



## Critical Home Repair Scope of Work

**Homeowner(s) Name:** Habitat for Humanity Choptank Inc.

**Property Address:** 504 Pine St.  
Street  
Cambridge MD 21613  
City State Zip Code

**Phone Number:** 410-459-2429

### Repairs to be completed:

1. Contractor shall clean up, remove, and dispose of all debris associated with this work. Maintain cleanliness of the property at all times. Contractor shall supply a place for construction refuse will be provided on all active job sites. This can be a dump trailer or Roll Off style dumpster. On small jobs a smaller can may be allowed until such time it will no longer contain the amount of trash on the jobsite. At no point will a "trash pile" be acceptable.
2. All work debris, tools and materials to be cleaned up after each shift and at the end of the project to provide clean and safe environment.

## Electrical

All electrical work performed for Habitat for Humanity Choptank will be completed in accordance with the current National Electrical Code approved by the local inspection board for either/or Talbot and Dorchester Counties.

Contractor is responsible for getting electrical permits and calling in all for inspections for the Electrical system.

1. Electrical service:
  - Underground service of 200-amp, Square-D Service panel with breakers.
  - Wire: 4/0 Al THHN service entrance cable to the panel. (disconnect if required after the meter.
  - 14 gauge. NM Romex for all lighting circuits. 12 gauge. NM Romex to Kitchen circuits (2 circuit are required). Dining /Laundry areas supplied with 12 gauge. NM Romex also. Required wire size to special circuits as per code.
  - Ceiling boxes in living room and all bedrooms, kitchen, etc. and will be capable of supporting ceiling fan/light combo and must be switched separately.

**a. Light Fixtures:**

- Habitat for Humanity shall supply all light fixtures
- The following areas shall need to be wired for lighting bedrooms, living room, dining room, foyer entrance, hallways, and kitchen main area. Contractor shall install all lights, receptacles, and switches.
- Contractor shall supply all receptacles and switches. All receptacles and switches shall be white.
- One recessed LED light, provided by habitat for humanity Choptank, shall be above kitchen sink and/or according to pendant.
- Habitat for Humanity Choptank shall supply single globe fixture or 2-foot LED strips in furnace room and walk-in closets for contractor to install.
- Habitat for Humanity Choptank shall supply Hollywood bar type lighting over bath sinks for contractor to install.
- Panasonic Whisper Fan model 5505.05, in bath (2<sup>nd</sup> floor or full bath depending on home layout) for required 24-hour air exchange per Energy Star.
- Additional Baths to have Delta Breeze 80 cfm.
- Paddle fans with lights are required in living room and all bedrooms. Habitat will provide ceiling fan/light combination but be installed by contractor and must be switched separately.

**b. Electric Devices:**

- All light switches to be “rocker” style (White) and located 48” above the finished floor (AFF). Receptacles and cover plates to be (White) in color and located 18” (AFF), per plan and per code.
- HVAC equipment will be in the crawlspace and will have a motorized damper between floors (for two story houses).
- Tankless Electrical Water heater needs 3 – 40amp breakers.
- Include 10-year lithium battery smoke detectors, located per code.
- All outlets (White) and covers (White) to be located by code.
- Install two lights in the basement/ crawlspace placed to provide best lighting. Place switch at the access entrance.
- Outside lights at both front and back will be provided by Habitat for Humanity Choptank to be installed by contractor. Weather protected duplex GFCI receptacles provided by contractor.
- Provide a GFCI duplex outlet in the basement or crawlspace for a sump pump and a dehumidifier located near sump pit.
- All outside, basement, laundry, bathrooms, and kitchen receptacles located within 6 ft of running water, shall be protected by a GFCI device or to current code.
- Exhaust fan in the upstairs bathroom shall be provided by Habitat and wire to run on low 24 hours a day.
- Provide (4) cable jacks, one in the living room and one in each bedroom. Location determined by homeowner prior to drywall installation.
- Install 4 LED CAN lights in the kitchen, 4 evenly spaced and one pendant fixture switched separately over the sink, all switched at one time. No dimmer switch used.

