

OVERVIEW

The farmhouse on the City of Newton's Angino Farm dates back to the mid-1800s or earlier. Although the house was modified in the 20th century to include some more modern features, it still required extensive work to renovate it after the City purchased it in 2005 to make it more livable for the farmer and his family. The farmhouse must be occupied by farm personnel or a watchperson per Newton Community Farm's license agreement with the City of Newton. Unfortunately, the 2005 renovation did not address all the outstanding issues with the house and several of those issues now require near-term attention to ensure the house is habitable. Also, there are other projects that are emerging as components of the house reach the end of their useful lives. NCF is requesting funds for those emerging projects that require attention in the next few years and will defer consideration for projects outside that timeframe until a later date. NCF will absorb the cost of farm family accommodations during the work and also clear the basement of any obstructions.

In addition to rehabilitating these issues in the house, these projects also show NCF's shift to more environmentally-sustainable practices. We are pushing to electrify our heating system in line with the City of Newton's energy priorities. For example, NCF and the City have recently been notified of a grant award from Massachusetts Department of Agricultural Resources to install solar panels and a storage system on the barn to provide 99% of the agricultural electric use. (Total system cost is \$61,000.)

PROJECT #1 – REMEDIATE WATER AND MOISTURE SITUATION IN FARMHOUSE

Issue - There is a serious and continuous water and moisture problem in the interior of the house. The occupants are continually attempting to remediate the effects. The situation is due to water in the basement emanating from a high water table (common for that area of Newton) and leaks in the fieldstone foundation walls. The wet basement results in extensive humidity and moisture issues in the house. The occupants have dealt with the leaks during the entire time they have lived there (since the City purchased the farm) and have tried to address it with a dehumidifier in the basement and redirection of water away from the house. These efforts only marginally mitigate the situation and have not eliminated the problem.

Project Components -

Part 1a - Basement Drain and Sump Pump:

Install an interior French drain along the east wall and a sump pump in the basement to remove water as necessary to ensure a drier basement. This is a common system in many homes in this area of Newton due to the high water table.

Part 1b - Whole House Heat Pump and Ductless HVAC System:

Installation of a heat pump and ductless HVAC air conditioning system would help address the humidity in the home. The planned modification is to install a heat pump system which will help remove humidity, cool the air on the first and second floors, and very efficiently heat the both floors. The heat pump system, which is powered by electricity, is more environmentally friendly than a boiler, which uses natural gas. There are no plans to remove the gas-powered boiler at this time.

Part 1c - Basement All-House Dehumidifier:

The French drain and sump pump will remove water flowing into the basement but the all-house dehumidifier located in the basement will further remove humidity and moisture in the basement and throughout the entire house. All-house dehumidifiers have a much larger capacity to remove humidity than a standard dehumidifier.

PROJECT #2 – UPGRADE ELECTRICAL SYSTEMS

Issue – The initial renovation of the house by the City included partial, but not comprehensive upgrades of the electrical systems. There are many areas in the home where the electrical system is not up to prevailing codes and it is a safety hazard. For example;

- the basement does not have proper lighting and most switches do not work
- the outside light is not working and does not meet code
- many areas that require a GFCI outlet do not have them and need to be installed.

Project – Upgrade the electrical system to meet prevailing safety codes and to ensure ample capacity for use of typical household appliances and equipment.

PROJECT #3 – KITCHEN CEILING REPLACEMENT

Issue - The kitchen ceiling is bowing and is dangerously at risk of collapse.

Project – Replace the kitchen ceiling and install new lighting that is up to prevailing codes.

PROJECT #4 – HOT WATER HEATER REPLACEMENT

Issue – The hot water heater is near the end of its 10-year useful life. There is a risk of leaks or equipment failure if used beyond that time.

Project – Replace the hot water heater with an energy efficient, electric heat pump model. Heat pump water heaters have a higher installation cost but are much more efficient than gas-powered hot water tank models and since they run on electricity they do not burn fossil fuels.

PROJECT #5 – SITE PREPARATION

Clear basement of obstructions, accommodate Farmer and family during construction, and other TBD when project commences

PROJECT #6 – NCF STAFF TIME

Paid staff including the Executive Director, Farm Manager, and periodically the Education Manager will need to be involved in project oversight and logistics. The work will most likely take place during the growing season so there will be a need to coordinate farm operations and public access with the presence of contractors on site. In addition to staff time, NCF expects there will be considerable volunteer time spent overseeing and managing this project.