Walsh Construction Co./Oregon

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October 16, 2015

WOODLAND PARK APARTMENTS

ADDENDUM #02A

TO: Subcontractors & Suppliers

Addendum #2A, Attic Remediation Protocol dated 10/14/15 is an attachment to Addendum #2 per below. The Attachment is too large to be faxed or emailed.

As referenced in Addendum #2:

- Bid Package No. 2.1 Demolition Updates
- Bid Package No. 6.1 Carpentry Updates
- Bid Package No. 7.5 Roofing Updates

The Attachment will be available for review online at:
Sharefile FTP link: https://walsh.sharefile.com/d-s6608e5b7f1d49d2a
Builders Exchange of Washington, Inc. (www.bxwa.com)
iSqFt (www.isqft.com)
Walsh Construction Co./OR (www.walshconstructionco.com)

MOLD INVESTIGATIONS, LLC
Microbial Detection Specialists

317 NE 144th Street • Vancouver, WA 98685
(360) 576-6331
www.mold-investigations.com

ATTIC REMEDIATION PROTOCOL

Date: October 14, 2015

Subject Property: Woodland Park
280 SE 12th Avenue
Portland, Oregon

Client: Trina Whitman – BRIDGE Housing
Kevin Saxton – KASA Architects
David Young – RDH Building Sciences

The following is an outlined procedure for the remediation project for the mold impacted attic spaces at the apartment units located at 280 SE 12th Avenue in Portland, Oregon. The intent of this protocol is to provide guidance to the remediation contractor for the containment of the work area, the removal of the impacted materials in the attic areas, and a follow-up post remediation verification assessment to be performed by Mold Investigations.

Buildings impacted by this project include Buildings A1, B2, B3, B4, B5, C6 and C7. RDH completed an initial report on the insulation and attic performance of the buildings dated May 2015, and Mold Investigations provided a brief sampling and verification of the mold issue found on the attic sheathing and the units below.

In summary the project requirements and protocol are outlined as follows:

- Site mobilization; setting up of containment barriers and work platforms
- Providing adequate worker ventilation and access to the work areas
- Repair of all vents and penetrations to code
- Verification of suitable attic venting by checking flow conditions with velocity meter
- Inspection of penetrations below the insulation once removed
- Verification of moisture content of lumber and sheathing
- Surface removal of mold impacted surfaces; both sheathing and truss lumber and attic sheetrock removal where necessary.
- Post remediation verification testing after abatement is complete
- Application of a suitable sealant and encapsulant over the impacted areas
- Re-inspection of treated areas and spot testing of remediation areas
- Demobilization of remediation area
- Final inspection and warranty documentation review

Phase 1 - Containment of Work Area and Remediation

1. Prior to the removal of any water and/or mold impacted material, the source of the moisture impact, which was presumably from moisture intrusion as a result of inadequate venting, must be resolved. Failure to repair and eliminate the source of the moisture impact may result in additional moisture damage in the future which will negate the remediation efforts.

2. Contractors should follow the IICRC S520 or New York City Department of Health guidelines (see references below).

3. Contractors are to comply with all applicable federal and state safety laws; in particular, those pertaining to working in a confined space and dealing with heat stress (see references below).

4. For the removal of impacted material, the following personal protection apparatus should be worn: N95 respirator, eye protection, and gloves.

5. The work area (i.e., the attic spaces in Buildings A1, B2, B3, B4, B5, C6 and C7 need to be isolated from the remainder of the apartment complex. Access to the apartment attics can be obtained from the stairwells and landings on the upper floor or outside wall access points. Tenants may continue to occupy the apartments and care should be taken to minimize disturbances. Attic roof areas vary by building (see attached Roofing Plans) but are assumed to be in the range of 30,000 square feet.

	Heavy Concentrated Damage*	Generalized Damage**	Un-concentrated Damage***
Building A	514 SQ FT	7744 SQ FT	3734 SQ FT
Building B2	201 SQ FT	None	1379 SQ FT
Building B3	None	2840 SQ FT	2711 SQ FT
Building B4	495 SQ FT	1020 SQ FT	2817 SQ FT
Building B5	1028 SQ FT	None	3667 SQ FT
Building C6	224 SQ FT	683 SQ FT	997 SQ FT
Building C7	None	4012 SQ FT	None
*	Area is covered in growth with large areas of rot and delamination of plywood.		
**	Light cover of growth throughout the area.		
***	Growth area with small areas of rot and delamination of plywood. Light growth in spots un-concentrated.		

6. The use of a HEPA filter to scrub the air is **not** required. An air scrubber should be placed at the entrance to the attic work area in the stairwell and run continuously during the attic project.

