Green Refinance Plus: Green Physical Needs Assessment
Statement of Work and Contractor Qualifications

Overview

The Green Physical Needs Assessment (GPNA) report has three parts to be completed and delivered as a single report. The GPNA is intended to provide the Owner and the Lender a complete assessment of a property’s condition, necessary and anticipated repairs and replacements, expected operating costs, and potential savings through energy and water efficiency measures.

The GPNA Contractor (Contractor) may complete any of the components for which it has the necessary qualifications; otherwise, the Contractor may subcontract to others who have the necessary qualifications. The Contractor must integrate the findings and recommendations and incorporate all three components into one report.

Part 1: PNA Report Comparing Traditional and Green Requirements – Part 1 of the GPNA identifies repairs necessary in the first year following restructuring and the repairs and replacements needed during the term of the loan plus two years, as in a traditional PNA. Part 1 identifies the energy and water efficiency measures for repairs and replacements and additional opportunities for improvements that reduce the risks and volatility of energy and water costs, representing the green requirements. This Part provides comments for the Owner on the benefits (financial and otherwise) of using the green alternative for the required repairs and replacements and other property improvement opportunities.

Part 2: Energy Audit – Part 2 of the GPNA documents prudent utility-related improvements (water and energy) to the property, the cost of the improvements, and a simple financial payback analysis (however, note that a more sophisticated analysis is available for systems with multiple components with varying estimated useful lives and where the full lifecycle cost analysis is useful). It includes an initial assessment of potentially viable alternatives for generating electricity, heating water, and heating and cooling the conditioned space at the building. It assists the property owner in tracking energy and water utility costs over the term of the loan using ENERGY STAR Portfolio Manager. At minimum, it identifies reasonable, cost-effective opportunities for the Owner’s consideration that are expected to result in at least a 20% reduction annually in energy consumption from the baseline year.

Part 3: Integrated Pest Management Plan Inspection – Part 3 of the GPNA documents the pest condition of the property and reviews the pest management plan, if any, in place at the property. The inspection of the current level of pest infestation may reveal the need for additional repairs and/or site changes that are to be included in the first year rehabilitation needs. It includes an evaluation of existing pest control practices and procedures.

PART 1. PNA REPORT COMPARING TRADITIONAL AND GREEN REQUIREMENTS

1. Qualifications. The Contractor conducting the GPNA must:

A. Be trained to evaluate building systems, health, and safety conditions, and physical and structural conditions, and to provide cost estimates for maintaining, rehabilitating, or improving deficiencies, using both traditional and green principles. Must also have environmental expertise, as inspection will include environmental issues as well. Must have any required licenses.

B. Have physical needs assessments experience similar in scope to that required by Part III A, Chapter 3, Section 316 of the Fannie Mae Multifamily Selling and Servicing Guide.

C. Have the designation of Leadership in Energy and Environmental Design Accredited Professional (LEED AP), in either the United States Green Building Council’s LEED New Construction and Major Renovation or the LEED Existing Building Maintenance and Operations examination tracks, or an equivalent designation. Certification must be current at the time of the completion of the property’s GPNA.
D. Has completed 10-hours of education in the last calendar year in the areas of Green Building, Sustainability, Energy Efficiency, or Indoor Air Quality.

E. Have acceptably completed written evaluation reports for similar types of multifamily rental housing projects in similar physical condition and age in the subject market or in similar areas, preferably including two (2) or more buildings that were receiving Section 8 or some other type of housing assistance when the report was prepared.

F. Not be under suspension or debarment by HUD or Fannie Mae, or involved as a defendant in criminal or civil action with HUD or Fannie Mae.

G. Produce reports that are well regarded in the marketplace in terms of content, timeliness and responsiveness. The individual contractor should have this personal experience, not just the company.

H. Have the capacity to complete the project inspection and prepare the report in a time frame acceptable to the Lender.

2. Statement of Work. The Contractor conducting the GPNA shall:

A. Perform a Physical Needs Assessment (PNA) for each asset specified by the Lender that meets the scope set forth in Part III A, Chapter 3, Section 316 of the Fannie Mae Multifamily Selling and Servicing Guide and report the findings.

