

Created on 5/28/17

Intention Measures with Standard Work Specifications for the HHSR 29 Housing Hazards

| # | Hazards | Assessment Methods | Common Approach | Intervention Measures | Standard Work Specifications |
|---|------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Dampness & mold growth | <p>a Visual assessment</p> <p>b Moisture meter measures</p> <p>c Infrared camera assessment</p> | <p>a Mold remediation (Measure in square feet and document specific location (s) and extend contaminated area throughout the home. Indicate if work needs to be sub-contracted.)</p> <p>b Moisture reduction, Spot ventilation (Measure and document moisture or relative humidity throughout the home. Measure the fan air flow to verify compliance with ASHRAE Standard 62.2 - 2016.)</p> | <p>(a) zCIF-Mold Remediation/Contractor Labor</p> <p>(b) zCIF-Mold Remediation/porous surfaces</p> <p>(c) zCIF-Mold Remediation/non-porous surfaces</p> <p>(d) Crew Labor (Health and Safety)</p> <p>(a) Install Bath Exhaust Fan (Health and Safety)</p> <p>(b) zCIF-Bath exhaust timer</p> <p>(c) zCIF-Install switch for bath exhaust fan*</p> <p>(d) Vent Outside (Health and Safety)</p> | <p>(a) Mold contaminated areas bigger than 10 sq. ft. require remediation conducted by a certified mold remediation contractor in order to reduce risk of spreading the mold during the work.</p> <p>(b) (1) When mold occurs on porous surfaces such as drywall, area needs to be removed and discarded. Usually the bottom 18" of drywall is removed if contaminated or wet. (2) Wood frame behind contaminated drywall is treated with anti-microbial agent. (3) Replacement of any removed surface will depend on location within the home. (i.e. bathrooms and bedrooms.)</p> <p>(c) Mold occurring on non-porous surfaces will be scrubbed cleaned, dried and then treated with anti-microbial agent.</p> <p>(d) Mold contaminated or water damaged objects need to be discarded if wet for more than 48 hours.</p> <p>(a) Bathrooms: (1) Install local exhaust ventilation only for bathrooms with showers. Exhaust fan must be of no less than 50cfm (for demand controlled exhaust) with a sone rating of 1.0 or less for each bathroom. (2) Seal gaskets and fan housing mounted on ceiling. (3) Install proper vent ducting for exhaust fan terminating completely outside the dwelling. (4) Use 4" rigid smooth metal pipe (30 gauge or thicker) minimizing the distance to outside and limit elbows to maximum of 2 per run. (5) Seal all rigid duct joints and seams with mastic or metal tape. (6) Support metal ducts with at least 1/2 inch, 18 gauge strapping or at least 12-gauge galvanized wire, not less than 10 feet apart. (7) Insulate metal pipe to a minimum of R-8 if traveling through unconditioned space. (8) Install a water-proof termination fitting with louvered cover or with a flap damper. (9) Exhaust terminations must be at least 6 inches above ground, at least 10 feet from another fan termination, above local snow or flood line, never on a flat roof and 3 feet away from an operable window, exterior door, or property line. (10) Measure the fan air flow to verify compliance with ASHRAE Standard 62.2 - 2016.</p> <p>(b) Install bath exhaust timer. Indicate bathroom location. Recommend sub-contractor certified electrician for the work.</p> <p>(c) Install switch for bath exhaust fan. Indicate bathroom location. Recommend sub-contractor certified electrician for the work.</p> <p>(d) Kitchens: (1) Install local exhaust ventilation for kitchens, either installed above the stove or on an exterior wall no farther than 9 feet from stove. Kitchen fans need to be of no less than 100 cfm (for demand controlled exhaust) (2) Seal gaskets around mounted fan housing. (3) Install proper vent ducting for exhaust fan terminating completely outside the dwelling. (4) Use 4" rigid smooth metal pipe (30 gauge or thicker) minimizing the distance to outside and limit elbows to maximum of 2 per run. (5) Seal all rigid duct joints and seams with mastic or metal tape. (6) Insulate metal pipe to a minimum of R-8 if traveling through unconditioned space. (7) Install a water-proof termination fitting with louvered cover or with a flap damper. (8) Exhaust terminations must be at least 6 inches above ground, at least 10 feet from another fan termination, above local snow or flood line, never on a flat roof and 3 feet away from an operable window, exterior door, or property line. (9) Measure the fan air flow to verify compliance with ASHRAE Standard 62.2 - 2016.</p> |

| | | |