7. Vacating people from spaces adjacent to the work area is not necessary but is recommended in the presence of infants (less than 12 months old), persons having undergone recent surgery, immune suppressed people, or people with chronic inflammatory lung diseases (e.g., asthma and severe allergies).

8. Dust suppression methods, such as misting (not soaking) surfaces, prior to remediation are recommended.

9. Contaminated materials should be removed from the attic in sealed plastic bags. The outside of the bags should be cleaned with a damp cloth and a detergent solution, or HEPA vacuumed prior to their transport to uncontaminated areas of the building. There are no special requirements for the disposal of moldy materials at this time.

10. Materials that are too large to be contained in plastic bags (i.e., wooden studs, flooring materials, etc.) should be placed in a dumpster and removed from the site as quickly as possible. Impacted building materials should not come in contact with clean dry lumber or other replacement building material.

11. The following material that has been impacted by water and/or mold growth must be removed:

    a. **Attic area - Impacted lumber and plywood planking**: Insulation may remain in place; however the work area platform must protect the insulation below during surface remediation. **For areas described as Heavy Concentrated Damage, sheathing material in the attic areas will have to be replaced where the plywood has shown a loss of structural integrity.** These specific areas are described above and demarcated on the attached drawings**. All visible mold on the inside of the exposed lumber areas is to be physically removed by abrasion or other appropriate means for the areas where the sheathing is not replaced and the areas described as Generalized Damage.** Dry ice blasting may prove a suitable mechanism for surface removal of mold for these surfaces. Care should be taken to avert potential scoring of wood surfaces using this technique**. Areas demarcated as un-concentrated or sporadic damage will require spot treating with a suitable abrasive material such as a wire brush or sponge and is considered a minor task**. A sealant with an active ingredient fungicide, such as Fosters 40-20 (100SF/gallon), Zinsser BIN Primer White (300SF/gallon) or Kilz 2 Latex Primer (300SF/gallon) or an equivalent, should be applied to all treated surfaces after post remediation verification testing is complete.

    b. **Impacted Attic Sheetrock**: *Remove a trial section of moisture impacted sheetrock. Continue removing sheetrock in a 2-foot cut above the floor between the fire wall sections until moisture readings in the sheetrock are no longer elevated or there are no further indications of moisture impacts or mold on the surface*. Insulation may also be removed as part of this effort. Wet insulation should be removed and discarded and the exposed areas left open to dry. All visible mold on the inside of the exposed wall cavity is to be physically removed by abrasion or other appropriate means. A sealant with an active ingredient fungicide, such as Kilz or an equivalent, should be applied prior to removing containment barriers..

12. Once all of the contaminated materials have been removed, the contained areas should be HEPA vacuumed and cleaned with a damp cloth and/or mopped with a detergent solution and should be visibly clean prior to the removal of isolation barriers.

13. Once the initial moisture control means have been proven effective, no additional moisture monitoring would be required.

14. Air monitoring and surface sampling must be done prior to the application of the sealant or encapsulant.

15. Mold Investigations staff will be on hand to further delineate the extent of impacted material removal should questions arise. Once removal is complete, nearby surfaces within a 2-foot area on all sides of the impacted areas should be vacuumed (if conditions warrant) and cleaned. It is critical that any loose materials are collected and removed.

Phase 2 - Follow-up Post-Remediation Verification Assessment

1. Once all of the impacted material has been removed, it is recommended that Mold Investigations perform an onsite assessment to ensure that the remediation has been completed to the satisfaction of all parties involved.

2. Mold Investigations staff will confirm completion of the remediation portion of the project prior to the reconstruction of the impacted areas.

3. Once the reconstruction/remodeling portion of the project is completed, it is recommended that Mold Investigations conduct a final post-remediation verification assessment to ensure that there are no lingering issues in the residences with regard to mold at the time of the project completion.

Phase 3 – Roofing Venting Guidelines

The following guideline should be followed when assessing the adequacy of roof venting. Additional air velocity measurements may be taken to verify appropriate flow. Additional roof vents may need to be installed to supplement the flow restrictions posed by problems of the ridge vent system. Attic ridge vent systems must be checked to ensure the sheathing is not fastened too closely together at the ridge vent to allow for adequate air flow. All ceiling penetrations and vents should be tight lined at the joint and to the dedicated roof vent.