   (i) The report shall include color photographs and a detailed narrative describing the property’s exterior and interior physical elements and condition, including architectural and structural components, and mechanical systems.

   (ii) The Contractor shall conduct and document site inspections of a minimum of 10% of all units, and all office, community space, and common areas. Units shall be randomly sampled while taking into consideration occupied and unoccupied units and the unit size mix, i.e., one bedroom, two-bedrooms, etc. If a significant number of units are found to be in poor condition, the Lender may require additional units be inspected. The Contractor may also determine that additional units and/or common areas require inspection to fully achieve the objective of considering green building principles, and if so, must coordinate the parameters of the inspection with the Lender and Owner.

   (iii) The report shall include:

      a. **Critical items**: Identify in detail, and report immediately to property management, Owner and Lender any repair item(s) that represents an immediate threat to health and safety.

      b. **Repair/Rehab items (Short Term Physical Needs)**: Identify and estimate the cost of the repairs, replacements, and significant deferred and other maintenance items that will need to be addressed within twelve (12) months of closing (do not include items that are not broken but may need replacement in the near future).

      c. **Market Comparable Improvements**: The Contractor may include repairs or improvements that are necessary for marketability in the list of Repair/Rehab needs. The repairs/improvements identified should be those necessary for the project to retain its original market position as an affordable project in a decent, safe and sanitary condition (recognizing any evolution of standards appropriate for such a project). The project should be able to compete in the non-subsidized market on the basis of rents rather than amenities. Where a range of options exists, the least costly options for repair or rehabilitation should be chosen, when both capital and operating costs are taken into consideration.

      d. **Long-term Physical Needs/ Reserve Items**: Identify and provide an estimate of the major maintenance and replacement items that are required to maintain the project’s physical integrity for the term of the loan plus two years. The items evaluated (both recommended and not recommended) are explained in the narrative report and the recommended items are documented in a table in the report. The Contractor should identify cost-effective opportunities to replace/upgrade systems that have a useful life longer than the term of the loan plus two years.

      e. **Green Building Principles**: An objective of the GPNA is to identify opportunities to improve energy efficiency, maximize water efficiency, use re-used and recycled materials where practical, safeguard the indoor air quality of the property, be of less harm to the environment generally, and remove, re-use or recycle
replaced materials and construction debris as appropriate. The Contractor is required to evaluate all components in the building, all building systems, and all components on the property, and the property itself, to identify opportunities to achieve the stated objective. These opportunities must, at minimum, reflect the items evaluated through the energy audit in Part 2, Section 2.F. **The Contractor is expected to consider the cost-effective, market accepted and proven improvements that are expected to reduce energy and water consumption by at least 20% annually from the baseline, to identify two alternatives to be considered by the Owner, to provide a justification for the green alternatives recommended and a brief explanation of why the non-recommended alternatives are less appropriate for the subject property.** Each line item must identify the:

1. costs of the traditional repair/replacement to meet the local building code, as applicable, and the alternative using green building principles;
2. cost estimate for both the traditional and green approaches;
3. grants, credits, rebates, and other funding that may be available offered by utilities, local/state/national initiatives and non-profits;
4. expected benefits of the green alternative, both financial and non-financial; and
5. (for the HVAC system, roof, windows, insulation, appliances, and hot water heaters only) whether the recommended green improvement is required by the local building code for new construction, and if so, whether it meets or exceeds it.

(iv) The report shall identify any physical deficiencies as a result of:
   a. a visual survey;
   b. a review of any pertinent documentation; and
   c. interviews with the property Owner, management staff and tenants to the extent possible.

(v) The report shall explain how the project will meet the requirements for accessibility for persons with disabilities, to the extent applicable. Paragraph 2-40 of HUD Handbook 4350.3 (change 24 issued 1-19-93) requires Owners to develop a transition plan that identifies physical obstacles that limit accessibility and describes methods to make the project accessible. The Contractor shall include items in the transition plan in the list of repairs.