|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | (e) zCIF-Install range hood* | (e) Kitchen range hood: (1) Install range hood above the stove. Kitchen fans need to be of no less than 100 cfm (for demand controlled exhaust) (2) Seal gaskets around fan housing. (3) Install proper vent ducting for exhaust fan terminating completely outside the dwelling. (4) Use 4" rigid smooth metal pipe (30 gauge or thicker) minimizing the distance to outside and limit elbows to maximum of 2 per run. (5) Seal all rigid duct joints and seams with mastic or metal tape. (6) Insulate metal pipe to a minimum of R-8 if traveling through unconditioned space. (7) Install a water-proof termination fitting with louvered cover or with a flap damper. (8) Exhaust terminations must be at least 6 inches above ground, at least 10 feet from another fan termination, above local snow or flood line, never on a flat roof and 3 feet away from an operable window, exterior door, or property line. (9) Measure the fan air flow to verify compliance with ASHRAE Standard 62.2 - 2016. |
| | (f) Install Dryer Vent (Health and Safety) | (f) Dryers: (1) Vent clothes dryer with 4" smooth metal ductwork completely to the outside. (2) Minimize the distance to outside and the number of elbows. (3) Insulate metal pipe to a minimum of R-8 if traveling through unconditioned space. (4) Install a water-proof termination fitting with louvered cover or with a flap damper. |
| | (g) zCIF-Water Proofing | (g) Caulk around exterior of windows and doors and seal building penetrations. Indicate locations. |
| c Plumbing repairs (Indicate specific location and problems.) | (a) MINOR-Repair plumbing-HS | (a) Repair water leaks from water lines or water supply fixtures. Replace broken, corroded, leaky faucets, mixing valves, diverters, toilets, etc. |
| | (b) zCIF-Replace kitchen faucet | (b) Repair water leaks from broken, corroded, leaky faucets. |
| | (c) zCIF-Install shower diverter | (c) Repair water leaks from broken, corroded, leaky shower diverter. |
| | (d) zCIF-Replace bathroom faucet | (d) Repair water leaks from broken, corroded, leaky bathroom faucet. |
| | (e) MINOR-Repair plumbing-HS | (e) Repair water leaks from drain pipes (i.e. bathroom and kitchen sinks). |
| | (f) zCIF-Install P type trap (kit/bath) | (f) Repair drain pipe, P-trap under bathroom and kitchen sinks. |
| | (g) zCIF-Install new wax seal | (g) Repair leaky toilet. Install new wax seal. Indicate bathroom location. |
| d Condensation prevention | (a) ES - Water Lines - Insulate/Conditioned area | (a) (1) Insulate water pipes to prevent condensation. In conditioned areas install up to 6 ft. of pipe insulation on water lines. (2) Insulate elbows. Secure insulation with tape or any other mechanical ties. |
| | (b) ES - Water Lines - Insulate/Unconditioned area | (b) (1) Insulate water pipes to prevent condensation. In unconditioned areas install a minimum of 23 ft. of pipe insulation on water lines. (2) Insulate elbows. Secure insulation with tape or any other mechanical ties. |
| | (c) ES - Duct Sealing (Mastic) + R-8 Insulation | (c) (1) Apply mastic to seal air ducts. Apply mastic to a thickness of 1/8-inch with brush or rubber glove. (2) Insulate metal ductwork to a minimum of R-8 if traveling through unconditioned space to prevent condensation. |
| | (d) Crew Labor (Health and Safety) | (d) Improve indoor ventilation for moisture reduction by removing obstructions from supply registers and return grids. |
| | (e) zCIF-Dehumidifier | (e) (1) Install dehumidifier in high moisture areas. (2) Drain dehumidifier to drain or sink. Match specifications of dehumidifier with area to be treated. |
| e Drainage system improvement (Provide linear footage for gutters/downspouts requiring replacement.) | (a) zCIF-Gutters/Downspout Repair | (a) (1) Remove existing gutters and downspouts and remove debris from site. (2) Supply and install new 5 inch K style aluminum seamless gutters installed with hidden hangers. (3) Supply and install new 2x3 inch aluminum downspouts. |
| | (b) Downspout Extender-HS | (b) Install downspout extensions. Indicate locations. |
| | (c) zCIF-Install sump pump (minimum spec of 1/4hp 40 g.p.m.)* | (c) Install or replace sump pumps. Minimum spec of 1/4hp 40 g.p.m. |
| | (d) zCIF-Sump pump check valve | (d) Install or replace check valve on sump pump drain pipe. |
| | (e) zCIF-Snake drain system | (e) Unclog drain pipes. Determine approximate location of the clogged pipe. |
| f Exterior grading improvement | (a) zCIF-Water Proofing | (a) Improve/increase drainage inside and around the home by increasing exterior grading. The minimum slope away from a building should be 1" in drop of 12" of run when permeable surfaces and soils are present. |
| g General repairs | (a) Crew Labor (Health and Safety) | (a) Install or repair flashing on roof. Indicate location and approximately extend of damage. |
| | (b) HS-repair MINOR roof leak(s) | (b) Roof repairs. Indicate type of repairs required and approximately areas of roof needing repairs. Indicate type of roofing material. |
| | (c) zCIF-Complete tear off and installation * | (c) Roof replacement or complete tear off. Indicate condition, defects of the roof to justify replacement. Indicate approximately square footage (area) of the roof. Indicate type of roofing material. |
| | (d) zCIF-Remove and replace skylight | (d) Remove and replace skylight due to water leaks, air leaks, or any other deficiency. |

