WAKE COUNTY NORTH CAROLINA
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ENVIRONMENTAL LEAD INVESTIGATION REPORT

Dates of Investigation:
April 6, 2011
April 11, 2011
April 18, 2011
April 20, 2011
April 27, 2011
April 29, 2011

Name of Sites Investigated:
Ridoutt's
600 Saint Mary's Street
Garner, NC 27529

Directors: Ms. Mary Rogers and Ms. Jennifer Dixon

Property Owner:
Mrs. Candace and Mr. Chad Ridoutt
606 Saint Mary's Street
Garner, NC 27529

Investigation Conducted by:
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NCDENR

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BACKGROUND

During a routine daycare sanitation inspection on March 21, Anne Bartoli, REHS observed deteriorated paint on the infant and kitchen buildings at Ridoutt's Nursery and Kindergarten, located at 600 Saint Mary's Street, Garner, 27529. This prompted a lead investigation at this facility due to the age of the buildings and the potential of lead poisoning hazards.

Ridoutt's Nursery and Kindergarten is a licensed childcare center that includes the main building which is a one story and brick building built in 1981. This building houses children that are three to Pre-Kindergarten age. This building includes classrooms, bathrooms, a kitchen and the office.

The infant building is a one story aluminum and vinyl sided building built in 1948. This building includes classrooms, a snack kitchen and a restroom.

The kitchen building is a two story wood and vinyl sided building built in 1948. This building houses the main kitchen that is in use. The restrooms and classrooms are not currently being used by the children. The children have access to the exterior of this building due to the playgrounds that are located on the front and sides of the building.

The school age building is a one story wooden and vinyl sided building built in 1948. This building is not currently licensed or occupied. The children have access to the exterior of this building due to the playgrounds that are located on the sides and back of the building.

Behind the school age building is a wooden storage building that was built before 1978. Children have access to this building when they are on the playground.

The owner's residence is a one story brick home that was built in 1952 and renovated in 1970. This home is not part of the licensed childcare but children have access to the playground which is located in the back yard.

Consequently, an environmental lead investigation was initiated April 6, 2011 as required by the North Carolina Administrative Code .3104 (a). The purpose of this investigation was to determine if any lead poisoning hazards exist at Ridoutt's Nursery and Kindergarten. A copy of the North Carolina General Statues (G.S.) 130A-131.9H and Administrative Rules Governing the Childhood Lead Poisoning Prevention Program 15A NCAC 18A .3100 are enclosed for your reference.

INVESTIGATION METHODS USED AND FINDINGS

An X-Ray Fluorescence Analyzer (XRF) was used to test for the presence of paint containing hazardous levels of lead (equal to or greater than 1.0 mg/ cm^2). **Four hundred and sixty two** (**462**) readings were taken with the XRF.

For the purpose of this investigation buildings were labeled in a clockwise fashion. This labeling is based on a person facing a building from the address street side. The front of a building facing the street is labeled as the A side. The left side of the building is the B side. The rear of a building is the C side and the right side of the building is the D side. Areas surrounding a building are also identified in this manner as well as walls within a building.)

The following readings exceeded the current action level and are considered a hazard:

Exterior storage building siding (D side)
Exterior lower roof trim to kitchen patio overhang (A side)

Exterior corner support post to kitchen patio overhang (A side)
Exterior right support post to kitchen patio overhang (A side)
Exterior ceiling trim to patio overhang on the siding, kitchen building (A side)
Exterior window casing room one, kitchen building (A side)
Exterior window casing, restroom kitchen building (A side)
Exterior cornerboard, kitchen building(C and D sides)
Exterior wooden siding, kitchen building (C side)
Exterior window casing room two, kitchen building(C side)
Exterior window casing, room one, kitchen building (D side)
Exterior door threshold and door, school age building (A side)
Exterior window casing, school age building(C side)
Exterior window casing, room three, school age building (D side)
Exterior upper trim on siding/window trim school age building (D side)
Exterior window casing, bedroom, home (C side)
Exterior window casing, restroom, home (C side)
Exterior window mullion bedroom, home(C side)
Exterior glazed porcelain sink, school age building(C side)
Interior glazed porcelain sink, restroom located in room three, main building (A side)
Interior glazed porcelain sink, restroom, classroom four, kitchen building (A side)

Laboratory analysis by atomic absorption spectroscopy (AAS) was also used to test samples of dust, soil, and water that were submitted to the State Laboratory of Public Health. In addition paint chip samples were collected from the exterior window components to confirm XRF testing conducted. Lead poisoning hazard are defined in G.S. 130A – 131.7(7). The following samples that are in **bold** on the chart exceed the current action level and are considered a hazard.