**c. Smoke Detectors:**

- Contractor shall supply and install hardwired smoke detectors with a 10-year battery backup in accordance to codes and regulations. Smoke detectors shall be installed in every bedroom. One smoke detector shall be installed in hallways outside of all bedrooms and everywhere else that is required by codes and regulations.

# HVAC

Contractor is responsible for creating a Manual J. Making sure the Manual J is followed in the field. System should be designed to be Energy Star Certified.

Contractor is responsible for pulling permits and calling in all inspections regarding the HVAC system.

## 2. HVAC Equipment:

- a. **SPLIT-SYSTEM AIR CONDITIONERS**
- b. **MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL THE FOLLOWING:**
- c. **DESCRIPTION OF WORK**
  - i. **High-efficiency split-system heat-pump units consisting of separate evaporator-fan and compressor condenser components and 16 SEER.**
- d. **CLOSEOUT SUBMITTALS**
  - i. **Operation and Maintenance Data: For split-system air-conditioning units to include in emergency, operation, and maintenance manuals. Also, one trip to train homeowners on use and maintenance of thermostat and units.**
- e. **MAINTENANCE MATERIAL SUBMITTALS**
  - i. **Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.**
  - ii. **Filters: One set for each return grille.**
  - iii. **Gaskets: One set for each access door.**
  - iv. **Fan Belts: One set for each air-handling unit fan.**
- f. **WARRANTY**
  - i. **Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of split-system air-conditioning units that fail in materials or workmanship within specified warranty period.**
  - ii. **Warranty Period:**
    1. **For Compressor: Five years from date of Substantial Completion.**
    2. **For Parts: Five years from date of Substantial Completion.**
    3. **For Labor: One year from date of Substantial Completion.**
- g. **MANUFACTURERS**
  - i. **Basis-of-Design Product: Subject to compliance with requirements, provide high efficiency Indoor Air Handling Unit and Outdoor Heat Pump Unit models as scheduled on the drawings or comparable product by one of the following:**
  - ii. **Carrier**
  - iii. **Trane**

iv. York (Johnson Controls, Inc)

h. INDOOR UNITS (5 TONS OR LESS)

- i. Chassis: Galvanized steel with flanged edges, removable panels for servicing, and insulation on back of panel.
- ii. Insulation: Faced, glass-fiber duct liner.
- iii. Filters: MERV-8, throw-away.
- iv. Condensate Drain Pans

i. OUTDOOR UNITS (5 TONS OR LESS)

- i. Casing: Steel, finished with baked enamel, with removable panels for access to controls, weep holes for water drainage, and mounting holes in base. Provide brass service valves, fittings, and gage ports on exterior of casing.
- ii. Compressor: Hermetically sealed with crankcase heater and mounted on vibration isolation device. Compressor motor shall have thermal- and current-sensitive overload devices, start capacitor, relay, and contactor.
- iii. Compressor Type: Scroll.
- iv. Variable speed compressor motor with manual-reset high-pressure switch and automatic reset low-pressure switch.
- v. Refrigerant Charge: R-410A.
- vi. Heat-Pump Components: Reversing valve and low-temperature-air cutoff thermostat.
- vii. Fan: Aluminum-propeller type, directly connected to motor.
- viii. Motor: Permanently lubricated, with integral thermal-overload protection.

j. DIFFUSERS, REGISTERS, GRILLES

- v. Provide diffusers, registers, and grilles to distribute the quantity of air specified evenly over the intended space without causing dead spots or air velocities exceeding 50 fpm in the occupied zone.
- vi. Coordinate location with lighting and ceiling pattern. Perform minor duct modifications to suit.
- vii. Add internal baffles where necessary to avoid drafts due to air impingement on nearby partitions, columns, etc.
- viii. Install dryer vents in accordance with manufacturer's recommendations

k. ACCESSORIES

- i. Thermostat: Deluxe Seven (7) Day Programmable wall--mounted system control to remotely control compressor and evaporator fan, with the following features:
  - ii. Compressor time delay.
  - iii. 24-hour time control of system stop and start.
  - iv. Liquid-crystal display indicating temperature, set-point temperature, time setting, operating mode, and fan speed.
  - v. Fan-speed selection including auto setting.