> *"Per the 2010 OSSC 1203.2 Attic Spaces. A minimum of 1 inch of airspace shall be provided between the insulation and the roof sheathing. The net free ventilating area shall not be less than 1/300 of the area of the space ventilated, with 50 percent of the required ventilating area provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents."*

References:

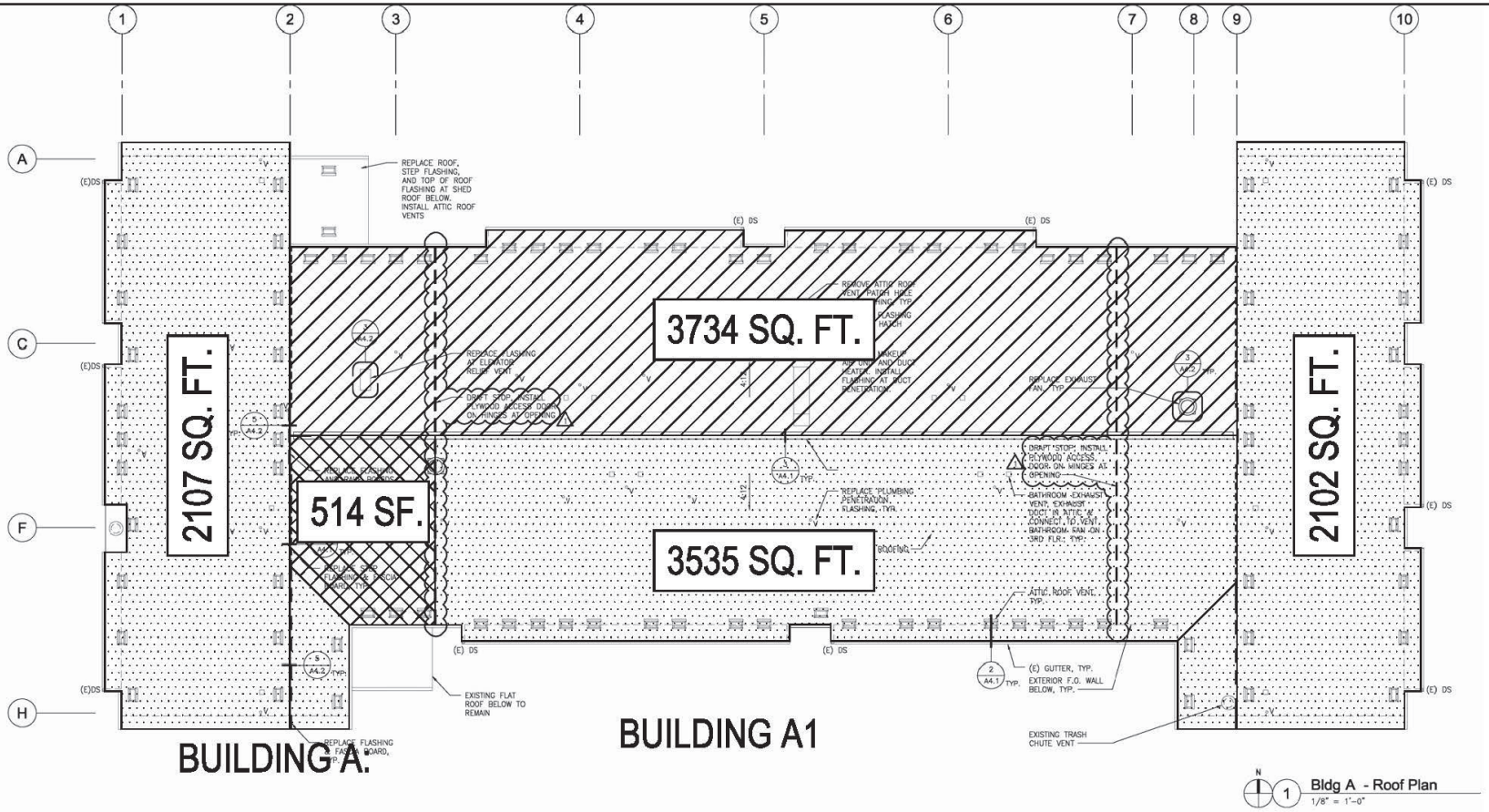
- American Conference of Governmental Industrial Hygienists. *Bioaerosols: Assessment and Control*. Macher, J., editor. ACGIH. Cincinnati, OH. ISBN 1-882417-29-1. 1999.

- American Conference of Governmental Industrial Hygienists. *Guidelines for the Assessment of Bioaerosols in the Indoor Environment.* ISBN 0-936712-83-X. 1989.
- American Industrial Hygiene Association. *Field Guide for the Determination of Biological Contaminants in Environmental Samples.* Dillon, H. K., Heinsohn, P. A., and Miller, J. D., editors. Fairfax, VA. 1996.
- New York City Department of Health, Bureau of Environmental & Occupational Disease Epidemiology. *Guidelines on Assessment and Remediation of Fungi in Indoor Environments*. 2000.
- Institute of Inspection, Cleaning and Restoration Certification (IICRC). *IICRC S520*, *Standard and Reference Guide for Professional Mold Remediation,* 2nd edition*. 2008*.
- National Institute for Occupational Safety and Health. *Guide to the Selection and Use of Particulate Respirators Certified under 42 CFR 84*. DHHS (NIOSH) Publication No. 96-101. January 1996.
- Occupational Safety & Health Administration. *Respiratory Protection Standard, 29 CFR 1910.134*. 63 FR 1152. January 8, 1998.
- OSHA NIOSH Infosheet "Protecting workers form heat illness", 2011
- OSHA "Permit-Required Confined Spaces in General Industry), 29 CFR 1910.146

