
SAMPLE LOCATION PHOTOGRAPHS AT RES



Photo 1: Sample #1B-410 - carpet within portable classroom 38.



Photo 2: Sample #2B-410 - pillow case within portable classroom 38.



Photo 3: Sample #3W-410 - ball within portable classroom 38.



Photo 4: Sample #4W-410 - chair within portable classroom 38.



Photo 5: Sample #5B-410 - carpet within classroom 20.



Photo 6: Sample #6B-410 - sofa cushion within classroom 20.

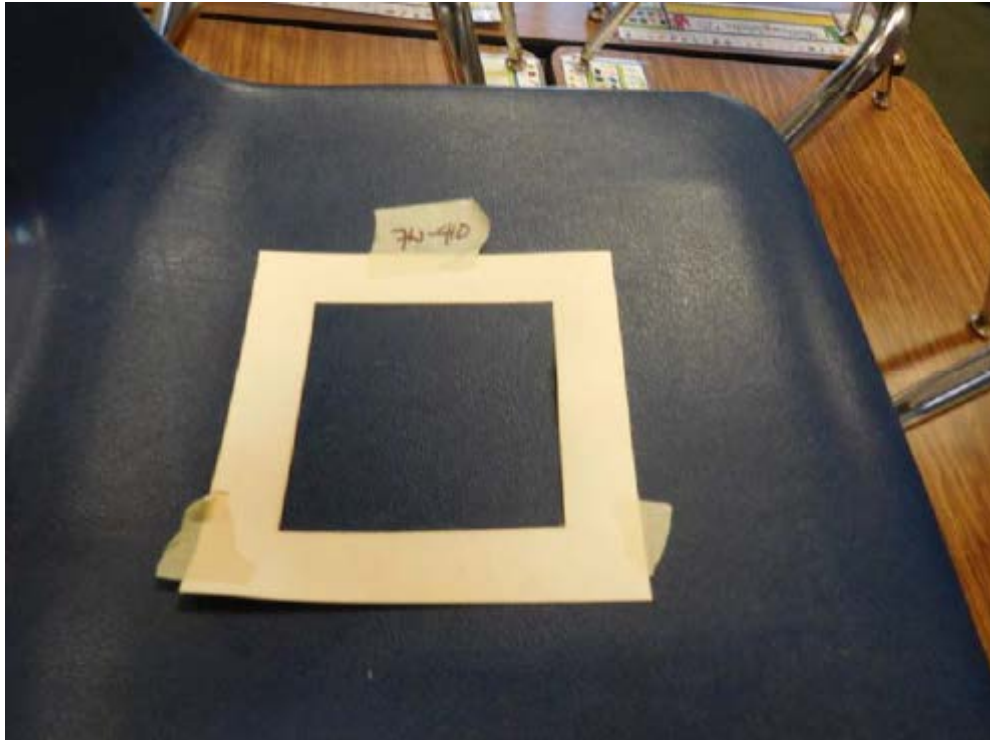


Photo 7: Sample #7W-410 - chair within classroom 20.