| | | | |
|-----------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <p>h Ground treatment</p> | <p>(e) zCIF-Fascia replacement 4", 6", 8"</p> <p>(f) zCIF-Soffit replacement 4-8", 8-12" (vinyl or aluminum)</p> <p>(g) Crew Labor (Health and Safety)</p> <p>(h) zCIF-Remove and replace damaged sub floor</p> <p>(i) zCIF-Treat floors (VCT)</p> <p>(j) zCIF-Wall/ceiling repair w/ sheetrock and finish</p> <p>(k) zCIF-Demo and replace plaster ceiling and replace with 1/2" sheetrock(tape coat only)</p> <p>(l) zCIF-Remove and replace damaged tub surround</p> <p>(m) zCIF-Repack/replace seals (kit and bath)</p> <p>(o) HS-repair MINOR roof leak(s)</p> <p>(a) Install Vapor Barrier (Health and Safety)</p> | <p>(e) Replace rotted, water damaged fascia. Indicate size 4", 6" or 8". Indicate location and linear footage needed.</p> <p>(f) Replace rotted, water damaged soffit. Indicate size 4-8" or 8-12". Indicate location and linear footage needed.</p> <p>(g) Siding repairs. Replace damage or missing siding. Indicate square footage and location.</p> <p>(h) (1) Remove water damaged floor and subfloor. Indicate location and square footage of the damaged area to be replaced. (2) Install new 3/4" plywood sub-floor. (2) Include replacing floor tiles on repaired area, at least of similar in color to rest of the floor.</p> <p>(i) Unprotected subflooring will deteriorate in time by being exposed to moisture. Protect newly replaced sub-flooring with vinyl tiles. Indicate square footage of the area to be covered.</p> <p>(j) Replace damaged, wet, or mold contaminated drywall. Leave sanded, ready for painting. Indicate square footage.</p> <p>(k) Replace damaged, wet, or mold contaminated plaster. Leave sanded, ready for painting. Indicate square footage.</p> <p>(l) Replace damaged bathtub surround. Indicate size of area to be covered or square footage around bathtub.</p> <p>(m) Repack/replace seals (kit and bath)</p> <p>(o) Install ridge vents or gable vents, and soffit vents. Determine ventilation requirements. Recommend sub-contractor roofer to do the work.</p> <p>(a) Install a durable vapor retarder—such as 6 mil or thicker polyethylene plastic—over bare earth floors in a basement or crawl space to prevent water vapor/moisture from the ground from penetrating into the building. (1) Install ground moisture barrier, with a rating of no more than 0.1 perm, covering 100% of the exposed crawl space floor; (2) Seal it to the wall. (3) Create a continuous and durable connection between the wall and ground air and moisture barriers. (4) Seams will be overlapped a minimum of 12" with reverse or upslope lapping technique. Seams need to be sealed.</p> |
| <p>2 Excess cold</p> | <p>a Visual assessment</p> <p>a Weatherization</p> <p>b Infrared thermometer</p> | <p>(a) ES - Duct Sealing (Mastic) + R-8 Insulation</p> <p>(b) ES - Insulation - Install R-19 Fiberglass(Wall or Floor)</p> <p>(c) ES - Insulation - Install R-19 Fiberglass(Wall or Floor)</p> <p>(d) ES - Insulation - Install R-49 Cellulose(Attic)</p> <p>(e) IR-Baffles</p> <p>(f) ES-Install Complete Attic Hatch Door w/R49 - Kneewalls</p> <p>(g) ES-Install Complete Attic Hatch Door w/49 - Ceiling</p> | <p>(a) (1) Apply mastic to seal air ducts. Apply mastic to a thickness of 1/8-inch with brush or rubber glove. (2) Insulate metal ductwork to a minimum of R-8 if traveling through unconditioned space to prevent condensation.</p> <p>(b) Insulate basement ceiling with R-19 Batt fiberglass insulation.</p> <p>(c) Insulate crawlspace ceiling with R-19 Batt fiberglass insulation.</p> <p>(d) Install/improve attic insulation. (1) Air seal attic plate and attic penetrations. Air seal around attic hatch, inside and outside. (2) Install electrical flag markers (3) Cover exposed junction boxes. (4) Install proper size attic baffles. (5) Install insulation product chart. (6) Create floor space around AC unit in attic to allow for service. Dense pack insulation under floor. (7) Build dam to separate loose insulation from AC unit. (8) Apply loose cellulose to an R-49 level (9) Install several insulation depth rulers.</p> <p>(e) (1) Install baffles on attic eaves. (2) Baffles NEED to extend upwardly along the rafters to at least</p> <p>(f) Install attic hatch door to access behind knee walls and atop cavity/space above knee walls. (1) Build an insulation dam around the attic access hatch. Build the dam with plywood. (2) Install rigid insulation (to R-49) on the attic side of the hatch. Insulation will be permanently attached. Use constrictor adhesive and screws to attach the layers of rigid insulation to the hatch. (3) Wrap the sides of the insulation board with aluminum tape.</p> <p>(g) (1) Build insulation dam around attic access hatch, 2 inches above the height of insulation. Build dam with plywood or OSB so that the dam supports the weight of a person entering/leaving attic. (2) Install rigid insulation (to R-49) on attic side of the hatch. Attach insulation permanently in complete contact with the hatch. Use adhesive or screws to attach layers of rigid insulation to the hatch. (3) Wrap the sides of the insulation board with aluminum tape.</p> |