Mold Investigations will provide technical assistance with regards to any questions about the remediation project being undertaken by the contractor in this facility. We will be available to assist in the development and implementation of the remediation measures outlined above. Finally, a member of the Mold Investigations staff will be onsite to ensure that the recommendations made above are acceptable and to the satisfaction of all parties involved.

Respectfully submitted,

Thomas Nadermann
Principal



N 1 Bldg A - Roof Plan
1/8" = 1'-0"

HEAVY CONCENTRATED DAMAGE: 514 SQ. FT.
THE AREA IS COVERED IN GROWTH WITH LARGE AREAS OF ROT AND DELAMINATION OF PLYWOOD.

GENERALIZED DAMAGE: 7744 SQ. FT.
A LIGHT COVER OF GROWTH THROUGHOUT THE AREA.

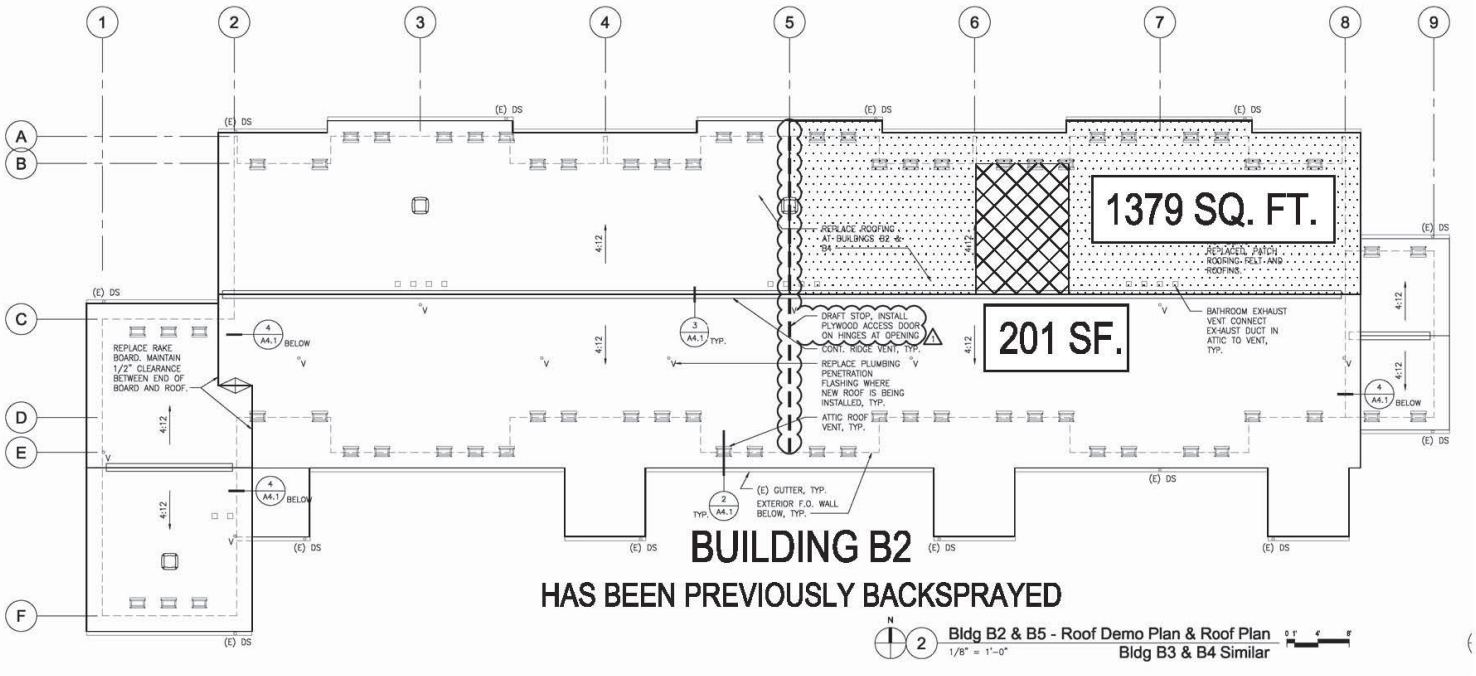
UN-CONCENTRATED DAMAGE: 3734 SQ. FT.
GROWTH AREA WITH SMALL AREAS OF ROT AND DELAMINATION OF PLYWOOD. LIGHT GROWTH IN SPOTS UN-CONCENTRATED.

