ROC Program Rehabilitation Requirements
Building Standards and Energy Efficiency

GREEN BUILDING MEASURES FOR REHABILITATION

The Service Provider should carefully evaluate rehabilitation costs and budget to meet as many of the following green building measures as possible.

Energy Efficient Toilets:

If replacing existing toilets with new models, water-conserving initiatives and regulations are becoming the norm. One way to handle this is to install high-efficiency toilets vs. regular ones, since toilets account for almost 30 percent of water consumption in a home. The benefits of switching to high-efficiency toilets may reduce the homeowner's water bill substantially.

- High-efficiency toilets (HETs), which use less than 1.6 gallons per flush (gpf),
- Pressure-assisted toilets that consume as little as 1.0 gpf,
- Gravity-flush toilets that consume 1.28 gpf, or
- Dual-flush toilets that offer two flush volumes.

If possible, choose high-efficiency toilets that have been through third-party MaP (maximum performance) testing and are rated in grams; look for MaP test results of 350 grams or higher or for toilets that meet the new Environmental Protection Agency WaterSense program requirements.

Low-Flow Fixtures:

If replacing faucets in the kitchen or bathroom, or showerheads in the bathroom, these fixtures must meet or exceed the following standard:

- Kitchen faucets – install a low-flow faucet aerator to 1.5 gallons per minute (gpm). These can be of the fixed type or the flip type.
- Bathroom faucets – install a low-flow faucet aerator to 1.0 gpm. These should be fixed.
- Showerheads – install showerheads that use 2.0 gpm.

Appliances:

If replacing the following appliances, replacement units must carry Energy Star certification for the following:

- Refrigerators and freezers
- Dishwashers
- Clothes washers
- Room air conditioners
- Central air conditioners
- Ceiling and ventilating fans
- Boilers, furnaces, or heat pumps
- Programmable thermostats

HVAC:

When replacing components of the HVAC system of a home, new HVAC systems must be properly sized to ensure energy efficiency. To ensure proper sizing and installation, follow the Energy Star/ACCA Quality Installation Standards.

Water Line and Water Heater Insulation:

If replacing or repairing water lines or water heaters, provide proper insulation of these components to improve energy efficiency. Select durable pipe insulation and tightly insulate as many water lines, hot and cold, as possible. For water heaters, use water heater blankets, and ensure that the air flow beneath gas-fired natural draft water heaters is not blocked. Follow the manufacturer's instructions for installation of all water pipe and water heater insulation.

Wall and Roof Insulation:

If repairing or replacing wall or ceiling/attic/roof insulation, ensure that new insulation adheres to the following standards and is formaldehyde-free:

- Wood frame wall insulation:
  - 2006 IECC Climate Zone 3: ≥ 13 R-value
  - 2006 IECC Climate Zone 4: ≥ 13 R-value
  - 2006 IECC Climate Zone 5: ≥ 19 R-value
- Ceiling/attic/roof insulation:
  - 2006 IECC Climate Zone 3: ≥ 30 R-value
  - 2006 IECC Climate Zone 4: ≥38 R-value
  - 2006 IECC Climate Zone 5: ≥ 38 R-value

Flooring:

Hard surfaced flooring – when replacing flooring, utilize hard-surfaced, resilient flooring materials, such as tile, wood, wood laminate, bamboo, cork, natural linoleum or finished concrete. When installing flooring using glues, use only low-VOC, formaldehyde-free adhesives.

Carpet – when removing carpet, replace it with hard-surfaced flooring when possible. When carpet is installed, it should be located only in low-moisture areas. All carpet should be tacked down, not glued. When possible, choose carpet products that are made from natural materials, such as wool, cotton, jute, or hemp, but which have not been treated with pesticides or contain residues from dyes and finishes used in manufacturing.

Windows and Exterior Doors:

When replacing windows and exterior doors, adhere to the following standards set by Energy Star for minimum National Fenestration Rating council ratings for U-Factor and Solar Heat Gain Coefficient (SHGC) for the particular geographic region:

- 2006 IECC Climate Zone 3: U-factor S 0.40 and SHGC S 0.40
- 2006 IECC Climate Zone 4: U-factor S 0.40 and SHGC S 0.55
- 2006 IECC Climate Zone 5: U-factor S 0.35 and any SHGC

The following are the 2006 IECC Climate Zones in New Mexico:

2006 IECC Climate Zone	New Mexico Counties
CZ3 (south/central)	Chaves, Doña Ana, Eddy, Hidalgo, Lea, Luna, Otero
CZ4 (north/central)	Bernalillo, Curry, De Baca, Grant, Guadalupe, Lincoln, Quay, Roosevelt, Sierra, Socorro, Union, Valencia
CZ5 (northern)	Catron, Cibola, Colfax, Harding, Los Alamos, McKinley, Mora, Rio Arriba, San Juan, San Miguel, Sandoval, Santa Fe, Taos, Torrance

Paints and Finishes:

When painting or applying finishes, use only low- or zero-volatile organic compound (VOC) paints, primers, sealants, adhesives, coatings, and other finishes. Also, avoid plastic-coated paper and vinyl wall coverings.