B. The GPNA should also include the following subcomponents:
   i. Acknowledgements (who prepared the report, the preparer’s qualifications or a certification that the preparer meets the qualifications required in Part 1.1, when the report was prepared, who received the report, and when the report was reviewed).
   ii. Appendices (color photographs, site plans, maps, etc.).

C. In addition, the Contractor shall:
   i. Recommend any additional professional reports needed, for example, to determine the presence or degree of structural defects, or to complete additional investigation into an environmental issue.
   ii. If the services of a subcontractor were secured to inspect the property and complete the report, the Contractor shall review the inspection for quality, consistency, and agreed upon format and conformance with these requirements.

3. **Deliverables.**

A. The final narrative report with Capital Needs Replace Reserve Schedule and integrated Parts 2 and 3 shall be completed in the number of originals and copies requested by the Lender and submitted electronically to Fannie Mae.
PART 2. ENERGY AUDIT

1. **Qualifications.** The Contractor completing the energy audit must:

   A. Be certified to complete building energy audits by RESNET or BPI (or their training providers), or be a Certified Energy Manager (CEM), or be a State equivalent certified energy auditor, or be a professional architect, or be a registered professional engineer, or be a RESNET certified Home Energy Rater or BPI Certified Building Analyst.

   B. Not be under suspension or debarment by HUD or Fannie Mae, or involved as a defendant in criminal or civil action with HUD or Fannie Mae.

   C. Produce reports that are well regarded in the marketplace in terms of content, timeliness and responsiveness. The individual contractor should have this personal experience, not just the company.

   D. Have the capacity to complete the project inspection and prepare the report in a time frame acceptable to the Lender.

2. **Statement of Work.**

   A. An energy audit identifies how energy and water is used in a facility.

      (i) Data is collected on energy and water use and costs and a physical inspection of the property and energy-related equipment is performed.

      (ii) The physical inspection reviews equipment and space conditions, past maintenance schedules, remaining useful life, and system performance, along with building envelope characteristics and conditions.

      (iii) Physical inspection may also consider indicators of performance issues such as leaking or soiled heat exchangers, high humidity, poor space temperature control, and comfort concerns. Some of these characteristics may be indicators of improperly sized heating or cooling equipment.

   B. An energy audit analyzes utility costs of the existing property, including separate rates, if any, for Owner and tenant accounts, such as for electricity. Utility data is trended and benchmarked against similar properties with like heating and cooling requirements, and used to provide estimates of energy and water savings that may be gained by implementing cost effective conservation measures.

   C. An energy audit provides a prioritized list of recommended cost-effective energy and water efficiency improvements to reduce utility costs.

      (i) Cost-effective energy and water efficiency improvements are energy or water conserving measures whose estimated utility savings exceed the installed cost of the energy measure over the measure’s useful life.

      (ii) Recommendations are based on engineering and economic analysis and consider factors such as operating hours, equipment efficiency, and building and occupant energy and water demand characteristics.

      (iii) Costs are generally developed through industry norms or available historical project information.

   D. Insulation in attics, walls, basements, floors, and ducts for heating and cooling circulation, should, at a minimum, be upgraded to current local building code for new construction, unless prevented by physical obstructions. Additional insulation should be recommended if cost-justified.

   E. In addition, the energy audit includes a recommendation on whether additional caulking and sealing is a cost-justified expenditure.

   F. An energy audit report includes the following:

      (i) Current energy, water and sewerage usage and costs (kilowatt-hour, therms, ccf, utility cost).

      (ii) Description of metering of utilities, including number of meters for each source.
(iii) Evidence that the Contractor used the Air Conditioning Contractors of America (ACCA) Manual J guide or another recognized methodology to size the recommended heating and cooling systems. The sizing shall consider other energy-related improvements being made to the property, including additional insulation, energy-efficient windows, etc. There are two exceptions to the requirement to complete a load calculation to appropriately size the heating and cooling systems:

1. When the existing units are already the smallest available and there are no known property management or tenant complaints indicating that the existing systems may be inadequate. To justify this exception, the Contractor must inquire of the site property management and of any tenants encountered during the inspection of units, and not receive comments that would cause the Contractor to question the adequacy of the existing systems.