ATTIC INSPECTIONS
280 SW 12TH AVE. HILLSBORO, OREGON

DATE: 10/14/2015
DRAWN BY: CN
JOB #: 1504119
SHEET: A1

ROOF PLAN

A1



2 Bldg B2 & B5 - Roof Demo Plan & Roof Plan
1/8" = 1'-0"
Bldg B3 & B4 Similar

BUILDING B2:

HEAVY CONCENTRATED DAMAGE: 201 SQ. FT.
THE AREA IS COVERED IN GROWTH WITH LARGE AREAS OF ROT AND DELAMINATION OF PLYWOOD.

GENERALIZED DAMAGE: 000 SQ. FT.
A LIGHT COVER OF GROWTH THROUGHOUT THE AREA.

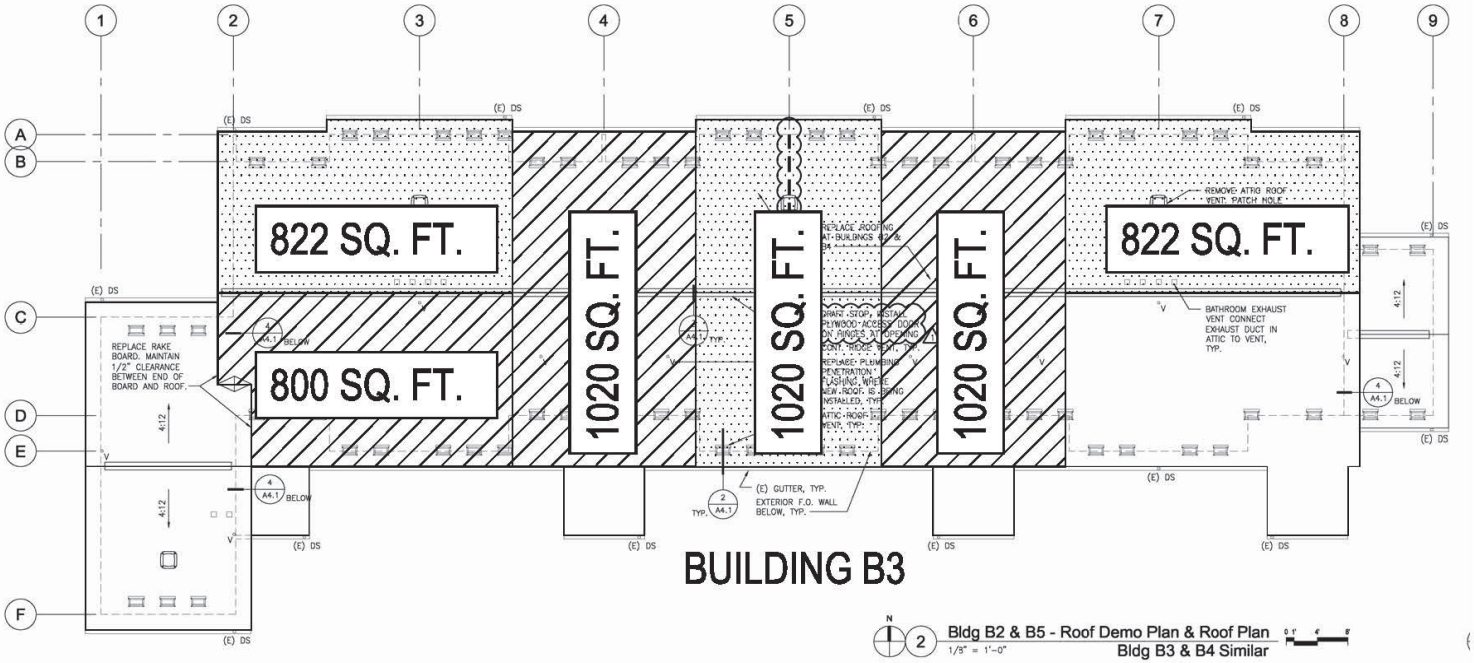
UN-CONCENTRATED DAMAGE: 1379 SQ. FT.
GROWTH AREA WITH SMALL AREAS OF ROT AND DELAMINATION OF PLYWOOD. LIGHT GROWTH IN SPOTS UN-CONCENTRATED.

ATTIC INSPECTIONS
280 SW 12TH AVE. HILLSBORO, OREGON

DATE: 10/14/2015
DRAWN BY: GN
JOB #: 1504119
SHEET: B2

ROOF PLAN

B2



2 Bldg B2 & B5 - Roof Demo Plan & Roof Plan
1/8" = 1'-0"
Bldg B3 & B4 Similar

BUILDING B3:

HEAVY CONCENTRATED DAMAGE: 000 SQ. FT.

