

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Materials Laboratory Division
Washington, D.C. 20594



August 24, 2020

MATERIALS LABORATORY FIRE FACTUAL REPORT

Report No. 20-031

A. ACCIDENT INFORMATION

Place : Dallas, Texas
Date : February 23, 2018
Vehicle : Residential Gas Pipe Rupture
NTSB No. : PLD18FR002
Investigator : Sara Lyons IIC-RPH

B. ACCIDENT SUMMARY

For a summary of the accident, refer to the *Accident Summary* report within this docket.

A. 3527 Durango Drive

a. Description of Residence

The house at 3527 Durango Drive was built in 1948. The house was a single level, wood framed, single family structure with a pier and beam foundation¹. According to the homeowner, there was an addition (an additional bedroom and bathroom added to the rear of the structure) made to the house several years prior to the incident². Google Earth images confirm the addition was done in 2013³. The layout of the residence is shown in Figures 1 and 2⁴.

i. *Permit Information*

In response to NTSB investigator's request for all permit records related to 3527 Durango Drive, the City of Dallas provided records associated with two permits.

¹Pier and beam foundations consist of brick, stone or concrete piers and wooden beams that support the weight of the home. Unlike slab foundations which sit directly on the ground, pier and beam foundations are elevated, resulting in an empty, unfinished crawlspace beneath the structure.

² The term "incident" is used throughout this report in reference to the events at 3527 Durango Drive and 3515 Durango Drive. Use of this term does not indicate that these events meet PHMSA's definition of incident as promulgated in 49 CFR 192.3.

³ See Document-Google Earth Images 3527 Durango Drive for more information.

⁴ For the purposes of this report, the sides of the residential structure will be labeled as followed. Side A was the front of the residence. Facing the front of the residence and proceeding clockwise around the structure, Side B was the left side, Side C was the rear (for both the original structure and the addition) and Side D (for both the original structure and the addition) was the right. The sides are further defined as original and addition. See Figure 1 for further details.

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- Permit #9005102016-Issued 5/14/1990; Work Description: See Central Files; Trade Type: Plumbing. (No other information available on permit or was provided by the City of Dallas.)
 - Permit #1901311135-Issued 1/31/2019, Work Description: Demolish structure and clear lot; Trade Type: Demolition

No permit information was found for the addition in 2013.

ii. Reported Repairs

No other repairs to the residence or any significant issues with the structure were mentioned by the homeowner. The house was demolished in 2019.

b. Incident Response

i. Fire Department Response

On February 21, 2018, at 5:49 a.m., a possible explosion and smoke was reported at 3527 Durango Drive by multiple callers to 9-1-1⁵. The first Dallas Fire-Rescue Department (DFR) unit arrived at 5:53 a.m. Firefighters reported that the fire was located at the back of the house and began firefighting operations. The fire was contained to a bedroom and bathroom in the back part of the house, later identified as the new addition. Firefighters turned off the gas supply at the meter behind the house and requested for gas and electric utilities to respond. In one firefighter's statement to investigators, during firefighting operations, he noticed flames coming from the subfloor and directed a hose stream under the floor to extinguish the flames. One occupant sustained injuries during the incident and was transported by DFR to the hospital. The fire was reported under control by 6:17 a.m. DFR arson investigators arrived on scene at 6:35 a.m.

In the DFR Fire Investigation report, DFR arson investigators originally determined that "the fire...originated in, on or around the gas heater" located in the back bathroom". After additional information was obtained from the owner, it was determined that the initial report of "bathroom heater" was the HVAC/furnace unit located in the attic. The fire was initially classified as "accidental" but on February 28, 2018, the classification was changed to "undetermined" due to subsequent incidents reported at 3515 Durango Drive and 3534 Espanola Drive. It was also mentioned in this report that the homeowner stated that he had reported a gas leak a few weeks prior to this incident. This leak was called in on January 1, 2018 after smelling gas. Atmos responded to the leak, classified it as a Grade 2 (30 day) leak and replaced the service line on January 29, 2018.

During interviews with the NTSB, the lead arson investigator for this incident stated that investigators did not initially enter the fire area because the room was badly damaged, and the floor was unstable⁶. She proceeded to take pictures of the area from outside while the

⁵ This summary is based on the NTSB Emergency Response Factual Report, which contains additional information regarding DFR's response to the event.

⁶ Interview - Dallas Fire-Rescue Arson Investigator 'D' 02.26.18

second investigator talked to the occupants and firefighters. The lead investigator took additional photographs of the back bedroom once she was able to make entry into the structure. She stated that exterior wall of the bedroom had collapsed and that the roof was caving in but the back bathroom beyond the bedroom, while badly damaged, was still identifiable. The bathroom had soot damage but other room contents like the tiles on the floor, sink and toilet were still visible. The exterior wall of the bathroom was intact. She stated that remnants/debris from inside the back room had been blown up on the roof. The second investigator's interview was consistent with this perspective⁷. When asked, the first investigator stated that she did not notice glass outside of the residence but that it was dark and there was firefighting foam on ground so it would have been hard to see. The first investigator did not mention any other areas of the residence being damaged by fire in her interview. Investigators determined the source of ignition was likely the furnace.

In his statement, the homeowner stated that the furnace had been making a noise around 2 a.m. so he turned it off but woke up at 5:30 a.m. feeling cold⁸. The homeowner decided to turn the furnace back on. The furnace started and ran for a short period of time and then stopped running. The homeowner went to the attic to investigate the problem. When he got up in the attic, he noticed the cover to the pilot light compartment was detached from the unit. As soon as he replaced the cover, an "explosion" occurred. In interviews with DFR arson investigators, the homeowner's son, who occupied the back bedroom, stated he was awakened by debris from the house falling on him. In statements given to DFR, none of the occupants reported smelling gas immediately prior to the incident.