| | | | | |
|---|----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | (h) ES - Insulation - Install R-19 Fiberglass(Wall or Floor) | (h) Install R-19 Kraft faced fiber glass insulation on knee walls in attic. Cover backside of R-19 Kraft faced fiber glass in knee-walls with reflectics; all seams must be tapped and sealed. Plug space under knee walls (gaps between rafters) with fiber glass batt insulation covered with 1" foam board and then air sealed with spray foam around perimeter of foam board. |
| | | | (i) ES - Insulation - Install R-19 Fiberglass(Wall or Floor) | (i) (1) Remove soffit under the overhanging floor. (2) Air seal all seams gaps, and holes inside cantilevered floor cavities. (3) Install a 1 ½ rigid insulation at the top of the joist bays to separate the cantilever from the conditioned space above. Seal the perimeter of each piece of foam with caulk or spray foam. (6) Insulate joist bays with un-faced fiberglass batt insulation. (7) Install insulation without misalignments, compressions, gaps, or voids to fill the cantilever floor cavity, making full contact with the top, bottom, and sides of a cantilevered floor cavity. (8) Under the floor assembly, install a continuous piece of 1 ½ rigid foam mechanically fastened to the joists and in an airtight manner. (9) Cover the bottom of the insulated cantilever floor cavities with a rigid, weather-resistant solid blocking material such as plywood or solid soffit siding. |
| | | | (j) ES - Insulation - Install Foam Board 2"(Wall or Floor) | (j) Air seal and insulate rim joists in basement with 1" foam board and then air sealed with spray foam around perimeter of foam board. |
| | | | (k) ES - Clean and Tune - Heating System | (k) Provide clean and tune for combustion (i.e. oil, natural gas, propane, etc.) heating systems. |
| | | | (l) Registers - Replace | (l) Replace broken or missing registers throughout the home. Indicate locations. |
| | | | (m) Crew Labor (Health and Safety) | (m) Install weather strips around exterior doors. |
| | | | (n) Crew Labor (Health and Safety) | (n) Install door sweeps under exterior doors. |
| | | | (o) Crew Labor (Health and Safety) | (o) Caulking around windows, doors and building enetrations. |
| | | | (p) zCIF-Install/replace thermostat | (p) Install/replace thermostat |
| 3 | Excess heat a Visual assessment b Infrared thermometer | a Weatherization | | Same as Above |
| 4 | Asbestos and man- made fibers a Visual assessment | a Asbestos removal/encapsulation | (a) zCIF-Asbestos Abatement/removal | (a) Testing and removal of frayed asbestos material requires a certified asbestos removal contractor. |
| | | | (b) zCIF-Asbestos Abatement/encapsulation | (b) If asbestos floor material is not frayed it will be encapsulated with layer of epoxy or any other durable flooring material. |
| | | b Education/Awareness | (a) N/A | (a) Educate client on the health hazards associated to inhalation of asbestos particles. (b) Create awareness on the client of presence of asbestos or asbestos-like materials in the home and the need to avoid disturbing such materials. |
| 5 | Biocides a Visual assessment | a Biocide removal | (a) Crew Labor (Health and Safety) | (a) Expired, unlabeled or poorly stored products will be removed and properly discarded. |
| | | b Education/Awareness | (a) N/A | (a) Educate client on the health hazards associated to the exposure, unsafe usage and storage of biocides. |
| 6 | Carbon monoxide a Visual assessment b CO detector c Combustion analyzer | a CO health risk prevention/reduction | (a) N/A (b) N/A (c) N/A (d) N/A | (a) Detect for spillage from combustion appliances. (b) Measure combustion efficiency in combustion appliances. (c) Measure pressure differentials within combustion appliance zone (CAZ). (d) Visually check for structural integrity and proper design of venting systems for combustion gases (i.e. chimneys, flues). |
| | | | (e) zCIF-Remove and replace flue pipe 4-6" | (e) Remove and replace 4-6" diameter venting flues for combustion appliances. Specifically details of defects, measure length of defective flue, recommend for sub-contractor. |
| | | | (f) zCIF-Remove and replace flue pipe 6-10" | (f) Remove and replace 6-10" diameter venting flues for combustion appliances. Specifically details of defects, measure length of defective flue, recommend for sub-contractor. |
| | | | (g) Water Heater Vent (Health and Safety) | (g) Repair, remove and replace venting flues for water heater. If applicable, increase slope of flue to a minimum of 1/4" per foot. |
| | | | (h) zCIF-Chimney repair | (h) Chimney deficiencies - Chimney repairs, etc. |
| | | | (i) zCIF-Install aluminum chimney liner | (i) Chimney deficiencies - Chimney liner installation |