THE AREA IS COVERED IN GROWTH WITH LARGE AREAS OF ROT AND DELAMINATION OF PLYWOOD.

GENERALIZED DAMAGE: 2840 SQ. FT.

A LIGHT COVER OF GROWTH THROUGHOUT THE AREA.

UN-CONCENTRATED DAMAGE: 2711 SQ. FT.

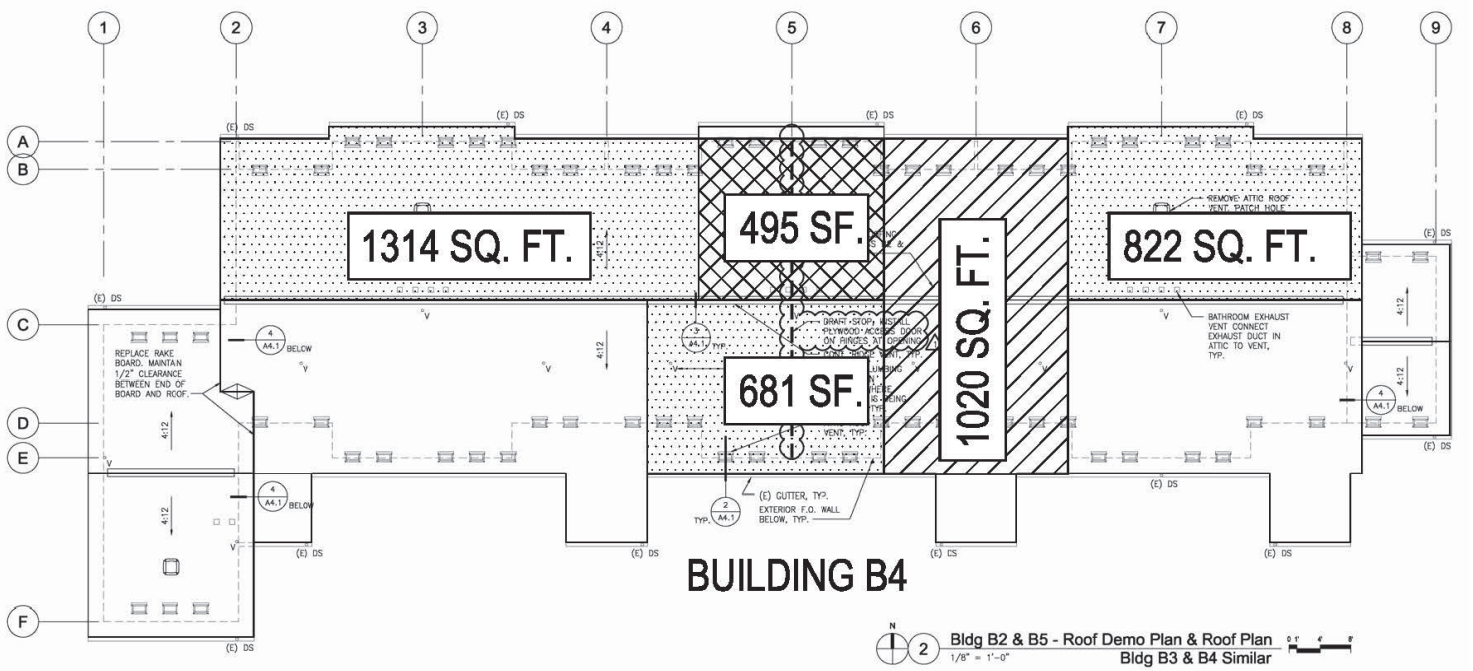
GROWTH AREA WITH SMALL AREAS OF ROT AND DELAMINATION OF PLYWOOD. LIGHT GROWTH IN SPOTS UN-CONCENTRATED.

ATTIC INSPECTIONS
280 SW 12TH AVE. HILLSBORO, OREGON

DATE: 10/14/2015
DRAWN BY: CN
JOB #: 1504119
SHEET: B3

ROOF PLAN

B3



2 Bldg B2 & B5 - Roof Demo Plan & Roof Plan
1/8" = 1'-0"
Bldg B3 & B4 Similar

BUILDING B4:

HEAVY CONCENTRATED DAMAGE: 495 SQ. FT.
THE AREA IS COVERED IN GROWTH WITH LARGE AREAS OF ROT AND DELAMINATION OF PLYWOOD.

GENERALIZED DAMAGE: 1020 SQ. FT.
A LIGHT COVER OF GROWTH THROUGHOUT THE AREA.

