

A Handbook for Planning and Conducting Charrettes for High-Performance Projects

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Forward

Sustainable building design can most easily be achieved through a *whole-building design* process. This process is a multidisciplinary strategy that effectively integrates all aspects of site development, building design, construction, and operations and maintenance to minimize a building's resource consumption and environmental impact while improving the comfort, health, and productivity of building occupants. An integrated design can also save money in energy and operating costs, cut down on expensive repairs over the lifetime of the building, and reduce tenant turnover.

Process is key to whole-building design. Sustainable design is most effective when applied at the earliest stages of a design. This philosophy of creating a good building must be maintained throughout design and construction. The early steps for a sustainable and high-performance building design are:

- Creating a vision for the project and setting design performance goals
- Forming a strong, all-inclusive project team
- Outlining important first steps to take in achieving a sustainable design.

The best way to achieve the steps above is through a high-performance charrette. A charrette is an intensive workshop in which various stakeholders and experts are brought together to address a particular design issue. It is the mechanism that starts the communication process among the project team members, building users, and project management staff. A facilitated discussion allows the team to brainstorm solutions to meeting the building user's requests and the sustainability vision for the building design. By the time the charrette concludes, the participants should have identified performance goals in the context of validating the program needs.

The charrette should result in good communication among project team members and the development of unified design and construction goals for everyone to work toward. For sustainable building projects, the project team must consider how the building design and interior function can affect the building's overall environmental impact. Building design decisions address site, energy consumption, human comfort, building material, and landscaping issues. A good design will integrate these factors so that the effects of one will minimally impact, or even benefit, the others. The project team for such a design should, therefore, possess the expertise to analyze the interactive affects of various design strategies on the building's overall energy efficiency and environmental impact. Computer simulation tools that are capable of modeling building performance are invaluable resources for understanding the trade offs associated with all design decisions. Continuing to use these tools after the building is constructed give insight into how well the building is actually performing compared to how it should perform.

Following the design phase, the project team will account for how design decisions influence construction and long-term building operation. Writing effective construction documents, and safeguarding design goals will result in projects that are built as the original design intended. In addition, protecting the project site during construction will minimize the site impacts both during and after construction and ensure a safe working environment during construction.

Post-construction activities guarantee continued sustainable building operation. Building commissioning completed before occupation as well as continuous commissioning activities conducted throughout the life of the building ensure the building always performs as originally intended. Also, regularly educating and training the building operators and occupants will encourage these groups to take an active role in minimizing the environmental impacts of their building.

Rigorously adhering to the process discussed here will facilitate the design, construction, and operation of a sustainable project. Additional information is available through the U.S. Department of Energy's High Performance Buildings Research Initiative, www.highperformancebuildings.gov.

Preface

The purpose of this handbook is to furnish guidance for planning and conducting a “high-performance building” charrette, sometimes called a “greening charrette.” The handbook answers typical questions that will arise, such as “What is a charrette?” “Why conduct a charrette?” “What topics should we cover during the charrette?” and “Whom should we invite?” It also contains samples of agendas, invitation letters, and other commonly used charrette materials.

In addition to answering questions about charrettes and giving logistical information, this handbook outlines the characteristics of a good charrette facilitator. It gives suggestions for the types of experts to invite to the event to motivate participants and answer their questions. The handbook includes sample presentations that can be used by these experts to ensure they address the required technical content. It suggests the types of participants, including technical, political, and community representatives, to invite to the charrette. It offers advice for forming effective breakout groups to ensure that a broad range of complementary expertise is represented in each group. We have also included guidance on how best to include key decision makers and stakeholders who are able to attend only portions of the event.

The handbook *will not* take the place of skilled facilitators and experts in key areas. A well-organized charrette depends on qualified facilitators and speakers with expertise in areas important to the project. Without these fundamental components, a charrette cannot adequately kick off a high-performance project.

Owners, design team leaders, site planners, state energy office staff, and others who believe a design charrette will benefit their project will find the information contained in this handbook helpful. Here we present detailed information for planning and conducting a charrette and following up after the event.

The handbook includes a number of worksheets and samples in the appendices to assist with planning and conducting charrettes. In summary, the appendices contain:

- Appendix A – a checklist to help guide the user of the handbook through the charrette process
- Appendix B – sample agendas for several types of charrettes
- Appendix C – a worksheet to assist with identifying the types of participants to invite to the charrette
- Appendix D – sample letters to send to charrette invitees
- Appendix E – recommended information to provide to the charrette participants
- Appendix F – sample evaluation forms for participants to complete following the charrette
- Appendix G – sample outlines for final charrette reports
- Appendix H – sample presentations to help guide charrette speakers
- Appendix I – examples of charrette final reports

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Chapter 1: Charrettes for High-Performance Projects

Understanding the difference between a workshop and a charrette and knowing what benefits and outcomes to expect from the charrette are important first steps in the charrette process. It is also important to determine if the project is sufficiently developed to benefit from a charrette. In this chapter, we answer basic questions about charrettes and give guidance on whether your project is ready for the charrette process.

What Is a Charrette?

A charrette is a creative burst of energy that builds momentum for a project and sets it on a course to meet project goals. It can transform a project from a static, complex problem to a successful, buildable plan. Usually, it is an intensely focused, multiday session that uses a collaborative approach to create realistic and achievable designs that work.

Charrette planners and facilitators use strategic planning to overcome conflict. Part of their strategy is to focus on both the *big picture* and the *details* of a project to produce collaborative agreement on specific goals, strategies, and project priorities. Charrettes establish trust, build consensus, and help to obtain project approval more quickly by allowing participants to be a part of the decision-making process.

charrette (shar-ette') *n.* **1.** A small cart. **2.** A collection of ideas. During the 19th century, students of l'Ecole des Beaux Arts in Paris would ride in the cart sent to retrieve their final art and architecture projects. While en route to the school in the cart, students frantically worked together to complete or improve these projects. The meaning of the word has evolved to imply a collection of ideas or a session of intense brainstorming. **3.** An intensely focused activity intended to build consensus among participants, develop specific design goals and solutions for a project, and motivate participants and stakeholders to be committed to reaching those goals. Participants represent all those who can influence the project design decisions.
[Fr. *charrette*]

Charrette Benefits

The benefits of using charrettes early in the high-performance design process are many. Most importantly, charrettes can save time and money while improving project performance. In general, charrettes:

- Provide a forum for those who can influence design decisions on a project to meet and begin planning the project.
- Encourage agreement on project goals.
- Kick off the design process.

- Save time and money by soliciting ideas, issues, and concerns for the project design to help avoid later iterative redesign activities.
- Promote enthusiasm for a project and result in early direction for the project outcome.

Conducting a charrette early in the design/decision-making process will:

- Establish a multidisciplinary team that can set and agree on common project goals.
- Develop early consensus on project design priorities.
- Generate early expectations or quantifiable metrics for final energy and environmental outcomes.
- Provide early understanding of the potential impact of various design strategies.
- Initiate an integrated design process to reduce project costs and schedules, and obtain the best energy and environmental performance.
- Identify project strategies to explore with their associated costs, time considerations, and needed expertise to eliminate costly “surprises” later in the design and construction processes.
- Identify partners, available grants, and potential collaborations that can provide expertise, funding, credibility, and support to the project.
- Set a project schedule and budget that all team members feel comfortable following.

History of Green Charrettes

Following the highly successful Greening of the White House charrette, one of the first green charrettes conducted by a federal agency, the U.S. Department of Defense and the National Park Service implemented green charrettes for Pentagon and Grand Canyon National Park projects. Since the White House charrette, numerous federal, state, and local government agencies, military bases and installations, nonprofits, and private-sector owners have used the green charrette process. This process enables these varied sectors to quickly and effectively achieve buy-in from diverse constituents; identify key short-, mid-, and long-term priority greening goals; and create overall strategic sustainability action plans.

What Is a High-Performance Project?

Charrettes for high-performance projects establish a creative environment for identifying and incorporating design strategies that result in projects that are designed and built to minimize resource consumption, reduce life cycle costs, and maximize health and environmental performance across a wide range of measures—from indoor air quality (IAQ) to habitat protection. For example, high-performance projects can:

- Achieve energy savings of more than 50% compared with conventional projects
- Achieve higher employee productivity and longer job retention
- Reduce water consumption; operations, maintenance, and repair costs; capital costs; and overall environmental impacts
- Reduce tenant turnover.

Starting the Charrette Planning Process

Ask the following critical questions before beginning the charrette planning process. Understanding where the project stands relative to these issues will increase the likelihood of meeting the overall project goals. Be able to comfortably answer “yes” to these questions before proceeding with planning the charrette.

Yes **No**

- Is the project program developed?** The program includes the estimated size of the project, functions and adjacencies of the required spaces, average number of occupants in the spaces, the time of use of the spaces, lighting and space condition (e.g., temperature and humidity) requirements, and any unique requirements for specific spaces.
- Has the project site been selected or narrowed to a small number of alternatives?** Having one or more alternative sites identified will increase the likelihood that charrette participants can work out specific design solutions. You may find it necessary to hold a site selection charrette before a building charrette.
- Are there staff or volunteers available to support the planning and implementation of the event?** Planning and organizing a charrette requires considerable staff support for tasks such as developing lists of participants, sending invitations and tracking responses, arranging for a meeting facility and refreshments, working with speakers, and preparing materials.
- Are the resources needed to support the event available?** The costs to conduct a charrette can vary widely. Assume that costs will be incurred. The up-front funds to pay for mailings, photocopying, catering deposits, facility deposits, speaker costs, and any other costs associated with preparing for the event must be available or identified when the planning begins.
- Is there an overall “champion” to lead the event?** The most effective charrettes have at least one champion to ensure that the overall event schedule and tasks move forward as planned. Identify that champion early in the project. The champions should be one or more individuals who are passionately involved in the project, can influence project decisions, and have previous experience and time with the project.
- For large-scale projects, such as campuses, military bases, or other developments, are issues to be addressed in the charrette well defined?** These issues could include overall master planning, transportation, facilities construction or renovation, operations and maintenance, green procurement and contracting, and education and outreach.

In this handbook, we furnish guidance on conducting charrettes that integrate energy and environmental issues to significantly change the way buildings are designed, constructed, and operated. The described charrette is intended to engage an interdisciplinary group of professionals in a structured process to identify, evaluate, and recommend strategies for improving the energy and environmental performance of a project. The project can be a new or renovated individual building or a group of buildings, such as a campus, a military installation, a national or state park, or a community center. Even though the overall principles contained in this handbook apply to charrettes for projects of all sizes, this handbook focuses on individual building projects.

University of North Carolina-Ashville Charrette Saved Time and Money

The University of North Carolina in Asheville (UNCA) used the charrette process with tremendous results. A 1-day charrette saved the university time and money on its new campus facility site location decision compared to a traditional design approach. Approximately 40 people from outside and inside the university gathered to discuss the relative merits of three site choices (A, B, and C). After a sustainable site issues briefing and several hours of group work, three of the four work groups independently selected an overlap area between sites A and B. The remaining group, although it recognized the significant advantages of the overlap choice, preferred Site C, giving the university the required two choices necessary to take to the university board. Aided by the development costs and the buy-in information from the charrette participants, UNCA quickly settled on the overlap area. In addition to coming to consensus on the site for the project, which was the focus of the charrette, UNCA now has a good understanding of Site C sustainable development options and costs for future considerations.

Chapter 2: Getting Started

At least 3 months before the event . . .

- Create a steering committee.
- Hold a kickoff meeting.
- Determine event date and location.