| | | | (j) ES - Clean and Tune - Heating System | (j) Provide clean and tune for combustion (i.e. oil, natural gas, propane, etc.) heating systems. |
| | | | (k) Furnace Replacement (Health and Safety) | (k) Replace inefficient, hazardous combustion fuel heating systems. |
| | | | (l) ES - Water Heater - Replace Tank/Heater | (l) Replace inefficient, leaky, hazardous combustion fuel hot water systems. |
| | | | (m) Replace DHW Tank (coord w/ Utility Co) (Health and Safety) | (m) Replace inefficient, leaky, hazardous combustion fuel hot water systems. Recommend replacing gas supply with electricity. Coordinate with utility. |
| | | | (n) Heating System Repairs (Health and Safety) | (n) Repair broken, inefficient, hazardous combustion fuel heating systems. |

| | | | | |
|--------------------------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | (o) Install Dryer Vent (Health and Safety) (p) Vent Outside (Health and Safety) (q) Vent Outside (Health and Safety) (r) Install C/O Alarm (Health and Safety) (s) zCIF-Insatll CO alarm hardwired per floor with lithium battery backup | (o) Vent gas dryers to the outside using 4' smooth metal ducts. (See SWS above) (p) Install exhaust fans (100 cfm) in kitchens with gas stoves. (See SWS above) (q) Remove unvented combustion space heaters. (r) Install CO detectors on each floor of the home. Follow manufacturer instructions for installation (s) Install hardwired CO detectors on each floor of the home. |
| | | b Education/Awareness | (a) N/A | (a) Educate client on the health hazards associated to CO inhalation and CO poisoning. (b) Create awareness on protocols to follow in the event of a CO alarm activation. |
| 7 Lead-based paint | a Visual assessment | a Lead-based paint removal/encapsulation (Recommend lead hazards risk assessor for sampling and analysis.) | (a) N/A (b) HEPA Cleaning - Lead (Health and Safety) (c) Misc. Demo. - Lead (Health and Safety) (d) zCIF-Exterior painting (porch/stairs) (e) Exterior Door - Lead (Health and Safety) (f) Exterior Wall - Lead (Health and Safety) (g) Interior Wall - Lead (Health and Safety) (h) Exterior Floor - Lead (Health and Safety) (i) Interior Floor - Lead (Health and Safety) (j) zCIF-Door jamb, repair/rework(inc stabilize) (k) Interior Ceiling - Lead (Health and Safety) (l) Lead - Windows (Health and Safety) (m) Exterior Trim - Lead (Health and Safety) (n) Interior Trim - Lead (Health and Safety) (o) Lead hazard control door replacement (p) Lead - Interior Door Casng (Health and Safety) (q) Soil Remediation - Lead (Health and Safety) | (a) Removal of lead-based paint hazards first requires a lead hazards risk assessment. (b) HEPA cleaning (c) Lead hazard control demolition (d) Lead hazard control stabilize exterior porch/stairs. Indicate location and square footage. (e) Lead hazard control stabilize exterior door. Indicate location and door size. (f) Lead hazard control stabilize exterior walls. Indicate location and square footage. (g) Lead hazard control stabilize interior walls. Indicate location and square footage. (h) Lead hazard control stabilize exterior floors. Indicate location and square footage. (i) Lead hazard control stabilize interior floors. Indicate location and square footage. (j) Lead hazard control stabilize interior floors. Indicate location and square footage. (k) Lead hazard control stabilize interior ceiling. Indicate location and square footage. (l) Lead hazard control window replacement. (m) Lead hazard control exterior window trims replacement (n) Lead hazard control interior window trims replacement (o) Lead hazard control door replacement (p) Lead hazard control door and door casing replacement (q) Lead hazard control soil remediation. Document and indicate locations. |
| 8 Radiation | a Radon testing | a Radon testing b Education/Awareness | (a) N/A (a) N/A | (a) Install a short-term, 48-96 hours radon test in basement and then send for analysis. (a) Educate client on the health hazards associated to exposure to Radon gas. (b) If test results are at 4 pCi/L or more inform client on the need of installing a Radon mitigating system in the home. |
| 9 Un-combusted fuel | a Visual assessment b Natural gas detector | a Fuel removal and fuel leaks detection b Education/Awareness | (a) zCIF-Remove oil tank (a) N/A | (a) Remove and discard un-used, unlabeled or poorly stored fuel. (a) Educate client on the health hazards associated to unsafe storage, usage and exposure to uncombusted fuel. |
| 10 Volatile organic compounds | a Visual assessment | a VOC compounds removal b Education/Awareness | (a) Crew Labor (Health and Safety) (a) N/A | (a) Unlabeled or poorly stored chemical will be removed and properly discarded. (a) Educate client on the health hazards associated to unsafe storage, usage and exposure to uncombusted fuel. |
| 11 Crowding and space | a Visual assessment | a Assist in removing clutter b Education/Awareness | (a) Crew Labor (Health and Safety) (a) N/A | (a) Clutter removal, especially when obstructing work done in the home. (b) Educate client on the health hazards associated to crowding and space issues in the home. (i.e. moisture, pests, wear & tear, etc.) |