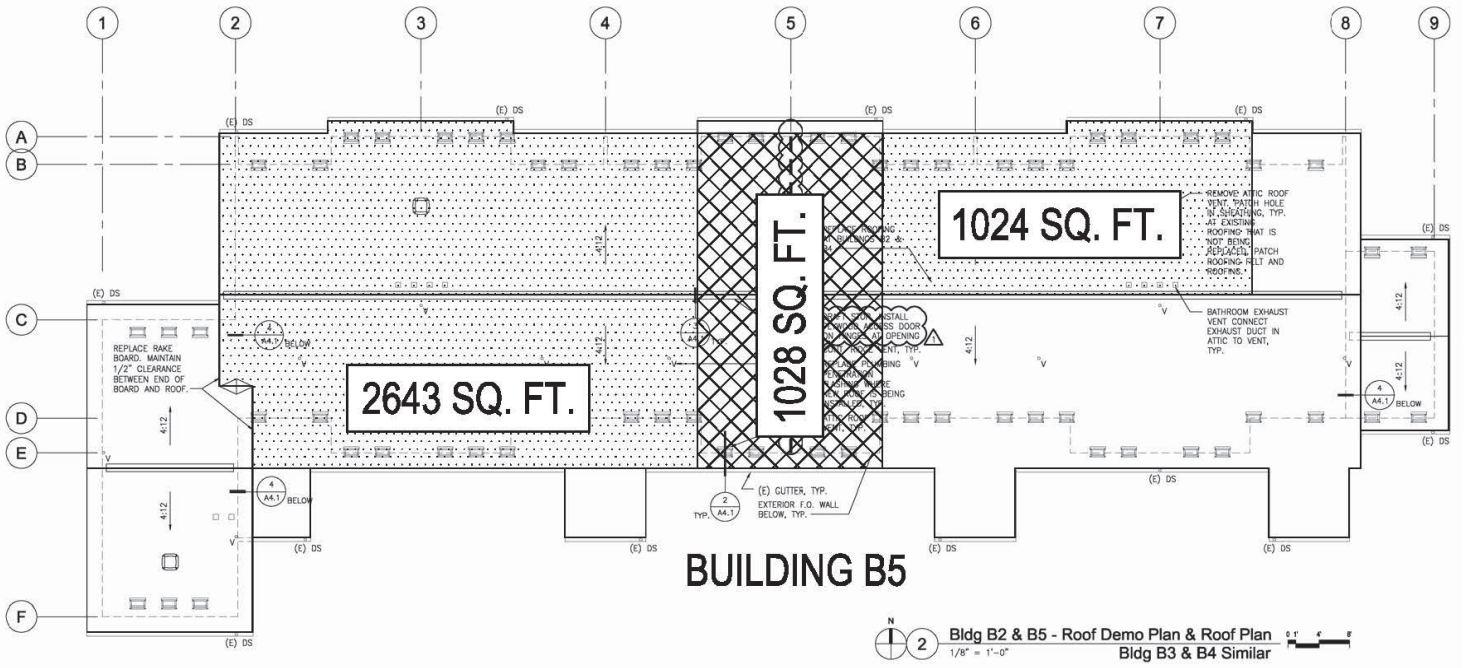
UN-CONCENTRATED DAMAGE: 2817 SQ. FT.
GROWTH AREA WITH SMALL AREAS OF ROT AND DELAMINATION OF PLYWOOD. LIGHT GROWTH IN SPOTS UN-CONCENTRATED.

ATTIC INSPECTIONS
280 SW 12TH AVE. HILLSBORO, OREGON

DATE: 10/14/2015
DRAWN BY: CN
JOB #: 1504119
SHEET: B4

ROOF PLAN

B4



BUILDING B5:

HEAVY CONCENTRATED DAMAGE: 1028 SQ. FT.

THE AREA IS COVERED IN GROWTH WITH LARGE AREAS OF ROT AND DELAMINATION OF PLYWOOD.

GENERALIZED DAMAGE: 000 SQ. FT.

A LIGHT COVER OF GROWTH THROUGHOUT THE AREA.

UN-CONCENTRATED DAMAGE: 3667 SQ. FT.