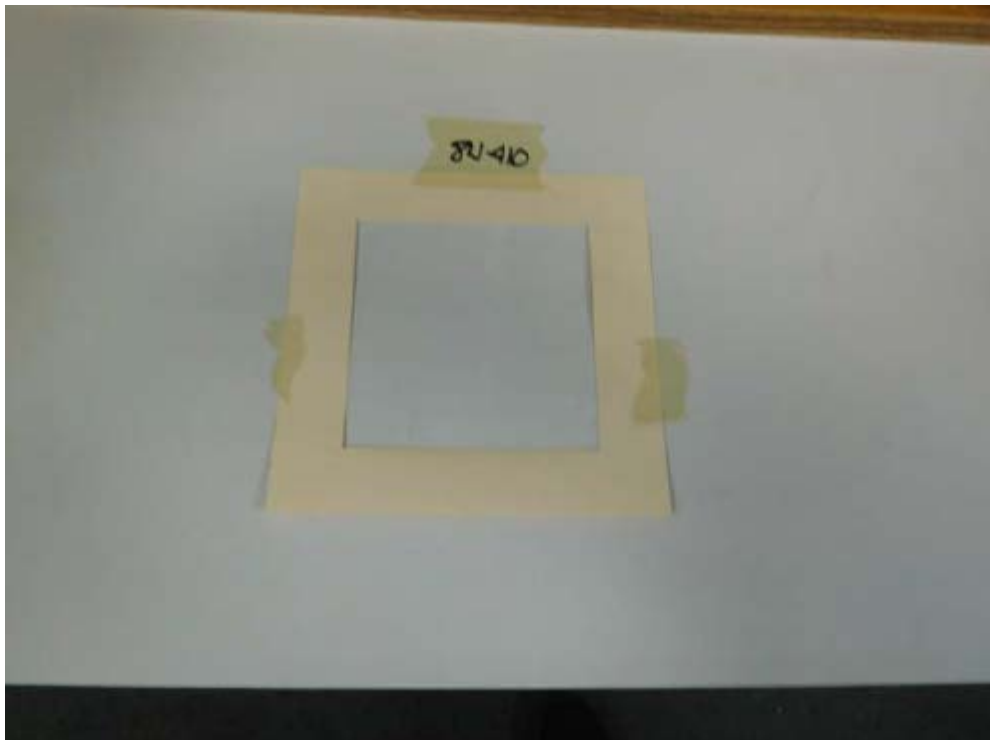


Photo 8: Sample #8W-410 - laminated countertop within classroom 20.



Photo 9: Sample #9B-410 - carpet floor within teacher's lounge.



Photo 10: Sample #10B-410 - sofa cushion within teacher's lounge.



Photo 11: Sample #11W-410 - chair within teacher's lounge.



Photo 12: Sample #12W-410 - wood tabletop within teacher's lounge.



Photo 13: Sample #13B-410 - toy within kindergarten classroom 1.



Photo 14: Sample #15W-410 - chair within kindergarten classroom 1.



Photo 15: Sample #16W-410 - laminated shelf within kindergarten classroom 1.

APPENDIX C
FIELD SAMPLING RECORDS



Field Sample List

Client: Santa Monica-Malibu USD

Technician: Cesar Ruvalcaba

Project No.:

Date: 4/10/17

Project Name: Sampling for Sulfuryl Fluoride

Page: 1 2

Photo #	Sample Description	Sample #	Sample Location	Sampled area	Sample Type
1	Carpet floor	1B-410	Portable classroom 38, East center	Appx.100 cm2	Bulk
2	Pillow case with blue fabric covering, and underlying porous white synthetic polyester-like material	2B-410	Portable classroom 38, East center	Appx.100 cm2	Bulk
3	Ball (playground equipment), red, rubber-like, approximately 12" diameter	3W-410	Portable classroom 38, East center	100 cm2	Wipe
4	Chair, vinyl/plastic hardcover, blue	4W-410	Portable classroom 38, Center of room	100 cm2	Wipe
5	Carpet floor	5B-41-	Classroom 20, West center	Appx.100 cm2	Bulk
6	Sofa cushion with blue/beige/red fabric covering and underlaying, white synthetic liner, and yellow polyurethane-like foam like material.	6B-410	Classroom 20, West center	Appx.100 cm2	Bulk
7	Chair, vinyl/plastic hardcover, blue	7W-410	Classroom 20, center of room	100 cm2	Wipe
8	Laminated counter top, white	8W-410	Classroom 20, South, 3 feet east of south door	100 cm2	Wipe
9	Carpet floor	9B-410	Teachers' lounge, 3 feet north from SW corner along west wall	Appx.100 cm2	Bulk
10	Sofa cushion with black synthetic fabric covering, and underlaying white synthetic liner and yellow polyurethane-like foam like material	10B-410	Teachers' lounge, West side of room	Appx.100 cm2	Bulk
11	Chair, vinyl/plastic hardcover, blue	11W-410	Teachers' lounge, Center of room	100 cm2	Wipe
12	Table top, wood	12W-410	Teachers' lounge, center of room	100 cm2	Wipe

