

It's Not Easy Being Green

Sustainable Design/LEED Strategies, Tools and Lessons Learned in Savannah

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US Army Corps
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TOPICS

- Introduction/Requirements
- Validation
- District Team
- Strategy & Scoring
- Documentation
- Planning & Design
- Construction
- Tools & Resources
- Lessons Learned



Introduction/Requirements

- **USGBC LEED**
 - Point system for rating green building achievement
 - Site, Water, Energy, Materials, Environmental Quality
 - Scoring levels “certified, silver, gold, platinum”
 - Prerequisites
 - Detailed documentation for USGBC third party certification
 - SPIRIT was a knock-off of LEED
 - LEED-NC New Construction, LEED-EB Existing Buildings



Introduction/Requirements

- **USACE LEED Requirements**
 - New construction Army: LEED “Silver” (33 points)
 - Major Renovation & Repair (>\$7.5m) Army starting FY08: LEED-EB “certified” (32 points)
 - Army facilities exempt from minimum score (NOT exempt from LEED): <50% climate controlled, range, horizontal
 - Army requirements include Army tenant organizations
 - Family Housing Army: SPIRIT “Gold”
 - Air Force: As directed by Command (case by case)



Validation

- “Certified” versus “Certifiable”
- USGBC Certification
 - Third Party Validation by USGBC
 - \$1800 to \$18,000/Project
 - USGBC has no oversight or stake in result
 - Use of project funds for certification prohibited by ACSIM
- USACE Validation
 - Part of USACE execution, oversight role
 - Coordinated with Installation



District Team

- **Must involve all design disciplines**
 - Responsible party (team leader)
 - Commissioning Authority
- **Planning charette through construction closeout**
 - Charette is critical for securing funding
 - Substantial construction phase/closeout documentation
 - Multiple-Contractor projects require construction phase District consolidation of contractor data
- **Train design AND construction personnel**



District Team

- **District SDD Champion**
 - Interpret guidance and requirements
 - Assist project teams (AEs, In-house, Contractors, Field)
 - Disseminate information (EN, PM, CD POCs)
 - Advocate
 - Police
 - Train



District Team

- **Training**
 - Promote training opportunities
 - LEED Accreditation incentives
 - Engineering AND Construction
- **Work Process**
 - Formalize incorporation of LEED in activities (agenda)
 - Technical Reviews: Each discipline reviews LEED for discipline



Strategy & Scoring

- **Single Building Projects Design/Build:**
 - RFP indicates site selection points status
 - RFP indicates minimum score, preferred points
 - MILCON Transformation (MT) RFP Templates



Strategy & Scoring

- **Multiple Building Projects:** Use USGBC LEED Application Guide for Multiple Buildings and On-Campus Building Projects
 - One score for multiple building project
 - Individual building documentation (energy)
 - Aggregate documentation (materials)



Strategy & Scoring

- **Multiple-Contractor Projects (COS):**
 - Site and building done by separate contractors
 - District and COS coordinate one score
 - Mandate building/site points, aggregate materials points
 - Point substitutions allowed within each contractor's scope
 - Require LEED Letter Templates for consistent documentation format
 - District must combine aggregate data from all contractors for project totals



Strategy & Scoring

- **Renovation & Repair Projects:**
 - ACSIM 27 APR 07 Memo: Effective FY08 LEED-EB “certified” all major renovation & repair exceeding \$7.5m
 - LEED-EB is heavy on O&M activities, uses different energy tool
 - Review guidance in LEED-EB on NC vs EB and use the tool recommended by USGBC
 - If LEED-EB, coordinate Installation responsibilities – Installation is lead, USACE supports
 - HQUSACE guidance forthcoming following ACSIM coordination



Documentation

- **USGBC Registration**
 - PDT option
 - Only way to legally use LEED Online Letter Templates
 - \$450/Project
 - Designated project administrator controls access, write privileges
- **USGBC Certification**
 - Use of Army project funds for certification prohibited
 - Third Party Verification
 - \$1800 to \$18,000/Project



Documentation

- **LEED Online Letter Templates**
 - Standard form for each credit
 - Built-in calculators
 - Meets USGBC standard for content
 - Required if project ever seeks certification
 - Register project at beginning of design/RFP development



