

ADDITIONAL CLARIFICATIONS

- Q: Sheet 9/21 General Notes under Cultural Resources indicates the contractor shall place geosynthetic fabric and temporary fencing at site 33LA 158. Where is the site, under what reference item do they belong and are there quantities for these items?
- A: The location of Site 33LA158 is included in the General Notes on Sheet 9/321. The requirements for the geosynthetic fabric and temporary fencing apply along the north side of SR-84 from Station 58+50 +/- to Lane Road; and along the west side of Lane Road from SR-84 to its northern work limits. All costs associated with providing, installing and maintaining the fabric and temporary fencing shall be considered incidental to Reference No. 11, Item 203-Embankment. Geosynthetic fabric shall comply with the requirements of Item 861. Temporary fencing shall comply with the requirements of Supplemental Specification 832 for Construction Fence.
- Q: Will any of the following ODOT proposal notes apply to this project:
1. PN 520 Fuel Price Adjustment (4/15/2011)
 2. PN 525 Steel Price Adjustment (4/15/2011)
 3. PN 535 Asphalt Binder Price Adjustment for Multi-Year Projects (4/15/2011)
- A: No provisions for price adjustments will be incorporated in this project.



HzW ENVIRONMENTAL
CONSULTANTS, LLC

January 15, 2015

Mr. Kirk Dimmick, PE
Lake County Bridge Engineer
Lake County Engineer's Office
550 Blackbrook Road
Painesville, Ohio 44077

Subject: *Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 2780 South Ridge Road, Perry, Lake County, Ohio (H15021)*

Dear Mr. Dimmick:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter report which presents the findings of an asbestos survey conducted at 2780 South Ridge Road, Perry, Lake County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed.

METHODS OF INVESTIGATION

During January 2015, a representative of HzW certified as an Asbestos Hazard Emergency Response Act (AHERA) building inspector and an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. These certifications are required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and Ohio Department of Health (ODH) regulations.

The asbestos survey was conducted in accordance with the Environmental Protection Agency (EPA) National Emissions Standard for Hazardous Air Pollutants (NESHAP). NESHAP regulations require no specific survey protocol be followed; however, AHERA protocol is recommended. Therefore, the asbestos survey at the subject structure was conducted in accordance with AHERA protocol.

AHERA classifies friable building materials into the following three (3) categories: surfacing materials, thermal system insulation (TSI) and miscellaneous materials. The bulk sampling protocol is based on the AHERA category assigned to a specific homogeneous area and the quantity of that homogeneous area identified. For **surfacing materials** if the size of the homogeneous sampling area is less than 1,000 square feet (ft²) then a minimum of three (3) samples are collected. If the size of the homogeneous sampling area is between 1,000 and 5,000 ft² then a minimum of five (5) samples are collected. If the size of the homogeneous sampling area is greater than 5,000 ft² then a minimum of seven (7) samples are collected. For **TSI**, at least three (3) samples are collected from each homogeneous area. **Miscellaneous and nonfriable materials** are sampled in a manner sufficient as determined by the inspector. As part of HzW's sampling protocol, HzW collects from two (2) to three (3) bulk samples from those building materials classified as miscellaneous friable materials and nonfriable materials. Carpet mastic, roofing materials and siding tar paper identified at the subject structure in fair condition were not sampled and were, therefore, assumed to contain asbestos.

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The bulk samples collected were submitted CA Labs of Baton Rouge, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Bulk samples identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by point count methodology.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; HzW's homogeneous area form; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHIERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated asbestos-containing materials (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

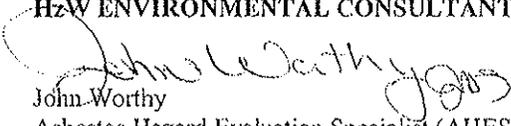
Contractors who perform demolition activities which disturb building materials identified as containing less than or equal to 1 percent asbestos are required to be in compliance with applicable sections of the Occupational Safety and Health Administrations (OSHA's) Asbestos Standard for the Construction Industry (Asbestos Standard). Contractors disturbing any building material identified as containing greater than 1 percent asbestos or any building material assumed to contain asbestos, are required to conduct their activities in accordance with all applicable sections of OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in fair condition and can remain within the structure during the demolition activities as long as these activities do not cause these ACMs to become friable.
3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.
4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH, ten (10) days prior to abatement activities being performed which will disturb 50 square feet or 50 linear feet of a friable ACM.
5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM must be abated first.
6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NIOSH AP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to Lake County Engineer's Office. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC


John Worthy
Asbestos Hazard Evaluation Specialist (AHES No. 34782)


Joan A. Sablar
Senior Industrial Hygienist

JAS:jas/H15021
Attachments
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ATTACHMENT I

- ASBESTOS BULK SAMPLING INFORMATION FORM
 - SITE SKETCH OF STRUCTURE
 - HOMOGENEOUS AREA FORM
 - CA LABS REPORT FOR BULK SAMPLES COLLECTED
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ASBESTOS BULK SAMPLING INFORMATION FORM

Lake County Engineer's Office
 Asbestos Survey – 2780 South Ridge Road, Perry, Ohio
 HzW Environmental Consultants, LLC – Project No. H15021

| HA | HOMOGENEOUS | | VALIDATION FOR SAMPLING | BULK SAMPLE NO. | AHRA CATEGORY | | | QUANTITY & CONDITION | | | RESULT ASBESTOS % | |
|----|--|--|--------------------------------|-----------------|---------------|-----|------------|----------------------|------|------|-------------------|-----|
| | MATERIAL | LOCATION | | | SUR. | TSI | MISC. F/NF | GOOD | FAIR | POOR | | |
| A | Smooth Ceiling Plaster | Throughout First and Second Floor | >1,000 sq.ft. <5,000 sq.ft. | 01 | | | X | 2,600 sq.ft. | | | ND | |
| | | | | 02 | | | | | | | Trace | |
| | | | | 03 | | | | | | | | ND |
| | | | | 04 | | | | | | | | 0.5 |
| | | | | 05 | | | | | | | | ND |
| B | Drywall System (Wall and/or Ceiling) | Hallway 1 (Ceiling), Kitchen (Ceiling and Wall), Hallway 2 (Ceiling) | Minimum 3 Samples | 06 | | | | | | | 1.5 | |
| | | | | 07 | | | | | | | ND | |
| | | | | 08 | | | | | | | NA | |
| C | Textured Ceiling Drywall – Swirl (Over HA A) | Room 3, Room 4, Room 5, Room 6, Hallway 3 and Bath 2 | <1,000 sq.ft. | 09 | | | | | | | ND | |
| | | | | 10 | | | | | | | NA | |
| | | | | 11 | | | | | | | ND | |
| D | Textured Ceiling Plaster – Swirl (Over HA A) | Room 4 Closet and Room 5 Closet | <1,000 sq.ft. | 12 | | | X | 24 sq.ft. | | | ND | |
| | | | | 13 | | | | | | | ND | |
| | | | | 14 | | | | | | | Trace | |

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
 ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM

Lake County Engineer's Office
 Asbestos Survey – 2780 South Ridge Road, Perry, Ohio
 HZW Environmental Consultants, LLC – Project No. H15021

| HA | HOMOGENEOUS | | | AHJRA CATEGORY | | | QUANTITY & CONDITION | | | RESULT ASBESTOS % | | | |
|----|---|-----------------------------------|-------------------------|-----------------|------|-----|----------------------|--------------|------|-------------------|------|-------|-----|
| | MATERIAL | LOCATION | VALIDATION FOR SAMPLING | BULK SAMPLE NO. | SUR. | TSI | MISC. F/NF | GOOD | FAIR | | POOR | | |
| E | Drywall – Green Board | Bath 1 (Ceiling and Walls) | Minimum 3 Samples | 15 | | | | | | | ND | | |
| | | | | 16 | | | | | | | | ND | |
| | | | | 17 | | | | | | | | | ND |
| F | Ceiling Tile – 2-foot by 4-foot – Pinholes and Fissures | Room 10 | Minimum 2 Samples | 18 | | | | | | | ND | | |
| | | | | 19 | | | | | | | | ND | |
| G | Ceiling Tile – 1-foot by 1-foot – Pinholes | Room 10 | Minimum 2 Samples | 20 | | | | | | | ND | | |
| | | | | 21 | | | | | | | | ND | |
| H | Smooth Wall Plaster | Throughout First and Second Floor | >5,000 sq.ft. | 22 | | | X | 6,000 sq.ft. | | | | ND | |
| | | | | 23 | | | | | | | | 1.0 | |
| | | | | 24 | | | | | | | | | ND |
| | | | | 25 | | | | | | | | | NA |
| | | | | 26 | | | | | | | | | ND |
| | | | | 27 | | | | | | | | | |
| I | Textured Wall Plaster - Rough | Room 7 | <1,000 sq.ft. | 28 | | | | | | | ND | | |
| | | | | 29 | | | | | | 720 sq.ft. | | Trace | |
| | | | | 30 | | | | | | | | | 1.0 |
| | | | | 31 | | | | | | | 0.75 | | |