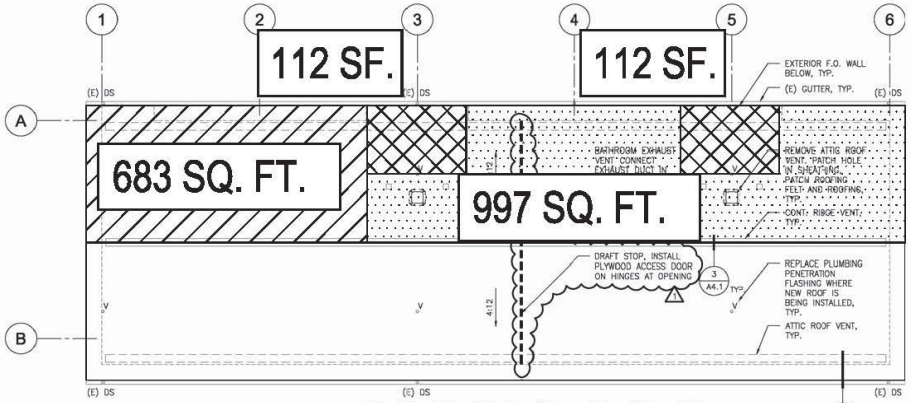
GROWTH AREA WITH SMALL AREAS OF ROT AND DELAMINATION OF PLYWOOD. LIGHT GROWTH IN SPOTS UN-CONCENTRATED.

ATTIC INSPECTIONS
280 SW 12TH AVE. HILLSBORO, OREGON

DATE: 10/14/2015
DRAWN BY: CN
JOB #: 1504119
SHEET: B5

ROOF PLAN

B5



BUILDINGC6:

HEAVY CONCENTRATED DAMAGE: 224 SQ. FT.

THE AREA IS COVERED IN GROWTH WITH LARGE AREAS OF ROT AND DELAMINATION OF PLYWOOD.

GENERALIZED DAMAGE: 683 SQ. FT.

A LIGHT COVER OF GROWTH THROUGHOUT THE AREA.

UN-CONCENTRATED DAMAGE: 997 SQ. FT.

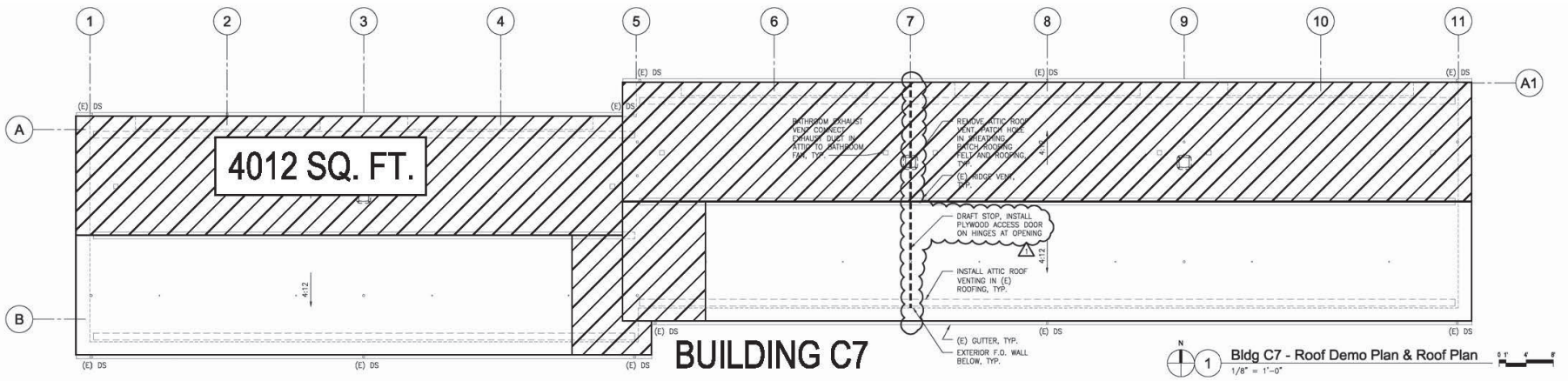
GROWTH AREA WITH SMALL AREAS OF ROT AND DELAMINATION OF PLYWOOD. LIGHT GROWTH IN SPOTS UN-CONCENTRATED.

ATTIC INSPECTIONS
280 SW 12TH AVE. HILLSBORO, OREGON

DATE: 10/14/2015
DRAWN BY: CN
JOB #: 1504119
SHEET: C6

ROOF PLAN

C6



BUILDING C7:

HEAVY CONCENTRATED DAMAGE: 000 SQ. FT.

THE AREA IS COVERED IN GROWTH WITH LARGE AREAS OF ROT AND DELAMINATION OF PLYWOOD.

GENERALIZED DAMAGE: 4012 SQ. FT.

A LIGHT COVER OF GROWTH THROUGHOUT THE AREA.

UN-CONCENTRATED DAMAGE: 000 SQ. FT.

GROWTH AREA WITH SMALL AREAS OF ROT AND DELAMINATION OF PLYWOOD. LIGHT GROWTH IN SPOTS UN-CONCENTRATED.

ATTIC INSPECTIONS
280 SW 12TH AVE. HILLSBORO, OREGON

DATE: 10/14/2015
DRAWN BY: GN
JOB #: 1504119
SHEET: C7

ROOF PLAN

C7

Examples of Heavy Concentrated Damage and General Damage