Initial decisions on the key issues to discuss, participants to involve, and the best dates and locations to hold the event are made during the first stages of the charrette planning process. This chapter gives suggestions for how to begin this planning process.

Create a Steering Committee

The first step in planning and organizing a charrette is to set up a steering committee. The purpose of the steering committee is to guide the charrette planning process and ensure support from key individuals and organizations. Discussing the charrette objectives and logistical issues with several enthusiastic and dedicated people will stimulate the generation of ideas and make the charrette a more successful event.

A small group of five to eight individuals working closely together will enhance the efficiency of the charrette planning process. In general, effective steering committee members:

- Represent a variety of interests:
 - Owner and/or owner’s representative(s)
 - Charrette organizers
 - Overall facilitator
 - Local community leader(s)
 - High profile stakeholder(s)
 - Overall project champion(s).
- Demonstrate good organizational skills.
- Accept and encourage new ideas.
- Identify and engage potential participants, partners, and speakers.

Anyone who will have an important role in planning, organizing, and managing the charrette should attend the steering committee meetings. This includes those making logistical arrangements and preparing participant packets as well as those designing the agenda and identifying participants and speakers. As the event gets closer, additional people can be invited to the steering committee meetings so that they can hear firsthand the decisions that are made and report on their efforts.

Hold a Kickoff Meeting

Hold a kickoff meeting to assemble the steering committee and begin the charrette planning process. A kickoff meeting is vitally important for defining the roles of each of the steering committee members and for bringing focus to the tasks that need to be accomplished.

The steering committee members can meet for the kickoff meeting in person, by conference call, or by videoconference. Typically, a kickoff meeting will last between 1 and 2 hours. Use the kickoff meeting to begin shaping the event, not to make final detailed decisions. Ask all steering committee members to review the checklist for planning and conducting charrettes for high-performance projects prior to the kickoff meeting (Appendix A). During the kickoff meeting, be sure to discuss:

- Purpose of the charrette
- Type and length of the charrette
- Products resulting from the charrette
- Agenda for the charrette
- Location for the charrette
- Date of the charrette
- Resources needed to help cover or defray costs of the charrette
- Participants to invite to the charrette
- Speakers to provide the desired motivation and education during the charrette
- Facilitators to lead the charrette and breakout groups
- Partners to supply resources or buy into the charrette process and its results, or both
- Project information for charrette participants
- Date, time, and logistics of the next steering committee meeting.

End the kickoff meeting with a review of action items. Designate a member of the steering committee to record the kickoff meeting discussions, prepare meeting minutes, and distribute the minutes to all steering committee members. Include in the minutes an overview of the discussions of the topics listed above and described in more detail below.

Purpose of the Charrette

Carefully identify the purpose of the event and the characteristics and expertise of participants needed to achieve that goal. The purpose will affect the event's format, along with all other decisions made during the event planning process. A good understanding of the intended outcome and participant characteristics will improve the likelihood of a successful event and help participants agree that it was worth their time to participate.

Type and Length of the Charrette

Charrettes include two major elements: an educational component (workshop) and an interactive planning component (charrette). Refer to Figure 1 and Table 1 to identify the purpose and type of event most appropriate for a particular project.

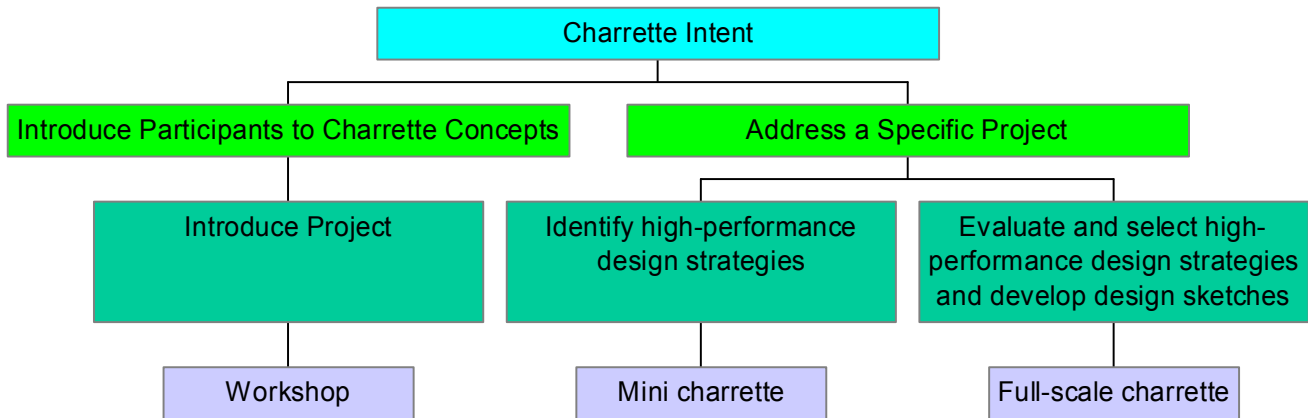


Figure 1. Flow chart for determining type and length of charrette

Table 1. Summary of Charrettes for High-Performance Projects

Event Type	Description	Length	Purpose
Workshop	Large-group presentations and discussions	½ day	<p>Introduce participants with limited time to high-performance design concepts.</p> <p>Introduce participants to the charrette process.</p> <p>Educate participants about individual high-performance design strategies.</p> <p>Engage participants in “practice” charrette exercises.</p> <p>Conduct a low-cost high-performance event.</p>
Minicharrette	Workshop plus interactive exercises	1 to 1½ days	<p>Provide basic training in high-performance design topics (conduct in a workshop format).</p> <p>Conduct charrette activities within breakout groups for a specific project.</p> <p>Identify high-performance design strategies appropriate to consider for a specific project.</p>
Full-scale charrette	Workshop plus intensive breakout group discussions	2 or more days	<p>Discuss the high-performance design strategies that were identified while conducting the predesign energy analysis as being appropriate for the specific project (conduct in a workshop format).</p> <p>Select specific strategies to incorporate into the project.</p> <p>Develop sketches and drawings to be incorporated into the project design.</p>

The workshop is part of all event types. It introduces participants to high-performance, green design and kicks off the process for selecting specific strategies. Specialists and major stakeholders are usually invited to present during this workshop. Conduct just a workshop if:

- Time and resources are limited.
- The participants have little previous experience with high-performance design concepts and charrettes.
- Potential sites have not yet been selected for the project.

The purpose of the workshop is to motivate the participants, describe the project, state its goals, and present high-performance design strategies and case study examples that will help the participants with later charrette activities. If minicharrette or full-scale charrette participants already have expertise with high-performance design and charrettes, the workshop can be reduced to a minimum—for example, presentation of information on the project that the charrette will address.

Products Resulting from the Charrette

As you discuss the purpose and type of the event, also address the desired event outcomes. Make sure that these desired results are achievable within the budget constraints set for the event, the level of expertise of the proposed participants, and the amount of detailed information available about the project.

The following list describes suggested reports to produce as end products for each event type. We give guidance for preparing these reports in Chapter 5 and present sample reports in Appendix I.

- Workshop—short summary of the presentations and discussions that took place during the workshop and recommendations for the next steps agreed to by participants.
- Minicharrette—summary of the large-group discussions and information presented in a workshop format, recommended strategies to consider for the specific project, and suggested follow-up activities.
- Full-scale charrette—summary of the background information provided to the participants; detailed summary of the large-group discussions, information presented in a workshop format, and individual breakout group recommendations; detailed summary of the specific strategies that will be included in the project design; and sketches and drawings to be incorporated into the project construction plans.

Agenda for the Charrette

The agenda depends on the type of event you select. Chapter 3 gives more information about the agenda and Appendix B contains sample agendas for each event type. In addition to these sample agendas, the steering committee members may choose to offer optional activities in conjunction with the event. For example:

- Hold a reception the first or second evening of the minicharrette or the full-scale charrette. This gives participants an opportunity to network and can also include local dignitaries and community groups.
- Conduct a tour of the project site before the minicharrette or full-scale charrette.

Location for the Charrette

Determine whether to convene the event at or near the project site. Hold the charrette at a nearby location if adequate facilities do not exist at the project site or if travel to the site is difficult. After selecting a location, identify potential facilities for the event. Table 2 lists the requirements of potential facilities.

Table 2. Minimum Facility Requirements

Requirement	Workshop	Minicharrette	Full-Scale Charrette
Large room that can accommodate the potential number of participants (usually 25 to 50 people) in a classroom- or auditorium-style configuration, or at tables for 6 to 8 people.	√	√	√
Small rooms for breakout group sessions or large room(s) that can accommodate multiple breakout groups. Breakout groups usually require a large round table for 6 to 8 people, flip charts, and wall space for hanging flip chart pages and sketches.		√	√
Space for resource table/library (e.g., documents, software, and other resources that may be useful to the participants during the event).		√	√
Optional—space for a registration table, food and beverages, event reception, exhibits, Internet and fax services, or other special needs.	√	√	√

Planning tip—facility selection hints:

- Set an example for the participants by conducting the charrette in a “green” building.
- Investigate opportunities for donated space from event partners or cosponsors.

Date of the Charrette

Discuss potential event dates during the kickoff meeting and commit to finalizing the date soon after the kickoff meeting. Many of the essential tasks to plan a charrette (Chapter 3) can be completed only after the event date is established. Consider the following when selecting an event date:

- Allow enough time to plan the event, contact participants, make logistical arrangements, ensure that participants are not already too scheduled to attend, and prepare background information for participants (including a predesign energy analysis). We highly recommend scheduling the event date no less than 3 months after the kickoff meeting.
- Investigate potential conflicts (such as holidays or other events and conferences) that could make it difficult to draw participants to the charrette.

- Investigate opportunities for coordinating the charrette in conjunction with related events to increase participant interest in attending the charrette.
- Confirm the availability of key participants, speakers, and facilitators before selecting the final date.
- Schedule the event so that the project design process can continue to move forward. For example, consider the possibilities for scheduling briefings for city officials, meetings with funding sources, development and issuance of a Request for Proposals (RFP) to select an architectural/engineering (A/E) firm, and ongoing meetings with the community soon after the charrette event.

Resources to Help Cover or Defray Costs of Conducting the Charrette

Use the kickoff meeting to begin discussing the event budget and costs that will be incurred. Begin identifying who will be responsible for those costs. Finalize an event budget shortly after the kickoff meeting.

Potential costs to conduct the event include (discussed in detail in Chapters 3 and 5):

- Steering committee time and travel
- Mailings (flyers, e-mails, invitation letters)
- Charrette materials and reproduction (including predesign energy analysis)
- Speakers' and facilitators' time and travel
- Staffing support for the event
- Photographers and writers
- Facility rental
- Food
- Audiovisual (AV) equipment
- Internet connection at the facility (optional)
- Final charrette report and follow-up with participants.

Participants to Invite to the Charrette

Plan to invite 25 to 50 people to participate in a minicharrette or full-scale charrette. More than 50 participants results in a larger than optimum number of people assigned to each breakout group or additional breakout groups. Both cases increase the reporting out time, the time needed to complete the charrette, and the potential that less assertive breakout group members will refrain from participating in breakout group discussions. Fewer than 25 participants will result in fewer than 3 breakout groups or breakout groups with fewer than 6 to 8 members. Either of these cases reduces the highly charged exchanges that are usually found with groups of 25 to 50 participants. Invite more than 50 participants to a workshop only if the steering committee feels comfortable that an effective workshop can be conducted with this larger number of participants.