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| HA | MATERIAL | HOMOGENEOUS | | VALIDATION FOR SAMPLING | BULK SAMPLE NO. | AHERA CATEGORY | | | QUANTITY & CONDITION | | | RESULT ASBESTOS % | | |
|----|--------------------------------|--------------------------------|--|-------------------------|-----------------|----------------|-----|------------|----------------------|------|------|-------------------|-----------|----|
| | | LOCATION | | | | SUR. | TSI | MISC. F/NF | GOOD | FAIR | POOR | | | |
| J | Textured Wall Drywall - Rough | Room 10 | | <1,000 sq.ft. | 32 | | | | | | | | ND | |
| | | | | | 33 | | | | | | | | | ND |
| | | | | | 34 | | | | | | | | | |
| K | Textured on Block Wall - Rough | Room 10 | | <1,000 sq.ft. | 35 | | | | | | | | ND | |
| | | | | | 36 | | | | | | | | | ND |
| | | | | | 37 | | | | | | | | | ND |
| L | Fireplace Mortar | Room 1 Fireplace Hearth | | Minimum 2 Samples | 38 | | | | X | | | | 2 | |
| | | | | | 39 | | | | | | | | 80 sq.ft. | |
| M | Mineral Wool Insulation | 2 nd Floor Ceilings | | Minimum 3 Samples | 40 | | | | | | | | ND | |
| | | | | | 41 | | | | | | | | | ND |
| | | | | | 42 | | | | | | | | | ND |
| N | Window Glazing | House Windows | | Minimum 2 Samples | 43 | | | | | | | | ND | |
| | | | | | 44 | | | | | | | | | ND |
| O | Soft Mortar Ceiling | Garage | | Minimum 2 Samples | 45 | | | | | | | | ND | |
| | | | | | 46 | | | | | | | | | ND |
| | | | | | 47 | | | | | | | | | ND |


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| HA | HOMOGENEOUS | | VALIDATION FOR SAMPLING | | | ASBESTOS CATEGORY | | | QUANTITY & CONDITION | | RESULT ASBESTOS % |
|----|--------------------------------|----------------|-------------------------|--|-----|-------------------|------|------|----------------------|---------------|-------------------|
| | MATERIAL | LOCATION | BULK SAMPLE NO. | SUR. | TSI | MISC. F/NF | GOOD | FAIR | POOR | | |
| P | Old Carpet Mastic | Room 1 | | Category I Nonfriable in Fair Condition, Not Sampled | | | | | | 10 sq. ft. | Assumed |
| Q | Asphalt Shingle Roofing System | House Roof | | Category I Nonfriable in Fair Condition, Not Sampled | | | | | | 1,800 sq. ft. | Assumed |
| R | Asphalt Shingle Roofing System | Garage Roof | | Category I Nonfriable in Fair Condition, Not Sampled | | | | | | 500 sq. ft. | Assumed |
| S | Siding Felt Paper | House Exterior | | Category I Nonfriable in Fair Condition, Not Sampled | | | | | | 2,800 sq. ft. | Assumed |

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PROJECT 2780 South Ridge Rd, Perry
PROJECT NO. H15021
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FIELD REPRESENTATIVE ju DATE 1-9-15
SCALE _____