Sample#	Description	Results (Pb)	Standard (Pb)
01-D	Dust-Exterior front entry carpeted floor kitchen building, A Side	<10 µg/ft²	40µg/ft²
02-D	Dust-Interior front entry carpeted floor kitchen building, A Side	<10 µg/ft²	40µg/ft²
03-D	Dust- Exterior concrete patio floor by support beam, kitchen building, A Side	32µg/ft²	40µg/ft²
04-D	Dust- Exterior wooden step entry to room four, kitchen building, B side	<10µg/ft²	40 µg/ft²
05-D	Dust- Interior carpeted entry, room four, kitchen building	<10µg/ft²	40µg/ft²
06-D	Dust- Window trough, room one, kitchen building, A side	340µg/ft²	400µg/ft²
07-D	**Dust-Room one, window trough kitchen building, D Side**	**1480µg/ft²**	**400µg/ft²**
08-D	Dust-Exterior wooden ramp, room two, kitchen building, D side	<10µg	40 µg/ft²
09-D	Dust-Lower pink wall tile restroom, room three and four, infant building, B side	<10µg	250µg/ft²
10-D	Dust-Ext. Floor school age bldg, A Side	<10 µg	40 µg/ft²

11-D	Exterior window sill school age building	124 µg	250µg/ft²
12-D	Exterior floor concrete patio by window, room three, D side, school age building	29 µg	40 µg/ft^2
13-D	Exterior window sill, room three, C side, school building	<10 µg	250µg/ft²
14-D	dust	----	<10µg
01-W	Water sample-drinking fountain, main building	< .005ppb	15ppb
02-W	Water sample kitchen faucet, main building	< .005ppb	15ppb
03-W	Water sample-snack kitchen faucet, infant building	< .005ppb	15ppb
04-W	Water sample-school age building, kitchen faucet	< .005ppb	15ppb
05- W	Water sample-kitchen faucet, kitchen building	< .005ppb	15ppb
01-PC	**Paint chip- Corner support to patio on siding, kitchen building, A side**	**1.4%**	**0.5%**
02-PC	**Paint chip-siding, kitchen building, C side**	**1.1%**	**0.5%**
03-PC	**Paint chip-siding, storage building, D side**	**.6%**	**0.5%**
04-PC	**Paint chip- front door threshold, school age building, A side**	**.68%**	**0.5%**
01-S	Soil-composite, drip line ,kitchen building	< 15ppm	400ppm
02-S	Soil-composite, playground, kitchen building, D side	49ppm	400ppm
03-S	Soil-composite, drip line, infant building	44 ppm	400ppm
04-S	Soil-composite, drip line, school age building	58ppm	400ppm
05-S	Soil-composite, drip line, storage building, C and D sides	300ppm	400ppm
06-S	Soil-composite, drip line, home, C side	< 15ppm	400ppm
07-S	Soil- composite, drip line, main building	< 15ppm	400ppm

Paint chip samples collected on the exterior of the patio overhang to the kitchen building (A side), on the kitchen building siding(C side), storage building siding (D side), and front door threshold located on the school age building(A side) exceed the current action level and are lead hazards. A copy of the environmental sampling test results and the XRF test results can be obtained by contacting this Department.

At the conclusion of the environmental lead investigation, our Department met with Candace Ridoutt, owner of the facility. Lead poisoning hazards that were identified during the investigation were discussed. It was explained that other lead poisoning hazards may be identified through the dust, soil, paint chip and water sampling. Interim control measures to protect the children were recommended and a variety of potential remediation method options were reviewed.

RECOMMENDED REMEDIATION

This Department **strongly recommends** that the lead poisoning hazards identified in this report be remediated. Remediation should be in accordance with the North Carolina G.S. 130A – 131.9H and Title 15A North Carolina Administrative Code 18A .3100 - .3111.

Note: If an area tested positive for being a lead poisoning hazard, homogeneous or like components in the area are also considered lead poisoning hazards. Areas where the lead paint is presently intact should be kept intact or these areas could also become lead poisoning hazards in the future.

The following lead poisoning hazards were identified and the following remediation methods are recommended:

Exterior Kitchen Building

- Deteriorating paint on the patio overhang, ceiling, trim and support posts to overhang (A side)
    1. Component removal and replacement
    2. Enclosure*
    3. Encapsulating paint.
    4. Stabilize existing paint and repaint.

- Deteriorating paint on the original lower roof trim to patio overhang (A Side).
    1. Component removal and replacement
    2. Enclosure*
    3. Encapsulating paint.
    4. Stabilize existing paint and repaint.

- Deteriorating paint on window casings. Located on the restroom window (A Side) and classroom one A and D side windows.
    1. Component removal and replacement.
    2. Enclosure*
    3. Friction/Impact treatment**
    4. Specialized cleaning is required with all of the above listed options.

- Deteriorating paint on right window, window casing on classroom two, (C side).
    1. Component removal and replacement.
    2. Enclosure*
    3. Friction/Impact treatment**
    4. Other remediation method approved by our department is keeping the existing fence permanently closed at all times so children do not have access to this area. Must be approved by fire and or building inspectors with documentation.
    5. Specialized cleaning is required with all of the above listed options.

- Deteriorating paint on the cornerboards located on the siding (A, C and D sides).
    1. Component removal and replacement
    2. Enclosure *
    3. Encapsulating paint.
    4. Stabilize existing paint and repaint.

- Deteriorating paint on the original wooden siding (A, C and D sides).
    1. Component removal and replacement
    2. Enclosure*
    3. Encapsulating paint.
    4. Stabilize existing paint and repaint.
    5. Other method approved by our department is keeping the existing fence permanently closed at all times so children do not have access to this area. Must be approved by fire inspector and or building inspectors with documentation.

- Dust window troughs(D side)
    1. Use specialized cleaning techniques on all of the window troughs throughout the building. See enclosure procedures.

.**Interior Kitchen Building**

- Worn glazed porcelain hand sink located in restroom, classroom four.
    1. Component removal and replacement
    2. Stabilize existing glaze and refinish with a lead free glaze.

Interior Main Building

- Worn glazed porcelain hand sink located in classroom three, main building (A side).
    1. Component removal and replacement
    2. Stabilize existing glaze and refinish with a lead free glaze.

Exterior School Age Building

- Deteriorated paint on the right window, window casing classroom three (C sides).
    1. Component removal and replacement
    2. Enclosure*
    3. Friction/Impact Treatment**
    4. Other remediation method approved by our department is keeping the existing fence permanently closed at all times so children do not have access to this area. This must be approved by the fire inspector and or building inspectors with documentation.

- Deteriorating paint on the upper siding trim of building/window trim on classroom three (D side).
    1. Component removal and replacement.
    2. Enclosure*
    3. Encapsulating paint.
    4. Stabilize existing paint and repaint.
    5. Other remediation method approved by our department is extending the existing fence on the school age playground across the carport area to connect to the fence behind the infant building so that children do not have access to this area. This must be approved by the fire inspector and or building inspectors with documentation.

- Deteriorating paint on the right window, window casing classroom three (D side).
    1. Component removal and replacement.
    2. Enclosure*
    3. Encapsulating paint.
    4. Stabilize existing paint and repaint.
    5. Other remediation method approved by our department is extending the existing fence on the school age playground across the carport area to connect to the fence behind the infant building so that children do not have access to this area. Once the fence is extended keep it permanently closed at all times so that children do not have access to this area. This must be approved by the fire inspector and or building inspectors with documentation.

- Deteriorating paint on the front door and front door components, door threshold (A side).
    1. Component removal and replacement.
    2. Enclosure*
    3. Friction/Impact Treatment**

Note: Door components include the door jamb and door stop.

- Worn glazed porcelain hand sink(C side).
    1. Component removal and replacement.
    2. Stabilize existing glaze and refinish with a lead free glaze.
    3. Other remediation method approved by our department is keeping the existing fence permanently closed at all times so that children do not have access to this area. This must be approved by the fire inspector and or building inspectors with documentation.

Exterior Storage Building

- Deteriorating paint on all of the original siding.
    1. Component removal and replacement.
    2. Enclosure*
    3. Encapsulating paint
    4. Stabilize existing paint and repaint

Exterior Home

- Deteriorating paint on the bedroom and bathroom window and window components(C side).
    1. Component removal and replacement
    2. Enclosure *
    3. Friction/Impact Treatment**
    4. Other remediation method approved by our department is keeping the existing fence permanently closed at all times so that children do not have access to this area. This must be approved by the fire inspector and or building inspectors with documentation.

*** Enclosure includes wrapping components in aluminum or vinyl and caulking around the edges.**

****Friction Impact treatment: Make window sills surfaces smooth and cleanable. Cap troughs with vinyl or aluminum coil stock. Correct conditions in which paint on doors or windows are binding, rubbing, or being damaged . By replacement of door or window stop molding and or planing doors or windows to remove lead based paint on friction/impact surfaces. Stabilization of existing paint and repainting of doors and windows should be completed with friction impact treatments.**

Some measures such as paint stabilization are not recommended in child occupied facilities due to high contact and traffic areas and the likely hood of impacting and damaging those surfaces.

Note: these areas should be cleaned using specialized cleaning techniques before and after work is completed throughout the buildings. Provisions should be made to eliminate any contamination of furniture and toys with lead dust when work is done.

Note: window components include troughs, sills, sashes, jambs, parting beads, casings and mullions.

OTHER RECOMMENDATIONS

All painted components on the exterior of the buildings should be monitored for evidence of deterioration. Weather conditions can quicken the deterioration of paint especially on exterior surfaces that have direct sun contact.

The following porcelain glazed hand sinks located in the main building tested positive for lead but are intact: office hand sink, hand sink in classroom two, hand sink in classroom five, and right and left hand sinks in classroom three. The lower pink wall tile located in the restroom in room three and four in the infant building. These areas must be monitored. If these areas become worn, stabilize existing glaze and refinish with a lead free glaze or remove and replace the components.

PROHIBITED METHODS OF REMEDIATING LEAD-BASED PAINT HAZARDS

(1) Stripping paint on-site with methylene chloride-based solutions.
(2) Torch or flame burning.
(3) Heating paint with a heat gun above 1,100 Fahrenheit.
(4) Covering with new paint or wallpaper unless all readily accessible lead-based paint has been removed.
(5) Uncontrolled abrasive blasting, machine sanding, or grinding, except when use with High Efficiency Particulate Air (HEPA) exhaust control that removes particles of 0.3 microns or larger from the air at ninety-nine and seven-tenths percent (99.7%) or greater efficiency.
(6) Uncontrolled water blasting.
(7) Dry scraping, unless used in conjunction with heat guns, or around electrical outlets, or when treating no more than two square feet on interior surfaces, or no more than 20 square feet on exterior surfaces.

RECOMMENDED INTERIM MEASURES

This Department recommends implementing the following interim measures until remediation can occur:

1. Reroute children and do not allow children to play or congregate around identified lead poisoning hazards. Ex: Deny access to identified lead hazards with caution tape, warning signs, or construction fencing.
2. Conduct wet specialized cleaning techniques on accessible horizontal surfaces (floors, sills, troughs, etc.) on a weekly basis.
3. Wash children's hands on a frequent basis, especially before meals and after visiting the playground.

OTHER INFORMATION

- **The interior of the school age building is not currently used or is licensed as part of the childcare center. The interior of the school age building was not tested for lead. If the administration decides to allow the children to access this area a lead investigation must be conducted to test the interior of this building. This investigation must occur prior to any use of the rooms in this building.**

- **Only the exterior back side of the home was tested due to the children having access to the playground which is located in the back yard of the home. The other exterior areas of the home were not tested due to children do not having access to these areas.**

Current North Carolina Administrative Rule .3103 (a) requires written notification of all parents/guardians of children less than six years of age who attend a child-occupied facility where lead poisoning hazard are identified. A letter requiring notification advising parents of the adverse health effects of lead exposure and recommending that their child be examined and tested was mailed on October 25, 2010. Current North Carolina General Statute 130A-131.9C (a) requires remediation of all identified lead poisoning hazards **if** any child that regularly visits

or attends the child care has a confirmed lead poisoning of 20 micrograms per deciliter or greater. At this time no child has been reported with a confirmed lead poisoning. **However, the Division of Child Development requires remediation in all cases where lead poisoning hazards are identified based on Child Care Rules 10 NCAC 3U .0601 and 10 NCAC 3U .1719, which require a safe indoor and outdoor environment for children in care.**

Before any remediation activities begin, a written remediation plan should be submitted to this Department. Your remediation plan should include information concerning lead-safe work practices and cleaning procedures to remove lead contaminated dust. Information concerning these practices is enclosed with this report.

Full abatement of lead poisoning hazards is a remediation option, but must be performed by a certified lead hazard contractor. See more about certified lead hazard contractor's in the section below. Certification is required for lead-based activities, including abatement. If needed, a list of Lead-Based Paint Certified Firms approved by the NC Department of Health and Human Services, Health Hazards Control Unit (HHCU), may be obtained by calling (919) 707-5950. Please contact HHCU for any questions you have regarding certification requirements.

Note: All lead-containing waste and residual generated by the remediation must be removed and disposed of in accordance with applicable federal, State, and local laws and rules.

RECOMMENDED POST REMEDIATION CLEARANCE TESTING

After your remediation has been completed, a post-remediation clearance inspection should be scheduled with this Department. This inspection is to determine if the remediation plan has been satisfactorily completed and meets the clearance requirements in North Carolina General Statutes 130A - 131.9C.

Wake County Environmental Services is available to assist you with questions or concerns in reference to this report and remediation activities.

Report prepared on June 24, 2011 by:

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Enclosures