| 12 Entry by intruders | a Visual assessment | a General repairs | (a) zCIF-Install knobset and deadbolt keyed alike (b) zCIF-Install solid core exterior door (c) zCIF-Install new solid core wood entry door with hardware/lockset (d) zCIF-Install knobset and deadbolt keyed alike (e) Window Repair - Glazing (f) Window Repair - Other (g) Window Repair - Sash Lock | (a) Replace entry hardware and deadbolt on exterior doors. (b) Repair or replace damaged, inoperable, broken exterior doors. (c) Repair or replace damaged, inoperable, broken exterior doors. Include hardware/lockset (d) Repair or replace damaged, inoperable, broken hardware/lockset (knobset and deadbolt keyed) on exterior doors. (e) Repair or replace damaged, broken windows glazing. Document and indicate locations. (f) Repair or replace damaged, inoperable, broken windows. Document and indicate locations. (g) Replace windows sash locks. Document and indicate locations. |
| 13 Lighting | a Visual assessment | a Light fixtures - installation or repair | (a) zCIF-Install lighting at stairwell (b) Minor Electrical Repairs (Health and Safety) | (a) Install or repair light fixtures on stairs to basement, basements, attics, etc. (b) Install or repair light fixtures throughout the home. |
| 14 Noise | a Visual assessment | a General repairs | (a) Window Repair - Glazing | (a) Replacing broken glazing on exterior doors and windows. |

| | | | | |
|--------------------------------------------|------------------------|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | (b) Crew Labor (Health and Safety) (c) Crew Labor (Health and Safety) | (b) Seal penetrations through interior/exterior walls, floors and ceilings. (c) Increase levels of insulation. Document and indicate locations. |
| 15 Domestic hygiene, pests, and refuse | a Visual assessment | a Plumbing repairs | (a) MINOR-Repair plumbing-HS | (a) Repair or replace damaged, defective, missing plumbing fixtures in main bathrooms and kitchen. (i.e. water supply and waste water lines) |
| | | b Integrated Pest Management (IPM) | (a) Sub Contractor- Pest control (Health and Safety) (b) Crew Labor (Health and Safety) (c) Crew Labor (Health and Safety) (d) Crew Labor (Health and Safety) (e) Crew Labor (Health and Safety) (f) Crew Labor (Health and Safety) (g) Crew Labor (Health and Safety) (h) Crew Labor (Health and Safety) | (a) Recommend sub-contractor pest control to treat infestations that can not be controlled with IPM measures. Document and indicate locations. (b) Seal exterior wall penetrations. Indicate locations. (c) Caulk gaps between kitchen cabinets and walls to remove harborage for pests, avoid for food particles to get trapped in such voids, and to avoid for water to run behind cabinets potentially causing mold growth. (d) Eliminate water damaged materials that harbor pests. Document and indicate locations. (e) Apply mechanical measures to reduce infestations (i.e. snap traps, glue traps, insect growth regulators, baits, etc.) Document. Indicate locations. (f) Install door sweeps on exterior doors. Indicate locations. (g) Remove/discard highly infested furniture. Document and indicate locations. (h) Remove clutter. Document and indicate locations. |
| 16 Food safety | a Visual assessment | a Plumbing repairs | (a) MINOR-Repair plumbing-HS | (a) Repair or replace damaged, defective, missing plumbing fixtures in kitchen. (i.e. water supply and waste water lines) |
| | b Infrared thermometer | b Structural repairs | (b) ES - Water Heater - Replace Tank/Heater (a) Crew Labor (Health and Safety) (b) Floor Repair - Minor (c) Crew Labor (Health and Safety) | (b) Install or replace water heater tanks. (a) Eliminate water damaged materials that harbor pests. (b) Replace damaged floor surfaces with smooth, easy cleanable materials. (i.e. laminated flooring, VSG, VCT, etc.) (c) Repair holes on kitchen walls in other to eliminate pest harborage and make walls easily cleanable. |
| | | b Food preservation | (a) Adjust refrigerator/freezer thermostats to 41° and 5° (Health and Safety) (b) ES-Replace refrigerator with similar | (a) Check refrigerators and freezers for adequate temperatures. (b) Replace damaged, inoperable, energy inefficient refrigerators. |
| 17 Personal hygiene, sanitation & drainage | a Visual assessment | a Plumbing repairs | (a) MINOR-Repair plumbing-HS | (a) Repair water leaks from plumbing fixtures. (i.e. faucets, mixing valves, diverters, toilets, etc.) |