2. When the existing units use electric baseboard heat and conversion to another heat system has been determined to be infeasible. To justify this exception, the Contractor must consider any comments about unit heating received from inquiring of the site property management and of any tenants encountered during the inspection of units and state why conversion to another source is infeasible.

(iv) Evidence that the Contractor analyzed the existing size of hot water heaters and analyzed the appropriate efficient replacement size using First Hour Rating (primarily for individual tenant hot water heaters) or other professionally recognized sizing tools with a goal of providing sufficient but not excess capacity.

(v) Evidence that the Contractor inspected the ductwork for leakage and recommended and priced appropriate repairs. The objective is to identify energy-saving opportunities and the Contractor's professional judgment is being relied on as to the extent of any inspection, testing, cleaning and repair that is warranted for the specific property. If the ducts are accessible, the Contractor is to conduct a visual inspection and make recommendations for repair of any loose/ broken connections or other leaks. If the ducts are not accessible, the Contractor is to provide an opinion on the likely cost-benefit analysis of repairing the ducts and the approach recommended to do so (including use of an aerosol-based product).

(vi) Evaluate the feasibility of installing a master meter for the property, in cases where the tenant spaces are paid directly by the tenants and whole building consumption data is unavailable directly from the utility; or, evaluate another cost-effective method to deliver whole building energy consumption data to the Owner on a monthly basis, at minimum.

(vii) Prioritized list of recommended energy efficiency improvements, including identification of opportunities to utilize ENERGY STAR appliances and materials or better. At a minimum, in evaluating recommended energy and water efficiency improvements, the Contractor evaluates and comments on:

a. Wall, ceiling and basement (if applicable) insulation – describe existing, cite the local code for new construction;
b. Exterior doors – weather stripping, caulking, insulation characteristics, possible needed replacement and standards;
c. Storm doors (where they currently exist) – weather stripping, caulking, insulation characteristics, possible needed replacement and standards;
d. Dishwashers (where they currently exist) – efficiency standard, age, replacement options;
e. Windows/sliding glass doors – considering age, weather stripping, caulking, air conditioning sleeves;
f. Heating Ventilation and Air Conditioning (HVAC) – age, size and rated efficiency of units, age and type of thermostat;
g. Domestic Hot Water (DHW) – age, size and rated efficiency of units, insulation, temperature setting and set-backs, appropriate efficiency and size for replacement units;
h. Refrigerators – age, size, rated efficiency of units, potential replacements;
i. Water – flow rate of shower and faucets, hot water temp at tap, hot water pipe insulation, toilet tank size;
j. Ventilation – kitchen and bath ventilation (recirculating or outside), appropriate size for replacement units;
k. Apartment lighting – existing lighting methods, over-lighted conditions, conversion to CFL bulbs or fixtures;

l. Lobby, common area, corridor – exterior doors (see above), existing lighting methods, lighting (sufficiency/excess, conversion to CFL bulbs and/or fixtures, T-8 (or smaller) electronic ballast fluorescent, LED exit light and automatic control potential);

m. Exterior lighting (including parking area) – existing number, type, sufficiency/excess illumination levels and efficiency of lighting type, conversion potential to more efficient lighting type, automatic controls;

n. Central Plant Boilers/Hot water - efficiency, age, potential for combined heat and power (CHP), set backs;

o. Laundry Area – identify if leased or owned, number and type of appliances, size, age, efficiency rating of appliances;

p. Other commercial or office space – same evaluation of (a. – m.) above, as applicable;

q. Possibility of cost effective change in fuel/heating system type, as detailed in (viii) below; and

r. Evaluation of rate options, if any, with the utility companies for different site uses, e.g., residential/commercial rates, peak load management rates.

(viii) An initial assessment of the potential feasibility of installing alternative technologies for electricity, heating and cooling systems, and hot water heating (collectively called Green Energy Technologies) at the property. The Contractor is to comment specifically on each of the following:

a. Photovoltaic for electricity;

b. Solar thermal for hot water heating;

c. Wind turbine;

d. Combined heat and power;

e. Geothermal heat pumps, and; and

f. Other alternative energy technology.