- vi. Refrigerant Line Kits: Soft-annealed copper suction and liquid lines factory cleaned, dried, pressurized, and sealed; factory-insulated suction line with flared fittings at both ends.
- vii. Snow stand/snow feet to elevate the unit.
- viii. Disconnect kit: to disconnect electrical power to the fan coil so service or maintenance
- ix. Tests and Inspections:
  - x. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
  - xi. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
  - xii. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
  - xiii. Prepare test and inspection reports.
- I. STARTUP SERVICE
  - i. Complete installation and startup check according to manufacturer's written instructions.
- m. DEMONSTRATION
  - i. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain units. Must be ACCA Certified for Energy Star.

## **Fire Suppression System**

Contractor is responsible for designing and submitting fire suppression system that complies with Federal, State, and Local regulations.

Contractor is responsible for pulling permits and calling in all inspections regarding the fire suppression system.

- 3. Contractor shall install fire suppression system in accordance to Federal, State, and Local regulations. Provide the Fire suppression drawings for the property.
- 4. Including a flow switch that will be connected to the alarm system.

## **Alarm System**

- 5. Alarm company shall install a door sensor on both the Front and back doors.
- 6. Alarm Company shall install one motion detector that covers the largest amount of area in the living area of the first floor.
- 7. Alarm company shall hook up the flow switch for the sprinkler system to the alarm controls.
- 8. Alarm company shall install a smoke listening sensor on the first floor that is connected to the alarm controls and be monitored.
- 9. Alarm controls shall be located within in reasonable distance to the front door. All security sensors should be labeled and give read out of where there is a fault/breach.

10. Complete alarm system shall be monitored until the house is sold, with an option for the Home buyer to be able to have the alarm be monitored after purchase of the home. Monitoring system should be sent out notifications to three (3) staff members. Phone numbers and emails will be provided by Habitat for Humanity Choptank for the three (3) staff members to be notified.
11. Alarm system shall be able to have a minimum twenty-five (25) codes for turning off the system that can be programed to a subcontractor, staff, etc.

## **Plumbing**

Contractor is responsible for pulling all permits and calling in all inspections regarding the plumbing.

### **12. Plumbing Specs.**

- a. Contractor will make connections to supply and drain lines installed by site utilities contractor and connect to riser provided by fire suppression contractor. Fire suppression contractor will provide back flow preventer.
- b. Drain and vents to be PVC material. Joints will be cut square, cleaned, de-burred and glued according to adhesive manufacturer's recommendations, such as clamp times and approved temperature ranges.
- c. Size and location of vent lines to be determined by applicable codes. All lines will be properly supported to prevent sagging. Nail plates will be provided and installed where needed. Contractor will provide neoprene roof flashings, to be installed by roofing contractor. Drain and vent lines and all related accessories to be provided by contractor.
- d. Supply lines to be CPVC material. Piping at joints will be cut square, cleaned, de-burred and glued according to adhesive manufacturer's recommendations as to clamp times, approved temperature ranges for application, and method of pressure testing. Nail plates to be installed where needed. Supply lines and all related accessories to be provided by contractor.
- e. Contractor will install one frost proof hose bib.
- f. Contractor will make connection to the riser manifold supplied and installed by the fire suppression contractor.
- g. Contractor will provide and install one double bowl stainless steel sink with shut off valves and Moen Chateau (or equivalent) kitchen sink faucet.
- h. Contractor will supply and install a Aker by Maxx, CM-60, tub-shower unit. Contractor will provide and install Moen bath and shower faucet (or equivalent) and tub drain. Shower heads shall be placed on an interior wall.
- i. Contractor will provide and install necessary number of A.D.A. compliant toilets to include elongated bowl, seat and shut off valve.
- j. Contractor will provide and install a Stiebel eltron, Tempra 29 or equivalent tankless water heater. Contractor will provide and install any accessories needed to install the water heater in accordance with manufacturer's instructions. The water heater shall be installed according to the Manufacturer's instructions.