| | | | (b) zCIF-Remove and replace kitchen/bath drain line (c) zCIF-Remove and replace main sewer line (interior) (d) zCIF-Remove and replace main sewer line (exterior- includes seeding and connection) (e) zCIF-Install low flow toilet (1.6 gpf or<)* (f) zCIF-Replace toilet flange (does not include floor repair) (g) zCIF-Install new wax seal (h) ES - Water Heater - Replace Tank/Heater | (b) Remove and replace kitchen/bath drain line. (c) Remove, replace damaged main sewer line (interior). (d) Remove, replace damaged main sewer line (exterior). (e) Replace damaged, broken toilet. Install low flow toilets (1.6 gpf or<). Indicate bathroom location (f) Repair leaky toilet. Replace toilet flange. Indicate bathroom location. (g) Repair leaky toilet. Install new wax seal. Indicate bathroom location. (h) Install or replace broken, damaged water heater tanks. Indicate if tank is electric or gas. |
| | | b General repairs | (a) zCIF-Remove and replace damaged sub floor (b) zCIF-Treat floors (VCT) (c) zCIF-Wall/ceiling repair w/ sheetrock and finish (d) zCIF-Remove and replace damaged tub surround | (a) Replace water damaged sub-flooring. Indicate square footage of the damaged area to be replaced. (b) Damaged or defective flooring material is difficult to clean and sanitize. Replace flooring material with vinyl tiles. Indicate square footage of the damaged area to be replaced. (c) Water damaged drywall can create conditions favorable to mold growth and pest infestations. Replace water damaged drywall. Indicate square footage of the damaged area to be replaced. (d) Replace damaged bathtub surround. Indicate size of area to be covered or square footage around bathtub. |
| 18 Water supply | a Visual assessment | a Plumbing repairs | (a) MINOR-Repair plumbing-HS (b) MINOR-Repair plumbing-HS (c) Replace DHW Tank (coord w/ Utility Co) (Health (d) MINOR-Repair plumbing-HS | (a) Repair plumbing fixtures (i.e. faucets, mixing valves, diverters, toilets, etc.). (b) Remove and replace domestic water line. (c) Install or replace water heater tanks. (d) Install shut off for kitchen or bathroom. |
| 19 Falls in baths etc. | a Visual assessment | a General repairs | (a) Floor Repair - Minor (b) Floor Repair - Minor | (a) Replace damaged flooring. (b) Install threshold. |

| | | | | |
|-------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | (b) zCIF-Treat floors (VCT) | (b) Damaged or defective flooring material can cause trip and fall hazards. Replace damaged flooring material with new vinyl tiles. Indicate square footage of the area to be replaced. |
| | | | (c) Crew Labor (Health and Safety) | (c) Install safety grab bars/rails on bathroom walls. Indicate locations. |
| | | | (d) Crew Labor (Health and Safety) | (d) Stabilize loose sinks or toilets. |
| | | | (e) Minor Electrical Repairs (Health and Safety) | (e) Install or repair light fixtures in bathrooms. |
| 20 Falls on level surfaces | a Visual assessment | a General repairs | (a) Floor Repair - Minor | (a) Replace damaged flooring. |
| | | | (b) Minor Electrical Repairs (Health and Safety) | (b) Install or repair light fixtures. |
| | | | (d) Crew Labor (Health and Safety) | (d) Remove loose carpet on floors and stairs. |
| 21 Falls on stairs etc. | a Visual assessment | a General repairs | (a) zCIF-Install handrail for stairs to code | (a) (1) Install handrails on stairs. Indicate length of handrail required. (2) If wood, sand surfaces to avoid injury with splinters. (3) Apply product to seal and protect against staining and to water proof wood. |
| | | | (b) zCIF-Stair tread/riser replacement | (b) Replace damaged stair treads and risers. Indicate number and location. |
| | | | (c) zCIF-Install lighting at stairwell | (c) Install or repair light fixtures on stairs to basement, basements, etc. Recommend sub-contractor electrician. |
| | | | (d) Crew Labor (Health and Safety) | (d) Remove or secure loose carpet on floors and stairs. Indicate location of defective carpet. |
| | | | (e) IR-Carpentry Repairs (General) | (e) (1) Install missing balusters on stairs. Indicate number and location. (2) If wood, sand surfaces to avoid injury with splinters. (3) Apply product to seal, protect against staining and water proof wood. |
| 22 Falls between levels | a Visual assessment | a General repairs | (a) IR-Carpentry Repairs (General) | (a) (1) Install/repair railing. Indicate number and location. (2) If wood, sand surfaces to avoid injury with splinters. Apply product to seal, protect against staining and water proof wood. |
| | | | (b) Window Repair - Other | (b) Replace missing windows. Indicate locations. |
| | | | (c) Window Repair - Sash Lock | (c) Replace broken, missing sash locks on windows. Indicate locations. |
| 23 Electrical hazards | a Visual assessment | a General electrical repairs (Document location. Recommend sub-contractor, certified electrician.) | (a) zCIF-GFCI breaker | (a) Install/replace GFCI breakers. Recommend sub-contractor, certified electrician. |
| | b Voltage meter | | (b) zCIF-GFCI outlet | (b) Install/replace GFCI outlets. Recommend sub-contractor, certified electrician. |
| | | | (c) Health and Safety Electrical Repairs (Health and Safety) | (c) Install/replace outlets and light switches. Recommend sub-contractor, certified electrician. |
| | | | (d) zCIF-200 amp panel* | (d) Install/replace/upgrade electric panel to 200 Amp. Recommend sub-contractor, certified electrician. |