Documentation

- **LEED Documentation Requirements and Submittals Checklist**
 - Detailed list by credit
 - Modeled after USGBC (includes audit)
 - When each item is required (differs from USGBC)
 - Include in all contracts
 - **In MT RFP templates (attachment to section DESIGN AFTER AWARD)**



LEED Credit Paragraph	Contractor Check Here if Credit is Claimed	LEED 2.2 Documentation Requirements and Submittals Checklist for Government- Validated Project	Provide for Credit Audit Only	
PAR		FEATURE	DUE AT	REQUIRED DOCUMENTATION

GENERAL

	GENERAL - All calculations shall be in accordance with LEED 2.2 Reference Guide.			
	GENERAL: Obtain excel version of this spreadsheet at http://en.sas.usace.army.mil , "Engineering Criteria".			
	GENERAL - For all credits, narrative/comments may be added to describe special circumstances or considerations regarding the project's credit approach.			
	GENERAL - Include all required LEED drawings indicated below in contract drawings with applicable discipline drawings, labeled For Reference Only.			
	NOTE: Each submittal indicated with "***" differs from USGBC certified project submittals by either having a different due date or being an added submittal by USGBC.			
			Closeout	List of all Final Design submittals revised after final design to reflect actual closeout conditions. Revised Final Design submittals. - OR - Statement confirming that no changes have been made since final design that effect final design submittal document

CATEGORY 1 - SUSTAINABLE SITES

		Construction Activity Pollution Prevention (PREREQUISITE)	**Final Design	List of drawings and specifications that address the erosion control, particulate/dust control and sedimentation control measures to be implemented.
			**Final Design	Narrative that indicates which compliance path was used (NPDES or Local standards) and describes the measures to be implemented on the project. If a local standard was followed, provide specific information to demonstrate that the local standard is equal



Planning & Design

- **Develop strategy as part of planning charette**
- **Capture first cost big ticket items**
- **Technical review includes all design phase documentation all disciplines**
- **Incorporate all construction phase requirements and submittals in construction documents**



Construction

- Review Implementation Plans
- Periodic review of documentation (kept current & available on site)
- Pre-closeout LEED review meeting
- Closeout review meeting
- Combining contractor materials data for multiple-contractor projects
- TRAINING



Tools: General Guidance

- **LEED Project Credit Guidance**
 - Appendix to pending USACE LEED Implementation Guide
 - References, resources, background info
 - Appendix to current MT RFP templates
- **MT RFP Templates**
 - All Army, federal requirements
 - Documentation and closeout requirements
 - Contractor LEED AP requirement



Tools: Planning/Code 3

- **Use of USACE cost template**
 - Actual costs or 2% default
 - “SDD & EPAAct05” line item
 - 27 APR 2007 ACSIM Memorandum



Tools: Commissioning

- **USACE Commissioning Document Templates**
 - Template Owner's Project Requirements (include in RFP)
 - Template Basis of Design
 - Template Commissioning Plan
 - Posted at <http://en.sas.usace.army.mil>, "Engineering Criteria"



Tools: UFGS

- **New UFGS addressing SDD: 01 33 29
LEED™ Documentation**
 - LEED Implementation Plan
 - Separable documentation
 - Overall strategy conveyed
 - Regional, cumulative materials options
 - NOT FOR Design Build



Tools: UFGS

- **UFGS individual section updates addressing SDD ongoing**
 - **Navy tailoring options**
 - Regional Materials**
 - **Designer must verify availability & competition**
 - **EPA requirements, Section 01 62 35**
 - Recycled/Recovered Materials**
 - **Waste Diversion, Section 01 74 19 Construction and Demolition Waste Management**



Lessons Learned

- **Failure is not an option**
 - Power of Reporting Requirements
- **Make Someone Responsible for Making it Happen**
 - All Teams Need a Facilitator



Lessons Learned

- **Documentation is a Mystery**
 - Everyone needs to know in detail what is required
- **Train the Field**
 - Much can be lost during construction phase
 - Contractor LEED AP requirement
 - Multiple Contractor (COS) projects



Conclusion

- District validation responsibility
- Trained team
- Strategy & Scoring (multiple bldgs, COS)
- Detailed documentation requirements/LEED Letter Templates
- Planning through closeout
- USACE tools



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QUESTIONS

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