As an initial assessment of potential feasibility, the Contractor’s comments are to conclude and justify, for each of the five minimum technologies, whether further study is recommended. Specifically, the Contractor is to state that the property: is a potentially viable candidate and a feasibility study is recommended or is not a viable candidate and further study is not recommended.

NOTE: Fannie Mae expects a few sentences of discussion for each of the five technologies. For example, “Combined heat and power: The property has less than 80 units (a rule of thumb for minimum number of units for feasibility) and does not have a central power source. Further study is not recommended.” Another example, “Geothermal heat pumps: The property has sufficient acreage to drill wells and uses enough energy for heating and cooling that this technology may be feasible. Further study is recommended.”

(ix) Installed cost estimates for recommended energy and water efficiency measures.

(x) Expected useful life of recommended energy and water conservation measures.

(xi) Annual energy and water saving estimates (consumption and cost reductions). In considering cumulative savings, the Contractor should consider how measures may interact and be realistic about the overall portion of existing utility use that might be conserved. At minimum, the Contractor is expected to identify reasonable, cost-effective opportunities for the Owner’s consideration that are expected to result in at least 20% reduction annually in energy consumption from the baseline year.

(xii) Simple payback period in years for each evaluated measure, whether recommended or not. For more complex systems with multiple components, utilize a financial analysis that factors in varying estimated useful lives. A full lifecycle cost analysis may be used. Include a brief discussion of all measures evaluated and a justification for the one recommended in the narrative report. Include the recommended measure in the Capital Needs Replace Reserve Schedule.
G. To complete the energy audit, the Contractor must request the utility bills for all energy types and water bills in order to establish a baseline. The Contractor must request the last 12 months of utility bills from the Owner for meters paid by the Owner.

   a. In cases where the tenant pays for utilities directly to the utility company, the Contractor must request 12 months of whole building consumption data from each utility company on the Owner’s behalf.
   b. In cases where whole building data is not available directly from the utility, the Contractor must request a release form from the local utilities and the property’s management agent will gather two months of utility bills from tenants and deliver to the Contractor.

H. Using this data, the Contractor must set-up an account for the property in ENERGY STAR Portfolio Manager (www.energystar.gov). The Contractor must provide complete access to the Owner and provide a training of Portfolio Manager to the Owner for the Owner to continue tracking of the property’s energy and water performance. The Contractor must share the ENERGY STAR building profile with the “FANNIEMAE” Master Account in ENERGY STAR Portfolio Manager.

I. The GPNA should also include acknowledgments (who prepared the report, the preparer’s qualifications or a certification that the preparer meets the qualifications required in Part 2.1, when the report was prepared, who received the report and when the report was reviewed).

J. In addition to the above, the Contractor shall:
   (i) Recommend any additional professional reports needed (including, for example alternate energy system feasibility studies, air infiltration tests for energy loss and ventilation needs, blower door tests, infrared imaging, duct blasting, etc.).
   (ii) If the services of a subcontractor were secured to perform the GPNA, the Contractor shall review the inspection for quality, consistency and agreed upon format and conformance with the report requirements.

3. Deliverables.

The report and supporting worksheets are made a part of the overall GPNA deliverables submitted by the Contractor. See Part 1.3.1 for instructions on delivering the report.

PART 3. INTEGRATED PEST MANAGEMENT PLAN INSPECTION

1. Qualifications. The Contractor completing the Integrated Pest Management Inspection (IPMI) must:

   A. Be certified by QualityPro Green, GreenShield, or EcoWise.

   B. Be trained to evaluate and treat the interior and exterior of multifamily structures for pest infestations, in accordance with Integrated Pest Management (IPM) standards.

   C. Have the work performed by an employee who is licensed or certified by the state for residential pest control or be QualityPro Green certified and who has produced reports of this nature that are well regarded in the marketplace in terms of content, timeliness and responsiveness.

   D. Not be under suspension or debarment by HUD or Fannie Mae, or involved as a defendant in criminal or civil action with HUD or Fannie Mae.

   E. Have the capacity to complete the project inspection and prepare the report in a time frame acceptable to the Lender.

2. Statement of Work. The Contractor shall:

   A. Perform an IPMI, provide the property manager and each tenant with information on glue traps, and prepare an IPMI report for each asset specified by the Lender and report the findings.
B. [NOTE - The following instructions assume the Contractor will make two visits to the property: interviewing property management about existing pest control practices and placing the glue traps during the first visit, retrieving the glue traps and conducting the necessary unit and property inspections during the second visit. The Lender has the authority to modify the instructions to require only one visit by the Contractor in those situations where the Lender believes the onsite property management can place the glue traps correctly and provide the glue trap handout to the tenants].

Conduct the first onsite visit/inspection to:

(i) Obtain an understanding of the configuration of buildings.
(ii) Obtain an understanding of the existing pest control practices.
(iii) Review the “Using Glue Traps” handout with the property manager and provide it to each tenant or leave it in each unit where glue traps are placed. Handout is available on www.oahp.net.
(iv) Place the glue traps to assess cockroach infestation within each unit and common areas such as laundry rooms, storage rooms, and interior trash handling areas.
(v) Advise the property manager that the contractor will retrieve the glue traps and set a date certain for that follow-up visit/inspection.

C. Conduct the second onsite visit/inspection to:

(i) Collect the glue traps from each unit, observe conditions in the units, and include in the report a unit-by-unit summary of the glue trap findings.
(ii) Review the findings from the glue traps to help determine which units should be inspected. The Contractor then shall conduct site inspections of a minimum of 10% of all units. Unless otherwise guided by the glue trap findings, units shall be randomly sampled while taking into consideration occupied and unoccupied units and the unit size mix, i.e., one bedroom, two-bedrooms, etc. If a significant number of units are found to have infestations not reflected in the glue trap findings, the Lender may require that additional units be inspected at the time the glue traps are collected.
(iii) Inspect the exterior of building(s) for evidence of pest infestation or conditions which could attract and/or harbor pests. Inspect and identify all areas where the envelope has been penetrated and all points of ingress/egress, looking for any entry points for pests. If identified, the Contractor must determine and document all corrective measures, both immediately and long-term.
(iv) Inspect the trash disposal, laundry, common areas, office space, maintenance work area, and storage areas for evidence of infestations.

D. Prepare a narrative report, that:

(i) Identifies any pest infestations as a result of glue trap findings, a visual survey, a review of any pertinent documentation related to past infestations and pest control measures, or interviews with the property owner, management staff, and tenants.
(ii) Includes color photographs and a detailed narrative describing the property’s pest infestation, if any, and provide a corrective course of action for each infestation, and if needed, specific actions for serious infestations within individual units.
(iii) Includes a Glue Trap Summary which identifies in detail the quantity and variety of pest trapped, and any obvious general areas/floors/structures with significant infestations (e.g., if a cluster of adjacent apartments appear to have a more severe infestation when compared to the overall building). Identify groups of infested units as High, Moderate, or Low infestation and detail corrective measures for each.
(iv) Details an immediate course of action, being specific as to physical items needed (e.g., door sweeps) and treatments needed, if any, and estimated costs to address the pest infestations for each identified group (see prior paragraph) and a continuing course of action for using IPM principles at the property.
E. Prepare a report regarding existing pest control practices that:

(i) Documents the existing pest control strategies, practices, and outcomes.
(ii) Evaluates the existing pest control strategies and practices.
(iii) Identifies the deficiencies in the existing pest control strategies and practices.
(iv) Recommends practices consistent with IPM principles that will achieve better outcomes.

F. The IPMI part of the GPNA should also include the following subcomponents:

(i) Acknowledgements (who conducted the inspection and prepared the reports, the preparer’s qualifications or a certification that the preparer meets the qualifications required in Part 3.1, when the report was prepared, who received the report, and when the report was reviewed).
(ii) Appendices (color photographs, site plans, maps, etc.).
(iii) If the services of a subcontractor were secured to inspect the property and complete the report, the contractor shall review the inspection for quality, consistency, and agreed upon format and conformance with these requirements.

3. Deliverables.

The report and completed exhibits are made a part of the overall GPNA deliverables submitted by the Contractor. See Part 1.3.1 for instructions on delivering the draft and final narrative reports to the Lender.