Temptra® Model Item Number	12 Trend 239213 12 Plus 239219		15 Trend 239214 15 Plus 239220		20 Trend 239215 20 Plus 239221		24 Trend <sup>1</sup> 239216 24 Plus <sup>2</sup> 239222		29 Trend <sup>4</sup> 239217 29 Plus <sup>4</sup> 239223		36 Trend <sup>5</sup> 239218 36 Plus <sup>5</sup> 239225	
Phase	single 50/60 Hz		single <sup>4</sup> 50/60 Hz		single <sup>4</sup> 50/60 Hz		single <sup>4</sup> 50/60 Hz		single <sup>4</sup> 50/60 Hz		single <sup>4</sup> 50/60 Hz	
Voltage	240 V or 208 V		240 V or 208 V		240 V or 208 V		240 V or 208 V		240 V or 208 V		240 V or 208 V	
Wattage	12 kW	9 kW	14.4 kW	10.8 kW	19.2 kW	14.4 kW	24 kW	18 kW	28.8 kW	21.6 kW	36 kW	27 kW
Amperage draw	50 A	44 A	2 x 30 A	2 x 26 A	2 x 40 A	2 x 35 A	2 x 50 A	2 x 44 A	3 x 40 A	3 x 35 A	3 x 50 A	3 x 44 A
Number & min. recommended size of circuit breakers <sup>1</sup> (DP)	1 x 50 A		2 x 30 A		2 x 40 A		2 x 50 A		3 x 40 A		3 x 50 A	
Number of runs & min. recommended wire size <sup>1</sup> (copper)	1 x 8/2 AWG		2 x 10/2 AWG		2 x 8/2 AWG		2 x 8/2 AWG		3 x 8/2 AWG		3 x 8/2 AWG	
Maximum temperature increase above ambient water temp	@ 1.50 GPM	54°F	41°F	65°F	49°F	88°F	66°F	92°F	82°F	92°F	92°F	92°F
	@ 2.25 GPM	36°F	27°F	43°F	37°F	58°F	44°F	73°F	54°F	87°F	66°F	82°F
	@ 3.00 GPM	27°F	20°F	33°F	25°F	44°F	33°F	54°F	41°F	66°F	49°F	61°F
	@ 4.50 GPM	-	-	-	-	29°F	22°F	37°F	27°F	44°F	33°F	41°F
Min. water flow to activate unit	0.37 gpm (1.4 l/min)		0.50 gpm (1.9 l/min)		0.50 gpm (1.9 l/min)		0.50 gpm (1.9 l/min)		0.77 gpm (2.9 l/min)		0.77 gpm (2.9 l/min)	
Weight	13.5 lb (6.1 kg)		16.1 lb (7.3 kg)		16.1 lb (7.3 kg)		16.1 lb (7.3 kg)		19.0 lb (8.6 kg)		19.0 lb (8.6 kg)	
Nominal water volume	0.13 gal (0.5 l)		0.26 gal (1.0 l)		0.26 gal (1.0 l)		0.26 gal (1.0 l)		0.39 gal (1.5 l)		0.39 gal (1.5 l)	
Max. inlet water temperature	131°F (55°C)											
Dimensions	Width 16 1/4" (42.0 cm) x Height 14 1/2" (36.9 cm) x Depth 4 1/4" (11.7 cm)											
Working pressure	150 psi (10 bar)											
Tested to pressure	300 psi (20 bar)											
Water connections	3/4" NPT											

- k. Contractor will provide and install a main supply shut off valve in a location easily located by homeowner.
- l. Contractor will arrange for all necessary inspections.

Contractor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Habitation for Humanity staff Signature: \_\_\_\_\_ Date: \_\_\_\_\_