Field Sample List

13	Small toy, white with black stuffed with polyester like material	13B-410	Kindergarten classroom 1, South center in teacher center. Toy inside a blue storage bucket mixed with other similar toys	Appx.100 cm2	Bulk
14	Carpet floor	14B-410	Kindergarten classroom 1, North center	Appx.100 cm2	Bulk
15	Chair, wood, blue	15W-410	Kindergarten classroom 1, center of room	100 cm2	Wipe
16	Shelf top , laminated gray	16W-410	Kindergarten classroom 1, south center	100 cm2	Wipe
N/A	Field prepared blank	17W-410	Field blank	N/A	Wipe

Notes:

- 1) Sampling conducted according to Workplan and Logistic Plan provided by Ramboll Environ, email dated, April 9, 2017.
- 2) Bulk samples placed in laboratory supplied 1 liter amber, glass jar.
- 2) Wipe samples collected using laboratory-supplied gauze material, dip moistened in lab-supplied (1 N sodium hydroxide)

APPENDIX D

LABORATORY ANALYTICAL REPORTS



LA Testing
5431 Industrial Drive, Huntington Beach, CA 92649

Order ID: 331707792

Attn: Robert DeMott
Ramboll Environ US Corporation
10150 Highland Manor Drive
Suite 440
Tampa, FL 33610

Customer ID: ENVN78
Customer PO:
Date Received: 04/10/17
LA Testing Order: 331707792

Fax: 813-628-4983
Phone: 813-628-4325
E-mail: pirvin@ramboll.com
rdemott@ramboll.com

Project: Roosevelt E.S.

Report Date: 04/14/17


Date Analyzed: 04/13/17 & 04/14/17

Analysis of Bulk Samples for Sulfuryl Fluoride (SO₂F₂) Off-Gassing, IC via Modified NIOSH 6012

LA Testing Sample ID	Sample ID	Air Volume (L)	Analyte	Result (µg/sample)	Reporting Limit (µg/sample)
331707792-0001	1B-410	10	Sulfuryl Fluoride	<54	54
331707792-0002	2B-410	10	Sulfuryl Fluoride	<54	54
331707792-0003	5B-410	10	Sulfuryl Fluoride	<54	54
331707792-0004	6B-410	10	Sulfuryl Fluoride	<54	54
331707792-0005	9B-410	10	Sulfuryl Fluoride	<54	54
331707792-0006	10B-410	10	Sulfuryl Fluoride	<54	54
331707792-0007	13B-410	10	Sulfuryl Fluoride	<54	54
331707792-0008	14B-410	10	Sulfuryl Fluoride	<54	54

Sample received in acceptable condition unless otherwise noted. This report may not be reproduced except in full, without written approval by LA Testing. Unless otherwise noted, the results in this report have been blank corrected. Quality Control Data associated with this sample set is within acceptable limits, unless otherwise noted. Note: Media used SKC-226-09.

JD
Analyst


Michael Chapman - Laboratory Manager
Or other approved signatory



**Industrial Hygiene
Chain of Custody**
LA Testing Order Number (Lab Use Only):

331707792

LATESTING, INC.
5431 INDUSTRIAL DRIVE
HUNTINGTON BEACH, CA
92649
PHONE: (714)828-4999
FAX: (714)761-2713

OrderID: 331707792

Report To Contact Name: <u>Robert DeMott</u>			Bill To Company: <u>Alta Environmental</u>		
Company Name: <u>Environ</u>			Attention To: <u>Cesar Ruvalcaba</u>		
Street:			Street: <u>3777 Long Beach Blvd. Annex Bldg</u>		
City:	State/Province:	Zip/Postal Code:	City: <u>Long Beach</u>	State/Province: <u>CA</u>	Zip/Postal Code: <u>90807</u>
Phone:		Fax:	Phone: <u>562 595777</u>		Fax:
Project Name: <u>Roosevelt HS</u>			Email Results To:		U.S. State where Samples Collected:
Number of Samples in Shipment: <u>17</u>		Date of Shipment: <u>4/10/17</u>	Purchase Order:		Sampled By (Signature): <u>[Signature]</u>

Turnaround Time – Please Check: Please Note Standard TAT is 2 Week.							Media Type:
2 Week	1 Week	4 Day	3 Day	2 Day	1 Day	Other (Call Lab)	Manufacturer/Part #:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lot #:

Sample ID	Media	Analyte / Method	Volume	Sample Date/Time	Location	Comments
1B-410	Bulk	Sulfuryl Fluoride	100 cm ²	4/10/17 1320	RM 38	
2B-410	↓	Emissions by GC		4/10/17 1327	RM 38	
3W-410	Wipe			4/10/17 1333	RM 38	
4W-410	↓			4/10/17 1331	RM 38	
5B-410	Bulk			4/10/17 1344	RM 20	
6B-410	↓			4/10/17 1350	RM 20	
7W-410	Wipe			4/10/17 1355	RM 20	
8W-410	↓			4/10/17 1400	RM 20	
9B-410	Bulk			4/10/17 1405	Teachers lounge	
10B-410	↓			4/10/17 1408	Teachers lounge	

Note: Most NIOSH and OSHA methods require field blanks. It is the IH field sampler's responsibility to submit the proper number of field blanks and duplicates.

Released By: <u>[Signature]</u>	Date: <u>4/10/17 1430</u>	Received By: <u>[Signature]</u>	Date: <u>4/10/17 1440</u>
<u>[Signature]</u>	<u>4/10/17 1630</u>	<u>[Signature]</u>	<u>4-12-17 14035</u>

Comments:

Also send results to Cesar Ruvalcaba - Cesar.Ruvalcaba@altaenv.com



LA Testing
5431 Industrial Drive, Huntington Beach, CA 92649

Order ID: 331707801

Attn: Robert DeMott
Ramboll Environ US Corporation
10150 Highland Manor Drive
Suite 440
Tampa, FL 33610

Customer ID: ENVN78
Customer PO:
Date Received: 04/10/17
LA Testing Order: 331707801

Fax: 813-628-4983
Phone: 813-628-4325
E-mail: pirvin@ramboll.com
rdemott@ramboll.com

Project: Roosevelt E.S.

Report Date: 04/14/17

Date Analyzed: 04/12/17

SULFURYL FLUORIDE via NIOSH 6012M (Cotton Gauze)

LA Testing Sample ID	Sample ID	Area (Cm ²)	Analyte	Result (µg/sample)	Result (µg/100cm ²)	Reporting Limit (µg/sample)
331707801-0001	3W-410	100	Sulfuryl Fluoride	<54	<54	54
331707801-0002	4W-410	100	Sulfuryl Fluoride	<54	<54	54
331707801-0003	7W-410	100	Sulfuryl Fluoride	<54	<54	54
331707801-0004	8W-410	100	Sulfuryl Fluoride	<54	<54	54
331707801-0005	11W-410	100	Sulfuryl Fluoride	<54	<54	54
331707801-0006	12W-410	100	Sulfuryl Fluoride	<54	<54	54
331707801-0007	15W-410	100	Sulfuryl Fluoride	<54	<54	54
331707801-0008	16W-410	100	Sulfuryl Fluoride	<54	<54	54
331707801-0009	17W-410	100	Sulfuryl Fluoride	<54	N/A	54

Sample received in acceptable condition unless otherwise noted. This report may not be reproduced except in full, without written approval by LA Testing. Unless otherwise noted, the results in this report have been blank corrected with Field Blank. Quality Control Data associated with this sample set is within acceptable limits, unless otherwise noted. Report revision 001 made 04/17/17.

JD
Analyst

Michael Chapman
Michael Chapman- Laboratory Manager
Or other approved signatory



331707801

**Industrial Hygiene
Chain of Custody**

LA Testing Order Number (Lab Use Only):

331707792 ac

LATESTING, INC.
5431 INDUSTRIAL DRIVE
HUNTINGTON BEACH, CA
92649
PHONE: (714)828-4999
FAX: (714)761-2713

Report To Contact Name: Robert DeMott			Bill To Company: Alta Environmental		
Company Name: Environ			Attention To: Cesar Ruvalcaba		
Street:			Street: 3777 Long Beach Blvd Annex Bldg		
City:	State/Province:	Zip/Postal Code:	City: Long Beach	State/Province: CA	Zip/Postal Code: 90807
Phone:		Fax:	Phone: 562 575777		Fax:
Project Name: Roosevelt BS.			Email Results To:		U.S. State where Samples Collected:
Number of Samples in Shipment: 17		Date of Shipment: 4/10/17	Purchase Order:		Sampled By (Signature): [Signature]