Figure 2 identifies several types of participants we recommend inviting to a charrette. Refer to the Participation Identification Worksheet in Appendix C to determine the types of expertise and backgrounds of invited participants. Settle on the approximate number of participants to invite in each category during the kickoff meeting. If possible, also identify specific participants by

name. Plan to complete a list of invitees (name, affiliation, address, phone, fax, and e-mail) soon after the kickoff meeting.



Figure 2. Areas of expertise that could benefit your charrette

Speakers to Provide the Desired Motivation and Education During the Charrette

An assortment of speakers representing a variety of expertise will make the workshop portion of the charrette more effective. Good presenters motivate the participants and impart valuable information that the participants can apply during the charrette activities and other high-performance projects. Consider inviting the following types of speakers to participate in the event.

- Kickoff speaker(s) to energize and excite participants
- Local dignitaries to demonstrate support
- Project owner or project representative to explain the project and goals for the charrette
- Content experts for specific topics to be addressed, such as energy and materials
- Case study speakers to share previous experience gained from actual projects.

Planning tip:

The ideal mix of speakers is a combination of national and local experts. National experts can be identified through such groups as the U.S. Green Building Council (USGBC), the American Institute of Architects (AIA) Committee on the Environment (COTE), and the

American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE). Local experts can be identified through local chapters of these membership organizations.

Identify potential speakers during the kickoff meeting, as well as other people who may be able to recommend additional speakers for specific categories (if the steering committee members are not familiar with quality speakers in specific areas). Contact potential speakers soon after determining them, to verify that they are interested in participating in the event and that the proposed dates fit in their schedules. Be sure to communicate the costs that the invited speakers may be asked to cover for their participation.

Facilitators to Lead the Design Charrette and Breakout Groups

Good facilitators keep the group motivated and encourage participant involvement in the group discussions. They foster a sense of openness and inclusion for all group members by keeping the momentum going in the group setting.

Identify potential facilitators during the kickoff meeting. An overall facilitator leads the event and ensures that the desired results are achieved. Breakout group facilitators perform similar functions during the breakout group discussions.

The success of the actual event depends almost entirely on the overall facilitator's ability to motivate the participants and keep the charrette on track. Obtain recommendations for facilitators from trusted colleagues. Select an overall facilitator who:

- Is skilled and practiced at leading group discussions and, preferably, has experience facilitating charrettes
- Has demonstrated skill in encouraging constructive contributions from all participants and adhering to the agenda to ensure that participants and organizers are satisfied with the results
- Has a good understanding of the high-performance design process.

Contact potential facilitators soon after selecting them to verify that they are interested in participating in the event and that the proposed dates fit within their schedules. Integrate the facilitators as members of the steering committee immediately after obtaining commitment from them. Their previous experience will prove valuable during the event planning process.

Planning tip:

Assign the content experts recruited as speakers to also serve as breakout group facilitators; however, be sure that these content experts have the skills to facilitate.

Partners to Supply Resources or Buy Into the Charrette Process, or Both

Identify potential partners that could add to the charrette experience through needed expertise, credibility, funding, or support. These partners may be able to furnish monetary, product, or

service donations to defray some of the costs. For example, find a partner to pay for a lunch or for a pre- or post-charrette reception.

Partners bring new perspectives or expertise to the project, particularly if the local community is involved. A well-connected steering committee will know who the potential partners are in the local area. In addition, they are likely to have individual contacts within these organizations.

Project Information for Charrette Participants

Providing sufficient information to help charrette participants become familiar with the project will lead to more time available during the charrette to discuss project design solutions (less time will be required to describe the project). It will also help the participants refine the design strategies they recommend while taking part in the charrette activities. At a minimum, plan to provide the basic project information described in Appendix E.

In addition to providing the basic information, we recommend conducting a predesign energy analysis of the project. This analysis will involve using computer simulation tools to model a project's energy performance. The results of this analysis provide information that will help designers conceive a building that is climate/site sensitive and meets programmatic requirements.

The level of detail to which this analysis is completed can vary with the event type. The steering committee should plan for:

- Workshop—no predesign analysis necessary, unless one is conducted to illustrate how it can be used to assist in making early design decisions.
- Minicharrette—predesign analysis of a baseline building to provide a description of the energy performance of a typical building on the project site that meets all the programmatic requirements.
- Full-scale charrette—detailed predesign analysis including an evaluation of a baseline building and a series of parametric analyses to identify specific design opportunities for the particular project.

Unless a member of the steering committee has the skill and the time to conduct a predesign energy analysis, it will be necessary to obtain the services of an energy analyst to complete this work. The analyst should be experienced in using hourly building energy simulation programs and possess a broad knowledge of energy design alternatives. Be prepared to give the analyst general information on the project and site; this may increase the overall lead time for gathering project information before the charrette.

Date, Time, and Logistics of the Next Steering Committee Meeting

At the conclusion of the kickoff meeting, set the date and time for the next steering committee meeting and assign a steering committee member to make logistical arrangements for the meeting (e.g., reserve a conference room or obtain a call-in number for a conference call). We also recommend that the steering committee set a schedule and make logistical arrangements for regular meetings throughout the entire planning period.

Review of Kickoff Meeting Action Items

Conclude the kickoff meeting by reviewing the action items that resulted from the discussion. Be sure that there is a clear outcome for each action item, a date by when each action item is to be completed, and a steering committee member assigned to complete each action. Assigning responsibility for actions will ensure that progress is made quickly on key decisions, such as the date, location, and speakers. Discuss the status of the action items at the beginning of the next steering committee meeting.

Determine Event Date and Location

After the kickoff meeting, the steering committee members must act quickly to make the key decisions discussed above. Subsequent event planning cannot be completed until these vitally important actions are done. At a minimum, complete the following within 2 weeks after the kickoff meeting.

- Finalize the event date and location.
- Reach agreement on a preliminary agenda.
- Identify and contact key facilitators and speakers.
- Arrange for a predesign energy analysis of the project.

Remember, the makeup of the steering committee, the decisions they make during the kickoff meeting, and the chosen event dates and location will determine the event's outcome. A carefully selected steering committee and well-executed kickoff meeting will set the stage for a successful event.

Chapter 3: Planning and Developing the Charrette

Two to three months before the event . . .

- Develop an agenda.
- Confirm availability of key event players.
- Give presentation guidelines to the speakers.
- Invite participants and track responses.
- Finalize budget, expenditures, and resources.
- Make logistical arrangements.
- Assemble and distribute participant and resource material.
- Develop evaluation forms.
- Make arrangements for Continuing Education Units (CEUs).

This chapter covers the details of the charrette planning process. Charrettes can take more time, planning, and resources to organize than most people realize. Be sure to carefully go over the sections in this chapter to prevent problems from arising during the charrette.

Develop an Agenda

Develop an agenda to meet the specific needs of the event (see Appendix B for samples). Clearly state the event goals at the top of the agenda. Developing the goals and agenda together will help the steering committee members identify their common objectives for the event. Later, when the agenda is distributed to participants, stating the goals will help the participants better understand the purpose of the event. Although the agenda should be tailored carefully to meet the goals of the charrette, we discuss the elements that should be included in the sections that follow.

Welcome and Introductions

The first item on the agenda is to welcome the participants, make general announcements such as the location of the rest rooms, and thank event sponsors and partners. The overall facilitator generally thanks the participants for their interest in the event, introduces VIPs, and then asks the participants to introduce themselves. Following the introductions, the facilitator should review the expectations and goals of the event to ensure that all participants are clear on what they should expect from the event.

Planning tip:

It is best to allow sufficient time for participants to introduce themselves, as networking is a benefit of a charrette. If the number of participants is large (as may be the case for a workshop) or the time is limited, ask for a show of hands of participants representing various types of expertise (e.g., architects, engineers, project leaders, and contractors) instead of having people introduce themselves individually.

Keynote Speech

Although a keynote speech is not necessary, a good speaker can motivate the participants and help them understand why their work at the charrette is important. The keynote speaker should energize and excite the participants. Generally, the keynoter should speak immediately after the opening formalities are complete. The presentation will capture the participants' interest and encourage them to actively take part in the rest of the event. If local dignitaries or VIPs are present, give them an opportunity early on the agenda to show their support for the event as well.

Planning tip:

VIPs are generally given short time slots on the agenda so if they are unable to attend the event, the agenda can simply continue. If a VIP is expected to make a lengthy address, have an alternative in mind, such as a stand-in speaker, video, or additional discussion time, in case the VIPs are unable to attend at the last minute.

Project Overview

The owner or owner's representative should present a clear, concise overview of the project. This presentation should include the project's goals and vision, current status (what decisions have been made), issues and problems, and specific objectives or questions to be addressed at the charrette. Reviewing the owner's presentation in draft form to ensure that appropriate material is covered in an appropriate level of detail is a good idea.

Technical Presentations

The first technical presentation should be an overview of the findings from the predesign energy analysis (note, this presentation may not be available for workshops). The content experts present next. These speakers are the technical experts in areas relevant to high-performance design and the specific project. It is helpful if these speakers illustrate the successful applications of the topics presented through case study examples. Case studies prove that the concepts presented really do work and make it more likely that the participants will consider these concepts later during the charrette exercises or on their own projects.

Carefully balance the number and length of presentations. Give the speakers adequate time to present good information but not so much time that participants lose interest. Allow for questions and discussions after each presentation.

Breakout Groups and Reporting

Minicharrette and full-scale charrette agendas continue to include multiple breakout group discussions and large-group reporting sessions. At the conclusion of these sessions, or after the technical presentations during a workshop, conclude the event by reviewing the purpose of the event, making suggestions for next steps, and thanking the participants for attending.

Confirm Availability of Key Event Players

Facilitators

Chapter 2 gave general guidance to assist the steering committee in identifying potential facilitators. We also emphasized the importance of gaining commitment from these people early in the event planning process. In addition to the characteristics of a good facilitator given in Chapter 2, the overall facilitator must be qualified to “MC” the event. The overall facilitator:

- Introduces speakers.
- Handles transitions between presentations.
- Ensures that speakers and breakout groups stay on schedule.
- Facilitates question and answer sessions.
- Refocuses the participants after breaks and lunch.
- Possesses good group process skills as well as an understanding of the subject matter.

The overall facilitator may also be responsible for describing the event goals and wrapping up the event.

Breakout group facilitators should have similar qualifications as the overall facilitator, in terms of guiding discussion groups, along with expertise in the subject matter of their breakout group. In addition to leading breakout group discussions and encouraging full participation from all breakout group members, these facilitators should also be subject experts in high-performance design or the specific topic addressed by the breakout group.

Speakers

Refer to the guidance in Chapter 2 for identifying speakers. As soon as the steering committee agrees on potential speakers, contact these speakers and obtain commitments for participating in the event.

VIPs

Inviting VIPs to participate in all or key parts of a charrette has two primary benefits.

1. VIPs demonstrate support for the event and the project by making time in their schedules to participate in the event.
2. VIPs develop a personal commitment to seeing a successful end to the project.

Don't include too many VIP speakers—they can slow the momentum of the group and delay “getting down to work.”

Planning tip:

VIPs generally require as much advance notice of the event date and time as possible. They may not confirm their participation until just before the event.

Give Presentation Guidelines to the Speakers

Provide the appropriate sample presentation from Appendix H to each speaker. Give the outline in Chapter 4 to the owner to assist in developing his or her presentation. Ask speakers to model their presentations after these samples to ensure that there is an adequate overview of each topic. The presenters can focus on particular areas within these samples and include additional information, as long as they also address the other material in some way.

Ask the speakers to supply a list of required AV equipment and special supplies or inform the speakers of the equipment and supplies that will be available to them. Speakers sometimes prefer to bring their own equipment. If this is the case, be sure the facility and event staff can accommodate and operate their equipment. For example, be sure that the speaker's laptop computer is compatible with the LCD projector that will be available.

Encourage the speakers to submit their presentations materials before the event. If the steering committee has not seen one or more speakers present similar material, ask to see a draft of their presentations. Having the final presentations before the event allows enough time for the electronic presentations from all the speakers to be loaded onto one computer. Doing so eliminates the time otherwise needed during the event to transfer computers or load presentations. Also, the presentations can be printed, copied, and included in the participant packages that are prepared before the event.

Verify with the speakers if they plan to bring additional handouts or resource materials for the participants. If so, encourage the speakers to bring enough for all participants or submit the handout materials with enough time before the event to reproduce the materials and include them in the participant packages. Give the speaker an accurate count of the number of participants expected to attend the event if the speaker plans to bring his or her own handouts.

Request that the speakers furnish travel information, including flight information and hotel accommodations, so that it is possible to communicate with them in an emergency or if they fail to appear on schedule.

Invite Participants and Track Responses

Finalize the participant invitation list, including current contact information (name, title, company, address, phone, and e-mail address) for each invitee.

Send a "save the date" announcement as soon as possible after finalizing the participant invitee list, approximately 2 months before the event date (Appendix D). This announcement gives invitees a "heads up" about the event and encourages them to include the event in their schedules. (Although the save the date announcement is optional, it is extremely helpful in alerting potential participants to hold those dates on their calendars and schedule other meetings and events around those dates.)

Formally invite the participants after sending a save the date announcement. Include in the invitation letter:

- Clear, concise statement of the purpose of the event
- Anticipated event outcomes
- Description of the invitee's role
- Summary information
- Registration or RSVP form
- Logistical information.

Appendix D contains sample invitation letters for participants that can also be modified for individualized invitations for facilitators, speakers, local dignitaries, and VIPs. Provide enough information to stimulate the invitees to participate in the event, but be careful not overload them with too much information at this point. The invitation package should include:

Summary Information

- Brief description of the project, including background and site information
- Preliminary agenda
- List of speakers and facilitators
- List of invitees
- Cost to participate in the event
- Instructions for submitting registration fee.

Registration or RSVP Form

- Date that the form must be returned (2 to 3 weeks before the event)
- Procedure for returning the RSVP form (e.g., on-line registration on a Web site, e-mail and mail addresses, and/or fax and phone numbers)
- Responder's contact information (to be filled in by responder)
- Responder's dietary preferences (if meals are to be provided)
- Responder's area of expertise (optional)
- Responder's level of experience with high-performance design (optional)
- Form of payment, if there is a charge to participate in the event.

Logistical Information

This information may be distributed later to those who note interest in attending the event.

- Logistical information
 - Hotel information, including reservation number, group name, and rates
 - Map to the meeting facility
 - Parking options
 - Forms of public transportation available to the meeting facility, including suggested lines and stops
 - Designated entrance to use at the meeting facility

- Security requirements, if there is controlled access to the facility
- Emergency contact information (e.g., facility telephone number) for reaching the participants during the event.
- Meals to be provided or where to go for meals
- Supplies and resources
 - Those that will be available during the event
 - Those that the participants may want to bring.

Develop a tracking system to record the RSVP responses and monitor the responses carefully. Tracking responses helps the steering committee members ensure a balance among the diversity of expertise represented by the participants. Invite additional participants in a timely manner when key people on the original invitee list respond that they are unable to attend the event.

Planning tip:

Multiple communications are likely to be sent to invitees and participants. To save time and effort, create a mail-merge system for hard-copy mailings and a group e-mail list for electronic communication. Also, maintain an electronic record of invitee names, contact information, RSVP responses, dietary requests (if meals will be provided), and special information to make it easier to track changes, add/remove names, and forward the record to other steering committee members.

Require that all those interested in attending the event register or RSVP so that the steering committee will know how many participants to expect. It may be necessary to cut off registration after a specified participant number and notify the remaining interested people that the event is full.

Planning tip:

For certain workshops, the steering committee may not know whom to invite. Contact the local AIA COTE or ASHRAE chapter to assist in sending out a general mailing to solicit interested participants. If your workshop will coincide with an event sponsored by one of these organizations, place an announcement about your workshop on their Web site with the registration information of the conference with which the event will be coordinated.

Finalize Budget and Resources

Finalize the event budget and determine if there will be a cost to participants to attend the event. You may need to charge a small fee to cover the cost of snacks and meals during the event or to mail materials to each participant before and after the event.

Follow up with the potential partners identified by the steering committee during the kickoff meeting. Obtain commitments from these partners early in the planning process to defray specific costs. Knowing at the outset what contributions to expect will enable the steering

committee to more accurately estimate the out-of-pocket event expenses and determine if a registration fee must be charged.

Make Logistical Arrangements

Facility

In addition to the general facility information addressed during the kickoff meeting (Chapter 2), complete the following before selecting a facility.

- Tour the proposed facilities to determine suitability and evaluate:
 - Meeting room configurations
 - Meeting room acoustics
 - Ability for participants to easily see and hear the presenters
 - Locations for placement of resource tables, registration areas, and food or beverage tables
 - Table size and shape for breakout group activities
 - Wall space for hanging flip chart pages and drawings.
- Evaluate the ease of participant access to the facility, such as transportation to the facility, security at the facility, and convenience.
- Determine if the guest lodging options are acceptable.
- Evaluate the available dining and catering options.
- Fully understand and be comfortable with all contract requirements, including the cancellation clause, before committing to pay for a meeting facility.
- Ensure that the space is available after hours (e.g., evenings and weekends) if sessions are to be conducted during these periods.
 - Verify that lighting, ventilation, heating, or air conditioning is available during these times.
 - If access to the building will be restricted, clarify the arrangements that must be made for participants to enter the facility.
- Determine if the facility staff will need a list of participants before or on the day of the event to facilitate entry or parking.
- Be sure the facility is NOT under renovation during the event.

Big versus small

Which is better? Conducting a minicharrette or full-scale charrette in one room large enough to hold as many breakout tables as needed, or holding the breakout sessions in small, individual rooms? Holding breakout group sessions in one large room can promote spontaneous communication between the breakout groups. However, the noise level may be too high for members of individual breakout groups to easily communicate and there may not be sufficient wall space for each breakout group to post flip chart pages and drawings. On the other hand, renting many small meeting rooms may exceed the event budget. In all cases, keep in mind that participants need enough space around breakout groups to spread out the materials they are using and to have a good acoustic level in which to conduct discussions.

Food

Serve refreshments to help the participants stay energized during the event. Offer healthy food and beverages such as:

- Morning—coffee, tea, juice, bottled water, bagels, yogurt, and fresh fruit
- Afternoon—bottled water, juice, soda pop, fresh fruit, cookies, or protein bars.

Serving lunch during the minicharrette and full-scale charrette or before or after a half-day workshop provides an opportunity for networking, visiting exhibits, continued breakout group discussions, and touring other breakout group areas. Generally, a 30-minute lunch break is sufficient if lunch is provided. If the lunch is not provided, participants will usually need an hour or more to leave the charrette meeting area to go out for lunch.

Planning tip:

If lunch is to be served during the event, be sure to include a way to indicate dietary restrictions or preferences on the RSVP form. It is a good idea to provide vegetarian meals as an option during the event, even if none of the participants indicated a preference for such meals.

Typically, participants are anxious for a change of scenery and want to leave the event for dinner. Near the end of the charrette day, discuss possible dining options to give the participants an opportunity to informally form their own dinner groups.

Consider holding an opening reception the evening before (or during) the minicharrette or full-scale charrette to introduce participants and encourage informal interaction with the presenters. This type of reception usually begins right after business hours and lasts for a couple hours. If you are serving food, offer hors d'oeuvres, beverages, and possibly a cash bar.

Lodging

Arrange for a block of rooms at a convenient hotel if participants are traveling from out of town. You may be able to obtain a reduced conference or group rate. Periodically check with the hotel to track if event participants are registering as expected. You may need to contact key participants, particularly speakers and facilitators, to remind them to secure their reservations.

Staffing

Successful events depend on the skill of staff people assigned to take charge of or assist with specific duties. The number of staff people needed to complete these duties depends on the size of the event. Table 3 summarizes some of the important activities staff people perform during the event.

Table 3. Event Staff Support Summary

Duty	Description
Logistics	<p>Oversees participant registration.</p> <p>Ensures that refreshments and meals are served on time and when the overall facilitator expects them (may need to adjust serving times during the event according to the facilitator's direction).</p> <p>Maintains communication with facility staff about meeting room comfort (e.g., temperature and lighting).</p> <p>Makes certain that AV equipment is available when needed.</p> <p>Runs errands during the event.</p>
AV equipment operator	<p>Sets up presentations.</p> <p>Operates AV equipment (must be able to troubleshoot and solve equipment operation problems).</p>
Photographer	Documents the event with photos.
Writer(s)	<p>Takes detailed notes during the event.</p> <p>Completes a written report following the event.</p>

In addition to the suggested staff support, keep these recommendations in mind when planning the event:

- Assign more than one person to help with registration at the beginning of the event to ensure an efficient registration process.
- Allow the logistics person to focus only on logistics. If this person has other duties, it is likely that an important logistics-related detail will not go as planned.
- Always assume that there will be some type of equipment glitch and be prepared to handle it.
- Arrange for a professional photographer or assign someone skilled at using cameras to take photos throughout the event; explain to the photographer how the pictures will be used so that he/she will take the needed shots. For example, the final report might include photos of key speakers, breakout groups at work, breakout groups reporting, and the tour of the project. If the breakout groups draw site sketches, elevations, or other illustrations of their ideas, these should also be photographed. A photograph of the entire group is also good to include in the final report.
- Before the event, assign a person to take notes during the event and brief this person about the importance of recording the event thoroughly. It is best if this person has some expertise in the subject matter. The report writer should also be given an outline of the anticipated report before the event and should have an opportunity to review examples of charrette reports that most closely resemble the anticipated outcome.

Planning tip:

Invite public relations professionals or journalists to attend part or all of the event, including presentations and breakout group sessions. The potential publicity resulting from these people attending the event can be very useful in developing broad support for the project, raising project funds, and fostering public acceptance.

Equipment and Supplies

Begin identifying the AV equipment and meeting supplies that will be needed for the event early in the planning process. Determine the number needed and the cost to obtain or rent each item. We recommend making a set of the meeting supplies available to each breakout group in addition to the overall facilitator. Typical AV equipment and meeting supplies are

AV Equipment

- Wireless lapel microphone
- Wireless handheld microphone
- LCD projector
- Overhead projector (if needed)
- Projection screen
- Laser pointer
- Video tape player and monitor if a video is included in agenda (many LCD projectors now include VCR capabilities)
- Slide projector (if needed)
- Electrical extension cords*
- Power strips*
- Computer(s) and monitor(s) for resource table (optional)
- Computer loaded with presentations, with CD-ROM drive, or other types of drives needed to accommodate speaker presentations
- Internet access

Meeting Supplies

- Flip chart note pads and easels (one per breakout group and one more for overall group)
- Rolls of masking tape for each group or tacks, depending on the surface to which flip chart pages will be attached
- Drafting tape[†]
- Markers (variety of dark colors for easy visibility)
- Drawing pens (thick for easy visibility)
- Rolls of architectural tracing paper[†]
- Graph paper[†]
- Architectural and engineering drawing scales[†]
- Pads of medium-sized post-it notes
- Blank overhead transparencies (optional) and markers
- Duct tape (to tape electrical cords to the floor)
- Tubes or flat portfolios to store and carry charrette flip chart pages and drawings
- Sets of project drawings (e.g., site plans and aerial photos)

* Determine if power should be available to all breakout groups. Breakout groups may benefit from having laptop computers and other equipment participants bring with them to the charrette.

[†] Provide this item if the breakout groups will be developing drawings for a particular project.

Planning tip:

Leave plenty of time to make arrangements for obtaining these equipment and supplies. Some items, such as AV equipment, will likely need to be reserved in advance.

Arrange to have materials and supplies shipped a few days in advance to the event facility. If notified in advance, most hotels will hold materials for future meetings if the boxes are clearly marked with the responsible person's name, event name, and event date.

Signs and Name Tags

Prepare the needed number of signs to direct participants to the meeting room in which the event will be held. Signs are especially important if the facility is large or has a confusing configuration. Also, place a sign outside the meeting room at the registration table. Use easels to hold all signs so that they can be placed in easy-to-find locations.

Prepare name tags for participants and speakers. Use a large, legible font to print each person's first name. Print the person's last name and affiliation in smaller font.

Exhibits

An optional addition to the event is an exhibitor area. Invite exhibitors who offer "green" services or products to talk with participants and distribute information. Discuss expectations with exhibitors so there is no confusion about the number of participants and their available time to interact with the exhibitors during the event. Invite participants to visit exhibitors during lunch, breaks, an opening reception, or other designated periods.

Assemble and Distribute Participant and Resource Materials

Prepare and assemble participant packages to be distributed when the participants check in at the event registration table with the following suggested contents:

- Tab 1: Event-specific information:
 - Final agenda
 - List of sponsors and contact information
 - List of participants and contact information
 - List of presenters with bios and contact information
 - List of exhibitors.
- Tab 2: Project information and predesign analysis results (see Appendix E)
- Tab 3: Presentations printed as handouts for each technical presentation
- Tab 4: Case studies of similar high-performance projects
- Tab 5: Resources (e.g., useful Web sites, articles on local green buildings, and other related materials)
- Tab 6: Evaluation form (see Appendix F).

Minicharette and full-scale charrette participants will find it helpful to have some of this material prior to the event. For example, distribute the project information and predesign analysis results at least two weeks before the charrette, if possible. Also, include this material in the participant package distributed during the charrette.

Assembling the packages is time consuming so plan to assemble them at least a week before the event. If they must be assembled just before the event, allow several hours and recruit volunteers to help. After assembly, check random samples to make sure all materials are included in the proper order.

Decide if notebooks or folders will be used, based on the quantity of materials. Use notebooks or folders constructed from recycled materials. The lead time to order notebooks or folders constructed from recycled materials may be longer than for conventional products so allow sufficient time to obtain them before the event. Personalize the materials with a label containing the charrette title and date and an attractive graphic affixed to the notebook or folder cover.

Set up a resource table to showcase examples of printed and electronic resources, particularly local resources. Provide participants information on how to order the resources if they are interested in obtaining their own copies. The resources may be useful during the charrette.

Lead by Example

Employ green practices when preparing participant materials:

- Use recycled paper.
- Make double-sided copies of everything except site information and other charrette working materials.
- Use notebooks or folders made of recycled or environmentally preferable materials (e.g., recycled cardboard).
- Avoid using paper when possible:
 - Give Web site addresses and information on how to order materials instead of providing all of the materials.
 - Make available examples of supplemental materials at the resource table, such as brochures and flyers.

Develop Evaluation Forms

Participant comments evaluating the event can be extremely useful to event planners and to the project team. Provide evaluation forms in the participant packages (Appendix F), and prepare a box where participants can place their completed evaluation forms. Use the comments to improve future events and to identify kudos or concerns not voiced during the event.

Make Arrangements for CEUs

The training provided during the workshop can qualify for CEUs for participants. Offering CEUs may help draw participants to the event; however, this does involve extra work for the event organizers. The steering committee members should decide early in the event planning process if the benefits are worth the time, and sometimes the cost, of making arrangements to offer CEUs.

Many professional organizations have processes and procedures in place for applying to become a CEU host (e.g., AIA and ASHRAE). These processes vary among the organizations. Contact the national offices of the organization from which the CEUs are to be granted to obtain the appropriate process and procedure.

Chapter 4: Conducting the Charrette

The day before the event . . .

- Visit the facility.
- Check supplies and participant materials.
- Meet with the facilitator and the speakers.

The day of the event . . .

- Verify logistical arrangements.
- Set the stage with the opening session.
- Describe project and charrette expectations.
- Create effective breakout groups.
- Implement successful charrette practices.

This chapter gives guidance on how to manage a successful charrette. We have included lessons learned as well as useful tips for reaching concept and project consensus.

The Day Before the Event

Visit the Facility

Visit the facility to check the room setup and confirm all arrangements with facility staff to be sure that no surprises will arise during the event. Confirm as many of the following as possible (some might not be possible until the morning of the event):

- Place the signage directing the participants to the appropriate meeting room (may not be possible until the morning of the event).
- Make certain all reserved equipment is available (Chapter 3).
- Test the AV equipment to ensure it is operating properly and to learn special operation requirements.
- Check to make sure all presentations can be opened and projected and that they are clear, bright, and visible.
- Check the room layout for seating arrangements, breakout group arrangements, resource table, refreshments, and registration.
- Double check scheduled breaks on the agenda with the planned arrival of refreshments and lunch.

Check Supplies and Participant Materials

Check with those responsible for logistics to be sure all logistical requirements have been addressed (Chapter 3). Make sure those responsible are prepared to handle last-minute logistical requests that may arise during the event. For example:

- Locate the nearest photocopy shop (hotel copy services are often quite expensive).
- Locate the nearest office supply store.
- Locate all the materials that were shipped to the meeting and ensure all materials arrived as anticipated.

Meet with Facilitators and Speakers

Meet with all facilitators and speakers the night before the event if possible, to make sure everyone has arrived, has their materials, and is prepared for the event. This meeting gives the facilitators and speakers an opportunity to meet one another, which will help the event flow more smoothly. At the meeting:

- Go over the agenda and the role and responsibilities of each facilitator and speaker.
- Give the facilitators and speakers a copy of the participant packages so they can familiarize themselves with these materials before the event begins.

Planning tip:

Give a list of all participants to guards, receptionists, parking lot attendants, or other “gatekeepers” on the day of the event to reduce the hassles for participants. If you are using a government building, security requirements have become more stringent, and you may also need to provide social security numbers and other identifying information for participants.

The Day of the Event

Verify Logistical Arrangements

Arrive at the event facility at least 1 hour before event registration starts. With the help of the event staff and other recruited volunteers, complete the following before the participants begin to arrive:

- Set up the registration table:
 - Alphabetize nametags so it is easier to find individual participants’ names as they arrive.
 - Place the participant packages so they are easy for those working at the registration table to reach (or set them on each chair or table in the meeting room).
 - Have at least two people at the registration table until the event begins. After the event begins, at least one person should stay at the table for an additional 30 minutes, or until all participants have registered.
- Verify meeting room arrangement and equipment operation.
 - Check the room setup (e.g., are tables and chairs arranged as planned and will the planned arrangement be effective?).
 - Check the room temperature and air circulation.
 - Check the equipment:

- All reserved equipment is present.
- All equipment is functioning properly—check that all electronic presentations can be opened and videotapes are set at the proper beginning points.
- The projection screen is located in a position that can be easily viewed by all participants.
- Check that the electrical extension cords are taped to the floor.
- Check that the Internet connection is operating.
- Check that a participant package is placed at each seat (or available at the registration table).
- Check that signs directing participants to the meeting room are in place.
- Check that the first snack and beverages are set up as expected.
- Check that the guards, receptionists, or other gatekeepers know about the event and are ready for the participants to arrive.
- Locate the rest rooms, telephones, soda pop machines, and snack bars.
- Arrange the resource table for easiest access to the materials.
- Arrange the exhibitor area as arranged with the facility. Allow enough space around each exhibitor for participants to talk with exhibitors and view exhibits.

Set the Stage with the Opening Session

The opening session, which is critical to the success of the event, **MUST** accomplish the following:

- Introduce the participants to one another. One important outcome of the event will be the networking that occurs among participants. If the group is more than 25 people, limit introductions to name, affiliation, and profession. Just before the event begins, identify an individual to start the introductions and brief this person on the length of introduction he or she is to provide—others will follow this model, so be sure it is what you want.
- Establish the goals and objectives of the event and make sure that participants understand and buy into them. Walk through the agenda, participant materials, and resources available to demonstrate how the event has been designed to accomplish the goals.
- Demonstrate the owner's interest in the outcome. If the owner is enthusiastic and committed to the goals, the participants are more motivated.
- Remind all participants to turn off their cell phones.

Describe Project and Charrette Expectations

Clearly state project description, issues, and goals and the expectations for the charrette. At a minimum, the event sponsor or project owner should address:

- Goals—what results he or she desires from the project and from the charrette
- Project description—brief overview of the project with photographs and drawings as appropriate
- Project status—what decisions have been made already and what work has been performed?
- Issues or concerns—are there any barriers or problems that affect the project?

Review the owner’s presentation before the event to ensure that it will give enough information for participants to work from but not so much that they become overwhelmed.

Create Effective Breakout Groups

Ensuring diversity among the breakout group members is important to the success of the event. Table 4 describes three methods commonly employed when creating breakout groups.

Table 4. Methods for Making Breakout Group Assignments

Method	How to	Description
Counting-off method	Ask the participants to count off (e.g., 1, 2, 3, and so on, up to the number of planned breakout groups)	Apply when each breakout group will have the same task. Effective way to separate friends and colleagues from the same firm, who are probably sitting together. Obtains a variety of interests and expertise in each breakout group.
Self-selection method	Ask the participants to self divide into breakout groups depending on the topic of each breakout group and the individual’s area of expertise	Apply when each breakout group will address different topics (e.g., energy, water, and site). Allow participants to select the topic of greatest interest to them.
Predetermination of assignments method	Predetermine the members of each breakout group	Apply when the expertise and interest of the participants is known. Apply to ensure that knowledge and personalities are balanced within each group.

After creating the groups, check to make sure there is a good distribution of architects, engineers, landscape designers, and other expertise among the groups. Make changes as needed. If the breakout groups are created using the self-selection method, in addition to ensuring diversity, make adjustments so that all groups have approximately the same number of members. When using any of the above methods, adjustments may be necessary if individuals are not satisfied with their assignment or if a group drops below three members because of attrition.

Implement Successful Charrette Practices

Here are some tricks of the trade that will lead to a successful event:

- Maintain consistency in breakout group assignments for the duration of the event. Breakout group members “bond” during the initial breakout group exercises. The

members of each group soon learn how to work together effectively and develop a rhythm that will carry through the entire event.

- Ask the groups to keep a record of items requested, questions or issues the group cannot answer, and barriers that the group sees to accomplishing a specific goal. These records will be given to the owner at the end of the charrette. (See the final charrette report samples in Appendix I for examples of the type of information or issues that could be requested or questioned.)
- At lunchtime, ask the participants to eat first and then take a tour of all of the breakout groups' work. For the tour, participants walk from table to table (or room to room) to view and hear a brief (3–5 minutes maximum) explanation of each of the other breakout groups' approaches and results thus far. One person from each breakout group remains with the group's work and explains it to the other participants. It is best if each breakout group does the tour together. The overall facilitator is the timekeeper and tells participants when to move to another group.
- Invite the owner and local dignitaries who might not have attended the entire charrette to return and hear the group reports at the end of the day during the final report-out session. Often, these special guests can react to some of the ideas on the spot and commit to specific actions.
- Ask each group to prepare a specific maximum amount of material summarizing their conclusions to use for the report-out session. For example, limit the report to four flip chart pages, one template page, or two blue boards¹. This limitation helps to curb the amount of time each group spends to report the conclusions of their group, and it encourages the breakout group members to focus on the most important aspects of their work. Reassure the groups that, in addition to this summary, ALL of their work will be saved and given to the owners.
- Take photos of the speakers, breakout group discussions, materials produced by the breakout groups, and final presentations to ensure a complete record of the event. Take 35-mm or high-resolution digital photos so that the photos can later be used in a published report.
- Bring attention to the evaluation form in the participant packages during the event opening session. Periodically remind the participants to fill out the evaluation forms and deposit the completed forms in the collection box labeled "evaluation forms" located near the exit of the meeting room. Stress the importance of feedback.
- Gather ALL paper from the groups at the end of the event and label these items carefully (e.g., Group 1, Group 2, and so on). Large carrying cases (tubes or flat portfolios) are helpful for managing the collection, transportation, and retention of the material.
- Review and photograph or scan all written work completed by the breakout groups (e.g., summaries and brainstorming notes written on the flip charts pages and drawings) for future use in reports, funding proposals, and press releases.

¹ Tools sometimes used in charrettes to encourage the breakout group members to be concise with the reporting materials they produce include templates (large "posters," such as 3 feet by 5 feet, with clearly marked locations for summaries of specified breakout group discussions) and blue boards (4 feet by 8 feet foam insulation boards that can be purchased at most hardware or building materials stores) for attaching breakout group materials with thumb tacks or tape).

Facilitators can either record the group's discussion on flip chart pages or ask for a volunteer scribe to serve as the recorder. In either case, it is important to note main topic points discussed and capture the intent of the comments as closely as possible. In many cases, the scribe writes the exact words that were said. This record will be used later to summarize the event during the report-out session and to write the follow-up report.

Chapter 5: Follow-Up and Next Steps

Within a month of the event . . .

- Hold a debriefing meeting.
- Prepare a report on the results.
- Follow up with the participants.
- Encourage the participants to stay involved.
- Analyze and summarize the evaluations.
- Evaluate the value of follow-on events.

The follow-up for a charrette is an important element of the event. In this part of the process, confirmation is established on the project's future goals and momentum is generated for moving the project to completion. In this chapter, we describe how to follow up a charrette, what materials must be produced, and how to produce them.

Hold a Debriefing Meeting

Conduct a debriefing meeting with the steering committee to wrap up the process of planning and conducting the charrette and to discuss the event outcomes. It is best to hold this meeting immediately after the event concludes, such as the evening or morning after the event. Use this time to review the success of the event activities, clarify the decisions and project directions agreed on by the participants, and consider the next steps. Action items resulting from the debriefing meeting should assign responsibilities and completion dates for the remaining items discussed in this chapter.

Prepare a Report on the Results

Always produce a written report that summarizes the results of the event. The purpose of this report is to document and collate the information presented and discussed during the event. Appendix G contains a suggested outline for this report and Appendix I includes examples of reports from charrettes for high-performance projects. In many cases, these reports are useful in promoting acceptance of the decisions made during the event.

In advance, identify individuals who will take thorough notes and photographs and be responsible for preparing a final report of the meeting. Breakout group facilitators should plan to take notes themselves or assign a breakout group member the role of scribe to record the group's discussion. At the end of the event, these discussion notes should be given to the person who will prepare the final report, or the facilitators should be asked to summarize their groups' work and forward it to the final report writer.

It is best to develop an executive summary (one page front and back) of the most important event outcomes to accompany the more detailed report. The executive summary can be used to brief the owners, key stakeholders, event sponsors, potential providers of project funds, and other interested parties.

Make the final report available to those who want more detail on the event and its results. Incorporate photographs from the event and scanned drawings created during the breakout group discussions to illustrate the decisions made during the event.

A support letter or letter of commitment from the owner or key stakeholder is a valuable addition to the final report.

Follow Up with the Participants

The greening process does not end when the event is over—in fact, it has just begun! Good follow-up with the participants shortly after the event will encourage continuation of the energy and momentum that emerged during the event.

Try to produce the executive summary of the event within 1 to 2 weeks of the event. Send the executive summary to all event participants with a note of thanks and appreciation for their time, expertise, and energy in making the charrette a successful event.

Encourage the Participants to Stay Involved

Determine specific next steps and assign champions for each. Set a specific time to reconvene with a report on direct results from this charrette to share with the participants, a smaller committee, or a larger group.

Analyze and Summarize the Evaluations

Review the evaluations immediately after the event concludes. Include a summary and analysis of this feedback in the final report. This information can also be very helpful when planning events for future high-performance projects.

Evaluate the Value of Follow-On Events

Partners can also help to keep the momentum going. Local chapters of the AIA COTE, ASHRAE, environmental groups, and others can sponsor follow-up events to continue the networking and training that began at the event. In some cases, the event will become part of an ongoing green network in the local area.

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Appendix A: Checklist for Planning and Conducting Charrettes for High-Performance Projects

√ Description of Activity and Timetable for Completion	Discussion (chapter/page in this report)
Three Months or More Before the Event—Getting Started	
□ Create a steering committee.	Chapter 2 5
□ Hold a kickoff meeting to discuss:	6
○ Identify the purpose of the event.	6
○ Identify the type and length of the event.	7
○ Identify the products resulting from the event.	8
○ Draft an agenda.	8
○ Identify potential locations to hold the event.	9
○ Select potential dates for the event.	9
○ Plan the event budget.	10
○ Identify type and number of participants.	10
○ Identify workshop speakers.	11
○ Identify overall and breakout group facilitators.	12
○ Identify potential event partners.	13
○ Prepare project information for charrette participants.	13
○ Plan the next steering committee meeting.	13
○ Review kickoff meeting action items.	14
□ Determine event date and location.	14
Two to Three Months Before the Event—Planning and Developing the Charrette	
□ Develop an agenda:	Chapter 3 15
State event goals.	15
○ Identify event opening activities.	15
○ Select a speaker to motivate the participants.	16
○ Select interesting speakers to present topics relevant to the project.	16
○ Determine amount of time for breakout group discussions.	16
□ Confirm availability of key event players:	17
○ Confirm facilitators.	17
○ Confirm speakers.	17
○ Confirm VIPs.	17
□ Provide presentation guidelines to the speakers:	18
○ Include presentation samples with instructions for use.	18
○ Obtain AV equipment requirements.	18
○ Obtain presentations and speaker handout materials.	18
○ Give speakers an accurate participant count, if the speaker plans to bring handouts	18
○ Request detailed travel itineraries from the speakers.	18
□ Invite participants and track responses:	18
○ Finalize the invitation list.	18
○ Send a save the date announcement.	18
○ Send formal invitations and registration or RSVP forms.	19
○ Monitor registration or RSVP responses.	19
□ Finalize budget, expenditures, and resources:	20
○ Determine participant registration fee.	20
○ Obtain commitments from partners to defray specific expenses.	20

□	Make logistical arrangements:	21
○	Select a facility in which to conduct the event.	21
○	Select food and beverages to be served during the event.	22
○	Reserve a block of hotel rooms for out-of-town participants.	22
○	Track participant reservations at the selected hotel.	22
○	Contact expected participants who do not register by a specified date.	22
○	Assign individuals to specific event staff positions.	22
○	Identify needed AV equipment.	24
○	Reserve AV equipment (typically through the meeting facility).	24
○	Ship materials and supplies to the event facility.	24
○	Prepare signs to direct participants to the event.	25
○	Prepare participant name tags.	25
○	Identify and invite exhibitors.	25
□	Assemble and distribute participant and resource materials:	25
○	Obtain materials for participant packages.	25
○	Assemble participant packages.	25
○	Check participant packages for completeness.	25
○	Distribute the participant packages.	25
○	Obtain materials for a resource library.	25
□	Develop evaluation forms:	26
○	Develop evaluation forms specific to the event.	26
○	Make a collection box for participants to drop their completed evaluation forms.	26
□	Make arrangements for CEUs:	26
○	Determine if CEUs are to be offered.	26
○	Make arrangements to offer CEUs.	26
	Day Before and Day of the Event—Conducting the Charrette	Chapter 4
□	Visit the facility.	27
□	Check supplies and participant materials.	27
□	Meet with facilitators and speakers.	28
□	Verify logistical arrangements.	28
□	Set the stage with the opening session.	29
□	Describe project and charrette expectations.	29
□	Create effective breakout groups.	30
□	Implement successful charrette practices.	30
	Within a Month of the Event—Follow-Up and Next Steps	Chapter 5
□	Hold a debriefing meeting.	33
□	Prepare a report on results.	33
□	Follow up with participants.	34
□	Encourage participants to stay involved.	34
□	Analyze and summarize evaluations.	34
□	Evaluate the value of follow-on events.	34

Appendix B: Sample Agendas

Half-Day Workshop: Setting a Project's High-Performance Goals

Goals

1. Introduce participants to integrated design and high-performance strategies.
2. Identify high-performance goals for the project in each topic area (site, water, energy, materials, indoor environmental quality, or other topics areas that are appropriate for the project).
3. Motivate participants to design a high-performance project.
4. Establish next steps and a process for moving forward.

The half-day workshop could be done in a morning session from 8:00 A.M. to noon, or as an afternoon session from 1:00 P.M. to 5:00 P.M. The afternoon session allows time for morning office check-in and after-five discussion, which may be preferable.

Agenda

Noon–1:00	Tour of the site (optional)
1:00–1:30	Welcome, introductions of participants, expectations and goals
1:30–2:00	Review of project information
2:00–3:00	High-performance process and issues (Project goals identified during the high-performance goals discussion) <ol style="list-style-type: none">1) High-performance process and video (35-40 minutes)2) Integrated design (process, benefits, costs) (15-20 minutes)
3:00–3:15	Break
3:15–4:45	High-performance goals, process, issues, and case study
4:45–5:00	Review of combined goals and next steps for the project

One and One-Half Day Minicharrette

Goals

1. Introduce the concepts of high-performance green design and specific strategies.
2. Identify high-performance goals and potential strategies for the project in each topic area (site, water, energy, materials, indoor environmental quality, or other topics appropriate for the project)—what might be possible.
3. Identify issues and questions that will affect implementation of these goals and strategies.
4. Establish next steps and a process for moving forward.

Agenda

Note: Evening reception before next day workshop/minicharrette (optional)

Day One: High-Performance Strategies

- 8:00–8:30 Continental breakfast
- 8:30–9:30 Welcome, introductions of participants, expectations, and goals
- 9:30–10:00 Review of project information
- 10:00–10:15 Break
- 10:15–11:45 High-performance process and issues
- 1) High-performance process and video (35–40 minutes)
 - 2) Site and water (or master planning or transportation for a campus or other larger project; 20–25 minutes)
 - 3) Energy (or facilities/operations and maintenance for a campus or other larger project; 20–25 minutes)
- 11:45–12:45 Lunch
- 12:45–1:45 High-performance issues
- 4) Materials (or green procurement for a campus or other larger project; 15–20 minutes)
 - 5) Indoor environmental quality (or contracting, education, community outreach for a campus or other larger project; 15–20 minutes)
 - 6) Other—local or project priority topic (15–20 minutes)
- 1:45–2:00 Q&A on project-specific issues
- 2:00–4:30 Breakout groups
- What are the issues/questions, strategies, and actions needed?
Four to five groups of 6–8 (maximum 10) people per group
Groups should be made up of multidisciplinary team members
- 4:30–5:00 Reporting out
- Goals set by breakout groups and large group consensus of goals
- 5:00–6:00 Site tour (optional)

Day Two: Minicharrette

- 8:00–8:30 Continental breakfast
- 8:30–9:00 Review of first day and expectations of second day
- 9:00–11:30 Breakout groups
- Same breakout groups as first day
Drawings and concepts
- 11:30–12:00 Reporting out and next steps
- 12:00–1:00 Optional lunch

Two-Day Full-Scale Charrette: Developing High-Performance Strategies for a Project

Goals

1. Provide basic training on concepts and importance of high-performance green design to enable attendees to participate effectively in the process.

2. Identify high-performance goals and potential strategies for the project in each topic area (site, water, energy, materials, indoor environmental quality, or other topics appropriate for the project)—what might be possible.
3. Identify issues and questions that will affect implementation of these goals and strategies.
4. Establish next steps and a process for moving forward that includes all relevant participants/stakeholders.

Agenda

Day 1: Defining High-Performance Strategies and Setting Project Goals

- | | |
|-------------|--|
| 8:00–8:30 | Continental breakfast |
| 8:30–9:00 | Welcome and remarks from owner(s) |
| 9:00–10:00 | Charrette overview and expectations, logistics, and introductions |
| 10:00–10:15 | Break |
| 10:15–11:00 | Review of project information |
| 11:00–12:00 | High-performance issues <ol style="list-style-type: none"> 1) High-performance process and video (35–40 minutes) 2) Site and water (or master planning or transportation for a campus or other larger project; 15–20 minutes) 3) Energy (or facilities/operations and maintenance for a campus or other larger project; 15–20 minutes) |
| 1:00–2:00 | Lunch and tour |
| 2:00–3:00 | High-performance issues <ol style="list-style-type: none"> 4) Materials (or green procurement for a campus or other larger project; 15–20 minutes) 5) Indoor environmental quality (or contracting, education, community outreach for a campus or other larger project; 15–20 minutes) 6) Other—local or project priority topic (15–20 minutes) |
| 3:00–4:30 | Breakout groups
What are the issues/questions, strategies, and actions needed?
Four to five groups of 6–8 (maximum 10) people per group
Groups should be made up of multidisciplinary team members |
| 4:30–5:00 | Reporting out
Goals set by breakout groups and large group consensus of goals |

Day 2: Charrette: Hands-On Drawings and Strategies for the Project

- | | |
|------------|--|
| 8:00–8:30 | Continental breakfast |
| 8:30–9:00 | Review of first day and expectations of second day |
| 9:00–11:30 | Breakout groups
Same breakout groups as first day |
| 11:30–1:00 | Lunch and tour of groups' progress |
| 1:00–3:45 | Breakout groups' drawings and concepts pulled together |
| 3:45–4:30 | Reporting out |
| 4:30–5:00 | Final wrap-up, final remarks, and next steps |

Optional Kickoff Session

This session can be several hours or half a day, depending on the number of speakers invited.

Goals

1. Energize and motivate participants.
2. Demonstrate support for the project within the community and among local dignitaries.
3. Provide support for seeking additional funding for the project.

Agenda

1:00–2:30	Welcome by project owner and speeches by local dignitaries
2:30–3:00	What is possible? (green project video)
3:00–3:30	Break and networking
3:30–5:00	Panel discussion of key issues (site, water, energy, materials, indoor environmental quality, other local issues)
5:00–6:30	Reception and networking

The agenda can be shortened if necessary by eliminating the panel discussion and limiting the event to speeches followed by a reception.

Appendix C: Participant Identification Worksheet

Category of Participant	Number	Names
Owner(s) and owner representatives/ developer		
Future project users/occupants		
Land/transportation planners		
Architects		
Contractors		
Landscape architects		
Engineers (civil; mechanical; plumbing; electrical; structural; heating, ventilating, and air- conditioning [HVAC]; etc.)		
Interior designers		
Exhibit designers		
Construction specifiers (spec writers)		
Lighting designers		
Environmental building specialists (IAQ, energy, green materials, waste, water, etc.)		
Ecologists		
Commissioning agents		
LEED Green Building Rating System- accredited professionals		
Facility managers		
Additional participants for special building types such as: <ul style="list-style-type: none"> Educational facilities (faculty, students, labor unions, and administration) Labs and science centers Large-scale campuses, developments, and military installations 		
Community leaders: <ul style="list-style-type: none"> Government/political leaders Civil/business leaders Community service/health/religious leaders Community economic development leaders At-large community/neighbors 		

Partners: Local, state, or federal agencies Private sector corporations Community groups		
Other:		
Total number		

Appendix D: Sample Letters

You may also want to include the definition of charrette and the event's goals and objectives in these letters.

Sample Save the Date Letter

PLEASE SAVE THE DATE:

The Institute of American Indian Arts (IAIA), a federally chartered tribal college in Santa Fe, New Mexico, cordially invites you to attend a two- and one-half day planning workshop or “charrette” to develop the strategic plan for the “IAIA Initiative for a Sustainable Future.” The initiative will provide the environmental and energy blueprint for development of the IAIA campus and museum for many years to come. The event will take place on the IAIA campus March 12–14, 2003.

This promises to be a great couple of days, with experts in the field of sustainable design and development working closely with the IAIA staff and students, the local community, state and federal officials, and others who have an interest in sustainable design and wish to have a voice in the future of IAIA. We will identify key initiatives and action items to guide our efforts to build a more sustainable future for IAIA, our community, and our nation.

Invitations, including an agenda, a full list of invited participants, and other relevant information will be sent out in about 2 weeks. Meanwhile, please save the dates in your calendar and plan to attend! Hotel information for those of you arriving from out of town is attached here—please make room reservations as soon as possible.

If you have any questions, please contact _____
Telephone number _____.

The _____ Group is planning and coordinating this activity on behalf of IAIA.

Warm regards,

Della Warrior
President, IAIA

Sample Invitation Letter for Workshop

Name
Title
Company Name
Address
Address

Dear _____:

_____ (owner) and _____ (list any prominent partners) will be conducting a half-day high-performance/green workshop on _____ (date) and would really appreciate and value your participation.

Greening workshops have been successfully implemented for the White House, the Department of Defense, and for the National Park Service as well as numerous other public and private clients. _____ (owner) is excited about the opportunity to host a high-performance/green workshop and they hope that you will join in this informative and critical initiative!

This workshop will address environmental considerations for the _____ (owner) designs for a _____ (name of project).

Approximately ____ (number) participants will consider the following topics during the half-day event:

1. Sustainable site/landscaping/transportation and water issues
2. Energy (heating/cooling systems and building envelope, lighting, and plug loads)
3. Materials and resources/waste and recycling/operations and maintenance
4. Indoor environmental quality
5. Integrated design

The workshop will engage the large group in interactive discussions regarding the feasibility of implementing specific high-performance/green strategies. In addition, the workshop participants will explore the opportunities and obstacles inherent in these strategies and decide what strategies and approaches would work best for the proposed project.

We invite you to participate as a key member of this upcoming workshop. Enclosure (1) is a list of other potential participants. The workshop will meet per Enclosure (2) in the _____ Room at _____ (facility). Maps are included for your use as Enclosure (3). Site and project information is included as Enclosure 4.

Your ideas, insights, and action items will be compiled into a short report that will be easily accessible for future reference. This report will provide a listing of environmental considerations not only for this project, but also for numerous other projects. The overall goal is to make this project a model of excellence in terms of sustainable design and development and to share this knowledge with others.

Should you have any questions or need any further information, please feel free to call _____(name), _____(position), at _____(phone number).

We realize that this High-Performance Greening Charrette calls for a commitment of time from already busy schedules; however, your skills are greatly needed and we hope that you will consider joining in this effort as an important investment in this project, this community, and our country. If you cannot attend, please recommend others who can take your place. Also, please advise if we should invite anyone else.

Sincerely,

_____ (charrette host)

Enclosures:

- (1) Stakeholders list
- (2) Agenda
- (3) Maps
- (4) Site and project information

Invitation Letter for Minicharrette and Full-Scale Charrette

Name
Title
Company Name
Address
Address

Dear _____:

_____ (owner) and _____ (list any prominent partners) will be conducting a “Greening Charrette” on _____ (dates) and would really appreciate and value your participation.

Greening charrettes began with a Greening of the White House Charrette in the early 1990s, and have been successfully implemented for the Department of Defense at the Pentagon and for the National Park Service as well as numerous other public and private clients. _____ (owner) is excited about the opportunity to host a greening charrette and hope that you will join in this informative and critical initiative!

This charrette will address environmental considerations for the _____ (owner) designs for a _____ (name of project).

Approximately ____ (number) participants will consider the following topics in small breakout groups during the (1-½ OR 2-) day event:

1. Sustainable site/landscaping/transportation and water issues
2. Energy (heating/cooling systems and building envelope, lighting, and plug loads)
3. Materials and resources/waste and recycling/operations and maintenance
4. Indoor environmental quality
5. Big-picture issues: process, education, and community outreach

Each group will ultimately generate a report noting existing conditions, priority issues to address, and a list of short-, mid-, and long-term action items and preliminary concept drawings for the project. Names of “champions” will be noted for action items. Opportunities as well as obstacles will be noted. The large group will determine an overall priority listing for the implementation of the goals and objectives that this charrette identifies.

We invite you to participate as a key member of this upcoming greening charrette. Enclosure (1) is a list of other potential participants. The charrette will meet per Enclosure (2) in the _____ Room at _____ (Facility). Maps are included for your use as Enclosure (3).

In addition, should you require lodging during this charrette, please make arrangements with the _____ (hotel), at _____ (phone number). The group number for the charrette reservations is _____.

Your ideas, insights, and action items will be compiled into a report that will be easily accessible for future reference. This report will provide a strong foundation for environmental considerations not only for this project, but also for numerous other projects. The overall goal is to make this project a model of excellence in terms of sustainable design and development and to share this knowledge with others.

Should you have any questions or need any further information, please feel free to call _____ (name), _____ (position), at _____ (phone number).

We realize that this High-Performance Greening Charrette calls for a commitment of time from already busy schedules; however, your skills are greatly needed and we hope that you will consider joining in this effort as an important investment in this project, this community, and our country. If you cannot attend, please recommend others who can take your place. Also, please advise if we should invite anyone else.

Sincerely,

_____ (charrette host)

Enclosures:

- (1) Stakeholders list
- (2) Agenda
- (3) Maps
- (4) Site and project information

Appendix E: Project Information to Distribute to Participants Before the Charrette

Basic Project Information

Building-Scale Project

In this appendix, we list the highest priority items to collect before a building-scale project (a project addressing a single building). Also collect the information listed below for a large-scale development project (a project that addresses a complex consisting of two or more buildings) if it is available. Make this information available to all participants so they can review and become familiar with important project information before attending the charrette.

- Project mission statement and short paragraph about the project history
- Square footage of overall project and spaces
- Space requirements for the project:
 - o Define spaces, occupancy levels, use, daylighting needs, temperature ranges, and adjacency requirements
- Maps of the project site(s) showing topography, vegetation, existing structures and infrastructure. (Note scale on map for participant use.)
- Description (and drawings or images if possible) of larger context site, such as population, geography, transportation modes, utility lines, and other infrastructure of the surrounding area.

Large-Scale Development Project

We recommend providing the following information for a larger scale development, such as a campus, military installation, national or state park, or community.

- Project mission statement and short paragraph about the project master planning
- Current site master plan, transportation modes and methods, and utility lines
- Maps of the overall site(s) and adjoining areas showing topography, vegetation, hazardous material sites, and infrastructure. (Note scale on map for participant use.)
- Base information of existing facilities and their operations and maintenance issues
- Current status of green procurement measures, retail initiatives, and interpretation and education considerations.

Pre-design Energy Analysis Results

The thermal performance of any building entails complex interactions between the exterior environment and the internal loads that must be mediated by the building envelope and mechanical systems. The number of potential interacting design alternatives and possible trade-offs is extremely large. Computer simulations are the only practical way to predict the dynamic energy and energy cost performance for a sizable number of potential design solutions.

A predesign energy analysis of an energy code-compliant baseline building gives the energy and energy cost profiles for a building of similar type, size, and location to the one that is the focus of the charrette. Charrette participants can use this information to develop design concepts that minimize energy loads and energy costs from the very outset. At this stage, the building massing, zoning, siting, orientation, internal organization, and appearance of the facades can be manipulated to maximize building energy performance without adding to the cost of design.

Provide the energy analyst conducting the computer simulation and summarizing the results with a description of the building design parameters, such as:

- Building codes to which the design must comply
- Required spaces/functions
- Space size/volume requirements
- Number of floors
- Orientation restrictions
- Occupancy schedules
- Lighting needs/schedules
- Space conditions (e.g., temperature) and schedules
- Type of construction.

After completing a baseline building computer simulation, the energy analyst may conduct an elimination parametric study to show the relative importance of particular loads. This analysis is completed by zeroing out individual sources of load in a series of simulations. The results of this study demonstrate the energy savings that can be expected for the specific project. The study will also show the relative importance of individual measures and how different design measures and building systems are integrated.

Summarize the results of the predesign energy analysis so that charrette participants can easily understand them. We recommend depicting the results graphically. Include in this summary estimations of the:

- Annual site energy use
- Annual site energy cost
- Energy use/cost for operating the HVAC systems
 - Break down the use/cost between cooling, heating, fan, and plug loads, if possible
- Energy use/cost for operating the lighting system
- Energy use/cost savings compared to baseline building for each parametric eliminated
- Conclusions that can be drawn from the analysis
- Recommendations for level of energy savings to adopt as a project goal.

In addition to evaluating the building energy performance, the predesign energy analysis may also evaluate:

- Expected performance of solar electric (photovoltaic or PV) systems for the site and climate and characterization of the potential for renewable energy production with respect to the energy use
- Microclimate and site issues in terms of the potential for natural ventilation and ground source heat exchanges
- How key design parameters affect energy use (e.g., glazing area, glazing properties, aspect ratio, and number of floors).
- How key programmatic details affect energy use (e.g., occupancy, plug loads, ventilation, and schedules).

In-Depth Project Information (Optional)

The in-depth large-scale project information outlined here may be included in addition to the basic project information if the steering committee members feel that the additional information will benefit participant understanding of the project.

Site and Water Information

- List of any endangered species
- Exact site costs (e.g., landscaping labor and materials)
- Percentage of impervious pavement on the project site
- Current run-off/storm water conditions on the project site
- Landfill areas (hazardous sites) and restoration efforts
- Transportation
- Partnerships
- Golf course information (e.g., fertilizers and chemicals) and costs to operate the golf course (if this type of area is part of project site)
- Lake side/water bodies information (buffers, recreation, etc.)
- Water wells—well head protection areas
- Water treatment plants (average discharges)
- Airport information (location, amount used, types of planes using runway—if this type of area is part of the project site)
- Metering or monitoring information besides costs
- Land use breakout (developed land, wetlands, pavement, etc.)
- Information on erosion, wetlands, forestry, wildlife, historic register sites/buildings, etc.
- Education/training efforts on site sustainability
- Case studies/exemplary projects
- Sustainability efforts currently under way on site.

Energy Information

- Baseline conditions
- How power is provided to the project site
- Sources of energy use on the project site

- Breakout of energy use by type of fuel, units, amount consumed per fuel type, and total energy used (for the last 2 years, if applicable)
- Current HVAC systems
- Fuels/systems used on the project site and in the buildings
- Energy efficiency programs implemented or available to the project (e.g., relamping or motion sensor programs)
- Project-wide emissions
- Air pollution control strategies in use or available to the project
- Noise pollution control strategies in use or available to the project
- Radiation pollution control strategies in use or available to the project
- Monitoring and metering of energy consumption in use or available to the project
- Education/training on energy efficiency
- Cost information for energy
- Case studies/exemplary projects
- Sustainability efforts currently under way in terms of energy use.

Materials, Waste, and Recycling Information

- Buildings—number of current buildings by types and square footage breakdown on project site
- How many buildings are built every year (by square footage)
- How many buildings have been demolished (last 2 years)
- How many buildings are to be demolished in the next 2 years
- What type of construction and demolition sorting of waste is currently under way
- Existing sample specification used for demolition of projects (also renovation and new projects)
- Sources of the waste stream on the project site (the current distribution of solid waste: paper, glass, plastics, food waste, wood/yard waste, textiles/leather, metals, other in tons per year)
- How solid waste is handled
- How hazardous waste is handled
- Project recycling programs
- Current solid waste management plan (solid waste diverted from landfill and solid waste delivered to landfill in last 2 years)
- Hazardous waste and materials generated in last 2 years—breakdown of amounts and types of hazardous waste
- Solid waste generated and disposal rates
- Metering/monitoring of waste
- Restoration sites (note also in site section)
- Scrap generated and recycled in the last 2 years
- Education/training about waste reduction (construction/occupants)
- Cost information on waste
- Case studies/exemplary projects
- Sustainability efforts

- Note what is currently being done about the following:
 - Asbestos
 - Polychlorinated biphenyls (PCB) removal
 - Chlorofluorocarbon (CFC) reduction
 - Remediation of contaminated sites

Operations and Maintenance (O&M)

- Existing O&M practices (e.g., landscaping, water, and energy)
- Commissioning practices
- Cleaning practices
- Pest control
- Painting
- Feedback systems (e.g., lighting, glare, shades, temperature, and controls)
- IEQ management programs (e.g., checks for mold/mildew in ducts)
- Scheduled maintenance—repair and replacement of exterior and interior products and systems
- Metering/monitoring of systems
- Education/training on sustainable O&M practices
- Cost information for O&M
- Case studies/exemplary projects
- Sustainability efforts currently under way with O&M practices.

Big Picture: Process, Education, and Community Outreach

- Procurement—RFP, cleaning contract, etc.
- Current environmental education (e.g., for employees, vendors, and contractors)
- Green teams/sustainability charrettes
- Current exchange of sustainability information with others
- Cost information for educational endeavors
- Case studies/exemplary projects
- Sustainability efforts in the big picture.

Appendix F: Sample Evaluation Forms

Workshop Evaluation Form

1. What was the most positive aspect of the workshop in your opinion?
2. If this workshop were to be held again, what three changes would you suggest to make it more effective?
3. Was the time for the workshop too short, too long, or just right?
4. What do you see as an immediate action item you can undertake in terms of sustainability after participating in this workshop?
5. Other feedback that you would like to share:

4. Should any topics have been added to the charrette?
Yes (please explain) No

5. Do you have any suggestions for improving the participant materials?

6. How would you rate the overall charrette facilitator?
[Very knowledgeable] 5 4 3 2 1 [Not knowledgeable]

7. What additional training would be useful to you?

8. Other comments?

Name (Optional)

Appendix G: Sample Report Outline

Executive Summary

1. Charrette Process
2. Charrette Planners and Participants
3. Group 1 Plan
4. Group 2 Plan
5. Group 3 Plan
6. Etc.
7. Appendices
 - Charrette agenda
 - Participant list
 - Presentation handouts
 - Site and project information, including predesign analysis results
 - LEED Green Building Rating System or other relevant codes, standards, or evaluation tools
 - High-performance building Web sites
 - Charrette evaluation summary.

Appendix H: Sample Presentations

The example presentation slides contained in this appendix are designed to include photos and other visual enhancements for your charrette. If the presenter does not have photos of his or her own, libraries of photos are available (e.g., <http://www.nrel.gov/data/pix/pix.html> and www.highperformancebuildings.gov).

The presentations should be enhanced with examples of the specific principles and strategies outlined on the slides. The experts who will be presenting each session should provide examples from their own experience. Although examples are included on the DOE High-Performance Buildings Web site (www.highperformancebuildings.gov), it is difficult, if not impossible, to present an example that the speaker does not know well. Therefore, we do not recommend speakers using “generic” examples unless there is no other choice.

The sample PowerPoint presentations are listed below.

[Welcome and Introductions - Session 1](#)

[Charrette – Day 2](#)

[Review of Project Information – Session 2](#)

[High Performance Process – Session 3](#)

[Sustainable Sites - Session 4a](#)

[Water - Session 4b](#)

[Energy - Session 5](#)

[Materials and Resources - Session 6](#)

[Indoor Environmental Quality - Session 7](#)

[Other Local Topics - Session 8](#)

[Setting Preliminary Project Goals - Break Out Groups - Session 9](#)

Appendix I: Examples of Final Charrette Reports

This appendix includes example charrette reports for the projects listed below.

- I-A** [Boston National Historic Park Greening Charrette](#)—Boston National Historic Park comprises several historic sites within Boston, including the Charlestown Navy Yard and the U.S.S. Constitution. The goal of this charrette was to develop specific actions that combine historic preservation and sustainability for the park, with a focus on the Navy Yard. This event was the second in a series that will eventually reach all of the National Park Service Centers of Environmental Innovation.
- I-B** [UNC – Asheville New Science Building Greening Charrette](#)—In an effort to incorporate sustainable design elements into the University of North Carolina’s new science building, a one- and a one-half day charrette was conducted to document and quantify their energy and environmental initiatives. During the charrette planning, partnerships were established with the U.S. Department of Energy to help fund and assist in the charrette process and documentation.
- I-C** [Greenprints Charrette, Southface Energy Institute](#)—Southface Energy Institute hosted its annual Greenprints Conference in Atlanta, Georgia, in 2002. One of the conference highlights was a 1-day high-performance buildings charrette for the institute’s new building. Early in their design process, Southface representatives conveyed that energy and environmental considerations were critical; in fact, one of Southface’s project goals was to be a net-zero energy user. The charrette focused on that net-zero energy target as well as other goals highlighted by the use of the nationally recognized LEED Green Building Rating System.
- I-D** [NCSU High Performance Charrette College of Design](#)—As part of the early schematic design process for this project, North Carolina State University embraced the idea of hold a High Performance Charrette. The charrette focus was to incorporate environmental excellence and high performance in the design of the University’s Leazar Hall Renovation by using the high performance guidelines developed by the Triangle J. Council of Governments. Funding assistance was obtained from the North Carolina State Energy Office, DOE, and the Triangle J. Council of Governments.

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13. ABSTRACT (<i>Maximum 200 words</i>) The purpose of this handbook is to furnish guidance for planning and conducting a "high-performance building" charrette, sometimes called a "greening charrette." The handbook answers typical questions that will arise, such as "What is a charrette?" "Why conduct a charrette?" "What topics should we cover during the charrette?" and "Whom should we invite?" It also contains samples of agendas, invitation letters, and other commonly used charrette materials. It also outlines the characteristics of a good charrette facilitator and gives suggestions for the types of experts to invite to the event to motivate participants and answer their questions. The handbook includes sample presentations that can be used by these experts to ensure they address the required technical content. It suggests the types of participants, including technical, political, and community representatives, to invite to the charrette. It offers advice for forming effective breakout groups to ensure that a broad range of complementary expertise is represented in each group.				
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