ii. *Gas Company Response*⁹

At 5:59 a.m., electric and gas utilities were requested by on-scene DFR responders to respond to the scene. An Atmos technician arrived soon after the fire was extinguished. According to his interview with investigators, he checked in with the firefighters and learned that the gas to the residence had been turned off. He indicated that his Atmos Energy issued SENSIT® GOLD combustible gas indicator (CGI) was on as he proceeded to the meter located at the rear of property. He did not recall looking at the CGI during this time but indicated that it would have started beeping if it picked up gas and it never beeped. He confirmed that the gas was off at the meter. He then inspected the meter, pressure-tested the regulator, and locked out the meter to ensure that only Atmos Energy employees would have access to turn it back on. The service technician said that he was unable to pressure test the house line because it would not have been safe for him to do so with the fire department still working in the house. The service technician performed one bar-hole test near the service riser and detected no gas. Due to the wet conditions the technician put his CGI in "survey" mode, which allowed him to survey above the top of the soil including along the 2" main in the alley. While surveying, he was also looking for bubbles emerging from the water, which can be indicative of gas migrating through water. He said that he neither saw bubbles,

⁷Interview - Dallas Fire-Rescue Arson Investigator 'E' 02.26.18

⁸Dallas Fire-Rescue Department, Fire Investigation Report, February 21, 2018, 3527 Durango Drive, Dallas, Texas.

⁹This summary of Atmos Energy's response to 3527 Durango Drive is based on the NTSB Operations and Integrity Management Report, which contains additional information regarding Atmos's response.

nor obtained any positive gas readings with his CGI. After completing this survey and talking with the DFR arson investigators who told the technician the cause was probably an inside gas leak, he left.

After the incident, pressure tests were conducted on the customer-owned line into the home and no leaks were observed on the customer-owned system or on any of the appliances¹⁰.

c. Damage description

The following damage description was based on photographs taken of the residence by DFR personnel, NTSB investigators and other investigative participants.

i. *Exterior-Original Structure*

Damage was evident on the front side (Side A) of the structure as shown in Figure 3. The roof was bulged in several locations. Areas of shingles were displaced. Several holes were present with evidence of fire damage around the edges of the holes. The roofline was buckled in several areas with one corner over the porch partially peeled back from its original position and sagging in the middle of the porch roof. Below this corner, the exterior siding was detached from the structure with the anchors still attached to the exterior sheathing as shown in Figure 4. Small amounts of siding material were still attached around the anchors. The windows on either side of the porch appear to have been blown out with the remains of the windows and frames observed laying in the front yard.

On Side B, the exterior wall was pushed outwards and had detached from the roof, roof vent and both windows as shown in Figure 5. Both windows including panes and frames, were intact. No fire damage was noted.

On Side C, there was some smoke staining near the top of the exterior wall at the roof junction, but no other damage was observed as shown in Figure 6.

On Side D of the original structure, the upper section of the siding was detached from the structure with the anchors still attached to the exterior sheathing. Small amounts of siding material were still present around the anchors as shown in Figure 7.

ii. *Exterior-Addition*

On Side B of the addition where the back door was located, the exterior wall including the siding was intact and appeared undamaged. The window glass was missing from the window next to the door as shown in Figure 8.

On Side C of the addition, several strips of siding were missing as was the roof edging as shown in Figure 9. In the lower corner of the exterior wall, there was a hole that extends into the interior of the bathroom. The exterior sheathing was bowed outwards and

¹⁰ Ops - Post-Incident Testing at 3527 and 3515 Durango Drive - Observations by Atmos Energy

sheetrock and insulation are on the ground outside of the structure. The insulation around the hole has some thermal discoloration¹¹. The roof overhang that extends onto Side B of the addition exhibited fire damage to the roof edging.

On Side D of the addition, most of the exterior wall was missing as shown in Figure 10. The remaining section was missing most of the siding with only 3 sections present towards the bottom, leaving the sheathing exposed. A portion of the roof in this area was also missing. The remaining roof edge was displaced from its original location as shown in Figure 11.

In the crawlspace underneath the addition, the sewer discharge line appears to be separated at the elbow as shown in Figure 12. There was thermal discoloration on the exterior of the piping, particularly the elbow. The soil beneath the piping appears to be disturbed. Burned debris was visible behind the elbow.

iii. Interior-Original Structure

The living room/dining room exhibited damage to the ceiling near the wall that separated the living room from the kitchen located below the furnace's location in the attic. The ceiling had collapsed downwards into the room below as shown in Figure 13. The exposed wooden ceiling joists appeared undamaged and exhibited no exposure to heat or fire as shown in Figure 14.

The bedroom forward of the addition bedroom had fire damage to the shared wall as shown in Figure 15. There was damage to the ceiling joists with some of the joists partially collapsed into the bedroom. The ceiling sheetrock was missing. The wall joists had some charring at the top of the joists at the ceiling junction. The wall that separated this bedroom from the hallway had the sheetrock missing but the wall joists were undamaged. The ceiling in the hallway was also missing as shown in Figure 16.

The roof rafters and decking and other wooden structural members located in the attic sustained thermal damage (light surface charring and sooting) particularly those located near the furnace as shown in Figure 17. The outer surfaces of the HVAC and vent ducting were thermally discolored and sooted as shown in Figure 18. Wiring in this area exhibited thermal discoloration and melting to the wiring insulation as shown in Figure 19.

iv. Interior-Addition

The bedroom located in the addition and its contents were destroyed by fire as shown in Figure 20. There was heavy charring on remaining support beams and ceiling joist. Sheetrock was missing from the wall that separated the bedroom from the adjoining bedroom. There was a low area of calcination to the sheetrock of the wall facing into the

¹¹ Thermal discoloration is the darkening or change in a material's color due to exposure to heat.

adjoining bedroom as shown in Figure 21¹². The back bathroom was heavily damaged by fire. There were fire-related demarcations and heavy soot on the tiling on the remaining walls as shown in Figure 22. The exterior was intact but missing the sheetrock. Some insulation battings were still present along the bottom and in the corner of the addition. The upper portions of the interior walls and the wall that separated the bathroom from the bedroom were missing.