Turnaround Time - Please Check: Please Note Standard TAT is 2 Week.							Media Type:
2 Week	1 Week	4 Day	3 Day	2 Day	1 Day	Other (Call Lab)	Manufacturer/Part #:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lot #:

Sample ID	Media	Analyte / Method	Volume	Sample Date/Time	Location	Comments
1B-410	Bulk	Sulfuryl Fluoride	100 cm ³	4/10/17 1320	RM 38	
2B-410	b	Emissions by GC		4/10/17 1327	RM 38	
3W-410	W.p.p			4/10/17 1333	RM 38	
4W-410	b			4/10/17 1331	RM 38	
5B-410	Bulk			4/10/17 1344	RM 20	
6B-410	b			4/10/17 1350	RM 20	
7W-410	W.p.p			4/10/17 1355	RM 20	
8W-410	b			4/10/17 1400	RM 20	
9B-410	Bulk			4/10/17 1405	Teacher's lounge	
10B-410	b			4/10/17 1408	Teacher's lounge	

Note: Most NIOSH and OSHA methods require field blanks. It is the IH field sampler's responsibility to submit the proper number of field blanks and duplicates.

Released By: Cesar Ruvalcaba	Date: 4/10/17 16:30	Received By: [Signature]	Date: 4/10/17 1440
			4-12-17 14035

Comments:

Also send results to Cesar Ruvalcaba (Cesar.Ruvalcaba@altaenviro.com)



Industrial Hygiene Chain of Custody

LA Testing Order Number (Lab Use Only):

LATESTING, INC.
5431 INDUSTRIAL DRIVE
HUNTINGTON BEACH, CA
92649
PHONE: (714)828-4999
FAX: (714)761-2713

Report To Contact Name: <u>Robert Demott</u>			Bill To Company: <u>Alta Environmental</u>		
Company Name: <u>Ramboll Environ</u>			Attention To: <u>Cesar Ruvalcaba</u>		
Street: <u>AF</u>			Street: <u>3777 Long Beach Blvd, Annex</u>		
City:	State/Province:	Zip/Postal Code:	City: <u>Long Beach</u>	State/Province: <u>CA</u>	Zip/Postal Code: <u>90807</u>
Phone:		Fax:	Phone: <u>562 764 4955-5777</u> Fax: <u>562 764 4955</u>		
Project Name: <u>Roosevelt ES.</u>			Email Results To: <u>Cesar Ruvalcaba</u> U.S. State where Samples Collected:		
Number of Samples in Shipment: <u>17</u>		Date of Shipment: <u>4/10/17</u>	Purchase Order:		Sampled By (Signature): <u>[Signature]</u>

Turnaround Time – Please Check: Please Note Standard TAT is 2 Week.						Media Type:	
2 Week	1 Week	4 Day	3 Day	2 Day	1 Day	Other (Call Lab)	Manufacturer/Part #:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Lot #:

Sample ID	Media	Analyte / Method	Volume	Sample Date/Time	Location	Comments
11W-410	Wipe	Sulfuryl Fluoride - Emissions by GC	100 CM ²	4/10/17 1410	Teachers lounge	
12W-410	Wipe			4/10/17 1412	Teachers lounge	
13B-410	Bulk			4/10/17 1421	RM 1	
14B-410	Wipe			4/10/17 1424	RM 1	
15W-410	Wipe			4/10/17 1427	RM 1	
16W-410	Wipe			4/10/17 1430	RM 1	
17W-410	Wipe			4/10/17 1430	Friod Blank	

Note: Most NIOSH and OSHA methods require field blanks. It is the IH field sampler's responsibility to submit the proper number of field blanks and duplicates.

Released By	Date	Received By	Date
<u>[Signature]</u>	4/10/17 1430hrs	<u>[Signature]</u>	4/10/17 1440
<u>[Signature]</u>	4/10/17 1630	<u>[Signature]</u>	4.10.17 1635

Comments: