



EarthCraft House Manual

Version 2.0
July 2018

EarthCraft House is a trademark of Southface and the
Greater Atlanta Home Builder's Association

Table of Contents

EarthCraft House Program Summary	3
EarthCraft House Builders	4
EarthCraft House Project Process	12

EarthCraft House Program Summary

The EarthCraft House Program is for builder certification of new construction, gut-rehabilitation and adaptive reuse, single family projects. The program is designed to accommodate both “affordable” and “market rate” project types.

The EarthCraft House program prioritizes resource efficiency and high performance construction practices. EarthCraft's base level certification is called “EarthCraft certified.” An EarthCraft certified home is a high performance home that is above code for envelope specifications, envelope performance and indoor air quality (IAQ). Projects seeking to further distinguish themselves for building performance, environmental awareness and/or occupant health and safety may seek additional certification packages. These packages, or certification badges, fall into four (4) categories: Comfort, Environment, Health, and Performance.

Typical approaches to reach EarthCraft energy efficiency requirements:

- Improve insulation levels and installation quality
- Better than “typical” low-e windows
- Integrated ballast and compact fluorescent lighting
- Installation of ENERGY STAR rated appliances

Certified projects are more energy efficient and less costly to operate. There is less communication of uncontrolled air between conditioned and unconditioned/ambient spaces allowing for the improved air quality and projects are more durable. EarthCraft projects have a smaller environmental footprint both during construction process and operation/occupancy.

Builders receive technical assistance and confirmation of program standards for the project through the work of the EarthCraft Technical Advisor and the benefits that come with the EarthCraft process.

Project Eligibility

All single-family new construction, gut-rehabilitation and adaptive reuse projects are eligible for the EarthCraft program, as well as duplexes, row homes or townhomes. Renovation projects should pursue certification through the EarthCraft Renovation program.

Attached or detached structures that are intended to be habitable and share the same postal address as the primary home (e.g. in-law suite over a garage), must meet program requirements for certification using the same EarthCraft criteria as the primary home. Projects wishing to use a separate worksheet for the ancillary structure must register the additional structure as a separate project in the program. Projects pursuing the performance path must meet all requirements for energy modeling for all structures, including a separate model for detached structures and depending on home design, a separate model for attached structures.

EarthCraft House Builders

EarthCraft Builder Benefits

Becoming an EarthCraft Builder offers competitive advantages in the field of green building. EarthCraft Builders have the opportunity to:

- Offer clients valuable and specialized expertise in high-performance building that differentiates their product
- Expand business opportunities and broaden professional networks
- Enhance knowledge of building science by participating in continuing education and by gaining field experience with EarthCraft Technical Advisors
- Reduce risk through enhanced quality assurance and verification measures

EarthCraft Builder General Roles and Responsibilities

EarthCraft Builders construct new homes in the EarthCraft House program, certify that the homes meet program criteria, provide feedback on program guidelines and initiatives, and market EarthCraft homes to their clients. It is the responsibility of the EarthCraft Builder to ensure program compliance and manage the EarthCraft House certification process.

Project Construction

EarthCraft Builders manage EarthCraft projects by:

- Identifying project goals and aligning those goals with green building strategies
- Constructing homes in accordance with EarthCraft House program guidelines and requirements, using house-as-a-system integration
- Overseeing the performance of trade-contractors in accordance with program guidelines and requirements
- Educating Home Owners on the benefits of owning, operating, and maintaining an EarthCraft home
- Project Certification

EarthCraft Builders certify that projects meet or exceed EarthCraft House guidelines and requirements by:

- Contracting with an EarthCraft Technical Advisor who verifies and inspects each project according to the procedures outlined in this manual
- Signing the EarthCraft Inspection sheet at Pre-Drywall Inspection and Final Inspection acknowledging project performance and requirements
- Providing accurate and timely documentation for EarthCraft projects, as outlined in this manual
- Signing the EarthCraft Worksheet Cover page indicating that the project was constructed with all of the features and requirements noted in the EarthCraft Worksheet

Administration

EarthCraft Builders satisfy administrative requirements by:

- Completing and submitting an EarthCraft Builder Memorandum of Understanding for each EarthCraft Technical Advisor with whom they partner
- Providing all program documentations according to the procedures outlined in this manual
- Paying invoices to EarthCraft according to the invoice terms

Compliance

EarthCraft Builders comply with program requirements by:

- Building projects in compliance with any and all applicable laws, rules, and regulations adopted by any local, state or federal governmental agency or regulatory body
- Obtaining and maintaining any necessary permits, certificates, insurances or licenses applicable to services rendered
- Committing to continual product improvement and to providing feedback about the program to EarthCraft

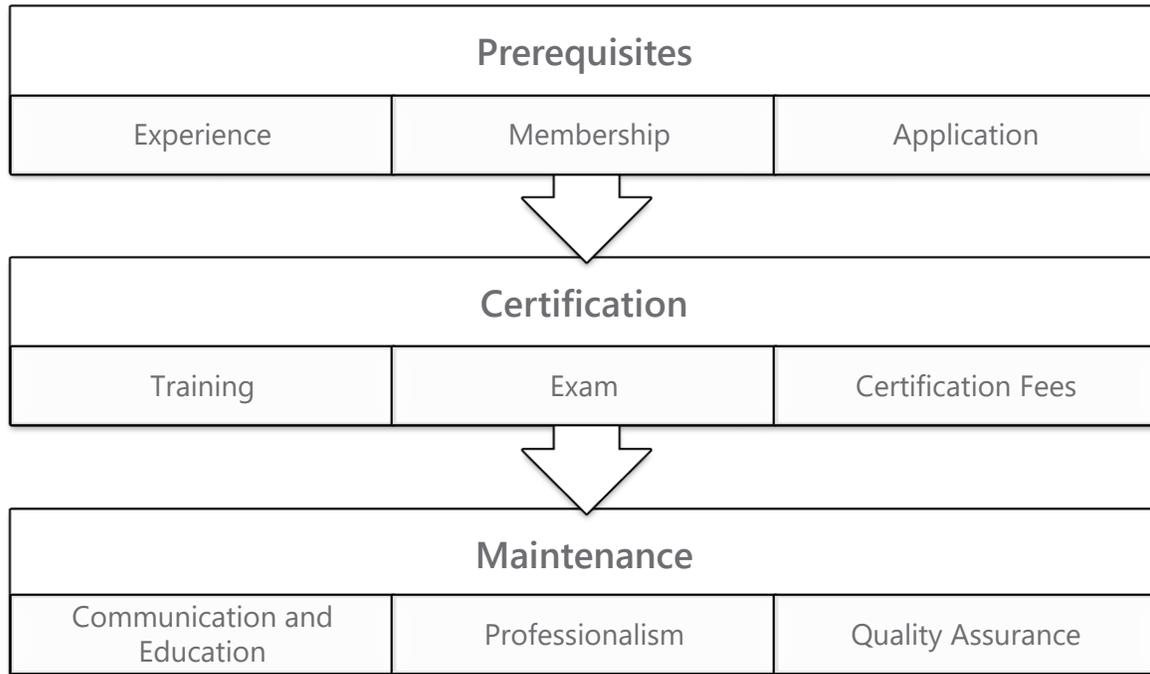
EarthCraft Builder Certification and Participation

The EarthCraft Builder certification process and participation requirements prepare contractors to build and certify projects meeting the requirements and guidelines of the EarthCraft House program.

Participation in the EarthCraft Family of Programs

EarthCraft also offers programs in Multifamily, Renovation, Communities, and Light Commercial. Further training is required to participate in these programs. Please consult a member of the EarthCraft staff for additional requirements for working in these programs.

Process Overview



Prerequisites

Experience

EarthCraft Builder candidates must have at least three years of experience in the residential building industry. Candidates with less than three years of experience should contact EarthCraft.

Membership

Local HBA Member:

- EarthCraft Builder candidates must be a current member, in good standing, of his/her local Home Builders Association

Application

EarthCraft Builder candidates must submit an EarthCraft Builder Membership application through the Greater Atlanta Home Builders Association. EarthCraft Builders must renew their EarthCraft Builder Membership on an annual basis with the Greater Atlanta Home Builders Association.

Certification Process

Training

The EarthCraft House Builder Training consists of a two-hour online training on building science plus a one-day classroom course. It covers the basics of the EarthCraft House program from the EarthCraft Builder's perspective including participant roles and

responsibilities, program guidelines and requirements, and the project certification process. All site supervisors are required to attend.

Exam

The written exam covers all topics and skills taught during the EarthCraft House Builder Training. This exam is open book with a 2 hour time limit for completion. A score of 80% or greater is required to pass the exam.

Certification Fees

Payment is required to the organization that administers the training. All fees must be paid in full before an individual will be certified as an EarthCraft Builder.

EarthCraft House Builder Training.....	\$25-175*
EarthCraft House Builder Exam.....	No Cost
EarthCraft House Membership Application Fee.....	\$150 annually
Local Home Builders Association Fee.....	Varies per local HBA

Note:

*EarthCraft House Builder Training prices vary based on local training host costs and promotions. Training schedules and pricing may be found at www.southface.org/calendar. Private trainings may be arranged for by request through EarthCraft staff.

Maintenance

EarthCraft Builders are responsible for the following requirements to maintain certification and remain in good standing:

Communication and Education

Administration

- To provide excellent customer service for all program participants and facilitate a timely certification process, EarthCraft Builders are required to comply with the following administrative requirements:
 - Submit paperwork according to the guidelines in this manual
 - Submit reports and respond to survey as requested by EarthCraft
 - Oversee trade-contractor performance to ensure program compliance
 - Contract with an EarthCraft Technical Advisor on each EarthCraft House project for inspection, verification, and diagnostic testing services
 - Maintain current contact information with EarthCraft
 - Provide program feedback to EarthCraft as requested

Participation

- EarthCraft strives to stay up-to-date on industry research, technology and strategies, and incorporates new criteria into the program on a regular basis based on industry advances and feedback from program participants. In order to maintain an accurate understanding of EarthCraft program guidelines and requirements, and to stay abreast of new industry findings, EarthCraft Builders are expected to attend any periodic program updates, continuing education, program development opportunities and networking opportunities offered by EarthCraft.

Minimum Project Certification

- Each EarthCraft Builder must build and certify a minimum of one EarthCraft project per year to remain active in the EarthCraft program. EarthCraft program administrators will work individually with EarthCraft Builders who are unable to meet this requirement.

Membership Renewal

- Each EarthCraft Builder must renew his or her EarthCraft builder membership each year through the Greater Atlanta Home Builders Association, and maintain an active membership with his or her local Home Builders Association to remain active in the EarthCraft program.

Note:

In an effort to provide best in class education, Southface also offers additional, voluntary training resources and opportunities for EarthCraft Builders. To find out more about Southface trainings and events, visit www.southface.org/calendar.

Professionalism

Conduct

- EarthCraft Builders must maintain a professional level of conduct and communication at all times and agrees to ongoing professional development.

Conflict of Interest

- EarthCraft has the right to deny any project certification if it is deemed to have an irresolvable conflict of interest. Each EarthCraft Builder must:
 - Avoid any conflict of interest regarding EarthCraft activities and personal or financial interests
- Inform the EarthCraft staff of any potential conflict of interest issues as soon as potential issues are recognized

Complaint Resolution

- EarthCraft has the right to respond to and resolve all complaints related to services performed by an EarthCraft Builder and an EarthCraft Technical Advisor. Each EarthCraft Builder must:
 - Respond to and resolve any client complaints in a timely manner
 - Inform EarthCraft staff of any potential project issue or complaint as soon as possible
 - Submit to EarthCraft any complaints regarding EarthCraft Builders and/or EarthCraft Technical Advisors as soon as possible
 - Report any complaints about EarthCraft staff to Southface as soon as possible

Quality Assurance

Quality Assurance reviews are essential to EarthCraft to maintain quality of programs and participants. These procedures ensure quality standards and enhance the credibility of certified EarthCraft projects.

Quarterly Project Status Updates

In an effort to maintain accurate home records and to keep projects from going uncertified for an undetermined period of time, EarthCraft Builders will engage in quarterly status updates with the EarthCraft staff.

The following process will be used each quarter:

- EarthCraft will email the EarthCraft Builder a list of projects currently registered and the status on file for those projects.
- The EarthCraft Builder will review the list provided by EarthCraft and discuss any discrepancies between the EarthCraft records and the EarthCraft Technical Advisor records. Discrepancies can include omissions, incorrect information, incorrect project status, etc.
- Following the Quarterly Project Status Update, EarthCraft will email the EarthCraft Technical Advisor an updated project status list based on the information provided by the EarthCraft Builder. The EarthCraft Technical Advisor is required to respond with any questions, concerns about projects on the status list, or any projects missing from the status list.

File Reviews

EarthCraft project documentation will be subject to 100% Quality Assurance File Reviews. All project documents may be checked for accuracy and completeness. Incomplete documents or documents not meeting EarthCraft program standards will not be processed and the EarthCraft Technical Advisor will receive an Incomplete Documentation Notice.

EarthCraft Builders and EarthCraft Technical Advisors are encouraged to ask questions as needed about program documentation and requirements through the EarthCraft Hotline.

Field Reviews

EarthCraft Technical Advisors will be subject to 1% Quality Assurance Field Reviews. EarthCraft will choose the project subject to review and have the EarthCraft Technical Advisor arrange access for EarthCraft staff with the EarthCraft Builder.

Rejoining the EarthCraft Program

EarthCraft Builders who have been dropped from the EarthCraft program as a result of not building an EarthCraft certified house in the past 12 months and/or having their membership lapse are able to rejoin the program.

- If the builder’s membership lapses but the builder has built an EarthCraft certified house in the last 12 months, the builder is required to retake and pass the EarthCraft House Builder exam, but not required to retake the EarthCraft House Builder Training Class prior to rejoining the program. Once the builder has passed the exam, he or she is required to reregister as an EarthCraft builder with the Atlanta HBA and his or her local HBA membership must be in good standing
- If the builder’s membership lapses and the builder has not built an EarthCraft certified house in the last 12 months, the builder is required to both retake and pass the EarthCraft House Builder Training Class and exam prior to rejoining the program. Once the builder has passed the exam, he or she is required to reregister as an EarthCraft Builder with the Greater Atlanta HBA and his or her local HBA membership must be in good standing

EarthCraft Builder Disciplinary Policy

EarthCraft strives to prevent application of the disciplinary policy through regular, open communication with EarthCraft Builders and program participants. In the event that disciplinary action is required, the EarthCraft Disciplinary Policy is applied in progressive steps to provide EarthCraft Builders appropriate opportunities for improvement and prevent termination.



Probation

Probation is the first step in the disciplinary policy and serves as a formal warning while offering opportunities for improvement.

Reasons

An EarthCraft Builder can be put on probation for the following reasons, including but not limited to:

- Deviation from the protocol set forth in this manual

- Improper use of EarthCraft logos
- Misleading marketing about EarthCraft program participation
- Consistently delinquent paying invoices to EarthCraft (all payments received passed the invoice due date will be considered delinquent)
- Failure to return communication from EarthCraft staff or an EarthCraft Technical Advisor within 30 days
- An official complaint is filed by a client or EarthCraft Technical Advisor that warrants probation
- Any combination of the above regardless of frequency of a specific item

Notification

The EarthCraft Builder will be informed in writing of the probation, reasons for probation and potential remedies.

Consequences/Actions

The Probation Notification will provide specific directions for expected improvement and compliance by the EarthCraft Builder.

Suspension

Suspension is the second step in the disciplinary policy and serves as a severe warning while offering opportunities for improvement.

Reasons

An EarthCraft Builder can be put on suspension for the following reasons, including but not limited to:

- Failure to correct behavior resulting in EarthCraft Builder's probationary status within 30 days, or other approved timeline as specified in the Probationary Notification
- Failure to improve accuracy of House Builder's work during probation
- The EarthCraft Builder continues to deviate from the protocol set forth in this manual
- Other serious offenses as identified by the EarthCraft Regional Manager or other EarthCraft staff

Notification

The EarthCraft Builder will be informed in writing of the suspension, reasons for suspension and remedies required.

Consequences/Actions

The Suspension Notification will provide specific directions for expected improvement and compliance by the EarthCraft Builder. Once suspended, an EarthCraft Builder's name will be temporarily removed from the list of certified EarthCraft Builders. No projects will be

certified until the EarthCraft Builder is removed from suspension. The EarthCraft Builder's certification status will be restored once the violation has been corrected to the satisfaction of EarthCraft as outlined in the Suspension Notification.

Termination

Termination is the third and final step in the disciplinary policy, and is reserved for extreme offenses without offering further opportunities for improvement.

Reasons

An EarthCraft Builder can be terminated for the following reasons, including but not limited to:

- Failure to correct behavior resulting in EarthCraft Builder's Suspension status within thirty days, or other approved timeline as specified in the Suspension Notification
- Demonstrates inability to improve accuracy of work
- Demonstrates inability to follow procedures set forth in this manual
- Other extreme offenses as identified by the EarthCraft Regional Manager or other EarthCraft staff

Notification

The EarthCraft Builder will be informed in writing of the termination, reasons for termination and remedies required.

Consequences/Actions

Once terminated, an EarthCraft Builder's name will be permanently removed from the list of certified EarthCraft Builders, and their projects cannot be certified. A terminated EarthCraft Builder may reapply for certification after a period of one year. No fees will be refunded if terminated.

EarthCraft House Photo-documentation Standards

Instructions

Photo-documentation may be used to document certain strategies used to reach EarthCraft certification. Photo-documentation is very helpful for strategies that will not be visible after project completion (i.e., installed behind drywall, buried underground). Photographs submitted to EarthCraft for verification of points and required items must follow the standards below.

Photographs must be:

- Clear and sharp
- Properly oriented
- Taken with a frame of reference
- Taken with varying proximity to the strategy used when appropriate

- Taken to include both the general location and specifics of strategy used

A narrative explaining what is being portrayed must also accompany each photograph. Pictures should be taken in such a way that the viewer will immediately understand what is being portrayed. Photos of the whole house (or project site) should also be included as part of each set of pictures taken.

For example, photographs submitted with the intent of verifying the ventilation strategy used in a house would include pictures of the air intake and exhaust ducts' location. These pictures should also demonstrate that all seams are properly sealed with mastic, with a brief narrative accompanying each picture.

Photograph Submittal

Photos submitted to EarthCraft should be uploaded directly to Salesforce using the naming convention below. All submittals should be uploaded as an attachment to the appropriate project and must include the date of the photos taken.

Document	File Name Convention
Photo-documentation	ABCHomes_123MainSt_PhotoName_DateTaken.jpg

EarthCraft House Document Naming Conventions

Instructions

Documents submitted to EarthCraft must be named according to the Naming Conventions below. All documentation for the home should appear in one of two submittals sent to EarthCraft as outlined below. All submittals and inspection information must be uploaded to the project record in Salesforce.

For additional information on each submittal package, review the EarthCraft House Project Process section of the EarthCraft Manual.

Pre-Drywall Inspection Report Submittal

Document	File Name Convention
EarthCraft Single Family PDW Inspection Record	auto-assigned a name in Salesforce when record is created (N/A)
EarthCraft Preliminary Worksheet	ABCHomes_123MainSt_Preliminary_Worksheet_TA.xls
Manual J Load Calculation	ABCHomes_123MainSt_ManJ_TA.pdf
ENERGY STAR v3 Summary Report	ABCHomes_123MainSt_ESv3report_TA.pdf

Final Inspection Report Submittal

Document	File Name Convention
EarthCraft Single Family Final Inspection Record	Auto-assigned a name in Salesforce when record is created (N/A)
AHRI Matching Certificate	ABCHomes_123MainSt_AHRI_TA.pdf
Final EarthCraft House Worksheet Cover	ABCHomes_123MainSt_Final_Cover_TA.pdf
Final EarthCraft House Worksheet	ABCHomes_123MainSt_Final_Worksheet_TA.xls
ENERGY STAR v3 Summary or ENERGY STAR Version 3 County-level Reference Design Checklist	ABCHomes_123MainSt_EnergyStar_TA.pdf
Emissions Report	ABCHomes_123MainSt_Emissions_TA.pdf
Building File Report	ABCHomes_123MainSt_BuildingFile_TA.pdf
Fuel Summary Report	ABCHomes_123MainSt_Fuel_Summary_TA.pdf
Thermal Enclosure System Rater Checklist	ABCHomes_123MainSt_Final_Thermal_TA.pdf
HVAC System Quality Installation Rater Checklist	ABCHomes_123MainSt_HVAC_Rater_TA.pdf
HVAC System Quality Installation Contractor Checklist	ABCHomes_123MainSt_HVAC_Contractor_TA.pdf
Water Management System Builder Checklist	ABCHomes_123MainSt_WaterMgmt_TA.pdf
Indoor airPLUS Verification Checklist	ABCHomes_123MainSt_airPlus_TA.pdf

EarthCraft House Project Process

Process Overview

All EarthCraft Builders and EarthCraft Technical Advisors must follow a specific project process in order to certify and verify EarthCraft House projects. All EarthCraft Builders working on their first EarthCraft project are also required to participate in an EarthCraft Design Review with an EarthCraft Technical Advisor.

Step 1	Project Registration
Step 2	Project Information Submittal
Step 3	Preliminary Energy Model
Step 4	Design Review
Step 5	Pre-Drywall Inspection
Step 6	Pre-Drywall Inspection Report Submittal
Step 7	Final Inspection
Step 8	Confirmed Energy Model
Step 9	Final Inspection Report Submittal
Step 10	Certification
Additional Steps	As required, based on project

Each step in the EarthCraft project process is defined in detail on the following pages.

Step 1: Project Registration

To officially begin an EarthCraft House project, each project must be registered with EarthCraft prior to the Pre-Drywall Inspection. Online project registration is available at <http://www.earthcraft.org/resources-for-earthcraft-professionals>. The registration fee is non-refundable and does not guarantee the project will be certified. Fees paid online are \$150, while projects paying by mail are \$200 per project.

EarthCraft Technical Advisor Responsibilities

- Verify project registration with EarthCraft
- EarthCraft Technical Advisors are responsible for ensuring that each project they provide services for is registered with EarthCraft

EarthCraft Builder Responsibilities

- Register each project with EarthCraft
- EarthCraft Builders are responsible for registering each project and paying the applicable EarthCraft registration fee. This Project Registration Fee is additive of

the verification/inspection fees charged by the EarthCraft Technical Advisor to the EarthCraft Builder.

Production builders planning to complete more than 10 homes a month should call EarthCraft prior to registering their projects to discuss the potential for volume discount pricing.

Step 2: Project Information Submittal

Each EarthCraft House project must be inspected by an EarthCraft Technical Advisor throughout the construction project. The EarthCraft Builder must contract with an EarthCraft Technical Advisor. The project information submittal step provides the information necessary for subsequent steps in the process.

EarthCraft Technical Advisor Responsibilities

- Follow-up with Builder
- Review Project Information Submittal and ask questions about any items of concern.
- Confirm preliminary EarthCraft Worksheet meets minimum program requirements.
- Identify any appropriate points of clarification for the plans and specifications to support program compliance during construction.
- Request Project Information Submittal from EarthCraft Builder if not received two weeks prior to Pre-Drywall Inspection.

EarthCraft Builder Responsibilities

- Submit Project Information to EarthCraft Technical Advisor
- The following information must be submitted to the EarthCraft Technical Advisor at least two weeks prior to the Pre-Drywall Inspection:
 - House Plans
 - Construction Specification Sheet
 - Manual J load calculation
 - Preliminary EarthCraft Worksheet
 - Additional verification documentation as required by EarthCraft Technical Advisor based on items identified by the EarthCraft Builder on the EarthCraft Worksheet (e.g. Manual D duct design)

Step 3: Preliminary Energy Model

After receiving a complete Project Information Submittal package from the EarthCraft Builder, the EarthCraft Technical Advisor will perform a preliminary energy model and provide the results to the EarthCraft Builder.

EarthCraft Technical Advisor Responsibilities

- Develop preliminary energy model for project
- Determine project's ability to meet program requirements

- Identify effective cost trade-offs for improving building performance
- If ineligible, develop options to meet program requirements
- Report results to EarthCraft Builder
- Submit the Building Report from the energy model
- Provide notification of projects:
 - Eligibility to meet program requirements
 - Effective cost trade-offs for improving building performance
 - Options developed to meet program requirements if a home is ineligible

EarthCraft Builder Responsibilities

- Follow-up with EarthCraft Technical Advisor
- Read report results and ask questions about any items of concern
- Request written report from EarthCraft Technical Advisor if not received prior to Pre-Drywall Inspection

Step 4: Design Review

The Design Review is an opportunity to identify project goals and look carefully at the house and site plans and determine how the EarthCraft program can be best applied to meet the project goals. The EarthCraft worksheet and energy modeling results will be used to guide the discussion.

Overview

The Design Review must be conducted on the first project the EarthCraft Builder intends to build to EarthCraft specifications. The Design Review must also be conducted on each initial project with which the EarthCraft Builder teams with a new EarthCraft Technical Advisor. The Design Review is optional for projects thereafter at the request of the EarthCraft Builder, EarthCraft Technical Advisor or EarthCraft Regional Manager. EarthCraft Builders are encouraged to request a design review when starting a new subdivision of homes or building product line, after having significant staff or subcontractor turnover and when updating building practices to ensure all parties are on the same page for tracking EarthCraft certification.

Scope

During the Design Review, the EarthCraft Builder and EarthCraft Technical Advisor should discuss the program requirements for home specifications, documentation and submittal timelines, inspection visits and testing, fees and payment timelines, and communication strategies. The EarthCraft Builder and EarthCraft Technical Advisor will review the house plans for project goals and EarthCraft criteria incorporation. If available, the EarthCraft Builder and EarthCraft Technical Advisor may also work with the energy model to identify optimum building strategies and systems for maximizing energy performance while minimizing construction costs. EarthCraft encourages EarthCraft Builders to invite other project team members to participate in the design review for maximum coordination and project communication of project goals, EarthCraft requirements, and roles and responsibilities.

Objectives

Successful Design Reviews will accomplish the following objectives:

- Rapport building between EarthCraft Builder and EarthCraft Technical advisor, and other team members
- Contract confirmation
- Communication strategy definition
- EarthCraft compliance strategies and responsible team members
- Confirmation the project can meet mandatory items and minimum point requirements in every program category
- Completed preliminary EarthCraft House Worksheet with anticipated certification level
- Completed Construction Specification Sheet

Agenda

Every EarthCraft Design Review should include the following agenda items and additional items as identified by the EarthCraft Builder, EarthCraft Technical Advisor and project team members:

- Identify project goals
- Review EarthCraft documentation requirements and all EarthCraft forms used for home certification, completing forms as appropriate during the Design Review
- Review EarthCraft program requirements and identify project plan for EarthCraft certification, completing the preliminary EarthCraft Worksheet
- Review project contract between EarthCraft Builder and EarthCraft Technical Advisor

EarthCraft Technical Advisor Responsibilities

Preparation

In preparation for the Design Review, the EarthCraft Technical Advisor must do the following:

- Confirm EarthCraft Builder has completed Step 1: Project Registration
- Complete Step 2: Project Information Submittal
- Complete Step 3: Preliminary Energy Model (when possible)
- Review plans prior to submittal for incorporation of recommended EarthCraft House concepts and consistency with sustainability objectives.

Facilitate meeting

Meet with stakeholders to discuss comments and clarify any detail questions. Establish existing benchmarks and energy goals for the project.

Follow Up

Produce report summarizing suggested modifications that should be incorporated to reach certification and hold meeting with stakeholders for any needed clarification.

EarthCraft Builder Responsibilities

Preparation

In preparation for the Design Review, the EarthCraft builder must do the following:

- Attend an EarthCraft Builder Training
- Register as an EarthCraft Builder Member with the Greater Atlanta HBA
- Complete Step 1: Project Registration
- Complete Step 2: Project Information Submittal
- Complete Step 3: Preliminary Energy Model (when possible)
- Determine project goals and probable strategies for EarthCraft compliance
- Generate a copy of the site plan and house plans for use during the Design Review
- Generate a copy of Erosion Control Workshop Certificate

Scheduling

The EarthCraft Builder is responsible for scheduling the Design Review with the EarthCraft Technical Advisor and other project team members prior to construction starting on the home. Design reviews typically take three to five hours depending on project size, EarthCraft Builder's prior experience working with energy efficiency or green building programs, and EarthCraft Builder's knowledge and familiarity with EarthCraft House.

Arrange for all relevant stakeholders to attend the meeting:

- Architect
- Subcontractors:
 - Framing
 - Insulation
 - Air Sealing
 - HVAC

Note:

See Design Review Checklist for additional information about the EarthCraft House Design Review.

Step 5: Pre-Drywall Inspection

All EarthCraft House projects must pass a Pre-Drywall Inspection conducted by an EarthCraft Technical Advisor. The Pre-Drywall Inspection provides an on-site evaluation of the house in terms of the EarthCraft House guidelines, including a visual inspection of air sealing and duct sealing. The Pre-Drywall Inspection provides opportunities for identifying additional construction considerations that may impact the performance of the home.

EarthCraft Technical Advisor Responsibilities

Perform Field Inspection

EarthCraft Technical Advisors are responsible for performing the Pre-Drywall Inspection at the time agreed upon by the EarthCraft Technical Advisor and EarthCraft Builder. At the Pre-Drywall Inspection, EarthCraft Technical Advisors must inspect and verify:

- Plans represent home as constructed
- Building Report represents home as constructed
- Construction Specification Sheet represents home as constructed
- Manual J and installed HVAC equipment meets EarthCraft standards
- HVAC systems are sealed and code compliant, and document installation design recommendations
- EarthCraft Inspection Notes items and collect EarthCraft Builder signature
- Items identified by the EarthCraft Builder on the EarthCraft House Worksheet are in program compliance (some items may require additional documentation to be provided by the EarthCraft Builder at the Pre-Drywall Inspection)

EarthCraft Technical Advisors are encouraged to call EarthCraft Builders to ensure the project is ready for inspection on the day of the scheduled inspection.

EarthCraft Builder Responsibilities

Schedule Pre-Drywall Inspection

The EarthCraft Builder is responsible for scheduling the Pre-Drywall Inspection to occur after insulation is installed, but before drywall is installed, providing adequate notification to the EarthCraft Technical Advisor to prevent construction delays.

- Builder notifies EarthCraft Technical Advisor that project will be ready for inspection at least 1 week in advance, and schedules a specific timeframe for the Pre-Drywall Inspection.
- Ensure project is ready for inspection

EarthCraft Builders are responsible for ensuring their projects are ready for inspections. Failure to be prepared for an inspection may result in a re-inspection with additional fees. Common phases of construction that must be completed in preparation for a Pre-Drywall Inspection include:

- Framing is complete
- Rough-ins complete
- Pre-Drywall insulation is installed
- Pre-Drywall air sealing is complete
- All required verification documentation is ready for the EarthCraft Technical Advisor to review onsite as specified on the EarthCraft Worksheet and in the EarthCraft Builder Guidelines

EarthCraft Builders are encouraged to work with EarthCraft Technical Advisors to ensure the project is ready for inspection prior to the inspection date.

Step 6: Pre-Drywall Inspection Report Submittal

Upon completion of the Pre-Drywall Inspection, EarthCraft Technical Advisors are required to provide inspection reporting to the EarthCraft Builder and EarthCraft. EarthCraft Builders are

responsible for following-up on any program compliance issues identified during the Pre-Drywall Inspection as reported by the EarthCraft Technical Advisor.

EarthCraft Technical Advisor Responsibilities

- Submit Documents to EarthCraft
- Submit the following documents* to EarthCraft within ten business days** of the Pre-Drywall Inspection:
 - Preliminary EarthCraft Worksheet
 - Single Family Pre-Drywall Inspection Record
 - Manual J load calculation, including Component Construction and Project Summary pages
 - Projects meeting Energy Performance using an Energy Model
 - ENERGY STAR v3 Verification Summary Report (this is entitled ENERGY STAR V3 Summary within the REM/Rate report list)

All documents must be uploaded to the project record in Salesforce. When the submittal package is complete and ready to be reviewed by EarthCraft, select "yes" in the field marked "Ready to Submit PDWI Review?" and then "Save." This will alert EarthCraft that all required documents have uploaded and that the pre-drywall inspection report is ready for review.

EarthCraft will charge a \$75 fee for each inaccurate and/or incomplete project submission that is received from a TA. EarthCraft will waive the \$75 fee for the first file an EarthCraft Technical Advisor submits to EarthCraft that is inaccurate or incomplete per program (i.e. EarthCraft House, Multifamily, or Renovation), but this fee will be charged on all subsequent inaccurate or incomplete submissions. If you submit multiple projects at once, we will charge this fee on each inaccurate or incomplete submission unless these submissions have identical inaccuracies or areas of incompleteness and EarthCraft has not responded to any of the submissions. For example, if you submit 3 projects with the same error and EarthCraft then notifies you of the error in these 3, you will be required to pay only one \$75 fee. You will, however, be charged \$75 for any projects submitted after EarthCraft responds to the first 3, even if they have the same error as the original 3 projects.

Common errors and omissions include, but are not limited to:

- Design temperatures in load calculation do not comply with program standards
- Load calculation does not factor in the ventilation requirement of the program
- Load calculation is not calculated in software compliant with ACCA 8th Edition
- Inspection dates on the "Cover Sheet" tab in the worksheet file are not filled in
- Basic address info on "Cover Sheet" tab is not filled in
- The "Status Column" on the "Worksheet" tab is not filled in correctly
- All required items must be marked with Y, N, VF (if applicable at PDWI), NA, or AD (if applicable at PDWI)
- All point items must be marked with Y, N, VF (if applicable at PDWI), AD (if applicable at PDWI)
- Projects are submitted before they have been registered with the program

- Required information for diagnostic testing is not recorded (e.g. SFBE, Volume, Area Served)
- Leakage to Outside test results are not recorded (we need this even if the ducts are in conditioned space)
- Insulation grades are missing
- A required document is missing (e.g. AHRI matching certificate, load calculation, ENERGY STAR Summary Report)

As always EarthCraft Administrators are available to answer questions prior to submission. Utilizing this resource will help avoid the enforcement of this fee.

Notes:

*EarthCraft Technical Advisors: See Document Naming Conventions page for specific information on how to submit project documentation to EarthCraft.

**Pre-Drywall Inspection Reports received more than ten business days after the Pre-Drywall Inspection will result in a \$25 late submittal fee charged to the EarthCraft Technical Advisor. Incomplete documents or documents not meeting EarthCraft program standards will not be processed and the EarthCraft Technical Advisor will receive an Incomplete Documentation Notice along with fee information.

Inform Builder of Pre-Drywall Inspection Results

EarthCraft Technical Advisors must provide the following information to EarthCraft Builders following the Pre-Drywall Inspection:

- Inform the EarthCraft Builder of the inspection results verbally, immediately following the pre-drywall inspection
- A written report stating any concerns or missing requirements and recommend appropriate remedies
- A copy (either electronic or paper) of updated preliminary EarthCraft Worksheet and Inspection Notes

This communication must be in a format that can be retained by the EarthCraft Technical Advisor such as email or a carbon-copy paper form with EarthCraft Builder signature acknowledging receipt of report.

EarthCraft Builder Responsibilities

- Follow-up with EarthCraft Technical Advisor
- Read inspection report results and ask questions if there are any items of concern or confusion
- Request written report from EarthCraft Technical Advisor if not received within 10 business days of Pre-Drywall Inspection
- Complete any incomplete measures as identified by the EarthCraft Technical Advisor prior to the drywall being installed or final inspection, whichever is appropriate

Step 7: Final Inspection

All EarthCraft House projects must pass a final inspection conducted by an EarthCraft Technical Advisor. During the final inspection, an EarthCraft Technical Advisor verifies all program criteria through visual inspection, documentation review and diagnostic testing of the home. EarthCraft Builders provide project documentation to support the final inspection.

EarthCraft Technical Advisor Responsibilities

Perform Field Inspection

EarthCraft Technical Advisors are responsible for performing the Final Inspection at the time agreed upon by the EarthCraft Technical Advisor and EarthCraft Builder. At the Final Inspection, EarthCraft Technical Advisors must inspect and verify:

- Plans represent the project as constructed
- Building Report continues to represent project as constructed
- Building envelope and duct system meet program criteria for performance
- Items identified by the EarthCraft Builder on the EarthCraft House Worksheet are in program compliance (some items may require additional documentation to be provided by the EarthCraft Builder at the final inspection)

EarthCraft Technical Advisors are encouraged to call EarthCraft Builders to ensure the project is ready for inspection on the day of the scheduled inspection.

EarthCraft Builder Responsibilities

Schedule Final Inspection

The EarthCraft Builder is responsible for scheduling the final inspection once the home is ready for occupancy and all EarthCraft measures have been completed.

- Builder notifies EarthCraft Technical Advisor that project will be ready for inspection at least 1 week in advance, and schedules a specific timeframe for the Final Inspection.
- Builder ensures that an EarthCraft Builder representative will be available onsite.
- The EarthCraft Builder confirms no conflicting trades will be working onsite, e.g. floor finishers, touch-up painters, carpet installers, etc, during the Final Inspection. The EarthCraft Technical Advisor must be able to access the entire home, control the mechanical systems and close all exterior openings.

Notes:

Occupied Final Inspections – NO EXCEPTIONS

In the event that an occupied final inspection must be performed, the following rules apply:

- Builder must be onsite the entire time
- All pets crated or removed from the home
- All ducts must be accessible; EarthCraft Technical Advisors may not move homeowners' personal belongings

- Conversations are between the EarthCraft Technical Advisor and the Builder; the Builder is responsible for all conversations with homeowners; and EarthCraft Technical Advisors should avoid talking to the homeowner about the home certification, and should never discuss the home's performance with the homeowner.

Ensure project is ready for inspection

Homes ready to receive a Certificate of Occupancy are typically ready for a final inspection.

The following items must be completed prior to the final inspection:

- Any EarthCraft items not verified at the Pre-Drywall Inspection, and any items identified as noncompliant at the Pre-Drywall Inspection
- All items on the EarthCraft Worksheet
- All required verification documentation is ready for the EarthCraft Technical Advisor to review on-site as specified on the EarthCraft Worksheet and in the EarthCraft Builder Guidelines

Complete project documentation

At the completion of the final inspection, the EarthCraft Builder is required to:

- Sign the final version of the EarthCraft Worksheet for the project acknowledging project's compliance with EarthCraft program guidelines and requirements

Step 8: Confirmed Energy Model

After the final inspection, a confirmed energy model for each project is required to verify program compliance.

EarthCraft Technical Advisor Responsibilities

Finalize energy model for project

The EarthCraft Technical Advisors must:

- Revise the energy model at project completion to reflect as-built conditions
- Record the final HERS index
- Confirm project meets program requirements
- Develop options to meet program requirements if a project is ineligible
- Report results to EarthCraft Builder and EarthCraft
- Notify the EarthCraft Builder of project's eligibility to meet program requirements and of options to meet program requirements if a project is ineligible within 30 business days of final inspection

EarthCraft Builder Responsibilities

Follow-up with EarthCraft Technical Advisor

Read and review report results and ask question about any items of concern or confusion. Request written report from EarthCraft Technical Advisor if not received within 30 business days of final inspection.

Step 9: Final Inspection Report Submittal

EarthCraft Technical Advisors are required to submit final inspection reports to the EarthCraft Builder and EarthCraft.

EarthCraft Technical Advisor Responsibilities

Submit Documents to EarthCraft

The EarthCraft Technical Advisor must submit the following documents* to EarthCraft within 30 business days** of the final inspection***:

All projects:

- Final EarthCraft Worksheet
- Single Family Final Inspection Record
- EarthCraft Worksheet Cover signed by EarthCraft Builder and EarthCraft Technical Advisor
- AHRI Certificate or Manufacturer equivalent

Projects meeting Energy Performance using an Energy Model:

- REM/Rate Fuel Summary Report located within the IECC 2009 reports
- REM/Rate Building File Report with Rating Registry ID Number (Cannot be draft or print screen, must be official report)
- REM/Rate Emissions Report
- REM/Rate ENERGY STAR v3 Verification Summary Report (draft watermark is no longer accepted if print permission not enabled, please request your provider give you permissions to print the v2.5 report)

Projects meeting Energy Performance using the Prescriptive Path:

Completed ENERGY STAR v3 County-Level Reference Design Checklist to demonstrate compliance with ENERGY STAR Prescriptive Path requirements

Projects seeking ENERGY STAR, Gold, or Platinum certification (in addition to list above):

- Thermal Enclosure System Rater Checklist
- HVAC System Quality Installation Contractor Checklist
- HVAC System Quality Installation Rater Checklist
- Water Management System Builder Checklist (or Indoor airPLUS Verification Checklist)

All documents must be uploaded to the appropriate project record in Salesforce. When the submittal package is complete and ready to be reviewed by EarthCraft, select “yes” in the field marked “Ready to Submit PDWI Review?” and then “Save.” This will alert EarthCraft that all of the required documents have uploaded and that the pre-drywall inspection report is ready for review.

EarthCraft will charge a \$75 fee for each inaccurate and/or incomplete project submission that is received from a TA. EarthCraft will waive the \$75 fee for the first file an EarthCraft Technical Advisor submits to EarthCraft that is inaccurate or incomplete per program (i.e. EarthCraft House, Multifamily, or Renovation), but this fee will be charged on all subsequent inaccurate or incomplete submissions. If you submit multiple projects at once, we will charge this fee on each inaccurate or incomplete submission unless these submissions have identical inaccuracies or areas of incompleteness and EarthCraft has not responded to any of the submissions. For example, if you submit 3 projects with the same error and EarthCraft then notifies you of the error in these 3, you will be required to pay only one \$75 fee. You will, however, be charged \$75 for any projects submitted after EarthCraft responds to the first 3, even if they have the same error as the original 3 projects.

Common errors and omissions include, but are not limited to:

- Design temperatures in load calculation do not comply with program standards
- Load calculation does not factor in the ventilation requirement of the program
- Load calculation is not calculated in software compliant with ACCA 8th Edition
- Inspection dates on the “Cover Sheet” tab in the worksheet file are not filled in
- Basic address info on “Cover Sheet” tab is not filled in
- The “Status Column” on the “Worksheet” tab is not filled in correctly

- All required items must be marked with Y, N, VF (if applicable at PDWI), NA, or AD (if applicable at PDWI)
- All point items must be marked with Y, N, VF (if applicable at PDWI), AD (if applicable at PDWI)
- Projects are submitted before they have been registered with the program
- Information for diagnostic testing is not recorded (e.g. SFBE, Volume, Area Served)
- Leakage to Outside test results are not recorded (we need this even if the ducts are in conditioned space)
- Insulation grades are missing
- A required document is missing (e.g. AHRI matching certificate, load calculation, required ENERGY STAR Report (dependent on tier of program))

As always EarthCraft Administrators are available to answer questions prior to submission. Utilizing this resource will help avoid the enforcement of this fee.

Notes:

*EarthCraft Technical Advisors: See Document Naming Conventions page for specific information on how to submit project documentation to EarthCraft.

**Final Inspection Reports received more than 30 business days after the final inspection will result in a \$25 late submittal fee charged to the EarthCraft Technical Advisor.

***If a re-inspection is required, EarthCraft Technical Advisors must submit the Final Inspection Report within 30 business days of the Final Inspection, and the Final Re-Inspection Report within 30 business days of the Final Re-Inspection.

Inform EarthCraft Builder of Final Inspection Results

The EarthCraft Technical Advisor must provide the following information to EarthCraft Builders following the Final Inspection:

- Inform the EarthCraft Builder of the inspection results verbally, immediately following the final inspection
- A written report stating any concerns or missing requirements, and recommend appropriate remedies
- A copy (either electronic or paper) of all documentation submitted to EarthCraft

This communication must be in a format that can be retained by the EarthCraft Technical Advisor such as an email or a carbon-copy paper form with EarthCraft Builder signature acknowledging receipt of report.

EarthCraft Builder Responsibilities

Follow-up with EarthCraft Technical Advisor

Read inspection report results and ask questions if there are any items of concern or confusion. Request written report from EarthCraft Technical Advisor if not received within 30 business days of Final Inspection.

Step 10: Certification

Final home certification is approved by the EarthCraft Technical Advisor working with the EarthCraft staff. Once approved, it is up to the EarthCraft Builder to officially certify the home as meeting EarthCraft House program requirements and guidelines.

EarthCraft Technical Advisor Responsibilities

- Provide EarthCraft Builder with certificate upon receipt from EarthCraft

EarthCraft Technical Advisors are responsible for giving the EarthCraft Builder the certificate for each home once received from EarthCraft. EarthCraft Technical Advisors can expect to receive the certificate within 10 business days of EarthCraft approving all required project documentation and registration payment

EarthCraft Builder Responsibilities

Follow-up with EarthCraft Technical Advisor

If the report is not received within 30 business days of final inspection, the EarthCraft Builder should request the certificate from the EarthCraft Technical Advisor.

Additional Steps

The process outlined above illustrates a project that is a repeat project between an EarthCraft Builder and an EarthCraft Technical Advisor that does not run into any major problems. As every project is unique, there are additional steps that may be required in order for a project to become EarthCraft Certified.

Pre-Drywall Duct Leakage Test or Building Envelope Leakage Test

Some EarthCraft Builders may choose to request a pre-drywall duct leakage test or building envelope leakage test to identify leaks prior to drywall installation. EarthCraft encourages new EarthCraft Builders and EarthCraft Builders switching duct sealing or air sealing crews to take advantage of this additional service. Projects that will have the majority of the ductwork covered by drywall are also good candidates for the pre-drywall duct leakage test to prevent any surprises at the final inspection. All projects must still be tested for duct leakage and building envelope leakage at the final inspection regardless of pre-drywall testing.

Additional Inspections, Documentation and Testing

Based on the strategies chosen by the EarthCraft Builder for compliance with EarthCraft, additional inspections or verification services may be required. For example, EarthCraft Builders seeking Gold certification are required to have the ducts tested for air flow balancing. This requires the EarthCraft Builder to have the HVAC contractor test and balance the ductwork, and the EarthCraft Technical Advisor confirm airflows.

Other strategies chosen by the EarthCraft Builder may be appropriate for photo documentation to confirm the specific measure was completed during the construction process. The EarthCraft Builder should work with the EarthCraft Technical Advisor during the design review to identify any additional testing or verification requirements for the project.

Re-Inspection

If a project does not meet the criteria for the EarthCraft program at the time of the inspection, the EarthCraft Builder has the option of making improvements to the project in order to meet the guidelines. In order to certify the house at this point, the EarthCraft Builder must contact their EarthCraft Technical Advisor for a re-inspection. There is typically additional cost for re-inspections.

Note:

The EarthCraft Technical Advisor will determine whether the issues identified within the project may realistically be improved and therefore whether a re-inspection is appropriate for the project. Some projects may be ineligible for re-inspections due to the inability to meet program criteria.

Cancellation

If a project is not ready for inspection at the time of the scheduled inspection, the EarthCraft Technical Advisor may charge a cancellation fee requiring the EarthCraft Builder to reschedule the inspection for a time when the project will be ready for the inspection. To prevent cancellations, EarthCraft Technical Advisors and Builders are encouraged to stay in touch in the days and hours leading up to an inspection to confirm the project is still on track and will be ready for the inspection. To avoid cancellation fees, it is the EarthCraft Builder's responsibility to cancel an inspection according to the cancellation policy of each EarthCraft Technical Advisor.

Project Close-Out

EarthCraft Builders are responsible for ensuring that all projects seeking EarthCraft certification comply with project certification requirements. However, not all projects that

were registered with EarthCraft will meet these requirements. Both EarthCraft and EarthCraft Technical Advisors have the authority to determine that projects cannot meet requirements of the program.

Registered projects that have no activity for a period of nine months will be automatically closed-out by EarthCraft staff, unless a written notification of delay has been received by EarthCraft staff. In order to re-open closed projects, a fee of \$125 will be charged to the party that registered the project.

Projects that do not ultimately become certified are not refunded any fees (including registration fees). All projects closed by EarthCraft staff will receive an email notification to the EarthCraft Builder and EarthCraft Technical Advisor.