A window air condition unit was located on the ground outside the B-side window of the addition bedroom, shown in Figure 23¹³. The unit exhibited thermal damage such oxidation of metallic components, charring and discoloration of paint, and sooting.

d. Appliance examination

An examination of the appliances from this residence took place on June 30, 2020. The four appliances retained from the residence were visually examined and all pertinent information such as manufacturer, model type and serial number were recorded. No other examination or testing was performed.

i. *Gas Range*

The gas range from this residence was identified from the photographs taken during the visual examination. The gas range was a General Electric Model JGBP35CEA5CC; Serial #TD241373P (GE Spectra 30-in, free standing gas range). According to a technical representative of the manufacturer, no safety bulletins had been issued for this model. In addition, no recalls were found on the Consumer Product Safety Commission's (CPSC) recall website for this model of range. The unit appeared to have no fire related damage as shown in Figures 24-27.

ii. *Hot Water Heater*

The hot water heater from this residence was identified from the photographs taken during the visual examination. The hot water was a Sure Comfort (manufactured by Rheem) 40-gallon residential gas hot water heater Model # SCG40T03ST34U1 Serial # Q501735989 and was manufactured December 13, 2017. According to a technical representative of the manufacturer, no safety bulletins had been issued for this model. In addition, no recalls were found on the CPSC's recall website for this model of hot water heater. The unit appeared to have no fire related damage as shown in Figure 28.

¹² According the National Fire Protection's *NFPA 921: Guide for Fire and Explosion Investigation*, 2017 Ed., calcination of gypsum is a fire effect realized in gypsum products (like sheetrock and wallboard) due to exposure to heat that drives off free and chemically bound water. When gypsum board is exposed to heat, as the paper and paint burn off the board, the board turns gray and beings to disintegrate. As the carbon in the board is burned off, the remains of the wall become whiter.

¹³ The window unit has similarities to a Goldstar Model GWHD5000 but the manufacturer could not be definitively identified.

iii. *HVAC unit (furnace)*

As shown in Figures 29-32, the furnace/HVAC unit had thermal damage and soot on three sides of the unit. The three damaged sides displayed thermal discoloration and damage to the surface coating, oxidation of metallic surfaces and warping of the panels. The access panel was undamaged. All identifying information, marks or logos were obscured or missing. The interior of the furnace also sustained thermal damage. There was light soot on the interior surfaces and most of the wiring had melted insulation as shown in Figure 33. On the interior of the access panel, the labels and diagrams appeared to be undamaged, but did not contain manufacturer information.

iv. *Bathroom Heater*

The gas bathroom heater from this residence had no markings or identifying information or logos on any of the visible surfaces. The heater was located in the original bathroom prior to the incident. The unit was identified through a reverse image search as a Peerless 7602 gas bathroom wall-mounted heater circa 1940-50s. Due to the approximated age of the heater, no other manufacturing information or recall information was found. There appeared to be no fire-related damage to the wall heater as shown in Figure 34.

B. 3515 Durango Drive

a. Description of residence

The house at 3515 Durango Drive was built in 1948. The house was a single level, wood framed structure with a pier and beam foundation. The layout of the residence is shown in Figure 35¹⁴.

i. *Permit information*

In response to NTSB investigator's request for all permit records related to 3515 Durango Drive, the City of Dallas provided records associated with five permits. Information for the issued permits is listed below

- Permit #7300167790-Issued 12/7/1973; Work Description: Sewer relay; Trade Type: Plumbing
- Permit #8231033-Issued 8/23/2000; Work Description: Addition (in front); Trade Type: Building
- Permit #1603213059-Issued 3/21/2016; Work Description: Electrical Repairs; Trade Type: Electrical

¹⁴ For the purposes of this report, the sides of the residential structure will be labeled as followed. Side A was the front of the residence. Facing the front of the residence and proceeding clockwise around the structure, Side B was the left side, Side C was the rear (for both the original structure and the addition) and Side D (for both the original structure and the addition) was the right. The sides are further defined as original and addition. See Figure 35 for further details.

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- Permit #1803155003-Issued 3/15/2018; Work Description: Gas testing with possible repairs; Trade Type: Plumbing
 - Permit #1903011094-Issued 3/0/2019; Work Description: Demolish structure and clear lot; Trade Type: Demolition

ii. Reported repairs

No other repairs to the residence or any significant issues with the structure were mentioned by the homeowner. The house was demolished in 2019.

b. Incident response

i. Fire Department Response

On February 22 at 10:21 a.m., the homeowner at 3515 Durango Drive reported a fire in his kitchen.¹⁵ The first responding units arrived at 10:27 a.m. Upon arrival, the incident commander observed large amounts of smoke coming from the south (Side A) and west (Side D) sides of the residence and significant fire on the north (Side C) and west side (Side B) of the structure. DFR requested a response from the electric and gas utility at 10:38 a.m. and 11:40 a.m., respectively. DFR arson investigators arrived on-scene at 10:47 a.m. The sole occupant of the residence at the time of the fire sustained injuries during the incident and was transported by DFR to the hospital. The fire was declared under control at 12:02 p.m.

The DFR Fire Investigation report stated that the fire originated in the kitchen, on or adjacent to the stove and that the fire traveled vertically to the attic, igniting nearby combustible cabinets and surrounding structural members, causing significant fire and smoke damage resulting in a total loss¹⁶. The report fire classification was listed as “undetermined” because all accidental causes could not be eliminated.

In his statement to DFR arson investigators, the homeowner stated that flames were circling around the pot of water. When he tried to turn down the burner, he said that the burner flared on him and he remembered being thrown backwards. Homeowner reported that the flames were glowing red and out of control.

ii. Gas Company Response¹⁷

An Atmos Energy service technician responded to the fire at 3515 Durango Drive. He told NTSB investigators that his first task was to examine the meter and verify that the gas was off. He confirmed that DFR had already turned off the gas at the meter. He was told by the

¹⁵ This summary is based on the NTSB Emergency Response Factual Report, which contains additional information regarding the DFR response to the event.

¹⁶ ER - Dallas Fire-Rescue Department, Fire Investigation Report, February 22, 2018, 3515 Durango Drive, Dallas, Texas

¹⁷ ¹⁷This summary of Atmos Energy’s response to 3515 Durango Drive is based on the NTSB Operations and Integrity Management Report, which contains additional information regarding Atmos’s response.

DFR incident commander that the fire started in the kitchen at the range and that on the previous day (February 21), a gas-related event had occurred on the same street, three houses to the east (3527 Durango Drive). The technician was asked to contact his company and to find someone to investigate which he did. Numerous Atmos Energy employees were sent to the scene¹⁸. Atmos Energy employees were continuously working in the area surrounding the two Durango Drive residences from the afternoon of February 22 through the morning of February 23, 2018. The service technician told investigators that he did not test the regulator and that the customer's piping was not assessable (testable) because of fire¹⁹.

After the incident, the customer-owned piping for this residence was pressure tested. NTSB Investigators contacted the plumbing company that performed the testing of the customer-owned piping at 3515 Durango Drive. The plumber responsible for the testing indicated that he first visited the property on March 14, 2018 to evaluate the job site and had performed testing on March 15, 2018 and March 20, 2018. He indicated that there were three gas appliances in the home (gas range, water heater and furnace). The only damage to the gas piping that he recalled that the flex connector to the stove was found disconnected from the stove but was undamaged. He indicated that the system was tested with normal operating pressure and that there were no indications that any of the gas piping system was leaking or malfunctioning except a minute leak as described in Section 6 of the Operations and Integrity Management Factual Report.²⁰

c. Damage description from reports and pictures

i. *Exterior*

On Side A of the residence, the porch and the front center and left section was sided. In this area, the damage was limited to the two front windows and the exterior wall above those windows as shown in Figure 36. The glass panes were missing from both windows. The upper edges of the windows and the exterior siding were sooted and sustained fire damage and thermal discoloration. On the left side, the window adjacent to the front door exhibited similar damage. The edge of the roof, located directly above these windows, exhibited similar damage. The underside of the porch overhang was slightly sagged and had similar fire damage as well. On the section to the right, the wall had a brick façade with a window. The only fire damage present in this area was some fire damage at the junction of the wall and roof and smoke staining to the brick below this junction. Visible sections of roof exhibited fire damage and evidence of firefighting ventilation efforts. A square section on the left side of the roof had been removed during firefighting operations to facilitate ventilation within the structure. Another hole was in the center of the roof. This hole exhibited fire damage around the edges of the roof in this area.

¹⁸ See additional details to Atmos Energy's response to 3515 Durango Drive in the NTSB Operations and Integrity Management Report.

¹⁹ The regulator was later tested at a independent laboratory as part of the NTSB's investigation. See Section H.3 of the Operations and Integrity Management Factual Report for more information.

²⁰ Ops – Customer-Owned Piping at 3527 and 3515 Durango Drive - Observations by Atmos Energy

On Side B, the exterior wall appeared to be wood sided. The car port was located on this side and the roof extended over this area. The exterior wall of the residence located under the carport sustained damage to approximately the upper third of the wall. Two windows were in this area as well. At the A/B corner, there was some sooting and fire damage to the siding located between the corner and the window as shown in Figure 37. The right window was missing the glass panes and the upper portion of the frame was sooted. The section of siding between the two windows had some charring and was sooted. There was a square section below the fire damage section where the siding was missing, exposing the exterior sheathing²¹. There was a hole in the sheathing and the insulation had been pushed out as shown in Figure 38. The section exhibited no fire damage. The siding was missing to the left of the left window. The siding anchors appear still attached to the exterior sheathing. The siding below this area was intact and undamaged. The sooting and charring extended to the underside of the carport roof particularly at the rear edge of the carport roof where it joined the house. The area of the wall located behind the car port sustained heavy fire damage to the top third of the wall. The wall covering was detached from the exterior sheathing and it appeared that the siding anchors were still attached to the sheathing. The window located in this area sustained fire damage and the room was burned through at this location. The area below the window was intact and relatively undamaged.

On Side C, the B/C corner of the structure sustained significant fire damage that extended from the corner to midline of the back exterior wall as shown in Figure 39. This area appeared to be an addition to the original structure and appeared to have been sided with stucco with the lower third sided with masonry blocks. The exterior wall (siding and exterior sheathing) in this area was largely missing with only vertical structural supports visible. These supports and the remaining wall materials exhibited fire damage. The damage went down to the floor at the corner and extended up in a partial "U" shaped pattern as it moved towards the midline of the structure. The roof in this area was sagging along the edge and areas of roof missing. There was some buckling across the roof surface and partially collapsed adjacent to the corner of the structure. The section of the structure from the midline to the C/D corner was relatively intact but exhibited sooting at the junction of the wall and roof. The window was missing the glass panes and the frame was sooted as shown in Figure 40. The roof over this section of the rear wall appeared undamaged.

On Side D, the exterior wall was intact including the wood-sided eaves as shown in Figure 41. The eaves and roof edge were sooted as was the junction of the siding with the brick façade and the upper portion of the window frame. The window was missing the glass panes. The roof over this section appeared undamaged.

During a post-incident examination of the structure and appliances at 3515 Durango Drive that took place on April 4, 2018, the homeowner's representative removed sections of the fence installed next to the carport on Side B. One of the fence panels is shown in Figure 42. The red markers and white circles indicate the location of glass fragments found embedded in the fencing slats.

²¹ This area was directly behind the gas range's location on the opposite side of the wall.

ii. Interior

The interior was destroyed by fire. An example of this damage is shown in Figure 43. Most of the interior walls (sheetrock) and ceiling were missing, and the exposed structural joists were fire damaged. Remaining walls and ceilings were sooted and fire damaged in areas adjacent to missing areas of sheetrock. The damage extended to the underside of the room causing sooting and charring to roof beams, rafters, and decking. Room contents were largely destroyed as well.

d. Appliance Examination

An examination of the gas range from this residence took place on June 26, 2020. The gas range retained from the residence was visually examined and all pertinent information such as manufacturer, model type and serial number were recorded. No other examination or testing was performed.

The gas range from this residence was identified from the photographs taken during the visual examination. The gas range was a Kenmore Model 790-74133311; S/N-VF61631393 and was distributed by Sears Brand Management Corp Hoffman Estates IL. Further research determined the gas range had been manufactured by Frigidaire for Kenmore²².

The distribution company was contacted for additional information. However, the company was unable to provide any information other than the information contained in the owner's manual. Investigators were told to contact Kenmore. No product information was available from Kenmore, beyond the owner's information already found and investigators were referred to the distribution company warranty department. The manufacturer was contacted however, no range specific information could be provided beyond replacement parts information.

No recalls or reports found for this model number on the CPSC website.

The gas range was approximately a year old according to a DFR interview with one of the homeowners. It had been working well prior to the incident and no repairs had been done on the appliance.

Photographs of the gas range show the unit had soot over all exposed exterior surfaces as shown in Figures 44-47. There was thermal damage to the backsplash and control panel. The metal panels on either side of the control panel were discolored and warped. The paint was discolored, bubbled, or missing on the upper surfaces (backsplash and back of cook top). All plastic components were melted, and the control board was encased in resolidified plastic as shown in Figure 48. Burner caps appear undamaged. Oven pilot unit was undamaged as shown in Figure 49. Oven interior was undamaged and exhibited thermal discoloration consistent with normal oven operation as shown in Figure 50.

²² Frigidaire is the US consumer and commercial home appliances brand subsidiary of European parent company, Electrolux.

e. Additional information from interviews and reports

One of the DFR arson investigators stated in his interview that, during the investigation at 3515 Durango Drive, he was approached by a resident who stated she lived on 9621 Larga Drive²³. She stated that she had contacted the gas company a few days prior (2/19/18) because when she turned on her stove, the burner flames were red instead of blue as expected. She stated that the gas company representative she spoke to told her there were no problems with the gas service in her neighborhood and that everything was normal.

C. Recalls for Gas Appliances

A search for recalls involving gas appliances on the CSPC website generated 22 recall notices for gas ovens, stoves, and ranges and 10 residential furnace equipment recalls dating back to 1973.

As stated above, no recalls were found for any of the models identified from either 3515 or 3527 Durango Drive. Since the furnace from 3527 Durango Dr. could not be identified, recall history for that unit could not be determined.

Nancy B McAtee
Fire and Explosion Specialist
RE-30

²³ Interview - Dallas Fire-Rescue Arson Investigator 'C' 02.26.18 and ER - Dallas Fire-Rescue Department, Fire Investigation Report, February 22, 2018, 3515 Durango Drive, Dallas, Texas

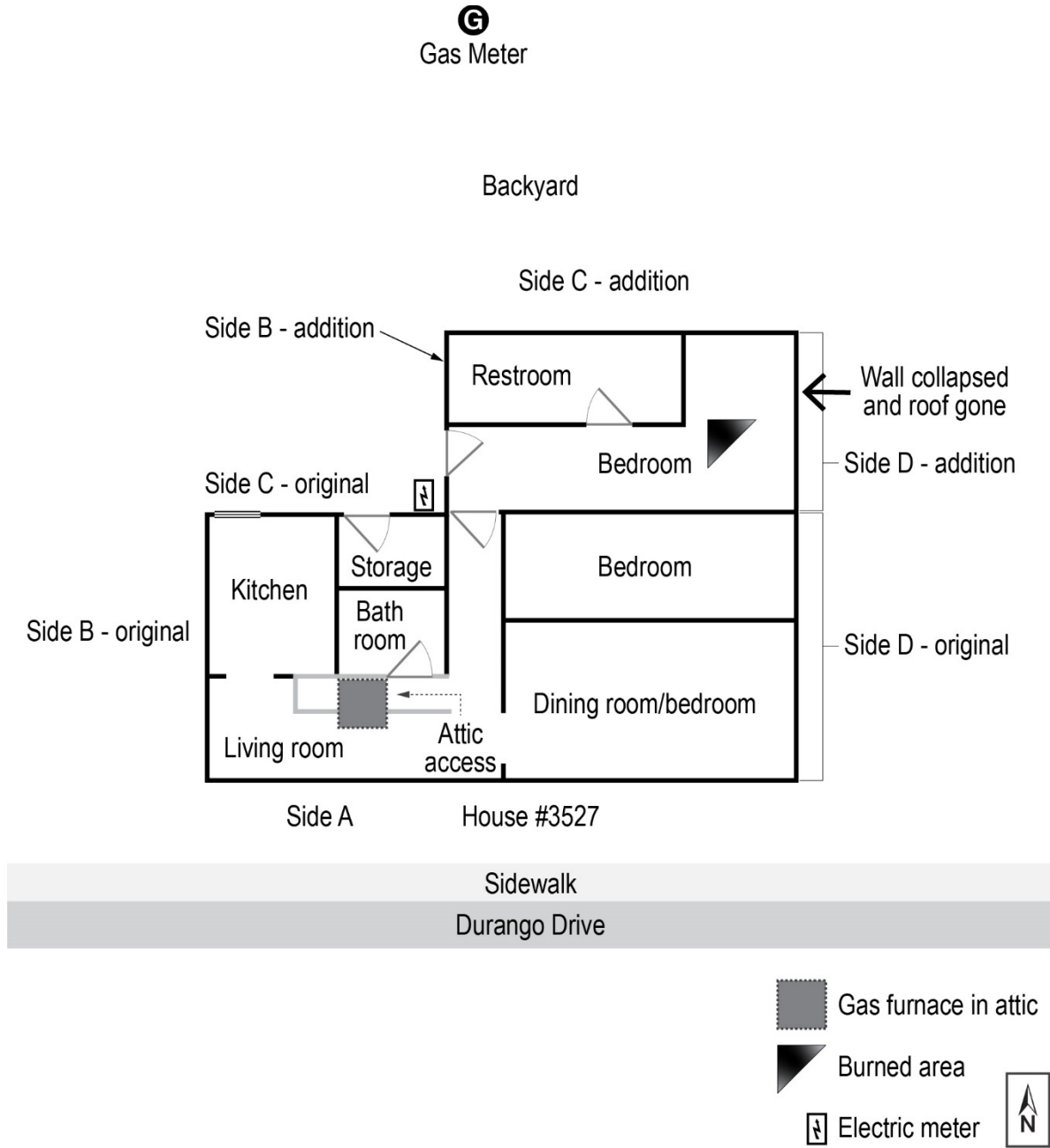


Figure 1. Layout of 3527 Durango Drive

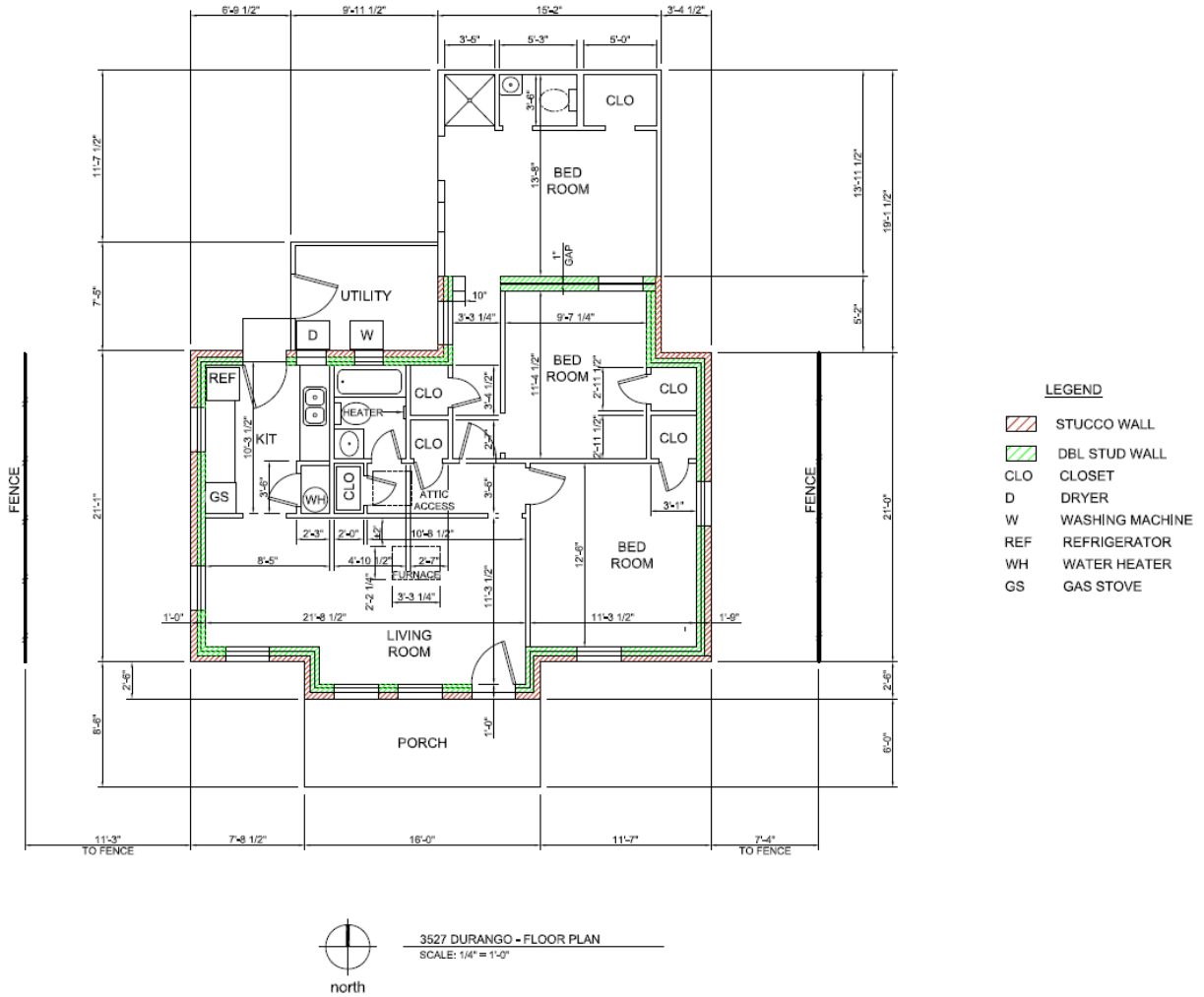


Figure 2. Architectural Drawing of 3527 Durango Drive. Drawing created by BakerRisk, March 2018.



Figure 3. Side A (Front) of structure at 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 4. Side A of 3527 Durango Drive (roof and side of porch overhang). Photo by DFR, February 2018.



Figure 5. Side B of 3527 Durango Drive. Photo by DFR, February 2018.



Figure 6. Side C for original structure for 3527 Durango Drive. Photo by DFR, February 2018.



Figure 7. Side D of original structure of 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 8. Side B of addition for 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 9. Side C of addition for 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 10. Side D for addition for 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 11. Upper portion of Side D of the addition for 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 12. Crawlspace under addition for 3527 Durango Drive. Photograph by DFR, February 2018.