| | | | (e) zCIF-Receptacle replacement | (e) Replace damaged receptacle/outlets. Document location. Recommend sub-contractor, certified electrician. |
| | | | (f) K&T Wiring Mitigation (Health and Safety) | (f) Remove knob & tube wiring. Recommend sub-contractor, certified electrician. |
| | | | (g) zCIF-Switch replacement | (g) Replace damaged switch. Recommend sub-contractor, certified electrician. |
| | | | (h) zCIF-3-way switch replacement | (h) Replace damaged 3-way switch. Recommend sub-contractor, certified electrician. |
| | | | (i) Minor Electrical Repairs (Health and Safety) | (i) Provide cover to exposed wiring. |
| | | | (j) Minor Electrical Repairs (Health and Safety) | (j) Provide plate covers to switches and outlets. |
| | | | (k) zCIF-Service entrance wire | (k) Replace deteriorated, fray service entrance wire. Recommend sub-contractor, certified electrician. |
| 24 Fire hazards | a Visual assessment | a General repairs | (a) Install Smoke Alarm (Health and Safety) | (a) Install smoke alarms on every floor of the home. |
| | | | (b) zCIF-Install shut off for kitchen or bath | (b) Install fuel shut-off valves. |
| | | | (c) Crew Labor (Health and Safety) | (c) Install fire stops between floors |
| | | | (d) Crew Labor (Health and Safety) | (d) Clear blocked exterior doors or windows in order to provide appropriate and safe means of escape in case of fire in the home. |
| | | b Education/Awareness | (a) N/A | (a) Assist client with creating a fire emergency plan for the family. |
| 25 Flames, hot surfaces etc. | a Visual assessment | a Plumbing repairs | (a) zCIF-Install drop tube | (a) Install drop tube for water heater tank. |
| | b Infrared thermometer | | (b) zCIF-Install TPR valve | (b) Install temperature-pressure relief valve (TPR) for water heater tank. |
| | | | (c) Adjust water heater thermostat 120° (Health and Safety) | (c) Set water heater temperature to 120 degrees F. (Health and Safety) |
| | | | (d) ES - Water Heater - Adjust Thermostat to 120 degrees F. | (d) Set water heater temperature to 120 degrees F. (Energy Savings) |
| 26 Collision/Entrapment | a Visual assessment | a General repairs | (a) Window Repair - Glazing | (a) Install safety glazing on windows inside bathtubs and other vulnerable locations. |
| | | | (b) IR-Carpentry Repairs (General) | (b) Repair damaged, inoperative interior doors. |
| 27 Explosions | a Visual assessment | a General repairs | (a) Crew Labor (Health and Safety) | (a) Remove and discard unlabeled or poorly stored explosive substances. |
| | | | (b) Crew Labor (Health and Safety) | (b) Inspect for natural gas leaks. |

| | | | | |
|--------------------------------------------------------------|------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | b Natural gas detector | b Education/Awareness | (c) zCIF-Install shut off for kitchen or bath (a) N/A | (c) Install fuel shut-off valves. (a) Educate client on the health hazards associated to unsafe storage, usage and exposure to potentially explosive substances. |
| 28 Position and operability of amenities (Ergonomics) | a Visual assessment | a General repairs | (a) Crew Labor (Health and Safety) (b) Crew Labor (Health and Safety) | (a) Correct inappropriate positioning of bathroom sinks, shower, and toilets. (b) Correct inappropriate positioning of kitchen sinks. |
| 29 Structural collapse and falling elements | a Visual assessment | a General repairs | (a) HS-repair MINOR roof leak(s) (b) zCIF-Complete tear off and installation * (c) zCIF-Remove and replace skylight (d) zCIF-Fascia replacement 4", 6", 8" (e) Crew Labor (Health and Safety) (f) zCIF-Remove and replace damaged sub floor (g) zCIF-Treat floors (VCT) (h) zCIF-Wall/ceiling repair w/ sheetrock and finish (i) zCIF-Demo and replace plaster ceiling and replace with 1/2" sheetrock(tape coat only) | (a) Roof repairs. Indicate approximately areas of roof needing repairs. Indicate type of roofing material. (b) Roof replacement or complete tear off. Indicate approximately areas of roof. Indicate type of roofing material. (c) Remove and replace skylight due to water leaks, air leaks, or any other deficiency. (d) Replace rotted, water damaged fascia. Indicate size 4", 6" or 8". Indicate location and linear footage needed. (e) Siding repairs. Replace damage or missing siding. Indicate square footage and location. (f) Replace water damaged sub-flooring. Indicate location and square footage of the damaged area to be replaced. (g) Unprotected subflooring will deteriorate in time by being exposed to moisture. Protect newly replaced sub-flooring with vinyl tiles. Indicate square footage of the area to be covered. (h) Replace damaged, wet, structurally unsound, or mold contaminated drywall. Leave sanded, ready for painting. Indicate square footage. (i) Replace damaged, wet, structurally unsound, or mold contaminated plaster. Leave sanded, ready for painting. Indicate square footage. |