Composite Wood:

When installing or replacing composite wood, such as particle board and medium-density fiberboard (MDF), ensure that products are free of urea-formaldehyde, and do not install these materials in high humidity or high moisture areas. When composite wood must be used, choose products that are moisture resistant, such as particle board and MDF produced with MDI (polyurethane) or phenol-formaldehyde binders. This standard also applies to cabinetry and furniture made with composite wood.

Integrated Pest Management:

Do not use any insecticides. Use integrated pest management methods to control pests. Seal all cracks, holes and crevices on interior surfaces and exterior surfaces to prevent access by pests. Use copper mesh to plug larger holes prior to finishing with plaster or drywall. Do not use steel wool. Place a thin dusting of 98 percent boric acid under kitchen cabinets, in wall cavities, cracks and crevices in the kitchen.

Operations and Maintenance:

- Provide a guide for homeowners that explains the intent, benefits, use and maintenance of green building features, along with the location of transit stops and other neighborhood conveniences; and encourages additional green activities such as recycling, gardening and use of healthy cleaning materials, alternate measures for pest control and purchase of green power.
- Provide a walk-through and orientation to the homeowner or new resident using the guide for homeowners from above that reviews the building's green features, operations, and maintenance along with neighborhood conveniences.

ROC Program Building Standards and Energy Efficiency Checklist

Service Provider	
Contact Name/E-Mail	
ROC Program Case #	
Project Address	
City, State, Zip	

PLEASE CHECK THOSE ITEMS THAT ARE APPLICABLE TO THIS PROJECT:

Building Standards and Energy Efficiency Standards	Y/N	# of Improvements	Comments/Details
High Efficiency Toilets (Check which apply)			
Uses less than 1.6 GPF			
Pressure-assisted that consumes as little as 1.0 GPF			
Gravity-flush that consumes 1.28 GPF			
Low-Flow Fixtures			
Kitchen Faucets: low-flow faucet aerator to 1.5 GPM			
Bathroom Faucets: low-flow faucet aerator to 1.0 GPM			
Showerheads: 2.0 GPM			
Appliances (must be Energy Star Certified) - only replace appliances that were in place before the rehabilitation took place. For instance, if the home did not have a dishwasher before the rehab and you are rehabbing the kitchen, then you cannot install a dishwasher as part of the rehab. For boilers, furnaces or heat pumps, the new system must be properly sized to ensure energy efficiency. To ensure proper sizing and installation, follow the Energy Star/ACCA Quality Installation Standards			
Refrigerator			
Dishwasher			
Central air conditioners			
Ceiling and ventilating fans			
Boilers, furnaces, or heat pumps			
Programmable thermostats			
Boilers, furnaces, or heat pumps			
Programmable thermostats			
Water Line and Water Heater Insulation			
Wall and Roof Insulation			
Is formaldehyde-free			
Wood Frame Wall Insulation (check one):			
2006 IECC Climate Zone 3: ≥ 13 R-value			
2006 IECC Climate Zone 4: ≥ 13 R-value			
2006 IECC Climate Zone 5: ≥ 13 R-value			
Ceiling/Attic/Roof Insulation (check one):			
2006 IECC Climate Zone 3: ≥ 30 R-value			
2006 IECC Climate Zone 4: ≥ 38 R-value			
2006 IECC Climate Zone 5: ≥ 38 R-value			
Flooring - Hard Surface (check type):			
Tile			

Wood			
Wood Laminate			
Natural linoleum			
Finished concrete			
Bamboo			
Cork			
Installed using low VOC, formaldehyde-free adhesive			
Flooring – Carpet (check type):			
Wool			
Cotton			
Jute			
Hemp			
Tacked down			
Not treated with pesticides			
No residue from dyes and finishes			
Windows and Exterior Doors (SGHC = Solar Heat Gain Coefficient):			
2006 IECC Climate Zone 3: U-factor ≤ 0.40 and SGHC ≤ 0.40			
2006 IECC Climate Zone 4: U-factor ≤ 0.40 and SGHC ≤ 0.55			
2006 IECC Climate Zone 5: U-factor ≤ 0.35 and any SGHC			
Paints and Finishes			
Used only low or zero VOC paints, primers, sealants, adhesives, coatings, and other finishes			
Composite Wood			
Used urea-formaldehyde free particle board and medium-density fiberboard that is moisture resistant			
Integrated Pest Management			
Sealed all cracks, holes, and crevices on interior and exterior surfaces			
Used copper mesh to plug larger holes			
Applied thin dusting of 98% boric acid under kitchen cabinets, in wall cavities, cracks and crevices in the kitchen			
Operations and Maintenance			