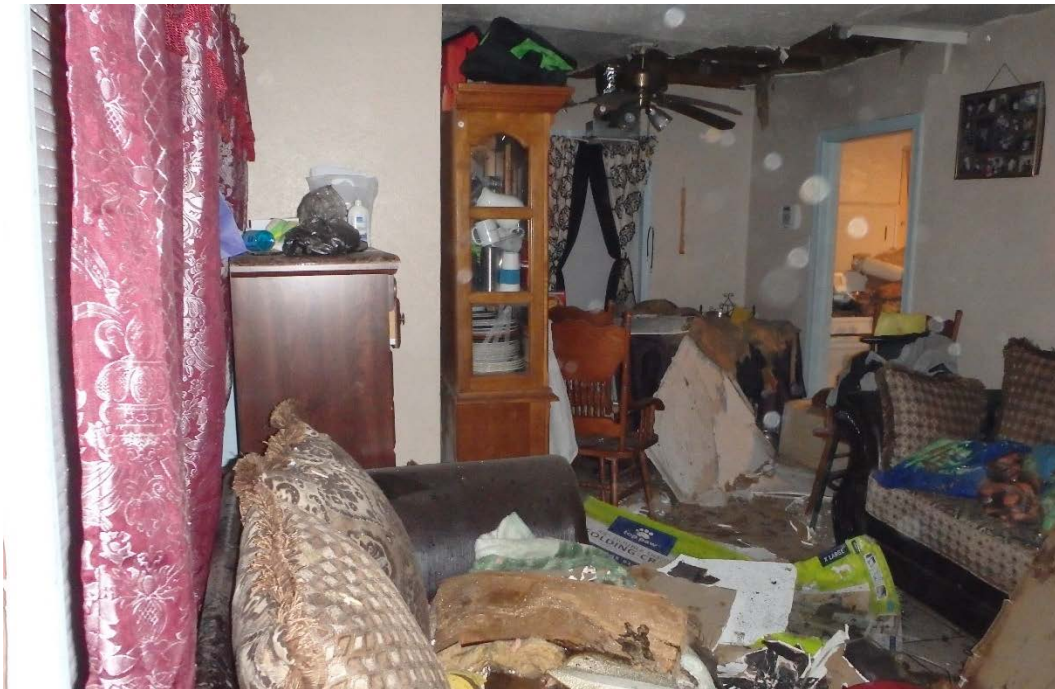


Figure 13. Damage to ceiling in living room of 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 14. Closeup of ceiling rafters in living room of 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 15. Bedroom wall between original structure and addition in 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 16. Hallway and bedroom wall in original structure of 3527 Durango Drive.
Photograph by DFR, February 2018.



Figure 17. Damage to attic and roof structure in 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 18. Damage to ducting in attic of 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 19. Damaged wiring and attic structure in 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 20. Bedroom wall in addition of 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 21. Closeup of calcination (highlighted with yellow circle) on wall in addition bedroom for 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 22. Bathroom in addition of 3527 Durango Drive. Photograph by DFR, February 2018.



Figure 23. Window air conditioning unit from 3527 Durango Drive addition bedroom window. Photograph by DFR, February 2018.



Figure 24. Gas range from 3527 Durango Drive (front). Photograph by DFR, June 2020.



Figure 25. Gas range from 3527 Durango Drive (left side). Photograph by DFR, June 2020



Figure 26. Gas range from 3527 Durango Drive (back). Photograph by DFR, June 2020.



Figure 27. Gas range from 3527 Durango Drive (right side). Photograph by DFR, June 2020.



Figure 28. Hot water heater from 3527 Durango Drive. Photograph by DFR, June 2020.



Figure 29. Furnace unit from 3527 Durango Drive (Side A). Photograph by DFR, June 2020.



Figure 30. Furnace unit from 3527 Durango Drive (Side B). Photograph by DFR, June 2020.



Figure 31. Furnace unit from 3527 Durango Drive (Side C). Photograph by DFR, June 2020.



Figure 32. Furnace unit from 3527 Durango Drive (Side D). Photograph by DFR, June 2020.

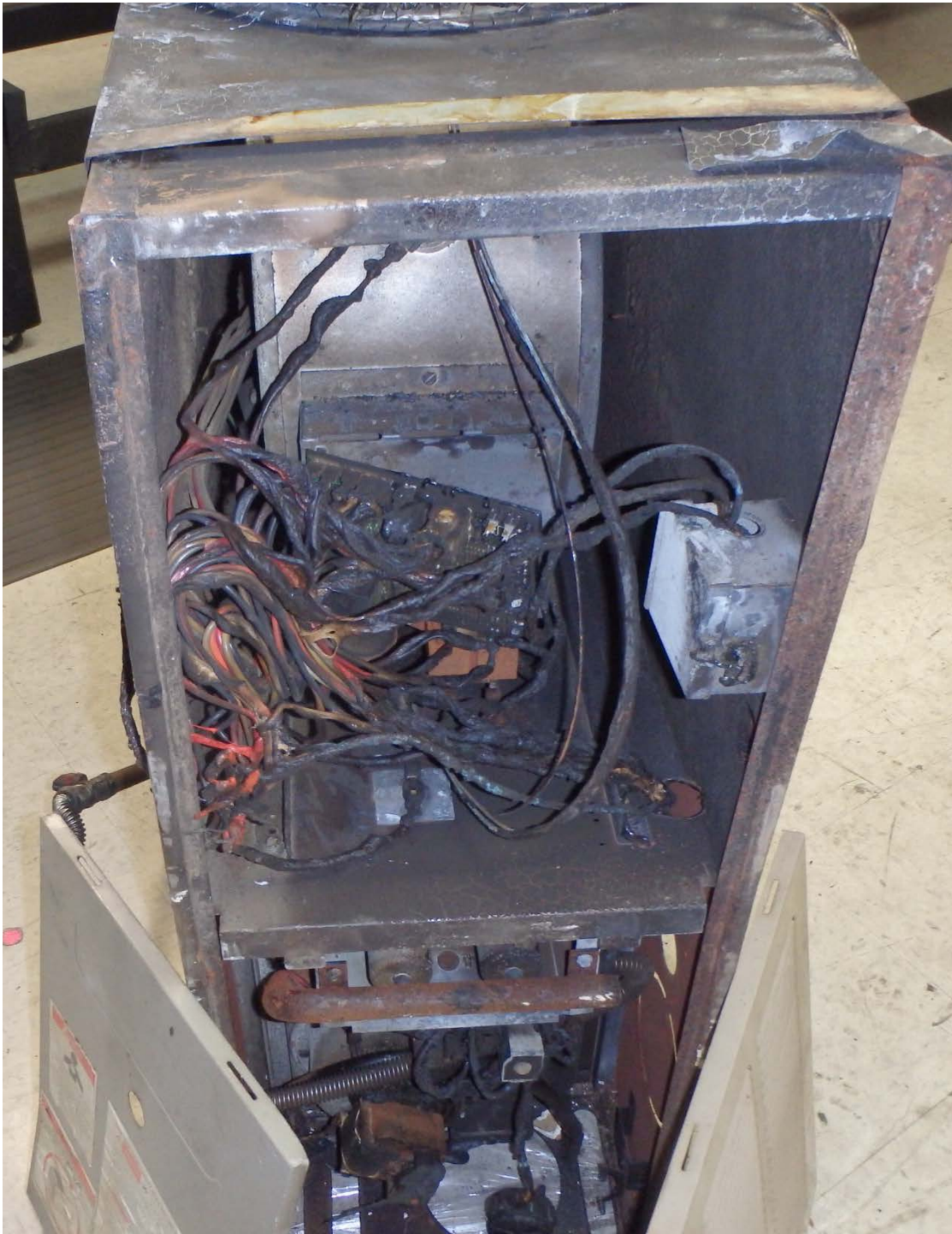


Figure 33. Interior compartment of furnace unit from 3527 Durango Drive. Photograph by DFR, June 2020.



Figure 34. Gas bathroom heater from 3527 Durango Drive. Photograph by DFR, June 2020

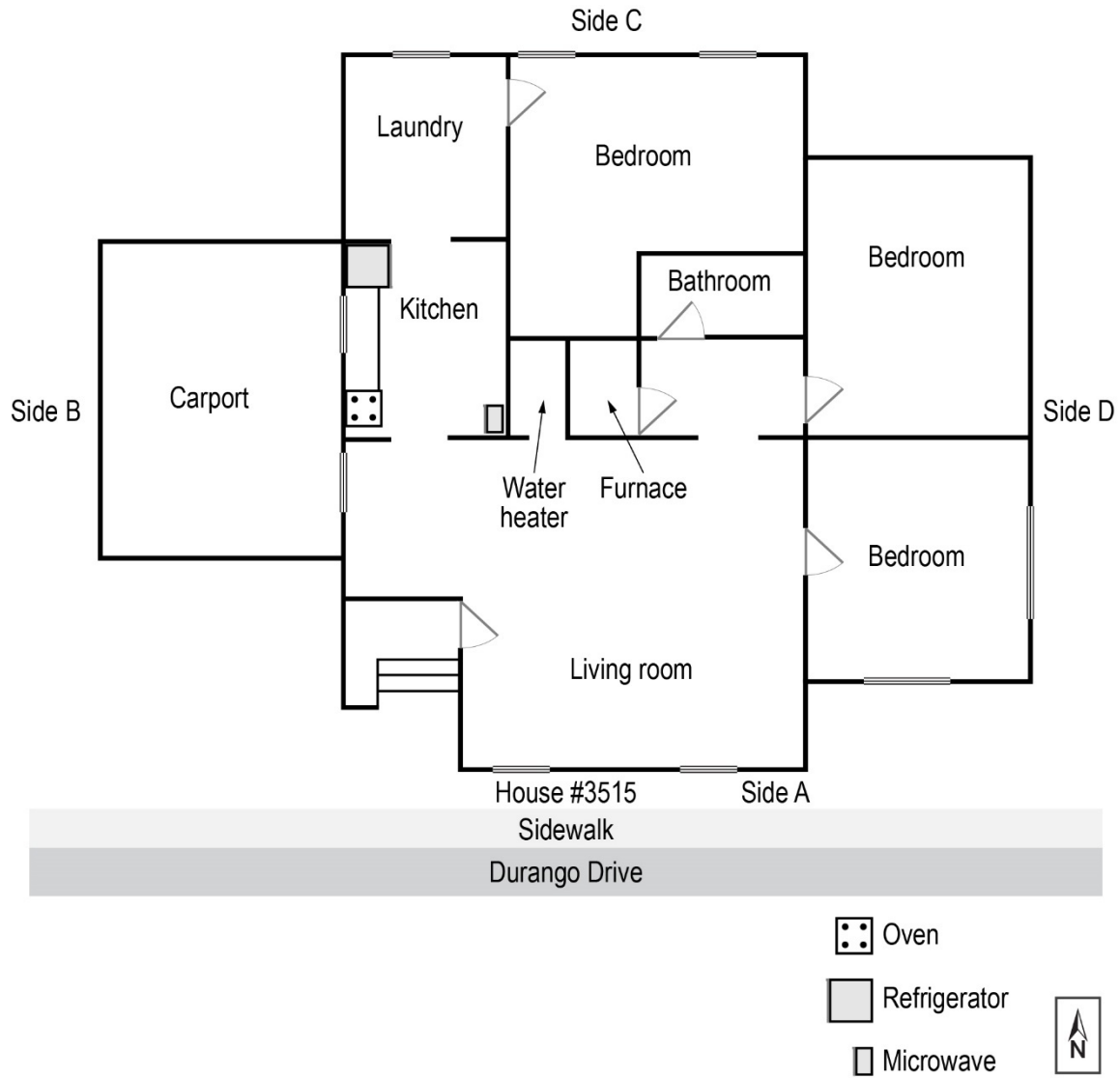


Figure 35. Layout drawing of 3515 Durango Drive



Figure 36. Side A of 3515 Durango Drive. Photograph by DFR, February 2018.



Figure 37. Corner of Side A and Side B of 3515 Durango Drive. Photograph by DFR, February 2018



Figure 38. Side B of 3515 Durango Drive. Photograph by DFR, February 2018



Figure 39. Side C of 3515 Durango Drive. Photograph by DFR, February 2018.



Figure 40. Corner of Side C and Side D of 3515 Durango Drive. Photograph by DFR, February 2018.



Figure 41. Side D of 3515 Durango Drive. Photograph by DFR, February 2018.



Figure 42. Fence panel with embedded glass located next to the carport for 3515 Durango Drive. Screenshot of video taken by homeowner's representative, April 2018.



Figure 43. Interior room of 3515 Durango Drive. Photograph by DFR, February 2018.



Figure 44. Gas range from 3515 Durango Drive (front). Photograph by DFR, June 2020.



Figure 45. Gas range from 3515 Durango Drive (left side). Photograph by DFR, June 2020.



Figure 46. Gas range from 3515 Durango Drive (back). Photograph by DFR, June 2020.



Figure 47. Gas range from 3515 Durango Drive (right side). Photograph by DFR, June 2020.



Figure 48. Control panel of 3515 Durango Drive gas range. Photograph by DFR, June 2020.



Figure 49. Pilot and glow bar of 3515 Durango Drive gas range. Photograph by DFR, June 2020.



Figure 50. Oven interior of 3515 Durango Drive gas range. Photograph by DFR, June 2020.